

# Alpha Resources, Inc.

## Certificate Of Analysis

AR 510  
CARBON AND SULFUR STEEL PIN STANDARD  
LOT # P50266509

**% CARBON**  
MEAN = 2.50  
ONE SIGMA = 0.03  
TWO SIGMA = 0.06  
RANGE = 2.44 to 2.56

**% SULFUR**  
MEAN = 0.058  
ONE SIGMA = 0.004  
TWO SIGMA = 0.008  
RANGE = 0.050 to 0.066

Method of Analysis is ASTM E 1019-08, and ARI 033

### Primary Standards Employed:

NIST	6g, 16e, 107c, 8k, 338
NCS	HC11403, HC16011, NS56005
CKD	230
BAM	228-1

### Notes:

The mean analytical values were derived by a number of data sets (n=40). The precision values represent the standard deviation, two times the standard deviation (k=2, 95% confidence), and complete range of analysis. 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.

The material used in production of this standard was sampled in accordance with ARI 032. 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.

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.

This is a Certified Reference Material (CRM), and is traceable to the above-mentioned standards. For good laboratory practice it is recommended that all standards be verified prior to use.

This calibration standard is accredited and meets the requirements of ISO/IEC 17025 as verified by the ANSI-ASQ National Accreditation board. Alpha Resources is an ISO/IEC 17025 accredited laboratory. For more information concerning our scope of accreditation contact Alpha Resources.

Certified April 6, 2010

