

# Alpha Resources, Inc.

## Certificate Of Analysis

**AR 640**

**ZIRCONIUM STANDARD**

**LOT # M20335**

**PPM OXYGEN**  
**MEAN = 1480**  
**ONE SIGMA = 42**  
**TWO SIGMA = 84**  
**RANGE = 1396 - 1564**

**PPM NITROGEN**  
**MEAN = 51**  
**ONE SIGMA = 7**  
**TWO SIGMA = 14**  
**RANGE = 37 - 65**

**PPM HYDROGEN**  
**MEAN = 11**  
**ONE SIGMA = 1**  
**TWO SIGMA = 2**  
**RANGE = 9 - 13**

Methods used:

**HYDROGEN**  
RH404 INERT GAS FUSION  
NRC MODEL 917 (VACUUM HOT EXTRACTION)

**OXYGEN**  
TC436 INERT GAS FUSION

The mean values are based on statistical data derived by the methods listed, utilizing different analysts over different days.

The precision values are based on the standard deviation, two times the standard deviation, and complete range of analyses.

The following Primary Standards were used for calibration:  
NIST SRM 357, 358, 352, 353, 352C  
Belgium BCR 276

The overall direction and coordination of the analytical measurements and statistical data leading to certification was performed by K.E. Dyer at Alpha Resources.

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 May, 2000



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