



# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

**Standard Laboratories, Inc. – Division 30**  
**147 11<sup>th</sup> Avenue, Suite #100**  
**South Charleston, WV 25303**

Fulfills the requirements of

**ISO/IEC 17025:2017**

In the field of

**TESTING**

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](http://www.anab.org).

A handwritten signature in black ink, appearing to read 'R. Douglas Leonard Jr.', is positioned above a horizontal line.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 08 July 2023  
Certificate Number: L2179.06-1



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
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).

## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

### Standard Laboratories, Inc. - Division 30

147 11<sup>th</sup> Avenue, Suite #100  
South Charleston, WV 25303  
Jeremy Lutsy  
304-744-5472

### TESTING

Valid to: **July 8, 2023**

Certificate Number: **L2179.06-1**

#### Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Total Moisture	ASTM D3302 ASTM D2961	Coal	Moisture Oven
Lab Moisture	ASTM D3173	Coal	Moisture Oven
Total Ash	ASTM D3174	Coal	Ash Furnace
Total Ash	ASTM D3174 MOD	Coal	Ash Furnace
Total Sulfur	ASTM D4239	Coal	Leco 144/832
Volatile Matter	ASTM D3175	Coal	Volatile Furnace
Fixed Carbon	ASTM D3172	Coal	Calculation
Gross Calorific (BTU/lb)	ASTM D5865	Coal	Leco Ac600
Sample Preparation	ASTM D2013	Coal	Crusher
Free Swelling Index	ASTM D720	Coal	Fsi Furnace
Oxidation	ASTM D5263	Coal	Spec 20
Dilatometer	ASTM D5515	Coal	Preiser 6100
Fluidity	ASTM D2639	Coal	Preiser 6200
Fineness Test of Pulverized Coal	ASTM D197	Coal	Screens/Rotap
Major and Minor Elements in Coal Ash by X-Ray Fluorescence	ASTM D4326-13	Coal	EPSILON 3X/EDITION 4



*ANSI National Accreditation Board*

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2179.06-1.



R. Douglas Leonard Jr., VP, PILR SBU





# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

**Standard Laboratories, Inc. – Division 61**  
**1196 Whitman Run Road**  
**Belington, WV 26250**

Fulfills the requirements of

**ISO/IEC 17025:2017**

In the field of

**TESTING**

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](http://www.anab.org).

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R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 08 July 2023  
Certificate Number: L2179.03-1



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
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).

**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**Standard Laboratories, Inc. – Division 61**

1196 Whitman Run Rd.  
Belington, WV 26250  
Rick Malcolm  
304-457-4749

**TESTING**

Valid to: **July 8, 2023**

Certificate Number: **L2179.03-1**

**Chemical**

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
FSI	ASTM D 720	Coal	Preiser Electric Furnace
Residual Moisture	ASTM D 3173	Coal	Fisher Model 496
Ash	ASTM D 3174	Coal	Thermolyne 6000 Ashing Furnace
Sulfur	ASTM D 4239	Coal	Leco S632 & S832
Oxidation	ASTM D 5263	Coal	Hach DR 3900
BTU	ASTM D 5865	Coal	Leco AC 600
Thermogravimetric Analysis (TGA)	ASTM D 7582	Coal	Leco 701 & Leco 801
Volatile	ASTM D3175 Modified	Coal	Vulcan A550 Furnace
Total Moisture	ASTM D3302 Modified	Coal	Despatch Ovens
Sample Preparation	ASTM D2013	Coal	Holmes Equipment
Total Moisture	ASTM D2961	Coal	Despatch Ovens
Dilatometer	ASTM D5515	Coal	Dilatometer
Fluidity	ASTM D2639	Coal	Plastometer

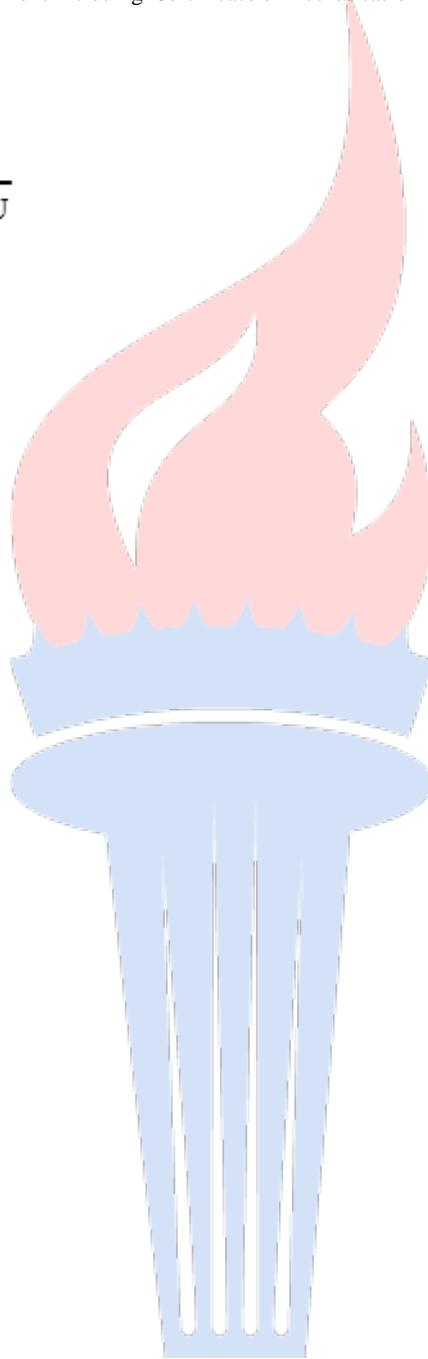
Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2179.03-1.



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R. Douglas Leonard Jr., VP, PILR SBU





# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

**Standard Laboratories, Inc.**  
**1880 North Loop Drive**  
**Casper, WY 82601**

Fulfills the requirements of

**ISO/IEC 17025:2017**

In the field of

**TESTING**

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](http://www.anab.org).

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R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 08 July 2023  
Certificate Number: L2179.04-1



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
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).

## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

### Standard Laboratories, Inc. – Division 70

1880 North Loop Drive  
Casper, WY 82601  
Mike Herndon  
307-234-9957

### TESTING

Valid to: **July 8, 2023**

Certificate Number: **L2179.04-1**

#### Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Ash in the Analysis Sample	ASTM D3174	Coal	Furnace
Calorific Value	ASTM D5865	Coal	Calorimeter
Carbon, Hydrogen and Nitrogen	ASTM D5373	Coal	Elemental Analyzer
Equilibrium Moisture	ASTM D1412	Coal	Waterbath Method
Free-Swelling Index	ASTM D720	Coal	Electric Method
Fusibility of Ash	ASTM D1857	Coal	Furnace
Grindability of Coal	ASTM D409/D409M (MOD)	Coal	Grindability Machine
Loss on Ignition	ASTM D7348	Coal	Oven/Furnace
Major and Minor Elements	ASTM D6349	Coal	ICP-OES, Mixed Acid Digestion
Mercury	ASTM D6722	Coal	Direct Combustion Analysis
Moisture in the Analysis Sample	ASTM D3173	Coal	Oven
Moisture (Total)	ASTM D3302/D3302M (MOD)	Coal	Commercial Method
Preparing Samples for Analysis	ASTM D2013/D2013M (MOD)	Coal	Crusher/Pulverizer
Sulfur (Total)	ASTM D4239	Coal	Furnace



**Chemical**

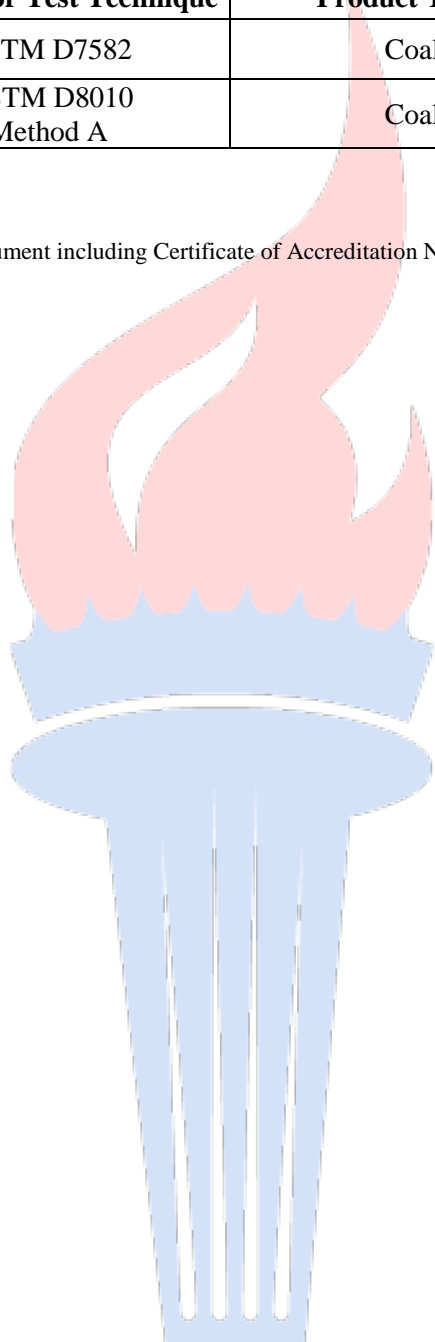
Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Volatile Matter	ASTM D7582	Coal	TGA
Water Soluble Alkali Content	ASTM D8010 Method A	Coal	ICP-OES

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2179.04-1



R. Douglas Leonard Jr., VP, PILR SBU





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

**Standard Laboratories, Inc. – Division 70**

1880 North Loop Drive  
Casper, WY 82601  
Mike Herndon  
307-234-9957

**TESTING**

Valid to: **July 8, 2020**

Certificate Number: **L2179.04-1**

**Chemistry**

<b>Specific Tests and/or Properties Measured</b>	<b>Specification, Standard, Method, or Test Technique</b>	<b>Items, Materials or Product Tested</b>	<b>Key Equipment or Technology</b>
Ash in the Analysis Sample	ASTM D3174	Coal	
Calorific Value	ASTM D5865	Coal	
Carbon, Hydrogen and Nitrogen	ASTM D5373	Coal	
Chlorine, Total	ASTM D6721	Coal	
Equilibrium Moisture	ASTM D1412	Coal	
Forms of Sulfur	ASTM D2492	Coal	
Free-Swelling Index	ASTM D720	Coal	
Fusibility of Ash	ASTM D1857	Coal	
Grindability of Coal	ASTM D409/D409M (MOD)	Coal	
Loss on Ignition	ASTM D7348	Coal	
Major and Minor Elements	ASTM D6349	Coal	
Mercury	ASTM D6722	Coal	
Moisture in the Analysis Sample	ASTM D3173	Coal	
Moisture (Total)	ASTM D3302/D3302M	Coal	
Preparing Samples for Analysis	ASTM D2013/D2013M	Coal	

**Chemistry**

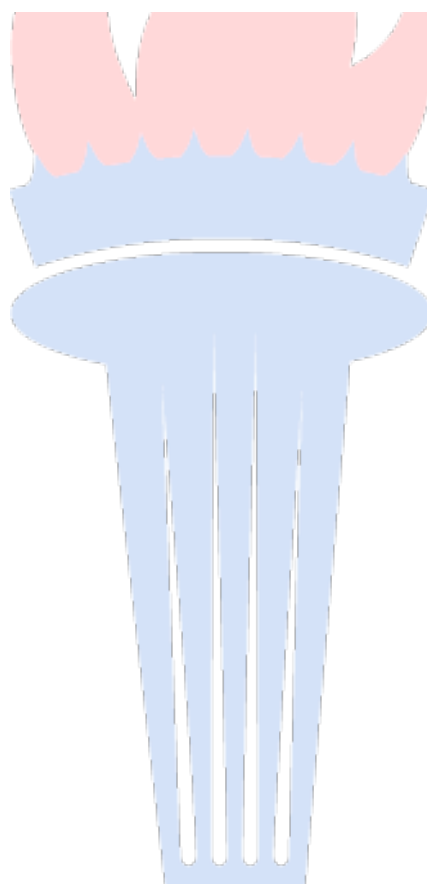
Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Sulfur (Total)	ASTM D4239	Coal	
Volatile Matter	ASTM D7582	Coal	
Water Soluble Alkali Content	ASTM D8010 Method A	Coal	

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2179.04-1



Vice President





# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

**Standard Laboratories, Inc.**  
**845 River King Drive**  
**Freeburg, IL 62243**

Fulfills the requirements of

**ISO/IEC 17025:2017**

In the field of

**TESTING**

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](http://www.anab.org).

A handwritten signature in black ink, appearing to read 'R. Douglas Leonard Jr.', is positioned above a horizontal line.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 08 July 2023  
Certificate Number: L2179.02-1



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
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).

## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

### Standard Laboratories, Inc. – Division 75

8451 River King Drive  
Freeburg, IL 62243  
Tim Hutchison  
618-539-5836

### TESTING

Valid to: **July 8, 2023**

Certificate Number: **L2179.02-1**

#### Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Grindability of Coal	ASTM D409 ASTM D409M	Coal	Hardgrove Method
Free- Swell Index	ASTM D720	Coal	Gas Method
Equilibrium Moisture	ASTM D1412	Coal	Thermo-gravimetric
Single Stage Total Moisture	ASTM D2961	Coal	Thermo-gravimetric
Moisture in the Analysis Sample	ASTM D3173	Coal and Coke	Thermo-gravimetric
Total Moisture	ASTM D3302 ASTM D3302M	Coal	Thermo-gravimetric
Forms of Sulfur in Coal	ASTM D8214 MOD	Coal	ICP-OES
Sulfur Determination	ASTM D4239	Coal and Coke	High-Temperature Tube Furnace Combustion
Fusibility	ASTM D1857	Coal and Coke ash	Fusion Furnace
Sample Preparation	ASTM D2013 ASTM D2013M	Coal	Crusher, pulverizers, dividers
Ash in the Analysis Sample	ASTM D3174	Coal and Coke	Thermo-gravimetric
Volatile Matter	ASTM D3175	Coal and Coke	Thermo-gravimetric
Selenium Determination	ASTM D4606	Coal	Hydride Generation / Atomic Absorption Method
Carbon, Hydrogen and Nitrogen Determination	ASTM D5373	Coal and Coke	CHN Analyzer
Gross Calorific Value	ASTM D5865	Coal and Coke	Calorimetry

**Chemical**

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Total Fluorine Determination	ASTM D8247	Coal	Oxidative Pyrohydrolytic Combustion and Ion Chromatography Detection
Determination of Major & Minor Elements ICP-OES	ASTM D6349	Coal and Coke	ICP-OES
Determination of Trace Elements ICP-MS	ASTM D6357 ASTM D6357 MOD	Coal and Coke	ICP-MS
Chlorine Determination	ASTM D6721	Coal	Oxidative Hydrolysis Microcoulometry
Total Mercury	ASTM D6722	Coal	Direct Combustion Analysis
Water Soluble Alkali Content	ASTM D8010	Coal	ICP-OES
Total, Combustible, and Carbonate Carbon	ASTM D6316 MOD	Coal Residue	CHN Analyzer
Determination of Boron	ASTM D8213	Coal	Microwave and ICP-MS

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2179.02-1



R. Douglas Leonard Jr., VP, PILR SBU

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

**Standard Laboratories, Inc. – Division 75**

8451 River King Drive  
 Freeburg, IL 62243  
 Tim Hutchison  
 618-539-5836

**TESTING**

Valid to: **July 8, 2020**

Certificate Number: **L2179.02-1**

**Chemistry**

<b>Specific Tests and/or Properties Measured</b>	<b>Specification, Standard, Method, or Test Technique</b>	<b>Items, Materials or Product Tested</b>	<b>Key Equipment or Technology</b>
Grindability of Coal	ASTM D409 ASTM D409M	Coal	
Free- Swell Index	ASTM D720	Coal	
Equilibrium Moisture	ASTM D1412	Coal	
Single Stage Total Moisture	ASTM D2961	Coal	
Moisture in the Analysis Sample	ASTM D3173	Coal and Coke	
Total Moisture	ASTM D3302 ASTM D3302M	Coal	
Forms of Sulfur in Coal	ASTM D2492 MOD	Coal	
Sulfur Determination	ASTM D4239	Coal and Coke	
Fusibility	ASTM D1857	Coal and Coke ash	
Sample Preparation	ASTM D2013 ASTM D2013M	Coal	
Ash in the Analysis Sample	ASTM D3174	Coal and Coke	
Volatile Matter	ASTM D3175	Coal and Coke	
Selenium Determination	ASTM D4606	Coal	
Carbon, Hydrogen and Nitrogen Determination	ASTM D5373	Coal and Coke	

**Chemistry**

<b>Specific Tests and/or Properties Measured</b>	<b>Specification, Standard, Method, or Test Technique</b>	<b>Items, Materials or Product Tested</b>	<b>Key Equipment or Technology</b>
Gross Calorific Value	ASTM D5865	Coal and Coke	
Total Fluorine Determination	ASTM D5987	Coal and Coke	
Determination of Major & Minor Elements ICP-OES	ASTM D6349	Coal and Coke	
Determination of Trace Elements ICP-MS	ASTM D6357 ASTM D6357 MOD	Coal and Coke	
Chlorine Determination	ASTM D6721	Coal	
Total Mercury	ASTM D6722	Coal	
Water Soluble Alkali Content	ASTM D8010	Coal	
Total, Combustible, and Carbonate Carbon	ASTM D6316 MOD	Coal Residue	

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2179.02-1



Vice President





# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

**Standard Laboratories, Inc.**  
**2601 South Verity Parkway**  
**Middletown, OH 45044**

Fulfills the requirements of

**ISO/IEC 17025:2017**

In the field of

**TESTING**

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](http://www.anab.org).

A handwritten signature in black ink, appearing to read 'R. Douglas Leonard Jr.', is positioned above a horizontal line.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 08 July 2023  
Certificate Number: L2179.05-1



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
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).

## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

### Standard Laboratories, Inc. – Division 25

2601 South Verity Parkway  
Middletown, Ohio 45044  
Joy Wright  
513-422-1088

### TESTING

Valid to: **July 8, 2023**

Certificate Number: **L2179.05-1**

#### Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Total Moisture	ASTM D3302	Coal	Ovens/balances
Total Moisture	ISO 579	Coke	Ovens/balances
Lab Moisture	ASTM D3173	Coal, Coke	Ovens/balances
Total Ash	ASTM D3174	Coal, Coke	Furnaces/balances
Total Sulfur	ASTM D4239	Coal, Coke	Combustion/infrared detection
Volatile Matter	ASTM D3175 (MOD for Coke)	Coal, Coke	Furnaces/balances
Fixed Carbon	ASTM D3172	Coal, Coke	Calculation
Sieve Analysis	ASTM D4749; ASTM D293	Coal, Coke	Sieves/balances
Tumbler Test	ASTM D3402	Coke	Tumbler/sieves/balances
Bulk Density	ASTM D291	Coal	Cubic foot box/balance
Sample Preparation	ASTM D2013; ASTM D346	Coal, Coke	Shovels/rotary dividers
CSR / CRI	ASTM D5341	Coke	Furnace/tumbler/balance

Note:

- This scope is formatted as part of a single document including Certificate of Accreditation No. L2179.05-1



R. Douglas Leonard Jr., VP, PILR SBU



# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

**Standard Laboratories, Inc.**  
**5144 Hwy 133, P.O. Box 542**  
**Somerset, CO 81434**

Fulfills the requirements of

**ISO/IEC 17025:2017**

In the field of

**TESTING**

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](http://www.anab.org).

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R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 08 July 2023  
Certificate Number: L2179.07-1



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
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).

## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

### Standard Laboratories, Inc.

5144 Hwy 133, P.O Box 542  
Somerset, CO 81434  
Samuel Ortiz  
970-929-5022

### TESTING

Valid to: **July 8, 2023**

Certificate Number: **L2179.07-01**

#### Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Ash in the Analysis Sample	ASTM D7582	Coal	TGA-701
Calorific Value	ASTM D5865	Coal	Parr 6200 Calorimeter
Moisture in the Analysis Sample	ASTM D7582	Coal	TGA-701
Moisture (Total)	ASTM D3302 / D3302M	Coal	Drying Oven
Preparing Samples for Analysis	ASTM D2013 / D2013M	Coal	Crusher, pulverizers, dividers
Sulfur (Total)	ASTM D4239	Coal	Leco S-144 Combustion Method A
Volatile Matter	ASTM D7582	Coal	TGA-701

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. L2179.07-01



R. Douglas Leonard Jr., VP, PILR SBU



# CERTIFICATE OF ACCREDITATION

## The ANSI National Accreditation Board

Hereby attests that

**Standard Laboratories, Inc.**  
**2005 Donna Drive**  
**Ashland, KY 41102**

Fulfills the requirements of

**ISO/IEC 17025:2017**

In the field of

**TESTING**

This certificate is valid only when accompanied by a current scope of accreditation document.  
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R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 08 July 2023  
Certificate Number: L2179.11-1



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quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

### Standard Laboratories, Inc. – Division 66

2005 Donna Drive  
Ashland, KY 41102  
Greg Webb

### TESTING

Valid to: **July 8, 2023**

Certificate Number: **L2179.11-1**

#### Chemical

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Sample Preparation	ASTM D2013/D346	Coal or Coke	Crushers,Pulverizers,Scales
Total Moisture	ASTM D2961	Coal	Oven & Balance
Residual Moisture	ASTM D3173	Coal/Coke	Oven & Balance
Ash	ASTM D3174	Coal/Coke	Furnace & Balance
Sulfur	ASTM D4239	Coal/Coke	Leco 832 Sulfur Analyzer & Balance
Volatile Matter	ASTM D3175	Coal	Platinum crucible
Volatile Matter modified	ASTM D3175M	Coke	Quartz crucible
Gross Calorific Value	ASTM D5865	Coal/Coke	Calorimetry
Free Swelling Index	ASTM D720	Coal	Electric Furnace & Balance
Oxidation Index	ASTM D5263	Coal	Spectrophotometry
Sieve Analysis	ASTM D4749	Coal	Sieves & Balance
Sieve Analysis	ASTM D293	Coke	Sieves & Balance
Tumbler Test	ASTM D3402	Coke	Tumble Machine & Scales
Bulk Density	ASTM D291	Coal	Gravimetric & Scales
CSR/CRI	ASTM D5341	Coke	Thermogravimetric

Note:

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R. Douglas Leonard Jr., VP, PILR SBU

