Variation of dissolution rate with temperature – From horizontal to vertical

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Abstract :

Salt dissolution rate is highly dependent on temperature; when temperature decreases from 30°C to 15°C, the dissolution rate is divided by two.

SMRI sponsored a research project in the early 80's that was concluded by research report #83-0002-SMRI[4]. Unfortunately, because of the size and shape of salt sample required, the procedure used for measurements was not applicable for most real sites where we only have cores from drilling.

In a previous paper[5], we presented an experimental procedure for measuring the dissolution rate of a halite core sample at a given temperature. Weeks after presenting that paper I appeared that the core had to be vertical during dissolution instead of being horizontal. The present paper gives first results using both salt lick cores and real salt cores suspended vertically.

Key words : Cavern Dissolution Modelling, Salt Dissolvers, Salt Properties,