

Alpha Resources, Inc.

Certificate Of Analysis

AR 555
HYDROGEN IN STEEL PIN STANDARD
LOT # 1013A

TOTAL HYDROGEN
MEAN VALUE = 2.4 PPM (ug/g) (0.00024%)
ONE STANDARD DEVIATION = +/- 0.4 PPM (ug/g) (0.00004%)
EXPANDED UNCERTAINTY = +/- 0.8 PPM (ug/g) (0.00008%)
(k=2, 95% confidence limit)

Method of Analysis:
Inert Gas Fusion, Thermal Conductivity Detection

Primary NMI Standards Employed:
NCS NS20042, NS20006c

Notes:

The mean analytical values were derived by (6) data sets, totaling (n=60) utilizing the above mentioned method. The precision values represent the standard deviation and two times the standard deviation (k=2, 95% confidence limit). When necessary, professional judgment is applied toward consideration of data and statistical information. At the time of certification there were no formal test methods and few SRM/CRM reference materials.

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 certificate cannot be reproduced except in full. The statistical analysis, overall direction, and coordination of the analytical measurements leading to certification were performed by K. E. Dyer, Technical Manager at Alpha Resources Inc. This bottle contains 100, 1g pins (nominal), to be used directly from the bottle as per your test method or instrument manufacturer recommendations. This standard has an indefinite shelf life, kept sealed and stored under normal laboratory conditions. This standard was produced in accordance to ISO Guide 34-2009.

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 (Working Standard), and is traceable to the above-mentioned standards. For good laboratory practice it is recommended that all standards be verified prior to use.

This standard was produced in accordance to Guide 34. Alpha Resources has become accredited under the ISO Guide 34:2009 for RMP and holds a ISO 17025 accreditation. Refer to certificate and scope of accreditation for details.

Certified October 17, 2013



Technical Manager

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