Drilling Fluids, Inc.

Weight Material

HEMATITE

Description

HEMATITE is a high-density weighting material. The hematite ore used as a weighting agent in drilling fluids has a mica-like crystal structure ground to a particle size suitable for use in drilling fluids.

Uses

HEMATITE is used to obtain mud weights in excess of 20.0 ppg in water based drilling fluids, 19.0 ppg in oil based drilling fluids, or any time that exceptional control is required of solids percentage for rheology control.

Benefits

HEMATITE has a specific gravity of $\geq$5.05, which is 19% greater than the density of BARITE (4.1). Thus, for a given mud weight, a system weighted with HEMATITE will contain fewer solids by volume. A lower solids concentration will contribute to improved rheological properties, improved penetration rate and decreased overall mud costs.

Treatment

The amount of HEMATITE required to increase mud density is calculated as follows:

$$\text{100 pound bags of HEMATITE per 100 bbls of mud} = \frac{1750\,(W_2 - W_1)}{41.65 - W_2}$$

Where: W_1 = initial density (ppg) W_2 = desired density (ppg)

If it is anticipated that HEMATITE might be required, BARITE should not be utilized from the beginning in order to minimize solids content.

Function

Higher density HEMATITE occupies less space than an equal mass of BARITE. This allows more room for water, reducing the interaction between solids.

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HEMATITE (continued)

Typical Physical Properties

Physical Appearance…….dark red to brown/black powder
Specific Gravity……..5.05
Bulk Density……..175 lb/ft³
Hygroscopic……...no
PH in water…….neutral

Safe Handling Recommendations

HEMATITE is not restricted for transportation purposes. Read the Material Safety Data Sheet (MSDS) for this product prior to use.

Packaging

HEMATITE is available in bulk and packaged in 100 pound multiwall bags.