



A Waters Company

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

***RAD-136***



***Final Report***

# RadChem™ Proficiency Testing

**RadChem™ Study**

**Reference Date: 01/08/2024**

**Open Date: 01/08/2024**

**Close Date: 02/22/2024**

**Report Issued Date: 02/26/2024**



A Waters Company

February 26, 2024

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

Enclosed is your final report for ERA's RadCheM™ Proficiency Testing (PT) study, RAD-136. Your final report includes an evaluation of all results submitted by your laboratory to ERA.

Data Evaluation Protocols: All of the analytes in ERA's RAD-136 study have been evaluated by comparing the reported result to the acceptance limits generated using the criteria contained in the most current TNI Fields of Proficiency Testing (FoPT) table and the evaluation criteria contained in the 2016 TNI Standard, Volume 3.

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. If you need help, 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 RadCheM™ Proficiency Testing study, RAD-136. If you have any questions, please contact our Proficiency Testing Department at 1-800-372-0122 or [interlabgroup@eraqc.com](mailto:interlabgroup@eraqc.com).

Sincerely,

A handwritten signature in black ink, appearing to read "C 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>
California ELAP	Christine Sotelo / 916-341-5175	All Analytes
Colorado	Thomas Lill / 303-692-3045	All Analytes
EPA Region 8	Marcie Tidd / (303) 462-9476	All Analytes
Florida	Vanessa Soto / 904-791-1599	All Analytes
Idaho	Ernie Bader / 208-334-2235 x 290	All Analytes
Montana	Russell Leu / 406-444-5259	All Analytes
Nebraska	Tara Wulfekoetter / 402-471-8439	All Analytes
Nevada	Paige Menicucci / 775-687-9311	All Analytes
New Mexico (WS)	Bethany Anderson / 505-222-9552	All Analytes
North Dakota	Cynthia Auen / 701-328-6172	All Analytes
South Dakota	Rea Riggle / 605-773-3368	All Analytes
Texas	Frank Jamison / (512) 239-3754	All Analytes
Washington	Rebecca Wood / 360-871-8811	All Analytes

# RAD-136 Definitions & Study Discussion

**Study Dates: 01/08/2024 - 02/22/2024**

**Report Issued: 02/26/2024**

## RAD 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 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.

## RAD Study Discussion

ERA's RAD-136 RadCheM™ 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 RAD-136 RadCheM™ PT 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 met the acceptance criteria contained in the 2016 TNI Standard and the criteria contained in the most current TNI FoPT tables.

The data submitted by participating laboratories was also examined for study anomalies. There was one anomaly observed during the statistical review of the data. This anomaly is addressed on the following page.

ERA's RAD-136 RadCheM™ study reports shall not be reproduced except in their entirety and not without the permission of the participating laboratories. The report must not be used by the participating laboratories to claim product endorsement by 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 RadCheM™ Proficiency Testing program, please contact our Proficiency Testing Department at 1-800-372-0122 or [interlabgroup@eraqc.com](mailto:interlabgroup@eraqc.com).



# RAD-136 Study Anomalies

**Study Dates: 01/08/2024 - 02/22/2024**

**Report Issued: 02/26/2024**

Study Discussion GroSS™ Alpha/Beta - Gross Alpha

During the statistical review of the RAD-136 Gross Alpha data, ERA noted a higher than historical failure rate of 33.3%. This elevation in failure rate is attributed to the change in the TNI FoPT acceptance criteria effective November 1, 2023. ERA confirmed the assigned value at the close of the study.



# RAD-136 Laboratory Exception Report



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307-235-0515 x3244

<b>EPA ID:</b>	<b>WY00002</b>
<b>ERA Customer Number:</b>	<b>E772828</b>
<b>Report Issued:</b>	<b>02/26/2024</b>
<b>Study Dates:</b>	<b>01/08/2024 - 02/22/2024</b>

## Not Acceptable Evaluations

There were no Not Acceptable evaluations for this study.



All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01






# Final Report Results For Laboratory Energy Laboratories



All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01

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Study # : RAD-136 



## Final Evaluation Report

Study: **RAD-136**

ERA Customer Number: **E772828**


Laboratory Name: **Energy Laboratories**

## RAD Results



All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01

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Study # : RAD-136 





# RAD-136 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:**  
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**WY00002**  
**E772828**  
**02/26/2024**  
**01/08/2024 - 02/22/2024**

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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**RAD GroSS™ Alpha/Beta (cat# 809, lot# R136-759)**

2830	Gross Alpha	pCi/L	34.9	35.2	25.7 - 44.7	Acceptable	EPA 900.0 (GPC) 1980	1/30/2024	0.606	30.4	7.35	trs
2840	Gross Beta	pCi/L	50.9	55.5	41.1 - 69.9	Acceptable	EPA 900.0 (GPC) 1980	1/30/2024	0.129	49.7	9.05	trs

**RAD NaturalS™ (cat# 811, lot# R136-751)**

2965	Radium-226	pCi/L		18.2	15.5 - 20.9	Not Reported				18.5	1.53	
2970	Radium-228	pCi/L		4.43	2.72 - 6.14	Not Reported				4.19	0.902	
3055	Uranium (activity)	pCi/L	35.5	37.2	32.9 - 41.5	Acceptable	SM7500U C 21st ED 2000	2/7/2024	-0.483	36.6	2.36	dmf
1184	Uranium (mass)	µg/L	54.2	54.3	47.9 - 60.7	Acceptable	SM7500U C 21st ED 2000	2/7/2024	0.647	52.3	2.99	dmf

**RAD NaturalS™ (cat# 811, lot# R136-751)**

2965	Radium-226	pCi/L	20.3	18.2	15.5 - 20.9	Acceptable	EPA 903.0 (GPC) 1980	1/26/2024	1.15	18.5	1.53	haw
2970	Radium-228	pCi/L		4.43	2.72 - 6.14	Not Reported				4.19	0.902	
3055	Uranium (activity)	pCi/L		37.2	32.9 - 41.5	Not Reported				36.6	2.36	
1184	Uranium (mass)	µg/L		54.3	47.9 - 60.7	Not Reported				52.3	2.99	

**RAD NaturalS™ (cat# 811, lot# R136-751)**

2965	Radium-226	pCi/L		18.2	15.5 - 20.9	Not Reported				18.5	1.53	
2970	Radium-228	pCi/L	3.39	4.43	2.72 - 6.14	Acceptable	EPA Ra-05	1/16/2024	-0.881	4.19	0.902	kdk
3055	Uranium (activity)	pCi/L		37.2	32.9 - 41.5	Not Reported				36.6	2.36	
1184	Uranium (mass)	µg/L		54.3	47.9 - 60.7	Not Reported				52.3	2.99	



All analytes 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

**RAD-136**

**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 38 participating laboratories. This achievement is a demonstration of the superior quality of the laboratory in evaluation of the standards listed below.

GroSS™ Alpha/Beta

NaturalS™



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Craig Huff  
Senior Technical Manager