GeoScience

WE OPERATE WORLDWIDE FROM OUR OFFICES IN CORNWALL, UK & BRISBANE, AU

MORE THAN 30 YEARS OF EXPERIENCE

Mud Losses

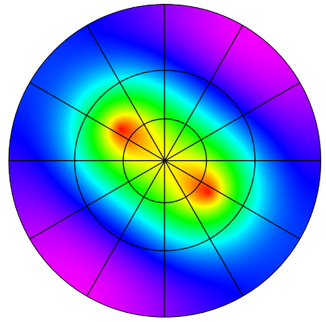
Too high a mud weight can open or propagate pre-existing fractures providing a channel for mud to flow from the well. Losses reduce the mud weight and may lead to breakout.

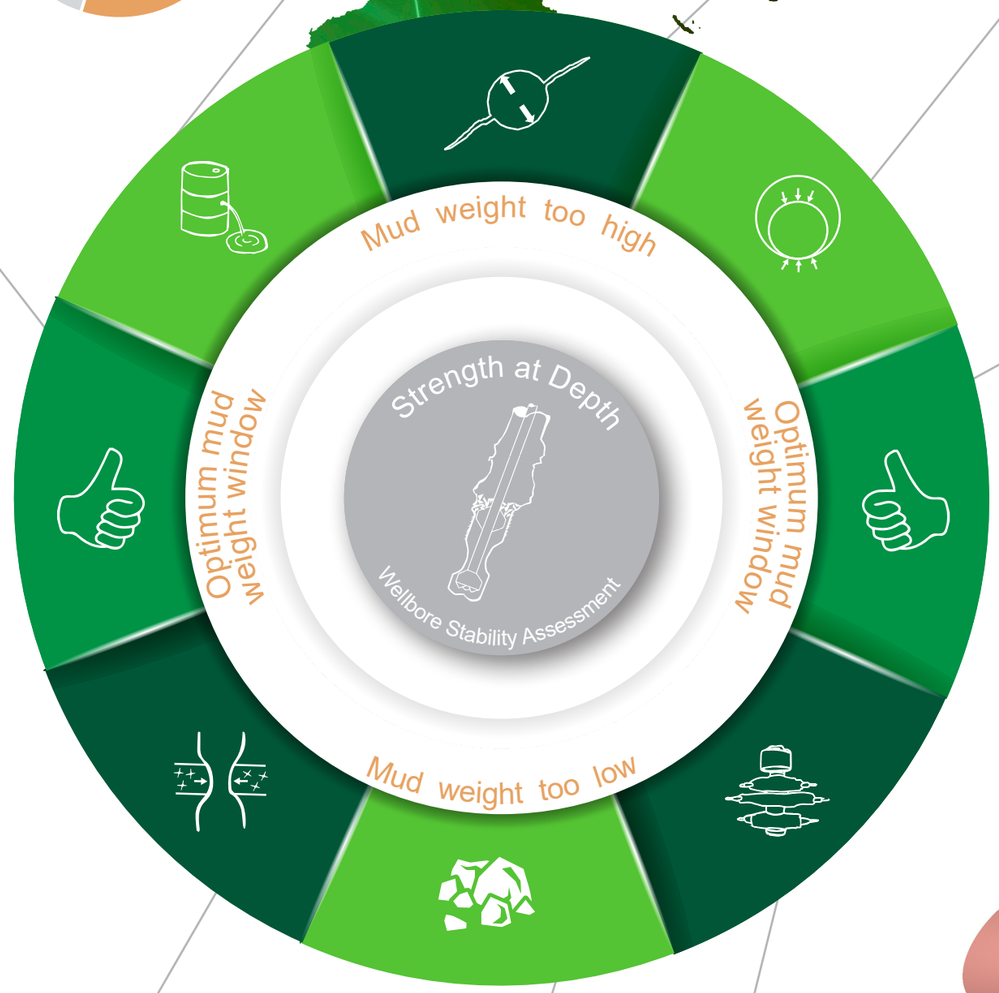
Tensile Fracturing

Too high a mud weight can cause the intact rock to fracture, leading to mud losses.

Differential Sticking

A mud weight significantly higher than the formation pressure can lead to drill pipe becoming differentially stuck, a common issue when drilling through depleted reservoirs. This can lead to costly recovery operations, and even hole abandonment.





Optimum Drilling Performance

Reservoirs are becoming increasingly technically demanding to reach. The results from our rigorous proven methodology give you the confidence and the knowledge to undertake drilling in challenging conditions such as:

- ERD
- Salt
- Faults & fractures
- HPHT
- MPD
- Highly depleted reservoirs
- Complex geometries
- Overpressured formations
- Close to CRI operations
- Deep water

We can help you understand and anticipate geomechanical issues to enable mitigation planning and ensure optimum drilling performance, minimising the risk to delivering your well.

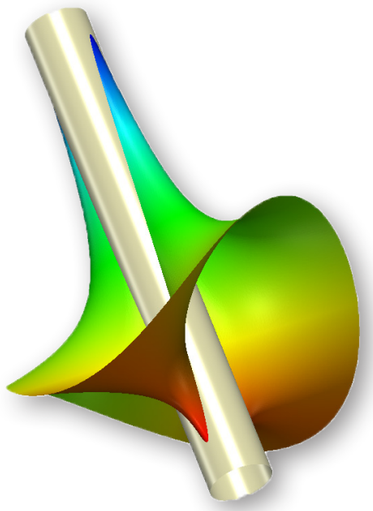
Defining the Optimum Mud Weight Window

Our results are rigorously calibrated to your data and offset well experience using our unique methodology to avoid NPT, minimise risk and optimise drilling performance.

Our wellbore stability services:

- Are bespoke and use your well data
- Combine data from all oilfield disciplines
- Provide operationally focussed results
- Ensure support throughout planning, drilling and completion of your well

We will work with you to define the optimum mud weight to enable successful well delivery.

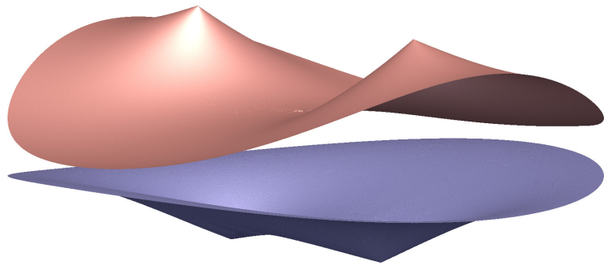


Creep

Many salts and some shales creep under stress if the mud weight is too low, sometimes rapidly, causing partial or even total hole closures which can jeopardise trips, logging, casing runs and cement jobs.

Pack Offs, Tight Hole & Cavings

Too low a mud weight can result in cavings as breakout occurs. Excessive cavings can lead to tight hole and pack offs, which can result in the loss of the well.



Kicks

A mud weight lower than the formation pressure can allow formation fluid to flow into the well. A kick can pose a serious safety threat with the potential for a blowout.

GeoScience Ltd

GeoScience Limited is a fully independent earth science consultancy and has served the oil & gas and geothermal industries since 1985.

We specialise in three main areas; geomechanics, geothermal engineering and geology supporting exploration and development worldwide.

We have saved our oil and gas clients $millions in NPT for over 30 years using data from more than 8500 wells to provide geomechanical solutions for successful operations worldwide.

Wellbore Stability Assessment

Identifying an optimum drilling mud weight window is essential to avoid:

- NPT
- Lost tools / equipment
- Fishing
- Additional casing strings
- Technical sidetracks
- Poor hole / logging quality

Our operationally focussed methodology uses geomechanics to link wellbore pressure to all operations in the well from drilling to logging to running casing.

Our other geomechanical services include:

- PPFG
- Sand Production Assessment
- Abandonment & Decommissioning
- Carbon Capture and Storage
- Training
- *In Situ* Stress Assessment
- Support While Drilling

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GeoScience
Strength at Depth