



Case History

NATURAL GAS PROCESSING PLANT

ENVIRO-SCRUB[®] LM

Background

A natural gas processing plant was treating a stream with high H₂S content using other H₂S scavenging technologies. The operation of this system is based on sparging gas through the solution to remove the H₂S in the sparge contactor. Once the H₂S monitor in the outlet reaches the breakthrough point, the spent chemical solution is removed and replaced with fresh chemical solution. The breakthrough point was 4 ppm. The plant was looking for other technologies in order to increase the time between change-out to reduce down time, maintenance, and chemical costs. The goal was 30 days between change-outs for this system. The customer tried 4 or 5 scavenger technologies, which resulted in run-time between change-outs lasting anywhere from 7 to 25 days.

System Data

Gas production:	126 SCFM average
Inlet H ₂ S:	1,300 ppm
Outlet H ₂ S:	<4 ppm
Pressure:	200 psig

Solution

The trials were run with Enviro-Scrub[®] LM in the system using different mix ratios. In the first trial

14 drums of Enviro-Scrub[®] LM plus one drum of methanol was mixed, resulting in the 24 days of run-time. For the second trial 15 drums of Enviro-Scrub[®] LM were fed in the system, and 28 days run-time was achieved. A final trial with 7 drums of Enviro-Scrub[®] LM plus 7 drums of water achieved 27 days run-time. The last trial optimized the dosage, resulting in a chemical consumption rate of 100% theoretical H₂S levels were monitored during the trials and Enviro-Scrub[®] LM consistently reduced H₂S levels to <4 ppm during the run-time.

Results

Longer runs were obtained using Enviro-Scrub[®] LM. Using the optimal dosage of Enviro-Scrub[®] LM the time between change-out experienced from the previous technologies was increased. The desired 30 days run-time can be met with incremental addition to the charge of Enviro-Scrub[®] LM. Analytical tests of the samples collected in the trials showed that chemical usage in this application is 0.05 gal Enviro-Scrub[®] LM MMSCFD/ppm H₂S. Taking 20 days between breakthrough with other technologies there are 18.25 change-outs per year, using Enviro-Scrub[®] LM there are only 13.51 change-outs per year that represents almost 5 change-outs less per year, translating this to savings due to labor, lost production and disposal costs.