Cruise: EX1016
Ship: Explorer of the Seas
Dates: May 27 – June 11, 2010
Expocode: 33KF20100527
Chief Scientist: NA
Equipment: Underway samples from bow intake
Total number of stations:
Corresponding Underway pCO2 datafile:
http://www.aoml.noaa.gov/ocd/gcc/explorer/ex1016/ex1016.csv

Sample Collection

The discrete samples were collected by Robert Castle at the bow intake of the Explorer of the Seas.

DIC:
8 locations, 15 samples each 500-ml, 6 sets of duplicate samples
Sample_ID#: 181-196
Run on Aoml2 (SOMMA #2)
PI: Dr. Rik Wanninkhof
Analyzed by: Robert Castle

TAlk:
8 locations, 14 samples each 500-ml, 6 sets of duplicate samples.
Sample_ID#: 182 - 196
PI: Dr. Rik Wanninkhof
Analyzed by: Dr. Leticia Barbero

Sample Analysis

DIC:
Analysis date: 1/28/2011 to 2/3/2011
Coulometer used: AOML2 (SOMMA #2)
Blank: min=12 counts/min

CRM # used and assigned value (include both DIC and salinity):

Meas CRM	cert CRM	meas sal	cert sal	batch
2002.89	2000.44	32.72	33.326	85

Run time: min=9 min; max = 10 min; average = 9 min

Reproducibility: (# samples and average difference): 6 sets of duplicate samples, average difference 0.15 umol/kg (+- 0.12 umol/kg)
CRM, salinity and HgCl2 correction applied: Salinity correction was applied using SOMMA salinity

Remarks-

The volume correction was applied due to added HgCl2 (Measured DIC*1.00037).

The first CRM of each cell was used for a CRM correction.

TAlk:

Analysis date: 07/29/2011 & 08/01/2011

Titration system used: Open cell

CRM # used and assigned value:

Meas CRM	cert CRM	batch
2151.82	2184.03	85
2178.53	2212.40	96

Reproducibility: (# samples and average difference): 6 sets of duplicate samples, average difference 3.5 umol/kg ± 2.4 umol/kg.

CRM correction applied. The first and last CRMs of each analysis day were used for the CRM correction.

Remarks-

Bottle #181 was analyzed for DIC but not for alkalinity.

Bottles were stored over a year before analysis.

UPDATE:

Between March and June of 2021, all of the data for the discrete samples was put into a uniform format.   The supporting information was checked for accuracy, especially the expocode, date, time, and positions.