CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Alpha Resources, LLC
3090 Johnson Road
Stevensville, MI 49127

Fulfills the requirements of

ISO 17034:2016

In the field of

REFERENCE MATERIAL PRODUCER

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 04 January 2028

Certificate Number: AR-1920

This reference material producer is accredited in accordance with the recognized International Standard ISO 17034:2016. This accreditation demonstrates technical competence for a defined scope and the operation of a reference material producer quality management system.

SCOPE OF ACCREDITATION TO ISO 17034:2016

Alpha Resources, LLC

3090 Johnson Road, Stevensville, MI 49127
James Schanke Phone: 269-465-5559
Jschanke@alpharesources.com www.alpharesources.com

REFERENCE MATERIAL PRODUCER

ISO 17034 Accreditation Granted: **29 December 2025**

Certificate Number: **AR-1920** Certificate Expiry Date: **04 January 2028**

Chemical Properties

Type of Reference Material	Description of the Reference Material Matrix or Artifact including the Property-Properties Characterized	Method or Techniques Used by the RMP Laboratory to Determine the Assigned Value (if Appropriate)
Certified Reference Materials and Reference Materials	Ferrous Metals: Solids, Chips, Powders Single and Multi-Element Analysis (Aluminum-Zirconium) Steels • Carbon steels • Low alloy steels • High alloy steels • Cast steels • Specialty steels Irons • White cast irons • Ductile irons Gases in metals	ASTM E1019 ARI-LAB-621 ASTM E1019 ARI-LAB-622 ASTM E1019/1447 Modified ARI-LAB-623 Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.

Chemical Properties

Type of Reference Material	Description of the Reference Material Matrix or Artifact including the Property-Properties Characterized	Method or Techniques Used by the RMP Laboratory to Determine the Assigned Value (if Appropriate)
Certified Reference Materials and Reference Materials	Nonferrous Metals: Solids, Chips, Powders Single and Multi-Element Analysis (Aluminum-Zirconium) • Aluminum alloys • Copper alloys • Lead base alloys • Tin base alloys • Brasses • Bearing alloys • Titanium base alloys • Zirconium base alloys • Carbide alloys • Nickel alloys • Chromium alloys Gases in metals	ASTM E1941 ARI-LAB-621 ASTM E1409 ARI-LAB-622 ASTM E1447 ARI-LAB-623 Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.
Certified Reference Materials and Reference Materials	Ores and Minerals: Powders Mineral content and Multi-Element Analysis (Aluminum-Zirconium)	Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.

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Chemical Properties

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Certified Reference Materials and Reference Materials	Solid Fuels: Powders • Coal • Coke • Biomass Ash, BTU, MAFBTU, Vol. Matter, Fixed Carbon, Forms of Sulfur, Ash deformation, Mineral content, Multi-Elemental Analysis (Aluminum-Zirconium)	ASTM D4239 ARI-LAB-616 ASTM D 7582 ARI-LAB-633 Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.
Certified Reference Materials and Reference Materials	Pure Organic Compounds: Neat Compounds for Elemental Analysis • Carbon • Hydrogen • Nitrogen • Sulfur • Oxygen • Chlorine • Bromine • Fluorine	Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.
Certified Reference Materials and Reference Materials	Pure Inorganic Compounds: Neat Compounds for Elemental Analysis • Carbon • Hydrogen • Nitrogen • Sulfur • Oxygen	Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.

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Chemical Properties

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Certified Reference Materials and Reference Materials	Plant and Food Materials: Proximate Analysis Nutritional Properties Trace Elements • Carbon • Sulfur • Nitrogen • Hydrogen • Oxygen • Crude Fat • Fiber • Ash • ADF Fiber • Crude Protein • Acid Detergent Free • Salt • Starch • Sugars • Elemental Analysis (Al-Zr)	Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.
Certified Reference Materials and Reference Materials	Fuels and Lubricants (liquids): • Sulfur • Ash • API Gravity • Cetane Index • Cloud Point • Pour Point • Freezing Point • Conductivity • Viscosity • Flash Point • Distillation • Carbon Residue • BTU • Elemental Analysis (Al-Zr)	ASTM D 4294 ARI-LAB-619 Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.

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Chemical Properties

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Certified Reference Materials and Reference Materials	Environmental Soils, Sludges, and Ashes: Powders • Major Elements • Trace Elements	Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.
Certified Reference Materials and Reference Materials	Thermodynamic Properties: BTU's • Benzoic Acid Tablet • Benzoic Acid Powder	ASTM D 240 ARI-LAB-618 Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.
Certified Reference Materials and Reference Materials	Thermodynamic Properties: LOI (Loss on Ignition)/Ash • Blended solid • Powder • Colloids and Liquids	ASTM C25 ARI-LAB-620 Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.
Certified Reference Materials and Reference Materials	Thermodynamic Properties: LOI (Loss on Ignition)/Ash Solid Fuels	ASTM D 7582 ARI-LAB-633 Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.

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Chemical Properties

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Certified Reference Materials and Reference Materials	Thermal Decomposition	ARI-LAB-624 Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.
Certified Reference Materials and Reference Materials	Particle Size and Surface Area	Measurements are carried out by a competent laboratory using a variety of validated analytical methods as applicable to the analytes of concern and corresponding matrix, and of demonstrable accuracy.

Notes:

1. Please contact the RMP organization for more information on CRM uncertainty values, Ucrm values, and other specific lot values. Some of this information may also be available on the RMP's website.

Jason Stine, Vice President

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