

# Meta Data Report

PI:	Rik Wanninkhof
Person(s) filing report (if different than PI):	R. D. Castle
Operation description (be verbose):	Underway pCO <sub>2</sub> system (Version 2.7 built by Craig Neill)
Start Time (hh:mm:ss, UTC):	11:20:00
Start Date (dd/mm/yy; UTC):	03/01/08
Start latitude (signed, decimal):	-52.582000
Start longitude (signed, decimal):	-67.268000
Event-log event number (if applicable)	RB0802
Expected operation duration:	Entire Cruise
Expected initial data products:	xCO <sub>2</sub> in surface water and atmosphere
Expected distributed data products, and time-frame for distribution:	In situ fugacity of CO <sub>2</sub> in air and surface water and delta fCO <sub>2</sub> , ~3 months after end of cruise.
Other operation notes	infrared absorption of dried gas using Licor 6251. Equilibrator volume ~24 L. Air intake on bow mast at ~8 meters. The system runs on an hourly cycle with 8 equilibrator headspace samples, 3 air samples, and 3 standard gases measured each hour. Standard gases are from NOAA/ESRL in Boulder and are directly traceable to the WMO scale. Concentrations are 289.06, 370.90, and 411.42 ppm. The system records the Licor millivolt and temperature outputs, gas flows, water flows, and equilibrator temperature. In addition, the system records SST, salinity, and other data from the ship's sensors and temperature and salinity from a Seabird Micro TSG in the Hydro Lab sink.
Post-operation comments/assessment	Calibration of equilibrator thermistor is incorrect. It does not read lower than 6 degrees C. Since the raw resistance values are stored in the data file, the calibration can be redone at the lab and the temperature values corrected.
<b>Operation Log</b>	
Time, date	event
03/01/08 11:20:00	System startup.
03/01/08 14:00:00	Licor warmed up, good data begins.
03/07/08 23:50:00	Uncontaminated seawater system shut down for tracer injection
03/08/08 21:20:00	Uncontaminated seawater system restarted
03/21/08 04:03:00	Uncontaminated seawater system shut down for tracer injection
03/21/08 15:20:00	Uncontaminated seawater system restarted
03/25/08 14:16:00	Gas flow from equilibrator stopped for 2 hours - values no good
03/25/08 23:16:00	Gas flow from equilibrator stopped for 3 hours - values no good
04/05/08 20:59:00	Gas flow from equilibrator stopped for 1 hours - values no good

	Date (UTC)	Time (UTC)			
Event #	(mm/dd/yy)	(hh:mm:ss)	Lat (signed, dec.)	Lon (signed, dec.)	Event (be as descriptive as necessary)
RB0802	3/1/2008	11:20	-52.58	-67.27	Started underway pCO2 system (version 2.7)