

ABSTRACT

Large consumption of bentonite in Libya due to increase in drilling activities in the Mining and Petroleum industries. Therefore, mining processing and treatment of this clay, the major mud forming compound, has been subject of this study.

In Libya large quantities of clay have been explored. In Umm Ar Razam alone about 79,756 kt of clay has been estimated.

Grinding, drying temperature, chemical treatment and blending are the main variables consider in this study. It has been found that the particle size distribution of the clay has direct effect on the engineering properties. Fair results are obtained using mixer and drying at 50 C°.

The addition of 2% Soda ash (Na₂CO₃) with 2.5% carboxy methyl cellulose (CMC) improved the properties to required values

Blending is another method of improving engineering properties. A blend of 60% local clay and 40% Magcogel with addition of 1% Soda ash and 1% CMC gave yield of 20 m³/ton and filtrate loss of 14 ml which meets to OCMA specification