



Certificate of Analysis

AR1729, Lot# 240304

Proximate Coal CRM

AR1729, Lot# 240304 – Certified Values (Dried Basis)					
	% Ash	% Volatile Matter	% Fixed Carbon (calc)	% Sulfur	BTU/lb
Test Method	ASTM D3174/D7582	ASTM D3175/D7582	ASTM D3172	ASTM D4239	ASTM D5865
Mean	19.18	29.28	(51.16)	3.31	11377
St Dev	0.12	0.75	--	0.13	33
Exp Uncertainty	0.24	1.56	--	0.27	78
n	21	21	--	40	8
k	2.09	2.09	--	2.02	2.36

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

Test	Primary Reference Standards
% Sulfur	NIST SRM 2684c, 2685c; NCS FC28009F; AR1709-709512, AR1710-710621; QAR CRM-9a; LQSI 8H0158
BTU	Benzoic acid
Volatile Matter	LQSI 200045

AR1729 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 ANSI National Accreditation Board (ANAB). Please refer to certificates and scopes of accreditation AT-1200 and AR-1920. This material is intended to be dried or corrected for moisture as per the test methods used. Each bottle contains 50 g of fine coal powder (-60 mesh). Typical sample size for analytical testing is dependent upon the test method and instrumentation used.

The intended use of this Proximate Coal CRM is for the verification of various tests using the above-mentioned 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.

While unable to determine a definite shelf life, this reference material should be reviewed 20 years from the date of certification. Once packaging is opened this certificate is valid for two years. Keep sealed tight and store under normal laboratory conditions. This certificate cannot be reproduced except in full. 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. Produced in accordance with ISO 17034.

Certification Date: April 19, 2024

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Global Technical Director

