



## Geophysical services

RSK's specialist geophysics team has a long-established track record of providing high-quality technical support services to the energy, property, transport and public sectors and is one of the UK's leading geophysical practices. We provide expertise, survey design and site investigation services for a wide range of environmental and engineering applications, some of which are listed below.

Only our degree-qualified geophysicists undertake data acquisition, processing and interpretation. Senior chartered staff sign off all our survey designs, reports and drawings.

### Techniques available

- Ground-penetrating radar
- Time- and frequency-domain electromagnetic ground conductivity
- Resistivity imaging
- Magnetic surveying
- Microgravity
- Seismic refraction
- Seismic reflection
- Seismic surface wave stiffness
- Borehole geophysics
- Vibration monitoring
- Seismic hazard assessment
- Microseismic monitoring

### Geophysical consultancy

- Survey design and specification
- Data processing and quality control
- Interpretation and validation
- Computer-aided design, geographical information systems and visualisation
- Research and development
- Software design
- Expert witness

### Applications

#### Brownfield and urban sites

- Locating underground storage tanks
- Locating buried utilities
- Detecting pipelines
- Mapping old foundations and piles
- Mapping contamination plumes
- Locating structures such as air raid shelters
- Unexploded ordnance surface mapping
- Unexploded ordnance downhole clearance and attendance
- Mine working and shaft detection

#### Landfill mapping

- Lateral extents of waste
- Depth of waste
- Side wall slope determination
- Leachate migration and plumes
- Groundwater contamination mapping
- Conceptual site models and integration of data from intrusive investigations

#### Geological investigation

- Stratigraphic mapping
- Mapping faults and fractures
- Depth to bedrock
- Thickness of superficial deposits
- Integration of intrusive information
- Locating buried channels
- Locating voids: solution features, sinkholes and cave systems
- Bedrock rippability surveys
- Mapping buried igneous and ore bodies

#### Hydrogeological investigation

- Depth to water table
- Mapping saline intrusions
- Time-lapse infiltration studies
- Assessment of aquifer heterogeneity
- Mapping fracture and fissure flow paths

#### Geotechnical Landslide assessments

- 3D ground deformation modelling
- Seismic risk assessment, mitigation and monitoring

- Shear and bulk elastic modulus from surface or borehole seismic data

#### Residential and commercial developments

- Topographical surveys
- Search of statutory utility records
- Detailed utility mapping
- Mapping high-risk obstructions such as underground storage tanks, waste and in situ foundations
- Natural solution features and mine workings

#### Archaeological and forensic investigation

- Mapping archaeological artefacts and features
- Mapping structural remains and ditches
- Detection of clandestine and unmarked graves
- Detection and mapping of buried or concealed objects

#### Road and rail infrastructure

- Topographic surveying
- Detailed utility mapping
- Road construction layers
- Natural voids and mine workings
- Detection of tunnels and culverts
- Mapping of buried obstructions

#### Civil and structural engineering

- Non-destructive testing of concrete structures
- Non-destructive testing of stonework on historic buildings and structures
- Voids behind tunnels
- Construction details, including beams, joists and material changes
- Chimney flue and void detection
- Bridge deck surveys
- Assessment and verification of ground remediation
- Ground stiffness and dynamic moduli
- Soil resistivity for earthing design

#### Concrete analysis

- Thickness of slab
- Reinforcement mapping
- Presence of additional metalwork
- High frequency and high-resolution mapping of voids and cracks
- Condition surveys

For further information, visit us at [www.rsk.co.uk](http://www.rsk.co.uk) or contact:

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RSK Group plc has achieved certification to the ISO 9001, ISO 14001 and OHSAS 18001 standards for quality, environmental and health and safety management.

