



A Waters Company

Donny Juarez  
Energy Laboratories  
PO Box 247  
Casper, WY 82602  
USA

***RAD-112***  ***Final Report***

The RadChem logo is a circular emblem with a radiation symbol (three blades around a central dot) in the center, all enclosed within a double-lined circle. A small "TM" trademark symbol is located at the bottom right of the emblem.

**RadChem™ Proficiency Testing**

**RadChem™ Study**

**Reference Date: 01/08/18**

**Open Date: 01/08/18**

**Close Date: 02/22/18**

**Report Issued Date: 02/26/18**



A Waters Company

February 26, 2018

Donny Juarez  
Energy Laboratories  
PO Box 247  
Casper, WY 82602

Enclosed is your final report for ERA's RadCheM™ Proficiency Testing (PT) study, RAD-112. 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-112 study have been evaluated by comparing your results to the acceptance limits and evaluation criteria contained in the current TNI FoPT tables.

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.

At the request of the TNI Accreditation Council, we have included a Laboratory Exception Report that includes a list of all analytes reported with less than qualifiers when the assigned value was greater than "0." In addition, because we have received many requests from laboratories, this report also includes a list of all analytes with "Not Acceptable" evaluations.

Some states have elected not to convert to the 2009 TNI Standards at this time. If you have released your results to a state that has retained the 2003 NELAC Evaluation Criteria, your final report will include a section that evaluates the results according to the 2003 Standard in addition to the 2009 TNI Standards.

Thank you for your participation in ERA's RadCheM™ Proficiency Testing study, RAD-112. 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", written over a white background.

Matthew Seebeck  
Quality Officer

attachments



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Report Recipient	Contact/Phone Number	Reporting Type	Evaluation Type
Alabama	Tom DeLoach / 334-271-7791	All Analytes	2009 TNI
Colorado	Ben Chouaf / 303-692-3045	All Analytes	2009 TNI
EPA Region 8	Marcie Tidd / (303) 312-7764	All Analytes	2009 TNI
Florida	Vanessa Soto / 904-791-1599	All Analytes	2009 TNI
Georgia	Lynne Grubb / 404-657-3189	All Analytes	2009 TNI
Idaho	Ernie Bader / 208-334-2235 x 290	All Analytes	2009 TNI
Louisiana (WS)	Grant Aucoin / 225-219-5235	All Analytes	2009 TNI
Montana	Russell Leu / 406-444-5259	All Analytes	2009 TNI
Nebraska	Laurie Wieting / 402-471-8407	All Analytes	2009 TNI
Nevada	Paige Menicucci / 775-687-9311	All Analytes	2003 NELAC
New Mexico (WS)	Bethany Anderson / 505-476-8648	All Analytes	2009 TNI
North Dakota	Cynthia Auen / 701-328-6172	All Analytes	2009 TNI
Oregon	Chris Redman / 503-693-5706	All Analytes	2009 TNI
South Dakota	Stacy Ellwanger / 605-773-4757	All Analytes	2009 TNI
Texas	Frank Jamison / (512) 239-3754	All Analytes	2009 TNI
Utah	Cathy Mitchell /	All Analytes	2009 TNI
Washington	Alan Rue / (360) 871-8844	All Analytes	2009 TNI



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# RAD-112 Definitions & Study Discussion

Study Dates: 01/08/18 - 02/22/18

Report Issued: 02/26/18

## 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) tables. 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 tables.

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-112 RadCheM™ Proficiency Testing (PT) study has been reviewed by ERA senior management and certified compliant with the requirements of the 2009 TNI PT Standard and the criteria contained in the most current TNI Fields of Proficiency Testing (FoPT) tables.

ERA's RAD-112 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 2009 TNI PT 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 were no anomalies observed during the statistical review of the data.

ERA's RAD-112 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.



Study # : RAD-112





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# RAD-112 Laboratory Exception Report

**Donny Juarez**  
Quality Assurance Manager  
Energy Laboratories  
PO Box 247  
Casper, WY 82602  
307-235-0515 x3244

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

**WY00002**  
**E772828**  
**02/26/18**  
**01/08/18 - 02/22/18**

## 2009 TNI Evaluation Checks

There are no values reported with < where the assigned value was greater than 0.

## 2009 TNI Not Acceptable Evaluations

There were no Not Acceptable evaluations for this study.





# Final Report Results For Laboratory Energy Laboratories





## 2009 TNI Evaluation Report

Study: **RAD-112**

ERA Customer Number: **E772828**

Laboratory Name: **Energy Laboratories**

### RAD Results





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# RAD-112 2009 TNI Evaluation Final Complete Report

Donny Juarez  
Quality Assurance Manager  
Energy Laboratories  
PO Box 247  
Casper, WY 82602  
307-235-0515 x3244

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

WY00002  
E772828  
02/26/18  
01/08/18 - 02/22/18

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# R112-759)**

2830	Gross Alpha	pCi/L	55.9	72.4	38.1 - 89.2	Acceptable	EPA 900.0 GPC 1980	2/7/2018	-0.721	64.0	11.3	
2840	Gross Beta	pCi/L	41.2	54.8	37.5 - 61.7	Acceptable	EPA 900.0 GPC 1980	2/7/2018	-1.33	47.6	4.84	

**RAD NaturalS™ (cat# 811, lot# R112-751)**

2965	Radium-226	pCi/L	15.4	14.2	10.6 - 16.3	Acceptable	EPA 903.0 GPC 1980	2/6/2018	1.19	13.7	1.43	
2970	Radium-228	pCi/L	2.7	4.21	2.43 - 5.81	Acceptable	EPA Ra-05	1/25/2018	-2.47	4.22	0.613	
3055	Uranium (Nat)	pCi/L	53.1	58.6	47.8 - 64.5	Acceptable	SM 7500-U C-2000 2000	2/8/2018	-0.591	55.9	4.74	
3055	Uranium (Nat) mass	µg/L		86.2	70.3 - 94.9	Not Reported				84.0	6.78	

All analytes except PT catalog numbers 462, 604QR, 929, 731QR, 960, 735QR (PFAS) are included in ERA's A2LA accreditation. Lab Code: 1539-01

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Study # : RAD-112







# Final Report Results For Laboratory Energy Laboratories



## 2003 NELAC Evaluation Report

Study: **RAD-112**

ERA Customer Number: **E772828**

Laboratory Name: **Energy Laboratories**

### RAD Results





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# RAD-112 2003 NELAC Evaluation Final Complete Report

Donny Juarez  
Quality Assurance Manager  
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PO Box 247  
Casper, WY 82602  
307-235-0515 x3244

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

WY00002  
E772828  
02/26/18  
01/08/18 - 02/22/18

NELAC 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# R112-759)**

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2840	Gross Beta	pCi/L	41.2	54.8	37.5 - 61.7	Acceptable	EPA 900.0 GPC 1980	2/7/2018	-1.33	47.6	4.84	

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3055	Uranium (Nat)	pCi/L	53.1	58.6	47.8 - 64.5	Acceptable	SM 7500-U C-2000 2000	2/8/2018	-0.591	55.9	4.74	
3055	Uranium (Nat) mass	µg/L		86.2	70.3 - 94.9	Not Reported				84.0	6.78	



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

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Study # : RAD-112



# CERTIFICATE OF EXCELLENCE

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

**RAD-112**

**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 55 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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Matthew Seebeck  
Quality Officer