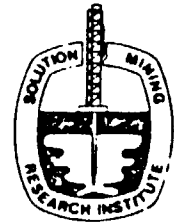


# SOLUTION MINING RESEARCH INSTITUTE

New Address:

1745 Chris Ct.  
Deerfield, IL 60015-2079 – USA  
Phone: 847-374-0490  
Fax: 847-374-0491  
E-mail: [bdiamond@mcs.com](mailto:bdiamond@mcs.com)

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SHAPE DETERMINATION IN GAS-STORAGE CAVERNS

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Dr. E. Wierczyko

PRAKLA - SEISMOS GMBH, Hannover



SHAPE DETERMINATION IN GAS-STORAGE CAVERNS

by Dr. E. Wierczyko

Abstract:

Since 1981 echo surveys have been carried out in Germany for the shape and volume determination of gas-storage caverns. Such surveys for a gas-storage cavern in operation are only useful if certain rock mechanic events and movements, i.e. processes of convergence, as well as caving and sloughing, can be determined by echometric surveying with sufficient accuracy.

At the present level of the survey technology an improved accuracy can only be attained by a substantial increase in the spatial density of survey points. With computer controlled surveying and computer assisted interpretation it is possible to efficiently record and present such a large number of measured values.

The shape determination by means of Echo-Log must be supplemented by photographic records, especially in the roof area and in the cavern neck. For cases in which even high density surveying does not enable the cavern boundary to be interpreted from the Echo-Log, photographs can confirm the karst cavity character of such storage caverns and thus give the echometric interpretation the necessary unequivocalness.