



Julie Weisz
Energy Laboratories
400 West Boxelder Road
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USA

WP-324  ***Final Report***

WatR™ Pollution Proficiency Testing

WatR™ Pollution Study

Open Date: 01/18/2022

Close Date: 03/04/2022

Report Issued Date: 03/08/2022



A Waters Company

March 8, 2022

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

Enclosed is your final report for ERA's WP-324 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-324 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-324 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 "Matthew Seebeck".

Matthew Seebeck
Quality Officer

attachments





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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	Robert Grandinetti / (509) 376-3748	All Analytes
Wyoming (DMR-QA)	Steve Vien / (307) 777-7654	All Analytes



WP-324 Definitions & Study Discussion

Study Dates: 01/18/2022 - 03/04/2022

Report Issued: 03/08/2022

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-324 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-324 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-324 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-324 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:	03/08/2022
Study Dates:	01/18/2022 - 03/04/2022

Not Acceptable Evaluations

There were no Not Acceptable evaluations for this study.



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-324



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-324





Final Evaluation Report

Study: **WP-324**

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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Study # : WP-324





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WP-324 Final Evaluation Report

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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 Minerals (cat# 581, lot# P324-506)

1505	Alkalinity as CaCO3	mg/L	50.5	47.1	40.0 - 54.2	Acceptable	SM 2320 B-2011 2011	1/28/2022	1.05	47.8	2.61	Brandon Bowe
1575	Chloride	mg/L	66	63.5	55.3 - 71.9	Acceptable	EPA 300.0 2.1 1993	2/5/2022	0.841	64.1	2.28	Brandon Bowe
1610	Conductivity at 25°C	µmhos/cm	424	426	383 - 469	Acceptable	SM 2510 B-2011 2011	1/28/2022	0.234	421	12.7	Brandon Bowe
1730	Fluoride	mg/L	2.65	2.54	2.04 - 2.95	Acceptable	EPA 300.0 2.1 1993	2/5/2022	0.583	2.57	0.141	Brandon Bowe
1125	Potassium	mg/L		34.9	27.9 - 41.9	Not Reported				34.9	1.89	
1155	Sodium	mg/L		62.4	49.9 - 74.9	Not Reported				62.3	3.18	
2000	Sulfate	mg/L	37.9	36.5	29.7 - 42.0	Acceptable	EPA 300.0 2.1 1993	2/5/2022	0.450	37.1	1.71	Brandon Bowe
1955	Total Dissolved Solids at 180°C	mg/L		284	239 - 329	Not Reported				280	18.8	
1950	Total Solids at 105°C	mg/L		284	239 - 329	Not Reported				286	26.3	

WP pH (cat# 577, lot# P324-977)

1900	pH	S.U.	6.2	6.19	5.99 - 6.39	Acceptable	SM 4500-H+ B-2011 2011	1/28/2022	-0.231	6.21	0.0401	Brandon Bowe
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WP Solids (cat# 241, lot# P324-499)

1960	Total Suspended Solids	mg/L	77.4	79.3	64.6 - 88.4	Acceptable	SM 2540 D-2015 2015	1/25/2022	-0.110	77.8	3.26	Brandon Bowe
1955	Total Dissolved Solids at 180°C	mg/L	597	593	534 - 652	Acceptable	SM 2540 C-2015 2015	1/25/2022	0.164	593	21.4	Brandon Bowe
1950	Total Solids at 105°C	mg/L		701	631 - 771	Not Reported				693	25.2	

WP Simple Nutrients (cat# 584, lot# P324-505)

1515	Ammonia as N	mg/L		13.4	10.7 - 16.0	Not Reported				13.4	0.812	
1820	Nitrate + Nitrite as N	mg/L		15.0	12.5 - 17.3	Not Reported				15.1	0.865	
1810	Nitrate as N	mg/L	15.8	15.0	12.5 - 17.4	Acceptable	EPA 300.0 2.1 1993	2/5/2022	0.856	15.1	0.858	Brandon Bowe
1870	ortho-Phosphate as P	mg/L		1.70	1.44 - 1.96	Not Reported				1.70	0.0898	
1827	Total Nitrogen	mg/L		28.4	16.2 - 40.6	Not Reported				28.4	1.70	

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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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# P324-770)

1840	Nitrite as N	mg/L	1.41	1.47	1.23 - 1.71	Acceptable	EPA 300.0 2.1 1993	2/5/2022	-0.751	1.47	0.0811	Brandon Bowe
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WP Demand (cat# 578, lot# P324-516)

1530	BOD	mg/L	34.9	34.1	17.2 - 51.0	Acceptable	SM 5210 B-2016 2016	1/25/2022	0.160	33.8	7.09	Brandon Bowe
1555	CBOD	mg/L	36.3	30.9	12.9 - 48.8	Acceptable	SM 5210 B-2016 2016	1/25/2022	0.670	31.8	6.78	Brandon Bowe
1565	COD	mg/L	58	54.7	37.4 - 69.7	Acceptable	HACH 8000 1979	1/25/2022	0.707	54.1	5.55	Brandon Bowe
2040	TOC	mg/L		21.6	17.5 - 25.7	Not Reported				21.4	1.20	

WP Oil & Grease Concentrate (cat# 4120, lot# P324-4122)

1803	n-Hexane Extractable Material(O&G)(Grav)	mg/L	89.5	102	72.6 - 118	Acceptable	EPA 1664A 1999	1/27/2022	-0.157	91.4	11.9	David Bowles
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WP Turbidity (cat# 893, lot# P324-777)

2055	Turbidity	NTU	17.8	17.1	14.2 - 20.0	Acceptable	SM 2130 B-2011 2011	1/26/2022	0.354	17.5	0.709	Brandon Bowe
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WP Acidity (cat# 885, lot# P324-915)

1500	Acidity as CaCO ₃	mg/L	1603	1640	1480 - 1800	Acceptable	SM 2310 B-2011 2011	3/1/2022	0.115	1600	43.1	Brandon Bowe
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WP Bromide (cat# 887, lot# P324-769)

1540	Bromide	mg/L	7.41	7.12	6.01 - 8.26	Acceptable	EPA 300.0 2.1 1993	2/5/2022	0.561	7.18	0.408	Brandon Bowe
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WP Total Residual Chlorine (cat# 587, lot# P324-501)

1945	Free Residual Chlorine	mg/L		1.07	0.796 - 1.28	Not Reported				1.10	0.0892	
1940	Total Residual Chlorine	mg/L	1.16	1.11	0.825 - 1.33	Acceptable	SM 4500-Cl G-2011 2011	1/26/2022	0.594	1.12	0.0642	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

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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# P324-083)

2500	Total Coliforms (MF)	CFU/100mL		378	169 - 844	Not Reported				378	113	
2530	Fecal Coliforms (MF)	CFU/100mL		204	79.0 - 524	Not Reported				204	74.0	
2525	E.coli (MF)	CFU/100mL		217	71.0 - 668	Not Reported				217	99.6	
2500	Total Coliform (MPN-Multiple Well)	MPN/100mL	411	443	208 - 940	Acceptable	SM 9223 B (Colilert Quanti-Tray)-2016 2016	2/19/2022	-0.0154	443	122	Brandon Bowe
2530	Fecal Coliform (MPN-Multiple Well)	MPN/100mL	276	278	130 - 593	Acceptable	Colilert®-18 (Fecal Coliforms) 2010	2/19/2022	-0.00187	278	77.1	Brandon Bowe
2525	E.coli (MPN-Multiple Well)	MPN/100mL	411	445	196 - 1010	Acceptable	SM 9223 B (Colilert Quanti-Tray)-2016 2016	2/19/2022	-0.0163	445	136	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-324**

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# P324-670)

2045	Total Organic Halides (TOX)	µg/L	306	332	193 - 453	Acceptable	EPA 9020B 2 1994	2/4/2022	0.733	299	9.80	Brandon Bowe
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WP Total Petroleum Hydrocarbons (TPH) in Water (cat# 642, lot# P324-642)

1853	TPH (Gravimetric)	mg/L	49.6	65.0	29.8 - 93.9	Acceptable	EPA 1664A 1999	1/27/2022	0.0894	48.5	12.2	David Bowles
1853	TPH (IR)	mg/L		80.0	37.2 - 116	Not Reported				68.4	15.7	



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 EXCELLENCE

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

WP-324

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

Acidity

Minerals

pH

Total Organic Halides
(TOX)

Turbidity

Bromide

Nitrite

Simple Nutrients

Total Petroleum
Hydrocarbons (TPH) in
Water

WasteWatR™ Coliform
MicrobE™

Demand

Oil & Grease
Concentrate

Solids

Total Residual Chlorine



Matthew Seebeck
Quality Officer