

## Use of Partially Spent MC MX 677-8 Reduces Tower Changes 30% Scavenger Chemistry Utilized to Create Maximum Value

### BACKGROUND

This operator uses MX 677-8 in two of their sparged towers to control elevated levels of H<sub>2</sub>S from the producing wells to meet stringent pipeline specifications for sales. On average, each tower lasts approximately 3 weeks before break-thru occurs (150-200ppm H<sub>2</sub>S) and change out is required. The spent material is then drained and re-routed to a dedicated waste water injection system for disposal.

### ISSUES

Due to the elevated H<sub>2</sub>S Concentraions coming from a portion of their casing gas wells (2500 to 500 ppm) and incrementally higher sulfur values influent to their tower(s), (1300 to 1500 ppm H<sub>2</sub>S), we approached the customer about designing a beneficial sub- surface treatment application to minimize sulfur loading at the wells and tower(s) and explain the benefits that could be derived by utilizing this partially spent solution.

### ANALYSIS

Multi-Chem installed a 2"x16" clear column with a sparger assembly to include a 3.0 SCF/M Dwyer Rotometer. A slip stream was then run from the casing to the apparatus. The intent of this evaluation was to determine the effects and efficiency of the partially spent MX 677-8 chemistry on the casing gas. Multi-Chem wanted assurance once totally spent, the Dithiazine, C<sub>5</sub>H<sub>11</sub>NOS<sub>2</sub> would not form a precipitation within the well bore. Once confirmed there would be no detrimental effects with the partially spent material, approval was given from the operator to proceed.

### RESOLUTION

On average, 200 to 300 gallons of the partially spent MC MX-677-8 was distributed down the backside of each of the 5 wells evaluated via vacuum truck. Depending on sulfur content and gas rate(s), we saw a significant decline in H<sub>2</sub>S values. The wells generating 5000 ppm H<sub>2</sub>S observed a 75% sulfur reduction, while wells at 2500 ppm H<sub>2</sub>S decreased by 100%. Run times varied between 5 days to 2.5 months per individual batch.

### DELIVERED VALUE

By utilizing the partially spent MX 677-8 down the wells, tower changes were reduced by 30%. An excellent benefit to the operator as this solution utilized the chemistry to its maximum capabilities.

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