

Current Standards in Echometric Cavity Surveying

by

H. Von Tryller and K. Gotthardt

SOCON Sonar Control Kavernenvermessung GmbH

Abstract

The recording of the structural dimensions of salt cavities being leached or used for oil or gas storage requires a wide variety of survey techniques.

Besides in-situ systems, which allow a continuous control of various physical quantities and surface control methods, the most important technique for cavity surveillance is echometric cavity surveying using ultrasonic tools. This highly developed procedure for determining the three dimensional shape and position of a cavity is presented in detail.

In addition to the systems for determining the depth, the position of the casing shoe and the spatial location of the tool, special emphasis is put on the actual ultrasonic survey method. The possible errors and shortcomings of this technique are considered in the light of current technology so as to enable the size of errors to be estimated.

Presentation of the computer system focuses on the software and so highlights the state of technology applied in echometric surveying.

©2023 – Solution Mining Institute

Full Paper is Available in the SMRI Library(www.solutionmining.org)