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CASE STUDY

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FIND OUT HOW WE PARTNERED WITH A DOMESTIC NATURAL GAS GATHERING COMPANY TO SOLVE ITS CHALLENGES IN GAS PROCESSING.

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## CASE STUDY

Oil & Gas Solutions

**OUR CUSTOMER IS A DOMESTIC MIDSTREAM NATURAL GAS GATHERING COMPANY OPERATING SEVERAL GATHERING FACILITIES TAKING GAS FROM MULTIPLE FIELDS AND COMINGLING THEM FOR A SINGLE PIPELINE CUSTOMER. TO CLEAN THE NATURAL GAS PRODUCED FROM THE WELL HEADS WITH HIGH LIQUID CONTAMINANT RATES, THE COMPANY WAS USING A TRADITIONAL PRODUCTION SEPARATOR (MESH PAD) SEPARATOR AT 40MMSCFD.**



## THE CHALLENGE

Symptoms of high liquid loading at the downstream gas processing plant required gathering feed rates to be reduced to operate the production facility without upset conditions or risk of equipment damage.

In gas processing facilities, high liquid contaminant loads in process streams can cause contactor, heat exchanger and reboiler fouling leading to lower throughput for the pipeline and loss of revenue for the facility.

The reduction in processing capacity required upstream gathering to reduce well head production by 25% for their facility.

The drop in capacity meant lower profitability for the entire value chain and a loss in revenue of \$20-25K a day based on the production loss and current price of Natural gas. (10MMSCFD x ~\$2.5/MMBTU).

Profitability challenges and shut in requests from the downstream gas processing plant drove the need to explore solutions for a technology which could guarantee efficient and consistent contaminant removal over the entire process range to return to the original 40MMSCFD well capacity.

## OUR SOLUTION

The gas gathering company reached out to the Separator OEM as well as other mechanical separations providers to explore options to retrofit the existing separator solution to meet the original process requirements.

While the mechanical separation companies suggested retrofit alternatives, Jonell Systems reviewed the application and completed a process and technology evaluation. Based on the review, we determined that none of the 10 most common mechanical separation retrofit options were viable to solve the overall challenge and an alternative technology was selected for the proposal.

Jonell Systems proposed the SentinelTL multistage horizontal gas coalescer which provided the needed solids and liquids contaminant removal rates. This solution would allow the gatherer to successfully operate over the entire range of well producing parameters while increasing the cleanliness of the gas beyond traditional separators while also providing solids removal in an economic package.

## BENEFITS

The SentinelTL allowed the wellhead to operate at the maximum throughput of original 40MMSCFD capacity while meeting downstream processing plants stringent quality specifications.

With high solids and liquids removal as well as 100% turndown capabilities, the SentinelTL with our innovative Twist-LOK cartridge technology delivered operational flexibility that was unmatched. Even with the steep gas decline curve found in today's shale formations, the unit can be easily utilized at multiple facilities from initial flow through the life of the well.

In addition to process flexibility, the SentinelTL provides an operations friendly and safe design due to the horizontal configuration and toolless cartridge changeout.

With multiple facilities, the coalescer design has the flexibility to meet a variety of process conditions and coalescing challenges.

