

ACZ Laboratories Inc.

To: Analytical Staff
From: Kristen Russell
Cc: Audrey Stover, Matt Sowards
Date: July 16, 2007
Subject: CAR846

PT Study WS-129 [L61979]

Open: 4/9/07

Close: 5/24/07

ACZ received the results of ERA's WS - 129 study. Unacceptable results and corrective actions follow:

Not Acceptable Results							
Parameter	Method	Units	Reported	Assigned Value	Limits	%R	WG#
EC	120.1	umhos/cm	350	296	266 - 326	118	223244
NO ₂ - N	353.2	mg/L	0.990	1.22	1.04 - 1.40	81	223074
TOC	415.1	mg/L	2.41	3.12	2.58 - 3.69	77	223255

CORRECTIVE ACTIONS

Conductivity (EC) - EC was analyzed by method 120.1 and the reported value of 350 umhos/cm was outside of the acceptance limits (118% of assigned value). A review of the workgroup indicates that LCSW1 = 120%, LCSW4 = 120%, and LCSW7 = 122%, which is on the high end or exceeds the $\pm 20\%$ acceptance criteria in effect at the time the analysis was performed.

L65282 was analyzed for QR092507F and the value of 552 umhos/cm reported for method 120.1 was within the 477 - 583 acceptance limits (104% of assigned value). LCSW1 = 103%, LCSW4 = 104%, and LCSW7 = 104%. More stringent acceptance criteria ($\pm 10\%$) became effective June 8, 2007.

N - NO₂ - NO₂ was analyzed by EPA 353.2 and the reported value of 0.990 mg/L was outside of the acceptance limits (81% of assigned value). The column efficiency is acceptable, ICV = 101%, PQV = 99%, LFB = 100%, and CCV1 = 101%. No problems or anomalies with the analysis were noted.

L64268 (QR080207A) was analyzed by method 353.2 and the reported value of 1.08 mg/L was within the 0.884 - 1.20 mg/L acceptance limits (104% of assigned value). The system is judged to be in control.

Total Organic Carbon - TOC was analyzed by method 415.1 and the reported value of 2.41 mg/L was outside of the acceptance limits. The ICV = 95%, LFB = 109%, CCV1 = 96%, and CCV2 = 96%. No problems or anomalies with the analysis were noted. The MDL for TOC is 1.0 mg/L and the RL is 5.0 mg/L. The assigned value of the WS PT sample is below ACZ's reporting limit. For client samples, data between ACZ's MDL and RL is reported with the appropriate qualifier to indicate the value is estimated.



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L61979

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WS-129



Final Report

WatR™ Supply Proficiency Testing

WatR™ Supply Study

Open Date: 04/09/07

Close Date: 05/24/07

Report Issued Date: 06/14/07



**ENVIRONMENTAL
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Study: **WS-129**

ERA Laboratory Code: **A144801**

Laboratory Name: **ACZ Laboratories**

Inorganic Results





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EPA ID: CO00028
ERA Laboratory Code: A144801
Report Issued: 06/14/07
Study Dates: 04/09/07 - 05/24/07

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Metals							
1000	Aluminum	µg/L	1300	1280	1100 - 1420	Acceptable	EPA 200.7
0140	Antimony	µg/L		32.5	22.8 - 42.2	Not Reported	
0001	Arsenic	µg/L		17.3	12.1 - 22.5	Not Reported	
0002	Barium	µg/L		1570	1330 - 1800	Not Reported	
0141	Beryllium	µg/L		5.22	4.44 - 6.00	Not Reported	
0226	Boron	µg/L		1780	1550 - 1970	Not Reported	
0003	Cadmium	µg/L		43.7	35.0 - 52.4	Not Reported	
0004	Chromium	µg/L		44.5	37.8 - 51.2	Not Reported	
0091	Copper	µg/L		835	752 - 918	Not Reported	
1070	Iron	µg/L	369	344	295 - 387	Acceptable	EPA 200.7
0005	Lead	µg/L		71.1	49.8 - 92.4	Not Reported	
0236	Manganese	µg/L	449	422	380 - 464	Acceptable	EPA 200.7
0237	Molybdenum	µg/L		77.3	66.9 - 85.8	Not Reported	
0142	Nickel	µg/L		345	293 - 397	Not Reported	
0007	Selenium	µg/L		56.0	44.8 - 67.2	Not Reported	
1150	Silver	µg/L		258	228 - 285	Not Reported	
0143	Thallium	µg/L		8.43	5.90 - 11.0	Not Reported	
1185	Vanadium	µg/L		953	858 - 1050	Not Reported	
0239	Zinc	µg/L	1880	1760	1580 - 1940	Acceptable	EPA 200.7

Metals

1000	Aluminum	µg/L		1280	1100 - 1420	Not Reported	
0140	Antimony	µg/L	35.5	32.5	22.8 - 42.2	Acceptable	EPA 200.8
0001	Arsenic	µg/L	21.7	17.3	12.1 - 22.5	Acceptable	EPA 200.8
0002	Barium	µg/L	1640	1570	1330 - 1800	Acceptable	EPA 200.8
0141	Beryllium	µg/L	5.85	5.22	4.44 - 6.00	Acceptable	EPA 200.8
0226	Boron	µg/L		1780	1550 - 1970	Not Reported	
0003	Cadmium	µg/L	44.9	43.7	35.0 - 52.4	Acceptable	EPA 200.8
0004	Chromium	µg/L	47.8	44.5	37.8 - 51.2	Acceptable	EPA 200.8
0091	Copper	µg/L	835	835	752 - 918	Acceptable	EPA 200.8
1070	Iron	µg/L		344	295 - 387	Not Reported	
0005	Lead	µg/L	78.0	71.1	49.8 - 92.4	Acceptable	EPA 200.8
0236	Manganese	µg/L		422	380 - 464	Not Reported	
0237	Molybdenum	µg/L		77.3	66.9 - 85.8	Not Reported	
0142	Nickel	µg/L	367	345	293 - 397	Acceptable	EPA 200.8
0007	Selenium	µg/L	59.6	56.0	44.8 - 67.2	Acceptable	EPA 200.8
1150	Silver	µg/L	243	258	228 - 285	Acceptable	EPA 200.8
0143	Thallium	µg/L	9.44	8.43	5.90 - 11.0	Acceptable	EPA 200.8
1185	Vanadium	µg/L		953	858 - 1050	Not Reported	
0239	Zinc	µg/L		1760	1580 - 1940	Not Reported	





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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
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Mercury

0006	Mercury	µg/L	7.62	7.79	5.45 - 10.1	Acceptable	EPA 245.1
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pH

0026	pH	S.U.	6.51	6.37	6.17 - 6.57	Acceptable	EPA 150.1
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Inorganics

0027	Alkalinity as CaCO ₃	mg/L	113	115	103 - 126	Acceptable	SM 2320 B
1575	Chloride	mg/L	7.30	7.35	5.71 - 9.15	Acceptable	EPA 300.0
1610	Conductivity at 25 °C	µmhos/cm	350	296	266 - 326	Not Acceptable	EPA 120.1
0010	Fluoride	mg/L	1.69	1.68	1.51 - 1.85	Acceptable	EPA 300.0
1820	Nitrate + Nitrite as N	mg/L	3.67	3.99	3.53 - 4.39	Acceptable	EPA 353.2
0009	Nitrate as N	mg/L	3.67	3.99	3.59 - 4.39	Acceptable	EPA 353.2
1125	Potassium	mg/L		14.6	12.6 - 17.3	Not Reported	
0145	Sulfate	mg/L	17.1	17.5	14.2 - 20.2	Acceptable	EPA 300.0
0024	Total Dissolved Solids at 180 °C	mg/L	278	302	197 - 407	Acceptable	EPA 160.1

Inorganics

0027	Alkalinity as CaCO ₃	mg/L		115	103 - 126	Not Reported	
1575	Chloride	mg/L		7.35	5.71 - 9.15	Not Reported	
1610	Conductivity at 25 °C	µmhos/cm		296	266 - 326	Not Reported	
0010	Fluoride	mg/L	1.69	1.68	1.51 - 1.85	Acceptable	SM 4500 F- C
1820	Nitrate + Nitrite as N	mg/L		3.99	3.53 - 4.39	Not Reported	
0009	Nitrate as N	mg/L		3.99	3.59 - 4.39	Not Reported	
1125	Potassium	mg/L		14.6	12.6 - 17.3	Not Reported	
0145	Sulfate	mg/L		17.5	14.2 - 20.2	Not Reported	
0024	Total Dissolved Solids at 180 °C	mg/L		302	197 - 407	Not Reported	

Turbidity

0023	Turbidity	NTU	3.61	3.96	3.46 - 4.75	Acceptable	EPA 180.1
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Nitrite

0092	Nitrite as N	mg/L	0.990	1.22	1.04 - 1.40	Not Acceptable	EPA 353.2
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o-Phosphate Nutrients

0261	ortho-Phosphate as P	mg/L	1.43	1.46	1.26 - 1.68	Acceptable	EPA 365.1
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Cyanide

0146	Cyanide	mg/L	0.183	0.186	0.140 - 0.232	Acceptable	EPA 335.4
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Organic Carbon

1710	Dissolved Organic Carbon (DOC)	mg/L		3.12	2.58 - 3.69	Not Reported	
0263	Total Organic Carbon (TOC)	mg/L	2.41	3.12	2.58 - 3.69	Not Acceptable	EPA 415.1

Bromide, Bromate & Chlorate

0193	Bromate	µg/L		32.6	22.8 - 42.4	Not Reported	
0260	Bromide	µg/L	453	459	356 - 567	Acceptable	EPA 300.0
0194	Chlorate	µg/L		69.7	55.3 - 86.8	Not Reported	





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Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
Hardness							
1035	Calcium	mg/L	47.2	44.7	39.8 - 49.9	Acceptable	EPA 200.7
1085	Magnesium	mg/L	16.5	15.7	14.1 - 17.5	Acceptable	EPA 200.7
0029	Sodium	mg/L	14.5	13.7	12.0 - 15.1	Acceptable	EPA 200.7
0025	Calcium Hardness as CaCO3	mg/L		112	99.8 - 125	Not Reported	
1755	Total Hardness as CaCO3	mg/L	186	176	158 - 197	Acceptable	SM 2340 B
Silica							
1990	Silica as SiO2	mg/L	33.5	31.7	26.9 - 36.4	Acceptable	EPA 200.7

