BARO-LUBE NS™ lubricant is an environmentally acceptable blend of acids, esters and natural oils, which can effectively reduce torque and drag in water-based drilling fluids. It carries environmental ratings of Gold in UK, yellow in Norway and an R in the Netherlands. BARO-LUBE NS lubricant is an effective extreme pressure lubricant by lowering the steel/steel friction coefficient. BARO-LUBE NS lubricant can be added through the hopper or directly to the suction pit if sufficient agitation is available. An injection pump can also be used to inject the product directly into the suction. BARO-LUBE NS lubricant is suitable for applications up to 300°F (149°C).

**Applications / Functions**

- BARO-LUBE NS lubricant can be used to reduce torque and drag

**Advantages**

- BARO-LUBE NS filming type extreme pressure lubricant is particularly effective in lowering the steel/steel friction.
- BARO-LUBE NS lubricant is compatible with most emulsion systems and is suitable both in high and low aromatic base fluid environments.
- BARO-LUBE NS lubricant is a liquid and will not screen out of the system. Being a filming type lubricant, product depletion will occur and will be related to the coating of steel in the wellbore and filtercake/cuttings in the open hole.
- Fluid properties are not adversely affected by additions of BARO-LUBE NS lubricant, and fluid loss in emulsion systems treated with BARO-LUBE NS lubricant will generally be lowered. General engineering practices with respect to pilot testing additions are recommended.
- BARO-LUBE NS lubricant can be mixed through the hopper or directly to the suction pit if sufficient agitation is available. An injection pump can also be used to inject the product directly into the suction.

**Typical Properties**

- **Appearance**
  - Clear amber liquid
- **Flash point**
  - 200°F or 93 °C
- **Specific gravity**
  - 0.94

**Recommended Treatment**

Optimum concentration is 2.5 - 4% V/V

Systems should be treated with minimum 2.5% initially, and the concentrations should be maintained through the interval where torque is expected. A decrease in torque should occur once the system is fully treated, and torque should be less erratic.

A concentrated pill of BARO-LUBE NS lubricant can also be beneficial if elevated torque is experienced during running casing or liner. It is recommended to double the concentration in spots to 5-8% V/V.
BARO-LUBE NS lubricant is packaged in 55-gal (208-l) drums containing 386-lb (179-kg) net wt, or in bulk.

www.halliburton.com/baroid

Because the conditions of use of this product are beyond the seller's control, the product is sold without warranty either express or implied and upon condition that purchaser make its own test to determine the suitability for purchaser's application. Purchaser assumes all risk of use and handling of this product. This product will be replaced if defective in manufacture or packaging or if damaged. Except for such replacement, seller is not liable for any damages caused by this product or its use. The statements and recommendations made herein are believed to be accurate. No guarantee of their accuracy is made, however.

BARO-LUBE NS is a trademark of Halliburton © Copyright 2010, Halliburton All Rights Reserved

3/25/2010