

\$800,000 Increased Revenue with Product Exchange

Area

Lougheed

Formation

Midale

Form of Lift

Rod Pump

PureChem Products

DM-368 and CC-1005



Figure 1: CC-103 Emulsion Tendency Test Results



Figure 2: CC-1005 Emulsion Tendency Test Results

Challenge

The client required a solution to improve oil-in-water carryovers. The current production was 244 m³ oil and 8,000 m³ salt water. Oil-in-water carryovers with the incumbent demulsifier/corrosion program were averaging 1,250 ppm, equating to approximately 8 m³/day of lost oil.

Solution

Emulsion tendency testing performed by PureChem showed that changing the demulsifier and the corrosion inhibitor could reduce the oil-in-water carryovers. Test results are shown below:

| Corrosion Inhibitor | Corrosion Inhibitor Concentration (ppm) | Time to Break | Interface Quality | Water Quality |
|---------------------|---|---------------|-------------------|---------------|
| None | — | > 10 min | N/A | N/A |
| CC-103 | 1,000 | 1 min | Good | Good |
| CC-103 | 2,500 | 1.5 min | Good | Good |
| CC-103 | 5,000 | > 10 min | Poor | Poor |
| CC-1005 | 1,000 | < 1 min | Good | Good |
| CC-1005 | 2,500 | < 1 min | Good | Good |
| CC-1005 | 5,000 | < 1 min | Good | Fair |

PureChem exchanged the incumbent demulsifier with DM-368, which reduced injection rates. The corrosion inhibitor program was replaced with CC-1005.

Benefit

With the revised chemical program, carryovers decreased to 250 ppm, resulting in a production increase of 6 m³/day. This escalation in production translates into an increased annual revenue of approximately \$800,000 (based on \$65 per barrel of oil). Additionally, reducing the injection rates on the demulsifier will save the client approximately \$50,000 in chemical costs annually.