



**2019 North American Proficiency Testing Program
Quarter 4 Water Report - Wednesday, January 8, 2020**

**Laboratory ID
General**

Water Analysis	Units	n	Water 2019-310			Water 2019-311			Water 2019-312		
			Median	MAD	Lab ^{1,2}	Median	MAD	Lab ^{1,2}	Median	MAD	Lab ^{1,2}
Bulk Properties											
pH		31	8.07	0.080		7.90	0.090		7.90	0.090	
EC	dS/m	31	0.488	0.011		0.680	0.016		0.178	0.008	
Cations											
Ca	mmolc/L	29	2.49	0.050		2.43	0.030		0.439	0.020	
Mg	mmolc/L	29	1.21	0.050		1.61	0.070		0.171	0.009	
Na	mmolc/L	29	1.26	0.040		2.76	0.106		1.01	0.040	
K	mmolc/L	27	0.080	0.008		0.150	0.008		0.080	0.008	
NH4-N	mmolc/L	10	0.002	0.000		0.006	0.001		0.000	0.000	
Sum Cations	mmolc/L	12	5.10	0.190		7.04	0.110		1.72	0.090	
SAR		17	0.930	0.020		1.98	0.030		1.82	0.040	
Adj-SAR		6	1.30	0.300		2.76	0.605		1.41	0.070	
Anions											
HCO3	mmolc/L	22	2.69	0.150		2.53	0.113		1.20	0.074	
CO3	mmolc/L	14	0.000	0.000		0.000	0.000		0.000	0.000	
Cl	mmolc/L	23	0.250	0.020		0.294	0.030		0.300	0.020	
NO3	mmolc/L	20	0.009	0.001		0.034	0.006		0.022	0.004	
SO4	mmolc/L	22	2.05	0.076		4.13	0.190		0.077	0.008	
Sum Anions	mmolc/L	11	5.10	0.078		7.15	0.148		1.61	0.021	
Cation-Anion Difference		7	0.268	0.098		0.370	0.553		0.400	0.291	
Other											
Boron	mg/L	16	0.050	0.006		0.109	0.011		0.200	0.018	
PO4-P Phosphorus - Spec	mg/L	6	0.014	0.010		0.039	0.019		0.010	0.002	
Phosphorus - ICP (Total)	mg/L	9	0.031	0.000		0.030	0.000		0.010	0.001	
TKN	mg/L	4	0.353	0.237		0.340	0.250		0.010	0.010	
Nitrogen Combustion (Total)	mg/L	1	0.272	0.000		0.657	0.000		0.338	0.000	
Total Organic Carbon	mg/L	3	5.00	0.400		4.73	0.270		1.53	0.030	

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.