

Alpha Resources, Inc.

Certificate Of Analysis

CRUDE OIL STANDARD

AR-2051

LOT# 511012

LID# 511012

WEIGHT PERCENT SULFUR = 5.56

STANDARD DEVIATION= 0.24

(n=30)

METHODS:

ASTM D 4294-10, D 1552-08

This standard was produced gravimetrically using high purity materials, with balances calibrated and checked by precision NIST traceable weights, and verified using the above ASTM methods. The precision value represents the 95% confidence limit ($k=2$) derived from analysis and weighing. 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 test 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 (Working Standard), and is verified by the above-mentioned test method(s). 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

Certified November 7, 2012



Technical Manager

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www.alpharesources.com

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