

HISTORY

An Oil & Gas company in Central Alberta is operating an aging field that is under water flood. Production work-overs are required periodically to maintain type curve production. Traditional methods have been to utilize a service rig to pull pump and tubing, followed by a hydrochloric acid treatment for de-scaling and stimulating the formation which has proven to be uneconomical due to the high costs of services required.

PROPOSAL

Samples of production oil and water from offset wells in the area were tested for compatibility with Enviro-Syn® HCR 2000 Acid with good results. Recommended to treat the wellbore and formation with Enviro-Syn® HCR 2000 Acid to remove scale and enhance production rates. Due to the low corrosive nature of HCR 2000 Acid a service rig is not required to pull pump and tubing out of the hole.

OPERATIONS

Concentrated Enviro-Syn® HCR 2000 Acid was delivered to location and mixed with water using a pressure pumping unit. The HCR Acid treatment was then pumped down the annulus of the casing and tubing and allowed to soak in stages, alternating between HCR 2000 Acid and xylene. The final HCR Acid stage was allowed to soak and then the well was put back on pump. Due to the low corrosive and complete spending nature of HCR 2000 Acid, flow back fluid was able to be produced in-line.

RESULTS

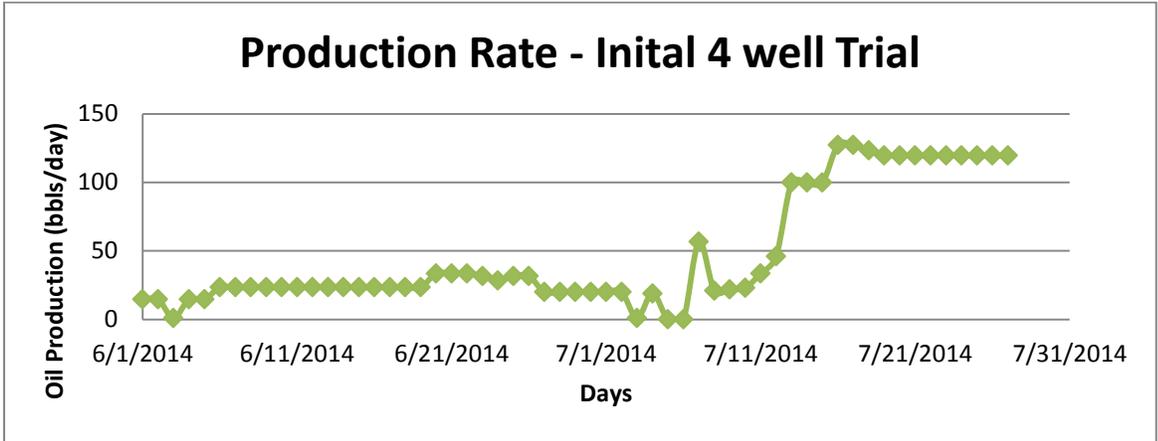
On the initial 4 well test pilot, oil production went from 25 bbl/day combined to 120 bbl/day (480% increase). Subsequently 18 wells have been treated with Enviro-Syn® HCR 2000 Acid with an incremental increase in production of 370bbls/day IP30, and sustaining at 200 bbl/day IP90. Production rates continue to remain well above pre-treatment levels and the operator has seen a levelling of field declines due to the stimulations.

VALUE

Again due to the low corrosive nature of Enviro-Syn® HCR 2000 Acid the operator was able to pump acid down the annulus with pump and rods still in the hole. This greatly reduced the work-over costs from \$160,000 down to \$35,000 (an 80% decrease in cost). The operator was also able to utilize localized pressure pumping equipment, make-up water directly from location, and significantly reduce product delivery logistics and cost. The ability to utilize an environmentally responsible product that is non-hazardous, safe to handle and biodegradable was seen as an “excellent, cost-effective alternative while providing peace of mind with respect to HSE concerns”.



Production Rate - Inital 4 well Trial



Production Rates - 18 Well Project

