KH-30TM PARAFFIN INHIBITOR TREATMENT

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Abstract

United Energy Corporation (UNRG) and the U.S. Department of Energy personnel tested KH-30™ at the Rocky Mountain Oilfield Testing Center (RMOTC) outside Casper, Wyoming on two separate occasions. KH-30™ is a non-toxic, non-hazardous product, which combines the functions of a solvent dispersant, crystal modifier and inhibitor into a single solution. The first test was held in March of 2001, wherein five wells were treated with a mixture of KH-30™ and brine water, heated to 180°F. No increase in production was attained in these tests. In June, 2001, three shallow, low pressure RMOTC wells with 30 years of production were treated with a mixture of 40% KH-30™ and 60% diesel. Increases were seen in three wells. The wells then returned to their original rates.

United Energy Corporation (UNRG) and the U.S. Department of Energy personnel tested KH-30™ at the Rocky Mountain Oilfield Testing Center (RMOTC) outside Casper, Wyoming on two separate occasions. RMOTC was established by the Department of Energy to partner with the petroleum industry to improve domestic production through the field testing of new technology, evaluating new equipment and techniques, and disseminating information to the industry at large.

In the mid 1990's, a small specialty chemical company, United Energy Corporation located in New Jersey, developed and patented a non-toxic, non-hazardous product which combines the functions of a solvent dispersant, crystal modifier, and inhibitor into a single solution – KH-30™.

KH-30™ is designed to provide greater solvency for paraffin and asphaltene crystals and keep the crystals in solution longer, thereby reducing the need for frequent and costly re-treatments. The KH-30™ treatment program provides for the removal of major deposits of crystallized paraffin and asphaltene, thereby returning wells to normal production levels. Additionally, periodic dosages of KH-30™ into the wells maintain optimum production levels and eliminates the necessity of costly well re-treatments that are common to the paraffin treatments that are currently being used in the industry.

All produced crude oil contains paraffins. The accumulation of paraffin (wax crystals) has been an on-going and costly problem in the oil industry since its beginning.

Wax crystals form larger and larger particles and eventually become large deposits that hinder the production of oil. The industry has spent billions of dollars to eliminate paraffin deposits in an attempt to enhance production. The solutions to date have been expensive, short term improvements. They are also counter productive to long term production, hazardous to handle and proven to be carcinogenic to humans.

Paraffin accumulation is caused by a number of factors and varies from well to well even within the same oil-producing field. Temperature, pressure, viscosity of the oil, the carbon chain length and formation of the carbon deposit (straight chained or branched) are all factors that must be addressed when attempting to eliminate paraffin accumulations in wells so as to increase the production of oil from those wells.

The first test was held in March of 2001, wherein five wells were treated with a mixture of KH-30™ and brine water heated to 180°F.

No increase in production was attained in these tests. Subsequent lab tests showed that the heated brine water used in the application caused an emulsion with KH-30™ and the product never got to the down-hole paraffin blockages. Brine water had been effectively used in prior KH-30™ well treatments, but never had heated brine been applied. Thus, both UNRG and RMOTC learned from the March, 2001 tests that heated brine water is not an effective carrier in KH-30™ treatments.

In June, 2001, three shallow low pressure RMOTC wells with 30 years of production were treated with a mixture of 40% KH-30™ and 60% diesel.

Increases were seen in the three wells. The wells then returned to their original rates without further treatments. Of course, increases in production must be evaluated on an individual well basis, taking costs of treatment versus increased production into consideration.