

AMERICAN GILSONITE COMPANY

New cost-effective Gilsonite® product provides crucial filtration control, maintains stable rheology



Project Details

Location	Sichuan Basin, southwest China
Company	Chinese mud company
Product	New Gilsonite® product
Application	Deep well drilled through thick gypsum-salt formations

Ultra-deep wells and gypsum-salt formations present unique drilling challenges

The Sichuan Basin in southwest China is rich in ultra-deep natural gas and deep shale gas resources. Successful wells must be 7,000 to 8,000 meters (23,000 to 26,000 feet) deep. In addition, thick gypsum-salt rock formations present extreme engineering challenges, notably maintaining a stable rheological profile.

Other SBM additives fail to maintain stable fluid rheology

The client drilled with a synthetic-based mud (SBM) typically used in the region but was looking for a fluid loss control additive that would offer consistent performance while keeping emulsion strength and maintaining a stable rheological profile. Drilling fluid properties typically worsen when contaminated by highly pressurized brine in gypsum-salt formations. Therefore, consistent performance of additives is key.

New Gilsonite® product provides cost-effective filtration control, preserves other important fluid properties

The new Gilsonite® grade was used to replace other asphaltic additives that were less reliable and known to impact rheological values. A formulation with 8 ppb (pounds per barrel) of the new product provided adequate filtration control with no impact on rheology. In addition, it provided a cost-effective solution to improve the performance of the client's SBM formulation. Gilsonite® uintaite is the only naturally occurring drilling fluid additive that prevents wellbore instability without affecting fluid rheology.

"Overall, we are pleased with the performance of the new Gilsonite® product, which is why we would like to promote it in China," noted the client's operations manager.

The Sichuan Basin is one of the world's largest gas fields, with reserves of 106 billion m³



8 ppb of new Gilsonite® grade provided filtration control with no impact on rheology

Mud Weight (MW)	1.30 SG / 10.8 ppg
Bottom Hole Temperature (BHT)	120°C / 250°F
Funnel Viscosity (FV)	57s (49°C / 120°F)
Electrical Stability (ES)	764V (65°C / 150°F)
Plastic Viscosity (PV)/ Yield Point (YP)	21/12
Gel Strength	7/10 (65°C / 150°F)
HTHP Fluid Loss at 120°C / 250°F	1.6 ml
Pom	2.9
Cl	31,000 mg/l
Oil/Water Ratio	78/22



There's only one source of Gilsonite®. **Proven under pressure®**

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Gilsonite® is a registered trademark of American Gilsonite Company for the mineral uintaite found only in the Uinta basin.