



A Waters Company

Donny Juarez  
Energy Laboratories  
2393 Salt Creek Hwy  
Casper, WY 82601  
USA

**SOIL-115**



***Final Report***

# Soil/Hazardous Waste Proficiency Testing

**Soil Study**

**Open Date: 07/26/2021**

**Close Date: 09/09/2021**

**Report Issued Date: 09/13/2021**



A Waters Company

September 13, 2021

Donny Juarez  
Energy Laboratories  
2393 Salt Creek Hwy  
Casper, WY 82601

Enclosed is your final report for ERA's SOIL-115 Proficiency Testing (PT) study. Your final report includes an evaluation of all results submitted by your laboratory to ERA.

Data Evaluation Protocols: All analytes in ERA's SOIL-115 Proficiency Testing study have been evaluated using the following tiered approach. If the analyte is listed in the most current NELAC Fields of Proficiency Testing (FoPT) table the evaluation was completed by comparing the reported result to the acceptance limits generated using the criteria contained in the table and the evaluation criteria contained in the 2016 TNI Standard, Volume 3. If the analyte is not included in the NELAC FoPT table, the reported result has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 730002268).

Corrective Action Help: As part of your accreditation(s), you may be required to identify the root cause of any "Not Acceptable" results, implement the necessary corrective actions, and then satisfy your PT requirements by participating in a Supplemental (Quik™ Response) or future ERA PT study. ERA's technical staff is available to help your laboratory resolve any technical issues that may be impairing your PT performance and possibly affecting your routine data quality. Our laboratory and technical staff have many years of collective experience in performing the full range of environmental analyses. As part of our technical support, ERA offers QC samples that can be useful in helping you work through your technical issues.

Thank you for your participation in ERA's SOIL-115 Proficiency Testing study. If you have any questions, please contact our Proficiency Testing Department at 1-800-372-0122.

Sincerely,

A handwritten signature in black ink, appearing to read "Matthew Seebeck".

Matthew Seebeck  
Quality Officer

attachments





A Waters Company

<b>Report Recipient</b>	<b>Contact/Phone Number</b>	<b>Reporting Type</b>
Florida	Vanessa Soto / 904-791-1599	All Analytes
Nebraska	Tara Wulfekoetter / 402-471-8439	All Analytes
Nevada	Paige Menicucci / 775-687-9311	All Analytes
Texas	Frank Jamison / (512) 239-3754	All Analytes



# SOIL-115 Definitions & Study Discussion

**Study Dates: 07/26/2021 - 09/09/2021**

**Report Issued: 09/13/2021**

## SOIL Study Definitions

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are compliant with the most current NELAC Fields of Proficiency Testing (FoPT) table. The Assigned Values for the Organic Proficiency Testing Standards are equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation as applicable. The assigned values for the Inorganic Proficiency Testing Standards, with the exception of the TCLP Metals in Soil and Total Organic Carbon (TOC) in the Nutrients in Soil sample, are equal to the maximum amount of the parameter available in the standard by applicable EPA methodologies. The assigned values for the TCLP metals and TOC are equal to the mean of the study data, after the removal of outliers. All parameters not added to the standard are given an Assigned Value of "< PTRL", per the guidelines contained in the 2016 TNI Standard. The assigned values are directly traceable to the commercially prepared starting materials used to manufacture the PT standards.

The Acceptance Limits are established per the criteria contained in the most current NELAC FoPT table or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable.

The Performance Evaluation:

Acceptable = Reported Value falls within the Acceptance Limits.

Not Acceptable = Reported Value falls outside the Acceptance Limits.

No Evaluation = Reported Value cannot be evaluated.

Not Reported = No Value reported.

The Method Description is the method the laboratory reported to ERA.

## SOIL Study Discussion

ERA's SOIL-115 Proficiency Testing (PT) study has been reviewed by ERA senior management and certified compliant with the requirements of the 2016 TNI Standard and the criteria contained in the most current NELAC Fields of Proficiency Testing (FoPT) table.

ERA's SOIL-115 study standards were examined for any anomalies. A full review of all homogeneity, stability and accuracy verification data was completed. All analytical verification data for all analytes in the standards met the acceptance criteria contained in the 2016 TNI Standard and the criteria contained in the most current NELAC FoPT table.

The data submitted by participating laboratories was also examined for study anomalies. There were no anomalies observed during the statistical review of the data.

ERA's SOIL-115 Proficiency Testing study reports shall not be reproduced except in its entirety and not without the permission of the participating laboratory. The report must not be used by the participating laboratories to claim product endorsement any agency of the U. S. government.

The data contained herein are confidential and intended for your use only.

If you have any questions or concerns regarding your assessment in ERA's SOIL Proficiency Testing program, please contact our Proficiency Testing Department at 1-800-372-0122.





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# SOIL-115 Laboratory Exception Report

Donny Juarez  
Quality Assurance Manager  
Energy Laboratories  
2393 Salt Creek Hwy  
Casper, WY 82601  
307-235-0515 x3244

EPA ID:  
ERA Customer Number:  
Report Issued:  
Study Dates:

WY00002  
E772828  
09/13/2021  
07/26/2021 - 09/09/2021

## Not Acceptable Evaluations

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
<b>SOIL Metals in Soil (cat# 620, lot# D115-540)</b>							
1005	Antimony	mg/kg	< 8	277	27.7 - 339	Not Acceptable	EPA 6010B 2 1996
1005	Antimony	mg/kg	< 8	277	27.7 - 339	Not Acceptable	EPA 6020A 1 2007
1010	Arsenic	mg/kg	5.61	101	61.2 - 114	Not Acceptable	EPA 6010B 2 1996
1010	Arsenic	mg/kg	4.32	101	61.2 - 114	Not Acceptable	EPA 6020A 1 2007
1015	Barium	mg/kg	120	411	261 - 452	Not Acceptable	EPA 6010B 2 1996
1015	Barium	mg/kg	119	411	261 - 452	Not Acceptable	EPA 6020A 1 2007
1020	Beryllium	mg/kg	< 4	124	77.0 - 136	Not Acceptable	EPA 6010B 2 1996
1020	Beryllium	mg/kg	< 4	124	77.0 - 136	Not Acceptable	EPA 6020A 1 2007
1025	Boron	mg/kg	< 50	220	79.7 - 242	Not Acceptable	EPA 6010B 2 1996
1025	Boron	mg/kg	< 50	220	79.7 - 242	Not Acceptable	EPA 6020A 1 2007
1030	Cadmium	mg/kg	< 4	212	120 - 233	Not Acceptable	EPA 6010B 2 1996
1030	Cadmium	mg/kg	< 4	212	120 - 233	Not Acceptable	EPA 6020A 1 2007
1040	Chromium	mg/kg	12.8	282	162 - 310	Not Acceptable	EPA 6010B 2 1996
1040	Chromium	mg/kg	13.5	282	162 - 310	Not Acceptable	EPA 6020A 1 2007
1050	Cobalt	mg/kg	< 4	310	181 - 341	Not Acceptable	EPA 6010B 2 1996
1050	Cobalt	mg/kg	< 4	310	181 - 341	Not Acceptable	EPA 6020A 1 2007
1055	Copper	mg/kg	19.2	165	108 - 182	Not Acceptable	EPA 6010B 2 1996
1055	Copper	mg/kg	21.5	165	108 - 182	Not Acceptable	EPA 6020A 1 2007

All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.





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## Not Acceptable Evaluations

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
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**SOIL Metals in Soil (cat# 620, lot# D115-540)**

1075	Lead	mg/kg	31.6	289	197 - 335	Not Acceptable	EPA 6010B 2 1996
1075	Lead	mg/kg	33.3	289	197 - 335	Not Acceptable	EPA 6020A 1 2007
1090	Manganese	mg/kg	266	670	429 - 737	Not Acceptable	EPA 6010B 2 1996
1090	Manganese	mg/kg	269	670	429 - 737	Not Acceptable	EPA 6020A 1 2007
1100	Molybdenum	mg/kg	< 3	253	151 - 278	Not Acceptable	EPA 6010B 2 1996
1100	Molybdenum	mg/kg	< 3	253	151 - 278	Not Acceptable	EPA 6020A 1 2007
1105	Nickel	mg/kg	7.29	458	245 - 504	Not Acceptable	EPA 6010B 2 1996
1105	Nickel	mg/kg	8.36	458	245 - 504	Not Acceptable	EPA 6020A 1 2007
1140	Selenium	mg/kg	< 4	154	87.0 - 174	Not Acceptable	EPA 6010B 2 1996
1140	Selenium	mg/kg	< 4	154	87.0 - 174	Not Acceptable	EPA 6020A 1 2007
1150	Silver	mg/kg	< 2	65.0	40.1 - 74.1	Not Acceptable	EPA 6010B 2 1996
1150	Silver	mg/kg	< 2	65.0	40.1 - 74.1	Not Acceptable	EPA 6020A 1 2007
1155	Sodium	mg/kg	1645	161	35.7 - 199	Not Acceptable	EPA 6010B 2 1996
1155	Sodium	mg/kg	1478	161	35.7 - 199	Not Acceptable	EPA 6020A 1 2007
1160	Strontium	mg/kg	54	98.8	60.3 - 109	Not Acceptable	EPA 6010B 2 1996
1160	Strontium	mg/kg	53.7	98.8	60.3 - 109	Not Acceptable	EPA 6020A 1 2007
1165	Thallium	mg/kg	< 4	87.4	48.5 - 102	Not Acceptable	EPA 6020A 1 2007
1175	Tin	mg/kg	< 5	112	52.7 - 135	Not Acceptable	EPA 6010B 2 1996



All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.





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## Not Acceptable Evaluations

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
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**SOIL Metals in Soil (cat# 620, lot# D115-540)**

1175	Tin	mg/kg	< 5	112	52.7 - 135	Not Acceptable	EPA 6020A 1 2007
3055	Uranium	mg/kg	1	208	125 - 247	Not Acceptable	EPA 6020A 1 2007
1185	Vanadium	mg/kg	22.5	103	58.1 - 119	Not Acceptable	EPA 6010B 2 1996
1185	Vanadium	mg/kg	22	103	58.1 - 119	Not Acceptable	EPA 6020A 1 2007
1190	Zinc	mg/kg	71.1	187	112 - 208	Not Acceptable	EPA 6010B 2 1996
1190	Zinc	mg/kg	70.5	187	112 - 208	Not Acceptable	EPA 6020A 1 2007



All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.





# Final Report Results For Laboratory Energy Laboratories

All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.

16341 Table Mountain Pkwy • Golden, CO 80403 • 800.372.0122 • 303.431.8454 • fax 303.421.0159 • www.eraqc.com

Study # : SOIL-115







# Final Evaluation Report

## Study: **SOIL-115**

ERA Customer Number: **E772828**

Laboratory Name: **Energy Laboratories**

## Inorganic Results



All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.

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Study # : SOIL-115





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**SOIL Metals in Soil (cat# 620, lot# D115-540)**

1000	Aluminum	mg/kg	7244	10100	3960 - 12000	Acceptable	EPA 6010B 2 1996	8/2/2021	-0.467	7970	1550	meh
1005	Antimony	mg/kg	< 8	277	27.7 - 339	Not Acceptable	EPA 6010B 2 1996	8/2/2021		136	75.6	meh
1010	Arsenic	mg/kg	5.61	101	61.2 - 114	Not Acceptable	EPA 6010B 2 1996	8/3/2021	-11.1	87.4	7.40	meh
1015	Barium	mg/kg	120	411	261 - 452	Not Acceptable	EPA 6010B 2 1996	8/2/2021	-8.15	347	27.9	meh
1020	Beryllium	mg/kg	< 4	124	77.0 - 136	Not Acceptable	EPA 6010B 2 1996	8/5/2021		103	9.24	meh
1025	Boron	mg/kg	< 50	220	79.7 - 242	Not Acceptable	EPA 6010B 2 1996	8/2/2021		133	14.8	meh
1030	Cadmium	mg/kg	< 4	212	120 - 233	Not Acceptable	EPA 6010B 2 1996	8/2/2021		160	13.2	meh
1035	Calcium	mg/kg	5210	5190	2940 - 5710	Acceptable	EPA 6010B 2 1996	8/2/2021	3.35	4100	332	meh
1040	Chromium	mg/kg	12.8	282	162 - 310	Not Acceptable	EPA 6010B 2 1996	8/3/2021	-15.2	231	14.4	meh
1050	Cobalt	mg/kg	< 4	310	181 - 341	Not Acceptable	EPA 6010B 2 1996	8/2/2021		241	17.4	meh
1055	Copper	mg/kg	19.2	165	108 - 182	Not Acceptable	EPA 6010B 2 1996	8/3/2021	-11.5	144	10.8	meh
1070	Iron	mg/kg	13970	15000	5010 - 23400	Acceptable	EPA 6010B 2 1996	8/3/2021	-0.0719	14200	3290	meh
1075	Lead	mg/kg	31.6	289	197 - 335	Not Acceptable	EPA 6010B 2 1996	8/3/2021	-9.82	266	23.9	meh
1080	Lithium	mg/kg		6.42	3.13 - 9.60	Not Reported				6.37	1.08	
1085	Magnesium	mg/kg	2415	2570	1360 - 3080	Acceptable	EPA 6010B 2 1996	8/2/2021	0.754	2220	255	meh
1090	Manganese	mg/kg	266	670	429 - 737	Not Acceptable	EPA 6010B 2 1996	8/2/2021	-7.36	555	39.2	meh
1095	Mercury	mg/kg		3.31	2.24 - 5.23	Not Reported				3.74	0.560	
1100	Molybdenum	mg/kg	< 3	253	151 - 278	Not Acceptable	EPA 6010B 2 1996	8/2/2021		211	19.8	meh
1105	Nickel	mg/kg	7.29	458	245 - 504	Not Acceptable	EPA 6010B 2 1996	8/3/2021	-12.9	350	26.7	meh
1125	Potassium	mg/kg	2054	2420	1130 - 2750	Acceptable	EPA 6010B 2 1996	8/2/2021	0.408	1940	277	meh

All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.





# SOIL-115 Final Evaluation Report

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**WY00002**  
**E772828**  
**09/13/2021**  
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TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Z Score	Study Mean	Study Standard Deviation	Analyst Name
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**SOIL Metals in Soil (cat# 620, lot# D115-540) (Continued)**

1140	Selenium	mg/kg	< 4	154	87.0 - 174	Not Acceptable	EPA 6010B 2 1996	8/5/2021		130	12.4	meh
1150	Silver	mg/kg	< 2	65.0	40.1 - 74.1	Not Acceptable	EPA 6010B 2 1996	8/6/2021		57.1	7.41	meh
1155	Sodium	mg/kg	1645	161	35.7 - 199	Not Acceptable	EPA 6010B 2 1996	8/2/2021	75.6	117	20.2	meh
1160	Strontium	mg/kg	54	98.8	60.3 - 109	Not Acceptable	EPA 6010B 2 1996	8/2/2021	-4.52	84.5	6.74	meh
1165	Thallium	mg/kg		87.4	48.5 - 102	Not Reported				75.4	6.48	
1175	Tin	mg/kg	< 5	112	52.7 - 135	Not Acceptable	EPA 6010B 2 1996	8/2/2021		93.8	11.8	meh
1180	Titanium	mg/kg	264	463	14.7 - 650	Acceptable	EPA 6010B 2 1996	8/2/2021	-0.647	333	106	meh
3055	Uranium	mg/kg		208	125 - 247	Not Reported				186	20.3	
1185	Vanadium	mg/kg	22.5	103	58.1 - 119	Not Acceptable	EPA 6010B 2 1996	8/2/2021	-7.85	88.6	8.42	meh
1190	Zinc	mg/kg	71.1	187	112 - 208	Not Acceptable	EPA 6010B 2 1996	8/2/2021	-7.23	160	12.3	meh



All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.





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**SOIL Metals in Soil (cat# 620, lot# D115-540)**

1000	Aluminum	mg/kg	7313	10100	3960 - 12000	Acceptable	EPA 6020A 1 2007	8/13/2021	-0.422	7970	1550	srm
1005	Antimony	mg/kg	< 8	277	27.7 - 339	Not Acceptable	EPA 6020A 1 2007	8/6/2021		136	75.6	srm
1010	Arsenic	mg/kg	4.32	101	61.2 - 114	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-11.2	87.4	7.40	srm
1015	Barium	mg/kg	119	411	261 - 452	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-8.19	347	27.9	srm
1020	Beryllium	mg/kg	< 4	124	77.0 - 136	Not Acceptable	EPA 6020A 1 2007	8/6/2021		103	9.24	srm
1025	Boron	mg/kg	< 50	220	79.7 - 242	Not Acceptable	EPA 6020A 1 2007	8/6/2021		133	14.8	srm
1030	Cadmium	mg/kg	< 4	212	120 - 233	Not Acceptable	EPA 6020A 1 2007	8/6/2021		160	13.2	srm
1035	Calcium	mg/kg	4908	5190	2940 - 5710	Acceptable	EPA 6020A 1 2007	8/6/2021	2.44	4100	332	srm
1040	Chromium	mg/kg	13.5	282	162 - 310	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-15.1	231	14.4	srm
1050	Cobalt	mg/kg	< 4	310	181 - 341	Not Acceptable	EPA 6020A 1 2007	8/6/2021		241	17.4	srm
1055	Copper	mg/kg	21.5	165	108 - 182	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-11.3	144	10.8	srm
1070	Iron	mg/kg	14210	15000	5010 - 23400	Acceptable	EPA 6020A 1 2007	8/6/2021	0.00101	14200	3290	srm
1075	Lead	mg/kg	33.3	289	197 - 335	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-9.75	266	23.9	srm
1080	Lithium	mg/kg		6.42	3.13 - 9.60	Not Reported				6.37	1.08	
1085	Magnesium	mg/kg	2315	2570	1360 - 3080	Acceptable	EPA 6020A 1 2007	8/6/2021	0.362	2220	255	srm
1090	Manganese	mg/kg	269	670	429 - 737	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-7.28	555	39.2	srm
1095	Mercury	mg/kg		3.31	2.24 - 5.23	Not Reported				3.74	0.560	
1100	Molybdenum	mg/kg	< 3	253	151 - 278	Not Acceptable	EPA 6020A 1 2007	8/6/2021		211	19.8	srm
1105	Nickel	mg/kg	8.36	458	245 - 504	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-12.8	350	26.7	srm
1125	Potassium	mg/kg	1981	2420	1130 - 2750	Acceptable	EPA 6020A 1 2007	8/13/2021	0.144	1940	277	srm

All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.





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**SOIL Metals in Soil (cat# 620, lot# D115-540) (Continued)**

1140	Selenium	mg/kg	< 4	154	87.0 - 174	Not Acceptable	EPA 6020A 1 2007	8/6/2021		130	12.4	srm
1150	Silver	mg/kg	< 2	65.0	40.1 - 74.1	Not Acceptable	EPA 6020A 1 2007	8/6/2021		57.1	7.41	srm
1155	Sodium	mg/kg	1478	161	35.7 - 199	Not Acceptable	EPA 6020A 1 2007	8/6/2021	67.3	117	20.2	srm
1160	Strontium	mg/kg	53.7	98.8	60.3 - 109	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-4.56	84.5	6.74	srm
1165	Thallium	mg/kg	< 4	87.4	48.5 - 102	Not Acceptable	EPA 6020A 1 2007	8/6/2021		75.4	6.48	srm
1175	Tin	mg/kg	< 5	112	52.7 - 135	Not Acceptable	EPA 6020A 1 2007	8/6/2021		93.8	11.8	srm
1180	Titanium	mg/kg	258	463	14.7 - 650	Acceptable	EPA 6020A 1 2007	8/6/2021	-0.704	333	106	srm
3055	Uranium	mg/kg	1	208	125 - 247	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-9.10	186	20.3	srm
1185	Vanadium	mg/kg	22	103	58.1 - 119	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-7.91	88.6	8.42	srm
1190	Zinc	mg/kg	70.5	187	112 - 208	Not Acceptable	EPA 6020A 1 2007	8/6/2021	-7.28	160	12.3	srm

**SOIL Nutrients in Soil (cat# 869, lot# D115-542)**

1515	Ammonia as N	mg/kg		914	478 - 1170	Not Reported				826	78.0	
1795	Total Kjeldahl Nitrogen	mg/kg		1550	890 - 2330	Not Reported				1610	250	
2040	Total Organic Carbon (TOC)	mg/kg		4280	640 - 7910	Not Reported				4280	1210	
1910	Total Phosphorus	mg/kg	597	1500	380 - 2400	Acceptable	EPA 6010B 2 1996	8/2/2021	-5.46	1390	145	meh

All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.





## Final Evaluation Report

Study: **SOIL-115**

ERA Customer Number: **E772828**

Laboratory Name: **Energy Laboratories**

## Organic Results

All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.

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Study # : SOIL-115





# SOIL-115 Final Evaluation Report

A Waters Company

**Donny Juarez**  
**Quality Assurance Manager**  
**Energy Laboratories**  
**2393 Salt Creek Hwy**  
**Casper, WY 82601**  
**307-235-0515 x3244**

**EPA ID:**  
**ERA Customer Number:**  
**Report Issued:**  
**Study Dates:**

**WY00002**  
**E772828**  
**09/13/2021**  
**07/26/2021 - 09/09/2021**

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Z Score	Study Mean	Study Standard Deviation	Analyst Name
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**SOIL Gasoline Range Organics (GRO) in Soil (cat# 630, lot# D115-763)**

9408	Gasoline Range Organics (GRO)	mg/kg	355	599	59.9 - 875	Acceptable	EPA 8015C 3 2007	8/2/2021	-0.355	414	166	
4375	Benzene in GRO	mg/kg		2.65	0.00 - 3.65	Not Reported				1.74	0.636	
4765	Ethylbenzene in GRO	mg/kg		10.1	0.00 - 16.7	Not Reported				7.61	3.02	
5140	Toluene in GRO	mg/kg		30.5	0.00 - 42.2	Not Reported				19.3	7.65	
5260	Xylenes, total in GRO	mg/kg		51.6	0.00 - 76.2	Not Reported				36.9	13.1	

**SOIL Diesel Range Organics (DRO) in Soil (cat# 631, lot# D115-765)**

9369	Diesel Range Organics (DRO)	mg/kg	1260	1850	478 - 2220	Acceptable	EPA 8015C 3 2007	7/30/2021	-0.227	1350	394	
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All analytes except for 1,1-Biphenyl, Acetophenone, Atrazine, Benzaldehyde and Caprolactam in the Base/Neutrals & Acids, catalog # 467, Lithium in the Metals, cat # 620, and Nitrite as N and Nitrate + Nitrite as N in the Anions, cat # 873, are included in ERA's A2LA accreditation. Lab Code 1539.01.



# CERTIFICATE OF RECOGNITION

ERA congratulates  
Energy Laboratories  
SOIL-115

For your participation and successful evaluation, we recognize the performance of this laboratory for achieving acceptable evaluation in the following standards.

Diesel Range Organics  
(DRO) in Soil  
Gasoline Range Organics  
(GRO) in Soil  
Nutrients in Soil



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Matthew Seebeck  
Quality Officer