

WMI Record File
A1755

WMI Project 10-11-76
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Summary Data Inventory Sheet (Return to WMI Sec. 33)

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To Pearing for Sandia

Type of Data: - Rock Mechanics Data
Creep property lab tests,
Geomechanical property lab tests

Data Documented:

Wawersik, W. R. and Hannum, D. W., "Interim Summary of Sandia Creep Experiments on Rock Salt from the WIPP Study Area, South-eastern New Mexico," SAND79-0115, Sandia National Laboratories, May 1979.

Data Collection Location:

- (a) Areal Location: Southeastern New Mexico, near Carlsbad (WIPP study area); core from drill holes AEC #7 and ERDA #9.
- (b) Subsurface location:
2050-2100 ft depth, salt bed
2620-2690 ft depth, salt bed
Primarily halite (90-97%)

Method of Collection/Analyses: Triaxial creep experiments were performed at Sandia National Laboratories on 13 samples of rock salt with approximate dimensions of 10 cm (diameter) by 20.7 cm (length). A total of 23 creep tests were done. Confining pressures ranged from 0 to 3000 psi (0-20.7 MPa). Principal stress differences ranged from 1000 to 4500 psi (6.9-31.0 MPa). Test temperatures of 22°C, 100°C, and 200°C were used. The average duration of the creep experiments was 665 hours. Empirical fits to the data were obtained for the primary and the secondary stages of creep. A cursory comparison to previous RE/SPEC data was also made. Some tests were conducted to determine the Young's modulus, Poisson's ratio, ultimate stress and strain at ultimate stress using quasi-static load/unload/reload experiments.

Amount of Data: A moderate amount of data was collected in these laboratory measurements. A listing is attached, which is a copy of the appendix from the reference (SAND79-0115).

Data Sources: Sandia National Laboratories

Data Storage Location: Condensed data files are included with the report as an appendix. Raw data are presumably stored on tape(s) by Sandia. The document does not mention the physical location of these data.

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Data Related Uncertainties: The amount of data is moderate. However, the data appear to be of good quality. There is considerable scatter in the derived constants for the empirical relations. The authors report a $\pm 0.8^{\circ}\text{C}$ temperature drift which can cause errors in radial strain of $\pm 0.04\%$.

Additional Comments: None