**Cruise 2004-16**

**February 21, 2017 – Joe Linguanti**

Comments on collection and analyzes methods, and processing notes were added to the headers of both the CTD and Bottle files. For the bottle files all empty channels (channels whose values are all PAD) were removed from the files.

Bottle cast 12 was removed since no samples were drawn.

**CTD Oxygen and Fluorometer calibration notes from Sarah Zimmermann**

F**luorometer notes:**

Calibration with bottle data performed using bottle chlorophyll values between 0.025 and 0.06 mg/m3. The number of observations used were 75 out of 93 with a standard deviation of 0.02 in the residuals.

Coefficients used:  Slope:  1.4585, Bias -0.0026

And attached is the calibration information that could be added to DOCs as it is not in the data report

**Oxygen Calibration:**

Casts 1 to 50 (full cruise) oxygen was calculated from oxygen voltage using the Seabird Owens-Millard algorithm using coefficients:

      boc: 0, tau: 0, tcor: 0.0015, pcor: 1.3500e-004, voffset: -0.4716, soc: 0.3753

A lag of -6 seconds was applied to oxygen voltage in Seabird data processing step Align.

Reference:  Owens, W. B., and R. C. Millard Jr., 1985, A new algorithm for CTD oxygen calibration. J. Physical Oceanography., 15, 621-631.

**Barium header info from Sarah Zimmermann:**

Barium samples were collected in ~20ml plastic vials. The vials were rinsed three times before filling. Once at room temperature the caps were retightened for storage. Barium was determined by isotope-dilution using a VG Thermo Excel Inductively coupled quadrupole mass spectrometer as previously described with minor modifications (Falkner et al., 1994).

Falkner, K.K., R.W. MacDonald, E.C. Carmack, and T. Weingartner, The potential of barium as a tracer of Arctic water masses, in The Polar Oceans and Their Role in Shaping the Global Environment: The Nansen Centennial Volume, AGU Geophys. Monograph Series, edited by O.M. Johannessen, R.D. Muench, and J.E. Overland, pp. 63-76, AGU Books, Washington DC, 1994.