

Formation Water Salinity from Core Analysis

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Having knowledge of formation water salinity can have dramatic consequences in the evaluation and assessment of a hydrocarbon bearing reservoir. The specific type of salinity identification test chosen to be conducted in the laboratory on core is very much dependent on the actual mineralogy of the formation and its physical properties. Contaminants used during drilling, coring and completion operations may also determine the method of salinity testing employed.

These methods of assessing water salinity along with the integration of new technologies can allow for more refined reservoir evaluation models to be prepared. The methods discussed will be:

1. Formation water salinity reconstruction through direct R_w measurement of formation water expelled from core.
2. R_w and salinity measurements on produced fluids.
3. Refined crushed core leach using NMR and tracers.

This presentation will discuss the different types of salinity tests used to determine formation water salinity and the conditions best suited for each. Data evaluation, validity and usage will also be discussed