



# Pumping Test – High Level Technical Requirements

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This note is intended to provide the high level requirements for the pumping test at a site in the northwest of England. The test is intended to assess the potential for reduction of the Level Zero blow out risk through the reduction of head within the mine workings. The key technical requirements are provided here, in addition it is expected that the contractor satisfy the general Coal Authority expectations and all legal obligations when conducting the works.

## Considerations

The site is remote and steep, access and ground conditions may present challenges.

## Requirements

- Pumping rate to be 20 l/s
- Pumping duration to be 72 hrs (if 24hr pumping permitted)
- Discharge point to be approximately 200m from bore (exact location to be confirmed by Coal Authority)
- Pump intake depth to be set at 26.5 m BGL within steel casing.
- Water levels are not to be drawn below 25mbgl at any point during the test (automatic level control should be included to prevent this).
- Approximate total volume of water to be abstracted 4000-5000m<sup>3</sup>
- Water quality sampling shall include one raw water and one receiving water sample per day (for latter : exact location to be confirmed by Coal Authority)
- Sediment settlement tanks with continuous TSS monitoring (manual or automated) on at the outlet should be included in the system
- The system should include accurate continuous logged flow monitoring for the duration of the test.
- Continuous data logged monitoring of water level within pumping bore (15 min intervals). Monitoring of neighbouring bore and crown hole to be undertaken for the duration of test and for two weeks during recovery (site attendance during recovery is not mandatory and data download at end of recovery period will suffice) . During the initial pumping phase manual water levels within the pumping well should be measured and recorded at 30 sec intervals for the first 10 minutes, and every 5 minutes for the first 2 hrs.
- Provision for sufficient fuel to be present onsite for the full duration of testing (3 days) should be made.

- Raw data from the pumping test to be provided to the Coal Authority in excel editable format for analysis and reporting by the technical team.
- Field sheets (supplied by Coal Authority) to be completed by the site supervisor for the duration of the works.

