

# Alpha Resources, Inc. Certificate Of Analysis

AR 893  
TOOL STEEL PIN STANDARD  
LOT # 346007209

**% CARBON**  
MEAN = 1.51  
ONE SIGMA = 0.03  
TWO SIGMA = 0.06  
RANGE = 1.45 to 1.57

**% SULFUR**  
MEAN = 0.013  
ONE SIGMA = 0.001  
TWO SIGMA = 0.002  
RANGE = 0.011 to 0.015

Method of Analysis is ASTM E 1019-03 and ARI 033

Primary Standards Employed:

NIST	341, 367, 16e
JSS	602-9
NCS	HC11403
BAM	035-1, 92

Notes:

The mean analytical values were derived by a number of data sets (n=40) by various instrumentation meeting ASTM E1019-03. The precision values represent the standard deviation, two times the standard deviation (k=2, 95% confidence limit), 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 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.

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.

Alpha Resources is an ISO/IEC 17025 accredited laboratory. For more information concerning our scope of accreditation contact Alpha Resources.

Certified February 2009



P.O Box 199 3090 Johnson Road Stevensville, MI 49127 Phone (269) 465-5559 Fax (269) 465-3629

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