

ALKALINITY (Pom)

This test determines the Alkalinity of a oil based drilling fluid and Excess Lime Content

Supplies

1. N/10 Sulfuric Acid
2. Phenolphthalein Indicator
3. Xylene-isopropyl alcohol mixture (50:50) or PNP
4. 250ml Erlenmyer Flask
5. Magnetic stirrer and stir rod
6. 5-ml Pipette
7. Safety Bulb or Pipette Pump

TEST PROCEDURE

1. Add 100 ml of Xylene/IPA blend or 75 ml of PNP in Erlenmyer Flask.
2. Fill a 5-ml syringe with whole mud to past the 3-ml mark. Add 2 ml of oil mud into the flask and add 100 ml of distilled water.
3. Add 15 drops of phenolphthalein and stir rapidly with a magnetic stirrer, pink color should appear.
4. Slowly titrate with N/10 Sulfuric Acid until the pink color disappears. Continue stirring and if no pink color reappears within one min, stop stirring. It may be necessary to stop stirring and allow the mixture to separate into two phases to more clearly see the color in the aqueous phase.
5. Let the sample stand for 5 min. If no pink color reappears, the end point has been reached. If the pink color returns titrate a second time with N/10 Sulfuric Acid. If pink color returns a third time titrate again. Do not titrate after the third time.

CALCULATIONS

$Pom = \text{ml of N/10 Sulfuric Acid divided by } 2$

$\text{Excess lime (kg/m}^3\text{)} = Pom \times 3.7$