



STIMSOL Solvent Systems

Wax and Asphaltene Problems

The primary cause for waxes and asphaltene to precipitate from crude oil and gas streams is a change in either the chemical or physical equilibrium. The most common of these changes are:

- **Problem**

Acidic shift or change in the pH level and/or radical change in salinity which is usually encountered during a workover or the stimulation process causing a severe shock and the flocculation of the very polar asphaltene molecules.

Solution

Prevent the occurrence of deposition by performing compatibility testing of the workover fluids with the crude oil. Use StimSol's Specialty Solvents as a workover fluid or as an acid treatment spearhead. Remediation of damage that has occurred can be performed by a general clean-up of the wellbore with a batch treatment followed by an injection maintenance program.

- **Problem**

Formation damage caused by previous treatments such as hot oiling. The oil which is used in hot oiling is often drawn off the bottom of the production tank where waxes and asphaltene have settled to result in a higher concentration going down the well. Also, the heating process distorts the wax and asphaltene crystals to create molecules and chemical complexes that have higher melting points than their original melting point. When this modified oil with the distorted wax and asphaltene crystals is lost to the formation, precipitation of the modified waxes and asphaltenes occurs when the oil cools, resulting in significant blocking of the formation matrix causing a reduction to the inflow.

Solution

Add one of StimSol's Specialty Solvents to the crude oil being used as workover fluid to keep the waxes and asphaltenes in solution. As well, StimSol Canada Inc.'s line of Specialty Value-Added Chemicals may be beneficial.

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- **Problem**

Thermodynamic – a decrease in the temperature within a producing system will cause organic precipitation.

- **Solution**

Continuous injection or batch program to maintain wax and asphaltene control.

- **Problem**

Evaporation of light ends out of the crude oil as a function of pressure depletion or near wellbore drawdown to cause change in hydrocarbon liquid solubility and the precipitation and deposit of waxes and asphaltenes.

- **Solution**

Continuous injection or batch program to resolute the deposition that may have occurred and to prevent further deposition by adding aromatic and low molecular weight aliphatic hydrocarbons to the production.

AVAILABILITY:

Contact **StimSol Canada Inc.** at 1-866-649-2663 for a depot and sales representative near you.