

OneSTEP

Simplified sandstone stimulation system

APPLICATIONS

- Oil and gas production wells and injector wells
- Complex, multilayer sandstone formations
- Treatment temperatures of 200 to 375 degF [95 to 190 degC]
- Clay or calcite content greater than 5%
- Clay plus calcite content greater than 10%

ADVANTAGES

- Production increase with minimal risk of damage
- Requires less equipment
- Less time is required at wellsite
- Safer operations with less corrosive fluid
- Mitigation of the risk of secondary and tertiary precipitations
- Reduction of the risk associated with stimulating acid-sensitive minerals/rock
- Reduction of the tendency for acid emulsion and sludge formation
- Replacement of multiple fluid stages (acid preflush, main fluid, and acid postflush) with only one stage
- Removal of damage caused by drilling fluids, clays, carbonates, and other aluminosilicates
- More uniform stimulation of sandstone reservoirs with less risk of disintegrating the rock
- Self-diverting stimulation fluid

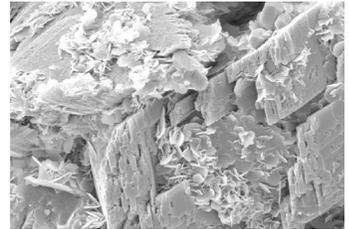
Small operational footprint

OneSTEP* simplified sandstone stimulation system uses only one fluid stage. Well-engineered fluid systems and reduced volumes provide a lower-risk, cost-effective solution that also removes damage caused by drilling fluids, clays, carbonates, and other aluminosilicates.

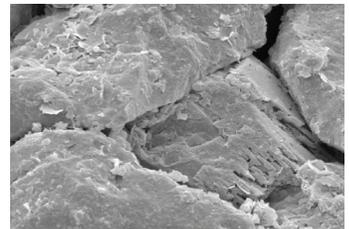
The OneSTEP system offers more uniform stimulation of sandstone reservoirs with less risk of disintegrating the rock. The system mitigates the risk of secondary and tertiary precipitations and reduces the tendency for acid emulsion and sludge formation; in addition, it offers less corrosion risk to tubulars and equipment. It increases production with minimal risk and offers effective formation damage removal. The OneSTEP system encourages the stimulation of wells that were previously bypassed because of the fear of potential damage from conventional treatments.

The single fluid stage formulation saves costs because it requires less equipment and saves preparation time. In addition, the fewer equipment requirements offer a smaller operational footprint, especially important in offshore activity. A single fluid stage permits simpler operations and reduces personnel exposure to health, safety, and environmental risks. In addition, this system is easy to mix and pump.

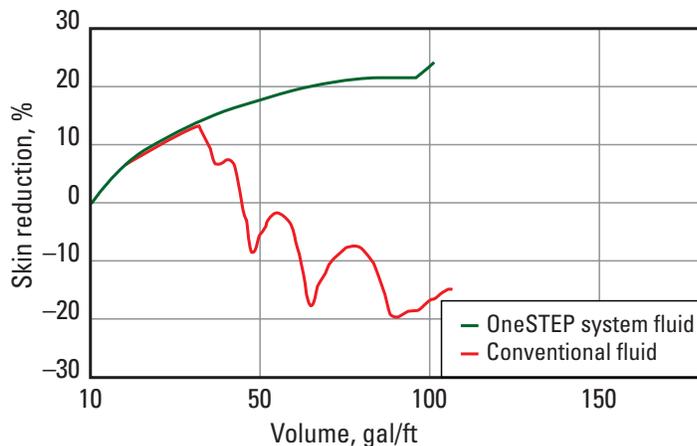
Integral to the OneSTEP system process candidate selection using Virtual Lab* geochemical simulation software. The software incorporates the results of slurry reactor tests and the actual candidate core tests, and then makes predictions about treatment effects on damage removal and effective job volumes. Multiple treatments can be compared to select the best treatment for each well. This approach reduces the risk of mismatching fluids or using the wrong fluid design for stimulation of a particular formation.



Formation damage.



Effective damage removal.



OneSTEP system fluid removes formation damage.