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Casper, WY 82601  
USA

**SOIL-121**  **Final Report**

**Soil/Hazardous Waste Proficiency Testing**

**Soil Study**

**Open Date: 01/23/2023**

**Close Date: 03/09/2023**

**Report Issued Date: 03/13/2023**



A Waters Company

March 13, 2023

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

Enclosed is your final report for ERA's SOIL-121 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-121 Proficiency Testing study have been evaluated using the following tiered approach. If the analyte is listed in the most current TNI 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 TNI 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-121 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 "Craig Huff", with a horizontal line extending to the right.

Craig Huff  
Senior Technical Manager

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
North Dakota	Cynthia Auen / 701-328-6172	All Analytes
Texas	Frank Jamison / (512) 239-3754	All Analytes



# SOIL-121 Definitions & Study Discussion

**Study Dates: 01/23/2023 - 03/09/2023**

**Report Issued: 03/13/2023**

## 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 TNI 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 TNI 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-121 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 TNI Fields of Proficiency Testing (FoPT) table.

ERA's SOIL-121 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 TNI 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-121 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.



# SOIL-121 Laboratory Exception Report



A Waters Company

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

<b>EPA ID:</b>	<b>WY00002</b>
<b>ERA Customer Number:</b>	<b>E772828</b>
<b>Report Issued:</b>	<b>03/13/2023</b>
<b>Study Dates:</b>	<b>01/23/2023 - 03/09/2023</b>

## Not Acceptable Evaluations

There were no Not Acceptable evaluations for this study.



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](http://www.eraqc.com)



Study # : SOIL-121



# 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.

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Study # : SOIL-121





# Final Evaluation Report

Study: **SOIL-121**

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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# SOIL-121 Final Evaluation Report

A Waters Company

**Donny Juarez**  
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**Casper, WY 82601**  
**307-235-0515 x3244**

**EPA ID:**  
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**E772828**  
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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 Gasoline Range Organics (GRO) in Soil (cat# 630, lot# D121-763)**

9408	Gasoline Range Organics (GRO)	mg/kg	1091	1400	311 - 2180	Acceptable	EPA 8015C 3 2007	1/30/2023	-0.364	1250	427	adw
4375	Benzene in GRO	mg/kg		4.40	0.00 - 6.10	Not Reported				3.04	1.02	
4765	Ethylbenzene in GRO	mg/kg		38.4	20.8 - 44.4	Not Reported				32.6	3.93	
5140	Toluene in GRO	mg/kg		104	0.00 - 142	Not Reported				67.8	24.8	
5260	Xylenes, total in GRO	mg/kg		207	65.0 - 263	Not Reported				164	32.9	

**SOIL Diesel Range Organics (DRO) in Soil (cat# 631, lot# D121-765)**

9369	Diesel Range Organics (DRO)	mg/kg	1115	1640	420 - 1970	Acceptable	EPA 8015C 3 2007	1/31/2023	-0.266	1190	294	adw
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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 EXCELLENCE

In recognition of the quality of your laboratory in proficiency testing for

**SOIL-121**

**Energy Laboratories**

is issued this certificate of achievement by ERA. This laboratory has been recognized as a Laboratory of Excellence for achieving 100% acceptable data in this study which included 259 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

Diesel Range Organics  
(DRO) in Soil

Gasoline Range Organics  
(GRO) in Soil



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Craig Huff  
Senior Technical Manager