

Glasgow Airport Rail Link Ground Investigation

Client :
Network Rail

Designer :
Atkins

Location :
Glasgow

Date :
2008 - 2009

BAM Ritchies carried out a key ground investigation as part of the strategic Glasgow Airport Rail Link for Network Rail over the Christmas and New Year break (2008/2009). This ground investigation was undertaken at two locations (Ibrox and Arkleston rock cutting) on the existing railway line between Glasgow and Paisley in connection with proposed construction of the new rail link between Glasgow Central Railway Station and Glasgow Airport.

The purpose of investigation was to:-

Identify the presence of any mine workings and risks that could potentially pose to the operational railway (at Ibrox) and Establish the depth to and composition of bedrock and obtain appropriate rock strength parameters for use in the design of OLE and other railway furniture foundations at the Arkleston rock cutting.

All plant and equipment was mobilised prior to Christmas / New Year shutdown with a site compound established at Ibrox along with full-time security presence from 19/12/08 until 28/12/08.

All work was carried out under T111 possession and isolation.

The job required 24 hour working with three round-the-clock shifts, 00:01 to 08:00 (nightshift), 08:00 to 16:00 (dayshift) and 16:00 to 24:00 (backshift) with an half hour hand-over time at start and end of each shift. Work commenced on backshift Christmas Day 25/12/08, finished on dayshift 28/12/08 i.e. 72 hours duration.

Work comprised rotary open-hole and core drilling. Six holes to depths of up to 8.90m were drilled at Arkleston with nine holes drilled to depths of up to 45.00m drilled at Ibrox. All holes being cored in rock.



Two crawler mounted rigs were employed at Ibrox, and one county tractor mounted rig employed at Arkleston. Owing to the critical nature of the work two additional back-up rigs were retained at Ibrox in case of break-downs. To assist two Morooka tracked back-up units were used at Ibrox to move core boxes, fuel, drilling consumables, backfill materials etc. between worksites and access point.

All rigs employed three man crews (lead driller, driller and back-up operative) supported by BAM Ritchies and Raeburn fitters on standby throughout work.

Both sites featured full-time engineering supervision.

Commenting on the site works Derek Sime of Network Rail expressed his gratitude to all the people involved on site, who gave up their festive break to work, sometimes in sub-zero temperatures, to achieve satisfactory site works completion. He commented that: "Bearing in mind the transient nature of the work, it was a well organised site, and obviously well planned".

