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Mineral Exploration Case Study Test survey to locate seismic detonators

In 2008, Arrow Geophysics carried out a test survey in the Republic of Yemen to locate a small number of seismic detonators that had misfired during several phases of hydrocarbon exploration.

The work was commissioned by the oil and gas company responsible for the programme of seismic data acquisition, due to third party concerns that misfired seismic detonators left *in situ* pose a risk to groundwater quality and human health.



Ground penetrating radar survey using a modified 1000 MHz antenna



Surface marker indicating a misfired seismic detonator (yellow boulder added by survey team)

The survey remit was to locate, extract and safely dispose of any viable explosive charges. The survey team included an explosives engineer, a drilling technician and a geophysicist.

Due to the small target size and high degree of limestone fracturing, ground penetrating radar survey proved unsuccessful in locating seismic detonators at a typical installation depth of 1.7 metres below surface. Nevertheless, several explosive charges were successfully extracted from known insertion points and destroyed under controlled conditions. 11111 V V V VVVVVVVVV

Arrow Geophysics combines world-class technical expertise with real-world field experience to provide pragmatic geophysical solutions to mineral exploration professionals across Africa, Europe and the Middle East.

If you would like to discuss a project similar to this case study, or to enquire about the technical and commercial benefits of geophysics for your current exploration programme, then please do not hesitate to contact us.

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