



FATHOM XT SUBSEA226 foamer delivered \$3.1 million USD in value to deepwater operation

A customer in the Gulf of Mexico had production via subsea tieback in multiple fields located in 2,720 ft (832 m) of water. The production experienced slug flow, which caused platform trips from PSH/LSH/PSL/LSL on the topside vessels. The slugging produced from these flowlines also increased ramp-up time during platform startup.

The customer requested a chemical recommendation because, compared to other applications at this location, the chemical spend was high. Baker Hughes, a GE company (BHGE), suggested application of **FATHOM™ XT SUBSEA226 black oil foamer (BOF)** in a field trial.

The SUBSEA226 BOF reduces liquid loading in deepwater subsea wells and minimizes fluid slugging in subsea flowlines, improving oil and gas production. This advanced chemistry increases well run times, maximizes production rates, and reduces operating expenditures in high-cost deepwater environments.

An initial continuous treatment rate of 500 ppm was recommended based on oil production and laboratory testing. Field trials then were conducted using two different flow scenarios that historically had caused slugging issues. Chemical injection rates ranged from 400 to 2000 ppm to determine if any topside issues became present at increased chemical concentration. Throughout the field trial, both topside carry-over and fluid separation remained steady at all chemical injection rates. A chemical injection rate of 0.1 gpm (400 ppm) reduced slugging to a manageable level.

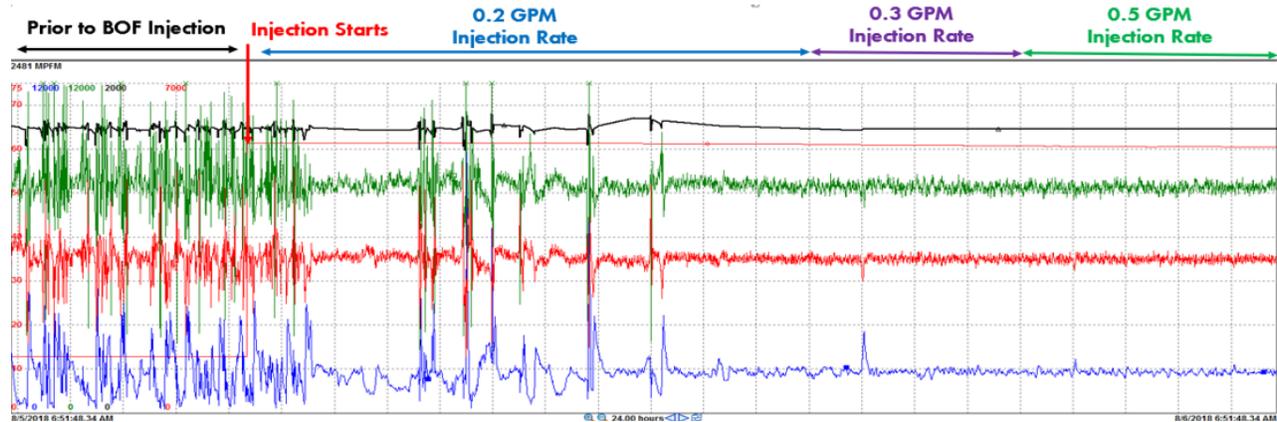
Injection of SUBSEA226 BOF generates a moderately stable foam, which reduces the tendency of liquids to separate from the total fluid stream and accumulate at low spots in the flowline or riserbase. As a result of the reduced liquid holdup, backpressure on the flowline is decreased, which may allow for increased production rates. This represented a value savings of \$3.1 million USD for the customer. Hardware is currently being installed on-site to move to a permanent chemical injection skid set to be commissioned in Q4 of 2018.

Challenges

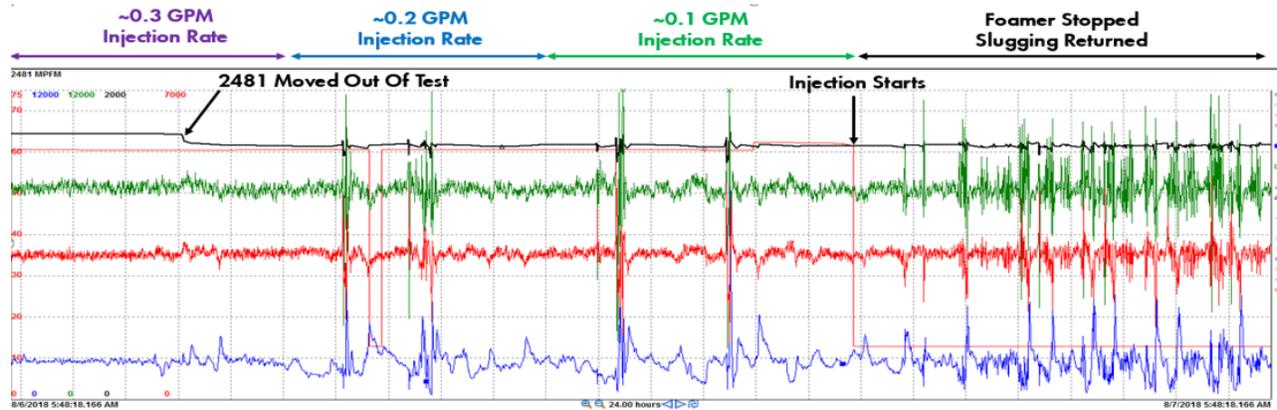
- Slugging in flowlines
- Deferred production
- Multiple well lineups to multiple conditions to test during field trial

Results

- Delivered \$3.1 million USD in value to customer
- Reduced subsea flowline slugging
- Provided no changes to topside fluid separation
- Produced no changes to topside fluid separation
- Yielded no changes to topside fluid separation



One flow scenario at multiple BOF injection rates. Reduction in slugging is shown in reduction of green, red, and blue line oscillations.



Second case flow scenario and return of slugging once the field trial had ended.

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