

عنوان مقاله:

Effect of key parameters in rapid expansion supercritical solution process on the structure of drilling mud viscosifiers

محل انتشار:

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خلاصه مقاله:

During well drilling , drill mud is used by the petroleum industry to remove drill cuttings , keep formation fluids confined to their formations , lubricate the drill bit and control reservoir pressure. Attapulgate is used as a viscosifier in saltwater drilling fluids where bentonite becomes ineffective. CMC HV is a high viscosity carboxymethylcellulose which is used as a viscosifier and fluid loss reducing agent in different types of water based drilling fluids. the smaller powders of attapulgate and CMC because of the higher specific surface area need more water to be wet than the coarser one. under the same solid content the smaller particles cause the higher viscosity of the slurry. the RESS-process enables the micronization of thermally labile materials and the formation of particles of less than 500 nm in diameter. our current research is aimed towards an improved understanding of the relationship between process parameters and particle characteristics and to explore new areas of application for nanoscale particles. the experiments were carried out to investigate the effect of extraction temperature 308-328K and pressure 14-22MPa , spray distance 1-3cm , nozzle diameter 450-850 mm on the size of the particles. the processed attapulgate and CMC particles could better absorb fluid molecules due to the higher specific surface area as they become nano, and result in better suspension .solution which leads to improve the performance of drilling mud

کلمات کلیدی:

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