BaraPhase™ Thermomechanical Cuttings Cleaner Recovers Significant Base Oil for Reuse

EFFECTIVE CUTTINGS CLEANER ENABLES SAVINGS OF USD 9.3 MILLION IN LESS THAN FIVE YEARS

COLOMBIA

ABILITY TO DRILL WITH OBM DEPENDS ON EFFECTIVE CUTTINGS CLEANING

Prior to 2015, a Halliburton customer in Colombia was the only operator in that country who was drilling with non-aqueous fluid (NAF), and, therefore, had unique cuttings handling and disposal requirements. The cuttings were generated on wells in five different fields, from varying well depths and formation types.

The operator wanted to achieve three goals:
» Prevent contamination incidents in the local communities
» Maximize the amount of base oil recovered from the cuttings
» Reduce the volume of cuttings requiring disposal

BARAPHASE™ THERMOMECHANICAL CUTTINGS CLEANER DELIVERS HIGH THROUGHPUT AND LESS THAN 1 PERCENT OIL ON CUTTINGS

The Baroid team recommended using a BaraPhase™ Thermomechanical Cuttings Cleaner (TCC) unit to process the cuttings. The BaraPhase TCC unit, which has a throughput of 6 MT/hr, is specially designed to process oil-contaminated cuttings within a relatively small footprint – and is the only technology capable of reaching less than 1 percent oil on cuttings (OOC).

Its mechanical action is applied directly to the drill cuttings via hammers creating friction that causes temperatures to rise above the boiling points of water and oil. Once these temperatures are reached, hydrocarbons are removed from the solids to an acceptable disposal limit of less than 1 percent OOC.
The remaining oil and water vapors are then fed through the BaraPhase TCC condensing system, which recovers heavy oil, light oil and water.

The operator planned to use the BaraPhase TCC unit to prevent contamination, recover base oil, and reduce the OOC value to less than 1 percent (well below the regulatory requirement for treated cuttings). With this technology, the base oil would be reusable in the drilling fluid with no loss of quality. Further, the dried solids resulting from the BaraPhase TCC process would be applied to road construction. These environmentally friendly outcomes met with approval from the local communities.

BARAPHASE TCC TECHNOLOGY RECOVERS MORE THAN 53,000 BBL OF BASE OIL IN LESS THAN FIVE YEARS

The BaraPhase TCC technology was highly successful on this operation. Over a period of 4.5 years, a total of 53,270 bbl of base oil has been recovered and reused, saving approximately USD 9.3 million.