



APPLICATION INFORMATION

RHEOLOGY DUO FOR HIGH-TEMPERATURE DRILLING



Contents

- 03** Rheology duo for high-temperature drilling
- 04** Rheology duo performance in Saraline 185V
- 05** Rheology duo performance in Escaid™ 110
- 06** Rheology duo outperforms competitor in static sag

Rheology duo for high-temperature drilling

When drilling temperatures exceed 350 °F, most rheology modifiers fail. Cuttings and weighting agents begin to sag, resulting in poor hole cleaning. Valuable time and money are also lost.

A stable rheology system is critical for high-temperature drilling. By combining two BYK additives, BYK offers a rheology duo that is stable at temperatures up to 400 °F.



BYK-GO 8721

A liquid polymeric rheology modifier that balances high-end rheology.

GARAMITE-7303

A mixed mineral organoclay for low-end rheology that is highly effective for hole cleaning.

Note

To ensure the best appearance and full functionality, please open in Adobe Acrobat.



Watch the incorporation of GARAMITE vs. traditional organoclay.

More information about additives for drilling for oilfield.

Contact
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Rheology duo performance in Saraline 185V

The rheology duo demonstrates stable, ideal rheology, exceptional hole cleaning and weighting agent suspension at both mid-range and elevated temperatures through 400 °F in a Saraline 185V formula.

Formula: Saraline 185V, 14.0 ppg 80/20 invert	Qty
	lb/bbl

Saraline 185V	152
GARAMITE-7303	6
BYK-GO 8721	1
Lime	6
EnvaMul® 1699	8
25% CaCl ₂ brine	65
API barite, 4.1	333
OCMA clay	20

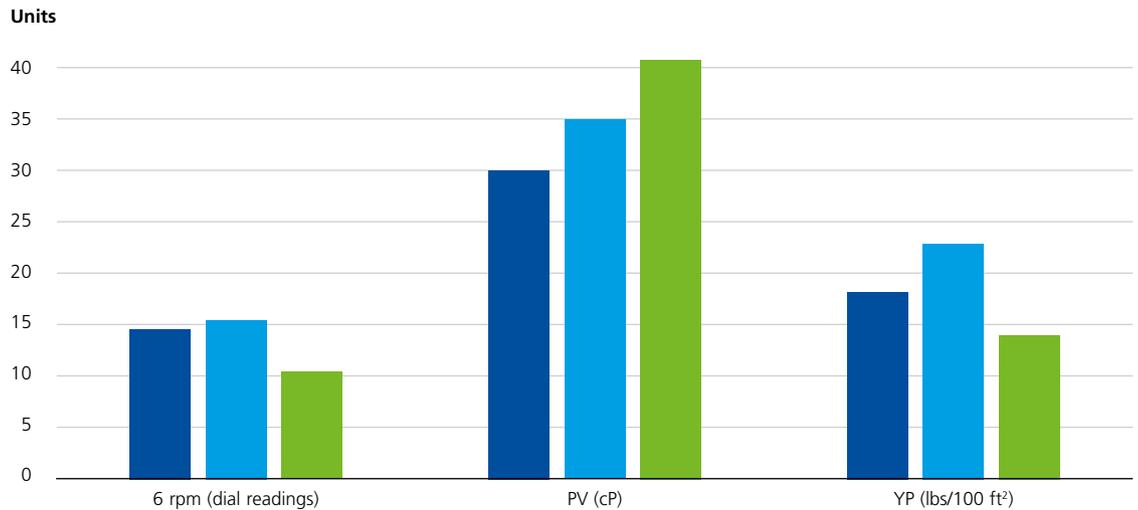
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Rheology duo performance in Saraline 185V

	Dial readings at 150 °F						cP		lbs/100ft ²			Volts
	600 rpm	300 rpm	200 rpm	100 rpm	6 rpm	3 rpm	PV	YP	10" gel	10' gel	ES	
Before hot rolling (BHR)	77	47	37	28	14.5	14.0	30	18	15	19	716	
After hot rolling at 275 °F	92	57	45	32	15.4	14.7	35	23	16	22	880	
After hot rolling at 400 °F	96	55	40	27	10.7	9.9	41	14	11	12	387	

T.02

Key performance results



● BHR ● 275 °F ● 400 °F

G.01

Rheology duo performance in Escaid™ 110

The rheology duo demonstrates stable, ideal rheology, exceptional hole cleaning and weighting agent suspension at both mid-range and elevated temperatures through 400 °F in an Escaid™ 110 formula.

Formula: Escaid™ 110, 14.0 ppg 80/20 invert	Qty
	lb/bbl

Escaid™ 110	154
GARAMITE-7303	6
BYK-GO 8721	1
Lime	6
EnvaMul® 1699	8
25% CaCl ₂ brine	65
API barite, 4.1	329
OCMA clay	20

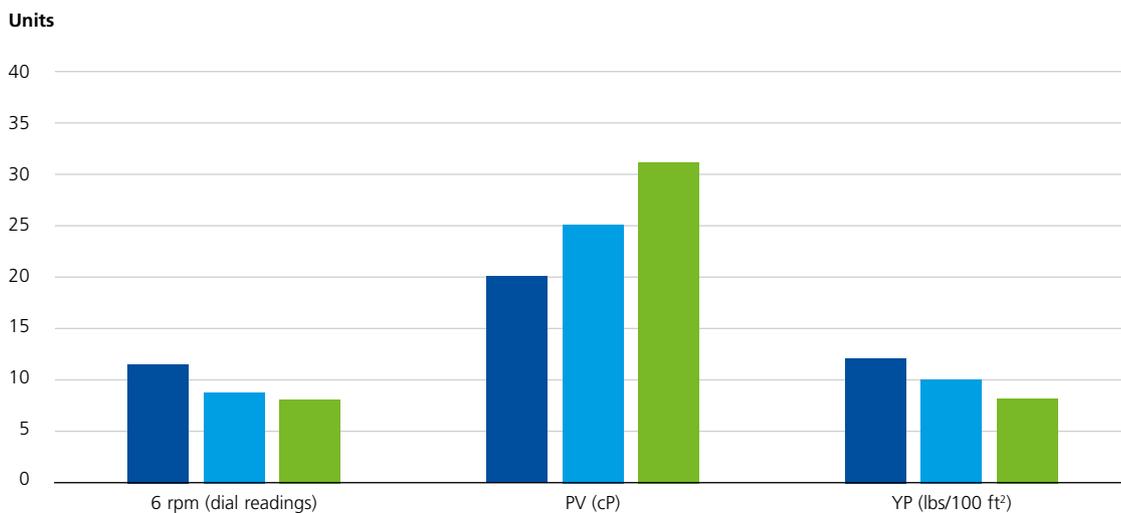
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Rheology duo performance in Escaid™ 110

	Dial readings at 150 °F						cP		lbs/100ft ²			Volts
	600 rpm	300 rpm	200 rpm	100 rpm	6 rpm	3 rpm	PV	YP	10" gel	10' gel	ES	
Before hot rolling (BHR)	51	31	25	18	11	11	20	12	11	14	473	
After hot rolling at 275 °F	59	34	27	19	8.7	7.8	25	10	9	10	548	
After hot rolling at 400 °F	71	39	30	19	8.0	7.0	31	8	8	9	528	

T.04

Key performance results



● BHR ● 275 °F ● 400 °F

G.02

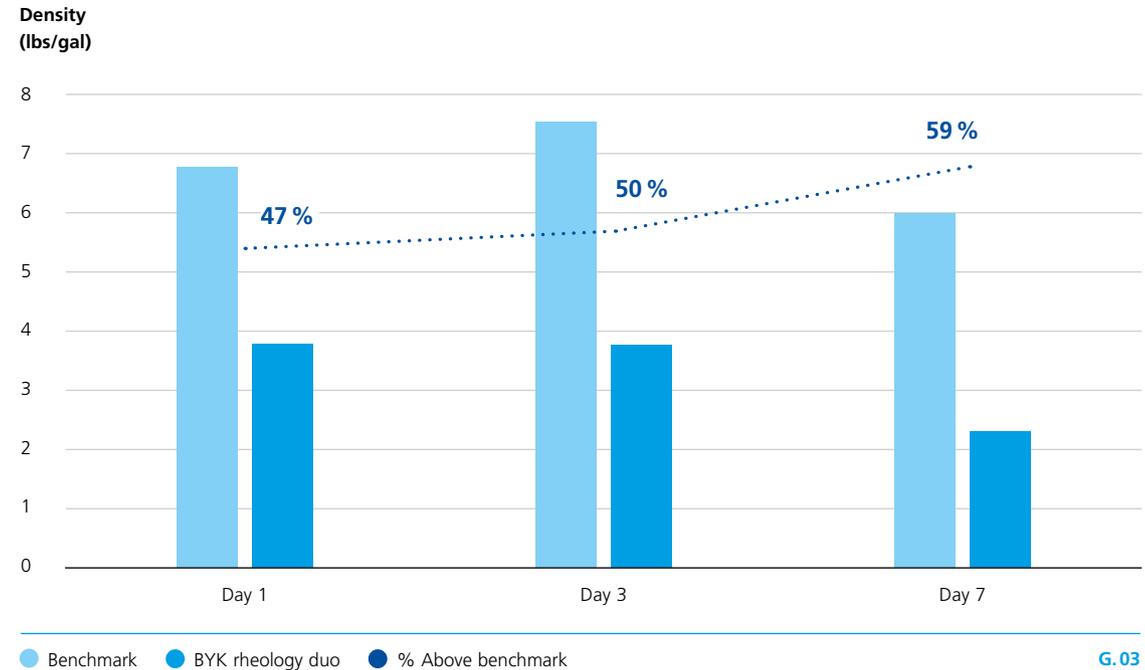
Rheology duo outperforms competitor in static sag

The rheology duo significantly reduced sag, indicating the added benefit of maintaining more homogenous drilling mud.

Together, the two additives GARAMITE-7303 and BYK-GO 8721 create stable rheology and reduce static sag in a broad range of fluids, providing a solution to the challenges of high-temperature drilling.



Static sag performance in Escaid™ 110



Static sag was measured at days 1, 3, and 7. An 8 lb/bbl organo-hectorite was used as the benchmark.

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This issue replaces all previous versions.

