

Project Summary

HEAVY Crude Oil Well Recovery from Mexico Well Samaria #1001 June 2007

Current Situation – Shutdown well

The well was clogged as a result of heavy crude. The well had the following conditions and equipment.

- Heavy crude - low API of 8 to 10.7
- Viscosity of 4007 – 4795 cps at 30 degrees C
- Well pump - Model 40 with a Kawasaki In-line HTD

Objective

See if the well can flow oil or should it remain shutdown.

Solution Downhole Injection with UNITED ENERGY'S VR-10210- 1



Our Mexico service solution provider Solarium Oil worked with United Energy technicians to prescribe the correct treatment. It was decided to use United Energy's VR-10210-1 for stimulation because of its unique Viscosity Reducing capabilities and its ability to unclog heavy crude oil. The injection point was set-up at the well casing. The initial injection was done with 400 liters of diluted United Energy's VR-10210-1 (50% diesel) and was set up at the rate of 80 liters per hour. The diluted solution was used to start the unclogging and viscosity reduction process.

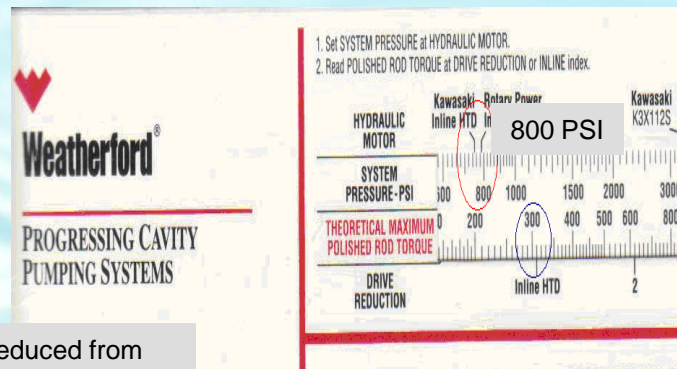
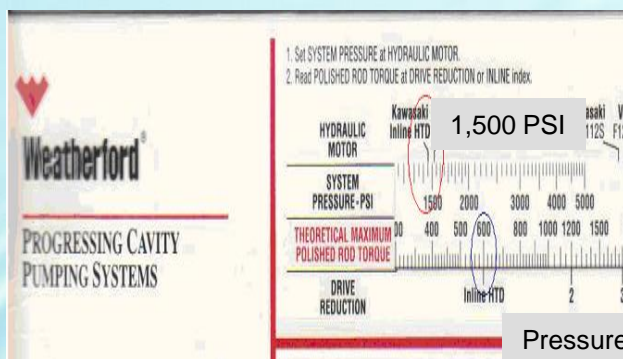


Next, the United Energy's VR-10210-1 concentrate was used at a slower injection rate of 20 liters per hour. After 3 hours there was less pressure and the Pump which started at 80 RPM was lowered to 20 RPM because of the reduced viscosity. To retrieve more oil the Pump Motor was turned up to 40 RPM and the flow of heavy crude went from 30 BPD to 68 BPD. Since it was now night time the crew shutdown the well until the next day.

Solution Downhole Injection with UNITED ENERGY's VR-10210- 1



Upon the return to the well, after 16 hours the VR10210-1 continued to reduce the viscosity as evidenced by the line pressure dropping from 11 Kg/cm² to 5.5 Kg/cm².



Pressure reduced from 1500 to 800 PSI

The line was monitored for 10 hours with stable conditions and later the pump was increased to 45 RPM and the oil flow increased from 68 to 78 Bls/Day.

The pressure at the Well head and the line both went up because of more a second flowline of 700 meters being opened up to move the oil well production.

The well was run overnight at stable conditions until the test was complete the next morning at 7:00 AM.

Conclusion

Objective Accomplished – The shutdown well can flow 78 Bls/Day with the pump operating at 70% efficiency.

UNITED ENERGY's VR 10210-1 Results Summary



From the very start when the pressure was reduced and more RPM's were allowed to pump the Heavy crude oil flow was improved. We believe further test improvements were possible since the Pump was only operating at 70% of it's rated capacity. Below is a chart by hour of the test procedure.

