



A Waters Company

Richard Danielson  
Biovir Laboratories  
685 Stone Rd  
Unit #6  
Benicia, CA 94510

**WP-216**



***Final Report***

# **WatR™ Pollution Proficiency Testing**

**WatR™ Pollution Study**

**Open Date: 01/14/13**

**Close Date: 02/28/13**

**Report Issued Date: 03/14/13**



A Waters Company

March 14, 2013

Richard Danielson  
Biovir Laboratories  
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Enclosed is your final report for ERA's WP-216 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-216 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).

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.

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.

Thank you for your participation in ERA's WP-216 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, appearing to read "Kristina Sanchez", written over a faint, circular watermark or background.

Kristina Sanchez  
Quality Officer

attachments



A Waters Company

Report Recipient	Contact/Phone Number	Reporting Type	Evaluation Type
California	Fred Choske / 510-620-3175	All Analytes	2009 TNI



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# WP-216 Definitions & Study Discussion

**Study Dates: 01/14/13 - 02/28/13**

**Report Issued: 03/14/13**

## 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-216 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-216 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-216 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-216 Laboratory Exception Report

Richard Danielson  
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(707) 747-5906

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

CA01401  
B354201  
03/14/13  
01/14/13 - 02/28/13

## 2009 TNI Evaluation Checks

There are no values reported with < where the assigned value was greater than 0.

## 2009 TNI Not Acceptable Evaluations

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
<b>WP Minerals (cat# 581)</b>							
1955	Total Dissolved Solids at 180°C	mg/L	486.7	364	276 - 452	Not Acceptable	SM 2540 C-1997 1997
1950	Total Solids at 105°C	mg/L	583.3	389	345 - 428	Not Acceptable	SM 2540 B-1997 1997
<b>WP WasteWatR™ Coliform MicrobE™ (cat# 576)</b>							
2525	E.coli (MPN)	MPN/100mL	300	1110	373 - 1970	Not Acceptable	SM 9221 F-1994 1994



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



# Final Report Results For Laboratory Biovir Laboratories



## 2009 TNI Evaluation Report

Study: **WP-216**

ERA Customer Number: **B354201**

Laboratory Name: **Biovir Laboratories**

### Inorganic Results





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# WP-216 2009 TNI Evaluation Final Complete Report

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CA01401  
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01/14/13 - 02/28/13

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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### WP Minerals (cat# 581)

1505	Alkalinity as CaCO3	mg/L	90	95.4	84.6 - 105	Acceptable	SM 2320 B-1997 1997	2/27/2013	-1.52	94.4	2.87	Richard Danielson
1575	Chloride	mg/L		71.1	60.8 - 81.8	Not Reported				70.6	2.67	
1610	Conductivity at 25°C	µmhos/cm	458	474	426 - 522	Acceptable	SM 2510 B-1997 1997	2/27/2013	-1.3	474	12.2	JRT
1730	Fluoride	mg/L		1.52	1.21 - 1.83	Not Reported				1.47	0.0853	
1125	Potassium	mg/L		24.8	20.4 - 29.6	Not Reported				24.2	1.05	
1155	Sodium	mg/L		88.5	75.1 - 101	Not Reported				87.5	4.56	
2000	Sulfate	mg/L		26.7	21.2 - 31.5	Not Reported				25.6	1.38	
1955	Total Dissolved Solids at 180°C	mg/L	486.7	364	276 - 452	Not Acceptable	SM 2540 C-1997 1997	2/28/2013	6.89	364	17.8	JRT
1950	Total Solids at 105°C	mg/L	583.3	389	345 - 428	Not Acceptable	SM 2540 B-1997 1997	2/28/2013	13.4	380	15.2	JRT

### WP pH (cat# 577)

1900	pH	S.U.	6.33	6.33	6.13 - 6.53	Acceptable	SM 4500-H+ B-2000 2000	2/25/2013	-0.0794	6.33	0.0483	JRT
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### WP Turbidity (cat# 893)

2055	Turbidity	NTU	10.0	9.93	8.04 - 11.8	Acceptable	SM 2130 B-2001 2001	2/22/2013	0.327	9.77	0.696	Richard Danielson
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### WP Total Residual Chlorine (cat# 587)

1940	Total Residual Chlorine	mg/L	1.1	1.03	0.742 - 1.28	Acceptable	SM 4500-Cl G-2000 2000	2/28/2013	0.838	1.04	0.0720	JRT
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All analytes are included in ERA's A2LA accreditation. Lab Code: 1539-01





## 2009 TNI Evaluation Report

Study: **WP-216**

ERA Customer Number: **B354201**

Laboratory Name: **Biovir Laboratories**

### Microbiology Results





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# WP-216 2009 TNI Evaluation Final Complete 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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**WP WasteWat™ Coliform MicrobE™ (cat# 576)**

2500	Total Coliforms (MF)	CFU/100mL	400	694	159 - 1320	Acceptable	SM 9222 B (M-Endo)-1997 1997	2/14/2013	-0.307	460	194	Mary Peasley
2530	Fecal Coliforms (MF)	CFU/100mL	200	694	43.0 - 1040	Acceptable	SM 9222 D (m-FC)-1997 1997	2/19/2013	-0.0645	211	166	Mary Peasley
2525	E.coli (MF)	CFU/100mL	400	694	68.0 - 1100	Acceptable	SM9222G EC	2/14/2013	0.736	273	172	Mary Peasley
2500	Total Coliforms (MPN)	MPN/100mL	1100	1110	198 - 2830	Acceptable	SM 9221 B-2006 2006	2/15/2013	0.799	749	439	RN
2530	Fecal Coliforms (MPN)	MPN/100mL	1100	1110	64.0 - 4230	Acceptable	SM 9221 E-2006 2006	2/15/2013	0.835	520	694	RN
2525	E.coli (MPN)	MPN/100mL	1100	1110	373 - 1970	Acceptable	SM 9221 F-1994 1994	2/15/2013	0.908	858	267	RN

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.

**WP WasteWat™ Coliform MicrobE™ (cat# 576)**

2500	Total Coliforms (MF)	CFU/100mL		694	159 - 1320	Not Reported				460	194	
2530	Fecal Coliforms (MF)	CFU/100mL		694	43.0 - 1040	Not Reported				211	166	
2525	E.coli (MF)	CFU/100mL		694	68.0 - 1100	Not Reported				273	172	
2500	Total Coliforms (MPN)	MPN/100mL	1119.9	1110	198 - 2830	Acceptable	SM 9223 B (Colilert® Quanti-Tray®)-1997 1997	2/15/2013	0.845	749	439	RN
2530	Fecal Coliforms (MPN)	MPN/100mL		1110	64.0 - 4230	Not Reported				520	694	
2525	E.coli (MPN)	MPN/100mL	1119.9	1110	373 - 1970	Acceptable	SM9223 COLertQT online	2/15/2013	0.983	858	267	RN

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





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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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**WP WasteWat™ Coliform MicrobE™ (cat# 576)**

2500	Total Coliforms (MF)	CFU/100mL		694	159 - 1320	Not Reported				460	194	
2530	Fecal Coliforms (MF)	CFU/100mL		694	43.0 - 1040	Not Reported				211	166	
2525	E.coli (MF)	CFU/100mL		694	68.0 - 1100	Not Reported				273	172	
2500	Total Coliforms (MPN)	MPN/100mL	300	1110	198 - 2830	Acceptable	SM 9221 B-2006 2006	2/22/2013	-1.03	749	439	
2530	Fecal Coliforms (MPN)	MPN/100mL	300	1110	64.0 - 4230	Acceptable	SM 9221 E-2006 2006	2/22/2013	-0.318	520	694	
2525	E.coli (MPN)	MPN/100mL	300	1110	373 - 1970	Not Acceptable	SM 9221 F-1994 1994	2/22/2013	-2.09	858	267	JRT

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.

**WP Enterococci (cat# 880)**

2520	Enterococci (MF)	CFU/100mL	22	36.0	12.0 - 111	Acceptable	EPA 1600 2002	2/12/2013	-0.933	37.4	16.5	Mary Peasley
2520	Enterococci (MPN)	MPN/100mL	37.9	56.0	17.8 - 96.0	Acceptable	ENTEROLERT	2/15/2013	-0.26	41.3	13.0	RN
2540	Fecal Streptococci (MF)	CFU/100mL		36.0	21.0 - 150	Not Reported				56.7	21.4	
2540	Fecal Streptococci (MPN)	MPN/100mL		56.0	18.2 - 65.3	Not Reported				34.5	7.84	

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

