

# Survey of underground water tanks

Gemini 720is Multibeam Sonar

Application of sonar technology to survey flooded and redundant underground water storage tanks previously used for a fire protection sprinkler system



Case Study | Application

Image courtesy of CDMS Sub Surface Engineering

## 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: Knowsley, Merseyside

## Overview:

The redundant water reservoirs were originally installed to facilitate fire protection of a building that has since been demolished. Survey data was required on the configuration, construction and layout of the tanks so that the information could be taken into consideration for any future construction or demolition plans. The tanks were a confined space of unknown integrity; completely flooded and therefore considered high-

Images showing position and location of tanks and access points



Images courtesy of CDMS Sub Surface Engineering

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## Gemini 720is Multibeam Sonar:

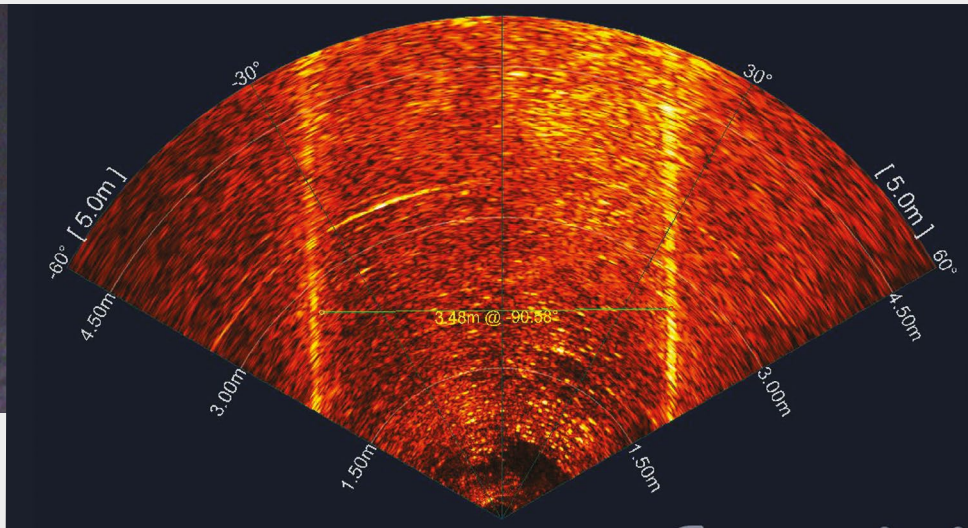
1. Titanium model, 4000m depth rated
2. Anodised aluminium model, 1000m depth rated



Sonar image showing internal structures and measurement details



Video images of debris in the tank from the on-board video camera



Images 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

The deployment of the Gemini 720is multibeam sonar provided the ROV pilot with the assurance that he would still be able to navigate the ROV around the internal areas of the tanks; detect structures and obstructions and have the ability to take accurate measurements of specific areas, even in zero visibility conditions - all in real-time.

## Client Feedback

"The Gemini 720is's ability to detect anomalies and to provide detailed and quality sonar imagery of its surrounding area, and at distances not possible with only a camera is invaluable.



Simply put: in many situations we couldn't carry many of the projects we do without the sonar.

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