

Alpha Resources, Inc.

Certificate Of Analysis

AR 676
OXYGEN & NITROGEN PIN STANDARD
LOT # 311B

PPM OXYGEN
MEAN = 329
ONE SIGMA = 29
TWO SIGMA = 58
RANGE = 271 to 387

PPM NITROGEN
MEAN = 1214
ONE SIGMA = 52
TWO SIGMA = 104
RANGE = 1110 to 1318

NOTE: The addition of graphite powder was used during analysis. The black/brown color of the pins is normal.

Method of Analysis is ASTM E 1019-08, and ARI 034
Primary Standards Employed:

| | |
|------|-----------------------|
| JK | 47 |
| NIST | 346a, 1090, 367, 343a |
| INFM | Cu600-1 |
| BAM | O3 |

Notes:

The mean analytical values were derived by a number of data sets (n=40) following ASTM E1019-08 and ARI 034. 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 standard consists of 100, 0.5g pins 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 ACLASS 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, March 29, 2011
Technical Manager



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