

Alpha Resources, Inc.

Certificate Of Analysis

AR 651
TITANIUM STANDARD
LOT # 211C

PPM OXYGEN
MEAN = 1320
ONE SIGMA = 42
TWO SIGMA = 85
RANGE = 1235 to 1405

PPM NITROGEN
MEAN = 49
ONE SIGMA = 9
TWO SIGMA = 18
RANGE = 31 to 67

PPM HYDROGEN
MEAN = 28
ONE SIGMA = 2
TWO SIGMA = 4
RANGE = 24 to 32

Method of Analysis is ASTM E 1409-08, E 1447-09, E 1937-04, ARI 034, and ARI 036

Primary Standards used for calibration:

NIST SRM 173b, 176, 173c
NCS NS57103, NS57102, NS57003
BCR CRM 276, 24

Notes

The mean analytical values were derived by a number of data sets (n=40). 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 bottle consists of 10g material in .1g pins and is to be used directly from the bottle. Multiple pins may be used per test method requirements. This product has an indefinite shelf life.

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 March 22, 2011



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