TECHNICAL DATA SHEET

Drilling Foam & Fluid

POLYORE

Organic Polymer

DESCRIPTION

Polyore is a polymer for core drilling, water well drilling, oil and gas drilling, and seismic shot hole drilling. Lower solids drilling fluids based on polymer viscosifiers have been successfully used for many years, and their effectiveness in increasing drilling rates are well documented. **Polyore** is a cost effective polymer well suited for a wide range of drilling and work over applications. The most important properties and benefits of **Polyore** are described below.

VISCOSITY

Viscosity, measured by a March Funnel or rotational viscometer, is the most common measure of the ability of a drilling fluid to transport cuttings and clean the hole. One pound of **Polyore** produces viscosities equivalent to 15 to 20 pounds of bentonite. The potential savings in storing, transporting, and handling one pail of **Polyore** rather than 20 bags of bentonite are obvious. The reasonable cost of **Polyore** makes it more economical as a viscosity builder than other water soluble polymers.

The ability of **Polyore** to dissolve and yield viscosity quickly in almost any oil field water is the most important advantage. Hard or brackish water; 3% KCL or saturated NaCl brine; low or high pH; **Polyore** yields about the same viscosity and **Polyore i**s ready to use within 15-30 minute after mixing.

RHEOLOGY

High Viscosity is necessary to transport cuttings in the annulus, but it is undesirable at the drill but and during cutting removal. **Polyore** produces a “shear thinning” fluid, as evidenced by the “N” value, the greater shear-thinning. A Newtonian (or non shearing thinning) fluid has an “N” value of 1.0. Shear-thinning gives maximum velocity of fluid through the bit nozzle and minimum pressure drop. The result is faster cutting removal with less regrinding, higher penetration rates, and reduced bit wear. Shearing thinning also facilitates solids build up with resultant wear on pumps and bits.

SAFETY

Polyore is a natural food-grade polymer, non-toxic, and biodegradable, so disposal problems are reduced. Preservatives can be used for longer term applications. **Polyore** is non-mineral; therefore, it does not contaminate cuttings or cores. Thereby, increasing accuracy, examinations, or assay.

REOLOGICAL PROPERTIES

Concentration #/bbl or (kg/m^3)	March Funnel Viscosity	Apparent Viscosity	Plastic Viscosity	Yield Point	“N” Value	“K” Value
0.5/0.04	32 Seconds	7.0	4.5	5.0	0.56	0.3
1.0/0.07	37 Seconds	13.5	8.5	11.0	0.50	0.9
1.5/0.11	46 Seconds	21.0	21.0	20.5	0.42	2.3
2.0/0.15	59 Seconds	30.0	30.0	34.5	0.35	5.2
2.5/0.18	90 Seconds	38.0	38.0	43.0	0.34	6.6

105 W. Sharp St. . El Dorado, AR 71730 USA . Tel: (870) 863-5707 . (800) 243-7455 . Fax: (870) 863-0603
www.pdscoinc.com . e-mail: sales@pdscoinc.com