

AcroClear® Batch Treatment Saves Operator Time and Money

SUCCESSFUL IMPLEMENTATION OF ACROLEIN BATCH PROGRAM
REDUCES DOWNTIME, IMPROVES CORROSION RATES, AND IMPROVES
CRUDE QUALITY

PERMIAN

CHALLENGES

- » Solution needed to ship sour crude to without service interruption
- » High levels of iron sulfide and carbonate scales in the material
- » Pigging efforts are inefficient at complete removal of solids
- » Water hold-up in the line
- » High corrosion rate

RESULTS

- » Substantial reduction in corrosion rate — 78 percent
- » Sour crude upgraded to sweet
- » Significant solids reduction in flow line, including these average drops after five days:
 - » Fe levels reduced to 0.48 mg/L from 366 mg/L
 - » Ca levels reduced to 0.91 mg/L from 2816.41 mg/L
 - » All other solids reduced almost 0 mg/L

OPERATOR'S CHALLENGE

A Permian Basin pipeline operator was experiencing nearly 8 mpy corrosion on a 78-mile, 8-inch, wet-oil pipeline. Large amounts of iron sulfide and calcium carbonate solids were mechanically removed through pigging on a regular basis – sometimes monthly. Despite regular pigging and a combination corrosion/scale chemical inhibition program, solids build-up and corrosion continued to create operational risks for this operator, who is looking for cost-effective solutions to ship sour crude without service interruptions..

HALLIBURTON'S SPECIALITY CHEMICALS SOLUTION

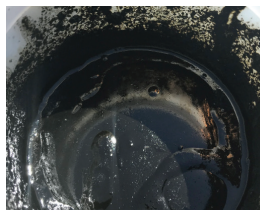
AcroClear is a water- and oil-soluble sulfide controller, allowing it to penetrate oily coatings on iron sulfide particles, clarify black water, and rid discharge of surface-sheening iron sulfide solids. Unlike acid or THPS (tetrakis (hydroxymethyl) phosphonium sulfate) treatments, AcroClear is a non-corrosive solution that does not affect the system pH, nor is it affected by iron concentrations. The highly reactive dissolver works quickly, completely and irreversibly. The extremely rapid reaction between our AcroClear product and H₂S can be an advantage when retention time is an issue.

Multi-Chem recommended a five-day batch application of AcroClear at a dosage of 45 ppm to eliminate the solids, which were serving to exacerbate corrosion by providing a cathodic surface and interfering with the corrosion inhibitor's ability to create a passivating film on the metal surface of the pipe. The batch of AcroClear was supported with a small dosage (9 ppm) of MC SS-5685 (acetic acid) to dissolve calcium carbonate scale.

ACROCLEAR® TREATMENT PROGRESS



Day 1: Heavy large solids



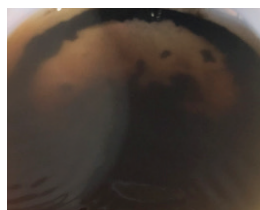
Day 2: Solids reduction



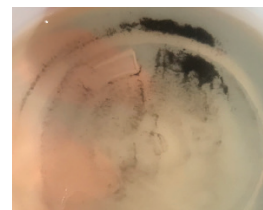
Day 3: Only fine solids



Day 4: Quick settling fines



Day 5: Quick settling fines



13 days later: Minimal fines

KEY BENEFITS OF ACROLEIN APPLICATION

- » Completely and irreversibly dissolves FeS
- » Water- and oil-soluble, able to penetrate oil-wet films
- » Non-oxidizing
- » No H₂S generation

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.

H013627 05/20 © 2020 Halliburton. All Rights Reserved.