

Alpha Resources, Inc.

Certificate Of Analysis

AR 871
CARBON STEEL RING STANDARD
LOT# 111A

% CARBON
MEAN = 0.052
ONE SIGMA = 0.001
TWO SIGMA = 0.002
RANGE = 0.050 to 0.054

% SULFUR
MEAN = 0.032
ONE SIGMA = 0.001
TWO SIGMA = 0.002
RANGE = 0.030 to 0.034

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

Primary Standards Employed:

| | |
|------|--------------------------|
| NIST | 345a, 8j, 73c, 348a, 367 |
| EURO | 289-1, 284-2, 294-1 |
| NCS | HC11301 |
| JSS | 150-15 |

Notes:

The mean analytical values were derived by a number of data sets (n=50). 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, Technical Manager 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. This jar contains 454g of 1g rings, with no expiration date.

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 January 14, 2011



TECHNICAL MANAGER