

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

WS-318  **Final Report**

WatR™ Supply Proficiency Testing

WatR™ Supply Study

Open Date: 01/09/2023

Close Date: 02/23/2023

Report Issued Date: 02/27/2023



A Waters Company

February 27, 2023

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

Enclosed is your final report for ERA's WS-318 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-318 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-318 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 "Craig Huff", with a horizontal line drawn through it.

Craig Huff
Senior Technical Manager

attachments





A Waters Company

Report Recipient	Contact/Phone Number	Reporting Type
California ELAP	Christine Sotelo / 916-341-5175	All Analytes
Colorado	Thomas Lill / 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
North Dakota	Cynthia Auen / 701-328-6172	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
Washington	Rebecca Wood / 360-871-8811	All Analytes



WS-318 Definitions & Study Discussion

Study Dates: 01/09/2023 - 02/23/2023

Report Issued: 02/27/2023

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-318 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-318 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-318 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-318 Laboratory Exception Report

Donny Juarez
Quality Assurance Manager
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2393 Salt Creek Hwy
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307-235-0515 x3244

EPA ID: WY00002
ERA Customer Number: E772828
Report Issued: 02/27/2023
Study Dates: 01/09/2023 - 02/23/2023

Not Acceptable Evaluations

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
WS Inorganic Disinfection #2 (cat# 5260, lot# S318-5262)							
1540	Bromide	µg/L	160	206	175 - 237	Not Acceptable	EPA 300.0 2.1 1993
WS o-Phosphate Nutrients (cat# 558, lot# S318-667)							
1870	ortho-Phosphate as P	mg/L	1.45	1.12	0.952 - 1.29	Not Acceptable	EPA 365.1 2 1993



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

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Study # : WS-318





Final Evaluation Report

Study: **WS-318**

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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Study # : WS-318





WS-318 Final Evaluation Report

A Waters Company

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307-235-0515 x3244

EPA ID:
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01/09/2023 - 02/23/2023

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 Inorganics (cat# 591, lot# S318-698)

1505	Alkalinity as CaCO3	mg/L	169	165	148 - 182	Acceptable	SM2320B 22nd ED 2011	1/17/2023	1.11	164	4.73	slf
1575	Chloride	mg/L	105	98.5	83.7 - 113	Acceptable	EPA 300.0 2.1 1993	1/16/2023	1.44	99.7	3.69	slf
1610	Conductivity at 25°C	µmhos/cm	1030	1060	954 - 1170	Acceptable	SM2510B 22nd ED 2011	1/13/2023	-0.636	1050	25.7	jcj
1730	Fluoride	mg/L	1.3	1.34	1.21 - 1.47	Acceptable	EPA 300.0 2.1 1993	1/16/2023	-0.195	1.32	0.0807	slf
1820	Nitrate + Nitrite as N	mg/L	5.8	5.99	5.09 - 6.89	Acceptable	EPA 353.2 2 1993	1/24/2023	-0.881	6.04	0.268	mmn
1810	Nitrate as N	mg/L	5.8	5.99	5.39 - 6.59	Acceptable	EPA 353.2 (calc)	2/15/2023	-0.851	6.01	0.250	dmb
1125	Potassium	mg/L		19.5	16.6 - 22.4	Not Reported				19.9	1.20	
2000	Sulfate	mg/L	173	166	141 - 191	Acceptable	EPA 300.0 2.1 1993	1/16/2023	0.775	168	7.08	slf
1955	Total Dissolved Solids at 180°C	mg/L	819	817	654 - 980	Acceptable	SM2540C 23rd ED 2015	1/13/2023	0.502	804	29.6	jcj

WS Inorganics (cat# 591, lot# S318-698)

1505	Alkalinity as CaCO3	mg/L		165	148 - 182	Not Reported				164	4.73	
1575	Chloride	mg/L		98.5	83.7 - 113	Not Reported				99.7	3.69	
1610	Conductivity at 25°C	µmhos/cm		1060	954 - 1170	Not Reported				1050	25.7	
1730	Fluoride	mg/L	1.36	1.34	1.21 - 1.47	Acceptable	SM4500F- C 22nd ED 2011	2/1/2023	0.548	1.32	0.0807	slf
1820	Nitrate + Nitrite as N	mg/L		5.99	5.09 - 6.89	Not Reported				6.04	0.268	
1810	Nitrate as N	mg/L		5.99	5.39 - 6.59	Not Reported				6.01	0.250	
1125	Potassium	mg/L		19.5	16.6 - 22.4	Not Reported				19.9	1.20	
2000	Sulfate	mg/L		166	141 - 191	Not Reported				168	7.08	
1955	Total Dissolved Solids at 180°C	mg/L		817	654 - 980	Not Reported				804	29.6	

WS pH (cat# 552, lot# S318-779)

1900	pH	S.U.	8.63	8.53	8.33 - 8.73	Acceptable	SM4500H+ B 22nd ED 2011	1/13/2023	1.00	8.54	0.0862	jcj
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All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01





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WS Inorganic Disinfection #2 (cat# 5260, lot# S318-5262)

1535	Bromate	µg/L		41.7	29.2 - 54.2	Not Reported				39.8	3.35	
1540	Bromide	µg/L	160	206	175 - 237	Not Acceptable	EPA 300.0 2.1 1993	1/25/2023	-3.73	205	12.1	slf

WS Nitrite (cat# 594, lot# S318-695)

1840	Nitrite as N	mg/L	0.488	0.442	0.376 - 0.508	Acceptable	SM4500NO2- B 22nd ED 2011	1/24/2023	1.57	0.446	0.0269	mnm
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WS o-Phosphate Nutrients (cat# 558, lot# S318-667)

1870	ortho-Phosphate as P	mg/L	1.45	1.12	0.952 - 1.29	Not Acceptable	EPA 365.1 2 1993	1/24/2023	5.27	1.11	0.0648	dmb
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WS Organic Carbon (cat# 557, lot# S318-669)

1710	Dissolved Organic Carbon (DOC)	mg/L		10.5	9.34 - 11.6	Not Reported				10.6	0.489	
2040	Total Organic Carbon (TOC)	mg/L	10.9	10.5	8.40 - 12.6	Acceptable	EPA 9060A 2004	2/8/2023	0.461	10.7	0.473	mnm

WS Organic Carbon (cat# 557, lot# S318-669)

1710	Dissolved Organic Carbon (DOC)	mg/L	10.7	10.5	9.34 - 11.6	Acceptable	SM 5310 C-2014 2014	1/27/2023	0.162	10.6	0.489	mnm
2040	Total Organic Carbon (TOC)	mg/L	10.7	10.5	8.40 - 12.6	Acceptable	SM 5310 C-2014 2014	1/27/2023	0.0376	10.7	0.473	mnm

WS Turbidity (cat# 592, lot# S318-699)

2055	Turbidity	NTU	2.5	2.51	2.09 - 2.92	Acceptable	SM2130B 22nd ED 2011	1/26/2023	-0.486	2.57	0.145	dmb
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All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01





Final Evaluation Report

Study: **WS-318**

ERA Customer Number: **E772828**

Laboratory Name: **Energy Laboratories**

Microbiology Results



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

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Study # : WS-318





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WS-318 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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WS MicrobE™ (Coliforms) (cat# 080A, lot# S318-085A)

2500	Total Coliforms - Sample 1	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 2	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 3	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 4	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 5	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 6	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 7	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 9	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf

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

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 3, 5 and 9
 Total Coliform Organism - Enterobacter cloacae (ATCC 35030), Samples 2, 4 and 6
 Negative (1) Coliform Organism - Pseudomonas putida (ATCC 31483), Sample 8
 Negative (2) Coliform Organism - Staphylococcus capitis (ATCC 35661), Sample 1
 Blank - Blank Pellet (Qualitative), Samples 7 and 10

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





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WS MicrobE™ (Coliforms) (cat# 080A, lot# S318-085A) (Continued)

2530	Fecal Coliforms - Sample 1	CFU/100mL		Absence	Absence	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		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 3, 5 and 9
 Total Coliform Organism - Enterobacter cloacae (ATCC 35030), Samples 2, 4 and 6
 Negative (1) Coliform Organism - Pseudomonas putida (ATCC 31483), Sample 8
 Negative (2) Coliform Organism - Staphylococcus capitis (ATCC 35661), Sample 1
 Blank - Blank Pellet (Qualitative), Samples 7 and 10

All analytes 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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WS MicrobE™ (Coliforms) (cat# 080A, lot# S318-085A) (Continued)

2525	E.coli - Sample 1	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 3	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 4	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 5	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 6	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 7	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 9	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 23rd ED 2016	1/16/2023				dmf

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

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 3, 5 and 9
 Total Coliform Organism - Enterobacter cloacae (ATCC 35030), Samples 2, 4 and 6
 Negative (1) Coliform Organism - Pseudomonas putida (ATCC 31483), Sample 8
 Negative (2) Coliform Organism - Staphylococcus capitis (ATCC 35661), Sample 1
 Blank - Blank Pellet (Qualitative), Samples 7 and 10

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WS MicrobE™ (Coliforms) (cat# 080B, lot# S318-085B)

2500	Total Coliforms - Sample 1	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 3	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 4	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 5	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 6	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 7	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 8	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 9	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2500	Total Coliforms - Sample 10	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf

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

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 4, 7 and 10
 Total Coliform Organism - Enterobacter cloacae (ATCC 35030), Samples 1, 3 and 8
 Negative (1) Coliform Organism - Pseudomonas putida (ATCC 31483), Sample 6
 Negative (2) Coliform Organism - Staphylococcus capitis (ATCC 35661), Sample 5
 Blank - Blank Pellet (Qualitative), Samples 2 and 9

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





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WS MicrobE™ (Coliforms) (cat# 080B, lot# S318-085B) (Continued)

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

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

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 4, 7 and 10
 Total Coliform Organism - Enterobacter cloacae (ATCC 35030), Samples 1, 3 and 8
 Negative (1) Coliform Organism - Pseudomonas putida (ATCC 31483), Sample 6
 Negative (2) Coliform Organism - Staphylococcus capitis (ATCC 35661), Sample 5
 Blank - Blank Pellet (Qualitative), Samples 2 and 9

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





A Waters Company

WS-318 Final Evaluation Report

Donny Juarez
Quality Assurance Manager
Energy Laboratories
2393 Salt Creek Hwy
Casper, WY 82601
307-235-0515 x3244

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

WY00002
E772828
02/27/2023
01/09/2023 - 02/23/2023

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 MicrobE™ (Coliforms) (cat# 080B, lot# S318-085B) (Continued)

2525	E.coli - Sample 1	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 3	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 4	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 5	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 6	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 7	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 9	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf
2525	E.coli - Sample 10	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023				dmf

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

Fecal Coliform Organism - Escherichia coli (ATCC 35421), Samples 4, 7 and 10
 Total Coliform Organism - Enterobacter cloacae (ATCC 35030), Samples 1, 3 and 8
 Negative (1) Coliform Organism - Pseudomonas putida (ATCC 31483), Sample 6
 Negative (2) Coliform Organism - Staphylococcus capitis (ATCC 35661), Sample 5
 Blank - Blank Pellet (Qualitative), Samples 2 and 9

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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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WS WS SourceWatR™ MicrobE™ (cat# 595, lot# S318-078)

2500	Total Coliforms (MF)	CFU/100mL		85.0	44.0 - 166	Not Reported				85.4	30.5	
2530	Fecal Coliforms (MF)	CFU/100mL		54.0	18.0 - 163	Not Reported				54.2	36.3	
2525	E.coli (MF)	CFU/100mL		77.0	33.0 - 181	Not Reported				77.1	37.0	
2500	Total Coliform (MPN-Multiple Well)	MPN/100mL	178	116	74.3 - 181	Acceptable	SM9223 COLertQT 23rd ED 2016	1/16/2023	0.130	116	26.7	
2530	Fecal Coliform (MPN-Multiple Well)	MPN/100mL		86.4	39.3 - 190	Not Reported				86.4	37.6	
2525	E.coli (MPN-Multiple Well)	MPN/100mL	178	115	73.9 - 180	Acceptable	SM9223 COLertQT 23rd ED 2016	1/16/2023	0.132	115	26.6	

WS WS SourceWatR™ MicrobE™ (cat# 595, lot# S318-078)

2500	Total Coliforms (MF)	CFU/100mL		85.0	44.0 - 166	Not Reported				85.4	30.5	
2530	Fecal Coliforms (MF)	CFU/100mL		54.0	18.0 - 163	Not Reported				54.2	36.3	
2525	E.coli (MF)	CFU/100mL		77.0	33.0 - 181	Not Reported				77.1	37.0	
2500	Total Coliform (MPN-Multiple Well)	MPN/100mL	83.9	116	74.3 - 181	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023	-0.0987	116	26.7	
2530	Fecal Coliform (MPN-Multiple Well)	MPN/100mL		86.4	39.3 - 190	Not Reported				86.4	37.6	
2525	E.coli (MPN-Multiple Well)	MPN/100mL	83.9	115	73.9 - 180	Acceptable	SM9223 COLert18 23rd ED 2016	1/16/2023	-0.0974	115	26.6	

WS Heterotrophic Plate Count (cat# 079, lot# S318-084)

2555	Heterotrophic Plate Count (MF, PP)	CFU/mL		42.0	33.0 - 53.0	Not Reported				41.8	4.94	
2555	Heterotrophic Plate Count (MPN)	MPN/mL	37.8	43.5	22.5 - 84.3	Acceptable	Simplate 2000	1/16/2023	-0.0516	43.5	15.4	



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





Final Evaluation Report

Study: **WS-318**

ERA Customer Number: **E772828**

Laboratory Name: **Energy Laboratories**

Organic Results



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

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Study # : WS-318





A Waters Company

WS-318 Final Evaluation Report

Donny Juarez
Quality Assurance Manager
Energy Laboratories
2393 Salt Creek Hwy
Casper, WY 82601
307-235-0515 x3244

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

WY00002
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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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WS Carbamate/Carbamoyloxime Pesticides (cat# 846, lot# S318-707)

7010	Aldicarb	µg/L	33.6	33.6	25.2 - 42.0	Acceptable	EPA 531.1 3.1 1995	1/27/2023	-0.200	34.4	3.97	ljl
7015	Aldicarb sulfone	µg/L	92.2	98.3	73.7 - 123	Acceptable	EPA 531.1 3.1 1995	1/27/2023	-0.0720	92.6	6.03	ljl
7020	Aldicarb sulfoxide	µg/L	20.6	22.0	16.5 - 27.5	Acceptable	EPA 531.1 3.1 1995	1/27/2023	-0.133	21.0	2.91	ljl
8080	Baygon	µg/L	30.1	31.0	25.4 - 36.5	Acceptable	EPA 531.1 3.1 1995	1/27/2023	-0.302	30.8	2.28	ljl
7195	Carbaryl	µg/L	52	54.6	41.0 - 68.2	Acceptable	EPA 531.1 3.1 1995	1/27/2023	-0.442	53.7	3.92	ljl
7205	Carbofuran	µg/L	87.8	91.0	50.0 - 132	Acceptable	EPA 531.1 3.1 1995	1/27/2023	0.153	86.8	6.68	ljl
7710	3-Hydroxycarbofuran	µg/L	44.9	44.6	35.7 - 53.5	Acceptable	EPA 531.1 3.1 1995	1/27/2023	0.413	43.4	3.68	ljl
7800	Methiocarb	µg/L	112	120	93.1 - 141	Acceptable	EPA 531.1 3.1 1995	1/27/2023	0.360	110	6.57	ljl
7805	Methomyl	µg/L	59	61.2	49.0 - 73.4	Acceptable	EPA 531.1 3.1 1995	1/27/2023	0.0109	58.9	7.77	ljl
7940	Oxamyl (vydate)	µg/L	50	50.1	37.6 - 62.6	Acceptable	EPA 531.1 3.1 1995	1/27/2023	0.173	49.2	4.87	ljl

WS Regulated Semivolatiles #2 Herbicides (cat# 849, lot# S318-691)

9390	Diquat	µg/L	30.6	35.6	17.8 - 53.4	Acceptable	EPA 549.2 1 1997	1/25/2023	0.195	29.3	6.63	ljl
7525	Endothall	µg/L		317	158 - 476	Not Reported				281	80.8	
9411	Glyphosate	µg/L	573	567	454 - 680	Acceptable	EPA 547 1990	1/30/2023	-0.236	587	57.9	ljl
9528	Paraquat	µg/L		82.3	39.1 - 91.8	Not Reported				43.8	11.4	

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



CERTIFICATE OF RECOGNITION

ERA congratulates
Energy Laboratories
WS-318

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

Carbamate/Carbamoxyl me Pesticides	Heterotrophic Plate Count
Inorganics	MicrobE™ (Coliforms)
Nitrite	Organic Carbon
pH	Regulated Semivolatiles #2
	Herbicides
Turbidity	WS SourceWatR™
	MicrobE™



Craig Huff
Senior Technical Manager