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Nitrate_plus_Nitrite:Bottle

Precision statement for replicate samples drawn from a single Niskin bottle:

The pooled standard deviation for Nitrate_plus_Nitrite:Bottle for the range 0 to 47.4 $\mu\text{mol/l}$ was 0.12,
k = 22 (0 outlier removed) where k is the number of pairs of duplicates.

The pooled standard deviation of pairs of samples (S_p) was calculated by:

$$S_p = \text{SQRT}\{\text{sum}(d^2)/2k\}$$

where k is the number of pairs and d is the difference between pairs.

Accuracy of the stock standard batch was determined by using commercially available standards from
WAKO Chemicals (Sagami Chemical Company of Japan).

The values were within 0.54 % of the 20 $\mu\text{mol/l}$ Nitrate Standard.

Feb 23, 2012 Nitrate stock standard solution was used for this cruise analyses.

Duplicate samples from a single bottle

Event Number	Sample Number	Station	Pressure dbar	Value 1 $\mu\text{mol/l}$	Value 2 $\mu\text{mol/l}$	Rejected yes / no
3	154	P2	11.4	0.6	0.6	
5	16	P2	51.2	15.9	15.9	
7	31	P4	201.1	33.4	33.6	
7	42	P4	6.5	0.1	0.0	
15	122	P4	601.8	45.0	45.0	
22	188	P8	1251.8	46.6	46.5	
22	198	P8	127.3	25.7	25.8	
27	218	P12	76.1	11.5	11.4	
29	238	P12	1251.7	47.0	47.4	
29	248	P12	126.2	15.4	15.5	
44	356	P16	76.2	13.4	13.5	
46	372	P16	3502.2	41.0	40.7	
46	380	P16	601.9	45.5	45.7	
46	389	P16	75.9	13.2	13.3	
61	490	P20	1502.2	46.3	46.5	
61	499	P20	176.8	32.4	32.7	
62	512	P20	75.7	15.5	15.6	
78	608	P26	2500.8	42.0	42.3	
78	619	P26	176.2	32.8	32.7	
86	687	P26	31.6	16.0	16.0	
107	817	P4	601.4	44.9	44.9	
107	825	P4	101.7	21.0	21.1	

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Phosphate:Bottle

Precision statement for replicate samples drawn from a single Niskin bottle:

The pooled standard deviation for Phosphate:Bottle for the range 0.32 to 3.26 $\mu\text{mol/l}$ was 0.005,
k = 22 (0 outlier removed) where k is the number of pairs of duplicates.

The pooled standard deviation of pairs of samples (S_p) was calculated by:

$$S_p = \text{SQRT}\{\text{sum}(d^2)/2k\}$$

where k is the number of pairs and d is the difference between pairs.

Feb 23, 2012 Phosphate stock standard solution (Feb 23 secondary) was used for this cruise analyses.
The Phosphate values were within 0.07% of the previous (Sept 2011, secondary) stock solution.

Duplicate samples from a single bottle

Event Number	Sample Number	Station	Pressure dbar	Value 1 $\mu\text{mol/l}$	Value 2 $\mu\text{mol/l}$	Rejected yes / no
3	154	P2	11.4	0.33	0.33	
5	16	P2	51.2	1.34	1.33	
7	31	P4	201.1	2.35	2.35	
7	42	P4	6.5	0.32	0.34	
15	122	P4	601.8	3.20	3.20	
22	188	P8	1251.8	3.26	3.26	
22	198	P8	127.3	1.85	1.85	
27	218	P12	76.1	1.10	1.11	
29	238	P12	1251.7	3.24	3.24	
29	248	P12	126.2	1.28	1.28	
44	356	P16	76.2	1.20	1.20	
46	372	P16	3502.2	2.74	2.73	
46	380	P16	601.9	3.13	3.13	
46	389	P16	75.9	1.19	1.19	
61	490	P20	1502.2	3.14	3.15	
61	499	P20	176.8	2.23	2.24	
62	512	P20	75.7	1.38	1.38	
78	608	P26	2500.8	2.88	2.88	
78	619	P26	176.2	2.35	2.35	
86	687	P26	31.6	1.39	1.39	
107	817	P4	601.4	3.00	3.02	
107	825	P4	101.7	1.55	1.54	

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Silicate:Bottle

Precision statement for replicate samples drawn from a single Niskin bottle:

The pooled standard deviation for Silicate:Bottle for the range 3.5 to 177.4 $\mu\text{mol/l}$ was 0.16,
 $k = 20$ (1 outlier removed) where k is the number of pairs of duplicates.

The pooled standard deviation of pairs of samples (S_p) was calculated by:

$$S_p = \text{SQRT}\{\text{sum}(d^2)/2k\}$$

where k is the number of pairs and d is the difference between pairs.

Accuracy of the stock standard batch was determined by using commercially available standards from
WAKO Chemicals (Sagami Chemical Company of Japan).

The values were within 0.59 % of the 100 $\mu\text{mol/l}$ Silicate Standard.

The values were within 0.34 % of the 200 $\mu\text{mol/l}$ Silicate standard that was analyzed while running these samples.

Feb 23, 2012 Silicate stock standard solution was used for this cruise analyses.

Duplicate samples from a single bottle

Event Number	Sample Number	Station	Pressure dbar	Value 1 $\mu\text{mol/l}$	Value 2 $\mu\text{mol/l}$	Rejected yes / no
3	154	P2	11.4	3.5	3.5	
5	16	P2	51.2	19.8	19.8	
7	31	P4	201.1	47.5	47.9	
7	42	P4	6.5	4.1	4.1	
15	122	P4	601.8	97.1	97.0	
22	188	P8	1251.8	151.0	151.2	
22	198	P8	127.3	31.8	31.6	
27	218	P12	76.1	15.9	15.9	
29	238	P12	1251.7	150.3	150.8	
29	248	P12	126.2	19.6	19.6	
44	356	P16	76.2	18.7	18.7	
46	372	P16	3502.2		177.4	
46	380	P16	601.9	116.7	115.5	yes
46	389	P16	75.9	18.4	18.4	
61	490	P20	1502.2	164.2	164.4	
61	499	P20	176.8	55.3	56.0	
62	512	P20	75.7	25.0	24.9	
78	608	P26	2500.8	172.7	172.8	
78	619	P26	176.2	58.1	58.0	
86	687	P26	31.6	28.2	28.1	
107	817	P4	601.4	94.1	94.0	
107	825	P4	101.7	24.7	24.7	