



Julie Weisz
Energy Laboratories
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Gillette, WY 82718
USA

WP-330  ***Final Report***

WatR™ Pollution Proficiency Testing

WatR™ Pollution Study

Open Date: 07/18/2022

Close Date: 09/01/2022

Report Issued Date: 09/06/2022



A Waters Company

September 6, 2022

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

Enclosed is your final report for ERA's WP-330 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-330 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-330 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





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Report Recipient	Contact/Phone Number	Reporting Type
No Recipients Selected		



WP-330 Definitions & Study Discussion

Study Dates: 07/18/2022 - 09/01/2022

Report Issued: 09/06/2022

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-330 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-330 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-330 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.



WP-330 Laboratory Exception Report



A Waters Company

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QA Officer
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EPA ID:	WY00006
ERA Customer Number:	E351102
Report Issued:	09/06/2022
Study Dates:	07/18/2022 - 09/01/2022

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-330



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-330





Final Evaluation Report

Study: **WP-330**

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-330





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WP-330 Final Evaluation Report

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07/18/2022 - 09/01/2022

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# P330-506)

1505	Alkalinity as CaCO3	mg/L	72	78.1	66.4 - 89.8	Acceptable	SM 2320 B-2011 2011	8/13/2022	-1.61	77.5	3.42	Brandon Bowe
1575	Chloride	mg/L	42.2	41.7	36.0 - 47.6	Acceptable	EPA 300.0 2.1 1993	8/13/2022	0.0650	42.1	1.64	Brandon Bowe
1610	Conductivity at 25°C	µmhos/cm	322	325	293 - 358	Acceptable	SM 2510 B-2011 2011	8/13/2022	-0.107	323	10.8	Brandon Bowe
1730	Fluoride	mg/L	3.44	3.38	2.73 - 3.89	Acceptable	EPA 300.0 2.1 1993	8/13/2022	0.633	3.34	0.165	Brandon Bowe
1125	Potassium	mg/L		15.6	12.5 - 18.7	Not Reported				15.4	0.768	
1155	Sodium	mg/L		61.5	49.2 - 73.8	Not Reported				61.5	3.54	
2000	Sulfate	mg/L	10.7	10.6	7.76 - 12.8	Acceptable	EPA 300.0 2.1 1993	8/13/2022	0.345	10.4	0.766	Brandon Bowe
1955	Total Dissolved Solids at 180°C	mg/L		272	227 - 317	Not Reported				260	19.1	
1950	Total Solids at 105°C	mg/L		286	241 - 331	Not Reported				275	17.3	

WP pH (cat# 577, lot# P330-977)

1900	pH	S.U.	7.81	7.84	7.64 - 8.04	Acceptable	SM 4500-H+ B-2011 2011	8/13/2022	-0.802	7.86	0.0578	Brandon Bowe
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WP Solids (cat# 241, lot# P330-499)

1960	Total Suspended Solids	mg/L	67.9	69.0	55.5 - 77.4	Acceptable	SM 2540 D-2015 2015	8/15/2022	0.115	67.5	3.80	Brandon Bowe
1955	Total Dissolved Solids at 180°C	mg/L	415	427	382 - 472	Acceptable	SM 2540 C-2015 2015	8/15/2022	0.432	405	22.8	Brandon Bowe
1950	Total Solids at 105°C	mg/L		502	452 - 552	Not Reported				488	22.4	

WP Simple Nutrients (cat# 584, lot# P330-505)

1515	Ammonia as N	mg/L		4.30	3.30 - 5.35	Not Reported				4.30	0.326	
1820	Nitrate + Nitrite as N	mg/L		14.4	12.0 - 16.7	Not Reported				14.3	0.736	
1810	Nitrate as N	mg/L	14.4	14.4	12.0 - 16.7	Acceptable	EPA 300.0 2.1 1993	8/13/2022	0.178	14.3	0.723	Brandon Bowe
1870	ortho-Phosphate as P	mg/L		4.31	3.66 - 4.96	Not Reported				4.28	0.244	
1827	Total Nitrogen	mg/L		18.7	10.7 - 26.7	Not Reported				18.9	1.36	

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-330





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WP Nitrite (cat# 888, lot# P330-770)

1840	Nitrite as N	mg/L	1.84	2.07	1.76 - 2.38	Acceptable	EPA 300.0 2.1 1993	8/13/2022	-1.85	2.07	0.127	Brandon Bowe
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WP Demand (cat# 578, lot# P330-516)

1530	BOD	mg/L	60	55.5	29.0 - 81.9	Acceptable	SM 5210 B-2016 2016	8/18/2022	0.585	55.0	8.50	Brandon Bowe
1555	CBOD	mg/L	53.6	50.3	22.4 - 78.1	Acceptable	SM 5210 B-2016 2016	8/18/2022	0.358	50.3	9.25	Brandon Bowe
1565	COD	mg/L	84	89.8	67.4 - 109	Acceptable	HACH 8000 1979	8/18/2022	-0.625	88.2	6.79	Brandon Bowe
2040	TOC	mg/L		35.4	29.2 - 41.4	Not Reported				35.8	2.35	

WP Oil & Grease (cat# 582, lot# P330-518)

1803	n-Hexane Extractable Material(O&G)(Grav)	mg/L	59.9	66.6	45.1 - 79.3	Acceptable	EPA 1664A 1999	8/24/2022	-0.230	61.8	8.31	Brandon Bowe
1803	n-Hexane Extractable Material(O&G)(IR)	mg/L		81.9	56.9 - 96.2	Not Reported				72.5	19.2	

WP Turbidity (cat# 893, lot# P330-777)

2055	Turbidity	NTU	24.5	22.7	19.0 - 26.5	Acceptable	SM 2130 B-2011 2011	8/20/2022	1.55	22.5	1.26	Brandon Bowe
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WP Acidity (cat# 885, lot# P330-915)

1500	Acidity as CaCO3	mg/L	1591	1630	1470 - 1790	Acceptable	SM 2310 B-2011 2011	8/13/2022	-0.225	1610	63.2	Brandon Bowe
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WP Bromide (cat# 887, lot# P330-769)

1540	Bromide	mg/L	1.2	1.18	0.723 - 1.55	Acceptable	EPA 300.0 2.1 1993	8/13/2022	0.0890	1.19	0.108	Brandon Bowe
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WP Total Residual Chlorine (cat# 587, lot# P330-501)

1945	Free Residual Chlorine	mg/L		2.08	1.53 - 2.43	Not Reported				2.08	0.231	
1940	Total Residual Chlorine	mg/L	2.18	2.21	1.63 - 2.58	Acceptable	SM 4500-Cl G-2011 2011	8/20/2022	0.522	2.09	0.173	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

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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# P330-083)

2500	Total Coliforms (MF)	CFU/100mL		1130	598 - 2130	Not Reported				1130	256	
2530	Fecal Coliforms (MF)	CFU/100mL		716	248 - 2060	Not Reported				716	302	
2525	E.coli (MF)	CFU/100mL		655	31.0 - 14000	Not Reported				655	2330	
2500	Total Coliform (MPN-Multiple Well)	MPN/100mL	1203	1350	659 - 2750	Acceptable	SM 9223 B (Colilert-18 Quanti-Tray)-2016 2016	8/13/2022	-0.0193	1350	349	Julie Weisz
2530	Fecal Coliform (MPN-Multiple Well)	MPN/100mL	1046	1000	493 - 2040	Acceptable	Colilert®-18 (Fecal Coliforms) 2010	8/13/2022	0.00776	1000	257	Julie Weisz
2525	E.coli (MPN-Multiple Well)	MPN/100mL	1203	1340	631 - 2830	Acceptable	SM 9223 B (Colilert-18 Quanti-Tray)-2016 2016	8/13/2022	-0.0177	1340	366	Julie Weisz



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-330**

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# P330-670)

2045	Total Organic Halides (TOX)	µg/L	1260	1470	853 - 2010	Acceptable	EPA 9020B 2 1994	8/20/2022	-0.367	1340	214	Brandon Bowe
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WP Total Petroleum Hydrocarbons (TPH) in Water (cat# 642, lot# P330-642)

1853	TPH (Gravimetric)	mg/L	76.3	117	55.5 - 169	Acceptable	EPA 1664A 1999	8/3/2022	-0.131	79.1	21.7	Brandon Bowe
1853	TPH (IR)	mg/L		144	68.8 - 208	Not Reported				110	29.0	



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-330

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 956 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

Solids

Total Residual Chlorine



Craig Huff
Senior Technical Manager