

# Alpha Resources, Inc.

## Certificate Of Analysis

AR-2859

RESIDUAL OIL STANDARD

LOT #591108 LID # 591108

WEIGHT PERCENT SULFUR = 5.00  
STANDARD DEVIATION = 0.12

**High Purity Materials/Standards used:**

T-Butyl Di-Sulfide

**Methods used for analysis:**

ASTM D 5453-93

This standard was produced gravimetrically using high purity materials with precision balances calibrated by NIST traceable weights. This standard was verified using the above ASTM method utilizing high purity standards for calibration. The precision value represents two times the standard deviation obtained through analytical analysis at 95% confidence ( $k=2$ ). When necessary, professional judgment is applied toward consideration of data and statistical information. The statistical analysis and the overall direction and coordination of the analytical measurements leading to certification were performed by K.E. Dyer at Alpha Resources. Normal ASTM procedures should be employed when using this standard. This includes using the *reproducibility* and *repeatability* factors for the ASTM method you wish to employ.

**Notes:**

Before use, the contents of the bottle should be mixed through vigorous shaking. The contents should not be exposed to air for a lengthy period of time.

This is a Certified Reference Material (CRM), and is traceable to the above-mentioned high purity standards. For good laboratory practice it is recommended that all standards be verified prior to use. Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event shall Alpha Resources be liable for incidental or consequential damages.

**EXPIRATION DATE**

**THIS CRM IS VALID FOR TWO YEARS FROM THE DATE OF OPENING**

December 5, 2008

