



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

ANDREW S. MCCREATH & SON, INC.
 1649 Bobali Drive
 Harrisburg, PA 17104
 Nathan D. Eppley Phone: 717 364 1440

CHEMICAL

Valid To: October 31, 2018

Certificate Number: 0518.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following types of tests on naturally occurring raw materials, ferroalloys, coal and coke:

Sample Preparation For: Mineral Ore, Limestone, Ferro-Alloys ¹

ICP For: Al, Ag, As, B, Ba, Bi, Ca, Cd, Ce, Co, Cr, Cu, Magnetic Fe, Fe, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Ta, Ti, V, W, Zn ¹

Combustion Analysis For: C, N, O, S ¹

Gravimetric Precipitation Analysis For: BaSO₄, CaF₂, Mo, Nb, S, SiO₂, Total Rare Earth Oxides, W ¹

Volumetric Analysis For: Al, B, Ca, Cr, Fe, Metallic Fe, Mg, Mn, N, Ni, Pb, Ti, V, Zn ¹

Gas Evolution For: CO₂, Combined H₂O ¹

WDXRF Analysis For: Al, Ca, Cr, Co, Cu, Fe, Mn, Mo, Na, Nb, Ni, P, S, Si, Ti, V ¹

Miscellaneous Gravimetric Analysis For: Bulk Density, Sieve Testing, LOI, Hygroscopic Moisture, Moisture at 105°C ¹

Test

Method

Collection and Preparation of Coke Samples for Laboratory Analysis	ASTM D346
Standard Practice for Preparing Coal Samples for Analysis	ASTM D2013
Total Sulfur in Coal and Coke by High Temperature Furnace Combustion	ASTM D4239

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Test

Method

Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal and Coke	ASTM D5373
Gross Calorific Value of Coal and Coke	ASTM D5865
Total Mercury in Coal and Coal Combustion Residues by Direct Combustion Analysis	ASTM D6722
Standard Test Method for Analysis of Stainless and Alloy Steels by X-Ray Fluorescence Spectrometry	ASTM E572
Standard Test Method for X-Ray Emission Spectrometric Analysis of Low-Alloy Steels	ASTM E1085
Standard Test Method for Determination of Trace Metals in Petroleum Coke by Wavelength Dispersive X-Ray Fluorescence Spectroscopy	ASTM D6376

¹ *This scope meets the A2LA P112 Flexible Scope Policy*





Accredited Laboratory

A2LA has accredited

ANDREW S. MCCREATH & SON, INC.

Harrisburg, PA

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 22nd day of November 2016.

A handwritten signature in black ink, appearing to read "L. S. McCreath", written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 0518.01
Valid to October 31, 2018

For the tests to which this accreditation applies, please refer to the laboratory's Chemical Scope of Accreditation.