

# TRUE SUCCESSES

## CORROSION PROGRAM PROVIDES OVER 97% PROTECTION FROM CORROSION ON PIPELINES

### Challenge

PureChem Services was approached by a major Canadian operator to complete a full field review and provide a chemical program to mitigate the risk of corrosion in pipelines in their gathering system.

The production rates varied throughout the field, but the acid gas concentrations were  $\text{CO}_2 = 4.41\%$  (52.9 kPa pp $\text{CO}_2$ ) and  $\text{H}_2\text{S} = 1.46\%$  (17.5 kPa pp $\text{H}_2\text{S}$ ) with a maximum temperature of 85°C.

### Solution

Our technical specialists performed a line-by-line internal corrosion assessment including water analysis, bacteria analysis, and Fe/Mn analysis. The internal corrosion potential rankings for the pipelines were estimated to be in the low to high range. Based on the information gathered in the assessments, several water dispersible continuous corrosion inhibitors were evaluated for performance in the most corrosive conditions using HPHT autoclaves apparatus. CC-1501 performed the best in the given conditions with 97.98% protection at a concentration of 50 ppm. Continuous injection of CC-1501 corrosion inhibitor was initiated into the pipelines of interest at a rate to provide 50 ppm residual in the produced water.

### Benefit

Field monitoring has shown that CC-1501 has provided sufficient protection to the pipelines in the gathering system. The coupon monitoring results have shown no concerning upward trends since implementation of the CC-1501 corrosion program.

**Area**  
Simonette

**PureChem Product**  
CC-1501

Product	Concentration (ppm in water)	Corrosion Rate (mpy)	% Protection
Blank	N/A	16.39	0
CC-1501	50	0.33	97.98
CC-1501	75	0.76	95.39
Product A	50	2.55	84.44
Product A	75	2.79	83.00