

QC standards and % difference from porewater nutrient sampling from pushcore samples at different depths at hydrothermal vents from RV/Atlantis cruise AT42-05, Nov. 2018.

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Guaymas porewater nutrients: DOC, DIC, DON

Guaymas porewater nutrients: TN, TC

External Quality Control Standard				
	TOC-ICV	TIC-ICV	TN-ICV	
ICV-QC	9.8	22.2	11.8	
ICV-QC	10.0	25.2	11.8	
ICV-QC	9.9	23.9	11.8	
ICV-QC	9.3	26.5	11.7	
ICV-QC	9.4	24.4	11.5	
ICV-QC	10.3	27.2	12.1	
ICV-QC	10.5		12.1	
ICV Concentration Limits (ppm)				
	TOC-ICV	TIC-ICV	TON-ICV	
Actual	10.1	24.0	11.6	
Lower Limit	9.5	21.6	11.0	
Upper Limit	10.6	26.4	12.2	
External Standards				
Source:	ERA, A Waters Compar		ERA, A Waters Compar	
Product:	Demand, WasteWatR		WatR Pollution Comple	
Catalog #	516		525	

Reference:	
12	Standard Methods for the Examination of Water and Wastewater, 21 st Edition, 2005, American Public Health Association, Washington, DC.
Method:	
Dissolved Organic	5310B

Quality Control Standards run with your samples			
		%Total N	%Total C
Acetalide		10.4	72.1
Acetalide		10.5	72.0
Acetalide		10.4	71.9
Acetalide		10.5	72.1
Acetalide		10.6	72.7
Acetalide		10.3	70.9
Quality Control Standard Limits			
		Acetalide	Acetalide
		%Total N	% Total C
Actual Value		10.4	71.1
Acceptable Range (± 5%)		10.2 - 10.6	69.7 - 72.5

Relative percent difference			RPD (± 10%)
		%Total N	%Total C
D1: 637-14		0.237	2.06
D2: 637-14		0.246	2.14
		1.86%	1.79%
D1: 7220-30		0.152	1.82
D2: 7220-30		0.152	1.84
		0.00%	0.66%
D1: 825-10		0.503	4.83
D2: 825-10		0.501	4.84
		0.20%	0.11%
D1: 927-14		0.232	2.40
D2: 927-14		0.219	2.29
		2.88%	2.31%
D1: 9314-21		0.208	2.294
D2: 9314-21		0.214	2.268
		1.42%	0.57%
RPD = abs(D1-D2) / avg(D1+D2) x 100%			
where:			
RPD = Relative Percent Difference			
D1 = measured value of the first duplicate			
D2 = measured value of the second duplicate			
ABS = absolute value of D1-D2			
AVG = average value of D1 and D2			

Reference:	
13	Grasshoff, K., M. Ehrhardt and K. Kremling (eds) 1983 Methods of Seawater Analysis.
EPA Method:	
Total C, Total N	440.0