CASE HISTORY
Enviro-Syn® HCR 6000 Acid Stimulates wells with no facility upsets
2016

HISTORY
A major Oil & Gas company operating in Northern Alberta, Canada has traditionally used HCL acid as a method of removing CaCO3 scale from their wells that are on circulating steam cycles with BHT ~ 150c (300f). A history of numerous facility upsets with the spent HCl being transferred due to a high iron content precipitating from the HCl, causing significant downtime and costly lost production. The addition of expensive chelating agents or disposal of the spent acid was the only option until HCR-6000.

PROPOSAL
Samples of oil and water from wells in the area were tested for compatibility with Enviro-Syn® HCR-6000. A blend was formulated with additional additives to optimize results. It was recommended to treat the wellbore and formation with Enviro-Syn® HCR-6000 Acid to remove scale and enhance production rates due to the low corrosive nature of HCR-6000 Acid at higher temperatures and the inherent chelating effect, eliminated the need for additional expensive chemistry to control iron precipitation.

OPERATIONS
HCR-6000 package was transported in concentrate form and diluted to 50% with produced water on location. The acid blend was then bullheaded down the casing to treat the slotted liner in the Hz. The HCR-6000 was nitrified to assist in diversion along the lateral. Once all fluid was deployed it was over displaced and allowed to soak for 24hrs at temperature (no cool down).

RESULTS
The spent HCR-6000 sequestered the Iron Chloride (FeCl₃) that was present as well as solubilized all CaCO3 scale. HCl will precipitate Iron Chloride at low pH (~2) where HCR-6000 typically has a spent pH of ~4.5 without any precipitation of iron / calcium or other solubilized minerals. The wells were brought back on-line successfully without plant shutdowns or ineteruption.

VALUE
Typically there are costly facility upsets following acid stimulation costing producers thousands of dollars in downtime, lost production and disposal costs. Utilizing HCR-6000 eliminated the risk due to its inherent chelating properties allowing the FWKO’s and treaters interface detection probes to function properly preventing low level and high level shutdowns. HCR-6000 proved to be a very cost effective way for the operator to stimulate their wells for increased production while maintaining the facilities integrity and utilizing a safe, low-corrosion alternative to HCl.