

Donny Juarez
Energy Laboratories
2393 Salt Creek Hwy
Casper, WY 82601
USA

WS-300  **Final Report**

WatR™ Supply Proficiency Testing

WatR™ Supply Study

Open Date: 07/12/21

Close Date: 08/26/21

Report Issued Date: 08/30/21



A Waters Company

August 30, 2021

Donny Juarez
Energy Laboratories
2393 Salt Creek Hwy
Casper, WY 82601

Enclosed is your final report for ERA's WS-300 WatR™ Supply 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 WS-300 WatR™ Supply Proficiency Testing (PT) 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 WS-300 WatR™ Supply 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
Alabama	Benny Laughlin / 334-271-7775	All Analytes
California ELAP	Christine Sotelo / 916-341-5175	All Analytes
Colorado	Ben Chouaf / 303-692-3045	All Analytes
EPA Region 8	Marcie Tidd / (303) 462-9476	All Analytes
Florida	Vanessa Soto / 904-791-1599	All Analytes
Idaho	Ernie Bader / 208-334-2235 x 290	All Analytes
Montana	Russell Leu / 406-444-5259	All Analytes
Nebraska	Tara Wulfekoetter / 402-471-8439	All Analytes
Nevada	Paige Menicucci / 775-687-9311	All Analytes
New Mexico (WS)	Bethany Anderson / 505-222-9552	All Analytes
Oregon	Travis Bartholomew / 503-693-4122	All Analytes
South Dakota	Rea Riggle / 605-773-3368	All Analytes
Texas	Frank Jamison / (512) 239-3754	All Analytes
Utah	Cathy Mitchell / (801) 965-2588	All Analytes
Washington	Rebecca Wood / 360-871-8811	All Analytes



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WS-300 Definitions & Study Discussion

Study Dates: 07/12/21 - 08/26/21

Report Issued: 08/30/21

WS 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.

WS Study Discussion

ERA's WS-300 WatR™ Supply 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 WS-300 WatR™ Supply 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 in the standards 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 WS-300 WatR™ Supply 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™ Supply Proficiency Testing program, please contact our Proficiency Testing Department at 1-800-372-0122.





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WS-300 Laboratory Exception Report

Donny Juarez
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2393 Salt Creek Hwy
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307-235-0515 x3244

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

WY00002
E772828
08/30/21
07/12/21 - 08/26/21

Not Acceptable Evaluations

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
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WS Metals (cat# 590, lot# S300-697)

1025	Boron	µg/L	1312	1570	1330 - 1810	Not Acceptable	EPA 200.7 4.4 1994
1025	Boron	µg/L	1234	1570	1330 - 1810	Not Acceptable	EPA 200.8 5.4 1994
1040	Chromium	µg/L	126	149	127 - 171	Not Acceptable	EPA 200.8 5.4 1994
1055	Copper	µg/L	1408	1610	1450 - 1770	Not Acceptable	EPA 200.8 5.4 1994
1100	Molybdenum	µg/L	24.9	31.3	26.6 - 36.0	Not Acceptable	EPA 200.7 4.4 1994
1185	Vanadium	µg/L	596	730	620 - 840	Not Acceptable	EPA 200.7 4.4 1994
1185	Vanadium	µg/L	564	730	620 - 840	Not Acceptable	EPA 200.8 5.4 1994
1190	Zinc	µg/L	1129	1350	1150 - 1550	Not Acceptable	EPA 200.8 5.4 1994

WS Heterotrophic Plate Count (cat# 079, lot# S300-084)

2555	Heterotrophic Plate Count (MPN)	MPN/mL	< 2.0	119	63.5 - 222	Not Acceptable	Simplate 2000
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All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01






Final Report Results For Laboratory Energy Laboratories



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

16341 Table Mountain Pkwy • Golden, CO 80403 • 800.372.0122 • 303.431.8454 • fax 303.421.0159 • www.eraqc.com

Study # : WS-300 



Final Evaluation Report

Study: **WS-300**

ERA Customer Number: **E772828**

Laboratory Name: **Energy Laboratories**

Inorganic Results



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

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WS-300 Final Evaluation Report

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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WS Hardness (cat# 555, lot# S300-693)

1035	Calcium	mg/L	68.5	69.8	59.3 - 80.3	Acceptable	EPA 200.7 4.4 1994	7/16/2021	-0.466	69.7	2.54	meh
1085	Magnesium	mg/L	4.12	4.16	3.54 - 4.78	Acceptable	EPA 200.7 4.4 1994	7/16/2021	0.170	4.08	0.207	meh
1155	Sodium	mg/L	34.8	34.8	29.6 - 40.0	Acceptable	EPA 200.7 4.4 1994	7/16/2021	0.151	34.6	1.53	meh
1550	Calcium Hardness as CaCO3	mg/L	171	174	148 - 200	Acceptable	SM2340B 22nd ED 2011	7/19/2021	-0.303	173	6.53	atd
1755	Total Hardness as CaCO3	mg/L	188	191	162 - 220	Acceptable	SM2340B 22nd ED 2011	7/19/2021	-0.523	191	6.63	atd

WS Inorganics (cat# 591, lot# S300-698)

1505	Alkalinity as CaCO3	mg/L	113	112	101 - 123	Acceptable	SM2320B 22nd ED 2011	7/15/2021	0.271	112	3.49	dmb
1575	Chloride	mg/L	71.4	69.4	59.0 - 79.8	Acceptable	EPA 300.0 2.1 1993	7/26/2021	0.517	70.2	2.34	dmb
1610	Conductivity at 25°C	µmhos/cm	759	769	692 - 846	Acceptable	SM2510B 22nd ED 2011	7/22/2021	0.0450	758	22.8	kjp
1730	Fluoride	mg/L	3.22	3.23	2.91 - 3.55	Acceptable	EPA 300.0 2.1 1993	7/26/2021	-0.319	3.27	0.149	dmb
1820	Nitrate + Nitrite as N	mg/L	9.05	8.98	7.63 - 10.3	Acceptable	EPA 353.2 2 1993	7/24/2021	-0.167	9.11	0.361	dmb
1810	Nitrate as N	mg/L	9.07	8.98	8.08 - 9.88	Acceptable	EPA 300.0 2.1 1993	7/26/2021	-0.0702	9.09	0.315	dmb
1125	Potassium	mg/L	32.3	31.7	26.9 - 36.5	Acceptable	EPA 200.7 4.4 1994	7/16/2021	0.0865	32.2	1.48	meh
2000	Sulfate	mg/L	103	98.2	83.5 - 113	Acceptable	EPA 300.0 2.1 1993	7/26/2021	0.992	99.6	3.40	dmb
1955	Total Dissolved Solids at 180°C	mg/L	609	567	454 - 680	Acceptable	SM2540C 21st ED 1997	7/20/2021	1.92	569	20.7	kjp

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





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WS Inorganics (cat# 591, lot# S300-698)

1505	Alkalinity as CaCO3	mg/L		112	101 - 123	Not Reported				112	3.49	
1575	Chloride	mg/L		69.4	59.0 - 79.8	Not Reported				70.2	2.34	
1610	Conductivity at 25°C	µmhos/cm		769	692 - 846	Not Reported				758	22.8	
1730	Fluoride	mg/L	3.42	3.23	2.91 - 3.55	Acceptable	SM4500F- C 22nd ED 2011	7/23/2021	1.03	3.27	0.149	dmb
1820	Nitrate + Nitrite as N	mg/L		8.98	7.63 - 10.3	Not Reported				9.11	0.361	
1810	Nitrate as N	mg/L	9.05	8.98	8.08 - 9.88	Acceptable	EPA 353.2 (calc)	7/30/2021	-0.134	9.09	0.315	jlw
1125	Potassium	mg/L		31.7	26.9 - 36.5	Not Reported				32.2	1.48	
2000	Sulfate	mg/L		98.2	83.5 - 113	Not Reported				99.6	3.40	
1955	Total Dissolved Solids at 180°C	mg/L		567	454 - 680	Not Reported				569	20.7	

WS pH (cat# 552, lot# S300-779)

1900	pH	S.U.	8.43	8.32	8.12 - 8.52	Acceptable	SM4500H+ B 22nd ED 2011	7/22/2021	1.32	8.34	0.0717	kjp
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WS Metals (cat# 590, lot# S300-697)

1000	Aluminum	µg/L	840	935	795 - 1080	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-1.82	935	52.4	jcg
1005	Antimony	µg/L		36.7	25.7 - 47.7	Not Reported				36.0	2.18	
1010	Arsenic	µg/L	36	39.9	27.9 - 51.9	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-0.851	38.3	2.72	jcg
1015	Barium	µg/L	2042	2140	1820 - 2460	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-0.697	2110	103	jcg
1020	Beryllium	µg/L	8.65	10.1	8.58 - 11.6	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-2.28	9.86	0.531	jcg
1025	Boron	µg/L		1570	1330 - 1810	Not Reported				1530	71.3	
1030	Cadmium	µg/L	29	32.7	26.2 - 39.2	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-1.88	31.6	1.40	jcg
1040	Chromium	µg/L	126	149	127 - 171	Not Acceptable	EPA 200.8 5.4 1994	7/19/2021	-3.66	148	5.97	jcg
1055	Copper	µg/L	1408	1610	1450 - 1770	Not Acceptable	EPA 200.8 5.4 1994	7/19/2021	-2.46	1580	70.2	jcg
1070	Iron	µg/L		1730	1470 - 1990	Not Reported				1720	66.3	
1075	Lead	µg/L	46.8	51.4	36.0 - 66.8	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-1.44	51.4	3.20	jcg
1090	Manganese	µg/L	310	347	295 - 399	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-2.36	346	15.4	jcg
1100	Molybdenum	µg/L	27.4	31.3	26.6 - 36.0	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-1.34	29.9	1.88	jcg
1105	Nickel	µg/L	87.9	102	86.7 - 117	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-2.61	99.8	4.54	jcg
1140	Selenium	µg/L		91.3	73.0 - 110	Not Reported				91.3	5.90	
1150	Silver	µg/L		225	158 - 292	Not Reported				224	13.5	
1165	Thallium	µg/L	4.28	4.81	3.37 - 6.25	Acceptable	EPA 200.8 5.4 1994	7/19/2021	-1.38	4.72	0.318	jcg
1185	Vanadium	µg/L		730	620 - 840	Not Reported				727	35.4	
1190	Zinc	µg/L		1350	1150 - 1550	Not Reported				1350	57.9	



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





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WS Metals (cat# 590, lot# S300-697)

1000	Aluminum	µg/L	886	935	795 - 1080	Acceptable	EPA 200.7 4.4 1994	7/22/2021	-0.943	935	52.4	meh
1005	Antimony	µg/L	29.8	36.7	25.7 - 47.7	Acceptable	EPA 200.7 4.4 1994	8/6/2021	-2.87	36.0	2.18	meh
1010	Arsenic	µg/L	33.9	39.9	27.9 - 51.9	Acceptable	EPA 200.7 4.4 1994	8/6/2021	-1.62	38.3	2.72	meh
1015	Barium	µg/L	2135	2140	1820 - 2460	Acceptable	EPA 200.7 4.4 1994	7/16/2021	0.202	2110	103	meh
1020	Beryllium	µg/L	9.18	10.1	8.58 - 11.6	Acceptable	EPA 200.7 4.4 1994	8/6/2021	-1.28	9.86	0.531	meh
1025	Boron	µg/L	1312	1570	1330 - 1810	Not Acceptable	EPA 200.7 4.4 1994	7/22/2021	-3.12	1530	71.3	meh
1030	Cadmium	µg/L	30.9	32.7	26.2 - 39.2	Acceptable	EPA 200.7 4.4 1994	7/16/2021	-0.520	31.6	1.40	meh
1040	Chromium	µg/L	143	149	127 - 171	Acceptable	EPA 200.7 4.4 1994	7/19/2021	-0.811	148	5.97	meh
1055	Copper	µg/L	1514	1610	1450 - 1770	Acceptable	EPA 200.7 4.4 1994	7/19/2021	-0.952	1580	70.2	meh
1070	Iron	µg/L	1714	1730	1470 - 1990	Acceptable	EPA 200.7 4.4 1994	7/16/2021	-0.0558	1720	66.3	meh
1075	Lead	µg/L	53.9	51.4	36.0 - 66.8	Acceptable	EPA 200.7 4.4 1994	8/6/2021	0.783	51.4	3.20	meh
1090	Manganese	µg/L	317	347	295 - 399	Acceptable	EPA 200.7 4.4 1994	7/19/2021	-1.90	346	15.4	meh
1100	Molybdenum	µg/L	24.9	31.3	26.6 - 36.0	Not Acceptable	EPA 200.7 4.4 1994	7/19/2021	-2.67	29.9	1.88	meh
1105	Nickel	µg/L	97.3	102	86.7 - 117	Acceptable	EPA 200.7 4.4 1994	7/16/2021	-0.541	99.8	4.54	meh
1140	Selenium	µg/L	87.5	91.3	73.0 - 110	Acceptable	EPA 200.7 4.4 1994	8/10/2021	-0.636	91.3	5.90	meh
1150	Silver	µg/L	195	225	158 - 292	Acceptable	EPA 200.7 4.4 1994	7/22/2021	-2.18	224	13.5	meh
1165	Thallium	µg/L		4.81	3.37 - 6.25	Not Reported				4.72	0.318	
1185	Vanadium	µg/L	596	730	620 - 840	Not Acceptable	EPA 200.7 4.4 1994	7/22/2021	-3.70	727	35.4	meh
1190	Zinc	µg/L	1233	1350	1150 - 1550	Acceptable	EPA 200.7 4.4 1994	7/19/2021	-2.06	1350	57.9	meh

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





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WS Metals (cat# 590, lot# S300-697)

1000	Aluminum	µg/L		935	795 - 1080	Not Reported				935	52.4	
1005	Antimony	µg/L		36.7	25.7 - 47.7	Not Reported				36.0	2.18	
1010	Arsenic	µg/L		39.9	27.9 - 51.9	Not Reported				38.3	2.72	
1015	Barium	µg/L		2140	1820 - 2460	Not Reported				2110	103	
1020	Beryllium	µg/L		10.1	8.58 - 11.6	Not Reported				9.86	0.531	
1025	Boron	µg/L		1570	1330 - 1810	Not Reported				1530	71.3	
1030	Cadmium	µg/L		32.7	26.2 - 39.2	Not Reported				31.6	1.40	
1040	Chromium	µg/L		149	127 - 171	Not Reported				148	5.97	
1055	Copper	µg/L		1610	1450 - 1770	Not Reported				1580	70.2	
1070	Iron	µg/L		1730	1470 - 1990	Not Reported				1720	66.3	
1075	Lead	µg/L		51.4	36.0 - 66.8	Not Reported				51.4	3.20	
1090	Manganese	µg/L		347	295 - 399	Not Reported				346	15.4	
1100	Molybdenum	µg/L		31.3	26.6 - 36.0	Not Reported				29.9	1.88	
1105	Nickel	µg/L		102	86.7 - 117	Not Reported				99.8	4.54	
1140	Selenium	µg/L	86	91.3	73.0 - 110	Acceptable	EPA 200.8 5.4 1994	7/21/2021	-0.891	91.3	5.90	meh
1150	Silver	µg/L		225	158 - 292	Not Reported				224	13.5	
1165	Thallium	µg/L		4.81	3.37 - 6.25	Not Reported				4.72	0.318	
1185	Vanadium	µg/L		730	620 - 840	Not Reported				727	35.4	
1190	Zinc	µg/L		1350	1150 - 1550	Not Reported				1350	57.9	



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





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WS Metals (cat# 590, lot# S300-697)

1000	Aluminum	µg/L		935	795 - 1080	Not Reported				935	52.4	
1005	Antimony	µg/L	32.4	36.7	25.7 - 47.7	Acceptable	EPA 200.8 5.4 1994	7/28/2021	-1.68	36.0	2.18	srm
1010	Arsenic	µg/L		39.9	27.9 - 51.9	Not Reported				38.3	2.72	
1015	Barium	µg/L		2140	1820 - 2460	Not Reported				2110	103	
1020	Beryllium	µg/L		10.1	8.58 - 11.6	Not Reported				9.86	0.531	
1025	Boron	µg/L	1234	1570	1330 - 1810	Not Acceptable	EPA 200.8 5.4 1994	7/28/2021	-4.21	1530	71.3	srm
1030	Cadmium	µg/L		32.7	26.2 - 39.2	Not Reported				31.6	1.40	
1040	Chromium	µg/L		149	127 - 171	Not Reported				148	5.97	
1055	Copper	µg/L		1610	1450 - 1770	Not Reported				1580	70.2	
1070	Iron	µg/L		1730	1470 - 1990	Not Reported				1720	66.3	
1075	Lead	µg/L		51.4	36.0 - 66.8	Not Reported				51.4	3.20	
1090	Manganese	µg/L		347	295 - 399	Not Reported				346	15.4	
1100	Molybdenum	µg/L		31.3	26.6 - 36.0	Not Reported				29.9	1.88	
1105	Nickel	µg/L		102	86.7 - 117	Not Reported				99.8	4.54	
1140	Selenium	µg/L		91.3	73.0 - 110	Not Reported				91.3	5.90	
1150	Silver	µg/L	190	225	158 - 292	Acceptable	EPA 200.8 5.4 1994	7/28/2021	-2.54	224	13.5	srm
1165	Thallium	µg/L		4.81	3.37 - 6.25	Not Reported				4.72	0.318	
1185	Vanadium	µg/L	564	730	620 - 840	Not Acceptable	EPA 200.8 5.4 1994	7/28/2021	-4.60	727	35.4	srm
1190	Zinc	µg/L	1129	1350	1150 - 1550	Not Acceptable	EPA 200.8 5.4 1994	7/28/2021	-3.85	1350	57.9	srm

WS Uranium (cat# 858, lot# S300-930)

3055	Uranium (Nat)	µg/L	26.8	29.0	23.2 - 32.5	Acceptable	EPA 200.8 5.4 1994	7/21/2021	-1.12	28.5	1.47	meh
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All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01





WS-300 Final Evaluation Report

A Waters Company

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WS Inorganic Disinfection #2 (cat# 5260, lot# S300-5262)

1535	Bromate	µg/L		15.6	10.9 - 20.3	Not Reported				15.3	0.770	
1540	Bromide	µg/L	83	76.0	64.6 - 87.4	Acceptable	EPA 300.0 2.1 1993	7/26/2021	0.582	77.7	9.03	dmb

WS Nitrite (cat# 594, lot# S300-695)

1840	Nitrite as N	mg/L	1.46	1.51	1.28 - 1.74	Acceptable	SM4500NO2- B 22nd ED 2011	7/27/2021	-0.762	1.52	0.0774	dmb
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WS o-Phosphate Nutrients (cat# 558, lot# S300-667)

1870	ortho-Phosphate as P	mg/L	3.5	3.60	3.06 - 4.14	Acceptable	EPA 365.1 2 1993	7/14/2021	-0.665	3.61	0.161	dmb
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WS Organic Carbon (cat# 557, lot# S300-669)

1710	Dissolved Organic Carbon (DOC)	mg/L	5.84	5.93	5.26 - 6.52	Acceptable	SM5310C 22nd ED 2011	7/29/2021	-0.330	5.95	0.324	dmb
2040	Total Organic Carbon (TOC)	mg/L	5.74	5.93	4.74 - 7.12	Acceptable	SM5310C 22nd ED 2011	7/29/2021	-0.494	5.91	0.352	dmb

WS Organic Carbon (cat# 557, lot# S300-669)

1710	Dissolved Organic Carbon (DOC)	mg/L		5.93	5.26 - 6.52	Not Reported				5.95	0.324	
2040	Total Organic Carbon (TOC)	mg/L	5.82	5.93	4.74 - 7.12	Acceptable	EPA 9060A 2004	7/28/2021	-0.267	5.91	0.352	dmb

WS Silica (cat# 902, lot# S300-785)

1990	Silica as SiO2	mg/L	31.2	28.8	24.5 - 33.1	Acceptable	EPA 200.7 4.4 1994	7/16/2021	1.87	28.5	1.42	meh
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WS Corrosivity (cat# 900, lot# S300-980)

1620	Corrosivity	S.I. @ 20°C	1.77	1.62	1.22 - 2.02	Acceptable	SM2330B 21st ED 2000	8/16/2021	0.843	1.63	0.164	jlw
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WS Turbidity (cat# 592, lot# S300-699)

2055	Turbidity	NTU	4.71	5.10	4.33 - 5.74	Acceptable	SM2130B 21st ED 2001	7/30/2021	-0.519	4.86	0.298	dmb
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Final Evaluation Report

Study: **WS-300**

ERA Customer Number: **E772828**

Laboratory Name: **Energy Laboratories**

Microbiology Results



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Study # : WS-300





WS-300 Final Evaluation Report

A Waters Company

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WS MicrobE™ (Coliforms) (cat# 080A, lot# S300-085A)

2500	Total Coliforms - Sample 1	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 3	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 4	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 5	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 6	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 7	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 9	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh

Total Coliforms Evaluation : Acceptable
Fecal Coliforms Evaluation : Not Reported
E.coli Evaluation : Acceptable

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 1, 3 and 5
 Total Coliform Organism - Enterobacter cloacae (NCTC 10005), Samples 6, 7 and 9
 Negative (1) Coliform Organism - Proteus mirabilis (NCIMB 13283), Sample 8
 Negative (2) Coliform Organism - Pseudomonas aeruginosa (NCIMB 12469), Sample 10
 Blank - Blank Pellet (Qualitative), Samples 2 and 4



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





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WS MicrobE™ (Coliforms) (cat# 080A, lot# S300-085A) (Continued)

2530	Fecal Coliforms - Sample 1	CFU/100mL		Presence	Presence	Not Reported						
2530	Fecal Coliforms - Sample 2	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 3	CFU/100mL		Presence	Presence	Not Reported						
2530	Fecal Coliforms - Sample 4	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 5	CFU/100mL		Presence	Presence	Not Reported						
2530	Fecal Coliforms - Sample 6	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 7	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 8	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 9	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 10	CFU/100mL		Absence	Absence	Not Reported						

Total Coliforms Evaluation : Acceptable
Fecal Coliforms Evaluation : Not Reported
E.coli Evaluation : Acceptable

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 1, 3 and 5
 Total Coliform Organism - Enterobacter cloacae (NCTC 10005), Samples 6, 7 and 9
 Negative (1) Coliform Organism - Proteus mirabilis (NCIMB 13283), Sample 8
 Negative (2) Coliform Organism - Pseudomonas aeruginosa (NCIMB 12469), Sample 10
 Blank - Blank Pellet (Qualitative), Samples 2 and 4

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WS MicrobE™ (Coliforms) (cat# 080A, lot# S300-085A) (Continued)

2525	E.coli - Sample 1	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 3	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 4	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 5	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 6	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 7	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 9	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 22nd ED 2004	7/14/2021				bmh

Total Coliforms Evaluation : Acceptable
Fecal Coliforms Evaluation : Not Reported
E.coli Evaluation : Acceptable

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 1, 3 and 5
 Total Coliform Organism - Enterobacter cloacae (NCTC 10005), Samples 6, 7 and 9
 Negative (1) Coliform Organism - Proteus mirabilis (NCIMB 13283), Sample 8
 Negative (2) Coliform Organism - Pseudomonas aeruginosa (NCIMB 12469), Sample 10
 Blank - Blank Pellet (Qualitative), Samples 2 and 4

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WS-300 Final Evaluation Report

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WS MicrobE™ (Coliforms) (cat# 080B, lot# S300-085B)

2500	Total Coliforms - Sample 1	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 2	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 3	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 4	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 5	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 6	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 7	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 9	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2500	Total Coliforms - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh

Total Coliforms Evaluation : Acceptable
Fecal Coliforms Evaluation : Not Reported
E.coli Evaluation : Acceptable

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 2, 6 and 9
 Total Coliform Organism - Enterobacter cloacae (NCTC 10005), Samples 3, 4 and 7
 Negative (1) Coliform Organism - Proteus mirabilis (NCIMB 13283), Sample 5
 Negative (2) Coliform Organism - Pseudomonas aeruginosa (NCIMB 12469), Sample 10
 Blank - Blank Pellet (Qualitative), Samples 1 and 8



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WS MicrobE™ (Coliforms) (cat# 080B, lot# S300-085B) (Continued)

2530	Fecal Coliforms - Sample 1	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 2	CFU/100mL		Presence	Presence	Not Reported						
2530	Fecal Coliforms - Sample 3	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 4	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 5	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 6	CFU/100mL		Presence	Presence	Not Reported						
2530	Fecal Coliforms - Sample 7	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 8	CFU/100mL		Absence	Absence	Not Reported						
2530	Fecal Coliforms - Sample 9	CFU/100mL		Presence	Presence	Not Reported						
2530	Fecal Coliforms - Sample 10	CFU/100mL		Absence	Absence	Not Reported						

Total Coliforms Evaluation : Acceptable
Fecal Coliforms Evaluation : Not Reported
E.coli Evaluation : Acceptable

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 2, 6 and 9
 Total Coliform Organism - Enterobacter cloacae (NCTC 10005), Samples 3, 4 and 7
 Negative (1) Coliform Organism - Proteus mirabilis (NCIMB 13283), Sample 5
 Negative (2) Coliform Organism - Pseudomonas aeruginosa (NCIMB 12469), Sample 10
 Blank - Blank Pellet (Qualitative), Samples 1 and 8



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WS MicrobE™ (Coliforms) (cat# 080B, lot# S300-085B) (Continued)

2525	E.coli - Sample 1	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 2	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 3	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 4	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 5	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 6	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 7	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 9	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh
2525	E.coli - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 22nd ED 2004	7/14/2021				bmh

Total Coliforms Evaluation : Acceptable
Fecal Coliforms Evaluation : Not Reported
E.coli Evaluation : Acceptable

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 2, 6 and 9
 Total Coliform Organism - Enterobacter cloacae (NCTC 10005), Samples 3, 4 and 7
 Negative (1) Coliform Organism - Proteus mirabilis (NCIMB 13283), Sample 5
 Negative (2) Coliform Organism - Pseudomonas aeruginosa (NCIMB 12469), Sample 10
 Blank - Blank Pellet (Qualitative), Samples 1 and 8

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WS WS SourceWatR™ MicrobE™ (cat# 595, lot# S300-078)

2500	Total Coliforms (MF)	CFU/100mL		80.0	57.0 - 112	Not Reported				79.6	13.7	
2530	Fecal Coliforms (MF)	CFU/100mL		48.0	21.0 - 109	Not Reported				48.2	21.8	
2525	E.coli (MF)	CFU/100mL		69.0	37.0 - 130	Not Reported				69.2	23.2	
2500	Total Coliform (MPN-Multiple Well)	MPN/100mL	85.2	97.9	60.4 - 158	Acceptable	SM 9223 B (Colilert-18 Quanti-Tray)-2004 2004	7/14/2021	-0.0433	97.9	24.5	
2530	Fecal Coliform (MPN-Multiple Well)	MPN/100mL		81.7	35.4 - 188	Not Reported				81.7	38.2	
2525	E.coli (MPN-Multiple Well)	MPN/100mL	85.2	97.7	60.3 - 158	Acceptable	SM 9223 B (Colilert-18 Quanti-Tray)-2004 2004	7/14/2021	-0.0428	97.7	24.5	

WS WS SourceWatR™ MicrobE™ (cat# 595, lot# S300-078)

2500	Total Coliforms (MF)	CFU/100mL		80.0	57.0 - 112	Not Reported				79.6	13.7	
2530	Fecal Coliforms (MF)	CFU/100mL		48.0	21.0 - 109	Not Reported				48.2	21.8	
2525	E.coli (MF)	CFU/100mL		69.0	37.0 - 130	Not Reported				69.2	23.2	
2500	Total Coliform (MPN-Multiple Well)	MPN/100mL	142	97.9	60.4 - 158	Acceptable	SM 9223 B (Colilert Quanti-Tray)-2004 2004	7/14/2021	0.116	97.9	24.5	
2530	Fecal Coliform (MPN-Multiple Well)	MPN/100mL		81.7	35.4 - 188	Not Reported				81.7	38.2	
2525	E.coli (MPN-Multiple Well)	MPN/100mL	142	97.7	60.3 - 158	Acceptable	SM 9223 B (Colilert Quanti-Tray)-2004 2004	7/14/2021	0.117	97.7	24.5	

WS Heterotrophic Plate Count (cat# 079, lot# S300-084)

2555	Heterotrophic Plate Count (MF, PP)	CFU/mL		141	105 - 190	Not Reported				141	21.1	
2555	Heterotrophic Plate Count (MPN)	MPN/mL	< 2.0	119	63.5 - 222	Not Acceptable	Simplate 2000	7/14/2021		119	39.6	



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





Final Evaluation Report

Study: **WS-300**

ERA Customer Number: **E772828**

Laboratory Name: **Energy Laboratories**

Organic Results



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Study # : WS-300





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07/12/21 - 08/26/21

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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WS Carbamate/Carbamoyloxime Pesticides (cat# 846, lot# S300-707)

7010	Aldicarb	µg/L	50.8	55.6	41.7 - 69.5	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-0.614	53.7	4.77	ljl
7015	Aldicarb sulfone	µg/L	20.9	24.8	18.6 - 31.0	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-0.980	22.5	1.67	ljl
7020	Aldicarb sulfoxide	µg/L	25.8	30.6	23.0 - 38.2	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-0.676	27.4	2.43	ljl
8080	Baygon	µg/L	32.1	35.5	29.1 - 41.8	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-0.540	34.0	3.48	ljl
7195	Carbaryl	µg/L	61.7	71.6	53.7 - 89.5	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-1.04	68.0	6.04	ljl
7205	Carbofuran	µg/L	95	105	57.8 - 152	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-0.439	99.9	11.2	ljl
7710	3-Hydroxycarbofuran	µg/L	15.7	17.4	13.9 - 20.9	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-0.607	16.9	1.99	ljl
7800	Methiocarb	µg/L	46.8	55.0	42.7 - 64.6	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-0.992	52.0	5.22	ljl
7805	Methomyl	µg/L	36.4	38.5	30.8 - 46.2	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-0.473	37.9	3.27	ljl
7940	Oxamyl (vydate)	µg/L	55.6	60.6	45.4 - 75.8	Acceptable	EPA 531.1 3.1 1995	7/31/2021	-0.590	59.4	6.44	ljl

WS Regulated Semivolatiles #2 Herbicides (cat# 849, lot# S300-691)

9390	Diquat	µg/L	9.81	18.2	9.10 - 27.3	Acceptable	EPA 549.2 1 1997	7/31/2021	-2.10	16.2	3.03	ljl
7525	Endothall	µg/L		141	70.5 - 212	Not Reported				140	20.5	
9411	Glyphosate	µg/L		459	367 - 551	Not Reported				476	39.7	
9528	Paraquat	µg/L		87.2	41.4 - 97.2	Not Reported				75.3	10.1	

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



CERTIFICATE OF RECOGNITION

ERA congratulates
Energy Laboratories
WS-300

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

Carbamate/Carbamoxyl oxime Pesticides	Corrosivity	Hardness
Inorganic Disinfection #2	Inorganics	MicrobE™ (Coliforms)
Nitrite	o-Phosphate Nutrients	Organic Carbon
pH	Regulated Semivolatiles	Silica
	#2 Herbicides	
Turbidity	Uranium	WS SourceWatR™ MicrobE™



Matthew Seebeck
Quality Officer