

# Alpha Resources, Inc. Certificate Of Analysis

AR 884

CARBON STEEL PIN STANDARD

LOT # 24809400

**% CARBON**  
MEAN = 0.4410  
ONE SIGMA = 0.0040  
TWO SIGMA = 0.0080  
RANGE = 0.4340– 0.4480

**% SULFUR**  
MEAN = 0.0110  
ONE SIGMA = 0.0010  
TWO SIGMA = 0.0020  
RANGE = 0.0090 – 0.0130

Method of Analysis is Combustion IR Detection  
ASTM E 1019 (Latest Revision)

**Standards Employed:**

NIST SRM 2160, 10f, 11h, 363  
Japanese JSS 150-8, 151-9

**Notes:**

The mean analytical values were derived by a number of data sets utilizing various ASTM approved instruments.

The precision values represent the standard deviation, two times the standard deviation, and complete range of analysis.

The statistical analysis of the certification was performed by K.E. Dyer at Alpha Resources.

The overall direction and coordination of the analytical measurements leading to certification were performed by K.E. Dyer at Alpha Resources. This certificate was revised on November 20, 2002 to reflect the fourth decimal place on the carbon and sulfur value.

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.

Certified April, 2000

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Page 1 Of 1



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