

CASE STUDY 305

NATURAL GAS TREATMENT

BACKGROUND

This trial focused on the replacement of Sulfa-Check (sodium nitrite) in an upflow contact tower with sparger assembly.

A major gas producer in South East Texas was using a mixture of 10 drums of fresh water for the removal of H₂S in their contact tower. The run time equated to two months before change-outs were necessary. After each run, the tower trays were removed and the system steam cleaned in order to remove the precipitated sulfur and other deposits that had accumulated on the interior wall of the sparger. This process included a labor crew and steam-cleaning unit. The clean-out time ran from one to two days depending on the severity of disposition.

SYSTEM DATA

Gas Production MMscf/d	120-200
Inlet H ₂ S, ppm	400
Tower Dimension	15' x 16'

SOLUTION

- Due to on-going sulfur deposition and labor intensive change-outs, Q² Technologies was invited to test the Enviro-Scrub® process utilizing the same tower. Calculations indicated that a 50% reduction in total product would achieve the same results as the Sulfa-Check. Five drums of Enviro-Scrub® and five drums of fresh water were added to the contractor.

TAKE-AWAY:

- By using Enviro-Scrub® no solids were generated and only half the amount of Enviro-Scrub® was needed for treatment.

RESULTS

- It was determined after the two-month test period, that Enviro-Scrub® achieved the same performance as Sulfa-Check with half as much product.
- In addition, the vessel was found to be free of solids upon inspection. There was no clean out involved and the reacted product was easily drained and the tower recharged.