**Cruise:** EX1016

**Ship:**  Explorer of the Seas

**Dates:** May 27 – June 11, 2010

**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.

***Comments***