



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.

A handwritten signature in black ink, appearing to be 'J. Stine', is positioned above a horizontal line.

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

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www.alpharesources.com

REFERENCE MATERIAL PRODUCER

Valid to: **January 4, 2026**

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

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| <p>Certified Reference Materials and Reference Materials</p> | <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 <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> |
| <p>Certified Reference Materials and Reference Materials</p> | <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> |
| <p>Certified Reference Materials and Reference Materials</p> | <p>Solid Fuels:</p> <p>Powders</p> <ul style="list-style-type: none"> • Coal • Coke <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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|--|--|--|
| <p>Certified Reference Materials and Reference Materials</p> | <p>Pure Organic Compounds: 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> |
| <p>Certified Reference Materials and Reference Materials</p> | <p>Plant and Food Materials: 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> |

Chemical

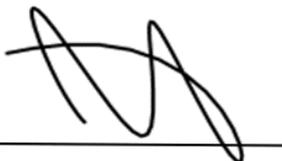
| Type of Reference Material | Description of the Reference Material Matrix or Artifact including the Property-Properties Characterized | Method or Techniques Used by the RMP Laboratory to Determine the Assigned Value (if Appropriate) |
|---|---|--|
| Certified Reference Materials and Reference Materials | <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>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>Environmental Soils, Sludges, and Ashes:</p> <p>Powders</p> <ul style="list-style-type: none"> • Major Elements • Trace Elements | <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>Thermodynamic Properties:</p> <p>BTU's</p> <ul style="list-style-type: none"> • Benzoic Acid Tablet • Benzoic Acid Powder | <p>ASTM D 240 ARI-LAB-618</p> |
| Certified Reference Materials and Reference Materials | <p>Thermodynamic Properties:</p> <p>LOI (Loss on Ignition)/Ash</p> <ul style="list-style-type: none"> • Blended solid • Powder | <p>ASTM C25 ARI-LAB-620</p> |
| Certified Reference Materials and Reference Materials | <p>Thermodynamic Properties:</p> <p>LOI (Loss on Ignition)/Ash Solid Fuels</p> | <p>ASTM D 7582 ARI-LAB-633</p> |

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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, Ucrm 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