

* =mandatory field)

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- **Dataset Info:**
 - **Dataset_ID*:** GraysRf_81W_31N_Jun2007_Jun2008
 - **Submission Dates:**
 - **Initial_Submission:** 20120522 (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: - 80.87(+ = E, - = W)
or Degrees, Minutes, Seconds:
 - **Northernmost_Latitude:**
Enter decimal fractions of degrees: +31.40 (+ = E, - = W)
 - **Southernmost_Latitude:**
Enter decimal fractions of degrees:
 - **Temporal_Coverage:**
 - **Start_Date:** 20070626 (YYYYMMDD)
 - **End_Date:** 20080615 (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 measured by CTD (MicroCAT C-T Recorder). Temperature data is internally recorded and collected during the equilibration period. Data not post-calibrated. Annual drift for this deployment was minimal and does not impact the fCO₂ calculation (within the degree of accuracy of the CO₂ measurement). Contact us if you would like the CTD post-calibration information.
- Salinity - Sea Surface Salinity measured by CTD (MicroCAT C-T Recorder). Conductivity data is internally recorded and collected during the equilibration period. Data not post-calibrated. Annual drift for this deployment was minimal and does not impact the fCO₂ calculation (within the degree of accuracy of the CO₂ measurement). Contact us if you would like the CTD post-calibration information.
- 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, 494.79 umol/mol from ESRL. ESRL

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

- **Other_Sensors:**
 - Manufacturer: Maxtec
 - Model: Max-250
 - Resolution: 0.01 %
 - Uncertainty: $\pm 2.0\%$ Full Scale over operating temperature range
 $\pm 1.0\%$ 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: Sensirion
 - Model: SHT71
 - Resolution: 0.01 %
 - Uncertainty: Measurement range: 0-100% RH
Absolute RH accuracy: $\pm 3\%$ RH (20-80% RH)
Repeatability RH: $\pm 0.1\%$ 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 data from this deployment were 4.1 ± 5.3 umol/mol on average of the MBL data and therefore no correction was applied.

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 typically made based on each sensor's bias to barometric pressure as measured in the lab. For this system, the Licor pressure was adjusted by -0.5 kPa.

- No data = -9.999 or -999

- Data_set_References: (Publication(s) describing data set) None
- Citation: (How to cite this data set) Sabine, C., A. Sutton, W.-J. Cai, S. Noakes, S. Musielewicz, S. Maenner, and R. Bott. 2012. High-resolution ocean and atmosphere pCO₂ time-series measurements from Gray's Reef mooring.
- Data_Set_Link:
- URL*: <http://www.pmel.noaa.gov/co2/story/Grays+Reef>
- Label*: **PMEL CO2 Group – Gray's Reef 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
7/22/2007 12:16	xCO ₂ _SW	468.6481536	4	bad CO2 sw measurement due to equilibrator pressure problem
7/30/2007 21:16	xCO ₂ _SW	440.2578963	3	CO2 data submitted was adjusted by + 10 ppm b/c span calibration was off as predicted by change in Licor temperature
7/30/2007 21:16	xCO ₂ _Air	380.5068765	3	CO2 data submitted was adjusted by + 10 ppm b/c span calibration was off as predicted by change in Licor temperature
8/4/2007 6:16	xCO ₂ _SW	494.4451105	3	likely bad CO2 sw measurement due to equilibrator pressure problem
8/18/2007 15:16	xCO ₂ _SW	436.3675637	3	CO2 data submitted was adjusted by - 6 ppm b/c zero calibration was off as predicted by change in Licor temperature
8/18/2007 15:16	xCO ₂ _Air	380.5972236	3	CO2 data submitted was adjusted by - 6 ppm b/c zero calibration was off as predicted by change in Licor temperature
9/4/2007 0:16	xCO ₂ _SW	498.9208053	4	bad CO2 sw measurement due to equilibrator pressure problem
9/7/2007 21:16	xCO ₂ _Air	367.6307224	4	bad CO2 air measurement - high st dev
9/16/2007 18:16	xCO ₂ _SW	487.3470362	4	bad CO2 sw measurement due to equilibrator pressure problem

9/16/2007 21:16	xCO2_SW	448.9139229	4	bad CO2 sw measurement due to equilibrator pressure problem
9/17/2007 0:16	xCO2_SW	454.74229	4	bad CO2 sw measurement due to equilibrator pressure problem
9/17/2007 6:16	xCO2_SW	478.5662215	4	bad CO2 sw measurement due to equilibrator pressure problem
9/17/2007 12:16	xCO2_SW	474.1797924	4	bad CO2 sw measurement due to equilibrator pressure problem
9/17/2007 18:16	xCO2_SW	474.1306969	4	bad CO2 sw measurement due to equilibrator pressure problem
9/17/2007 21:16	xCO2_SW	445.6598046	4	bad CO2 sw measurement due to equilibrator pressure problem
9/18/2007 3:16	xCO2_SW	424.4060487	4	bad CO2 sw measurement due to equilibrator pressure problem
9/18/2007 6:16	xCO2_SW	429.4525578	4	bad CO2 sw measurement due to equilibrator pressure problem
9/18/2007 9:16	xCO2_SW	468.645367	4	bad CO2 sw measurement due to equilibrator pressure problem
9/18/2007 12:16	xCO2_SW	456.4633308	4	bad CO2 sw measurement due to equilibrator pressure problem
9/18/2007 15:16	xCO2_SW	458.9230181	4	bad CO2 sw measurement due to equilibrator pressure problem
9/18/2007 18:16	xCO2_SW	458.7989279	4	bad CO2 sw measurement due to equilibrator pressure problem
9/18/2007 21:16	xCO2_SW	450.8790323	4	bad CO2 sw measurement due to equilibrator pressure problem
9/19/2007 0:16	xCO2_SW	466.2230928	4	bad CO2 sw measurement due to equilibrator pressure problem
9/19/2007 3:16	xCO2_SW	465.7784393	4	bad CO2 sw measurement due to equilibrator pressure problem
9/19/2007 9:16	xCO2_SW	447.7980919	4	bad CO2 sw measurement due to equilibrator pressure problem
9/19/2007 12:16	xCO2_SW	475.8996881	4	bad CO2 sw measurement due to equilibrator pressure problem
9/19/2007 15:16	xCO2_SW	439.1575726	4	bad CO2 sw measurement due to equilibrator pressure problem
9/19/2007 18:16	xCO2_SW	457.6471664	4	bad CO2 sw measurement due to equilibrator pressure problem
9/19/2007 21:16	xCO2_SW	466.7706995	4	bad CO2 sw measurement due to equilibrator pressure problem
9/20/2007 0:16	xCO2_SW	465.8194353	4	bad CO2 sw measurement due to equilibrator pressure problem
9/20/2007 3:16	xCO2_SW	444.4285401	4	bad CO2 sw measurement due to equilibrator pressure problem
9/20/2007 6:16	xCO2_SW	476.5700564	4	bad CO2 sw measurement due to equilibrator pressure problem
9/20/2007 9:16	xCO2_SW	478.1683253	4	bad CO2 sw measurement due to equilibrator pressure problem
9/28/2007 21:16	xCO2_SW	491.6695297	4	bad CO2 sw measurement due to equilibrator pressure problem
9/28/2007 23:16	xCO2_SW	475.663686	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 0:16	xCO2_SW	460.6330646	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 1:16	xCO2_SW	449.0155416	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 2:16	xCO2_SW	447.9346427	4	bad CO2 sw measurement due to equilibrator pressure problem

9/29/2007 3:16	xCO2_SW	445.0277405	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 4:16	xCO2_SW	446.389201	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 5:16	xCO2_SW	452.4828119	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 6:16	xCO2_SW	455.047376	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 7:16	xCO2_SW	456.2370183	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 8:16	xCO2_SW	492.4581829	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 9:16	xCO2_SW	461.7038835	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 10:16	xCO2_SW	493.517786	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 11:16	xCO2_SW	455.3122959	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 12:16	xCO2_SW	492.0607754	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 13:16	xCO2_SW	457.2879796	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 14:16	xCO2_SW	450.3118316	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 15:16	xCO2_SW	448.7113824	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 16:16	xCO2_SW	450.8966281	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 17:16	xCO2_SW	466.8699202	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 18:16	xCO2_SW	426.5274839	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 19:16	xCO2_SW	446.8883667	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 20:16	xCO2_SW	470.8796229	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 21:16	xCO2_SW	443.4545618	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 22:16	xCO2_SW	439.9062292	4	bad CO2 sw measurement due to equilibrator pressure problem
9/29/2007 23:16	xCO2_SW	449.8412905	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 0:16	xCO2_SW	434.2745313	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 1:16	xCO2_SW	435.96718	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 2:16	xCO2_SW	430.1973237	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 3:16	xCO2_SW	457.4615837	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 4:16	xCO2_SW	432.3508838	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 5:16	xCO2_SW	433.1999452	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 6:16	xCO2_SW	444.084957	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 7:16	xCO2_SW	438.1211537	4	bad CO2 sw measurement due to equilibrator pressure problem

9/30/2007 8:16	xCO2_SW	451.2766391	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 9:16	xCO2_SW	440.6157329	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 10:16	xCO2_SW	441.5645527	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 11:16	xCO2_SW	477.1649986	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 12:16	xCO2_SW	445.1336599	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 13:16	xCO2_SW	438.0086191	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 14:16	xCO2_SW	481.9404418	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 15:16	xCO2_SW	448.8121577	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 16:16	xCO2_SW	435.230635	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 17:16	xCO2_SW	467.2046474	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 18:16	xCO2_SW	459.1629179	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 19:16	xCO2_SW	454.2429658	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 20:16	xCO2_SW	451.9580561	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 21:16	xCO2_SW	428.1617427	4	bad CO2 sw measurement due to equilibrator pressure problem
9/30/2007 22:16	xCO2_SW	449.2298941	4	bad CO2 sw measurement due to equilibrator pressure problem
10/1/2007 0:16	xCO2_SW	454.3588528	4	bad CO2 sw measurement due to equilibrator pressure problem
10/1/2007 3:16	xCO2_SW	453.8135733	4	bad CO2 sw measurement due to equilibrator pressure problem
10/1/2007 6:16	xCO2_SW	454.8621352	4	bad CO2 sw measurement due to equilibrator pressure problem
10/1/2007 9:16	xCO2_SW	429.1095989	4	bad CO2 sw measurement due to equilibrator pressure problem
10/1/2007 12:16	xCO2_SW	432.3759723	4	bad CO2 sw measurement due to equilibrator pressure problem
10/1/2007 15:16	xCO2_SW	458.3505418	4	bad CO2 sw measurement due to equilibrator pressure problem
10/4/2007 6:16	xCO2_SW	548.6563522	3	550 ppm CO2 sw likely high but no signs of bad data in diagnostics
10/4/2007 9:16	xCO2_SW	599.5908155	3	600 ppm CO2 sw likely high but no signs of bad data in diagnostics
10/4/2007 12:16	xCO2_SW	633.1089276	3	630 ppm CO2 sw likely high but no signs of bad data in diagnostics
10/4/2007 15:16	xCO2_SW	633.0102437	3	630 ppm CO2 sw likely high but no signs of bad data in diagnostics
10/8/2007 9:16	xCO2_Air	373.1540184	4	bad CO2 air measurement - high st dev
10/28/2007 15:16	xCO2_SW	430.7707424	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/28/2007 18:16	xCO2_SW	432.9573654	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/28/2007 21:16	xCO2_SW	418.2130527	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

10/29/2007 0:16	xCO2_SW	407.9137019	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/29/2007 3:16	xCO2_SW	428.0654088	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/29/2007 6:16	xCO2_SW	428.4534342	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/29/2007 9:16	xCO2_SW	419.3658779	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/29/2007 12:16	xCO2_SW	417.099831	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/29/2007 15:16	xCO2_SW	417.7397389	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/29/2007 18:16	xCO2_SW	414.1320975	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/29/2007 21:16	xCO2_SW	406.1006037	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/30/2007 0:16	xCO2_SW	408.170713	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/30/2007 3:16	xCO2_SW	388.9622199	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/30/2007 6:16	xCO2_SW	411.4991177	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/30/2007 9:16	xCO2_SW	414.9201618	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/30/2007 12:16	xCO2_SW	388.6961912	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/30/2007 15:16	xCO2_SW	385.5195951	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/30/2007 18:16	xCO2_SW	428.3809096	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/30/2007 21:16	xCO2_SW	398.3457869	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/31/2007 0:16	xCO2_SW	395.9184731	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/31/2007 3:16	xCO2_SW	368.6074863	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/31/2007 6:16	xCO2_SW	370.9780672	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/31/2007 9:16	xCO2_SW	367.3606043	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/31/2007 12:16	xCO2_SW	374.769492	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/31/2007 15:16	xCO2_SW	412.3693707	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/31/2007 18:16	xCO2_SW	399.1505102	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/31/2007 21:16	xCO2_SW	413.2619775	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
10/31/2007 21:16	xCO2_Air	375.261694	4	bad CO2 air measurement - high st dev
11/1/2007 0:16	xCO2_SW	411.1610622	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/1/2007 3:16	xCO2_SW	406.1134771	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/1/2007 6:16	xCO2_SW	402.8947776	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/1/2007 9:16	xCO2_SW	395.7701853	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

11/1/2007 12:16	xCO2_SW	401.3844025	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/1/2007 15:16	xCO2_SW	409.3027287	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/1/2007 18:16	xCO2_SW	401.5221458	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/1/2007 21:16	xCO2_SW	396.1595761	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/2/2007 0:16	xCO2_SW	396.8326278	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/2/2007 3:16	xCO2_SW	403.1115958	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/2/2007 6:16	xCO2_SW	396.9872207	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/2/2007 9:16	xCO2_SW	373.8151489	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/2/2007 12:16	xCO2_SW	411.5810816	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/2/2007 15:16	xCO2_SW	380.9628298	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/2/2007 18:16	xCO2_SW	362.1526055	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/2/2007 21:16	xCO2_SW	361.9818472	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/3/2007 0:16	xCO2_SW	421.011785	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/3/2007 3:16	xCO2_SW	368.6997773	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/3/2007 6:16	xCO2_SW	405.3761463	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/3/2007 9:16	xCO2_SW	397.8744541	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/3/2007 12:16	xCO2_SW	402.0840262	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/3/2007 15:16	xCO2_SW	406.3396437	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/3/2007 18:16	xCO2_SW	434.6257645	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/3/2007 21:16	xCO2_SW	442.3279289	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/4/2007 0:16	xCO2_SW	435.6097939	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/4/2007 3:16	xCO2_SW	446.1472978	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/4/2007 6:16	xCO2_SW	454.9962226	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/4/2007 9:16	xCO2_SW	451.6957958	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/4/2007 12:16	xCO2_SW	436.5313394	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/4/2007 15:16	xCO2_SW	455.2680161	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/4/2007 18:16	xCO2_SW	472.1436285	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/4/2007 21:16	xCO2_SW	490.5295345	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/5/2007 0:16	xCO2_SW	464.5544535	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

11/5/2007 3:16	xCO2_SW	453.8898993	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/5/2007 6:16	xCO2_SW	452.9369483	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/5/2007 9:16	xCO2_SW	463.6917452	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/5/2007 12:16	xCO2_SW	448.3589561	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/5/2007 15:16	xCO2_SW	427.9105487	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/5/2007 18:16	xCO2_SW	460.3392424	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/5/2007 21:16	xCO2_SW	506.3955832	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/6/2007 0:16	xCO2_SW	528.3969783	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/6/2007 3:16	xCO2_SW	531.9951756	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/6/2007 6:16	xCO2_SW	533.601122	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/6/2007 9:16	xCO2_SW	520.5732677	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/6/2007 12:16	xCO2_SW	449.2991539	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/6/2007 15:16	xCO2_SW	444.0252467	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/6/2007 18:16	xCO2_SW	464.8242472	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/6/2007 21:16	xCO2_SW	427.1263562	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/7/2007 0:16	xCO2_SW	480.9920966	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/7/2007 3:16	xCO2_SW	390.5640454	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/7/2007 6:16	xCO2_SW	397.8443678	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/7/2007 9:16	xCO2_SW	394.3593753	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/7/2007 12:16	xCO2_SW	388.5821862	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/7/2007 15:16	xCO2_SW	386.3596155	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/7/2007 18:16	xCO2_SW	391.1480977	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/7/2007 21:16	xCO2_SW	400.966766	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/8/2007 0:16	xCO2_SW	402.3111798	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/8/2007 3:16	xCO2_SW	395.5735262	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/8/2007 6:16	xCO2_SW	395.4635277	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/8/2007 9:16	xCO2_SW	404.8228431	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/8/2007 12:16	xCO2_SW	417.5270774	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/8/2007 15:16	xCO2_SW	397.0131303	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

11/8/2007 18:16	xCO2_SW	399.0995189	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/8/2007 21:16	xCO2_SW	417.5167602	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/9/2007 0:16	xCO2_SW	427.4739889	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/9/2007 3:16	xCO2_SW	438.3438592	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/9/2007 6:16	xCO2_SW	456.562948	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/9/2007 9:16	xCO2_SW	465.33357	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/9/2007 12:16	xCO2_SW	470.3538516	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/9/2007 15:16	xCO2_SW	466.8227001	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/9/2007 15:16	xCO2_Air	393.7529141	4	bad CO2 air measurement - high st dev
11/9/2007 18:16	xCO2_SW	481.9819921	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/9/2007 21:16	xCO2_SW	519.1183518	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/10/2007 0:16	xCO2_SW	532.0969836	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/10/2007 3:16	xCO2_SW	514.8587934	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/10/2007 6:16	xCO2_SW	468.5910227	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/10/2007 9:16	xCO2_SW	397.8468947	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/10/2007 12:16	xCO2_SW	397.4991238	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/10/2007 15:16	xCO2_SW	400.9239753	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/10/2007 18:16	xCO2_SW	425.8482134	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/10/2007 21:16	xCO2_SW	427.4125041	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/11/2007 0:16	xCO2_SW	437.6383146	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/11/2007 3:16	xCO2_SW	426.9905217	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/11/2007 6:16	xCO2_SW	423.0400602	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/11/2007 9:16	xCO2_SW	404.5406212	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/11/2007 12:16	xCO2_SW	424.4564696	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/11/2007 15:16	xCO2_SW	397.0810644	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/11/2007 18:16	xCO2_SW	389.8213801	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/11/2007 21:16	xCO2_SW	390.4272335	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/12/2007 0:16	xCO2_SW	401.5715755	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/12/2007 3:16	xCO2_SW	387.0970805	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

11/12/2007 6:16	xCO2_SW	397.852056	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/12/2007 9:16	xCO2_SW	416.1929721	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/12/2007 12:16	xCO2_SW	448.6628671	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/12/2007 15:16	xCO2_SW	481.1668203	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/12/2007 18:16	xCO2_SW	469.3429082	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/12/2007 21:16	xCO2_SW	493.8411028	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/13/2007 0:16	xCO2_SW	500.5870526	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/13/2007 3:16	xCO2_SW	518.3054479	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/13/2007 6:16	xCO2_SW	528.7854648	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/13/2007 9:16	xCO2_SW	538.1370063	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/13/2007 12:16	xCO2_SW	542.9023284	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/13/2007 15:16	xCO2_SW	572.3954333	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/13/2007 18:16	xCO2_SW	587.8938916	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/13/2007 21:16	xCO2_SW	621.8823215	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/14/2007 0:16	xCO2_SW	575.5975384	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/14/2007 3:16	xCO2_SW	588.5258145	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/14/2007 6:16	xCO2_SW	594.6156427	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/14/2007 9:16	xCO2_SW	571.0781118	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/14/2007 12:16	xCO2_SW	530.2242662	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/14/2007 15:16	xCO2_SW	550.1431211	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/14/2007 18:16	xCO2_SW	586.3089347	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/14/2007 21:16	xCO2_SW	630.0961933	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/15/2007 0:16	xCO2_SW	619.2571421	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/15/2007 3:16	xCO2_SW	584.9096282	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/15/2007 6:16	xCO2_SW	551.1192792	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/15/2007 9:16	xCO2_SW	443.9983841	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/15/2007 12:16	xCO2_SW	401.6884025	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/15/2007 15:16	xCO2_SW	403.25089	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
11/15/2007 18:16	xCO2_SW	400.08925	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				

11/15/2007 21:16	xCO2_SW	391.5314043	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/16/2007 0:16	xCO2_SW	389.2552831	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/16/2007 3:16	xCO2_SW	388.1086391	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/16/2007 6:16	xCO2_SW	387.1575764	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/16/2007 9:16	xCO2_SW	385.8611541	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/16/2007 12:16	xCO2_SW	386.1678908	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/16/2007 15:16	xCO2_SW	384.6269356	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/16/2007 18:16	xCO2_SW	401.4410976	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/16/2007 21:16	xCO2_SW	416.6392663	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/17/2007 0:16	xCO2_SW	431.3906703	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/17/2007 3:16	xCO2_SW	441.1104363	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/17/2007 6:16	xCO2_SW	446.7925781	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/17/2007 9:16	xCO2_SW	440.8667448	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/17/2007 12:16	xCO2_SW	449.105444	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/17/2007 15:16	xCO2_SW	465.9725959	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/17/2007 18:16	xCO2_SW	490.9979089	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/17/2007 21:16	xCO2_SW	492.220909	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/18/2007 0:16	xCO2_SW	485.5792315	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/18/2007 3:16	xCO2_SW	480.0503816	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/18/2007 6:16	xCO2_SW	500.5223217	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/18/2007 9:16	xCO2_SW	484.1432276	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/18/2007 12:16	xCO2_SW	491.7212546	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/18/2007 15:16	xCO2_SW	511.9004264	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/18/2007 18:16	xCO2_SW	540.3751613	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/18/2007 21:16	xCO2_SW	563.2554433	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/19/2007 0:16	xCO2_SW	584.94908	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/19/2007 3:16	xCO2_SW	580.6540886	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/19/2007 6:16	xCO2_SW	582.2606352	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/19/2007 9:16	xCO2_SW	609.0981512	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

11/19/2007 12:16	xCO2_SW	598.1740742	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/19/2007 15:16	xCO2_SW	571.1474723	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/19/2007 18:16	xCO2_SW	566.680961	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/19/2007 21:16	xCO2_SW	575.4678944	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/20/2007 0:16	xCO2_SW	533.359201	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/20/2007 3:16	xCO2_SW	517.3022232	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/20/2007 6:16	xCO2_SW	521.4730038	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/20/2007 9:16	xCO2_SW	561.2690019	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/20/2007 12:16	xCO2_SW	571.165445	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/20/2007 15:16	xCO2_SW	583.1148634	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/20/2007 18:16	xCO2_SW	574.3986031	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/20/2007 21:16	xCO2_SW	632.7698471	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/21/2007 0:16	xCO2_SW	651.0294702	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/21/2007 3:16	xCO2_SW	597.7274024	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/21/2007 6:16	xCO2_SW	550.8281632	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/21/2007 9:16	xCO2_SW	566.832451	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/21/2007 12:16	xCO2_SW	566.9798072	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/21/2007 15:16	xCO2_SW	598.2681324	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/21/2007 18:16	xCO2_SW	632.3848454	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/21/2007 21:16	xCO2_SW	673.9641919	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/22/2007 0:16	xCO2_SW	671.5497446	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/22/2007 3:16	xCO2_SW	696.3010417	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/22/2007 6:16	xCO2_SW	622.8659808	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/22/2007 9:16	xCO2_SW	561.6236479	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/22/2007 12:16	xCO2_SW	500.4080801	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/22/2007 15:16	xCO2_SW	407.5904292	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/22/2007 18:16	xCO2_SW	394.4160413	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/22/2007 21:16	xCO2_SW	419.3424943	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/23/2007 0:16	xCO2_SW	404.0637438	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

11/23/2007 3:16	xCO2_SW	433.9027956	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/23/2007 6:16	xCO2_SW	465.4748856	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/23/2007 9:16	xCO2_SW	406.6674496	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/23/2007 12:16	xCO2_SW	397.3471216	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/23/2007 15:16	xCO2_SW	393.2314554	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/23/2007 18:16	xCO2_SW	396.6452816	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/23/2007 21:16	xCO2_SW	414.7098684	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/24/2007 0:16	xCO2_SW	391.5184971	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/24/2007 3:16	xCO2_SW	391.0974501	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/24/2007 6:16	xCO2_SW	387.2596812	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/24/2007 9:16	xCO2_SW	388.1392997	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/24/2007 12:16	xCO2_SW	390.8128349	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/24/2007 15:16	xCO2_SW	393.9812966	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/24/2007 18:16	xCO2_SW	390.473837	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/24/2007 21:16	xCO2_SW	387.2877229	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/25/2007 0:16	xCO2_SW	383.3328633	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/25/2007 3:16	xCO2_SW	373.7590458	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/25/2007 6:16	xCO2_SW	370.9564182	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/25/2007 9:16	xCO2_SW	371.3138733	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/25/2007 12:16	xCO2_SW	378.9305572	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/25/2007 15:16	xCO2_SW	383.7297276	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/25/2007 18:16	xCO2_SW	409.6185248	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/25/2007 21:16	xCO2_SW	412.2586531	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/26/2007 0:16	xCO2_SW	418.5526511	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/26/2007 3:16	xCO2_SW	404.2177173	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/26/2007 6:16	xCO2_SW	414.3997617	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/26/2007 9:16	xCO2_SW	433.8149162	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/26/2007 12:16	xCO2_SW	456.4685646	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/26/2007 15:16	xCO2_SW	484.9132282	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

11/26/2007 18:16	xCO2_SW	520.0099352	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/26/2007 21:16	xCO2_SW	515.6019935	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/27/2007 0:16	xCO2_SW	482.3530319	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/27/2007 3:16	xCO2_SW	446.2984267	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/27/2007 6:16	xCO2_SW	433.7552748	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/27/2007 9:16	xCO2_SW	458.7311332	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/27/2007 12:16	xCO2_SW	443.317028	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/27/2007 15:16	xCO2_SW	439.4598575	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/27/2007 18:16	xCO2_SW	456.1211808	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/27/2007 21:16	xCO2_SW	479.1723133	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/28/2007 0:16	xCO2_SW	453.2617833	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/28/2007 3:16	xCO2_SW	398.0805936	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/28/2007 6:16	xCO2_SW	387.746112	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/28/2007 9:16	xCO2_SW	387.0189913	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/28/2007 12:16	xCO2_SW	381.8451223	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/28/2007 15:16	xCO2_SW	384.3013942	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/28/2007 18:16	xCO2_SW	386.0491489	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/28/2007 21:16	xCO2_SW	382.0249795	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/29/2007 0:16	xCO2_SW	384.8172699	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/29/2007 3:16	xCO2_SW	398.6237277	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/29/2007 6:16	xCO2_SW	400.9119133	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/29/2007 9:16	xCO2_SW	417.8110223	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/29/2007 12:16	xCO2_SW	437.9279583	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/29/2007 15:16	xCO2_SW	464.5280069	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/29/2007 18:16	xCO2_SW	478.2241122	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/29/2007 21:16	xCO2_SW	470.8695126	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/30/2007 0:16	xCO2_SW	457.782947	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/30/2007 3:16	xCO2_SW	466.073332	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/30/2007 6:16	xCO2_SW	485.202587	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

11/30/2007 9:16	xCO2_SW	472.4736527	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/30/2007 12:16	xCO2_SW	452.9341159	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/30/2007 15:16	xCO2_SW	447.9713298	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/30/2007 18:16	xCO2_SW	461.5644789	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
11/30/2007 21:16	xCO2_SW	409.3475096	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/1/2007 0:16	xCO2_SW	396.2208178	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/1/2007 3:16	xCO2_SW	415.8914918	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/1/2007 6:16	xCO2_SW	422.1184366	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/1/2007 9:16	xCO2_SW	415.6014426	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/1/2007 12:16	xCO2_SW	385.5359771	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/1/2007 15:16	xCO2_SW	395.0313957	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/1/2007 18:16	xCO2_SW	386.2578423	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/1/2007 21:16	xCO2_SW	380.686522	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/2/2007 0:16	xCO2_SW	382.7499478	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/2/2007 3:16	xCO2_SW	413.4922968	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/2/2007 6:16	xCO2_SW	437.2984565	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/2/2007 9:16	xCO2_SW	433.7751219	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/2/2007 12:16	xCO2_SW	453.2186246	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/2/2007 15:16	xCO2_SW	479.9995658	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/2/2007 18:16	xCO2_SW	525.048925	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/2/2007 21:16	xCO2_SW	566.8636934	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/3/2007 0:16	xCO2_SW	563.0346818	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/3/2007 3:16	xCO2_SW	573.402216	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/3/2007 6:16	xCO2_SW	559.6445774	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/3/2007 9:16	xCO2_SW	521.1737749	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/3/2007 12:16	xCO2_SW	484.2651463	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/3/2007 15:16	xCO2_SW	438.4126942	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/3/2007 18:16	xCO2_SW	462.6168843	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/3/2007 21:16	xCO2_SW	449.0284864	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

12/4/2007 0:16	xCO2_SW	388.3475103	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/4/2007 3:16	xCO2_SW	379.4864976	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/4/2007 6:16	xCO2_SW	374.6200869	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/4/2007 9:16	xCO2_SW	373.9304604	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/4/2007 12:16	xCO2_SW	377.7587884	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/4/2007 15:16	xCO2_SW	398.3328204	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/4/2007 18:16	xCO2_SW	423.0595873	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/4/2007 21:16	xCO2_SW	439.8309382	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/5/2007 0:16	xCO2_SW	423.1643315	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/5/2007 3:16	xCO2_SW	408.5928244	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/5/2007 6:16	xCO2_SW	398.928702	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/5/2007 9:16	xCO2_SW	398.2872045	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/5/2007 12:16	xCO2_SW	395.3227912	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/5/2007 15:16	xCO2_SW	412.70655	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/5/2007 18:16	xCO2_SW	431.5621451	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/5/2007 21:16	xCO2_SW	432.0555597	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/6/2007 0:16	xCO2_SW	424.7585095	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/6/2007 3:16	xCO2_SW	414.4712234	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/6/2007 6:16	xCO2_SW	392.2577502	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/6/2007 9:16	xCO2_SW	395.3720023	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/6/2007 12:16	xCO2_SW	389.1879926	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/6/2007 15:16	xCO2_SW	376.9264129	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/6/2007 18:16	xCO2_SW	376.8552357	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/6/2007 21:16	xCO2_SW	378.3428623	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/7/2007 0:16	xCO2_SW	379.1449352	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/7/2007 3:16	xCO2_SW	376.2134595	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/7/2007 6:16	xCO2_SW	374.3095698	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/7/2007 9:16	xCO2_SW	378.3035853	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/7/2007 12:16	xCO2_SW	383.9063687	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

12/7/2007 15:16	xCO2_SW	381.2698214	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/7/2007 18:16	xCO2_SW	409.1462181	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/7/2007 21:16	xCO2_SW	430.7800518	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/8/2007 0:16	xCO2_SW	454.0225247	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/8/2007 3:16	xCO2_SW	453.4887007	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/8/2007 6:16	xCO2_SW	450.6798692	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/8/2007 9:16	xCO2_SW	453.2111097	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/8/2007 12:16	xCO2_SW	466.0632168	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/8/2007 15:16	xCO2_SW	479.2587871	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/8/2007 18:16	xCO2_SW	483.6417064	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/8/2007 21:16	xCO2_SW	484.3185353	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/9/2007 0:16	xCO2_SW	488.3918802	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/9/2007 3:16	xCO2_SW	490.1813048	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/9/2007 6:16	xCO2_SW	504.9967595	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/9/2007 9:16	xCO2_SW	483.9862419	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/9/2007 12:16	xCO2_SW	499.4412559	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/9/2007 15:16	xCO2_SW	526.5153905	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/9/2007 18:16	xCO2_SW	552.1632821	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/9/2007 21:16	xCO2_SW	544.7860998	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/10/2007 0:16	xCO2_SW	547.8725491	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/10/2007 3:16	xCO2_SW	543.514624	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/10/2007 6:16	xCO2_SW	550.00225	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/10/2007 9:16	xCO2_SW	543.6169045	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/10/2007 12:16	xCO2_SW	553.3613167	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/10/2007 15:16	xCO2_SW	583.9512524	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/10/2007 18:16	xCO2_SW	591.4586097	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/10/2007 21:16	xCO2_SW	615.3361667	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/11/2007 0:17	xCO2_SW	631.8227881	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/11/2007 3:16	xCO2_SW	655.6322692	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

12/11/2007 6:16	xCO2_SW	665.7195279	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/11/2007 9:16	xCO2_SW	662.5852942	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/11/2007 12:16	xCO2_SW	645.8721726	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/11/2007 15:16	xCO2_SW	676.4741342	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/11/2007 18:16	xCO2_SW	724.4158356	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/11/2007 21:16	xCO2_SW	752.0239673	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/12/2007 0:16	xCO2_SW	727.9150445	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/12/2007 3:16	xCO2_SW	741.2260977	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/12/2007 6:16	xCO2_SW	744.6163789	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/12/2007 9:16	xCO2_SW	750.7504229	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/12/2007 12:16	xCO2_SW	740.5195106	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/12/2007 15:16	xCO2_SW	772.3820297	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/12/2007 18:16	xCO2_SW	833.2338126	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/12/2007 21:16	xCO2_SW	857.1178535	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/13/2007 0:16	xCO2_SW	830.4881344	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/13/2007 3:16	xCO2_SW	827.3507136	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/13/2007 6:16	xCO2_SW	821.155916	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/13/2007 9:16	xCO2_SW	802.3960243	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/13/2007 12:16	xCO2_SW	788.2314604	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/13/2007 15:16	xCO2_SW	828.2936622	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/13/2007 18:16	xCO2_SW	919.7265643	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/13/2007 21:16	xCO2_SW	852.4729548	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/14/2007 0:16	xCO2_SW	802.4382115	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/14/2007 3:16	xCO2_SW	809.217072	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/14/2007 6:16	xCO2_SW	789.8358155	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/14/2007 9:16	xCO2_SW	778.0870032	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/14/2007 12:16	xCO2_SW	750.7094676	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/14/2007 15:16	xCO2_SW	771.1736542	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/14/2007 18:16	xCO2_SW	817.9815062	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				

12/14/2007 21:16	xCO2_SW	766.0562177	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/15/2007 0:16	xCO2_SW	678.8993145	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/15/2007 3:16	xCO2_SW	678.0259893	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/15/2007 6:16	xCO2_SW	680.009408	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/15/2007 9:16	xCO2_SW	685.2096468	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/15/2007 12:16	xCO2_SW	684.5085278	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/15/2007 15:16	xCO2_SW	654.479561	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/15/2007 18:16	xCO2_SW	628.4161031	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/15/2007 21:16	xCO2_SW	608.722988	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/16/2007 0:16	xCO2_SW	558.3067266	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/16/2007 3:16	xCO2_SW	389.3360347	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/16/2007 6:16	xCO2_SW	387.62016	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/16/2007 9:16	xCO2_SW	387.9383112	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/16/2007 12:16	xCO2_SW	380.8308831	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/16/2007 15:16	xCO2_SW	389.52281	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/16/2007 18:16	xCO2_SW	376.8046149	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/16/2007 21:16	xCO2_SW	373.2531771	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/17/2007 0:16	xCO2_SW	371.2009581	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/17/2007 3:16	xCO2_SW	373.3620281	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/17/2007 6:16	xCO2_SW	369.8736365	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/17/2007 9:16	xCO2_SW	362.8530028	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/17/2007 12:16	xCO2_SW	362.4439358	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/17/2007 15:16	xCO2_SW	361.9598404	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/17/2007 18:16	xCO2_SW	354.0515448	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/17/2007 21:16	xCO2_SW	366.0420225	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/18/2007 0:16	xCO2_SW	370.5048507	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/18/2007 3:16	xCO2_SW	374.7761773	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/18/2007 6:16	xCO2_SW	376.4589529	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/18/2007 9:16	xCO2_SW	378.1269552	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

12/18/2007 12:16	xCO2_SW	384.695264	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/18/2007 15:16	xCO2_SW	389.0216252	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/18/2007 18:16	xCO2_SW	405.1722111	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/18/2007 21:16	xCO2_SW	403.439051	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/19/2007 0:16	xCO2_SW	409.6678819	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/19/2007 3:16	xCO2_SW	408.697557	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/19/2007 6:16	xCO2_SW	415.8275607	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/19/2007 9:16	xCO2_SW	425.5074282	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/19/2007 12:16	xCO2_SW	426.1205297	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/19/2007 15:16	xCO2_SW	448.5707896	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/19/2007 18:16	xCO2_SW	474.6719241	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/19/2007 21:16	xCO2_SW	514.1224541	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/20/2007 0:16	xCO2_SW	518.3707673	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/20/2007 3:16	xCO2_SW	501.3555812	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/20/2007 6:16	xCO2_SW	479.0100006	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/20/2007 9:16	xCO2_SW	494.8421347	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/20/2007 12:16	xCO2_SW	499.6854498	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/20/2007 15:16	xCO2_SW	543.6392356	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/20/2007 18:16	xCO2_SW	519.5241427	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/20/2007 21:16	xCO2_SW	508.7329106	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/21/2007 0:16	xCO2_SW	454.6538219	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/21/2007 3:16	xCO2_SW	455.946418	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/21/2007 6:16	xCO2_SW	436.0146409	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/21/2007 9:16	xCO2_SW	388.0078509	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/21/2007 12:16	xCO2_SW	376.1205729	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/21/2007 15:16	xCO2_SW	375.3338592	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/21/2007 18:16	xCO2_SW	362.4636743	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/21/2007 21:16	xCO2_SW	359.8250232	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/22/2007 0:16	xCO2_SW	350.430022	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

12/22/2007 3:16	xCO2_SW	354.1434354	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/22/2007 6:16	xCO2_SW	350.8583716	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/22/2007 9:16	xCO2_SW	349.1920574	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/22/2007 12:16	xCO2_SW	352.9224344	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/22/2007 15:16	xCO2_SW	354.5242878	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/22/2007 18:16	xCO2_SW	348.8730472	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/22/2007 21:16	xCO2_SW	346.4159197	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/23/2007 0:16	xCO2_SW	346.7120209	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/23/2007 3:16	xCO2_SW	357.3133063	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/23/2007 6:16	xCO2_SW	384.4236491	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/23/2007 9:16	xCO2_SW	378.8982298	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/23/2007 12:16	xCO2_SW	397.3407226	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/23/2007 15:16	xCO2_SW	401.4556415	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/23/2007 18:16	xCO2_SW	416.7639848	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/23/2007 21:16	xCO2_SW	409.2807881	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/24/2007 0:16	xCO2_SW	415.8417826	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/24/2007 3:16	xCO2_SW	399.0439477	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/24/2007 6:16	xCO2_SW	376.1783365	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/24/2007 9:16	xCO2_SW	364.4485061	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/24/2007 12:16	xCO2_SW	357.5135737	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/24/2007 15:16	xCO2_SW	345.2040562	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/24/2007 18:16	xCO2_SW	363.7454532	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/24/2007 21:16	xCO2_SW	377.9165259	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/25/2007 0:16	xCO2_SW	384.1855353	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/25/2007 3:16	xCO2_SW	376.4737488	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/25/2007 6:16	xCO2_SW	383.0308086	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/25/2007 9:16	xCO2_SW	383.7210499	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/25/2007 12:16	xCO2_SW	377.1878841	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				
12/25/2007 15:16	xCO2_SW	352.110412	4	bad CO2 sw measurement b/c equilibrator
beginning to malfunction - new equilibrator installed in 2008 Jan				

12/25/2007 18:16	xCO2_SW	356.7416188	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/25/2007 21:16	xCO2_SW	349.2265058	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/26/2007 0:16	xCO2_SW	352.1775824	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/26/2007 3:16	xCO2_SW	354.6397325	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/26/2007 6:16	xCO2_SW	339.9731195	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/26/2007 9:16	xCO2_SW	335.6433346	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/26/2007 12:16	xCO2_SW	341.3539344	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/26/2007 15:16	xCO2_SW	345.8679648	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/26/2007 18:16	xCO2_SW	340.3833286	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/26/2007 21:16	xCO2_SW	344.289157	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/27/2007 0:16	xCO2_SW	350.4442654	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/27/2007 3:16	xCO2_SW	365.5273603	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/27/2007 6:16	xCO2_SW	363.0542284	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/27/2007 9:16	xCO2_SW	373.1805195	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/27/2007 12:16	xCO2_SW	377.4478632	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/27/2007 15:16	xCO2_SW	395.489408	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/27/2007 18:16	xCO2_SW	421.3889833	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/27/2007 21:16	xCO2_SW	445.8640941	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/28/2007 0:16	xCO2_SW	433.2606735	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/28/2007 3:16	xCO2_SW	437.8614631	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/28/2007 6:16	xCO2_SW	431.3207663	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/28/2007 9:16	xCO2_SW	435.161515	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/28/2007 12:16	xCO2_SW	433.3985655	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/28/2007 15:16	xCO2_SW	450.8790635	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/28/2007 18:16	xCO2_SW	468.2787966	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/28/2007 21:16	xCO2_SW	483.4302257	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/29/2007 0:16	xCO2_SW	479.2469398	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/29/2007 3:16	xCO2_SW	468.1280441	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/29/2007 6:16	xCO2_SW	435.0354834	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

12/29/2007 9:16	xCO2_SW	427.7753043	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/29/2007 12:16	xCO2_SW	427.2941678	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/29/2007 15:16	xCO2_SW	424.7567511	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/29/2007 18:16	xCO2_SW	431.9381857	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/29/2007 21:16	xCO2_SW	440.3592856	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/30/2007 0:16	xCO2_SW	437.7823528	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/30/2007 3:16	xCO2_SW	444.415526	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/30/2007 6:16	xCO2_SW	457.1902264	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/30/2007 9:16	xCO2_SW	450.1852104	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/30/2007 12:16	xCO2_SW	445.3524791	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/30/2007 15:16	xCO2_SW	440.7693088	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/30/2007 18:16	xCO2_SW	446.2862704	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/30/2007 21:16	xCO2_SW	405.9847435	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/31/2007 0:16	xCO2_SW	398.5240679	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/31/2007 3:16	xCO2_SW	398.8141022	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/31/2007 6:16	xCO2_SW	407.1285517	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/31/2007 9:16	xCO2_SW	389.3970508	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/31/2007 12:16	xCO2_SW	371.2171052	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/31/2007 15:16	xCO2_SW	374.8212278	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/31/2007 18:16	xCO2_SW	370.6081832	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
12/31/2007 21:16	xCO2_SW	379.3491229	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/1/2008 0:16	xCO2_SW	395.3788004	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/1/2008 3:16	xCO2_SW	412.8922422	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/1/2008 6:16	xCO2_SW	417.4085457	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/1/2008 9:16	xCO2_SW	391.8097919	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/1/2008 12:16	xCO2_SW	386.3855867	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/1/2008 15:16	xCO2_SW	373.7333605	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/1/2008 18:16	xCO2_SW	363.5468511	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/1/2008 21:16	xCO2_SW	340.1081572	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan

[illegible]

1/9/2008 6:16	xCO2_SW	497.7149619	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/9/2008 9:16	xCO2_SW	492.1755529	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/9/2008 12:16	xCO2_SW	481.635412	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/9/2008 15:16	xCO2_SW	474.9256604	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/9/2008 18:16	xCO2_SW	400.3079839	4	bad CO2 sw measurement b/c equilibrator beginning to malfunction - new equilibrator installed in 2008 Jan
1/14/2008 15:16	xCO2_SW	329.7919127	4	bad CO2 sw measurement due to equilibrator pressure problem
1/21/2008 15:16	xCO2_SW	352.2326702	4	bad CO2 sw measurement due to equilibrator pressure problem
1/21/2008 18:16	xCO2_SW	350.3443796	4	bad CO2 sw measurement due to equilibrator pressure problem
1/25/2008 6:16	xCO2_SW	315.1610239	4	bad CO2 sw measurement due to equilibrator pressure problem
2/1/2008 12:16	xCO2_SW	319.7851613	4	bad CO2 sw measurement due to equilibrator pressure problem
2/1/2008 15:16	xCO2_SW	322.9446155	4	bad CO2 sw measurement due to equilibrator pressure problem
2/4/2008 12:16	xCO2_SW	285.1831171	4	bad CO2 sw measurement due to equilibrator pressure problem
2/14/2008 3:16	xCO2_SW	352.0732257	4	bad CO2 sw measurement due to equilibrator pressure problem
2/24/2008 15:16	xCO2_SW	360.8849911	3	CO2 data submitted was adjusted by + 20 ppm b/c span calibration was off as predicted by change in Licor temperature
2/24/2008 15:16	xCO2_Air	408.0921618	3	CO2 data submitted was adjusted by + 20 ppm b/c span calibration was off as predicted by change in Licor temperature
2/27/2008 8:16	xCO2_SW	390.2789911	4	bad CO2 sw measurement due to equilibrator pressure problem
2/27/2008 19:16	xCO2_SW	376.5544738	4	bad CO2 sw measurement due to equilibrator pressure problem
2/28/2008 5:16	xCO2_SW	377.5368904	4	bad CO2 sw measurement due to equilibrator pressure problem
3/1/2008 18:16	xCO2_SW	349.3667146	4	bad CO2 sw measurement due to equilibrator pressure problem
3/29/2008 15:16	xCO2_SW	448.0796668	4	bad CO2 sw measurement due to equilibrator pressure problem
3/29/2008 18:16	xCO2_SW	473.3988613	4	bad CO2 sw measurement due to equilibrator pressure problem
3/29/2008 21:16	xCO2_SW	482.4747171	4	bad CO2 sw measurement due to equilibrator pressure problem
3/30/2008 0:16	xCO2_SW	435.407109	4	bad CO2 sw measurement due to equilibrator pressure problem
3/30/2008 3:16	xCO2_SW	464.0453249	4	bad CO2 sw measurement due to equilibrator pressure problem
3/30/2008 6:16	xCO2_SW	420.9289063	4	bad CO2 sw measurement due to equilibrator pressure problem
3/30/2008 9:16	xCO2_SW	450.7339137	4	bad CO2 sw measurement due to equilibrator pressure problem
4/2/2008 15:16	xCO2_SW	435.3678126	3	CO2 data submitted was adjusted by - 11 ppm b/c span calibration was off as predicted by change in Licor temperature
4/2/2008 15:16	xCO2_Air	404.1837193	3	CO2 data submitted was adjusted by - 11 ppm b/c span calibration was off as predicted by change in Licor temperature
4/7/2008 18:16	xCO2_SW	476.5574205	4	bad CO2 sw measurement due to equilibrator pressure problem

5/1/2008 9:16 xCO2_Air 385.6266369 4 bad CO2 air measurement - high st dev
5/20/2008 12:16 xCO2_SW 455.3326857 3 CO2 data submitted was adjusted by - 7 ppm b/c
zero calibration was off as predicted by change in Licor temperature
5/20/2008 12:16 xCO2_Air 390.0100375 3 CO2 data submitted was adjusted by - 7 ppm b/c
zero calibration was off as predicted by change in Licor temperature