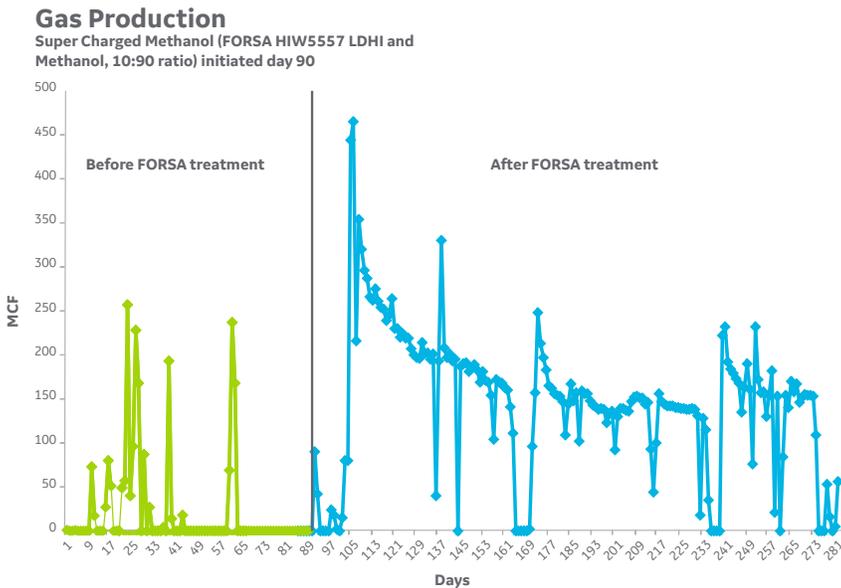


LOCATION: Southwestern Wyoming



FORSA LDHI Boosted Production 530%, Increased Revenue by USD 20,000 per Month



A producer in southwest Wyoming was experiencing severe hydrate problems in one of their gas wells. The problems were so severe that the well was shut-in more than it was producing. Continuous injection of methanol failed to control the problem and bring the well's production to its projected capacity. It was difficult to travel to the remote location to service the well, making it nearly impossible to keep the well running continuously and efficiently.

As a result, the customer experienced high maintenance costs, production losses due to downhole hydrate deposition, excessive

engineering time to resolve the problem, and poor production performance. Additionally, methanol inventory was extremely difficult to maintain in this remote location. Remediation of the hydrate plugs also caused safety and environmental concerns.

Baker Hughes, a GE company (BHGE) assessed the problem using hydrate modeling techniques and simulations. Experts determined that insufficient amounts of methanol were being used, and they calculated the amount of methanol necessary to adequately resolve the hydrate

Results

- Increased well production 530%
- Increased revenue more than USD 20,000 a month
- Reduced engineering and manpower time
- Improved HSE safety with lower volumes of chemicals

Challenges

- Control hydrate problems in a remote location
- Reduce maintenance costs and production losses

BHGE solution

- Hydrate modeling techniques
- FORSA HIW5557 low-dosage hydrate inhibitor in conjunction with methanol

deposition problem. They also determined that FORSA™ HIW5557 low-dosage hydrate inhibitor (LDHI) was the best product to use in conjunction with the methanol. This combination resulted in a super-charged methanol/LDHI that proved highly successful for the customer.

By using a combination of FORSA HIW5557 LDHI and methanol, the customer realized an increase in revenue of more than USD 20,000 per month, and an increase in production of nearly 530%. As a result of production stabilization, the return on investment was more than 8500%, and the payback period was less than 20 minutes. The customer also realized a decrease in workover costs and engineering time, and additional savings from being able to utilize

existing equipment for this treatment plan (i.e. storage tank, pump, etc.).

The customer is now able to maintain a lower volume of chemicals on-site, which reduces SARA reporting and makes inventory easier to maintain. Furthermore, the program increased treatment efficiencies and reduced the use of methanol, allowing for the reduction of hazardous air pollutants at the evaporation ponds. These reductions improved safety and decreased HSE incidents.

This case history is presented for illustration purposes only, as the results may vary between applications.

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