

HISTORY

In South-central Alberta an operator has a water disposal well that has reached its maximum injection pressure rating and gradually decreased in volume to near zero.

PROPOSAL

Samples of production oil and water from the surrounding area wells are tested for compatibility with an Enviro-Syn® HCR 2000 blend with excellent success.

As the formation is carbonate based it is recommended to treat the formation with a predetermined volume of Enviro-Syn® HCR 2000 with perforation soak stages. Any near wellbore scale would be removed, and a conductivity increase will be seen to enhance injection volumes.

OPERATIONS

Concentrated Enviro-Syn® HCR 2000 was delivered to location in 1 m³ totes and blended with the existing injection water on location using a pressure pumping unit. The HCR treatment blend was then pumped downhole and allowed to soak in stages followed by an over flush of injection fluids. Well was shut in overnight and disposal injection commenced the following morning.

RESULTS

An instantaneous increase of injection volume was seen over the following week from ± 1 m³/day to ± 25 m³/day (2500% increase) at pressures less than half of the maximum allowable. Volumes were again increased over the next week to ± 100 m³/day and pressure monitored. Maximum pressure was realized one month later, and volumes continue to remain well above previous levels four months post-treatment.

VALUE

Prior to the treatment the operator was required to truck the fluids to disposal facilities on a daily basis, where the trucking costs and associated disposal fees could run as high as \$150,000 on a monthly basis. Aside from this obvious reduction in cost the operator was able to utilize localized pressure pumping equipment, make-up water directly from location, and significantly reduced product delivery logistics. The ability to utilize a product that is non-hazardous and 100% biodegradable in nature was seen as an “excellent, cost-effective alternative while providing peace of mind with respect to HSE concerns”.



