

Alpha Resources, Inc. Certificate Of Analysis

AR 950
CARBON STEEL CHIP STANDARD
LOT # N09168

% CARBON
MEAN = 0.055
ONE SIGMA = 0.002
TWO SIGMA = 0.004
RANGE = 0.051 - 0.059

% SULFUR
MEAN = 0.009
ONE SIGMA = 0.001
TWO SIGMA = 0.002
RANGE = 0.007 - 0.011

PPM NITROGEN
MEAN= 55 PPM
ONE SIGMA= 4 PPM
TWO SIGMA= 8 PPM
RANGE= 47 - 63 PPM

Method of Analysis is ASTM E 1019 (Latest Revision)

Primary Standards Employed:

| | |
|------|-------------------------------------|
| NIST | SRM 15h, 50c, 101e, 129b, 345a, 368 |
| NCS | HC11001 |
| BAM | 079-1 |
| JSS | 155-14 |

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 and 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 to reflect a re-certified nitrogen value in September of 2002.

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 October, 2002

P.O. Box 199 3090 Johnson Road Stevensville, MI 49127 USA  9 Fax (269) 465-3629

www.alpharesources.com

Page 1 Of 1