

Alpha Resources, Inc.

Certificate Of Analysis

AR-2720

GREEN PETROLEUM COKE STANDARD

LOT # 201013

LID # 201013

DRIED BASIS VALUE

WEIGHT PERCENT SULFUR = 4.34

EXPANDED UNCERTAINTY = 0.04

METHOD:

ASTM D 4239-12, ARI-035

This Certified Reference Material is traced to: NIST SRM 2718

The analytical values were derived by a number of data sets (n=40) by instrumentation meeting ASTM D4239-12. The precision value represents the expanded degree of uncertainty based on errors from analytical assay at a 95% confidence level (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 of the method for establishing analytical uncertainty.

The samples for round robin testing were selected in accordance with ARI 014. The above values relate only to the material used to produce this standard. The analytical samples were dried under a nitrogen atmosphere at 107° C +/- 3°C until a steady mass was achieved. This bottle contains 50g fine mesh (minus 60 mesh) material. This reference has an indefinite shelf life unopened. Once opened this certificate is valid for 2 years. Keep sealed and store under normal laboratory conditions.

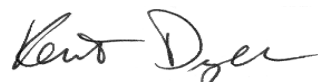
Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event shall Alpha Resources be liable for incidental or consequential damages. The above values relate only to the material used to produce this standard. This certificate cannot be reproduced except in full.

This is a Certified Reference Material (working standard), and is traceable to the above-mentioned standards. For good laboratory practice it is recommended that all standards be verified prior to use. These test results are accredited under the Alpha Resources Inc. laboratory's ISO/IEC 17025 accreditation issued by ANSI-ASQ National Accreditation Board/ACLASS. Refer to certificate and scope of accreditation AC-1200.

EXPIRATION DATE

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

Certified December 4, 2013



Technical Manager