

Trayed Column – Entrainment

Pre Job Info: This customer had made modifications to their tower during a shutdown. Ever since the turnaround it had not been possible to operate the tower in a stable manner or make product that was on specification, even though the operating parameters seemed comparable to pre-turnaround.

TowerScan Results: The first scan (plotted in red) revealed the trays to be severely entrained and in a "jet" flood. In addition, the base liquid level appeared was highly aerated and above the vapor inlet, almost reaching the bottom tray. As changes were made to the tower's operating conditions, especially the reboiler and base liquid level, the process personnel were able to eliminate the entrainment (green plot) until the tower was operating in a stable manner at the "new post turnaround normal conditions" and the product was on specification.

Entrainment - Jet Flooding in a Trayed Column

