

* =mandatory field)

- **Investigator:***

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- **Dataset_Info:***

- **Dataset_ID***: [TAO125W_0N_Apr2010_Nov2010](#)
- **Submission_Dates***:
 - **Initial_Submission**: [20130822](#) (YYYYMMDD)
 - **Revised_Submission**: (YYYYMMDD)

- **Cruise_Info:***

- **Experiment**:
 - **Experiment_Name***:
 - **Cruise**:(-)
 - **Cruise_ID**: (EXPOCODE)
 - **Section**: (Leg)
 - **Geographical_Coverage***:
 - **Geographical_Region**:
 - **Bounds**:
 - **Westernmost_Longitude**:
Enter decimal fractions of degrees:
or Degrees, Minutes, Seconds:
 - **Easternmost_Longitude**:
Enter decimal fractions of degrees: [-124.40](#) (+ = E, - = W)
or Degrees, Minutes, Seconds:
 - **Northernmost_Latitude**:
Enter decimal fractions of degrees: [-0.18](#) (+ = N, - = S)
 - **Southernmost_Latitude**:
Enter decimal fractions of degrees:
 - **Temporal_Coverage**:
 - **Start_Date**: [20100422](#) (YYYYMMDD)
 - **End_Date**: [20101106](#) (YYYYMMDD)
- **Vessel***: [Mooring platform](#)
 - **Vessel_Name**:
 - **Vessel_ID**:
 - **Country**:
 - **Vessel_Owner**:

- **Variables_Info:***

- **Variable**:
 - **Variable_Name and Description***:
- [xCO₂ SW \(wet\) \(umol/mol\) - Mole fraction of CO₂ in air in equilibrium with the seawater at sea surface temperature and measured humidity.](#)
- [CO₂ SW QF – Quality Flag for xCO₂ SW \(wet\).](#)
- [H₂O SW \(mmol/mol\) - Mole fraction of H₂O in air from equilibrator .](#)
- [xCO₂ Air \(wet\) \(umol/mol\) - Mole fraction of CO₂ in air from airblock, 4 feet above the sea surface at measured humidity.](#)
- [CO₂ Air QF – Quality Flag for xCO₂ Air \(wet\)](#)
- [H₂O Air \(mmol/mol\) - Mole fraction of H₂O in air from airblock, 4 feet above the sea surface.](#)

- Licor Atm Pressure (hPa) – Atmospheric pressure at the airblock, 4 feet above the sea surface
- Licor Temp (C) – Temperature of the Infrared Licor 820 in degrees Celsius
- % O₂ - The percent oxygen of the surface seawater divided by the percent oxygen of the atmosphere at 4 feet above the sea surface. Disclaimer: The oxygen measurement is made in the equilibrated air. We have found that the oxygen does not come to complete equilibrium so any rapid changes in oxygen do not get properly captured using this system. Therefore, we tend to use the oxygen data only as a qualitative sense of the biology. It is not a quantitative measure.
- SST (C) - Sea Surface Temperature collected by NOAA/PMEL/TAO provide internally recorded SST data at 10 minute resolution. The sea surface temperature collected during the equilibration period is reported in this dataset. NOAA/PMEL/TAO advises to check the TAO site at the time of use for the most accurate data available.
- Salinity - Sea Surface Salinity collected by NOAA/PMEL/TAO. Papa records conductivity data at 10 minute intervals and then computes hourly averaged salinity during post-processing. The salinity reported during the equilibration period is reported in this dataset. NOAA/PMEL/TAO advises to check the TAO site at the time of use for the most accurate data available.
- xCO₂ SW (dry) (umol/mol) – Mole fraction of CO₂ in air in equilibrium with the seawater at sea surface temperature (dry air).
- xCO₂ Air (dry) (umol/mol) – Mole fraction of CO₂ in air at the airblock, 4 feet above the sea surface (dry air).
- fCO₂ SW (sat) uatm – Fugacity of CO₂ in air in equilibrium with the seawater at sea surface temperature (100% humidity). Since the measurements are taken at the sea surface, warming calculations are not necessary.
- fCO₂ Air (sat) uatm – Fugacity of CO₂ in air at the airblock, 4 feet above the sea surface (100% humidity).
- dfCO₂ – Difference of the fugacity of the CO₂ in seawater and the fugacity of the CO₂ in air (fCO₂ SW - fCO₂ Air).

- **Method_Description:***

- **Equilibrator_Design:**

- Equilibrator_Type: (show pick list) Bubble Equilibrator
 - Equilibrator_Volume: (L) N/A
 - Water_Flow_Rate: (L/min) N/A
 - Headspace_Gas_Flow_Rate: (L/min) ~600 cc/min
 - Vented: (show pick list) Yes

- Measurement_Method: Absolute, non-dispersive infrared (NDIR) gas analyzer

- Manufacturer_of_Calibration_Gas: NOAA Earth System Research Laboratory (ESRL)

- **CO₂ Sensors:**

- **CO₂ Sensor:**

- Manufacturer: Licor
 - Model: Environmental_Control: LI-820
 - Resolution: 0.01 ppm
 - Uncertainty: < 2.5% of reading with 14 cm bench (stated)
<1.5 ppm determined in lab
 - CO₂_Sensor_Calibration: (For each calibration gas, document traceability to an internationally recognized scale, including date and place of last calibration. Include uncertainty of assigned value.)

At the beginning of each sample, the instrument self-calibrates using a zero and high standard. The zero standard is generated by cycling a small amount of air through a soda lime chamber. The high standard is from a cylinder of calibrated standard reference gas, 525.37 umol/mol, from ESRL. ESRL

standards are traceable to WMO x93 scale with a stated reproducibility of 0.06 micromole/mole.

- **Other_Sensors:**
 - Manufacturer: Oxygen Sensor
 - Model: Maxtec
 - Resolution: Max-250
 - Uncertainty: 0.01 %
± 2.0% Full Scale over operating temperature range
± 1.0% Full Scale @ constant temperature and pressure
 - Calibration: (For each sensor of pressure, temperature, and salinity, document traceability to an internationally recognized scale, including date and place of last calibration.)
Factory calibrated before purchase. Recalibrated to sea level atmospheric air every 7 days.
- **Other_Sensors:**
 - Manufacturer: Humidity Sensor
 - Model: Sensirion
 - Resolution: SHT71
 - Uncertainty: 0.01 %
Measurement range: 0-100% RH
Absolute RH accuracy: +/- 3% RH (20-80% RH)
Repeatability RH: +/- 0.1% RH
 - Calibration: (For each sensor of pressure, temperature, and salinity, document traceability to an internationally recognized scale, including date and place of last calibration.)
Factory calibrated before purchase.
- **Method_References:** (Publication(s) describing method)

Sabine, C. (2005): High-resolution ocean and atmosphere pCO₂ time-series measurements. The State of the Ocean and the Ocean Observing System for Climate, Annual Report, Fiscal Year 2004, NOAA/OGP/Office of Climate Observation, Section 3.32a, 246–253.

- **Additional Information**

- All measurements are at sea surface temperature and atmospheric pressure.
- During the equilibration cycle, a closed loop of air equilibrates with seawater for 10 minutes. Once the equilibration period is complete, the pump stops and the system opens to the atmosphere allowing the pressure to equilibrate with atmospheric pressure. Measurements are recorded for 30 seconds at 2 hertz and then averaged.
- During the air cycle, fresh air is pumped through the detector for 1 minute. Once the pump stops, the system opens to the atmosphere allowing the pressure to equilibrate with atmospheric pressure. Measurements are recorded for 30 seconds at 2 hertz and then averaged.
- The gas streams for both the air cycle and equilibrator cycle are partially dried before entering the detector. The values listed as wet xCO₂ generally have relative humidity levels ranging from 40 to 80 percent. The humidity levels increase over the course of a deployment.
- Sampling occurs every 3 hours. The infrared detector is calibrated at the beginning of every sampling period. Averaged data and standard deviations for each measurement are transmitted back daily.
- To calculate the dry measurements, the water mole fraction in the Licor detector must be known. A relative humidity sensor is located immediately downstream of the detector.
- As part of the QC process, each data set is compared with the Marine Boundary Layer (MBL) data from GlobalView-CO₂. The CO₂ air data from this deployment was -5.9 ± 0.7 umol/mol on average of the MBL data

and -6 umol/mol offset from the next CO2 system deployed. Therefore a correction of +6 was applied to air and sea water data.

GLOBALVIEW-CO₂: Cooperative Atmospheric Data Integration Project - Carbon Dioxide. CD-ROM, NOAA ESRL, Boulder, Colorado [Also available on Internet via anonymous FTP to ftp.cmdl.noaa.gov, Path: ccg/co2/GLOBALVIEW], 2010

-During the QC process, an adjustment to the Licor pressure is also made based on each sensor's bias to barometric pressure as measured in the lab. We have not yet run this test on this system.

- No data = -9.999 or -999

- Data_set_References: (Publication(s) describing data set) None
- Citation: (How to cite this data set) Sutton, A., C. Sabine, and S. Maenner. 2010. High-resolution ocean and atmosphere pCO₂ time-series measurements from mooring TAO125W.
- Data and Documentation - <http://cdiac.esd.ornl.gov/ftp/oceans/Moorings/TAO125W/>. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, US Department of Energy, Oak Ridge, Tennessee.
- Data_Set_Link:
 - URL*: http://www.pmel.noaa.gov/co2/moorings/eq_pco2/eq_pco2.htm
 - Label*: PMEL CO2 Group – TAO125W mooring

Link_Note: (Optional instructions or remarks)(m s t)

Quality Flags definitions:

- 2 = Acceptable measurement;
- 3 = Questionable measurement;
- 4 = Bad measurement
- 5 = Not reported;
- 9 = Sample not drawn for this measurement from this bottle.

Quality Flag Log for this dataset.

Date	Measurement	Value (Dry)	Flag	Comments
4/26/2010 0:17	xCO ₂ _SW	534.9135978	3	likely bad CO ₂ sw measurement due to equil pump pressure change
4/26/2010 3:17	xCO ₂ _SW	520.3054552	3	likely bad CO ₂ sw measurement due to equil pump pressure change
4/26/2010 6:17	xCO ₂ _SW	507.320678	3	likely bad CO ₂ sw measurement due to equil pump pressure change
4/26/2010 9:17	xCO ₂ _SW	515.9672208	3	likely bad CO ₂ sw measurement due to equil pump pressure change
4/26/2010 12:17	xCO ₂ _SW	507.5476925	3	likely bad CO ₂ sw measurement due to equil pump pressure change
4/26/2010 15:17	xCO ₂ _SW	503.0993921	3	likely bad CO ₂ sw measurement due to equil pump pressure change
4/26/2010 18:17	xCO ₂ _SW	515.0251988	3	likely bad CO ₂ sw measurement due to equil pump pressure change
4/27/2010 0:17	xCO ₂ _SW	513.8344715	3	likely bad CO ₂ sw measurement due to equil pump pressure change

4/27/2010 3:17	xCO2_SW pressure change	509.8035708	3	likely bad CO2 sw measurement due to equil pump
5/6/2010 21:17	xCO2_SW pressure change	533.1001306	3	likely bad CO2 sw measurement due to equil pump
5/9/2010 21:17	xCO2_SW pressure change	502.5201751	3	likely bad CO2 sw measurement due to equil pump
5/10/2010 3:17	xCO2_SW pressure change	493.7000792	3	likely bad CO2 sw measurement due to equil pump
6/8/2010 21:17	xCO2_SW in span calibration	493.8542394	3	CO2 data submitted was adjusted by - 4 ppm due to offset
6/8/2010 21:17	xCO2_Air in span calibration	388.4062417	3	CO2 data submitted was adjusted by - 4 ppm due to offset
6/11/2010 3:17	xCO2_SW in span calibration	479.7272261	3	CO2 data submitted was adjusted by - 5 ppm due to offset
6/11/2010 3:17	xCO2_Air in span calibration	389.4126076	3	CO2 data submitted was adjusted by - 5 ppm due to offset
6/16/2010 3:17	xCO2_SW in span calibration	493.5051555	3	CO2 data submitted was adjusted by - 4 ppm due to offset
6/16/2010 3:17	xCO2_Air in span calibration	389.0980084	3	CO2 data submitted was adjusted by - 4 ppm due to offset
6/23/2010 12:17	xCO2_SW pump pressure change	522.0788879	3	likely bad CO2 sw measurement due to equil
6/23/2010 15:17	xCO2_SW pump pressure change	525.4331561	3	likely bad CO2 sw measurement due to equil
6/23/2010 18:17	xCO2_SW pump pressure change	544.7024794	3	likely bad CO2 sw measurement due to equil
6/23/2010 21:17	xCO2_SW pump pressure change	549.9568277	3	likely bad CO2 sw measurement due to equil
6/24/2010 0:17	xCO2_SW pressure change	538.726215	3	likely bad CO2 sw measurement due to equil pump
6/24/2010 3:17	xCO2_SW pressure change	535.5481954	3	likely bad CO2 sw measurement due to equil pump
6/24/2010 6:17	xCO2_SW pressure change	500.1852645	3	likely bad CO2 sw measurement due to equil pump
6/24/2010 9:17	xCO2_SW pressure change	530.989887	3	likely bad CO2 sw measurement due to equil pump
6/24/2010 12:17	xCO2_SW pump pressure change	537.4198383	3	likely bad CO2 sw measurement due to equil
6/24/2010 15:17	xCO2_SW pump pressure change	488.587768	3	likely bad CO2 sw measurement due to equil
6/24/2010 18:17	xCO2_SW pump pressure change	487.3249793	3	likely bad CO2 sw measurement due to equil
6/24/2010 21:17	xCO2_SW pump pressure change	497.4604771	3	likely bad CO2 sw measurement due to equil
6/25/2010 0:17	xCO2_SW pressure change	480.3481033	3	likely bad CO2 sw measurement due to equil pump
6/25/2010 3:17	xCO2_SW pressure change	470.1644437	3	likely bad CO2 sw measurement due to equil pump
6/25/2010 6:17	xCO2_SW pressure change	526.4662991	3	likely bad CO2 sw measurement due to equil pump
6/25/2010 9:17	xCO2_SW pressure change	495.7901794	3	likely bad CO2 sw measurement due to equil pump
6/25/2010 12:17	xCO2_SW pump pressure change	482.3196949	3	likely bad CO2 sw measurement due to equil
6/25/2010 15:17	xCO2_SW pump pressure change	489.7610739	3	likely bad CO2 sw measurement due to equil
6/25/2010 18:17	xCO2_SW pump pressure change	493.0411178	3	likely bad CO2 sw measurement due to equil

6/25/2010 21:17	xCO2_SW	496.5524421	3	likely bad CO2 sw measurement due to equil pump pressure change
6/26/2010 0:17	xCO2_SW	512.4416809	3	likely bad CO2 sw measurement due to equil pump pressure change
6/26/2010 3:17	xCO2_SW	506.0799642	3	likely bad CO2 sw measurement due to equil pump pressure change
6/26/2010 6:17	xCO2_SW	503.5896055	3	likely bad CO2 sw measurement due to equil pump pressure change
6/26/2010 9:17	xCO2_SW	492.5552131	3	likely bad CO2 sw measurement due to equil pump pressure change
6/26/2010 12:17	xCO2_SW	507.9393575	3	likely bad CO2 sw measurement due to equil pump pressure change
6/26/2010 15:17	xCO2_SW	500.015953	3	likely bad CO2 sw measurement due to equil pump pressure change
6/26/2010 18:17	xCO2_SW	510.6859579	3	likely bad CO2 sw measurement due to equil pump pressure change
6/26/2010 21:17	xCO2_SW	499.2785319	3	likely bad CO2 sw measurement due to equil pump pressure change
6/27/2010 0:17	xCO2_SW	488.5386162	3	likely bad CO2 sw measurement due to equil pump pressure change
6/27/2010 3:17	xCO2_SW	484.2592647	3	likely bad CO2 sw measurement due to equil pump pressure change
6/27/2010 6:17	xCO2_SW	496.7329065	3	likely bad CO2 sw measurement due to equil pump pressure change
6/27/2010 9:17	xCO2_SW	507.256403	3	likely bad CO2 sw measurement due to equil pump pressure change
6/27/2010 12:17	xCO2_SW	485.2530936	3	likely bad CO2 sw measurement due to equil pump pressure change
6/27/2010 15:17	xCO2_SW	501.4918859	3	likely bad CO2 sw measurement due to equil pump pressure change
6/27/2010 18:17	xCO2_SW	509.0227363	3	likely bad CO2 sw measurement due to equil pump pressure change
6/27/2010 21:17	xCO2_SW	498.3890367	3	likely bad CO2 sw measurement due to equil pump pressure change
6/28/2010 0:17	xCO2_SW	507.3693924	3	likely bad CO2 sw measurement due to equil pump pressure change
6/28/2010 3:17	xCO2_SW	488.3112922	3	likely bad CO2 sw measurement due to equil pump pressure change
6/28/2010 6:17	xCO2_SW	482.4979386	3	likely bad CO2 sw measurement due to equil pump pressure change
6/28/2010 9:17	xCO2_SW	476.9607835	3	likely bad CO2 sw measurement due to equil pump pressure change
6/28/2010 12:17	xCO2_SW	485.0745245	3	likely bad CO2 sw measurement due to equil pump pressure change
6/28/2010 15:17	xCO2_SW	460.4433933	3	likely bad CO2 sw measurement due to equil pump pressure change
6/28/2010 18:17	xCO2_SW	468.6521309	3	likely bad CO2 sw measurement due to equil pump pressure change
6/28/2010 21:17	xCO2_SW	458.6763246	3	likely bad CO2 sw measurement due to equil pump pressure change
6/29/2010 0:17	xCO2_SW	448.581017	3	likely bad CO2 sw measurement due to equil pump pressure change
6/29/2010 3:17	xCO2_SW	468.1285914	3	likely bad CO2 sw measurement due to equil pump pressure change
6/29/2010 6:17	xCO2_SW	449.295581	3	likely bad CO2 sw measurement due to equil pump pressure change
6/29/2010 9:17	xCO2_SW	452.9007543	3	likely bad CO2 sw measurement due to equil pump pressure change

6/29/2010 12:17	xCO2_SW	475.4769597	3	likely bad CO2 sw measurement due to equil
pump pressure change				
6/29/2010 15:17	xCO2_SW	471.3317801	3	likely bad CO2 sw measurement due to equil
pump pressure change				
6/29/2010 18:17	xCO2_SW	470.7146393	3	likely bad CO2 sw measurement due to equil
pump pressure change				
6/29/2010 21:17	xCO2_SW	470.0289474	3	likely bad CO2 sw measurement due to equil
pump pressure change				
6/30/2010 0:17	xCO2_SW	470.4882649	3	likely bad CO2 sw measurement due to equil pump
pressure change				
6/30/2010 3:17	xCO2_SW	476.996393	3	likely bad CO2 sw measurement due to equil pump
pressure change				
6/30/2010 6:17	xCO2_SW	463.8787781	3	likely bad CO2 sw measurement due to equil pump
pressure change				
6/30/2010 9:17	xCO2_SW	465.8740439	3	likely bad CO2 sw measurement due to equil pump
pressure change				
6/30/2010 12:17	xCO2_SW	470.2628121	3	likely bad CO2 sw measurement due to equil
pump pressure change				
6/30/2010 15:17	xCO2_SW	468.9267422	3	likely bad CO2 sw measurement due to equil
pump pressure change				
6/30/2010 18:17	xCO2_SW	457.5020097	3	likely bad CO2 sw measurement due to equil
pump pressure change				
6/30/2010 21:17	xCO2_SW	457.6073452	3	likely bad CO2 sw measurement due to equil
pump pressure change				
7/1/2010 0:17	xCO2_SW	468.7971505	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/1/2010 3:17	xCO2_SW	459.4442758	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/1/2010 6:17	xCO2_SW	453.0066152	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/1/2010 9:17	xCO2_SW	460.8395912	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/1/2010 12:17	xCO2_SW	458.1969786	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/1/2010 15:17	xCO2_SW	464.3545967	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/1/2010 18:17	xCO2_SW	454.5218012	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/1/2010 21:17	xCO2_SW	453.0860569	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/2/2010 0:17	xCO2_SW	462.3641164	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/2/2010 3:17	xCO2_SW	463.6454717	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/2/2010 6:17	xCO2_SW	469.2174085	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/2/2010 9:17	xCO2_SW	467.0510318	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/2/2010 12:17	xCO2_SW	471.7173997	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/2/2010 15:17	xCO2_SW	479.194397	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/2/2010 18:17	xCO2_SW	479.7748287	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/2/2010 21:17	xCO2_SW	489.0547232	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/3/2010 0:17	xCO2_SW	492.8032468	3	likely bad CO2 sw measurement due to equil pump
pressure change				

7/3/2010 3:17	xCO2_SW	501.4851196	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/3/2010 6:17	xCO2_SW	501.1579325	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/3/2010 9:17	xCO2_SW	506.7481238	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/3/2010 12:17	xCO2_SW	497.0573295	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/3/2010 15:17	xCO2_SW	482.7527318	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/3/2010 18:17	xCO2_SW	497.2038812	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/3/2010 21:17	xCO2_SW	488.2594434	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/4/2010 0:17	xCO2_SW	490.2117228	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/29/2010 21:17	xCO2_SW	569.6995397	3	likely bad CO2 sw measurement due to equil
pump pressure change				
7/30/2010 0:17	xCO2_SW	553.7179423	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/30/2010 3:17	xCO2_SW	544.5398968	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/30/2010 6:17	xCO2_SW	541.8974113	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/30/2010 9:17	xCO2_SW	535.8679887	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/30/2010 12:17	xCO2_SW	532.6471217	3	likely bad CO2 sw measurement due to equil
pump pressure change				
7/30/2010 15:17	xCO2_SW	525.8647542	3	likely bad CO2 sw measurement due to equil
pump pressure change				
7/30/2010 18:17	xCO2_SW	502.6455076	3	likely bad CO2 sw measurement due to equil
pump pressure change				
7/30/2010 21:17	xCO2_SW	530.573964	3	likely bad CO2 sw measurement due to equil
pump pressure change				
7/31/2010 0:17	xCO2_SW	510.5757565	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/31/2010 3:17	xCO2_SW	489.8394014	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/31/2010 6:17	xCO2_SW	496.9236568	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/31/2010 9:17	xCO2_SW	497.4899515	3	likely bad CO2 sw measurement due to equil pump
pressure change				
7/31/2010 12:17	xCO2_SW	499.9100177	3	likely bad CO2 sw measurement due to equil
pump pressure change				
7/31/2010 15:17	xCO2_SW	487.5239059	3	likely bad CO2 sw measurement due to equil
pump pressure change				
7/31/2010 18:17	xCO2_SW	503.6897968	3	likely bad CO2 sw measurement due to equil
pump pressure change				
7/31/2010 21:17	xCO2_SW	512.2282876	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/1/2010 0:17	xCO2_SW	529.0682946	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/1/2010 3:17	xCO2_SW	528.3200083	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/1/2010 6:17	xCO2_SW	528.4696972	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/1/2010 9:17	xCO2_SW	507.373098	3	likely bad CO2 sw measurement due to equil pump
pressure change				

8/1/2010 12:17 xCO2_SW pressure change	519.8866972	3	likely bad CO2 sw measurement due to equil pump
8/1/2010 15:17 xCO2_SW pressure change	499.3698768	3	likely bad CO2 sw measurement due to equil pump
8/1/2010 18:17 xCO2_SW pressure change	511.3804754	3	likely bad CO2 sw measurement due to equil pump
8/1/2010 21:17 xCO2_SW pressure change	537.6622577	3	likely bad CO2 sw measurement due to equil pump
8/2/2010 0:17 xCO2_SW pressure change	528.5833734	3	likely bad CO2 sw measurement due to equil pump
8/2/2010 3:17 xCO2_SW pressure change	500.8127982	3	likely bad CO2 sw measurement due to equil pump
8/2/2010 6:17 xCO2_SW pressure change	496.8297432	3	likely bad CO2 sw measurement due to equil pump
8/2/2010 9:17 xCO2_SW pressure change	491.342183	3	likely bad CO2 sw measurement due to equil pump
8/2/2010 12:17 xCO2_SW pressure change	517.5067454	3	likely bad CO2 sw measurement due to equil pump
8/2/2010 15:17 xCO2_SW pressure change	508.1076656	3	likely bad CO2 sw measurement due to equil pump
8/2/2010 18:17 xCO2_SW pressure change	491.6297095	3	likely bad CO2 sw measurement due to equil pump
8/2/2010 21:17 xCO2_SW pressure change	509.6547581	3	likely bad CO2 sw measurement due to equil pump
8/3/2010 0:17 xCO2_SW pressure change	500.5198175	3	likely bad CO2 sw measurement due to equil pump
8/3/2010 3:17 xCO2_SW pressure change	510.2410082	3	likely bad CO2 sw measurement due to equil pump
8/3/2010 6:17 xCO2_SW pressure change	506.8643664	3	likely bad CO2 sw measurement due to equil pump
8/3/2010 9:17 xCO2_SW pressure change	505.8659137	3	likely bad CO2 sw measurement due to equil pump
8/3/2010 12:17 xCO2_SW pressure change	500.6994687	3	likely bad CO2 sw measurement due to equil pump
8/3/2010 15:17 xCO2_SW pressure change	494.3614126	3	likely bad CO2 sw measurement due to equil pump
8/3/2010 18:17 xCO2_SW pressure change	496.1102653	3	likely bad CO2 sw measurement due to equil pump
8/3/2010 21:17 xCO2_SW pressure change	512.7425055	3	likely bad CO2 sw measurement due to equil pump
8/4/2010 0:17 xCO2_SW pressure change	477.4546165	3	likely bad CO2 sw measurement due to equil pump
8/4/2010 3:17 xCO2_SW pressure change	505.5764143	3	likely bad CO2 sw measurement due to equil pump
8/4/2010 6:17 xCO2_SW pressure change	478.3919193	3	likely bad CO2 sw measurement due to equil pump
8/4/2010 9:17 xCO2_SW pressure change	506.2639355	3	likely bad CO2 sw measurement due to equil pump
8/4/2010 12:17 xCO2_SW pressure change	479.2455009	3	likely bad CO2 sw measurement due to equil pump
8/4/2010 15:17 xCO2_SW pressure change	496.4422525	3	likely bad CO2 sw measurement due to equil pump
8/4/2010 18:17 xCO2_SW pressure change	502.2906002	3	likely bad CO2 sw measurement due to equil pump
8/4/2010 21:17 xCO2_SW pressure change	500.8809488	3	likely bad CO2 sw measurement due to equil pump
8/5/2010 0:17 xCO2_SW pressure change	470.3668771	3	likely bad CO2 sw measurement due to equil pump

8/5/2010 3:17	xCO2_SW	474.7496391	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/5/2010 6:17	xCO2_SW	493.2270657	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/5/2010 9:17	xCO2_SW	501.6075658	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/5/2010 12:17	xCO2_SW	495.9335526	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/5/2010 15:17	xCO2_SW	507.0463854	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/5/2010 18:17	xCO2_SW	506.732642	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/5/2010 21:17	xCO2_SW	507.799098	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/6/2010 0:17	xCO2_SW	478.3701334	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/6/2010 3:17	xCO2_SW	473.9105081	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/6/2010 6:17	xCO2_SW	482.312864	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/6/2010 9:17	xCO2_SW	469.9328219	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/6/2010 12:17	xCO2_SW	486.7404498	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/6/2010 15:17	xCO2_SW	462.0278991	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/6/2010 21:17	xCO2_SW	460.1389918	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/7/2010 0:17	xCO2_SW	463.4059401	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/7/2010 3:17	xCO2_SW	457.3568992	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/7/2010 6:17	xCO2_SW	454.8198007	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/7/2010 9:17	xCO2_SW	458.4814454	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/7/2010 12:17	xCO2_SW	500.5379369	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/7/2010 15:17	xCO2_SW	505.4729379	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/7/2010 18:17	xCO2_SW	503.3551907	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/7/2010 21:17	xCO2_SW	507.8248118	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/8/2010 0:17	xCO2_SW	512.7793519	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/8/2010 3:17	xCO2_SW	514.4261539	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/8/2010 6:17	xCO2_SW	516.4346971	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/8/2010 9:17	xCO2_SW	507.4321486	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/8/2010 12:17	xCO2_SW	486.2519226	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/24/2010 0:17	xCO2_SW	540.1977431	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/24/2010 3:17	xCO2_SW	555.2616214	3	likely bad CO2 sw measurement due to equil pump
pressure change				

8/24/2010 6:17	xCO2_SW	548.4122076	3	likely bad CO2 sw measurement due to equil pump pressure change
8/24/2010 9:17	xCO2_SW	512.5167355	3	likely bad CO2 sw measurement due to equil pump pressure change
8/24/2010 12:17	xCO2_SW	514.0277365	3	likely bad CO2 sw measurement due to equil pump pressure change
8/24/2010 15:17	xCO2_SW	513.7387829	3	likely bad CO2 sw measurement due to equil pump pressure change
8/24/2010 18:17	xCO2_SW	516.5678914	3	likely bad CO2 sw measurement due to equil pump pressure change
8/24/2010 21:17	xCO2_SW	544.5954335	3	likely bad CO2 sw measurement due to equil pump pressure change
8/25/2010 0:17	xCO2_SW	564.1304778	3	likely bad CO2 sw measurement due to equil pump pressure change
8/25/2010 3:17	xCO2_SW	557.7906965	3	likely bad CO2 sw measurement due to equil pump pressure change
8/25/2010 6:17	xCO2_SW	525.2798798	3	likely bad CO2 sw measurement due to equil pump pressure change
8/25/2010 9:17	xCO2_SW	520.8555922	3	likely bad CO2 sw measurement due to equil pump pressure change
8/25/2010 12:17	xCO2_SW	532.2819161	3	likely bad CO2 sw measurement due to equil pump pressure change
8/25/2010 15:17	xCO2_SW	555.2190181	3	likely bad CO2 sw measurement due to equil pump pressure change
8/25/2010 18:17	xCO2_SW	549.4312791	3	likely bad CO2 sw measurement due to equil pump pressure change
8/25/2010 21:17	xCO2_SW	572.489448	3	likely bad CO2 sw measurement due to equil pump pressure change
8/26/2010 0:17	xCO2_SW	567.2383357	3	likely bad CO2 sw measurement due to equil pump pressure change
8/26/2010 3:17	xCO2_SW	565.2153153	3	likely bad CO2 sw measurement due to equil pump pressure change
8/26/2010 6:17	xCO2_SW	544.0352174	3	likely bad CO2 sw measurement due to equil pump pressure change
8/26/2010 9:17	xCO2_SW	522.1057599	3	likely bad CO2 sw measurement due to equil pump pressure change
8/26/2010 12:17	xCO2_SW	523.4707716	3	likely bad CO2 sw measurement due to equil pump pressure change
8/26/2010 15:17	xCO2_SW	527.3894688	3	likely bad CO2 sw measurement due to equil pump pressure change
8/26/2010 18:17	xCO2_SW	569.049774	3	likely bad CO2 sw measurement due to equil pump pressure change
8/26/2010 21:17	xCO2_SW	562.757023	3	likely bad CO2 sw measurement due to equil pump pressure change
8/27/2010 0:17	xCO2_SW	558.1696764	3	likely bad CO2 sw measurement due to equil pump pressure change
8/27/2010 3:17	xCO2_SW	542.3100066	3	likely bad CO2 sw measurement due to equil pump pressure change
8/27/2010 6:17	xCO2_SW	530.3473776	3	likely bad CO2 sw measurement due to equil pump pressure change
8/27/2010 9:17	xCO2_SW	522.0363199	3	likely bad CO2 sw measurement due to equil pump pressure change
8/27/2010 12:17	xCO2_SW	540.1860087	3	likely bad CO2 sw measurement due to equil pump pressure change
8/27/2010 15:17	xCO2_SW	523.7223348	3	likely bad CO2 sw measurement due to equil pump pressure change
8/27/2010 18:17	xCO2_SW	544.6570086	3	likely bad CO2 sw measurement due to equil pump pressure change

8/27/2010 21:17	xCO2_SW	538.8559691	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/28/2010 0:17	xCO2_SW	564.6700743	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/28/2010 3:17	xCO2_SW	561.8768208	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/28/2010 6:17	xCO2_SW	517.7281717	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/28/2010 9:17	xCO2_SW	518.4886269	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/28/2010 12:17	xCO2_SW	519.6977598	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/28/2010 15:17	xCO2_SW	522.4161134	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/28/2010 18:17	xCO2_SW	534.3571079	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/28/2010 21:17	xCO2_SW	573.9775159	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/29/2010 0:17	xCO2_SW	541.7589295	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/29/2010 3:17	xCO2_SW	520.280001	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/29/2010 6:17	xCO2_SW	507.845317	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/29/2010 9:17	xCO2_SW	502.9702542	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/29/2010 12:17	xCO2_SW	497.5531311	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/29/2010 15:17	xCO2_SW	495.242978	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/29/2010 18:17	xCO2_SW	501.1276869	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/29/2010 21:17	xCO2_SW	513.9836222	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/30/2010 0:17	xCO2_SW	518.3198475	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/30/2010 3:17	xCO2_SW	511.0669282	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/30/2010 6:17	xCO2_SW	511.536427	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/30/2010 9:17	xCO2_SW	512.3619219	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/30/2010 12:17	xCO2_SW	530.1223568	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/30/2010 15:17	xCO2_SW	543.5717196	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/30/2010 18:17	xCO2_SW	550.7673269	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/30/2010 21:17	xCO2_SW	524.7538862	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/31/2010 0:17	xCO2_SW	536.5370767	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/31/2010 3:17	xCO2_SW	553.2923331	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/31/2010 6:17	xCO2_SW	546.0871579	3	likely bad CO2 sw measurement due to equil pump
pressure change				
8/31/2010 9:17	xCO2_SW	543.3690437	3	likely bad CO2 sw measurement due to equil pump
pressure change				

8/31/2010 12:17	xCO2_SW	506.9376943	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/31/2010 15:17	xCO2_SW	492.7533976	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/31/2010 18:17	xCO2_SW	516.5674485	3	likely bad CO2 sw measurement due to equil
pump pressure change				
8/31/2010 21:17	xCO2_SW	541.3354878	3	likely bad CO2 sw measurement due to equil
pump pressure change				
9/1/2010 0:17	xCO2_SW	504.1786618	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/1/2010 3:17	xCO2_SW	483.4532681	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/1/2010 6:17	xCO2_SW	494.3369019	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/1/2010 9:17	xCO2_SW	475.9711685	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/1/2010 12:17	xCO2_SW	495.130747	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/1/2010 15:17	xCO2_SW	542.5324412	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/1/2010 18:17	xCO2_SW	541.8093112	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/1/2010 21:17	xCO2_SW	542.1031156	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/2/2010 0:17	xCO2_SW	544.659945	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/2/2010 3:17	xCO2_SW	539.9923211	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/2/2010 6:17	xCO2_SW	531.3463983	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/2/2010 9:17	xCO2_SW	532.4153031	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/2/2010 12:17	xCO2_SW	520.1884689	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/2/2010 15:17	xCO2_SW	520.41596	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/2/2010 18:17	xCO2_SW	532.5716837	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/2/2010 21:17	xCO2_SW	532.7815074	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/3/2010 0:17	xCO2_SW	528.7743208	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/3/2010 3:17	xCO2_SW	507.9450034	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/3/2010 6:17	xCO2_SW	513.6117675	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/3/2010 9:17	xCO2_SW	490.6757111	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/3/2010 12:17	xCO2_SW	488.0777292	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/3/2010 15:17	xCO2_SW	496.229917	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/3/2010 18:17	xCO2_SW	538.4645993	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/3/2010 21:17	xCO2_SW	522.8541038	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/4/2010 0:17	xCO2_SW	527.0240121	3	likely bad CO2 sw measurement due to equil pump
pressure change				

9/4/2010 3:17	xCO2_SW	514.8080296	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/4/2010 6:17	xCO2_SW	499.6121463	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/4/2010 9:17	xCO2_SW	517.8435451	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/4/2010 12:17	xCO2_SW	528.0044735	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/4/2010 15:17	xCO2_SW	524.9287158	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/4/2010 18:17	xCO2_SW	526.0034114	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/4/2010 21:17	xCO2_SW	518.9201403	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/5/2010 0:17	xCO2_SW	517.8221995	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/5/2010 3:17	xCO2_SW	508.643974	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/5/2010 6:17	xCO2_SW	507.2871452	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/5/2010 9:17	xCO2_SW	505.242206	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/5/2010 12:17	xCO2_SW	506.5281137	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/5/2010 15:17	xCO2_SW	500.8167642	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/5/2010 18:17	xCO2_SW	511.4663757	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/5/2010 21:17	xCO2_SW	508.3876436	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/6/2010 0:17	xCO2_SW	508.0490413	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/6/2010 3:17	xCO2_SW	499.0897648	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/6/2010 6:17	xCO2_SW	507.8119862	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/6/2010 9:17	xCO2_SW	496.602236	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/6/2010 12:17	xCO2_SW	490.9636896	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/6/2010 15:17	xCO2_SW	504.5247115	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/6/2010 18:17	xCO2_SW	493.9355719	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/6/2010 21:17	xCO2_SW	498.106426	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/7/2010 0:17	xCO2_SW	481.9443812	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/7/2010 3:17	xCO2_SW	463.2874913	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/7/2010 6:17	xCO2_SW	468.2308786	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/7/2010 9:17	xCO2_SW	457.638032	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/7/2010 12:17	xCO2_SW	453.2534721	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/7/2010 15:17	xCO2_SW	449.0024041	3	likely bad CO2 sw measurement due to equil pump
pressure change				

9/7/2010 18:17	xCO2_SW	451.5752276	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/7/2010 21:17	xCO2_SW	478.4251215	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/8/2010 0:17	xCO2_SW	473.1392506	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/8/2010 3:17	xCO2_SW	444.9393135	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/8/2010 6:17	xCO2_SW	449.2850277	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/8/2010 9:17	xCO2_SW	449.6626815	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/8/2010 12:17	xCO2_SW	447.6195288	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/8/2010 15:17	xCO2_SW	455.25279	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/8/2010 18:17	xCO2_SW	475.8553822	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/8/2010 21:17	xCO2_SW	465.7284844	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/9/2010 0:17	xCO2_SW	469.3285794	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/9/2010 3:17	xCO2_SW	474.1717439	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/9/2010 6:17	xCO2_SW	468.5896015	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/9/2010 9:17	xCO2_SW	472.4160725	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/9/2010 12:17	xCO2_SW	473.2721099	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/9/2010 15:17	xCO2_SW	476.4385704	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/9/2010 18:17	xCO2_SW	480.9233699	3	likely bad CO2 sw measurement due to equil pump
pressure change				
9/9/2010 21:17	xCO2_SW	490.5069385	3	likely bad CO2 sw measurement due to equil pump
pressure change				
10/30/2010 6:17	xCO2_SW	498.0922219	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/30/2010 9:17	xCO2_SW	501.2115126	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/30/2010 12:17	xCO2_SW	511.45976	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/30/2010 15:17	xCO2_SW	471.2385306	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/30/2010 18:17	xCO2_SW	508.5581033	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/30/2010 21:17	xCO2_SW	502.0963851	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/31/2010 0:17	xCO2_SW	487.2633984	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/31/2010 3:17	xCO2_SW	472.3162767	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/31/2010 6:17	xCO2_SW	450.9958349	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/31/2010 9:17	xCO2_SW	453.522913	3	likely bad CO2 sw measurement due to equil
pump pressure change				
10/31/2010 21:17	xCO2_SW	484.7397024	3	likely bad CO2 sw measurement due to equil
pump pressure change				

11/1/2010 0:17	xCO2_SW	488.6242797	3	likely bad CO2 sw measurement due to equil pump
pressure change				
11/1/2010 3:17	xCO2_SW	460.3933809	3	likely bad CO2 sw measurement due to equil pump
pressure change				
11/1/2010 6:17	xCO2_SW	447.5671139	3	likely bad CO2 sw measurement due to equil pump
pressure change				
11/1/2010 9:17	xCO2_SW	459.5929568	3	likely bad CO2 sw measurement due to equil pump
pressure change				
11/1/2010 12:17	xCO2_SW	454.3899357	3	likely bad CO2 sw measurement due to equil
pump pressure change				
11/1/2010 15:17	xCO2_SW	451.7218348	3	likely bad CO2 sw measurement due to equil
pump pressure change				
11/1/2010 18:17	xCO2_SW	462.6555101	3	likely bad CO2 sw measurement due to equil
pump pressure change				
11/1/2010 21:17	xCO2_SW	452.132995	3	likely bad CO2 sw measurement due to equil
pump pressure change				
11/2/2010 0:17	xCO2_SW	458.3600533	3	likely bad CO2 sw measurement due to equil pump
pressure change				
11/2/2010 3:17	xCO2_SW	461.4720857	3	likely bad CO2 sw measurement due to equil pump
pressure change				
11/2/2010 6:17	xCO2_SW	444.3620258	3	likely bad CO2 sw measurement due to equil pump
pressure change				
11/2/2010 18:17	xCO2_SW	457.3877231	3	likely bad CO2 sw measurement due to equil
pump pressure change				
11/3/2010 0:17	xCO2_SW	460.8188625	3	likely bad CO2 sw measurement due to equil pump
pressure change				
11/3/2010 3:17	xCO2_SW	456.7623578	3	likely bad CO2 sw measurement due to equil pump
pressure change				
11/3/2010 6:17	xCO2_SW	460.0447368	3	likely bad CO2 sw measurement due to equil pump
pressure change				