

### HISTORY

An operator in South-Western Alberta was undertaking their 2012 horizontal acid fracturing project, but had complications on one well landing the completion equipment in the horizontal. Rather than risk further downhole problems it was decided to perform a coiled tubing acid wash and squeeze in place of the fracture treatment.

### PROPOSAL

With the inherent extended spend rate and extremely low corrosion properties of the Enviro-Syn® HCR 2000 it was a natural fit to be used for this coiled tubing procedure. Samples of production oil from the area were third party tested for compatibility with an Enviro-Syn® HCR 2000 blend with exceptional results.

### OPERATIONS

Concentrated Enviro-Syn® HCR 2000 was delivered to location and stored in lined tanks (sour service lined). Each tank was then blended at a 1:1 ratio with fresh water, supplied from a local source. If there was any concern over freezing of the blended product (-15°C limit) then heated fresh water would be added to the concentrate (-30°C limit) prior to the treatment being performed. Typical coiled tubing procedures were implemented to perform a near wellbore acid wash followed by a radial squeeze.

### RESULTS (operator quote)

*“one wells production rate continues to increase after being on production for more than four months. Current production from this well is approximately 270 boe per day, a dramatic increase from the well’s 30 day initial rate of approximately 120 boe per day. This increasing production profile provides encouragement for similar results from other area horizontal wells.”*

### VALUE

The operator saw multiple value add benefits, such as reduced trucking costs by delivering concentrated product to location, reduced tankage costs (sour service vs. acid lined), and local fresh water supply to blend the concentrate down. As pump rates through coiled tubing are limited the extended reaction time of the HCR was no doubt attributable to the production results.

The HS&E benefit and reduced liabilities are less measurable with hard numbers, however quite notable considering the area was environmentally sensitive and large numbers of on-site personnel had potential to be exposed.

