

Alpha Resources, Inc.

Certificate Of Analysis

ZIRCONIUM STANDARD
AR 640
LOT M20335

PPM OXYGEN	PPM NITROGEN
MEAN = 1480 PPM	MEAN = 51 PPM
ONE SIGMA = 42 PPM	ONE SIGMA = 7 PPM
TWO SIGMA = 84 PPM	TWO SIGMA = 14 PPM
RANGE = 1396 - 1564 PPM	RANGE = 37 - 65 PPM

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

METHODS USED:

HYDROGEN	OXYGEN/NITROGEN
RH404 INERT GAS FUSION	TC436 INERT GAS FUSION
NRC MODEL 917 (VACUUM HOT EXTRACTION)	

THE MEAN VALUE IS BASED ON STATISTICAL DATA DERIVED BY THE METHODS LISTED UTILIZING DIFFERENT ANALYSTS OVER DIFFERENT DAYS.

THE PRECISION VALUES REPRESENT 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

Notes:

The overall direction and coordination of the analytical measurements and statistical data leading to certification were 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 should be verified, prior to use, against a primary standard material provided by a governing agency such as N.I.S.T, when available.

CERTIFIED JULY, 2000 _____