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CHARACTERIZATION OF BACTERIAL ISOLATE FROM WASTE WATER AT OIL DRILLING WELL FOR DECREASING OIL VISCOSITY

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ABSTRACT

In the study, eleven bacterial isolates were treated onto two types of parafinic hydrocarbon (X1 & X2). All bacteria were isolated from waste water at oil drilling well sights as facultative anaerobic and thermophilic strains. All bacteria were adapted in two ways :

1. A mixed culture was adapted into a crude oil-molases medium.
2. The adapted mixed culture was re-adapted into a crude oil medium without molases.

The bacterial culture were incubated at 55°C for 14 days. Kinematic viscosity was used as a paramete. The results showed that the viscosity of both parafinic hydrocarbon types were decreased. However, the decreased viscosity for X2 was higher than X1. Decreased viscosity in the crude oil-molases medium was lower than in crude oil-only medium. The greatest oil viscosity decrease was 39.56%, which occurred in X2 crude oil-only medium.

Based on these results, it is concluded that each bacterial characteristic and their affects on hydrocarbons are very specific and cannot be generalized for all oil fields.

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