



# Certificate of Analysis

## AR100 Residual Oil CRM

AR100, Lot# 240306 – Certified Values					
	% Carbon	% Hydrogen	% Nitrogen	% Sulfur	BTU/lb
Mean	86.50	9.71	0.20	0.99	18299
St Dev	0.78	0.13	0.02	0.04	136
Exp Uncertainty	2.00	0.33	0.04	0.08	349
n	6	6	6	36	6
k	2.6	2.6	2.6	2.0	2.6
Test Method	ASTM D5291	ASTM D5291	ASTM D4629/5762	ASTM D4294	ASTM D240/D4809

### Primary (NMI)/GUIDE 34/ISO 17034 Reference Standards Employed:

NIST SRM	1619a
AR	AR2812-812922, AR2814-814422

This product is a Certified Reference Material (CRM) traceable to the above-mentioned reference standards. All reference materials should be verified as fit for purpose prior to use. Analytical values are accredited under Alpha Resources, LLC ISO/IEC 17025 and ISO 17034 accreditation issued by the ANSI National Accreditation Board (ANAB). Refer to certificates and scopes of accreditation AT-1200 and AR-1920. Each bottle contains 100 mL of reference material and should be gently mixed before use. Exposure to light and air should be minimized. Keep sealed and store in an upright position under normal laboratory conditions. AR100 is intended for the verification and validation of the above-listed test methods.

The mean analytical values were derived by separate data sets with traceability to the above-mentioned reference standards. Metrological traceability is to the SI derived unit of mass fraction expressed as percent and BTU/lb. The precision values represent the estimated mean value and uncertainty derived from the data sets utilizing ANOVA, ISO Guide 35, and the Guide to Uncertainty Measurement. Refer to the test method for additional information related to measurement uncertainty.

Certified values are valid for five years from the date of certification. 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 full. Produced in accordance with ISO 17034.

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