mining / water / environmental / geotechnical / energy

COLOG

borehole geophysics / hydrophysics

PROFILING BOREHOLE SONAR

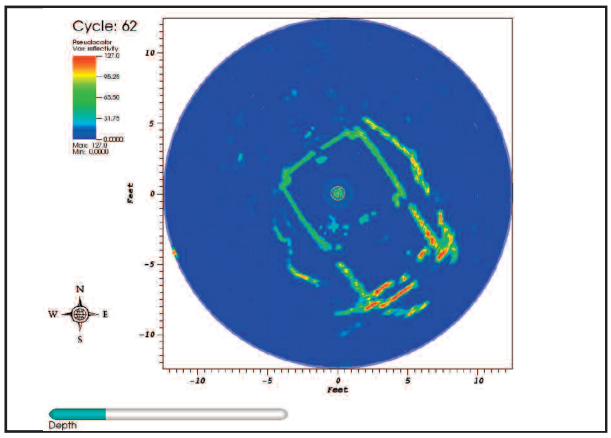
Multi-frequency profiling sonar surveys provide a unique method of imaging large, fluid-filled caverns, voids and abandoned mine shafts. COLOG utilizes an advanced digital sonar head adapted to standard geophysical wireline. Sonar images are oriented by a 3-axis magnetometer and accelerometer. Heading, Pitch and Roll are displayed on the acquisition screen and are integrated into the binary data stream for post processing and image presentation.

Data acquisition interface panel allows the sonar head to be configured in real-time while logging. This flexibility creates the necessary control to select a wide range of frequency and range resolutions to adapt to different subsurface conditions.

In-house software (SonarSHED™) has been developed in order to create a processing platform to accommodate the 2-D and 3-D acoustic displays and virtual images.

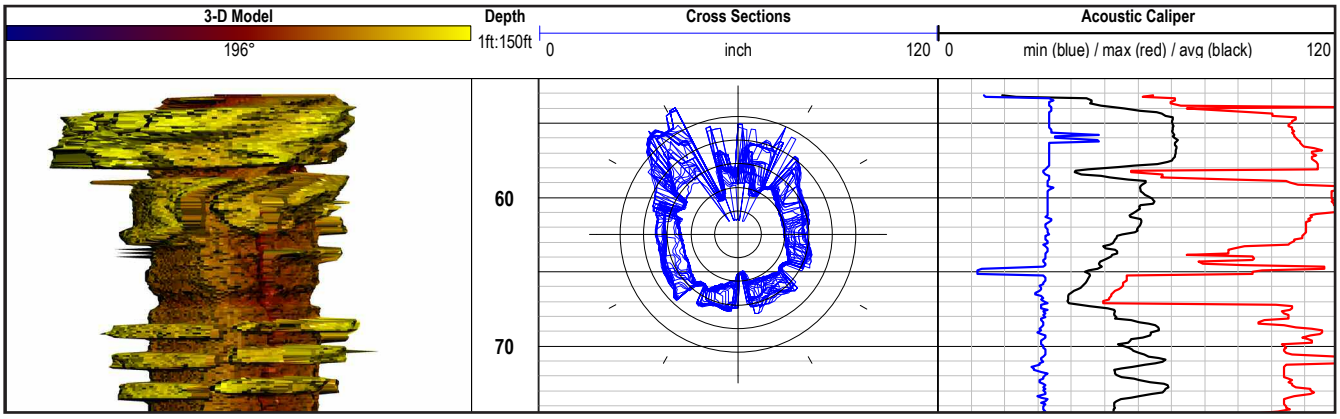
APPLICATIONS:

+ Karst Geology / Solution Cavities
+ Underground Voids
+ Submerged / Abandoned Mine Shafts
+ Large Diameter Vent Shafts
+ Mine Reclamation / Subsidence programs
+ Drilled Foundation Reamed Hole Imaging
+ Storage Tanks and Submerged Construction Boxes



PROBE SPECIFICATIONS:

Diameter:	89mm (3.5 in.)
Length:	1.35m (4.42 ft.)
Weight:	6 Kg (23.2 lbs)
Max Operating Temperature:	70˚C (158˚F)
Max Pressure:	200 bar (2900 psi)
Borehole Diameter Access:	4” diameter borehole
Frequency:	280kHz to 1MHz in 5kHz steps
Radial Distance Range Scales:	1m to 200m selectable
Horizontal Resolution (360˚):	Samples per Revolution (150, 300, 400, 600, 1200)
Vertical Resolution:	Dependent on void dimensions and beam width



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