



A Waters Company

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

WP-300



Final Report

WatR™ Pollution Proficiency Testing

WatR™ Pollution Study

Open Date: 01/13/20

Close Date: 02/27/20

Report Issued Date: 03/02/20



A Waters Company

March 2, 2020

Julie Weisz
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400 West Boxelder Road
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Enclosed is your final report for ERA's WP-300 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-300 WatR™ Pollution Proficiency Testing study have been evaluated using the following tiered approach. If the analyte is listed in the most current TNI/NELAP 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/NELAP 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-300 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", written in a cursive style.

Matthew Seebeck
Quality Officer

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



WP-300 Definitions & Study Discussion

Study Dates: 01/13/20 - 02/27/20

Report Issued: 03/02/20

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/NELAP 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 2009 TNI Standards. 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/NELAP FoPT table or ERA's SOP for the Generation of Performance Acceptance Limits™ as applicable. This report is scored by the criteria in the 2016 TNI Standard, Volume 3, instead of by the criteria in the 2009 TNI Standard to which the Proficiency Testing Provider is accredited. This is a planned change and is endorsed by the TNI Proficiency Testing Program Executive Committee for transition to the 2016 TNI Standard.

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-300 WatR™Pollution Proficiency Testing study has been reviewed by ERA senior management and certified compliant with the requirements of the 2009 TNI Standard and the 2016 TNI Standard, Volume 3, Section 5.9 and the criteria contained in the most current TNI/NELAP Fields of Proficiency Testing (FoPT) table.

ERA's WP-300 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 2009 TNI Standard and the criteria contained in the most current TNI/NELAP FoPT table.

All analytes are included in ERA's A2LA accreditation, certification number 1539.01.

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-300 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-300 Laboratory Exception Report



A Waters Company

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QA Officer
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(307) 686-7175-2044

EPA ID:	WY00006
ERA Customer Number:	E351102
Report Issued:	03/02/20
Study Dates:	01/13/20 - 02/27/20

Not Acceptable Evaluations

There were no Not Acceptable evaluations for this study.



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Final Report Results For Laboratory Energy Laboratories





Final Evaluation Report

Study: **WP-300**

ERA Customer Number: **E351102**

Laboratory Name: **Energy Laboratories**

Inorganic Results





A Waters Company

WP-300 Final Evaluation Report

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01/13/20 - 02/27/20

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# P300-506)

1505	Alkalinity as CaCO3	mg/L	51.4	50.7	43.1 - 58.3	Acceptable	SM 2320 B-2011 2011	1/17/2020	0.721	49.5	2.61	Brandon Bowe
1575	Chloride	mg/L	75.5	76.0	66.4 - 85.8	Acceptable	EPA 300.0 2.1 1993	2/3/2020	0.320	74.7	2.41	Brandon Bowe
1610	Conductivity at 25°C	µmhos/cm	454	458	412 - 504	Acceptable	SM 2510 B-2011 2011	1/17/2020	-0.125	456	14.1	Brandon Bowe
1730	Fluoride	mg/L	3.42	3.47	2.81 - 3.99	Acceptable	EPA 300.0 2.1 1993	2/3/2020	0.211	3.38	0.166	Brandon Bowe
1125	Potassium	mg/L		35.2	28.2 - 42.2	Not Reported				34.4	1.73	
1155	Sodium	mg/L		71.8	57.4 - 86.2	Not Reported				70.0	4.03	
2000	Sulfate	mg/L	33.9	34.4	27.9 - 39.6	Acceptable	EPA 300.0 2.1 1993	2/3/2020	0.448	33.2	1.60	Brandon Bowe
1955	Total Dissolved Solids at 180°C	mg/L		296	251 - 341	Not Reported				296	14.5	
1950	Total Solids at 105°C	mg/L		306	261 - 351	Not Reported				304	17.4	

WP pH (cat# 577, lot# P300-977)

1900	pH	S.U.	6.69	6.70	6.50 - 6.90	Acceptable	SM 4500-H+ B-2011 2011	1/17/2020	-0.395	6.71	0.0401	Brandon Bowe
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WP Solids (cat# 241, lot# P300-499)

1960	Total Suspended Solids	mg/L	73.5	78.5	63.9 - 87.5	Acceptable	SM 2540 D-2011 2011	1/16/2020	-0.0378	73.6	3.19	Brandon Bowe
1955	Total Dissolved Solids at 180°C	mg/L	544	542	488 - 596	Acceptable	SM 2540 C-2011 2011	1/20/2020	0.555	533	19.8	Brandon Bowe
1950	Total Solids at 105°C	mg/L		622	560 - 684	Not Reported				623	22.5	

WP Simple Nutrients (cat# 584, lot# P300-505)

1515	Ammonia as N	mg/L		3.88	2.95 - 4.86	Not Reported				3.97	0.286	
1820	Nitrate + Nitrite as N	mg/L		5.65	4.64 - 6.61	Not Reported				5.60	0.286	
1810	Nitrate as N	mg/L	5.75	5.65	4.59 - 6.69	Acceptable	EPA 300.0 2.1 1993	2/3/2020	0.536	5.59	0.292	Brandon Bowe
1870	ortho-Phosphate as P	mg/L		3.11	2.64 - 3.58	Not Reported				3.15	0.176	



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WP Nitrite (cat# 888, lot# P300-770)

1840	Nitrite as N	mg/L	2.28	2.30	1.97 - 2.64	Acceptable	EPA 300.0 2.1 1993	2/3/2020	-0.270	2.31	0.120	Brandon Bowe
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WP Demand (cat# 578, lot# P300-516)

1530	BOD	mg/L	81	79.9	42.6 - 117	Acceptable	SM 5210 B-2011 2011	1/22/2020	-0.0741	81.9	12.8	Brandon Bowe
1555	CBOD	mg/L	63.4	72.4	33.2 - 112	Acceptable	SM 5210 B-2011 2011	1/22/2020	-0.882	75.6	13.8	Brandon Bowe
1565	COD	mg/L	116	130	102 - 154	Acceptable	HACH 8000	1/24/2020	-1.45	130	9.53	Brandon Bowe
2040	TOC	mg/L		51.4	42.8 - 59.5	Not Reported				52.1	3.33	

WP Oil & Grease Concentrate (cat# 4120, lot# P300-4122)

1803	n-Hexane Extractable Material(O&G)(Grav)	mg/L	158	168	124 - 191	Acceptable	EPA 1664A 1999	1/30/2020	0.377	153	13.7	Brandon Bowe
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WP Turbidity (cat# 893, lot# P300-777)

2055	Turbidity	NTU	3.93	4.05	2.98 - 5.08	Acceptable	SM 2130 B-2011 2011	1/18/2020	-0.219	3.99	0.264	Brandon Bowe
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WP Acidity (cat# 885, lot# P300-915)

1500	Acidity as CaCO3	mg/L	714	739	665 - 813	Acceptable	SM 2310 B-2011 2011	1/29/2020	-0.265	723	33.5	Brandon Bowe
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WP Bromide (cat# 887, lot# P300-769)

1540	Bromide	mg/L	8.97	8.78	7.49 - 10.1	Acceptable	EPA 300.0 2.1 1993	2/3/2020	-0.00667	8.97	0.520	Brandon Bowe
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WP Total Residual Chlorine (cat# 587, lot# P300-501)

1945	Free Residual Chlorine	mg/L		0.621	0.469 - 0.770	Not Reported				0.617	0.0595	
1940	Total Residual Chlorine	mg/L	0.66	0.628	0.475 - 0.778	Acceptable	SM 4500-Cl-G-2011 2011	1/23/2020	0.194	0.652	0.0410	Brandon Bowe



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Final Evaluation Report

Study: **WP-300**

ERA Customer Number: **E351102**

Laboratory Name: **Energy Laboratories**

Microbiology Results





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WP-300 Final Evaluation Report

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WP WasteWatR™ Coliform MicrobE™ (cat# 576, lot# P300-083)

2500	Total Coliforms (MF)	CFU/100mL		833	392 - 1050	Not Reported				641	109	
2530	Fecal Coliforms (MF)	CFU/100mL		548	93.0 - 1040	Not Reported				312	159	
2525	E.coli (MF)	CFU/100mL		833	104 - 1700	Not Reported				421	266	
2500	Total Coliforms (MPN)	MPN/100mL	1203	780	489 - 2170	Acceptable	SM 9223 B (Colilert Quanti-Tray)-2004 2004	1/26/2020	0.0275	1030	280	Brandon Bowe
2530	Fecal Coliforms (MPN)	MPN/100mL	579	566	180 - 1430	Acceptable	Colilert®-18 (Fecal Coliforms) 2010	1/26/2020	0.0246	508	208	Brandon Bowe
2525	E.coli (MPN)	MPN/100mL	1203	780	513 - 2160	Acceptable	SM 9223 B (Colilert Quanti-Tray)-2004 2004	1/26/2020	0.0236	1050	275	Brandon Bowe

Per Section 6.4.3 a of the 2009 TNI Standard, "The assigned values for quantitative microbiology analytes shall be equal to the mean of the assigned value verification and/or homogeneity testing per Sections 7.1 and 7.2". The final acceptance limits are derived from the calculated study mean and study standard deviation from laboratory-reported results. Disagreement between the assigned values and study means/acceptance limits are due to the inherent variability of microbiology methods and differences in the methods used by ERA and participant laboratories. For quantitative microbiology analytes, the assigned value is not used in the evaluation of laboratories.



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Final Evaluation Report

Study: **WP-300**

ERA Customer Number: **E351102**

Laboratory Name: **Energy Laboratories**

Organic Results





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WP Total Organic Halides (TOX) (cat# 895, lot# P300-670)

2045	Total Organic Halides (TOX)	µg/L	428	509	296 - 694	Acceptable	EPA 9020B 2 1994	2/12/2020	-1.83	508	43.5	David Bowles
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WP Total Petroleum Hydrocarbons (TPH) in Water (cat# 642, lot# P300-642)

1853	TPH (Gravimetric)	mg/L	72.5	91.0	42.6 - 131	Acceptable	EPA 1664A 1999	2/10/2020	0.357	69.3	8.90	Brandon Bowe
1853	TPH (IR)	mg/L		112	53.0 - 162	Not Reported				93.4	4.53	



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CERTIFICATE OF EXCELLENCE

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

WP-300

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 709 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