QUALITY WORK INSTRUCTIONS (QWI)
SULFUR ANALYSIS PROCEDURE
ACIDITY as H_2SO_4

Document #: QWI-25
Revision #: 1
Effective Date: 12/2/09

1.0 EQUIPMENT NEEDED

Two 400 ml beakers
Methanol
Distilled water
Magnetic stir bar
Sodium Hydroxide
pH meter probe
Buret

2.0 PROCEDURE

(1) Place 25 ml methanol in each of two 400 ml beakers.

(2) Add 10 grams of sample into one of the beakers and swirl to mix.

(3) Add 200 ml distilled water to each beaker and place a magnetic stir bar in each.

(4) Before titrating sample beaker, record buret level. Agitate sample beaker. Titrate with sodium hydroxide solution (0.01) using pH meter probe until reaching 7.0. Record buret level again.

(5) Before titrating control beaker, record buret level. Agitate control beaker. Titrate with sodium hydroxide solution (0.01) using pH meter probe until reaching 7.0. Record buret level again.

(6) Use the formula below to calculate % Acidity.

S = Sample beaker beginning buret level - sample beaker ending buret level
C = Control beaker beginning buret level - control beaker ending buret level

$$\% \text{ Acidity} = \frac{(S-C) \times 4.9 \times .01}{\text{10-gram original sample weight}}$$