



Fracking Solids Monitoring



SMS deliver real-time integrity and solids production monitoring for Middle East Operator to enhance efficiency of solids management and ensure integrity of well test pipework.

SMS Scope

Due to concerns about pipework integrity during a 21 stage frac, SMS were contracted to design, install and provide data interpretation for a bespoke solid, flow and wall thickness monitoring system for an Operators field in United Arab Emirates.

Objectives

Due to the amount of proppant and the velocities reached during the fracking, there were two main objectives;

1. Monitor pipe wall integrity to avoid any further loss of containments.
2. Approximate solid quantification to confirm that all pumped proppant had returned to surface



The SMS Solution

The Operator needed to be certain that all the proppant had been brought back to surface and that the erosional effect of the high quantity of solids would not result in a loss of containment. SMS therefore designed and installed a bespoke, real-time system comprising three different sensing technologies;

- **dual acoustic sand monitors** for the monitoring of proppant returned
- **non-intrusive flow meter** to monitor water production
- **real time UT wall thickness monitors** for erosion and corrosion monitoring on 4 identified high risk elbows.

This data was integrated into the client's data historian via the SMS SMART software, allowing informed real-time decision-making and preventing any health and safety issues.

Value to Client

SMS solids monitoring provided real-time indications of proppant and sand returns thus enhancing efficiency of the solids management system.

- Back-calibration of sand calculation parameters enabled quantification in grams per second (g/s) as well as a cumulative mass in kilograms (kg).
- The wall thickness monitoring system was set up to take readings every 1 minute and achieved accuracy of +/-0.1mm. This real-time wall loss data provided assurance against any erosional effect from the proppant during the different stages of the frac and subsequent well test.
- SMS calculations showed that the solids returned during the fracking process was approximately equal to the quantity of proppant pumped in by the client, confirming the success of the clean-up.
- Client calculations and supporting equipment proved, the flow meter and the solid production was +/- 95% accurate.
- The system exceeded client expectation and was utilized for subsequent fracking related well test operations.

Contact

For further information contact us at; info@smsoilfield.com / www.smsoilfield.com/services/sand-monitoring



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