

Pam M. Varner
Analytical Services Inc
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Norcross, GA 30092



WatR™ Supply Proficiency Testing

WatR™ Supply Study

Open Date: 08/09/10

Close Date: 09/23/10

Report Issued Date: 10/13/10

October 13, 2010

Pam M. Varner
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Norcross, GA 30092

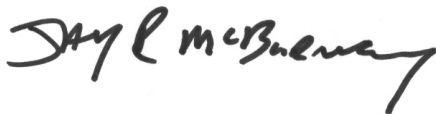
Enclosed is your final report for ERA's WS-169 WatR™ Supply Proficiency Testing (PT) study. Your final report includes an evaluation of all results submitted by your laboratory to ERA.

Data Evaluation Protocols: All analytes in ERA's WS-169 WatR™ Supply Proficiency Testing (PT) study have been evaluated using the following tiered approach. If the analyte is listed in the most current National Environmental Laboratory Accreditation Conference (NELAC) PT Field of Testing tables, the evaluation was completed by comparing the reported result to the acceptance limits generated using the criteria contained in the NELAC FoPT tables. If the analyte is not included in the NELAC 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 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-169 WatR™ Supply Proficiency Testing study. If you have any questions, please contact the proficiency testing department, or myself, at 1-800-372-0122.

Sincerely,



Jay R. McBurney
Quality Program Manager

attachments
jrm

Report Recipient	Contact/Phone Number	Reporting Type
Florida	Steve Arms / 904-791-1502	All Analytes
Georgia	Loretta Lambert / 404-651-5164	All Analytes

WS-169 Definitions & Study Discussion

Study Dates: 08/09/10 - 09/23/10

Report Issued: 10/13/10

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 USEPA/NELAC FoPT tables. A parameter not added to the standard is given an Assigned Value of "0" per the guidelines contained in the USEPA's Criteria Document and NELAC 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.

WS Study Discussion

ERA's WS-169 WatR™ Supply Proficiency Testing study has been reviewed by ERA senior management and certified compliant with the requirements of the USEPA's National Standards for Water Proficiency Testing Studies Criteria Document (December 1998), and the criteria contained in the most current NELAC FoPT tables.

ERA's WS-169 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 USEPA's National Criteria Document for Water Proficiency Testing Studies, December 1998, and the criteria contained in the most current NELAC 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-169 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 Jay McBurney, Quality Program Manager, or the proficiency testing department at 1-800-372-0122.



Study: **WS-169**

ERA Customer Number: **A520001**

Laboratory Name: **Analytical Services Inc**

Inorganic Results



WS-169 Final Complete Report

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EPA ID: GA00051
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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
WS Hardness (cat# 555)							
1035	Calcium	mg/L	62.1	61.3	54.6 - 67.9	Acceptable	EPA 200.7
1085	Magnesium	mg/L	16.3	16.3	14.7 - 18.2	Acceptable	EPA 200.7
0029	Sodium	mg/L	19.8	20.4	18.0 - 22.5	Acceptable	EPA 200.7
0025	Calcium Hardness as CaCO ₃	mg/L	155	153	136 - 170	Acceptable	EPA 200.7
1755	Total Hardness as CaCO ₃	mg/L	222	220	197 - 244	Acceptable	EPA 200.7

WS Inorganics (cat# 591)

0027	Alkalinity as CaCO ₃	mg/L	35.5	32.7	29.4 - 36.7	Acceptable	SM2320B
1575	Chloride	mg/L		33.2	29.6 - 37.0	Not Reported	
1610	Conductivity at 25°C	µmhos/cm	495	496	446 - 546	Acceptable	SM2510B
0010	Fluoride	mg/L		1.95	1.76 - 2.14	Not Reported	
1820	Nitrate + Nitrite as N	mg/L	5.34	5.08	4.53 - 5.59	Acceptable	EPA 353.2
0009	Nitrate as N	mg/L	5.34	5.08	4.57 - 5.59	Acceptable	EPA 353.2
1125	Potassium	mg/L		18.2	15.7 - 21.2	Not Reported	
0145	Sulfate	mg/L		108	95.0 - 121	Not Reported	
0024	Total Dissolved Solids at 180°C	mg/L	315	320	208 - 432	Acceptable	SM2540C

WS Inorganics (cat# 591)

0027	Alkalinity as CaCO ₃	mg/L		32.7	29.4 - 36.7	Not Reported	
1575	Chloride	mg/L	34.9	33.2	29.6 - 37.0	Acceptable	EPA 300.0
1610	Conductivity at 25°C	µmhos/cm		496	446 - 546	Not Reported	
0010	Fluoride	mg/L	1.99	1.95	1.76 - 2.14	Acceptable	EPA 300.0
1820	Nitrate + Nitrite as N	mg/L	5.21	5.08	4.53 - 5.59	Acceptable	EPA 300.0
0009	Nitrate as N	mg/L	5.21	5.08	4.57 - 5.59	Acceptable	EPA 300.0
1125	Potassium	mg/L		18.2	15.7 - 21.2	Not Reported	
0145	Sulfate	mg/L	109	108	95.0 - 121	Acceptable	EPA 300.0
0024	Total Dissolved Solids at 180°C	mg/L		320	208 - 432	Not Reported	

WS pH (cat# 552)

0026	pH	S.U.	7.51	7.53	7.33 - 7.73	Acceptable	SM4500H+ B
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WS-169 Final Complete Report

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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
WS Metals (cat# 590)							
1000	Aluminum	µg/L	232	253	209 - 302	Acceptable	EPA 200.8
0140	Antimony	µg/L	36.4	39.5	27.6 - 51.4	Acceptable	EPA 200.8
0001	Arsenic	µg/L	14.0	13.2	9.24 - 17.2	Acceptable	EPA 200.8
0002	Barium	µg/L	1890	2060	1750 - 2370	Acceptable	EPA 200.8
0141	Beryllium	µg/L	8.72	9.58	8.14 - 11.0	Acceptable	EPA 200.8
0226	Boron	µg/L		1850	1610 - 2040	Not Reported	
0003	Cadmium	µg/L	28.2	30.3	24.2 - 36.4	Acceptable	EPA 200.8
0004	Chromium	µg/L	40.8	42.2	35.9 - 48.5	Acceptable	EPA 200.8
0091	Copper	µg/L	790	874	787 - 961	Acceptable	EPA 200.8
1070	Iron	µg/L		1450	1300 - 1600	Not Reported	
0005	Lead	µg/L	64.6	70.5	49.4 - 91.6	Acceptable	EPA 200.8
0236	Manganese	µg/L	630	682	614 - 750	Acceptable	EPA 200.8
0237	Molybdenum	µg/L	105	114	99.3 - 126	Acceptable	EPA 200.8
0142	Nickel	µg/L	75.2	82.3	70.0 - 94.6	Acceptable	EPA 200.8
0007	Selenium	µg/L	47.0	48.0	38.4 - 57.6	Acceptable	EPA 200.8
1150	Silver	µg/L	31.3	32.4	27.2 - 37.4	Acceptable	EPA 200.8
0143	Thallium	µg/L	7.17	7.52	5.26 - 9.78	Acceptable	EPA 200.8
1185	Vanadium	µg/L	447	474	427 - 521	Acceptable	EPA 200.8
0239	Zinc	µg/L	599	620	558 - 682	Acceptable	EPA 200.8

WS Metals (cat# 590)

1000	Aluminum	µg/L	257	253	209 - 302	Acceptable	EPA 200.7
0140	Antimony	µg/L		39.5	27.6 - 51.4	Not Reported	
0001	Arsenic	µg/L	13.2	13.2	9.24 - 17.2	Acceptable	EPA 200.7
0002	Barium	µg/L	2010	2060	1750 - 2370	Acceptable	EPA 200.7
0141	Beryllium	µg/L		9.58	8.14 - 11.0	Not Reported	
0226	Boron	µg/L	1870	1850	1610 - 2040	Acceptable	EPA 200.7
0003	Cadmium	µg/L	29.5	30.3	24.2 - 36.4	Acceptable	EPA 200.7
0004	Chromium	µg/L	39.3	42.2	35.9 - 48.5	Acceptable	EPA 200.7
0091	Copper	µg/L	851	874	787 - 961	Acceptable	EPA 200.7
1070	Iron	µg/L	1410	1450	1300 - 1600	Acceptable	EPA 200.7
0005	Lead	µg/L		70.5	49.4 - 91.6	Not Reported	
0236	Manganese	µg/L	688	682	614 - 750	Acceptable	EPA 200.7
0237	Molybdenum	µg/L	114	114	99.3 - 126	Acceptable	EPA 200.7
0142	Nickel	µg/L	79.8	82.3	70.0 - 94.6	Acceptable	EPA 200.7
0007	Selenium	µg/L		48.0	38.4 - 57.6	Not Reported	
1150	Silver	µg/L	31.2	32.4	27.2 - 37.4	Acceptable	EPA 200.7
0143	Thallium	µg/L		7.52	5.26 - 9.78	Not Reported	
1185	Vanadium	µg/L	476	474	427 - 521	Acceptable	EPA 200.7
0239	Zinc	µg/L	614	620	558 - 682	Acceptable	EPA 200.7



WS-169 Final Complete Report

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EPA ID: GA00051
 ERA Customer Number: A520001
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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
WS Mercury (cat# 551)							
0006	Mercury	µg/L	1.22	1.40	0.980 - 1.82	Acceptable	EPA 245.1
WS Inorganic Disinfection #2 (cat# 5260)							
0193	Bromate	µg/L		38.0	26.6 - 49.4	Not Reported	
0260	Bromide	µg/L	221	219	166 - 272	Acceptable	EPA 300.0
WS Nitrite (cat# 594)							
0092	Nitrite as N	mg/L	1.23	1.27	1.08 - 1.46	Acceptable	EPA 353.2
WS Nitrite (cat# 594)							
0092	Nitrite as N	mg/L	1.25	1.27	1.08 - 1.46	Acceptable	EPA 300.0
WS o-Phosphate Nutrients (cat# 558)							
0261	ortho-Phosphate as P	mg/L	4.05	4.36	3.85 - 4.90	Acceptable	SM4500P E
WS Residual Chlorine (cat# 593)							
0022	Free Residual Chlorine	mg/L		1.40	1.13 - 1.67	Not Reported	
1940	Total Residual Chlorine	mg/L		1.40	1.18 - 1.61	Not Reported	
WS Cyanide (cat# 556)							
0146	Cyanide	mg/L	0.292	0.392	0.294 - 0.490	Not Acceptable	SM4500CN E
WS Organic Carbon (cat# 557)							
1710	Dissolved Organic Carbon (DOC)	mg/L	2.75	2.63	2.16 - 3.14	Acceptable	SM5310B
0263	Total Organic Carbon (TOC)	mg/L	2.64	2.63	2.16 - 3.14	Acceptable	SM5310B
WS Turbidity (cat# 592)							
0023	Turbidity	NTU	2.49	2.33	2.00 - 2.89	Acceptable	EPA 180.1



Study: **WS-169**

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Microbiology Results



WS-169 Final Complete Report

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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
WS MicrobE™ (Coliforms) (cat# 080A)							
0254	Total Coliforms - Sample 1	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9221B
0254	Total Coliforms - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221B
0254	Total Coliforms - Sample 3	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9221B
0254	Total Coliforms - Sample 4	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9221B
0254	Total Coliforms - Sample 5	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9221B
0254	Total Coliforms - Sample 6	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221B
0254	Total Coliforms - Sample 7	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221B
0254	Total Coliforms - Sample 8	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9221B
0254	Total Coliforms - Sample 9	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9221B
0254	Total Coliforms - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221B
0255	Fecal Coliforms - Sample 1	CFU/100mL		Presence	Presence	Not Reported	
0255	Fecal Coliforms - Sample 2	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 3	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 4	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 5	CFU/100mL		Presence	Presence	Not Reported	
0255	Fecal Coliforms - Sample 6	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 7	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 8	CFU/100mL		Presence	Presence	Not Reported	
0255	Fecal Coliforms - Sample 9	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 10	CFU/100mL		Absence	Absence	Not Reported	
0255	E.coli - Sample 1	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9221E
0255	E.coli - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221E
0255	E.coli - Sample 3	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221E
0255	E.coli - Sample 4	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221E
0255	E.coli - Sample 5	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9221E
0255	E.coli - Sample 6	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221E
0255	E.coli - Sample 7	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221E
0255	E.coli - Sample 8	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9221E
0255	E.coli - Sample 9	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221E
0255	E.coli - Sample 10	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9221E

Total Coliforms Evaluation : Acceptable

Fecal Coliforms Evaluation : Not Reported

E.coli Evaluation : Acceptable

Fecal Coliform Organism - Escherichia coli, Samples 1, 5 and 8
 Total Coliform Organism - Enterobacter cloacae, Samples 3, 4 and 9
 Negative (1) Coliform Organism - Proteus mirabilis, Sample 2
 Negative (2) Coliform Organism - Pseudomonas aeruginosa, Sample 7
 Blank - No Organism, Samples 6 and 10



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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
WS MicrobE™ (Coliforms) (cat# 080B)							
0254	Total Coliforms - Sample 1	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223B
0254	Total Coliforms - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0254	Total Coliforms - Sample 3	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0254	Total Coliforms - Sample 4	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223B
0254	Total Coliforms - Sample 5	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0254	Total Coliforms - Sample 6	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223B
0254	Total Coliforms - Sample 7	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223B
0254	Total Coliforms - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0254	Total Coliforms - Sample 9	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223B
0254	Total Coliforms - Sample 10	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223B
0255	Fecal Coliforms - Sample 1	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 2	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 3	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 4	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 5	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 6	CFU/100mL		Presence	Presence	Not Reported	
0255	Fecal Coliforms - Sample 7	CFU/100mL		Presence	Presence	Not Reported	
0255	Fecal Coliforms - Sample 8	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 9	CFU/100mL		Absence	Absence	Not Reported	
0255	Fecal Coliforms - Sample 10	CFU/100mL		Presence	Presence	Not Reported	
0255	E.coli - Sample 1	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0255	E.coli - Sample 2	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0255	E.coli - Sample 3	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0255	E.coli - Sample 4	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0255	E.coli - Sample 5	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0255	E.coli - Sample 6	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223B
0255	E.coli - Sample 7	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223B
0255	E.coli - Sample 8	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0255	E.coli - Sample 9	CFU/100mL	Absence	Absence	Absence	Acceptable	SM9223B
0255	E.coli - Sample 10	CFU/100mL	Presence	Presence	Presence	Acceptable	SM9223B

Total Coliforms Evaluation : Acceptable

Fecal Coliforms Evaluation : Not Reported

E.coli Evaluation : Acceptable

Fecal Coliform Organism - Escherichia coli, Samples 6, 7 and 10
 Total Coliform Organism - Enterobacter cloacae, Samples 1, 4 and 9
 Negative (1) Coliform Organism - Proteus mirabilis, Sample 2
 Negative (2) Coliform Organism - Pseudomonas aeruginosa, Sample 5
 Blank - No Organism, Samples 3 and 8



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WS Heterotrophic Plate Count (cat# 079)

2555	Heterotrophic Plate Count (MF, PP)	CFU/mL	57	74.0	55.0 - 99.0	Acceptable	SM9215B
2555	Heterotrophic Plate Count (MPN)	MPN/mL		73.6	45.1 - 120	Not Reported	



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Organic Results



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WS EDB/DBCP/TCP (cat# 847)

0045	Dibromochloropropane (DBCP)	µg/L	1.7	1.36	0.816 - 1.90	Acceptable	EPA 8011
0046	Ethylene Dibromide (EDB)	µg/L	1.7	1.72	1.03 - 2.41	Acceptable	EPA 8011
5180	1,2,3-Trichloropropane (TCP)	µg/L		1.93	1.16 - 2.70	Not Reported	

