





A Waters Company

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

**WS-180**  **Final Report**

**WatR™ Supply Proficiency Testing**

**WatR™ Supply Study**

**Open Date: 07/05/11**

**Close Date: 08/19/11**

**Report Issued Date: 09/09/11**



A Waters Company

September 9, 2011

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

Enclosed is your final report for ERA's WS-180 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-180 WatR™ Supply Proficiency Testing (PT) 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 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 WS-180 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 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

<b>Report Recipient</b>	<b>Contact/Phone Number</b>	<b>Reporting Type</b>	<b>Evaluation Type</b>
North Carolina (WS)	Chris Goforth / 919-807-8871	All Analytes	2009 TNI

# WS-180 Definitions & Study Discussion

**Study Dates: 07/05/11 - 08/19/11**

**Report Issued: 09/09/11**

## WS Study Definitions

The Reported Value is the value that the laboratory reported to ERA.

The ERA Assigned Values are compliant with the current 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 TNI 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.

## WS Study Discussion

ERA's WS-180 WatR™ Supply 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 current TNI FoPT tables.

ERA's WS-180 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 2009 TNI PT Standard and the criteria contained in the current TNI Fields of Proficiency Testing (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 WS-180 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.





A Waters Company

# WS-180 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**  
**09/09/11**  
**07/05/11 - 08/19/11**

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

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



## 2009 TNI Evaluation Report

Study: **WS-180**

ERA Customer Number: **E559701**

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

### Inorganic Results





A Waters Company

# WS-180 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  
09/09/11  
07/05/11 - 08/19/11

NELAC 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
<b>WS Inorganics (cat# 591)</b>												
1505	Alkalinity as CaCO3	mg/L		68.5	61.7 - 75.4	Not Reported				66.9	2.11	
1575	Chloride	mg/L		26.5	23.4 - 29.8	Not Reported				26.3	1.13	
1610	Conductivity at 25°C	µmhos/cm		560	504 - 616	Not Reported				561	16.8	
1730	Fluoride	mg/L		4.16	3.74 - 4.58	Not Reported				4.11	0.194	
1820	Nitrate + Nitrite as N	mg/L		4.67	4.15 - 5.14	Not Reported				4.62	0.185	
1810	Nitrate as N	mg/L	4.6	4.67	4.20 - 5.14	Acceptable	SM4500NO3- D 21st ED 2005	7/13/2011	-0.0134	4.60	0.224	
1125	Potassium	mg/L		21.6	18.6 - 24.9	Not Reported				21.6	0.971	
2000	Sulfate	mg/L		123	108 - 137	Not Reported				122	5.22	
1955	Total Dissolved Solids at 180°C	mg/L		402	258 - 546	Not Reported				402	22.4	





## 2009 TNI Evaluation Report

Study: **WS-180**

ERA Customer Number: **E559701**

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

### Microbiology Results





A Waters Company

# WS-180 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**  
**09/09/11**  
**07/05/11 - 08/19/11**

NELAC 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
--------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

**WS MicrobE™ (Coliforms) (cat# 080D)**

2500	Total Coliforms - Sample 1	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2500	Total Coliforms - Sample 2	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2500	Total Coliforms - Sample 3	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2500	Total Coliforms - Sample 4	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2500	Total Coliforms - Sample 5	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2500	Total Coliforms - Sample 6	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2500	Total Coliforms - Sample 7	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2500	Total Coliforms - Sample 8	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2500	Total Coliforms - Sample 9	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2500	Total Coliforms - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			

**Total Coliforms Evaluation : Acceptable**

**Fecal Coliforms Evaluation : Not Reported**

**E.coli Evaluation : Acceptable**

Fecal Coliform Organism - Escherichia coli, Samples 1, 3 and 5

Total Coliform Organism - Enterobacter cloacae, Samples 2, 8 and 9

Negative (1) Coliform Organism - Proteus mirabilis, Sample 4

Negative (2) Coliform Organism - Pseudomonas aeruginosa, Sample 10

Blank - No Organism, Samples 6 and 7



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





A Waters Company

# WS-180 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  
09/09/11  
07/05/11 - 08/19/11

NELAC 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
--------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

**WS MicrobE™ (Coliforms) (cat# 080D) (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, Samples 1, 3 and 5

Total Coliform Organism - Enterobacter cloacae, Samples 2, 8 and 9

Negative (1) Coliform Organism - Proteus mirabilis, Sample 4

Negative (2) Coliform Organism - Pseudomonas aeruginosa, Sample 10

Blank - No Organism, Samples 6 and 7



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





A Waters Company

# WS-180 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  
09/09/11  
07/05/11 - 08/19/11

NELAC 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
--------------------	---------	-------	----------------	----------------	-------------------	------------------------	--------------------	---------------	---------	------------	--------------------------	--------------

**WS MicrobE™ (Coliforms) (cat# 080D) (Continued)**

2525	E.coli - Sample 1	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2525	E.coli - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2525	E.coli - Sample 3	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2525	E.coli - Sample 4	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2525	E.coli - Sample 5	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2525	E.coli - Sample 6	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2525	E.coli - Sample 7	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2525	E.coli - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2525	E.coli - Sample 9	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			
2525	E.coli - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223 COLILERT 21st ED 2005	7/7/2011	0			

**Total Coliforms Evaluation : Acceptable**

**Fecal Coliforms Evaluation : Not Reported**

**E.coli Evaluation : Acceptable**

Fecal Coliform Organism - Escherichia coli, Samples 1, 3 and 5

Total Coliform Organism - Enterobacter cloacae, Samples 2, 8 and 9

Negative (1) Coliform Organism - Proteus mirabilis, Sample 4

Negative (2) Coliform Organism - Pseudomonas aeruginosa, Sample 10

Blank - No Organism, Samples 6 and 7





A Waters Company

# WS-180 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  
 09/09/11  
 07/05/11 - 08/19/11

NELAC 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
<b>WS WS SourceWatR™ MicrobE™ (cat# 595)</b>												
2500	Total Coliforms (MF)	CFU/100mL		49.0	22.0 - 110	Not Reported				49.0	22.0	
2530	Fecal Coliforms (MF)	CFU/100mL		30.0	10.0 - 92.0	Not Reported				30.1	20.7	
2525	E.coli (MF)	CFU/100mL		46.0	16.0 - 129	Not Reported				46.0	28.2	
2500	Total Coliforms (MPN)	MPN/100mL		69.7	40.7 - 119	Not Reported				69.7	19.7	
2530	Fecal Coliforms (MPN)	MPN/100mL		69.9	36.5 - 134	Not Reported				69.9	24.4	
2525	E.coli (MPN)	MPN/100mL	64.4	70.8	42.4 - 118	Acceptable	SM9223 COLertQT 21st ED 2005	7/7/2011	-0.339	70.8	18.9	

