



QuAAtro Ortho-Phosphate in Seawater Study at 1 ppb (0.03 μmol)

The need for low level phosphate analysis is becoming increasingly important due to recent government regulatory changes. Low level ortho-phosphate was analyzed on the SEAL QuAAtro to show the reproducibility and the low detection levels of the results obtained from this instrument.

Data and Statistics:

10 mm flowcell		
Sampling rate:	90/hr (ppb as P)	60/hr (ppb as P)
Replicates:	0.965	0.838
	0.924	0.778
	0.881	0.793
	0.905	0.797
	0.886	0.800
	0.833	0.776
	0.802	0.916
	0.787	0.827
	0.836	0.768
	0.857	0.895
	0.835	0.843
	0.947	0.919
	0.869	0.939
	0.783	0.972
	0.760	0.974
Average	0.858	0.856
Std Dev	0.061	0.073
%RSD	7.131	8.583
MDL	0.159 (0.005 μmol)	0.191 (0.006 μmol)

Calibration Curves:

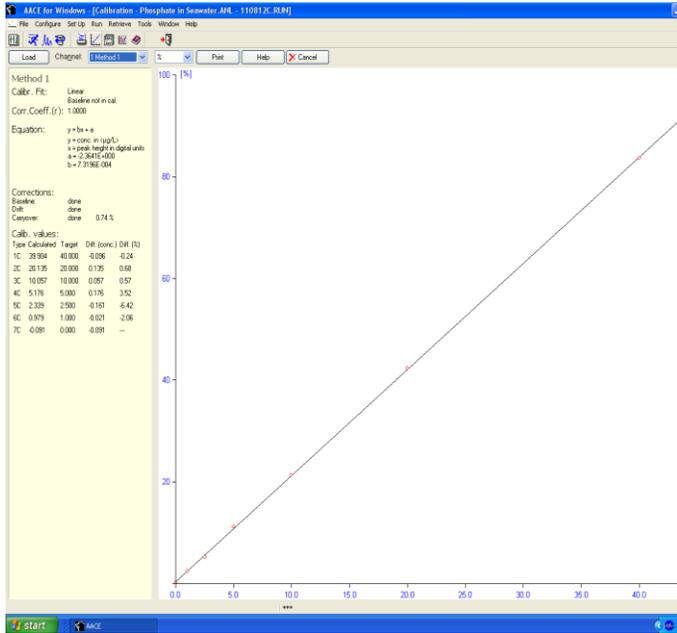


Figure 1: Calibration Curve 90/hr. Corr. Coeff.=1.000

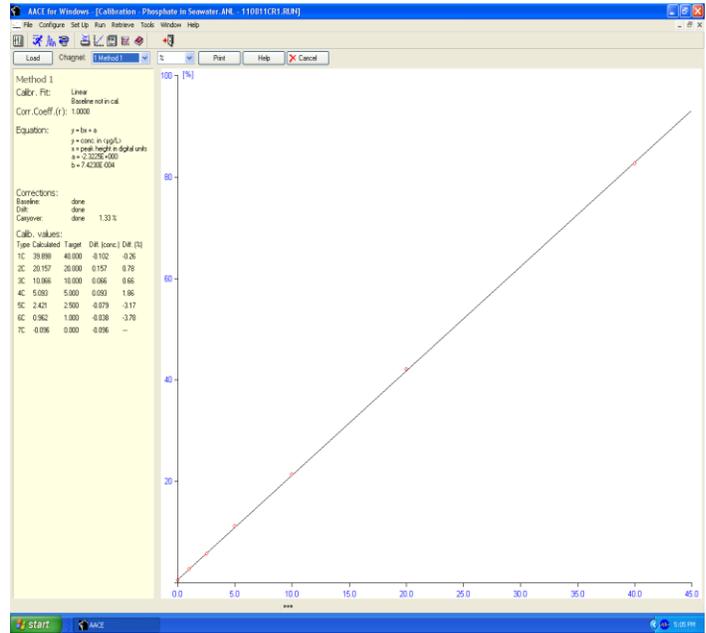


Figure 2: Calibration Curve 60/hr. Corr. Coeff.=1.000

Screenshots of 1 ppb (0.03 µmol) replicates from ACEE software:

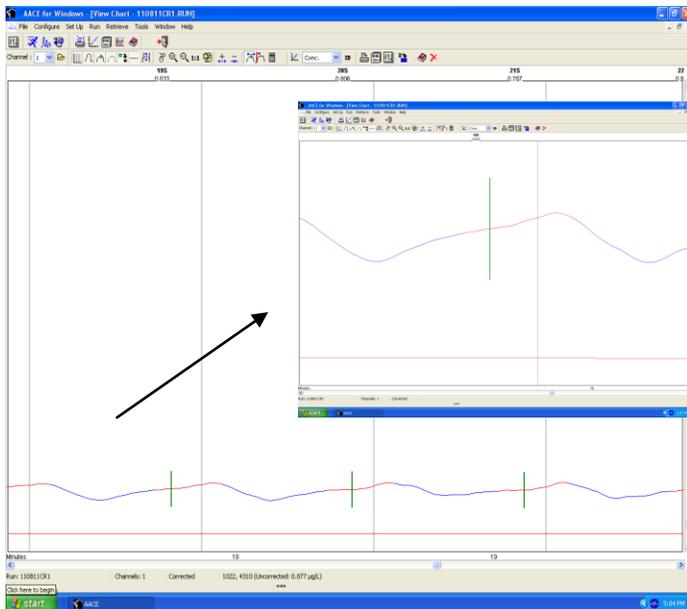


Figure 3: Replicates at 1 ppb PO₄, 90/hr. Gain = 675

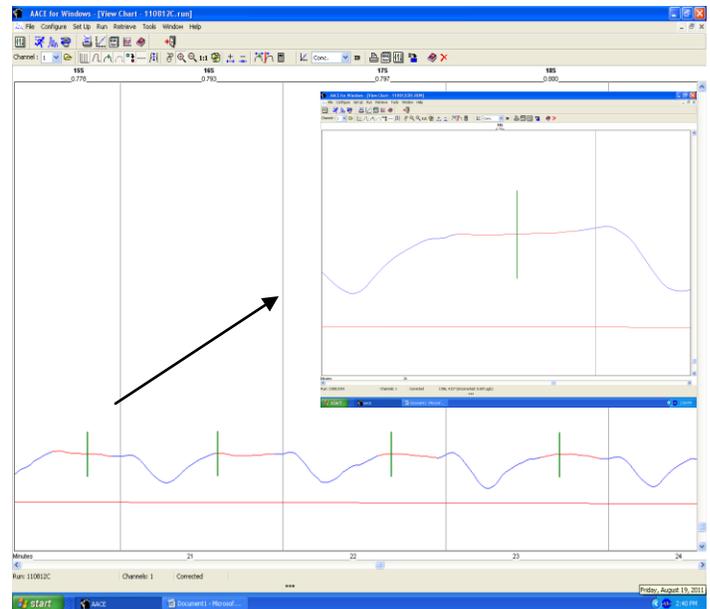


Figure 4: Replicates at 1 ppb PO₄, 60/hr. Gain=675