

## Data Format Key

### Definition of Variables for Carbonate Chemistry Cruises 2008-2009

Variable	Column(s)	Definition
<b>Cruise ID</b>	A	USGS Field Activity identification number
<b>Date UTC</b>	B	Date in Coordinated Universal Time (UTC) format
<b>Time UTC</b>	C	Data acquisition time UTC (Eastern Standard Time = UTC/GMT-5) as recorded by the CTD2; UTC time in seconds after midnight.
<b>Date Local</b>	D	Local date (EST)
<b>Time Local</b>	E	Local time (EST)
<b>Latitude</b>	F	Northing in degree decimal (dd; WGS84). Original GPS data collected in UTM 17 North WGS84.
<b>Longitude</b>	G	Easting in degree decimal (dd; WGS84). Original GPS data collected in UTM 17 North WGS84.
<b>pCO<sub>2</sub> Sea</b>	H	pCO <sub>2</sub> in situ T micro-atmospheres (µatm)
<b>pCO<sub>2</sub> Air</b>	I	Mean pCO <sub>2</sub> of atmospheric air measured with LiCor CO <sub>2</sub> analyzer in micro-atmospheres (µatm)
<b>Air Hourly Mean</b>		Hourly means were not available for the August 2008 cruise: a value of 384 ppm was used. C <sub>T</sub> : Total carbon, or TCO <sub>2</sub> in µmol/kg-seawater. pCO <sub>2</sub> : Partial pressure of CO <sub>2</sub> in seawater in µ-atmospheres. pH: The pH, total scale. Air pCO <sub>2</sub> : Partial pressure of CO <sub>2</sub> in µ-atmospheres.
<b>pH</b>	J	A salinity correction was made to generate the corrected pH value.
<b>Salinity</b>	K	Salinity in dimensionless Practical Salinity Scale units ("S") from CTD1.
<b>Salinity Source</b>	L	Source values detailed with the flag values below.
<b>Temperature</b>	M	Temperature in degrees Celsius from CTD1.
<b>Temperature Source</b>	N	Source values detailed with the flag values below.
<b>TCO<sub>2</sub></b>	O	TCO <sub>2</sub> (mmol/kgSW) 25C reported by the MICA and corrected Value for total carbon with salinity correction in micromoles per kilogram of seawater.

### **Numeric flags in columns L and N designating data source or data issue**

1. CTD sonde number 1 deployed on February and August 2009 cruises
2. CTD sonde number 2 deployed on all 2008 and 2009 cruises
4. Most recent correct value (or interpolation of bracketing values if a series of values was missing).

### **Precision for marine data**

Temperature	.01° C
Salinity	.01
pH	.001
TCO <sub>2</sub>	2 µml
pCO <sub>2</sub> air	1 µatm
pCO <sub>2</sub> seawater	1 µatm ~ 1 ppm

Object: 08FSH01Aug.08.csv

Size: 400 kb

Date: 5/11/10

Primary Investigator: Robbins, L.L., address as above, [lrobbins@usgs.gov](mailto:lrobbins@usgs.gov)

Metadata author/POC: Knorr, Paul O., U.S. Geological Survey, 600 4<sup>th</sup> Street South, Saint Petersburg, FL, 33701, [pknorr@usgs.gov](mailto:pknorr@usgs.gov)

Summary: The spreadsheet contains data gathered during a research cruise between 11 August 2008 and 15 August 2008. The raw data were screened and values that were deemed erroneous or unusable based on extreme variations from mean values and zero values, typically resulting from equipment failure, were deleted as described in the methods section of the Data Series.