

Alpha Resources, Inc. Certificate Of Analysis

AR 546
HYDROGEN IN STEEL
LOT # 892201

TOTAL HYDROGEN
MEAN VALUE = 0.61 PPM (ug/g)
ONE SIGMA DEVIATION = +/- 0.2 PPM (ug/g)
TWO SIGMA DEVIATION = +/- 0.4 PPM (ug/g)
TOTAL RANGE OF DATA = 0.21 – 1.01 PPM (ug/g)

Method of Analysis:

1. LECO RH-404 Inert Gas Fusion
2. NRC Model 917 Vacuum Hot Extraction

Standard reference materials used for certification:

JSS CRM SS-5-3, GS-1d
Hydrogen Gas Dosing
NCS NS20019
NIST SRM 352c
Brammer BS-HON

Notes:

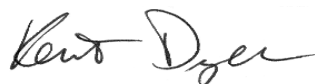
Various analysts derived the mean analytical values using the above instruments over a number of days. The precision values represent the one-sigma standard deviation, two-sigma standard deviation and complete range of analytical data points used.

The statistical analysis, overall direction, and coordination of the analytical measurements leading to certification were performed by K. E. Dyer at Alpha Resources Inc.

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 July, 2001



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