

Formation Damage in a Simulated Lower Cruse Formation

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Abstract: *A piston loaded test cell was used to study the effects of fines migration in the lower cruse formation. The sand pack was prepared from an outcrop of the lower cruse formation. The clays identified in this formation were illite/montmorillonite and kaolinite. The effect of migrating clays and quartz fines was studied by a sequential flow displacement of the brine saturated pack with chloride solutions of sodium, calcium and potassium (25,000 ppm). Backflooding of the sand pack with 2 pore volumes of fluid restored the permeability to its original value. The effect of swelling clays was investigated by flooding the pack with fresh water. This resulted in a permeability loss which was only partially restored with chloride solutions.*

Keywords: *Lower cruse formation, fines migration, clays, chloride solutions*