

# ACIDIZING AND PRODUCTION ENHANCEMENT LAB CAPABILITIES

## ACCURATE ANALYSIS - EFFECTIVE SOLUTIONS

When it comes to improving or restoring production in a well, the best solutions come from a thorough investigation of the problem. Our extensive facilities, capabilities and staff experience can effectively determine the best solution to remove damage mechanisms and increase or restore production in your well. Our technical capabilities include:

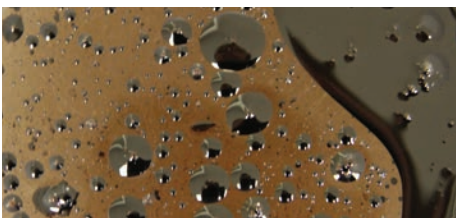
- API and modified fluid compatibility tests
- Corrosion testing (4 high pressure test cells, H<sub>2</sub>S and CO<sub>2</sub> capabilities)
- Spent acid analysis (dissolved ions)
- Scale/solids analysis
- Oil/hydrocarbon analysis (wax and asphaltene content)
- Routine water analysis with scaling tendencies
- Water impurity analysis
- Wax concentrations in oil
- Asphaltene concentrations in oil
- Deposit analysis and identification
- Deposit solvency evaluations
- Water audits (detailed evaluation of water injection systems)

### Primary Damage Mechanisms

- Inorganic scales, such as calcium carbonate and calcium sulfate, or iron precipitation products like iron sulfides or oxides
- Organic scales, such as wax and asphaltenes
- Porosity blocking mechanisms, such as emulsions, water blocks or solids
- Oil carry-over

### Primary Damage Mechanism Determination

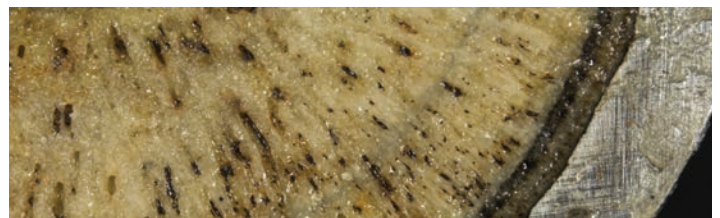
- Water analysis – determines the total dissolved solids (TDS) that lead to scale precipitation.
- Wax and asphaltene extraction method to determine the quantities of each of these organic species in the crude oil that lead to plugging.
- XRD/XRF for identification of solids (what they are) and solubilities (how much dissolves in HCl).
- Acid compatibility's with produced crude oil, produced water and solids (if available). These are also performed using the acid blend spent with calcium carbonate.



Hydrocarbon Carry Over



Emulsions



Calcium Carbonate

For more information, please contact **Trican Well Service**.