

AcroClear® Reduces Scale and Operational Costs in Salt Water Disposal System

ACROLEIN PROGRAM REMOVES AND PREVENTS SCALE FORMATION, RESULTING IN LOWER TREATMENT AND MAINTENANCE COSTS

PERMIAN

CHALLENGES

- » Increased chemical and operational costs
- » Significant scaling inside water transfer pipe
- » Pump damage due to severe vibrations
- » Filter plugging, requiring frequent replacements
- » Under-deposit corrosion in water transfer line

SOLUTION

- » Three-phased application of AcroClear
- » Continuous application at lower dosage and cost than incumbent program

KEY BENEFITS

- » Decreased solids, including acid insolubles
- » Lower injection pressure
- » Thirty percent lower chemical treatment costs
- » Reduced equipment maintenance costs
- » Filter changes decreased to every three months from twice a week
- » Reduced filter cleaning costs by more than 95 percent

OPERATOR'S CHALLENGE

Despite a salt water disposal (SWD) treatment program consisting of more than 30 gallons per day of THPS (tetrakis (hydroxymethyl) phosphonium sulfate), a West Texas operator was experiencing heavy scale formation in its SWD system.

The operator was faced with several challenges, which amounted to significant treatment and maintenance costs to maintain equipment reliability and mitigate corrosion risks. The operator needed a cost-effective solution to address commingled produced waste water consisting of large amounts of solids. This resulted in thick layers of scale inside the water transfer pipe, pump damage due to severe vibrations, plugged and damaged filters causing low-suction alarms to shut down on the pumps, and water transfer lines failing due to under-deposit corrosion.

The existing program was inefficient and ineffective. A large volume of water (7,000 to 7,700 BWPD) exceeded system capacity by more than 25 percent and carried an average of 8 ppm of total sulfides across the SWD system. The injection pressure rate was 1000 psi.

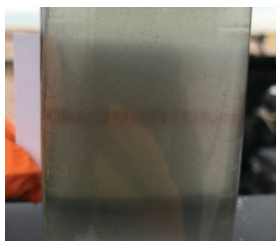
HALLIBURTON'S SPECIALITY CHEMICALS SOLUTION

Multi-Chem, a Halliburton Service, worked with the operators to apply AcroClear, a proven acrolein-based solution successfully applied in similar operations. To address the challenges, our specialty chemicals experts developed and implemented a three-stage treatment plan over a six-week period. The first stage was to apply AcroClear at 50 ppm, 16 gal/day for two weeks, then at 30 ppm, 10 gal/day for two weeks and then at 15 ppm for 5 gal/day as ongoing preventative continuous application.

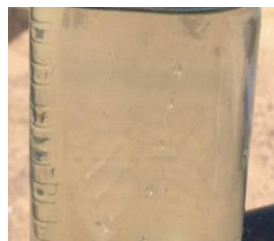
RESULTS

After the continuous application of AcroClear, soluble salts, iron compounds, and acid insolubles were significantly lowered, reducing scale deposition and corrosion risk in the SWD system. Treatment costs were lowered by 30 percent, and maintenance expenses decreased, as filters were replaced once every three months instead of twice a week, a 2,500% increase in filter life expectancy and a savings of more than \$75,000 a year.

Before AcroClear® Application



After AcroClear® Application



For a specialty chemicals treatment program characterized by superior service and chemical application expertise that maximizes the value of your assets, contact us at multichem@halliburton.com

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

H013631 05/20 © 2020 Halliburton. All Rights Reserved.