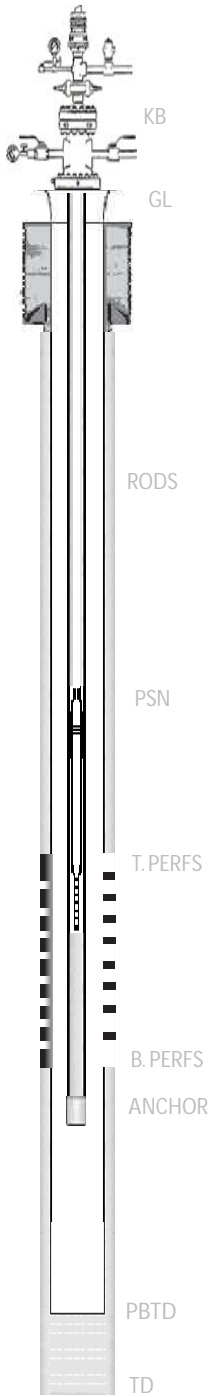


RED DEER
 SWIFT CURRENT /MED HAT
 THREE HILLS
 CALGARY

403-314-1820
 306-774-6057
 403-443-0949
 403-819-1378



ST115 Sand Stimulation Additive



FORMATION

POROSITY

CASING DETAILS
 SURFACE
 PRODUCTION
 TUBING

PRODUCTION DETAILS
 OIL
 WATER

SIZE

WEIGHT

LANDED

GAS

WATER CUT

ITS ABOUT THE SERVICE

Since 1999, Petrotreat's mission has been to work closely with our customers to identify their most pressing production and process related problems. From under-performing production assets to high costs resulting from repeating maintenance issues to meeting pipeline specification for oil and gas, Petrotreat brings forward the most cost effective, chemical based solutions.

- Stimulation Products
- Demulsifiers
- Scale Inhibitors
- Well Foamers
- Packer Fluid Inhibitors
- Sand Line Inhibitors
- Acid Packages
- Parraffin Solvents and Dispersants
- Asphaltene Dispersants

Not only do our Account Mangers have the products available to resolve your difficult to treat problems, with over 80 years of combined experience, we have the ability to properly select, apply and manage ongoing chemical programs. You see, at Petrotreat, it's not only about the Product,

IT'S ABOUT THE SERVICE.

PRODUCTION CHEMICALS

Petrotreat's Account Managers have been trained to work with operators to understand the challenges faced daily to meet production targets with spec oil and gas products. With Petrotreat's product line we are able to deal with issues including wet oil, wax and asphaltene deposition, bacterial contamination, water injection problems, pipeline flow reduction and fugitive sour gas emissions. We can recommend chemical treatments which will solve these problems, cost effectively.

WELL STIMULATION

Production stimulation is where we cut our teeth in this business. As a result, we have developed some very unique chemistries which are able to tackle the most difficult organic and inorganic deposition problems in the Western Canadian Sedimentary Basin. Combining this with our expertise in designing a batch or squeeze program which ensures that the chemical gets to the blocked tubing or formation face helps maximize the impact of your company's stimulation dollars.

MAINTENANCE PROGRAMS

On-going maintenance is usually required to ensure that the gains made during the initial problem identification and resolution stage are maintained. Our representatives are fully trained and equipped to track chemical usage, monitor chemical program performance and provide support and recommendations based on this information. To ensure the most cost effective chemical program, our sales representatives meet regularly with our customers to review the chemical applications and look at opportunities for further gain or improvement.

TECHNICAL SUPPORT

Utilizing our lab in Red Deer, Alberta, and our partners in Calgary and Edmonton, deposit samples can be thoroughly analyzed and then tested against different chemical additives for effectiveness. A review of completion, production and process information is usually required to fully understand the operational and financial impact of these problems.

To demonstrate ST115's ability to mitigate scale deposition, a tubing block instrument was used (PMAC) where a cationic and anionic stream are brought together through a capillary to form scale. Pressure differential across the capillary is used to measure scale accumulation.

Results indicate that ST115 inhibits scale formation in concentrations as low as 100 ppm based on total water volume.

Your local Petrotreat representative can provide a demonstration of how ST115 Sand Stimulation Additive will work with your producing formation. Additionally, Petrotreat can prepare a stimulation program to work with your preferred coiled tubing unit, pressure truck, service rig to ensure that the stimulation is done to your organization's standards. We will be on site to help your site representative manage the project, from coordination to execution to completion and reporting.

Petrotreat ST115

Sand Stimulation Additive

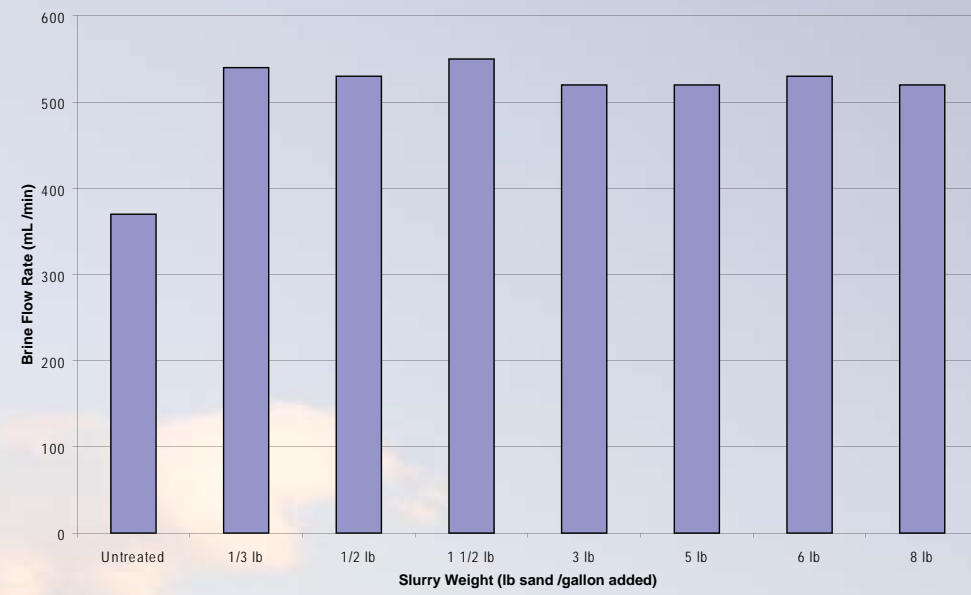
Benefits:

- Increased Production
- Controls Fines Migration
- Enhances Load Fluid Recovery
- Inhibits CaCO_3 Scale Deposition

Petrotreat ST115 works by changing the zeta potential of solid surfaces. Zeta potential is defined as the charge that develops at the interface between liquid and solid surfaces as a product of the electrostatic repulsion and the attractive forces related to Van der Waals forces. Zeta potential in the range of -20 mV and +20 mV is sufficient to aggregate particles, therefore stopping fines migration into and throughout the formation.

In a producing formation, the optimized zeta potential minimizes fines migration leading to related benefits of increased production and enhanced load fluid recovery.

Effect of ST115 on Conductivity of 20/40 mesh Frac Sand



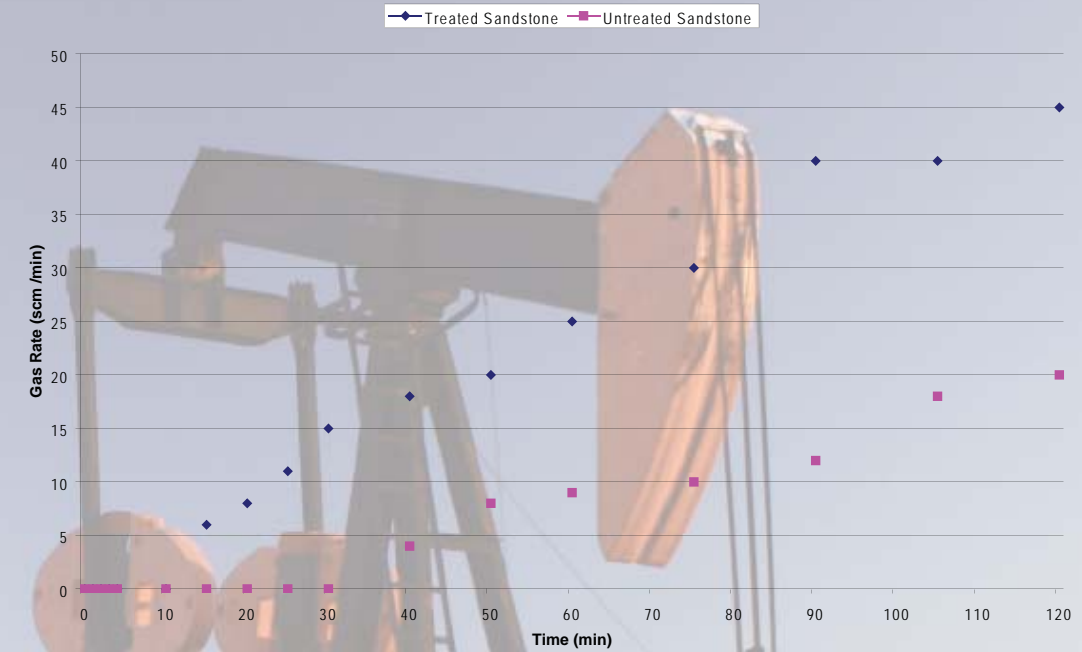
In laboratory sand pack tests, ST115 was shown to improve the ability of brine to flow through a sand pack by more than 40%.

Effect of ST115 on Fines Migration



ST115 also demonstrated higher control of fines migration through a 20/40 mesh sand pack. When measuring the amount of 2% silica flour produced with the effluent when flowed through this sand pack, a 99% reduction was seen.

Core Flow Testing



Laboratory core testing has demonstrated the product's ability to improve gas rates following treatment with ST115.

Core Flow Testing



Core flow testing also reveals how ST115 improves load fluid recovery compared to untreated sandstone.