



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ANDREW S. MCCREATH & SON, INC.²
1649 Bobali Drive
Harrisburg, PA 17104
Robert Kozicki Phone: 717 364 1440

CHEMICAL

Valid To: October 31, 2024

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, 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: CaF₂, Mo, Nb, S, SiO₂

Volumetric Analysis For: B, Ca, Cr, Fe, Metallic Fe, Mg, Mn, Ni, Ti, V

Gas Evolution For: CO₂

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

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

<u>Test</u>	<u>Test Method</u>
Collection and Preparation of Coke Samples for Laboratory Analysis	ASTM D346
Gross Calorific Value of Coal and Coke	ASTM D5865
Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal and Coke	ASTM D5373
Standard Practice for Preparing Coal Samples for Analysis	ASTM D2013

<u>Test</u>	<u>Test Method</u>
Standard Test Method for Analysis of Stainless and Alloy Steels by X-Ray Fluorescence Spectrometry	ASTM E572
Standard Test Method for Determination of Trace Metals in Petroleum Coke by Wavelength Dispersive X-Ray Fluorescence Spectroscopy	ASTM D6376
Standard Test Method for X-Ray Emission Spectrometric Analysis of Low-Alloy Steels	ASTM E1085
Total Mercury in Coal and Coal Combustion Residues by Direct Combustion Analysis	ASTM D6722
Total Sulfur in Coal and Coke by High Temperature Furnace Combustion	ASTM D4239

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

² This accreditation covers testing performed at the main laboratory as well as the satellite laboratory listed below.

MCCREATH ANALYTICAL SERVICES, LLC.
6533 West 9th Avenue
Gary, IN 46406

<u>Test</u>	<u>Test Method</u>
Coke – Determination of Mechanical Strength	ISO 556
Coke Reactivity Index (CRI) and Coke Strength after Reaction (CSR)	ASTM D5341
Gross Calorific Value of Coal and Coke	ASTM D5865
Preparation of Coke Samples for Laboratory Analysis	ASTM D346 (Section 10)
Preparing Coal Samples for Laboratory Analysis	ASTM D2013
Proximate Analysis of Coal and Coke by Instrumental Procedures	ASTM D7582
Standard Test Method for Tumbler Test for Coke	ASTM D3402
Total Sulfur in Coal and Coke by High Temp Furnace Combustion Methods	ASTM D4239



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 17025:2017 *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 April 2017).



Presented this 8th day of February 2023.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0518.01
Valid to October 31, 2024

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