



Wireline Geophysical Logging Services

Scope

Tender Reference: CA18/2/1/81

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Geophysical surveys will be carried out in mine shafts or boreholes to determine the hydrogeological, geochemical and physical conditions.

Surveys will be required in a wide variety of mine shafts (both coal and metal mines) and boreholes across the UK.

Shafts and boreholes may be up to approximately 1000m in depth and with diameters ranging from approximately 50mm to >5m.

Boreholes and shafts are present in a wide variety of settings including coal mines, metal mines, water boreholes and environmental observation boreholes.

The age and condition of the shafts and boreholes is highly variable and includes dry and flooded conditions, mine gases present/not present, variable geological formations, open hole constructions, metal/plastic lined constructions, concrete/brick constructions and others.

Surveys will typically run a selection of tools from the list below:

- Video camera (CCTV with downhole and side view and lighting)
- Caliper tools
- Fluid Temperature and Conductivity
- Natural gamma
- Resistivity
- Water sampler tool
- Cement bond tool
- Formation density
- Impeller flowmeter tool

On some occasions, other tools/services may be required such as:

- Verticality tools
- Heat pulse flowmeter tool
- Full wave sonic tool
- Seismic tools
- Gamma - gamma tool
- Acoustic imager (televiewer)
- Optical imager

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- Borehole magnetic resonance
- Casing collar locator
- Dual induction tool
- Dual neutron tool
- Spectral gamma tool
- Focused resistivity
- Magnetic susceptibility tool
- Stressed logging (pumped impeller flow with temporary pump supplied)
- Laboratory testing
- Other tools as available - contractor to provide details
- Pre-survey site visit
- Out of hours and weekend work

The pricing template provided with this tender reflects the above and requests pricing for a 'typical' survey and rates for any additional tools/services which the contractor can offer.

Surveys may be required at single locations or in multiple locations as part of one mobilisation.

Most surveys would be required between the hours of 6am and 6pm.

In exceptional circumstances surveys may be required outside of these hours or during the night.

A minimum of 1 weeks' notice will generally be provided when a survey is required although exact survey dates may change at short notice based on technical requirements, site access, progress of other works etc.

In exceptional/emergency circumstances surveys may be required at next day/same day notice.

It is expected that the contractor will be self-sufficient on site.

A 4-wheel drive vehicle will be required for access to some sites and use of a pulley and tripod system to reach the borehole/shaft headworks may be required in some cases.

It is expected that the contractor will appropriately risk assess each survey and produce suitable RAMS for review by the Coal Authority in advance.

Methane and other mine gases are present in some shafts and boreholes.

Logging equipment must not generate sparks and appropriate working practices/measures should be in place to minimise the risk of fire/explosion and exposure to toxic gases where they are present.

Typical Location



Typical survey access route



Data and Reporting

The contractor is expected to provide both fully processed and formatted geophysical data as well as raw data in standard file formats (e.g. LAS and Excel).

Depth corrected, quality controlled and neatly presented graphical logs, images and video files will also be required.

Live logging data must be provided during surveys to Coal Authority staff as required.

An interpretational report and further data processing may be required for some surveys.

Key performance Indicators

- All survey tools and associated plant are to be well maintained, serviced regularly and appropriately calibrated, evidence of calibration is to be supplied to the Coal Authority annually
- Due care (including the running of dummy tools) is to be taken by the contractor to avoid lost/stuck tools. Any circumstance where there is concern over the safety of a tool must be communicated clearly to the Coal Authority before the tool is run into the shaft/borehole.
- Field logs/data must be provided to TCA during a survey if requested and good communication must be maintained to allow the scope of the survey to be adjusted as necessary
- Fully processed, depth corrected, accurate, quality controlled and appropriately formatted final data (e.g. Excel, LAS, graphic logs, video files) to be delivered to the Coal Authority within 4 working days of a survey being carried out (unless otherwise agreed with the Coal Authority in the planning of the works)
- The contractor must where possible work with the Coal Authority to reduce long term environmental and social footprint associated with survey works.