



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005**

**Alpha Resources Inc.**

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**CALIBRATION**

Valid to: January 4, 2012

Certificate Number: AC-1200

**I. Chemical (Reference Materials)**

<b>PARAMETER / EQUIPMENT</b>	<b>RANGE</b>	<b>CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(±)]</b>	<b>REFERENCE STANDARD OR EQUIPMENT</b>	<b>METHOD(S)</b>
<b>Carbon</b> (in Steel, Iron, Nickel & Cobalt Alloys)	(0.001 to 4.5) g/100 g sample	0.002 g/100 g carbon present	Eltra CS-800 Leco CS-444 Determinators	ASTM E 1019-08 ARI-033
<b>Sulfur</b> (in Steel, Iron, Nickel & Cobalt Alloys)	(0.002 to 0.35) g/100 g sample	0.00025 g/100 g sulfur present	CS-800 and CS-444 Determinators	ASTM E 1019-08 ARI-033
<b>Oxygen</b> (in Steel, Iron, Nickel & Cobalt Alloys)	(0.0005 to 0.03) g/100 g sample	0.00015 g/100 g oxygen present	Leco TC-436 Determinator	ASTM E 1019-08 ARI-034
<b>Nitrogen</b> (in Steel, Iron, Nickel & Cobalt Alloys)	(0.0005 to 0.5) g/100 g sample	0.0004 g/100 g nitrogen present	TC-436 Determinator	ASTM E 1019-08 ARI-034
<b>Oxygen</b> (in Titanium)	(0.01 to 0.3) g/100 g sample	0.00091 g/100 g oxygen present	TC-436 Determinator	ASTM E 1409-08 ARI-034
<b>Nitrogen</b> (in Titanium)	(0.003 to 0.11) g/100 g sample	0.0024 g/100 g nitrogen present	TC-436 Determinator	ASTM E 1937-04 ASTM E 1409-08 ARI-034
<b>Hydrogen</b> (in Titanium)	(0.0006 to 0.026) g/100 g sample	0.000044 g/100 g hydrogen present	RH-404 H-Determinator	ASTM E 1447-05 ARI-036
<b>Sulfur</b> (in Coal & Coke)	(0.2 to 3) g/100 g sample	0.05 g/100 g sulfur present	CS-500 Determinator	ASTM D 4239-08 ARI-035



PARAMETER / EQUIPMENT	RANGE	CALIBRATION AND MEASUREMENT CAPABILITY [EXPRESSED AS UNCERTAINTY(+)]	REFERENCE STANDARD OR EQUIPMENT	METHOD(S)
BTUs (in Coal & Coke)	Above 7 000 BTU/sample	140 J/g	IKA Calorimeter	ASTM D 5865-07a ARI-042

**Notes:**

1. Calibration and Measurement Capabilities (Expanded Uncertainties) are based on approximately a 95% confidence interval, using a coverage of  $k=2$
2. This scope is part of and must be included with the Certificate of Accreditation No. AC - 1200




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Vice President

