



# CLEAR SOLUTIONS for complex fluids

## High Pressure Hydraulic Flushing of Smartwell & SCSSV Flat-Pack Control Lines to Ultra-Fine AS 4059



### CHALLENGE

- Our client's supplier could not provide their control line flat-pack reels with in spec TransaquaHT nor provide in spec bulk TransaquaHT



### SOLUTION

- CETCO deployed its combination High Pressure Flushing/Injection and Ultra-Fine Filtration Unit to the client facility



### RESULTS

- CETCO successfully cleaned bulk TransaquaHT to as low as Class 1 on AS4059 Table 2 and flushed the flat-pack reels to specification while reducing the time to clean a reel

## SUCCESS STORY

Water Treatment & Filtration  
Solids Management Systems & Technologies

# High Pressure Hydraulic Flushing of Smartwell & SCSSV Flat-Pack Control Lines to Ultra-Fine AS 4059

## CHALLENGE

Requirements dictated that particulate measurement be conducted utilizing the MP FILTRI LPA 3 Particle Counter with the AS4059 Table 2 standard. The sensitivity of the instrument and more stringent standard meant our client could not treat bulk TransaquaHT to less than Class 6 or fill their SmartWell and SCSSV flat-pack control lines with Class 6 TransaquaHT efficiently. The client had several multi-line flat-pack reels of 22,000' and 4,500' lengths that would require flushing for a pending completion.

## CETCO SOLUTION

CETCO deployed its combination High Pressure Flushing/Injection and Ultra-Fine Filtration Unit to the client facility. As a result, CETCO was able to treat the off spec bulk fluid down to as low as a Class 1 on AS4059 Table 2. CETCO also met the challenge of flushing the control lines to Class 6 specification. These lines had an ID as small as 0.0098" with the longest reaching 22,000'. With an increased operating pressure of ~9,000 psi, the steady state flow of a triplex pump and the capacity to flush multiple lines at the same time, CETCO substantially reduced the time required to clean the SmartWell and SCSSV flat-pack control lines.

## RESULTS

CETCO was able to salvage all contaminated TransaquaHT via filtration and recycled a total of 1,305 gallons. At \$36/gal this represents a theoretical savings of \$46,980. CETCO was also able to flush one volume simultaneously through each of the three lines on the 22,000' SmartWell flat-pack in 5 1/2 hours and was able to flush one volume simultaneous through each of the two lines on the SCSSV flat-pack in 3 hours.

These improvements in rate achieved sweep velocities in the 4,500' lines and improved the cleaning efficacy of flushing the 22,000' lines. The increased rate along with the pump capacity to flush multiple lines resulted in an exponential decrease in the time to load the reels with in spec TransaquaHT for offshore mobilization.

### 250 GALLON TOTE AS 4059E Table 2 Class 1 A-F 1A/1B/0C/1D/00E/0F

| $\mu\text{m(c)}$ | /100ML |
|------------------|--------|
| >4               | 1377   |
| >6               | 440    |
| >14              | 37     |
| >21              | 19     |
| >25              | 0      |
| >38              | 0      |
| >50              | 0      |
| >70              | 0      |

