ALPHA RESOURCES® Value Beyond Measure

Certificate of Analysis

AR1035
CALCIUM CARBONATE CARBON CRM
LOT # 923R

% CARBON
MEAN = 5.95
Expanded Uncertainty = ± 0.12
(k=2, @ 95% confidence) (n=36)

The intended use is for the Carbon determination in materials using oxidation combustion with infrared detection or thermal decomposition under inert gas using thermal conductivity detection. The verification of this CRM was by oxidation combustion IR detection ARI-LAB-621.

Standards Employed for traceability:

NIST	**SRM 1d**
ECRM	**701-1**

ALPHA – AR1035-035619, AR4014-42899, AR4022-519E, AR4007-418B, AR4021-814A

The mean analytical values were derived by data sets showing traceability to the above-mentioned NMI and Alpha standards and reported in mass fraction. Metrological traceability is to the SI derived unit of mass fraction expressed as percent. The precision values are derived using ISO Guide 35, the Guide to Uncertainty Measurement, and ANOVA. Refer to your test method or instrument manufacturer for the expanded method derived uncertainty if needed. 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, Chief Chemist, at Alpha Resources.

Sample size and minimum sample size for this data was 300mg nominal. Refer to your instrument manufacturer for minimum and typical sample analysis size. This bottle contains 50g of fine powder to be used directly from the bottle without preparation. Keep sealed and store under normal laboratory conditions.

The material used in production of this standard was identified in accordance with ARI-LAB-603. The samples for round robin testing were selected in accordance with ARI-LAB-625. 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 certificate cannot be reproduced except in its entirety.

This is a Certified Reference Material (CRM) and is traceable to the above-mentioned reference materials. For good laboratory practice, it is recommended that all reference materials be verified as fit for purpose prior to use. These test results are accredited under the Alpha Resources LLC laboratory's ISO/IEC 17025 and ISO 17034 (RMP) accreditation issued by ANSI National Accreditation Board. Refer to certificate and scope of accreditation(s) AT-1200 and AR-1920.

Reported values are valid for five years from the date of certification.

Certified November 13, 2023
Dustin Jenkins, Ph.D.
Global Technical Director