



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 2026

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

Valid to: **January 4, 2026**

Certificate Number: **AR-1920**

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	ASTM E1019 ARI-LAB-621
	Single and Multi-Element Analysis (Aluminum-Zirconium)	ASTM E1019 ARI-LAB-622
	Steels <ul style="list-style-type: none"> Carbon steels Low alloy steels High alloy steels Cast steels Specialty steels 	ASTM E1019/1447 Modified ARI-LAB-623
	Irons <ul style="list-style-type: none"> White cast irons Ductile irons 	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.
	Gases in metals	

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	<p>Nonferrous Metals:</p> <p>Solids, Chips, Powders</p> <p>Single and Multi-Element Analysis (Aluminum-Zirconium)</p> <ul style="list-style-type: none"> Aluminum alloys Copper alloys Lead base alloys Tin base alloys Brasses Bearing alloys Titanium base alloys Zirconium base alloys Carbide alloys Nickel alloys <p>Gases in metals</p>	<p>ASTM E1941 ARI-LAB-621</p> <p>ASTM E1409 ARI-LAB-622</p> <p>ASTM E1447 ARI-LAB-623</p> <p>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.</p>
Certified Reference Materials and Reference Materials	<p>Ores and Minerals: Powders</p> <p>Mineral content and Multi-Element Analysis (Aluminum-Zirconium)</p>	<p>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.</p>
Certified Reference Materials and Reference Materials	<p>Solid Fuels:</p> <p>Powders</p> <ul style="list-style-type: none"> Coal Coke Biomass <p>Ash, BTU, MAFBTU, Vol. Matter, Fixed Carbon, Forms of Sulfur, Ash deformation, Mineral content, Multi-Elemental Analysis (Aluminum-Zirconium)</p>	<p>ASTM D4239 ARI-LAB-616</p> <p>ASTM D 7582 ARI-LAB-633</p> <p>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.</p>

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	<p>Pure Organic Compounds:</p> <p>Neat Compounds for Elemental Analysis</p> <ul style="list-style-type: none"> • Carbon • Hydrogen • Nitrogen • Sulfur • Oxygen • Chlorine • Bromine • Fluorine 	<p>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.</p>
Certified Reference Materials and Reference Materials	<p>Pure Inorganic Compounds:</p> <p>Neat Compounds for Elemental Analysis</p> <ul style="list-style-type: none"> • Carbon • Hydrogen • Nitrogen • Sulfur • Oxygen 	<p>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.</p>

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	<p>Plant and Food Materials:</p> <p>Proximate Analysis Nutritional Properties Trace Elements</p> <ul style="list-style-type: none"> • Carbon • Sulfur • Nitrogen • Hydrogen • Oxygen • Crude Fat • Fiber • Ash • ADF Fiber • Crude Protein • Acid Detergent Free • Salt • Starch • Sugars • Elemental Analysis (Al-Zr) 	<p>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.</p>
Certified Reference Materials and Reference Materials	<p>Fuels and Lubricants (liquids):</p> <ul style="list-style-type: none"> • Sulfur • Ash • API Gravity • Cetane Index • Cloud Point • Pour Point • Freezing Point • Conductivity • Viscosity • Flash Point • Distillation • Carbon Residue • BTU • Elemental Analysis (Al-Zr) 	<p>ASTM D 4294 ARI-LAB-619</p> <p>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.</p>

Chemical Properties

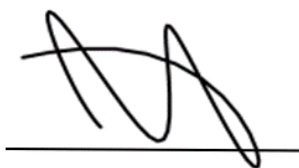
Type of Reference Material	Description of the Reference Material Matrix or Artifact including the Property-Properties Characterized	Method or Techniques Used by the RMP Laboratory to Determine the Assigned Value (if Appropriate)
Certified Reference Materials and Reference Materials	Environmental Soils, Sludges, and Ashes: Powders <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • 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.

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	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, U_{CRM} values, and other specific lot values. Some of this information may also be available on the RMP's website.
2. This scope is formatted as part of a single document including Certificate of Accreditation No. AR-1920.



Jason Stine, Vice President