

AQUEDUCT AND ADIT SURVEYS

The use of an ROV or AUV eliminates the need for manned access and the associated health and safety risk. It also avoids costly shutdowns and major disruption to the supply network.

ROV's (remote operated vehicles) can be used to survey aqueducts and adits, where the distance between access points does not exceed 2 km. The maximum excursion length is approximately 1km, so by entering each access point in turn and working upstream and downstream, the whole length of an aqueduct can be surveyed in sections.

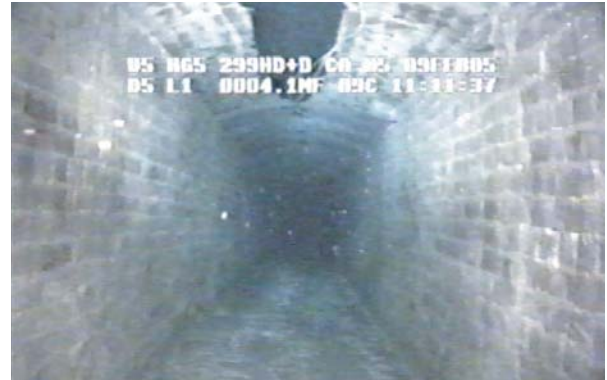
ROV surveys have the advantage that real time images are constantly fed to the pilot and recorded. The ROV can pause to concentrate on any section of interest and any hazards are visible and therefore avoidable.

AUV's (autonomous underwater vehicles) are more expensive items of equipment, but their use obviates the need for multiple entry and recovery of equipment on long lengths of aqueduct. AUV's are the only option where access is not available every 2km. The AUV has no umbilical cable and therefore excursion length is not limited by this constraint.

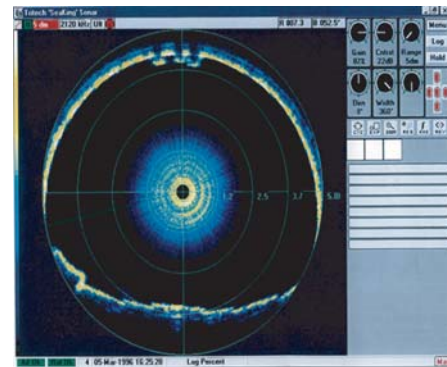


The Gavia AUV, shown above, is pre-programmed with a 'mission' prior to accessing the asset. This 'mission' defines parameters such as survey length, survey speed and mission abort parameters.

This unit is capable of surveying up to 30km / day in water flows up to 3m / sec.



The Gavia AUV is fitted with obstacle avoidance sonar and intelligent programming. If it encounters an obstacle in front, it will abort the mission and return to the launch location. The obstacle avoidance survey also keeps the AUV in a pre-defined position within the asset, such as central or closer to the roof or floor. Video and sonar data are stored on a dedicated hard drive.



The AUV can be fitted with a number of additional sensors such as hydrophones or ultrasonic wall thickness gauges. It is also possible to download data via wireless LAN from the AUV at pre defined access points along the route. Data can then be reviewed while the AUV surveys the next section. (Transfer data rate of 11 Mbits/s)

Retrieval of the unit utilises a net arrangement at a safe pre-agreed location. A net is also installed at the launch location, in case the unit aborts the mission and returns.

Budget Price Guide: (ex. VAT)

£1500 upto 2km £3000 upto 5km £6000 upto 15km

Principal Benefits:

- No confined space entry
- No disruption to the supply network - asset remains in service
- Significant cost savings - when account is taken of operational savings