Deformation Mechanisms and Rheology of Pre-Cambrian Rocksalt from the South Oman Salt Basin

**Deformation Experiments**

- **SAMPLE PREPARATION**
- **DEFORMATION PROCEDURE**
- **EXPERIMENTAL SET UP**

**Stress/Strain Curves**

- Stress-strain curves for the Ara Salt creep experiments. Test parameters are detailed in Table 1. 
- A total of 26 creep test samples were tested. 
- Three creep experiments were performed at different temperatures: T = 100 °C, T = 80 °C and T = 60 °C. 
- The 10% strain is reached within a time of 5000 h, followed by steady state creep. 
- The creep test sample ZAZ 02 shows a steady state creep after 5000 h. 

**Creep Data of the Ara Salt**

- Creep test sample ZAZ 02 shows a steady state creep after 5000 h. 
- The steady state creep parameters were derived from eq (8) and (9). 
- The creep test sample ZAZ 04 shows a steady state creep after 5000 h. 

**Microstructures**

- The microstructure shows a close-packed cubic ( ccp ) lattice with a high dislocation density. 
- The grains are elongated in the direction of applied stress. 

**CONCLUSIONS**

- The rheology of the Ara Salt is comparable with the most common salt rock types and data from this study. 
- The creep exponent n = 5, Q = 32400 J mole⁻¹ and A = 1.82 x 10⁻⁹ s⁻¹. 
- Separate primary creep parameters have been derived. 

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