

# **SOLUTION MINING RESEARCH INSTITUTE**

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**Meeting  
Paper**



## **Correlation of Chemical, Mineralogic, and Physical Characteristics of Gulf Coast Dome Salt to Deformation and Strength Properties**

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## ABSTRACT

Correlation analyses were performed to quantitatively measure the interdependence of strength and deformational properties with chemical, mineralogic, and physical characteristics of Gulf Coast dome salts. Data included in the analyses were obtained from both government-funded and industry-funded laboratory testing programs using salt cores recovered from 12 different Gulf Coast domes. The statistical parameter commonly known as the correlation coefficient was used as the quantitative measure of correlation or interdependence. Calculation of the correlation matrix was automated using the **MCORREL** function of *Microsoft® Excel*. The strongest correlations exist between subgrain size and such salt properties as tensile and compressive strengths, steady-state strain rate, and steady-state stress exponent.

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