



A Waters Company

Kelley E. Keenan
Environmental Testing Solutions, Inc.
PO Box 7565
Asheville, NC 28802-7565

WP-206



Final Report

WatR™ Pollution Proficiency Testing

WatR™ Pollution Study

Open Date: 03/12/12

Close Date: 04/26/12

Report Issued Date: 05/15/12



A Waters Company

May 15, 2012

Kelley E. Keenan
Environmental Testing Solutions, Inc.
PO Box 7565
Asheville, NC 28802-7565

Enclosed is your final report for ERA's WP-206 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-206 WatR™Pollution Proficiency Testing study have been evaluated using the following tiered approach. If the analyte is listed in the current TNI Fields of Proficiency Testing (FoPT) tables, the evaluation was completed by comparing the reported result to the acceptance limits generated using the criteria contained in the current TNI FoPT tables. If the analyte is not included in the TNI FoPT tables, the reported result has been evaluated using the procedures outlined in ERA's Standard Operating Procedure for the Generation of Performance Acceptance Limits (SOP 0260).

Please note the following changes to our final reports:

- At the request of the TNI Accreditation Council, we have included a Laboratory Exception Report that includes a list of all analytes reported with less than qualifiers when the assigned value was greater than "0." In addition, because we have received many requests from laboratories, this report also includes a list of all analytes with "Not Acceptable" evaluations.
- Some states have elected not to convert to the 2009 TNI Standards at this time. If you have released your results to a state that has retained the 2003 NELAC Evaluation Criteria, your final report will include a section that evaluates the results according to the 2003 Standard in addition to the 2009 TNI Standards.

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 well over three hundred 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 helpful in helping you work through your technical issues.

Thank you for your participation in ERA's WP-206 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 that reads "Jay R. McBurney". The signature is written in a cursive, flowing style.

Jay R. McBurney
Quality Program Manager

attachments
jrm



A Waters Company

Report Recipient	Contact/Phone Number	Reporting Type	Evaluation Type
North Carolina (WP)	Dana Satterwhite / 919-733-3908 x 243	All Analytes	2009 TNI
South Carolina	Carol Smith / 803-896-0992	All Analytes	2003 NELAC

WP-206 Definitions & Study Discussion

Study Dates: 03/12/12 - 04/26/12

Report Issued: 05/15/12

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) tables. 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 USEPA/NELAC FoPT tables, 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-206 WatR™Pollution Proficiency Testing study has been reviewed by ERA senior management and certified compliant with the requirements of the 2009 TNI PT Standard and the criteria contained in the most current TNI Fields of Proficiency Testing (FoPT) tables.

ERA's WP-206 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 PT Standard and the criteria contained in the most current TNI FoPT tables.

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-206 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-206 Laboratory Exception Report

Kelley E. Keenan
Supervisor
Environmental Testing Solutions, Inc.
PO Box 7565
Asheville, NC 28802-7565
828-350-9364

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

NC01230
E559701
05/15/12
03/12/12 - 04/26/12

2009 TNI Evaluation Check: There are no values reported with < where the assigned value was greater than 0.

2009 TNI Not Acceptable Evaluations: There were no Not Acceptable evaluations for this study.

Final Report Results For Laboratory Environmental Testing Solutions, Inc.

2009 TNI Evaluation Report

Study: **WP-206**

ERA Customer Number: **E559701**

Laboratory Name: **Environmental Testing
Solutions, Inc.**

Inorganic Results





A Waters Company

WP-206 2009 TNI Evaluation Final Complete Report

Kelley E. Keenan
Supervisor
Environmental Testing Solutions, Inc.
PO Box 7565
Asheville, NC 28802-7565
828-350-9364

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

NC01230
E559701
05/15/12
03/12/12 - 04/26/12

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 Minerals (cat# 581)

1505	Alkalinity as CaCO3	mg/L	42	41.9	35.8 - 48.6	Acceptable	SM2320B 21st ED 2005	3/23/2012	0.0858	41.8	1.75	
1575	Chloride	mg/L	62	62.6	53.4 - 72.3	Acceptable	SM4500Cl- C VIS 21st ED 2005	3/23/2012	-0.737	63.8	2.42	
1610	Conductivity at 25°C	µmhos/cm	383	384	343 - 425	Acceptable	SM2510B 21st ED 2005	3/23/2012	-0.113	384	10.4	
1730	Fluoride	mg/L		3.00	2.50 - 3.51	Not Reported				2.99	0.144	
1125	Potassium	mg/L		27.6	22.8 - 32.9	Not Reported				27.8	1.38	
1155	Sodium	mg/L		58.0	49.2 - 66.6	Not Reported				59.4	2.86	
2000	Sulfate	mg/L	24	26.4	20.9 - 31.2	Acceptable	HACH 8051 4th ED 2003	3/23/2012	-1.24	26.1	1.71	
1955	Total Dissolved Solids at 180°C	mg/L	250	246	182 - 310	Acceptable	SM2540C 21st ED 2005	3/23/2012	0.247	246	15.1	
1950	Total Solids at 105°C	mg/L		250	212 - 285	Not Reported				255	14.9	

WP Hardness (cat# 580)

1960	Non-Filterable Residue (TSS)	mg/L	52	58.8	46.5 - 66.6	Acceptable	SM2540D 21st ED 2005	3/23/2012	-0.741	54.7	3.68	
1035	Calcium	mg/L		33.4	29.7 - 38.0	Not Reported				32.6	1.65	
1085	Magnesium	mg/L		32.0	27.4 - 36.8	Not Reported				31.5	1.51	
1550	Calcium Hardness as CaCO3	mg/L		83.5	74.2 - 95.1	Not Reported				81.7	5.01	
1755	Total Hardness as CaCO3	mg/L	202	215	187 - 246	Acceptable	SM2340C 21st ED 2005	3/23/2012	-0.794	208	7.26	

WP pH (cat# 577)

1900	pH	S.U.	5.37	5.36	5.16 - 5.56	Acceptable	SM4500H+ B 21st ED 2005	3/23/2012	-0.0892	5.38	0.0573	
------	----	------	------	------	-------------	------------	-------------------------	-----------	---------	------	--------	--

WP Settleable Solids (cat# 883)

1965	Settleable Solids	mL/L	27	23.2	18.7 - 29.7	Acceptable	SM2540F 21st ED 2005	3/21/2012	0.997	24.7	2.31	
------	-------------------	------	----	------	-------------	------------	----------------------	-----------	-------	------	------	--



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





A Waters Company

WP-206 2009 TNI Evaluation Final Complete Report

Kelley E. Keenan
Supervisor
Environmental Testing Solutions, Inc.
PO Box 7565
Asheville, NC 28802-7565
828-350-9364

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

NC01230
E559701
05/15/12
03/12/12 - 04/26/12

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 Simple Nutrients (cat# 584)

1515	Ammonia as N	mg/L	16	15.9	11.8 - 19.7	Acceptable	SM4500NH3 D 21st ED 2005	3/23/2012	0.189	15.8	1.05	
1820	Nitrate + Nitrite as N	mg/L		8.63	7.03 - 10.0	Not Reported				8.62	0.395	
1810	Nitrate as N	mg/L		8.63	6.72 - 10.4	Not Reported				8.64	0.414	
1870	ortho-Phosphate as P	mg/L		4.65	3.84 - 5.50	Not Reported				4.67	0.193	

WP Demand (cat# 578)

1530	BOD	mg/L	82	88.6	44.7 - 132	Acceptable	SM5210B 21st ED 2005	3/30/2012	-0.555	89.2	13.1	
1555	CBOD	mg/L	52	76.2	34.2 - 118	Acceptable	SM5210B 21st ED 2005	3/30/2012	-2.19	81.3	13.4	
1565	COD	mg/L	147	143	109 - 164	Acceptable	HACH 8000 4th ED 2003	3/23/2012	0.808	140	8.85	
2040	TOC	mg/L		56.7	47.3 - 65.3	Not Reported				57.4	2.99	

WP Turbidity (cat# 893)

2055	Turbidity	NTU	3.6	3.94	2.88 - 4.95	Acceptable	SM2130B 21st ED 2005	3/23/2012	-0.904	3.86	0.286	
------	-----------	-----	-----	------	-------------	------------	----------------------	-----------	--------	------	-------	--

WP Low-Level Total Residual Chlorine (cat# 881)

1940	Low Level Total Residual Chlorine	µg/L	124	134	74.0 - 194	Acceptable	ORION 97-70	3/27/2012	-0.25	128	17.2	
------	-----------------------------------	------	-----	-----	------------	------------	-------------	-----------	-------	-----	------	--



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



2009 TNI Evaluation Report

Study: **WP-206**

ERA Customer Number: **E559701**

Laboratory Name: **Environmental Testing
Solutions, Inc.**

Microbiology Results



A Waters Company

WP-206 2009 TNI Evaluation Final Complete Report

Kelley E. Keenan
Supervisor
Environmental Testing Solutions, Inc.
PO Box 7565
Asheville, NC 28802-7565
828-350-9364

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

NC01230
E559701
05/15/12
03/12/12 - 04/26/12

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 WasteWatR™ Coliform MicrobE™ (cat# 576)

2500	Total Coliforms (MF)	CFU/100mL		748	224 - 1220	Not Reported				522	165	
2530	Fecal Coliforms (MF)	CFU/100mL	280	748	44.0 - 940	Acceptable	SM9222D m FC 21st ED 2005	3/21/2012	0.510	204	149	
2525	E.coli (MF)	CFU/100mL		748	96.0 - 1290	Not Reported				352	198	
2500	Total Coliforms (MPN)	MPN/100mL	240	997	110 - 3220	Acceptable	SM9221B LTB 21st ED 2005	3/26/2012	-0.688	596	518	
2530	Fecal Coliforms (MPN)	MPN/100mL	330	997	62.9 - 3710	Acceptable	SM9221E A1 21st ED 2005	3/21/2012	-0.252	483	609	
2525	E.coli (MPN)	MPN/100mL		997	312 - 1910	Not Reported				772	267	

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.



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



Final Report Results For Laboratory Environmental Testing Solutions, Inc.

2003 NELAC Evaluation Report

Study: **WP-206**

ERA Customer Number: **E559701**

Laboratory Name: **Environmental Testing
Solutions, Inc.**

Inorganic Results





A Waters Company

WP-206 2003 NELAC Evaluation Final Complete Report

Kelley E. Keenan
Supervisor
Environmental Testing Solutions, Inc.
PO Box 7565
Asheville, NC 28802-7565
828-350-9364

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

NC01230
E559701
05/15/12
03/12/12 - 04/26/12

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 Minerals (cat# 581)

1505	Alkalinity as CaCO3	mg/L	42	41.9	35.8 - 48.6	Acceptable	SM2320B 21st ED 2005	3/23/2012	0.0858	41.8	1.75	
1575	Chloride	mg/L	62	62.6	53.4 - 72.3	Acceptable	SM4500Cl- C VIS 21st ED 2005	3/23/2012	-0.737	63.8	2.42	
1610	Conductivity at 25°C	µmhos/cm	383	384	343 - 425	Acceptable	SM2510B 21st ED 2005	3/23/2012	-0.113	384	10.4	
1730	Fluoride	mg/L		3.00	2.50 - 3.51	Not Reported				2.99	0.144	
1125	Potassium	mg/L		27.6	22.8 - 32.9	Not Reported				27.8	1.38	
1155	Sodium	mg/L		58.0	49.2 - 66.6	Not Reported				59.4	2.86	
2000	Sulfate	mg/L	24	26.4	20.9 - 31.2	Acceptable	HACH 8051 4th ED 2003	3/23/2012	-1.24	26.1	1.71	
1955	Total Dissolved Solids at 180°C	mg/L	250	246	182 - 310	Acceptable	SM2540C 21st ED 2005	3/23/2012	0.247	246	15.1	
1950	Total Solids at 105°C	mg/L		250	212 - 285	Not Reported				255	14.9	

WP Hardness (cat# 580)

1960	Non-Filterable Residue (TSS)	mg/L	52	58.8	46.5 - 66.6	Acceptable	SM2540D 21st ED 2005	3/23/2012	-0.741	54.7	3.68	
1035	Calcium	mg/L		33.4	29.7 - 38.0	Not Reported				32.6	1.65	
1085	Magnesium	mg/L		32.0	27.4 - 36.8	Not Reported				31.5	1.51	
1550	Calcium Hardness as CaCO3	mg/L		83.5	74.2 - 95.1	Not Reported				81.7	5.01	
1755	Total Hardness as CaCO3	mg/L	202	215	187 - 246	Acceptable	SM2340C 21st ED 2005	3/23/2012	-0.794	208	7.26	

WP pH (cat# 577)

1900	pH	S.U.	5.37	5.36	5.16 - 5.56	Acceptable	SM4500H- B 21st ED 2005	3/23/2012	-0.0892	5.38	0.0573	
------	----	------	------	------	-------------	------------	-------------------------	-----------	---------	------	--------	--

WP Settleable Solids (cat# 883)

1965	Settleable Solids	mL/L	27	23.2	18.7 - 29.7	Acceptable	SM2540F 21st ED 2005	3/21/2012	0.997	24.7	2.31	
------	-------------------	------	----	------	-------------	------------	----------------------	-----------	-------	------	------	--



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





A Waters Company

WP-206 2003 NELAC Evaluation Final Complete Report

Kelley E. Keenan
 Supervisor
 Environmental Testing Solutions, Inc.
 PO Box 7565
 Asheville, NC 28802-7565
 828-350-9364

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

NC01230
 E559701
 05/15/12
 03/12/12 - 04/26/12

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 Simple Nutrients (cat# 584)

1515	Ammonia as N	mg/L	16	15.9	11.8 - 19.7	Acceptable	SM4500NH3 D 21st ED 2005	3/23/2012	0.189	15.8	1.05	
1820	Nitrate + Nitrite as N	mg/L		8.63	7.03 - 10.0	Not Reported				8.62	0.395	
1810	Nitrate as N	mg/L		8.63	6.72 - 10.4	Not Reported				8.64	0.414	
1870	ortho-Phosphate as P	mg/L		4.65	3.84 - 5.50	Not Reported				4.67	0.193	

WP Demand (cat# 578)

1530	BOD	mg/L	82	88.6	44.7 - 132	Acceptable	SM5210B 21st ED 2005	3/30/2012	-0.555	89.2	13.1	
1555	CBOD	mg/L	52	76.2	34.2 - 118	Acceptable	SM5210B 21st ED 2005	3/30/2012	-2.19	81.3	13.4	
1565	COD	mg/L	147	143	109 - 164	Acceptable	HACH 8000 4th ED 2003	3/23/2012	0.808	140	8.85	
2040	TOC	mg/L		56.7	47.3 - 65.3	Not Reported				57.4	2.99	

WP Turbidity (cat# 893)

2055	Turbidity	NTU	3.6	3.94	2.88 - 4.95	Acceptable	SM2130B 21st ED 2005	3/23/2012	-0.904	3.86	0.286	
------	-----------	-----	-----	------	-------------	------------	----------------------	-----------	--------	------	-------	--

WP Low-Level Total Residual Chlorine (cat# 881)

1940	Low Level Total Residual Chlorine	µg/L	124	134	74.0 - 194	Acceptable	ORION 97-70	3/27/2012	-0.25	128	17.2	
------	-----------------------------------	------	-----	-----	------------	------------	-------------	-----------	-------	-----	------	--



2003 NELAC Evaluation Report

Study: **WP-206**

ERA Customer Number: **E559701**

Laboratory Name: **Environmental Testing
Solutions, Inc.**

Microbiology Results





A Waters Company

WP-206 2003 NELAC Evaluation Final Complete Report

Kelley E. Keenan
Supervisor
Environmental Testing Solutions, Inc.
PO Box 7565
Asheville, NC 28802-7565
828-350-9364

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

NC01230
E559701
05/15/12
03/12/12 - 04/26/12

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 WasteWatR™ Coliform MicrobE™ (cat# 576)

2500	Total Coliforms (MF)	CFU/100mL		748	224 - 1220	Not Reported				522	165	
2530	Fecal Coliforms (MF)	CFU/100mL	280	748	44.0 - 940	Acceptable	SM9222D m FC 21st ED 2005	3/21/2012	0.510	204	149	
2525	E.coli (MF)	CFU/100mL		748	96.0 - 1290	Not Reported				352	198	
2500	Total Coliforms (MPN)	MPN/100mL	240	997	110 - 3220	Acceptable	SM9221B LTB 21st ED 2005	3/26/2012	-0.688	596	518	
2530	Fecal Coliforms (MPN)	MPN/100mL	330	997	62.9 - 3710	Acceptable	SM9221E A1 21st ED 2005	3/21/2012	-0.252	483	609	
2525	E.coli (MPN)	MPN/100mL		997	312 - 1910	Not Reported				772	267	

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.



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

