

# Target location identification

Gemini 720is Multibeam Sonar

Application of sonar technology to locate the end of an intake pipe to a penstock within a reservoir, in zero visibility conditions.



## Features & Benefits

- Significant cost saving over alternative solutions
- Ideal for use in zero visibility conditions
- Up to 100m range
- Provides high resolution, real-time imagery
- Safe alternative to diver deployment

Gemini 720is installed on a Rovtech Micro Seaker ROV

Operator: CDMS Sub Surface Engineering, York  
Location: Kings Mill Reservoir, Sutton-in-Ashfield, UK

## Overview:

Kings Mill Reservoir Nature Reserve covers an area 78 acres including the reservoir. It is a popular recreational facility and is maintained by the local council. By law, the reservoir's pen stocks must be fully operational so that it can be drained as and when required, to prevent overflowing or flooding of the surrounding water table. To carry out maintenance of the pen stocks, it was necessary to first of all relieve the pressure applied on them from the water that was stored in the reservoir. By fitting a Gemini 720is multibeam sonar to an ROV it was possible to locate the intake pipe. Pressure in the pipe was then relieved, allowing the pen stocks to be fully refurbished.



Area to be searched



The penstock

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## Gemini 720is Multibeam Sonar:

1. Titanium model, 4000m depth rated
2. Anodised aluminium model, 1000m depth rated



The ROV fitted with the sonar ready for deployment

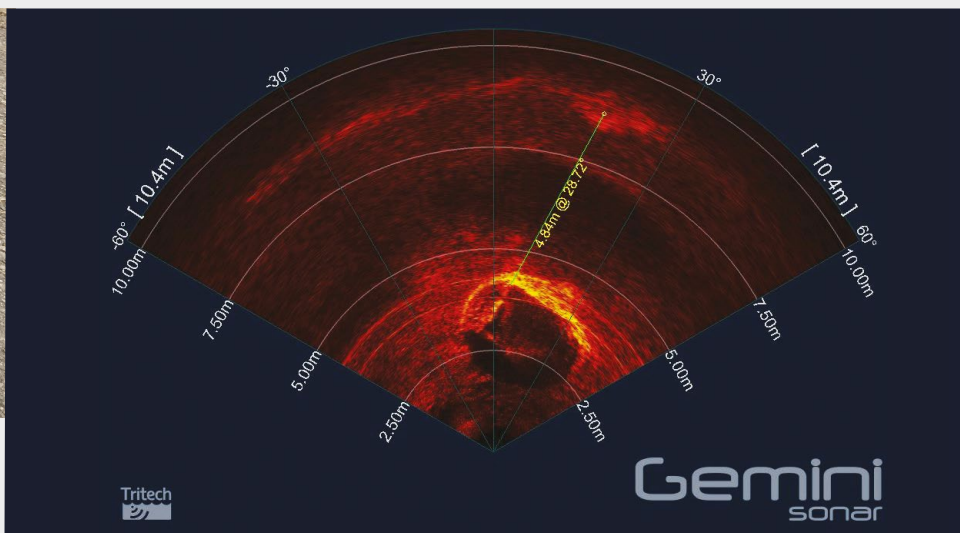


Image courtesy of CDMS Sub Surface Engineering

## Applications

- ROV/AUV navigation
- Obstacle avoidance
- Target recognition
- Search and Rescue (SAR)
- Salvage operations
- Subsea monitoring and inspection
- Object detection

## Summary

Using the ROV equipped only with a camera and lighting to locate the end pipe would have been ineffective due to the zero visibility conditions. Using sonar technology meant that the work / search area could be fully visualised and searched in detail. The Gemini software which interfaces with the sonar, delivered real-time data allowing the ROV operator to navigate and visualise the area as well as providing the ability to measure targets and to record the data for review.

## Client Feedback

“By using the Gemini 720is, the time taken to locate the end pipe was significantly reduced. In our operations it is an invaluable addition to the ROV and provides supreme visibility in black water conditions; we consider it a critical piece of equipment in the line of work we do”.

Mark Dobson, ROV Pilot, CDMS SSE Ltd

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