Solving challenges.


Location: Midland, Texas

Overview

After a cleaning of 1.78 miles of 6” pipe produced a 7-foot paraffin plug at the end of the line, this Midland operator asked Multi-Chem to conduct a solvency test to find a solvent product that would decrease the amount of soluble paraffin solids in the line to improve pigging efficiency.

Multi-Chem tested a number of products against the incumbent chemical, P-3014, determining solvency by melting a ball of paraffin on the bottom of the sample bottles, introducing each solvent and allowing them to sit for 15 minutes undisturbed. The bottles were then agitated mildly at 15 minutes, 30 and finally at 60 minutes.

Within the first 30 minutes, three products clearly emerged as superior to the other ten chemicals, showing 85+% solvencies, with the difference being the particle size, i.e., very fine, fine, and fine with slightly large chunks, respectively. Based on these test results, Multi-Chem determined the best solvent for this application is MX 5-1839, not the incumbent P-3014, and identified P-3049 and P-3650 as highly suitable alternatives based on price and availability.

The line cleaning was then changed to utilize P-3650 at the same rate as the incumbent used previously. In addition, the line pressures were tracked and measured before and after treatment, along with tracking daily production through the lines to show the effectiveness of the product selection. Using the new solvent product has successfully reduced solids in the line, with the resulting paraffinic plug reduced to just two to three feet on subsequent pigging.

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<tr>
<th>CHALLENGE</th>
<th>SOLUTION</th>
<th>RESULT</th>
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<td>Conduct solvency test to identify the best product to decrease the amount of soluble paraffin solids in 6-inch line.</td>
<td>Coordination with customer and Multi-Chem technical experts to conduct solvency testing, which identified the optimum product as MX 5-1839, with either P-3049 or P-3650 providing a highly suitable alternative based on price and availability.</td>
<td>Using P-3650 solvent at the same rate as the previous product, measurements of line pressures and daily production show the solution is effective, with the size of the paraffinic plug reduced by half on subsequent pigging.</td>
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