



CERTIFICATE OF ACCREDITATION

ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

Alpha Resources, LLC
3090 Johnson Road
Stevensville, MI 49127

has been assessed by ANAB and meets the requirements of international standard

ISO 17034:2016

while demonstrating technical competence in the field of

REFERENCE MATERIAL PRODUCER

Refer to the accompanying Scope of Accreditation for information regarding the types of materials to which this accreditation applies

AR-1920

Certificate Number



ANAB Approval

Certificate Valid Through: 01/04/2022
Version No. 007 Issued: 12/11/2019



SCOPE OF ACCREDITATION TO ISO 17034:2016

Alpha Resources, LLC

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REFERENCE MATERIAL PRODUCER

Valid to: **January 4, 2022**

Certificate Number: **AR-1920**

Chemical

Sub-Category of Reference Material	ILAC RM Category	Class or Type of Reference Materials Produced (Include Range Where Applicable)	Methods or Techniques Used in the RMP Laboratory (if Appropriate)
A1 Metals	A1.1 Ferrous	Solids, Chips, Powders Single and Multi-Element Analysis (Aluminum-Zirconium) Steels <ul style="list-style-type: none"> • Carbon steels • Low alloy steels • High alloy steels • Cast steels • Specialty steels Irons <ul style="list-style-type: none"> • White cast irons • Ductile irons Gases in metals	ASTM E1019 ARI-033 ASTM E1019 ARI-034 ASTM E1019/1447 Modified ARI-034 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.
	A1.2 Nonferrous	Solids, Chips, Powders Single and Multi-Element Analysis (Aluminum-Zirconium) <ul style="list-style-type: none"> • Aluminum alloys • Copper alloys • Lead base alloys • Tin base alloys 	ASTM E1941 ARI-033 ASTM E1409 ARI-034 ASTM E1447 ARI-036



		<ul style="list-style-type: none"> • Brasses • Bearing alloys • Titanium base alloys • Zirconium base alloys • Carbide alloys <p>Gases in metals</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.
A2 Inorganic Reference Materials	A2.1 Ores and Minerals	<p>Powders</p> <p>Mineral content and Multi-Element Analysis (Aluminum-Zirconium)</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.
	A2.5 Solid fuels	<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-035</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>
A3 Organic Reference Materials	A3.1 Pure Organic Compounds	<p>Neat Compounds for Elemental Analysis</p> <ul style="list-style-type: none"> • 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.
	A 3.3 Foodstuffs	<p>Plant/Food Material</p> <p>Proximate Analysis Nutritional Properties 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.



		<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) 	
	A3.5 Petroleum Products	<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) 	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.
A4 Environmental Reference Materials	A4.1 Soils and Sludges	<p>Powders</p> <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.



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	A4.2 Ashes	Powders <ul style="list-style-type: none">• Major Elements• Trace Elements	
C5 Reference Materials for Thermodynamic Properties	C5.1 Calorimetry	BTU's <ul style="list-style-type: none">• Benzoic Acid Tablet• Benzoic Acid Powder	ASTM D240 ARI-079
	C5.10 Thermal Analysis Standards	LOI (Loss on Ignition)/Ash <ul style="list-style-type: none">• Blended solid• Powder	ASTM C25 ARI-192

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.



Vice President

