

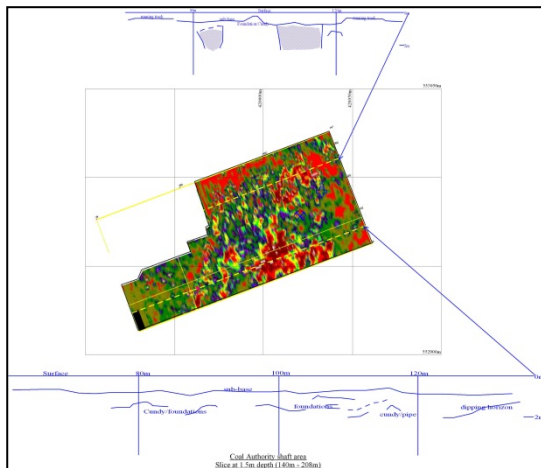
Stanley Academy - Case Study

Ian Farmer Associates were commissioned by Carillion Building North, acting on behalf of Durham County Council to carry out a ground investigation for the proposed construction of a new secondary school with associated playing fields and car parking on a brown field site. The investigation was to determine ground conditions to enable foundation design to be carried out, together with an assessment of contamination and ground gas emissions.

The ground investigation was carried out in accordance with BS5930:1999 incorporating Amendment No.2 (2008) and followed the recommendations of CIRIA Special Publication 32: 1984 Construction over abandoned mine workings. The site work included an archaeological watching brief, light cable percussion boreholes, rotary drilling (open hole and coring), trial pits, in-situ testing (soakaways, falling head permeability, and standard penetration testing). Piezometers were installed with the monitoring of ground gas groundwater levels during and after site works. Photographs of the trial pit excavations and rock core were taken. Head space analysis was carried out on site utilizing a PID meter.

A mine shaft was identified to be on site and was subsequently located by geophysical survey followed by rotary probe holes and then further delineated by trial trenching.

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The ground levels and co-ordinates of the exploratory holes were determined by Ian Farmer Associates to local grid and datum.

A varied suite of geotechnical and chemical tests were carried out including uniaxial compressive strength, point load, moisture condition value, pH, sulphate, natural moisture contents, MCV spot and calibrated, metal suites, and organic testing.

A factual and geo environmental interpretative report was produced to assist in a safe and economic design for the school and associated earthworks. The report included cross sections, interpretation of the geophysics, recommended soil strength and consolidation parameters, allowable bearing pressures (calculated to provide a Eurocode 7 complaint foundation, with a global factor of safety in accordance with BS 8004), assessment of the risks associated with contaminated land, recommendations on the geotechnical and environmental suitability of site materials for re-use as earthworks fill, together with a suggested regime of compliance testing for ensuring suitability during the earthworks.

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