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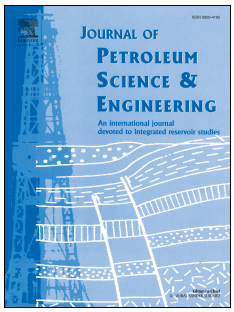

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A Rigorous General Workflow for Accurate Prediction of Carbonate and Sulphide Scaling Profiles in Oil and Gas Wells

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ABSTRACT

Prediction of pH-dependent carbonate and sulphide scale in oil and gas operations is of major importance to allow effective mitigation strategies to be put in place. Nevertheless, there is not a standard industry procedure which clearly describes how to obtain scale prediction profiles starting from commonly available field data. This work presents a clear and systematic step-by-step procedure to obtain carbonate and sulphide scale prediction profiles from the reservoir to the first stage of separation using commonly available field data, thus closing the gap between surface and subsurface three phase calculations. As presented here, any suitable aqueous phase mineral chemistry model can be used with any Pressure/Volume/Temperature (PVT, phase prediction) software to carry out these calculations and the models used here are referenced.

KEYWORDS: Scale; scale prediction; iron sulphide; carbonate; PVT; produced water.