



# 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.



## Scope

A major operator in the Middle East wanted to carry out a twenty-one stage frac but was concerned about the erosional effect the resulting solids would have on the pipework integrity. The client approached SMS to provide a one-stop solution and service to monitor all returning solids from the frac, using our established integrated flow assurance monitoring package.

## 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 the surface



## Solution

The Operator needed to be certain that all the proppant had been brought back to the 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 four 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 the 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 one minute and achieved an 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 were 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 were +/- 95% accurate.
- The system exceeded client expectations and was utilised for subsequent fracking related well test operations.

Contact us at [info@smsintegrity.com](mailto:info@smsintegrity.com) or click [here](#) for more details on our services.



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