



**2018 North American Proficiency Testing Program  
Quarter 4 Water Report - Thursday, January 10, 2019**

**Laboratory ID  
General**

Water Analysis	Units	n	Water 2018-310			Water 2018-311			Water 2018-312		
			Median	MAD	Lab <sup>1,2</sup>	Median	MAD	Lab <sup>1,2</sup>	Median	MAD	Lab <sup>1,2</sup>
<b>Bulk Properties</b>											
pH		31	7.50	0.140		8.17	0.103		8.23	0.090	
EC	dS/m	30	0.220	0.006		0.442	0.010		0.340	0.010	
<b>Cations</b>											
Ca	mmolc/L	27	1.36	0.040		2.93	0.098		2.30	0.055	
Mg	mmolc/L	27	0.460	0.031		1.38	0.060		1.17	0.060	
Na	mmolc/L	27	0.280	0.019		0.480	0.020		0.218	0.008	
K	mmolc/L	26	0.060	0.004		0.022	0.004		0.020	0.002	
NH4-N	mmolc/L	9	0.001	0.000		0.001	0.000		0.000	0.000	
Sum Cations	mmolc/L	11	2.19	0.091		4.95	0.322		3.74	0.217	
SAR		13	0.300	0.010		0.330	0.010		0.170	0.010	
Adj-SAR		5	0.400	0.000		0.700	0.010		0.300	0.000	
<b>Anions</b>											
HCO3	mmolc/L	19	1.43	0.100		3.65	0.140		3.30	0.147	
CO3	mmolc/L	10	0.000	0.000		0.000	0.000		0.000	0.000	
Cl	mmolc/L	20	0.275	0.016		0.360	0.036		0.210	0.022	
NO3	mmolc/L	24	0.063	0.007		0.035	0.005		0.010	0.001	
SO4	mmolc/L	21	0.380	0.010		0.720	0.030		0.132	0.008	
Sum Anions	mmolc/L	10	2.18	0.152		5.00	0.390		3.94	0.432	
Cation-Anion Difference		6	0.160	0.141		0.290	0.114		0.078	0.089	
<b>Other</b>											
Boron	mg/L	16	0.020	0.002		0.012	0.001		0.010	0.002	
PO4-P Phosphorus - Spec	mg/L	7	0.080	0.007		0.014	0.003		0.010	0.000	
Phosphorus - ICP (Total)	mg/L	13	0.097	0.005		0.053	0.011		0.042	0.010	
TKN	mg/L	4	0.635	0.520		0.345	0.270		0.429	0.071	
Nitrogen Combustion (Total)	mg/L	2	0.591	0.579		0.280	0.270		0.069	0.061	
Total Organic Carbon	mg/L	3	3.00	0.160		0.870	0.080		0.330	0.000	

1 - Values flagged exceed Warning Limits " \* " 2.5 x MAD (Median Absolute Deviation) and Control Limits " \*\* " 4 x MAD.

2 - Limits not compared to lab data for methods with less than 7 labs reporting.