

2010-01 Total Alkalinity

Duplicate analysis for samples drawn from a single Niskin bottle:

Event Number	Sample Number	Station	Pressure dbar	ALK 1 $\mu\text{mol/kg}$	ALK 2 $\mu\text{mol/kg}$	ALK 3 $\mu\text{mol/kg}$	Difference $\mu\text{mol/kg}$	Absolute Difference	Standard Deviation	Comments
5	26	P2	76.0	2170.43	2171.44		1.01	1.01		
48	108	P12	3002.1	2430.25	2431.91		1.66	1.66		Both Eo and calibration factor off that day
25	221	P16	3496.8	2427.13	2428.20		1.07	1.07		
32	285	P18	2000.4	2421.49	2420.64	2420.78			0.45	
32	286	P18	1999.4	2420.96	2419.13	2422.61			1.74	
32	287	P18	1999.1	2421.76	2421.63	2422.29			0.35	
32	288	P18	2001.9	2421.54	2420.46	2418.16			1.73	
32	289	P18	2000.8	2421.99	2421.72	2420.45			0.82	
34	311	P20	3501.9	2425.03	2425.86		0.83	0.83		
average variability:							1.14	1.14	1.07	
standard deviation of variability:							0.36	0.36	0.53	

Duplicate Niskins at the same pressure

Event Number	Sample Number	Station	Nominal Pressure dbar	ALK A $\mu\text{mol/kg}$	ALK B $\mu\text{mol/kg}$	ALK C $\mu\text{mol/kg}$	ALK D $\mu\text{mol/kg}$	ALK E $\mu\text{mol/kg}$	Difference $\mu\text{mol/kg}$	Absolute Difference	Standard Deviation	Comments
5	26 / 27	P2	75	2170.93	2170.27				-0.67	0.67		
10	47 / 48	P4	1250	2391.22	2390.50				-0.72	0.72		
48	108 / 109	P12	3000	2431.91	2432.87				0.96	0.96		
25	221 / 222	P16	3500	2427.67	2427.61				-0.06	0.06		
32	285 - 289	P18	2000	2420.97	2420.90	2421.89	2420.05	2421.39			0.68	
34	311 / 312	P20	3500	2425.45	2426.96				1.52	1.52		
average variability:										0.21	0.78	0.77
standard deviation of variability:										1.00	0.53	0.47

Precision estimate: 1.1 $\mu\text{mol/kg}$