



# 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](http://www.anab.org).

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 04 January 2024

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

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### REFERENCE MATERIAL PRODUCER

Valid to: **January 4, 2024**

Certificate Number: **AR-1920**

#### Chemical

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"> <li>Carbon steels</li> <li>Low alloy steels</li> <li>High alloy steels</li> <li>Cast steels</li> <li>Specialty steels</li> </ul>	ASTM E1019/1447 Modified ARI-LAB-623
	Irons <ul style="list-style-type: none"> <li>White cast irons</li> <li>Ductile irons</li> </ul>	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	

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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"> <li>Aluminum alloys</li> <li>Copper alloys</li> <li>Lead base alloys</li> <li>Tin base alloys</li> <li>Brasses</li> <li>Bearing alloys</li> <li>Titanium base alloys</li> <li>Zirconium base alloys</li> <li>Carbide alloys</li> </ul> <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"> <li>Coal</li> <li>Coke</li> </ul> <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>

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Certified Reference Materials and Reference Materials	<p>Pure Organic Compounds:</p> <p>Neat Compounds for Elemental Analysis</p> <ul style="list-style-type: none"> <li>• Carbon</li> <li>• Hydrogen</li> <li>• Nitrogen</li> <li>• Sulfur</li> <li>• Oxygen</li> <li>• Chlorine</li> <li>• Bromine</li> <li>• Fluorine</li> </ul>	<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>Plant and Food Materials:</p> <p>Proximate Analysis Nutritional Properties Trace Elements</p> <ul style="list-style-type: none"> <li>• Carbon</li> <li>• Sulfur</li> <li>• Nitrogen</li> <li>• Hydrogen</li> <li>• Oxygen</li> <li>• Crude Fat</li> <li>• Fiber</li> <li>• Ash</li> <li>• ADF Fiber</li> <li>• Crude Protein</li> <li>• Acid Detergent Free</li> <li>• Salt</li> <li>• Starch</li> <li>• Sugars</li> <li>• Elemental Analysis (Al-Zr)</li> </ul>	<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>

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Certified Reference Materials and Reference Materials	<p>Fuels and Lubricants (liquids):</p> <ul style="list-style-type: none"> <li>• Sulfur</li> <li>• Ash</li> <li>• API Gravity</li> <li>• Cetane Index</li> <li>• Cloud Point</li> <li>• Pour Point</li> <li>• Freezing Point</li> <li>• Conductivity</li> <li>• Viscosity</li> <li>• Flash Point</li> <li>• Distillation</li> <li>• Carbon Residue</li> <li>• BTU</li> <li>• Elemental Analysis (Al-Zr)</li> </ul>	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	<p>Environmental Soils, Sludges, and Ashes:</p> <p>Powders</p> <ul style="list-style-type: none"> <li>• Major Elements</li> <li>• Trace Elements</li> </ul>	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	<p>Thermodynamic Properties:</p> <p>BTU's</p> <ul style="list-style-type: none"> <li>• Benzoic Acid Tablet</li> <li>• Benzoic Acid Powder</li> </ul>	ASTM D 240 ARI-LAB-618
Certified Reference Materials and Reference Materials	<p>Thermodynamic Properties:</p> <p>LOI (Loss on Ignition)/Ash</p> <ul style="list-style-type: none"> <li>• Blended solid</li> <li>• Powder</li> </ul>	ASTM C25 ARI-LAB-620
Certified Reference Materials and Reference Materials	<p>Thermodynamic Properties:</p> <p>LOI (Loss on Ignition)/Ash Solid Fuels</p>	ASTM D 7582 ARI-LAB-633

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Certified Reference Materials and Reference Materials	Thermal Decomposition	ARI-LAB-624
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<sub>CRM</sub> 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.



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