



A Waters Company

WP-300 Final Evaluation Report

Josh Kirkpatrick
Quality Assurance Manager
Basic Laboratory - Chico
2218 Railroad Ave
Redding, CA 96001
(530) 243-7234 x204

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

CA01570
B664812
03/02/20
01/13/20 - 02/27/20

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, lot# P300-506)

1505	Alkalinity as CaCO3	mg/L	50	50.7	43.1 - 58.3	Acceptable	SM 2320 B-2011 2011	1/28/2020	0.184	49.5	2.61	Jennifer Wing
1575	Chloride	mg/L		76.0	66.4 - 85.8	Not Reported				74.7	2.41	
1610	Conductivity at 25°C	µmhos/cm	451	458	412 - 504	Acceptable	SM 2510 B-2011 2011	1/28/2020	-0.337	456	14.1	Jennifer Wing
1730	Fluoride	mg/L		3.47	2.81 - 3.99	Not Reported				3.38	0.166	
1125	Potassium	mg/L		35.2	28.2 - 42.2	Not Reported				34.4	1.73	
1155	Sodium	mg/L		71.8	57.4 - 86.2	Not Reported				70.0	4.03	
2000	Sulfate	mg/L		34.4	27.9 - 39.6	Not Reported				33.2	1.60	
1955	Total Dissolved Solids at 180°C	mg/L	294	296	251 - 341	Acceptable	SM 2540 C-2011 2011	1/29/2020	-0.120	296	14.5	Jennifer Wing
1950	Total Solids at 105°C	mg/L		306	261 - 351	Not Reported				304	17.4	

WP Hardness (cat# 580, lot# P300-507)

1960	Total Suspended Solids	mg/L	68.5	71.3	57.6 - 79.9	Acceptable	SM 2540 D-2011 2011	1/20/2020	0.535	66.6	3.64	Jennifer Wing
1035	Calcium	mg/L		37.0	31.4 - 42.6	Not Reported				36.0	1.55	
1085	Magnesium	mg/L		37.1	31.5 - 42.7	Not Reported				36.9	1.50	
1550	Calcium Hardness as CaCO3	mg/L		92.4	78.5 - 106	Not Reported				89.7	3.75	
1755	Total Hardness as CaCO3	mg/L	230	245	208 - 282	Acceptable	SM 2340 C-2011 2011	1/23/2020	-1.07	240	9.46	Jennifer Wing

WP pH (cat# 577, lot# P300-977)

1900	pH	S.U.	6.65	6.70	6.50 - 6.90	Acceptable	SM 4500-H+ B-2011 2011	1/17/2020	-1.39	6.71	0.0401	Bryan Ervin
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WP Settleable Solids (cat# 883, lot# P300-911)

1965	Settleable Solids	mL/L	19.0	18.2	14.4 - 23.6	Acceptable	SM 2540 F-2011 2011	1/16/2020	-0.159	19.2	1.55	Jennifer Wing
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WP Simple Nutrients (cat# 584, lot# P300-505)

1515	Ammonia as N	mg/L		3.88	2.95 - 4.86	Not Reported				3.97	0.286	
1820	Nitrate + Nitrite as N	mg/L	5.25	5.65	4.64 - 6.61	Acceptable	EPA 353.2 2 1993	1/30/2020	-1.22	5.60	0.286	Jennifer Wing
1810	Nitrate as N	mg/L	5.25	5.65	4.59 - 6.69	Acceptable	EPA 353.2 (calc)	1/30/2020	-1.18	5.59	0.292	Jennifer Wing
1870	ortho-Phosphate as P	mg/L	3.24	3.11	2.64 - 3.58	Acceptable	SM 4500-P E-2011 2011	1/30/2020	0.511	3.15	0.176	Bryan Ervin

WP Nitrite (cat# 888, lot# P300-770)

1840	Nitrite as N	mg/L	2.16	2.30	1.97 - 2.64	Acceptable	EPA 353.2 2 1993	2/7/2020	-1.27	2.31	0.120	Jennifer Wing
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WP Nitrite (cat# 888, lot# P300-770)

1840	Nitrite as N	mg/L	2.19	2.30	1.97 - 2.64	Acceptable	EPA 353.2 2 1993	2/7/2020	-1.02	2.31	0.120	Jennifer Wing
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WP Demand (cat# 578, lot# P300-516)

1530	BOD	mg/L	77	79.9	42.6 - 117	Acceptable	SM 5210 B-2011 2011	1/22/2020	-0.386	81.9	12.8	Jennifer Wing
1555	CBOD	mg/L		72.4	33.2 - 112	Not Reported				75.6	13.8	
1565	COD	mg/L		130	102 - 154	Not Reported				130	9.53	
2040	TOC	mg/L		51.4	42.8 - 59.5	Not Reported				52.1	3.33	

WP Turbidity (cat# 893, lot# P300-777)

2055	Turbidity	NTU	3.8	4.05	2.98 - 5.08	Acceptable	SM 2130 B-2011 2011	2/4/2020	-0.712	3.99	0.264	Jennifer Wing
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WP Total Residual Chlorine (cat# 587, lot# P300-501)

1945	Free Residual Chlorine	mg/L	0.56	0.621	0.469 - 0.770	Acceptable	SM 4500-Cl G-2011 2011	2/13/2020	-0.965	0.617	0.0595	Jennifer Wing
1940	Total Residual Chlorine	mg/L	0.63	0.628	0.475 - 0.778	Acceptable	SM 4500-Cl G-2011 2011	2/13/2020	-0.539	0.652	0.0410	Jennifer Wing



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WP WasteWatR™ Coliform MicrobE™ (cat# 576, lot# P300-083)

2500	Total Coliforms (MF)	CFU/100mL		833	392 - 1050	Not Reported				641	109	
2530	Fecal Coliforms (MF)	CFU/100mL		548	93.0 - 1040	Not Reported				312	159	
2525	E.coli (MF)	CFU/100mL		833	104 - 1700	Not Reported				421	266	
2500	Total Coliforms (MPN)	MPN/100mL	770	780	489 - 2170	Acceptable	SM 9223 B (Colilert-18 Quanti-Tray)-2004 2004	2/5/2020	-0.0517	1030	280	Bryan Ervin
2530	Fecal Coliforms (MPN)	MPN/100mL		566	180 - 1430	Not Reported				508	208	
2525	E.coli (MPN)	MPN/100mL	770	780	513 - 2160	Acceptable	SM 9223 B (Colilert-18 Quanti-Tray)-2004 2004	2/5/2020	-0.0558	1050	275	Bryan Ervin

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 WasteWatR™ Coliform MicrobE™ (cat# 576, lot# P300-083)

2500	Total Coliforms (MF)	CFU/100mL		833	392 - 1050	Not Reported				641	109	
2530	Fecal Coliforms (MF)	CFU/100mL		548	93.0 - 1040	Not Reported				312	159	
2525	E.coli (MF)	CFU/100mL		833	104 - 1700	Not Reported				421	266	
2500	Total Coliforms (MPN)	MPN/100mL	1730	780	489 - 2170	Acceptable	SM 9223 B (Colilert Quanti-Tray)-2004 2004	1/28/2020	0.0920	1030	280	Bryan Ervin
2530	Fecal Coliforms (MPN)	MPN/100mL		566	180 - 1430	Not Reported				508	208	
2525	E.coli (MPN)	MPN/100mL	1730	780	513 - 2160	Acceptable	SM 9223 B (Colilert Quanti-Tray)-2004 2004	1/28/2020	0.0883	1050	275	Bryan Ervin

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 WasteWatR™ Coliform MicrobE™ - SM 9221 (cat# 576A, lot# P300-083A)

2500	Total Coliforms (MPN)	MPN/100mL	500	479	69.4 - 2790	Acceptable	SM 9221 B + C-2006 2006	2/8/2020	0.0208	440	454	Bryan Ervin
2530	Fecal Coliforms (MPN)	MPN/100mL	500	479	62.4 - 2920	Acceptable	SM 9221 B + E + C-2006 2006	2/8/2020	0.0256	427	477	Bryan Ervin
2525	E.coli (MPN)	MPN/100mL		479	18.6 - 6110	Not Reported				337	1010	



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