



ESSENTIAL

COIL WELL SERVICE

DMS™ Monitoring System

Stay Ahead of Debris:
Innovative Monitoring Solutions for Milling and Cleanout Precision

The new ECWS DMS™ system for monitoring debris offers real-time qualitative measurement of solids and fluid return rate in the flowback line, enabling immediate action by the job supervisor based on the displayed and recorded DMS™ system values.

Typically utilized in milling or cleanout operations, the DMS™ system combines acoustic and ultrasonic technology in a passive, non-intrusive design.

The DMS™ system offers a comprehensive view of the flowback line, ensuring consistent circulation of solids such as plug debris, sand, and scale back to surface. This enhances hole cleaning efficiency, reduces the risk of CT stuck pipe situations, and eliminates the associated non-productive time (NPT). As a result, job execution is improved, and overall job time is reduced.

The DMS™ system is easily and quickly set up, mounted externally onto the flowback line, and provides a passive monitoring solution. Its reliable performance and ability to deliver a complete picture of the flowback line make it an invaluable tool for optimizing operations in the oil and gas industry. Experience the benefits of the ECWS' DMS™ system and achieve greater efficiency and productivity in your well completions.

Clear Vision, Safer Operations

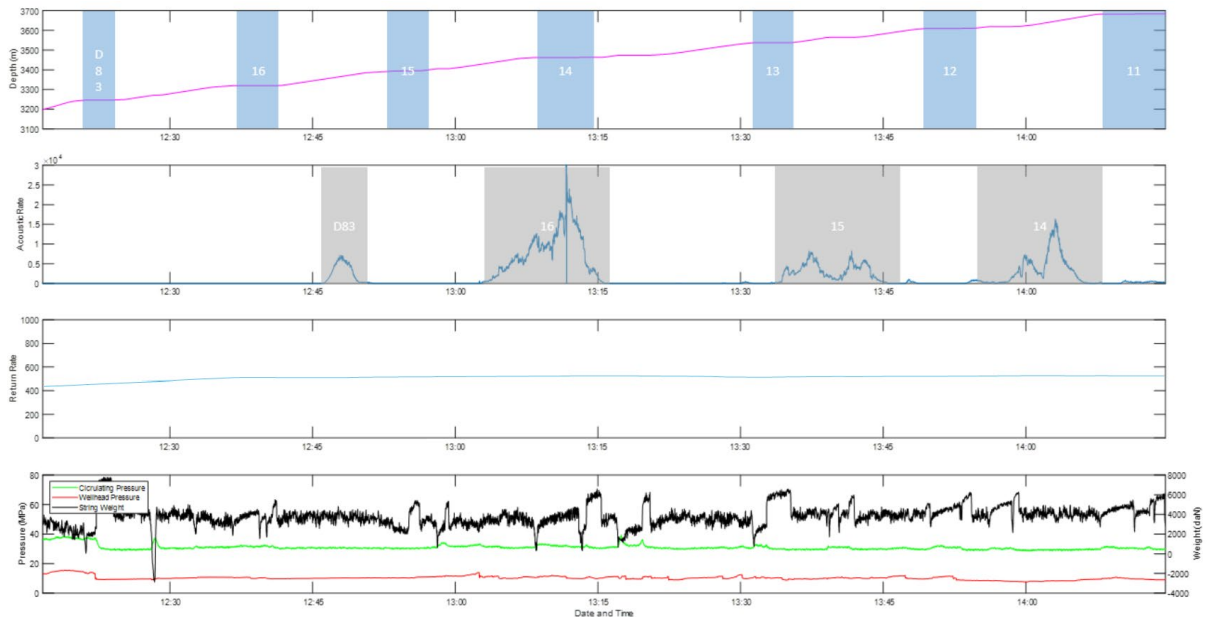
Key Benefits:

- Real-time monitoring of plug debris returning to surface and fluid return rate
- Quick and easy setup that is mounted externally to the flowback line
- Ensure consistent transport of solids to surface to improve hole cleaning productivity
- Respond immediately to sudden or gradual loss in return rate
- Decrease the risk of a stuck pipe situation
- Optimize your chemical usage to minimize cost and enhance overall operational efficiency
- SPE Paper – 204451

Unleash Your Oilfield Efficiency with Clear Eyes on Debris with the DMS™ System



Effective Hole Cleaning through Debris Monitoring



Using the DMS™ system to monitor plug debris returning to surface is an important tool for coiled tubing interventions. It involves tracking and analyzing the debris that surfaces during milling or clean-out operations.

During milling operations, there is a risk of plug debris being left in the wellbore. Monitoring the return of this debris is essential as it can impact the integrity of the well and overall production efficiency. The DMS™ system provides a qualitative analysis of the plug debris, allowing

operators to accurately assess the quantities and rates at which it returns to surface.

Using real-time data from the DMS™ system, the graph displays the plug debris as it reaches surface during milling operations. This enables immediate feedback and adjustments during operations, ensuring prompt decision-making and minimizing the potential for downtime. Each plug is tagged and milled, and the DMS™ system calculates the debris bottoms up time,

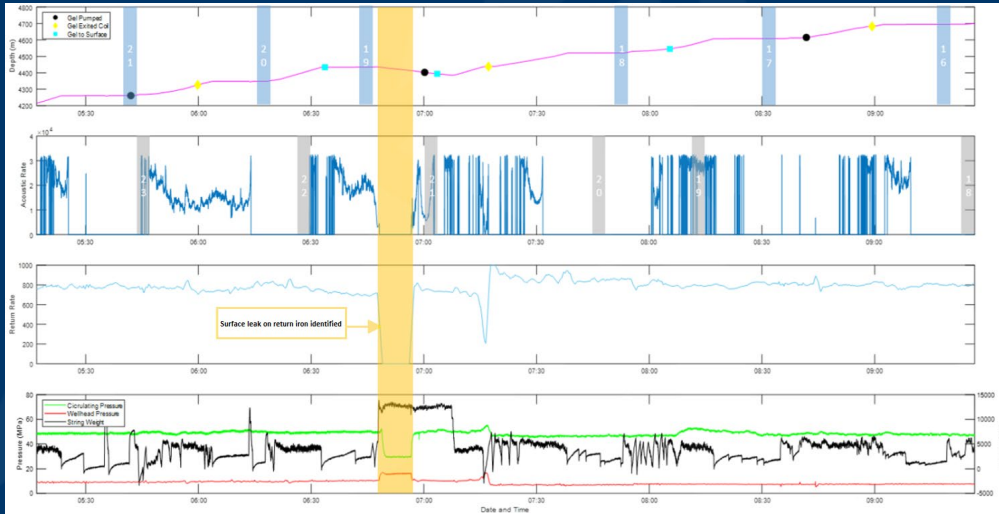
indicating when the debris is anticipated to reach surface.

By providing real-time monitoring and accurate data, the DMS™ system facilitates proactive fluid management, allowing operators to optimize operations, maintain well integrity, and prevent potential issues.

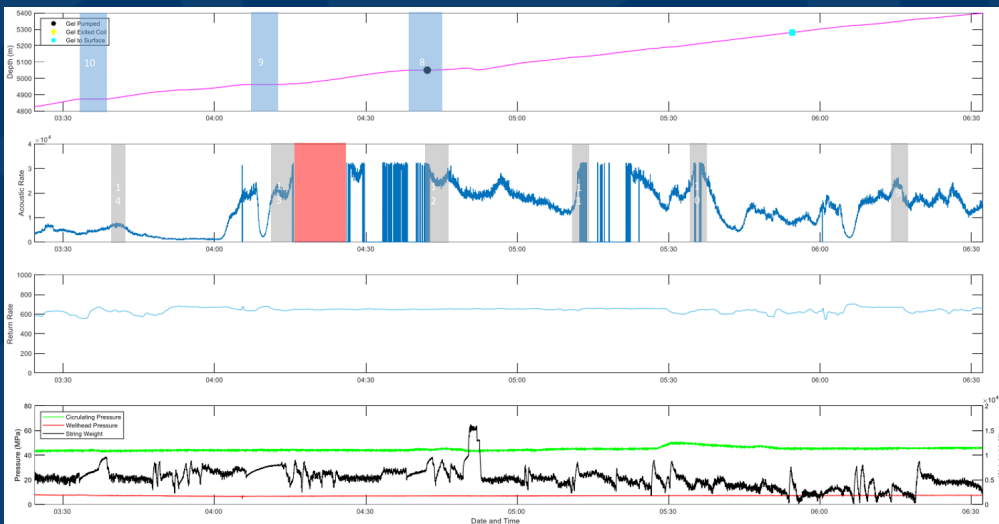
This enhanced monitoring capability ensures efficient plug removal, reduces the risk of downtime, and contributes to overall operational efficiency and success.



Flowback Awareness and Precision Monitoring of Fluid Return Rate



Visual indication of sudden loss of returns is a critical feature offered by the DMS™ system. This feature provides operators with immediate visual feedback and alerts when there is an abrupt decrease or cessation of fluid or cuttings returning to the surface. By promptly addressing any loss of returns, operators can mitigate safety risks, swiftly restore milling operations, eliminate any potential non-productive time and improve overall milling efficiency.



Real-time monitoring of the return rate throughout milling operations is a crucial capability provided by the DMS™ system. This feature allows operators to continuously track and analyze the rate at which fluids and cuttings are returning to the surface.



Corporate Office
800 530 8th Avenue SW
Calgary, AB. | T2P 3S8

marketing@ecws.ca

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