

Alpha Resources, Inc.

Certificate Of Analysis

AR 948
CARBON STEEL CHIP STANDARD
LOT # 15334-1

% CARBON
MEAN = 0.502
ONE SIGMA = 0.005
TWO SIGMA = 0.010
RANGE = 0.492 – 0.512

% SULFUR
MEAN = 0.073
ONE SIGMA = 0.002
TWO SIGMA = 0.004
RANGE = 0.069 – 0.077

PPM NITROGEN
MEAN= 74 PPM
ONE SIGMA= 3 PPM
TWO SIGMA= 6 PPM
RANGE= 68 – 80 PPM

PPM OXYGEN (Reference Only)
120 PPM

Method of Analysis is ASTM E 1019-02
Primary Standards Employed:

NIST	6g, 8j, 13g, 50c, 163, 346a
JSS	GS-5c, 111-12, 030-7, 150-15
NCS	HC 11001
BAM	035-1, 079-1, 161-3, 265-3
IPT	73

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. 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.

Alpha Resources is an ISO/IEC 17025 accredited laboratory. For more information concerning scope of accreditation contact Alpha Resources, Inc.

Certified December, 2003



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