



Case History

Natural Gas Processing Plant H₂S Optimization Program

ENVIRO-SCRUB LM[®]

Background

A natural gas processing plant was treating a stream with high H₂S content using competing H₂S scavenging technologies.

In this system, H₂S is removed by sparging the gas through a scavenging chemical solution in the sparge contactor. Once the H₂S monitor at the contactor outlet reaches a breakthrough point of 4ppm, the chemical solution is replaced.

The plant was looking to increase the run-time between change-outs, thereby reducing down time, maintenance, and chemical costs. Prior to Q² Technologies' involvement, four different H₂S scavenger technologies were tested with varying results. The run-time between change-outs for these trials ranged from 7 to 25 days.

System Data

Gas production: 126 SCFM average
Inlet H₂S: 1,300 ppm
Outlet H₂S: <4 ppm
Pressure: 200 psig

Solution

Q² Technologies ran three separate trials with Enviro-Scrub[®] LM, using a different mix ratio for each test.

In the first trial, a mixture of Enviro-Scrub[®] LM and methanol achieved a 24-day run.

The second trial used Enviro-Scrub[®] LM with no dilution, and runtime increased to 28 days.

At this point an analysis of the replaced chemical revealed that much of it was unreacted.

The treatment program for the third trial was optimized by diluting Enviro-Scrub[®] LM with water. The resulting chemical consumption rate was 100%, theoretical, and the run-time achieved with this optimized trial was 27 days.

Results

Enviro-Scrub[®] LM delivered longer runs than any other H₂S scavenging technology tested.

Based on an average of 20 days between chemical change-outs with competitive programs, Q² Technologies achieved a 35% increase in run-time, and a 35% reduction in change-outs per year.

With the Enviro-Scrub[®] LM solution, savings include less lost production, as well as reduced maintenance and chemical disposal costs.