



Julie Weisz
Energy Laboratories
400 West Boxelder Road
Gillette, WY 82718
USA

WP-336  **Final Report**

WatR™ Pollution Proficiency Testing

WatR™ Pollution Study

Open Date: 01/17/2023

Close Date: 03/03/2023

Report Issued Date: 03/07/2023



A Waters Company

March 7, 2023

Julie Weisz
Energy Laboratories
400 West Boxelder Road
Gillette, WY 82718

Enclosed is your final report for ERA's WP-336 WatR™ Pollution 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 WP-336 WatR™ Pollution 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 WP-336 WatR™ Pollution 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

Report Recipient	Contact/Phone Number	Reporting Type
EPA Region 8	Marcie Tidd / (303) 462-9476	All Analytes
Montana (DMR-QA)	Lisa Tucker / (406) 444-5388	All Analytes
U.S. EPA Region 10	Brian Levo / (509) 376-3748	All Analytes
Wyoming (DMR-QA)	Steve Vien / (307) 777-7654	All Analytes



WP-336 Definitions & Study Discussion

Study Dates: 01/17/2023 - 03/03/2023

Report Issued: 03/07/2023

WP 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. A parameter not added to the standard is 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.

WP Study Discussion

ERA's WP-336 WatR™Pollution Proficiency Testing 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 WP-336 WatR™Pollution 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 table.

All activities associated with this proficiency testing study were performed by Waters/ERA with the exception of those noted below. The following physical samples/products were manufactured for Waters/ERA by a subcontractor:

Microbiology products with the following catalog numbers:
880, 935, 079, 077, 080, 595, 595A, 576, 576A

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 WP-336 WatR™Pollution 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 WatR™Pollution Proficiency Testing program, please contact our Proficiency Testing Department at 1-800-372-0122.





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WP-336 Laboratory Exception Report

Julie Weisz
QA Officer
Energy Laboratories
400 West Boxelder Road
Gillette, WY 82718
(307) 686-7175-2044

EPA ID: WY00006
ERA Customer Number: E351102
Report Issued: 03/07/2023
Study Dates: 01/17/2023 - 03/03/2023

Not Acceptable Evaluations

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
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WP Nitrite (cat# 888, lot# P336-770)

1840	Nitrite as N	mg/L	1.32	1.67	1.41 - 1.93	Not Acceptable	EPA 300.0 2.1 1993
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All analytes except for 1,1-Biphenyl, 1,2-Diphenylhydrazine, 1,3-Dinitrobenzene, 2,3-Dichloroaniline, Acetophenone, Atrazine, Azobenzene, Benzaldehyde, Caprolactam, n-Decane and n-Octadecane in the Base/Neutrals, catalog # 833, are included in ERA's A2LA accreditation. Lab Code 1539.01.

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Study # : WP-336



Final Report Results For Laboratory Energy Laboratories

All analytes except for 1,1-Biphenyl, 1,2-Diphenylhydrazine, 1,3-Dinitrobenzene, 2,3-Dichloroaniline, Acetophenone, Atrazine, Azobenzene, Benzaldehyde, Caprolactam, n-Decane and n-Octadecane in the Base/Neutrals, catalog # 833, are included in ERA's A2LA accreditation. Lab Code 1539.01.

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Study # : WP-336





Final Evaluation Report

Study: **WP-336**

ERA Customer Number: **E351102**

Laboratory Name: **Energy Laboratories**

Inorganic Results

All analytes except for 1,1-Biphenyl, 1,2-Diphenylhydrazine, 1,3-Dinitrobenzene, 2,3-Dichloroaniline, Acetophenone, Atrazine, Azobenzene, Benzaldehyde, Caprolactam, n-Decane and n-Octadecane in the Base/Neutrals, catalog # 833, are included in ERA's A2LA accreditation. Lab Code 1539.01.

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WP-336 Final Evaluation Report

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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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WP Minerals (cat# 581, lot# P336-506)

1505	Alkalinity as CaCO3	mg/L	83.6	80.9	68.8 - 93.0	Acceptable	SM 2320 B-2011 2011	1/24/2023	1.13	80.1	3.08	Brandon Bowe
1575	Chloride	mg/L	78.5	80.2	70.1 - 90.5	Acceptable	EPA 300.0 2.1 1993	2/13/2023	-0.638	80.4	2.98	Brandon Bowe
1610	Conductivity at 25°C	µmhos/cm	547	532	479 - 585	Acceptable	SM 2510 B-2011 2011	1/23/2023	1.43	527	13.9	Brandon Bowe
1730	Fluoride	mg/L	2.87	3.10	2.50 - 3.57	Acceptable	EPA 300.0 2.1 1993	2/13/2023	-1.03	3.07	0.196	Brandon Bowe
1125	Potassium	mg/L		35.4	28.3 - 42.5	Not Reported				35.3	1.76	
1155	Sodium	mg/L		88.0	70.4 - 106	Not Reported				87.8	4.09	
2000	Sulfate	mg/L	34.6	35.7	29.0 - 41.1	Acceptable	EPA 300.0 2.1 1993	2/13/2023	-0.636	35.7	1.75	Brandon Bowe
1955	Total Dissolved Solids at 180°C	mg/L		394	349 - 439	Not Reported				372	20.2	
1950	Total Solids at 105°C	mg/L		392	347 - 437	Not Reported				388	20.6	

WP pH (cat# 577, lot# P336-977)

1900	pH	S.U.	5.97	5.94	5.74 - 6.14	Acceptable	SM 4500-H+ B-2011 2011	1/23/2023	0.644	5.94	0.0433	Brandon Bowe
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WP Solids (cat# 241, lot# P336-499)

1960	Total Suspended Solids	mg/L	44	46.4	35.6 - 53.4	Acceptable	SM 2540 D-2015 2015	1/23/2023	-0.232	44.4	1.91	Brandon Bowe
1955	Total Dissolved Solids at 180°C	mg/L	377	378	333 - 423	Acceptable	SM 2540 C-2015 2015	1/23/2023	1.03	365	12.0	Brandon Bowe
1950	Total Solids at 105°C	mg/L		427	382 - 472	Not Reported				415	20.7	

WP Simple Nutrients (cat# 584, lot# P336-505)

1515	Ammonia as N	mg/L		8.22	6.50 - 9.93	Not Reported				8.26	0.525	
1820	Nitrate + Nitrite as N	mg/L		9.68	8.04 - 11.2	Not Reported				9.62	0.473	
1810	Nitrate as N	mg/L	9.32	9.68	7.99 - 11.3	Acceptable	EPA 300.0 2.1 1993	2/13/2023	-0.656	9.64	0.484	Brandon Bowe
1870	ortho-Phosphate as P	mg/L		4.82	4.10 - 5.54	Not Reported				4.84	0.264	
1827	Total Nitrogen	mg/L		17.9	10.2 - 25.6	Not Reported				18.1	0.485	

All analytes except for 1,1-Biphenyl, 1,2-Diphenylhydrazine, 1,3-Dinitrobenzene, 2,3-Dichloroaniline, Acetophenone, Atrazine, Azobenzene, Benzaldehyde, Caprolactam, n-Decane and n-Octadecane in the Base/Neutrals, catalog # 833, are included in ERA's A2LA accreditation. Lab Code 1539.01.

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WY00006
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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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WP Nitrite (cat# 888, lot# P336-770)

1840	Nitrite as N	mg/L	1.32	1.67	1.41 - 1.93	Not Acceptable	EPA 300.0 2.1 1993	2/13/2023	-3.94	1.67	0.0883	Brandon Bowe
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WP Demand (cat# 578, lot# P336-516)

1530	BOD	mg/L	88	87.4	46.7 - 128	Acceptable	SM 5210 B-2016 2016	1/27/2023	0.0986	86.7	13.6	Brandon Bowe
1555	CBOD	mg/L	83.7	79.2	36.5 - 122	Acceptable	SM 5210 B-2016 2016	1/27/2023	-0.0215	84.1	19.0	Brandon Bowe
1565	COD	mg/L	128	142	112 - 167	Acceptable	HACH 8000 1979	1/27/2023	-1.16	141	10.9	Brandon Bowe
2040	TOC	mg/L		56.1	46.8 - 64.9	Not Reported				56.3	3.42	

WP Oil & Grease (cat# 582, lot# P336-518)

1803	n-Hexane Extractable Material(O&G)(Grav)	mg/L	52	52.5	34.1 - 63.8	Acceptable	EPA 1664A 1999	1/24/2023	0.226	51.0	4.48	Brandon Bowe
1803	n-Hexane Extractable Material(O&G)(IR)	mg/L		64.6	43.5 - 77.1	Not Reported				75.4	33.0	

WP Turbidity (cat# 893, lot# P336-777)

2055	Turbidity	NTU	26.3	24.4	20.5 - 28.4	Acceptable	SM 2130 B-2011 2011	1/23/2023	1.36	24.6	1.22	Brandon Bowe
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WP Acidity (cat# 885, lot# P336-915)

1500	Acidity as CaCO3	mg/L	1192	1180	1060 - 1300	Acceptable	SM 2310 B-2011 2011	2/1/2023	0.337	1180	48.5	Brandon Bowe
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WP Bromide (cat# 887, lot# P336-769)

1540	Bromide	mg/L	4.79	4.90	4.03 - 5.76	Acceptable	EPA 300.0 2.1 1993	2/13/2023	-0.445	4.93	0.305	Brandon Bowe
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WP Total Residual Chlorine (cat# 587, lot# P336-501)

1945	Free Residual Chlorine	mg/L		1.37	1.01 - 1.62	Not Reported				1.35	0.108	
1940	Total Residual Chlorine	mg/L	1.4	1.42	1.05 - 1.68	Acceptable	SM 4500-Cl G-2011 2011	1/24/2023	0.323	1.38	0.0720	Brandon Bowe



All analytes except for 1,1-Biphenyl, 1,2-Diphenylhydrazine, 1,3-Dinitrobenzene, 2,3-Dichloroaniline, Acetophenone, Atrazine, Azobenzene, Benzaldehyde, Caprolactam, n-Decane and n-Octadecane in the Base/Neutrals, catalog # 833, are included in ERA's A2LA accreditation. Lab Code 1539.01.

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Final Evaluation Report

Study: **WP-336**

ERA Customer Number: **E351102**

Laboratory Name: **Energy Laboratories**

Microbiology Results

All analytes except for 1,1-Biphenyl, 1,2-Diphenylhydrazine, 1,3-Dinitrobenzene, 2,3-Dichloroaniline, Acetophenone, Atrazine, Azobenzene, Benzaldehyde, Caprolactam, n-Decane and n-Octadecane in the Base/Neutrals, catalog # 833, are included in ERA's A2LA accreditation. Lab Code 1539.01.

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WP WasteWatR™ Coliform MicrobE™ (cat# 576, lot# P336-083)

2500	Total Coliforms (MF)	CFU/100mL		112	28.0 - 451	Not Reported				112	70.6	
2530	Fecal Coliforms (MF)	CFU/100mL		55.0	13.0 - 231	Not Reported				55.2	36.4	
2525	E.coli (MF)	CFU/100mL		96.0	13.0 - 693	Not Reported				95.5	113	
2500	Total Coliform (MPN-Multiple Well)	MPN/100mL	162	138	75.1 - 255	Acceptable	SM 9223 B (ColiLert Quanti-Tray) 23rd ED (2016) 2016	2/2/2023	0.0463	138	30.0	Brandon Bowe
2530	Fecal Coliform (MPN-Multiple Well)	MPN/100mL	74.9	78.3	35.3 - 174	Acceptable	ColiLert®-18 (Fecal Coliforms) 2010	2/2/2023	-0.0140	78.3	23.1	Brandon Bowe
2525	E.coli (MPN-Multiple Well)	MPN/100mL	162	135	71.4 - 254	Acceptable	SM 9223 B (ColiLert Quanti-Tray) 23rd ED (2016) 2016	2/2/2023	0.0544	135	30.4	Brandon Bowe



All analytes except for 1,1-Biphenyl, 1,2-Diphenylhydrazine, 1,3-Dinitrobenzene, 2,3-Dichloroaniline, Acetophenone, Atrazine, Azobenzene, Benzaldehyde, Caprolactam, n-Decane and n-Octadecane in the Base/Neutrals, catalog # 833, are included in ERA's A2LA accreditation. Lab Code 1539.01.



Final Evaluation Report

Study: **WP-336**

ERA Customer Number: **E351102**

Laboratory Name: **Energy Laboratories**

Organic Results

All analytes except for 1,1-Biphenyl, 1,2-Diphenylhydrazine, 1,3-Dinitrobenzene, 2,3-Dichloroaniline, Acetophenone, Atrazine, Azobenzene, Benzaldehyde, Caprolactam, n-Decane and n-Octadecane in the Base/Neutrals, catalog # 833, are included in ERA's A2LA accreditation. Lab Code 1539.01.

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WP Total Organic Halides (TOX) (cat# 895, lot# P336-670)

2045	Total Organic Halides (TOX)	µg/L	588	716	416 - 977	Acceptable	EPA 9020B 2 1994	2/7/2023	-0.274	613	89.7	Brandon Bowe
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WP Total Petroleum Hydrocarbons (TPH) in Water (cat# 642, lot# P336-642)

1853	TPH (Gravimetric)	mg/L	40.6	54.5	24.6 - 78.7	Acceptable	EPA 1664A HEM 1999	1/30/2023	-0.191	42.2	8.22	Brandon Bowe
1853	TPH (IR)	mg/L		67.0	30.8 - 96.8	Not Reported				44.0	9.88	



All analytes except for 1,1-Biphenyl, 1,2-Diphenylhydrazine, 1,3-Dinitrobenzene, 2,3-Dichloroaniline, Acetophenone, Atrazine, Azobenzene, Benzaldehyde, Caprolactam, n-Decane and n-Octadecane in the Base/Neutrals, catalog # 833, are included in ERA's A2LA accreditation. Lab Code 1539.01.



CERTIFICATE OF RECOGNITION

ERA congratulates
Energy Laboratories
WP-336

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

Acidity

Minerals

Simple Nutrients

Total Petroleum

Hydrocarbons (TPH) in
Water

WasteWatR™ Coliform
MicrobE™

Bromide

Oil & Grease

Solids

Total Residual Chlorine

Demand

pH

Total Organic Halides
(TOX)

Turbidity



Craig Huff
Senior Technical Manager