

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



# WatR™Pollution Proficiency Testing

WatR™Pollution Study

Open Date: 07/15/2024

Close Date: 08/29/2024

Report Issued Date: 09/03/2024



September 3, 2024

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

Enclosed is your final report for ERA's WP-354 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-354 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-354 WatR™Pollution Proficiency Testing study. If you have any questions, please contact our Proficiency Testing Department at 1-800-372-0122.

Sincerely,

Craig Huff

Senior Technical Manager

attachments





Report Recipient	Contact/Phone Number	Reporting Type
Alaska	Shera Hickman / 907-375-8210	All Analytes
Florida	Vanessa Soto / 904-791-1599	All Analytes
Louisiana	Paul Bergeron / 225-219-3247	All Analytes
Nevada	Paige Menicucci / 775-687-9311	All Analytes
North Dakota	Sarah Brunner / 701-328-6119	All Analytes
Texas	Frank Jamison / (512) 239-3754	All Analytes



### WP-354 Definitions & Study Discussion

Study Dates: 07/15/2024 - 08/29/2024 Report Issued: 09/03/2024

#### **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-354 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-354 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-354 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-354 Laboratory Exception Report

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

EPA ID: WY00002
ERA Customer Number: E772828
Report Issued: 09/03/2024

Study Dates: 07/15/2024 - 08/29/2024

#### Not Acceptable Evaluations

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
WP Hexav	alent Chromium (cat# 898, lot# P354-984)						
1045	Hexavalent Chromium	μg/L	332	285	236 - 331	Not Acceptable	SM3500Cr B 22nd ED 2011





Study #: WP-354



## Final Report Results For Laboratory Energy Laboratories







### **Final Evaluation Report**

Study: **WP-354** 

ERA Customer Number: E772828

Laboratory Name: Energy Laboratories

# **Inorganic Results**





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WP-354 Final Evaluation Report

Donny Juarez Quality Assurance Manager Energy Laboratories 2393 Salt Creek Hwy Casper, WY 82601 307-235-0515 x3244 
 EPA ID:
 WY00002

 ERA Customer Number:
 E772828

 Report Issued:
 09/03/2024

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
WP Mine	WP Minerals (cat# 581, lot# P354-506)											
1505	Alkalinity as CaCO3	mg/L	45.6	44.1	37.5 - 50.7	Acceptable	SM2320B 22nd ED 2011	7/22/2024	0.481	44.4	2.46	slf
1575	Chloride	mg/L	87.7	85.9	75.2 - 96.8	Acceptable	EPA 300.0 2.1 1993	7/24/2024	0.337	86.8	2.76	jls1
1610	Conductivity at 25°C	µmhos/cm	432	435	392 - 478	Acceptable	SM2510B 22nd ED 2011	7/17/2024	-0.550	438	11.7	jil
1730	Fluoride	mg/L	1.06	1.05	0.803 - 1.28	Acceptable	EPA 300.0 2.1 1993	7/24/2024	0.169	1.05	0.0832	jls1
1125	Potassium	mg/L		19.1	15.3 - 22.9	Not Reported				19.2	1.02	
1155	Sodium	mg/L		75.1	60.1 - 90.1	Not Reported				74.6	4.00	
2000	Sulfate	mg/L	21.8	20.8	16.4 - 24.3	Acceptable	EPA 300.0 2.1 1993	7/24/2024	0.977	20.8	1.03	jls1
1955	Total Dissolved Solids at 180°C	mg/L		280	235 - 325	Not Reported				275	14.8	
1950	Total Solids at 105°C	mg/L		284	239 - 329	Not Reported				285	18.6	
WP Mine	erals (cat# 581, lot# P354-506)											
1505	Alkalinity as CaCO3	mg/L		44.1	37.5 - 50.7	Not Reported				44.4	2.46	
1575	Chloride	mg/L		85.9	75.2 - 96.8	Not Reported				86.8	2.76	
1610	Conductivity at 25°C	µmhos/cm		435	392 - 478	Not Reported				438	11.7	
1730	Fluoride	mg/L	1.09	1.05	0.803 - 1.28	Acceptable	SM4500F- C 22nd ED 2011	7/30/2024	0.529	1.05	0.0832	slf
1125	Potassium	mg/L		19.1	15.3 - 22.9	Not Reported				19.2	1.02	
1155	Sodium	mg/L		75.1	60.1 - 90.1	Not Reported				74.6	4.00	
2000	Sulfate	mg/L		20.8	16.4 - 24.3	Not Reported				20.8	1.03	
1955	Total Dissolved Solids at 180°C	mg/L		280	235 - 325	Not Reported				275	14.8	
1950	Total Solids at 105°C	mg/L		284	239 - 329	Not Reported				285	18.6	
WP pH (d	cat# 577, lot# P354-977)											
1900	рН	S.U.	6.65	6.60	6.40 - 6.80	Acceptable	SM4500H+ B 22nd ED 2011	7/17/2024	1.05	6.61	0.0417	jil
ISO/IEC 17043:2010	All I de A A Di I			<b>.</b>	0.0 5: 11							





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WP-354 Final Evaluation Report

A Waters Company

Donny Juarez Quality Assurance Manager Energy Laboratories 2393 Salt Creek Hwy Casper, WY 82601 307-235-0515 x3244 EPA ID: WY00002
ERA Customer Number: E772828
Report Issued: 09/03/2024
Study Pates: 07/45/2024

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
WP Solid	WP Solids (cat# 241, lot# P354-499)											
1960	Total Suspended Solids	mg/L	50	50.7	39.4 - 58.0	Acceptable	SM 2540 D-2015 2015	7/17/2024	0.185	49.6	2.33	jil
1955	Total Dissolved Solids at 180°C	mg/L	324	331	286 - 376	Acceptable	SM2540C 23rd ED 2015	7/18/2024	-0.578	333	16.1	jil
1950	Total Solids at 105°C	mg/L		391	346 - 436	Not Reported				388	18.3	
WP Simp	ole Nutrients (cat# 584, lot# P354-505)											
1515	Ammonia as N	mg/L	3.79	3.16	2.37 - 4.02	Acceptable	EPA 350.1 2 1993	7/18/2024	2.67	3.18	0.230	dmb
1820	Nitrate + Nitrite as N	mg/L	4.11	4.15	3.38 - 4.88	Acceptable	EPA 353.2 2 1993	7/19/2024	-0.168	4.15	0.229	dmb
1810	Nitrate as N	mg/L	4.11	4.15	3.32 - 4.96	Acceptable	EPA 353.2 (calc)	7/23/2024	-0.182	4.16	0.265	dmb
1870	ortho-Phosphate as P	mg/L	4.25	4.24	3.60 - 4.88	Acceptable	EPA 365.1 2 1993	7/17/2024	-0.0132	4.25	0.229	dmb
1827	Total Nitrogen	mg/L		7.31	4.17 - 10.4	Not Reported				7.51	0.593	
WP Com	plex Nutrients (cat# 579, lot# P354-525	)										
1795	Total Kjeldahl Nitrogen	mg/L		19.3	14.4 - 23.5	Not Reported				19.2	0.900	
1910	Total phosphorus as P	mg/L	8.1	8.60	7.17 - 9.93	Acceptable	EPA 365.1 2 1993	7/19/2024	-1.07	8.53	0.402	dmb
WP Nitrit	re (cat# 888, lot# P354-770)											
1840	Nitrite as N	mg/L	1.02	1.01	0.819 - 1.20	Acceptable	SM4500NO2- B 22nd ED 2011	7/18/2024	0.0975	1.01	0.0795	jls1
WP Dema	WP Demand (cat# 578, lot# P354-516)											
1530	BOD	mg/L	144	123	66.4 - 180	Acceptable	SM 5210 B-2016 2016	7/17/2024	1.54	123	13.9	slf
1555	CBOD	mg/L	142	111	52.1 - 171	Acceptable	SM 5210 B-2016 2016	7/17/2024	1.31	115	20.7	slf
1565	COD	mg/L		200	162 - 232	Not Reported				199	11.2	
2040	тос	mg/L	79.2	79.1	66.4 - 91.0	Acceptable	EPA 9060A 2004	7/23/2024	0.0908	79.0	2.60	dmb





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WP-354 Final Evaluation Report

A Waters Company

Donny Juarez Quality Assurance Manager Energy Laboratories 2393 Salt Creek Hwy Casper, WY 82601 307-235-0515 x3244 EPA ID: WY00002
ERA Customer Number: E772828
Report Issued: 09/03/2024
Study Dates: 07/15/2024 - 08/29/2024

TNI Study Reported Assigned Acceptance Performance Analysis Study **Analyst Name** Units **Method Description** Z Score Standard Analyte Analyte Limits Value Value Evaluation Date Mean Code Deviation WP Demand (cat# 578, lot# P354-516) 123 1530 BOD mg/L 66.4 - 180 Not Reported 123 13.9 1555 CBOD 115 20.7 mg/L 111 52.1 - 171 Not Reported COD 200 199 1565 mg/L 162 - 232 Not Reported 11.2 2040 TOC mg/L 82.4 79.1 66.4 - 91.0 SM 5310 C-2014 2014 7/18/2024 1.32 79.0 2.60 jls1 Acceptable WP Oil & Grease (cat# 582, lot# P354-518) 92.7 1803 92.7 65.3 - 108 EPA 1664A 1999 8/27/2024 0.689 86.5 9.06 n-Hexane Extractable Material(O&G)(Grav) mg/L Acceptable 1803 n-Hexane Extractable Material(O&G)(IR) mg/L 114 81.9 - 132 Not Reported 105 35.5 WP Hexavalent Chromium (cat# 898, lot# P354-984) 332 285 282 1045 Hexavalent Chromium µg/L 236 - 331 SM3500Cr B 22nd ED 2011 7/30/2024 16.0 Not Acceptable dmb WP Sulfide (cat# 891, lot# P354-071) 7.04 2005 7.22 7/18/2024 -0.08537.15 1.30 Sulfide mg/L 3.39 - 10.3Acceptable SM 4500-S2 F-2011 2011 jls1 WP Sulfide (cat# 891, lot# P354-071) 2005 Sulfide 7.38 7.22 3.39 - 10.3Acceptable SM 4500-S2 D-2011 2011 7/18/2024 0.176 7.15 1.30 jls1 mg/L WP Acidity (cat# 885, lot# P354-915) 712 - 870 7/18/2024 1500 Acidity as CaCO3 790 791 Acceptable SM2310B 22nd ED 2011 0.146 784 41.1 slf mg/L WP Bromide (cat# 887, lot# P354-769) 2.52 - 3.84 EPA 300.0 2.1 1993 7/24/2024 1540 Bromide mg/L 3.6 3.20 Acceptable 1.64 3.25 0.214 jls1 WP Total Residual Chlorine (cat# 587, lot# P354-501) 1945 0.954 0.914 0.0915 ree Residual Chlorine mg/L 0.712 - 1.15 Not Reported 0.94 0.753 - 1.21 SM4500Cl G 22nd ED 2011 7/30/2024 -0.364 1940 Total Residual Chlorine mg/L 1.01 Acceptable 0.965 0.0694 dmb







### **Final Evaluation Report**

Study: **WP-354** 

ERA Customer Number: E772828

Laboratory Name: Energy Laboratories

# Microbiology Results





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WP-354 Final Evaluation Report

A Waters Company

Donny Juarez Quality Assurance Manager Energy Laboratories 2393 Salt Creek Hwy Casper, WY 82601 307-235-0515 x3244 EPA ID: WY00002 ERA Customer Number: E772828 Report Issued: 09/03/2024

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
WP Wast	eWatR™ Coliform MicrobE™ (cat# 576	6, lot# P354-083)										
2500	Total Coliforms (MF)	CFU/100mL		174	98.0 - 311	Not Reported				174	35.6	
2530	Fecal Coliforms (MF)	CFU/100mL		83.0	31.0 - 220	Not Reported				82.7	31.5	
2525	E.coli (MF)	CFU/100mL		142	73.0 - 279	Not Reported				142	34.3	
2500	Total Coliform (MPN-Multiple Well)	MPN/100mL	225	194	100 - 377	Acceptable	SM9223 COLt18QT 23rd ED 2016	7/17/2024	0.665	194	46.0	
2530	Fecal Coliform (MPN-Multiple Well)	MPN/100mL	108	137	60.9 - 309	Acceptable	Colilert®-18 (Fecal Coliforms) 2010	7/17/2024	-0.884	137	41.4	
2525	E.coli (MPN-Multiple Well)	MPN/100mL	225	193	99.1 - 377	Acceptable	SM9223 COLt18QT 23rd ED 2016	7/17/2024	0.684	193	46.3	
WP Wast	eWatR™ Coliform MicrobE™ (cat# 576	6, lot# P354-083)										
2500	Total Coliforms (MF)	CFU/100mL		174	98.0 - 311	Not Reported				174	35.6	
2530	Fecal Coliforms (MF)	CFU/100mL		83.0	31.0 - 220	Not Reported				82.7	31.5	
2525	E.coli (MF)	CFU/100mL		142	73.0 - 279	Not Reported				142	34.3	
2500	Total Coliform (MPN-Multiple Well)	MPN/100mL	178	194	100 - 377	Acceptable	SM9223 COLertQT 23rd ED 2016	7/17/2024	-0.397	194	46.0	
2530	Fecal Coliform (MPN-Multiple Well)	MPN/100mL		137	60.9 - 309	Not Reported				137	41.4	
2525	E.coli (MPN-Multiple Well)	MPN/100mL	178	193	99.1 - 377	Acceptable	SM9223 COLertQT 23rd ED 2016	7/17/2024	-0.369	193	46.3	







### **Final Evaluation Report**

Study: **WP-354** 

ERA Customer Number: E772828

Laboratory Name: Energy Laboratories

# **Organic Results**





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WP-354 Final Evaluation Report

A Waters Company

Donny Juarez Quality Assurance Manager Energy Laboratories 2393 Salt Creek Hwy Casper, WY 82601 307-235-0515 x3244 EPA ID: WY00002 ERA Customer Number: E772828 Report Issued: 09/03/2024

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
WP Gaso	oline Range Organics (GRO) in Water (	cat# 640, lot# P354	-762)									
9408	Gasoline Range Organics (GRO)	μg/L	3340	3300	1270 - 5760	Acceptable	EPA 8015C 3 2007	7/25/2024	-0.558	3860	933	adw
4375	Benzene in GRO	μg/L		10.3	5.18 - 16.4	Not Reported				9.66	1.50	
4765	Ethylbenzene in GRO	μg/L		90.3	56.0 - 126	Not Reported				105	5.67	
5140	Toluene in GRO	μg/L		246	137 - 321	Not Reported				246	21.4	
5260	Xylenes, total in GRO	μg/L		488	306 - 677	Not Reported				571	59.8	
WP Dies	el Range Organics (DRO) in Water (cat	# 641, lot# P354-76	i4)									
9369	Diesel Range Organics (DRO)	μg/L	820	1970	292 - 2590	Acceptable	EPA 8015C 3 2007	8/7/2024	-1.37	1330	372	adw
WP Total	WP Total Petroleum Hydrocarbons (TPH) in Water (cat# 642, lot# P354-642)											
1853	TPH (Gravimetric)	mg/L	107	144	68.8 - 208	Acceptable	EPA 1664A SGT 1999	8/27/2024	0.765	91.8	19.9	
1853	TPH (IR)	mg/L		177	85.1 - 256	Not Reported				125	49.6	





# **CERTIFICATE OF RECOGNITION**

ERA congratulates

# **Energy Laboratories** WP-354

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

Acidity	Bromide	Complex Nutrients	Demand
Diesel Range	Gasoline Range	Minerals	Nitrite
Organics (DRO) in	Organics (GRO) in		

Oil & Grease	рН	Simple Nutrients	Solids
--------------	----	------------------	--------

	Lludus sauls sus (TDLI)	Olalasiaa	Oalifama Mianala
Sulfide	Lotal Petroleum	Lotal Residual	WasteWatR™

in Water

Water

Hydrocarbons (TPH) Chlorine Coliform MicrobE™

Craig Huff Senior Technical Manager