OVIDE 2004

Contract number: 03/ 2210446

MESURES DE pH ET D'ALCALINITÉ LORS DE LA CAMPAGNE OVIDE 2004.

Fiz F. Pérez
Marta Álvarez
Mónica Castaño
Aída F. Ríos.

Instituto de Investigaciones Marinas, (CSIC)
C/ Eduardo Cabello, Nº 6, 36208 VIGO.

FINAL SCIENTIFIC REPORT

CO_2 variables Report.

Instituto de Investigaciones Marinas, CSIC, C/Eduardo Cabello Nº 6, 36208, Vigo, Spain.

Introduction

The carbon system is defined by four variables: pH, Total Alkalinity (A_T), partial pressure of carbon dioxide (pCO_2) and Total Inorganic Carbon (C_T). The knowledge of two of these variables allows the calculation of the other two by means of a set of equations deduced from thermodynamic equilibrium. During the OVIDE 2004 cruise carried out between 5th June and 6th July on board the R/V THALASSA pH and TA measurements were sampled from bottle depths at selected stations (Table 1) and analysed on board. Moreover, pCO_2 has been continuously determined in surface waters along the vessel track. In this cruise, unlike OVIDE 2002, samples for C_T were also taken, but will be analyzed at lab. C_T is also calculated from pH and A_T.

In this report we resume the activities, methods and results obtained during the OVIDE 2004 cruise. Besides, at the end of the report, two more reports from A. Dickson (Scripps) and from Fiz F. Pérez are included. During the cruise 80 samples for intercalibration were collected and sent to A. Dickson. In the Dickson's report, very important deviations were detected from the measured obtained on board and those obtained in the Dickson's lab one year later. Fiz F. Pérez showed that these important and very significant differences were not due to the analytical work made on board. We are including here the last email form A. Dickson because it is very conclusive.

Dear Fiz,

Thank you for your e-mail. I understand your frustration at these results. Clearly, the samples we analyzed had significant problems that were much larger in magnitude than you experienced on the cruise. I cannot say what happened, but suspect that the samples collected for analysis in our laboratory were not as stable as suspected, and the long delay before we analyzed them allowed for some significant changes. I do not know the reason for this, and I do not think we will discover it at this late date.
The magnitude of discrepancies between duplicates is -- I feel -- the biggest sign of problems with the samples we analyzed. Also, the direction of change -- alkalinity getting less in the stored samples, total dissolved inorganic carbon increasing -- matches some problems we have seen occasionally with our reference materials and suggests that the samples had not been effectively poisoned. (We have seen this happen even with the correct amount of mercuric chloride in the solution, thus it need not mean that the samples were collected incorrectly!)

Again, I am sorry that our comparison was essentially useless.
Perhaps we should try again in the future?

Regards, Andrew Dickson

Ifremer

Fiche de présentation
à la Commission de certification du service fait

Titre du rapport

Réalisation et analyses de mesures de PH et d'Alcalinité lors de la campagne OVIDE 2004

Contrat n°: 03/2210446

Titulaire du contrat : CSIC IIM

Date de remise du rapport : 31/12/05

Date de certification du service fait : 21/01/06

Lieu de consultation du rapport : LPO

Lieu de consultation complémentaire du rapport :
(Département, Service)

Mise en évidence de l'intérêt scientifique - Résumé

L'objet de l'étude était la réalisation et l'analyse de mesures de pH et d'alcalinité lors de la mission Ovide 2004 en une centaine de station réparties entre le Groenland et le Portugal. Ces mesures donnent des indications sur le cycle du carbone dans l'océan et permettent en particulier d'estimer la contribution du carbone d'origine anthropique. Le carbone d'origine anthropique est pour partie stocké dans les océans, il est donc crucial d'en faire l'inventaire et de déterminer son devenir.

Mise en évidence des résultats obtenus

Les mesures ont été effectuées conformément aux termes du contrat en une centaine de stations entre le Groenland et le Portugal pour des masses d'eau couvrant toute la profondeur. Les données ont été fournies sous forme numérique après une validation soigneuse en particulier par des analyses faites en double à bord. Les mesures effectuées permettre de déterminer le transport de carbone anthropique associé aux différentes masses d'eau le long de la radiale Ovide et leur variabilité puisque des mesures similaires ont été effectuées en 2002 et 1997.

Valorisation : ☐ **Brevet** ☐ **Prototype** ☐ **Logiciel**

Diffusion : ☒ **Libre** ☐ **Restreinte** ☐ **Confidentielle**

Mots clés : Atlantique Nord, Cycle du Carbone, Traceurs Océaniques, OVIDE

Visa du Chef de projet

Herlé MERCIER

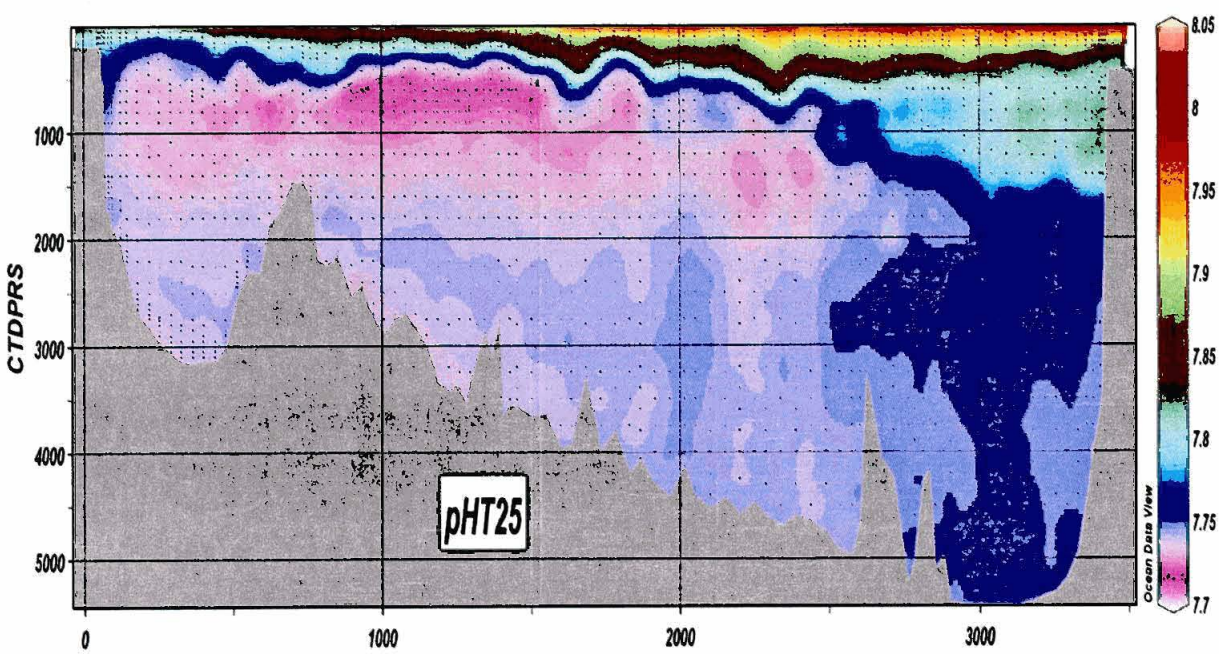
* Pour cocher la case, double-cliquer sur la case concernée, la fenêtre « options de champ : case à cocher » s'ouvre, sélectionner case activée puis cliquer sur OK

a) pH analysis.

pH was measured spectrophotometrically following Clayton and Byrne (1993). Roughly, this method consists on adding a dye solution to the seawater sample, so that the ratio between two absorbances at two different wavelengths is proportional to the sample pH. Sampling and analytical methods. Seawater samples for pH were collected after oxygen samples from depth using cylindrical optical glass 10-cm pathlength cells, which were filled to overflowing and immediately stoppered. Seawater pH was measured using a double-wavelength spectrophotometric procedure (Byrne, 1987). The indicator was a solution of m-cresol purple prepared in seawater. After sampling all the samples were stabilised at 25°C. All the absorbance measurements were obtained in the thermostated (25±0.2 °C) cell compartment of a SHIMADZU UV-2401PC spectrophotometer. After blanking with the sampled seawater without dye, 50 μl of the dye solution were added to each sample using an adjustable repeater pipette. The absorbance was measured at three different fixed wavelenghts (434, 578 and 730 nm), pH, on the total hydrogen ion concentration scale, is calculated using the following formula (Clayton and Byrne, 1993):

$$pHt=1245.69/T + 3.8275 +(2.11.10^{-3})(35-S) + \log((R-0.0069)/(2.222-R*0.133))$$

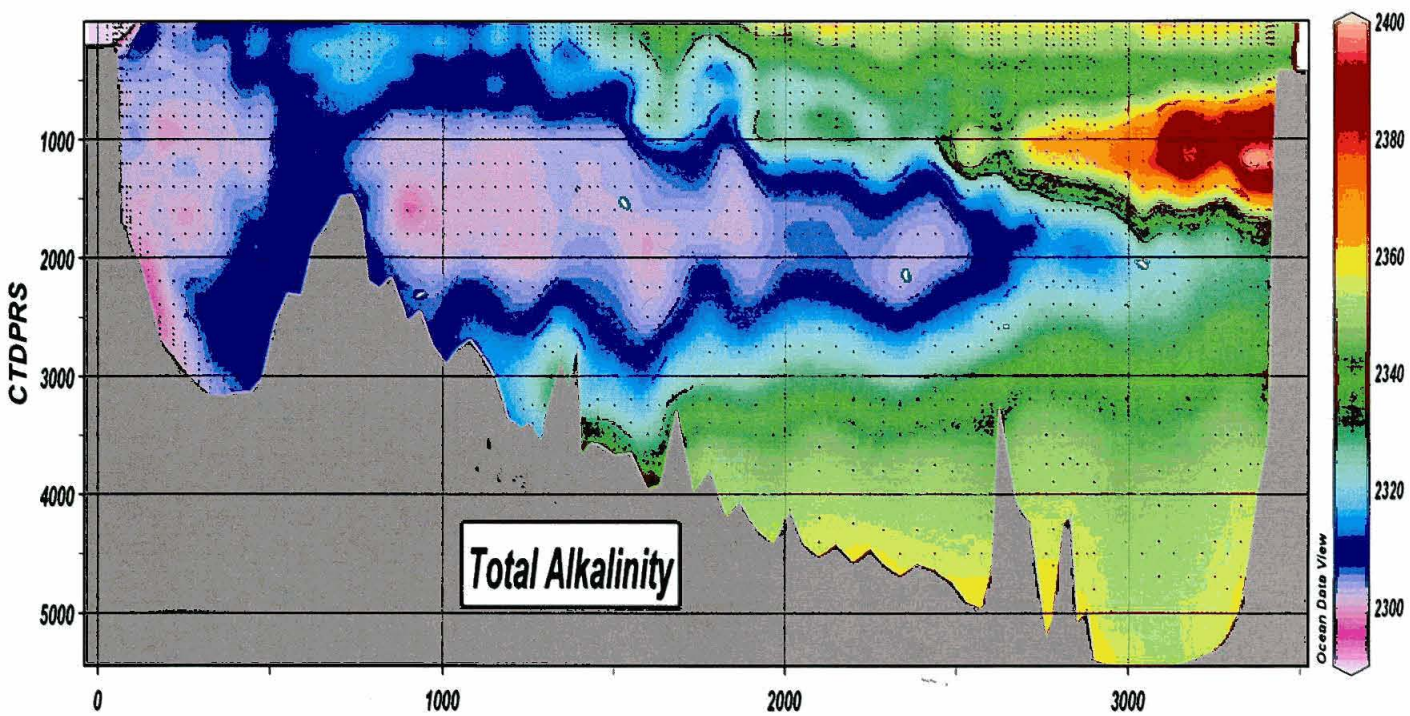
where R is the ratio of the absorbances of the acidic and basic forms of the indicator corrected for baseline absorbance at 730 nm ($R=A_{578}/A_{434}$), T is temperature in Kelvin scale and S is salinity. In order to check the precision of the pH measurements, samples of CO_2 reference material (CRM, batch 64, distributed by A.G. Dickson from the Scripps Institution of Oceanography, SIO) were analyzed during the cruise. The replication, using 77 samples taken along the cruise, was 0.0015+0.0016 for pH. It is equivalent to a replication in C_T of 0.6+0.7 $\mu molkg^{-1}$.



b) Alkalinity analysis.

Seawater samples for alkalinity were collected after pH samples, in 600 ml glass bottles. Samples were filled to overflowing and immediately stoppered. Total alkalinity was measured using an automatic potentiometric titrator "Titrino Metrohm", with a Metrohm 6.0233.100 combination glass electrode and a Pt-100 probe to check the temperature. Potentiometric titrations were carried out with hydrochloric acid ([HCl] = 0.1 M) to a final pH of 4.40 (Pérez and Fraga, 1987). The electrodes were standardised using a buffer of pH 4.4 made in CO_2 free seawater (Pérez *et al.*, 2000). Concentrations are given in µmol/kg-sw. In order to check the precision of the TA measurements, samples of CO_2 reference material (CRM, batch 64, distributed by A.G. Dickson from SIO) were analyzed during the cruise.

- 23 Duplicates showing a reproducibility of **0.7±1.0 µmol·kg^{-1}** a long the cruise.
- St-0: 20 Samples for reproducibility **±1.1µmol·kg^{-1}**

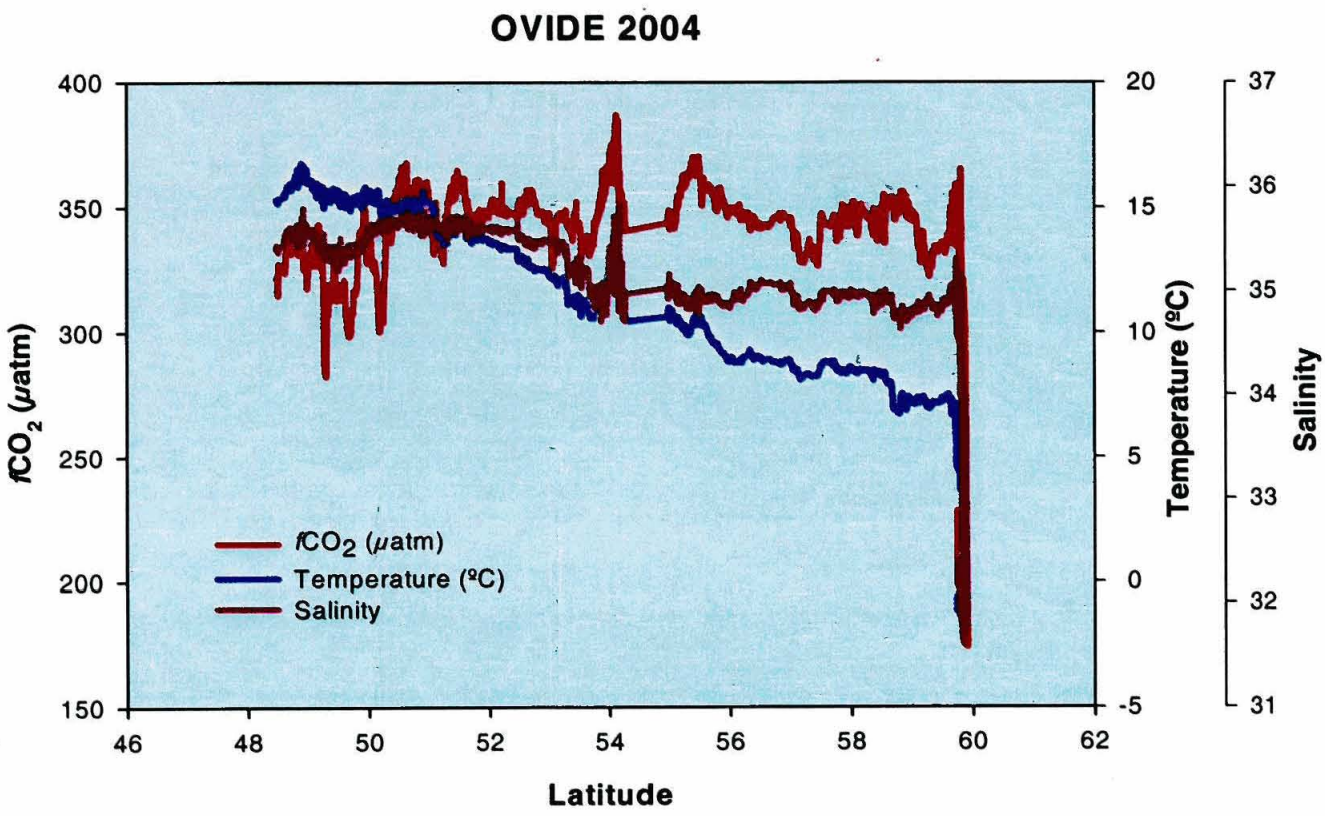


c) Underway CO_2 measurements.

A system designed by the IIM group of Vigo was used to measure the mole fraction of CO_2 in air and surface seawater. Atmospheric CO_2 was measured by the system from an air intake mounted in the mast of the ship and surface seawater was pumped from the ship's keel. This system is very similar to the one developed in the University of Kiel by Körtzinger *et al.* (1996) and uses a non-dispersive infrared detector (LICOR 6262) for CO_2 and H_2O. The equilibrator combines two types of equilibration concepts, the bubble and laminar type flows, the first one describes the water chamber constantly renewed with water (appr. 1000 ml) and bubled with air, and the latter one describes the flow of entering seawater from the top as a laminary flow. Therefore, the counter-current flow direction of seawater and air as well as the large surface area facilitate the establishment of equilibrium. The equipment was calibrated with two standards, CO_2-free air and high CO_2 standard gas. Surface seawater partial pressure of CO_2 (pCO_2 μatm) at 100% humidity is calculated based on molar fraction of CO_2 (xCO_2, directly measured by the LICOR) ambient pressure p (atm), recorded by the system, and saturation water vapor pressure w (atm).

$$pCO_2 = xCO_2 (p - w)$$

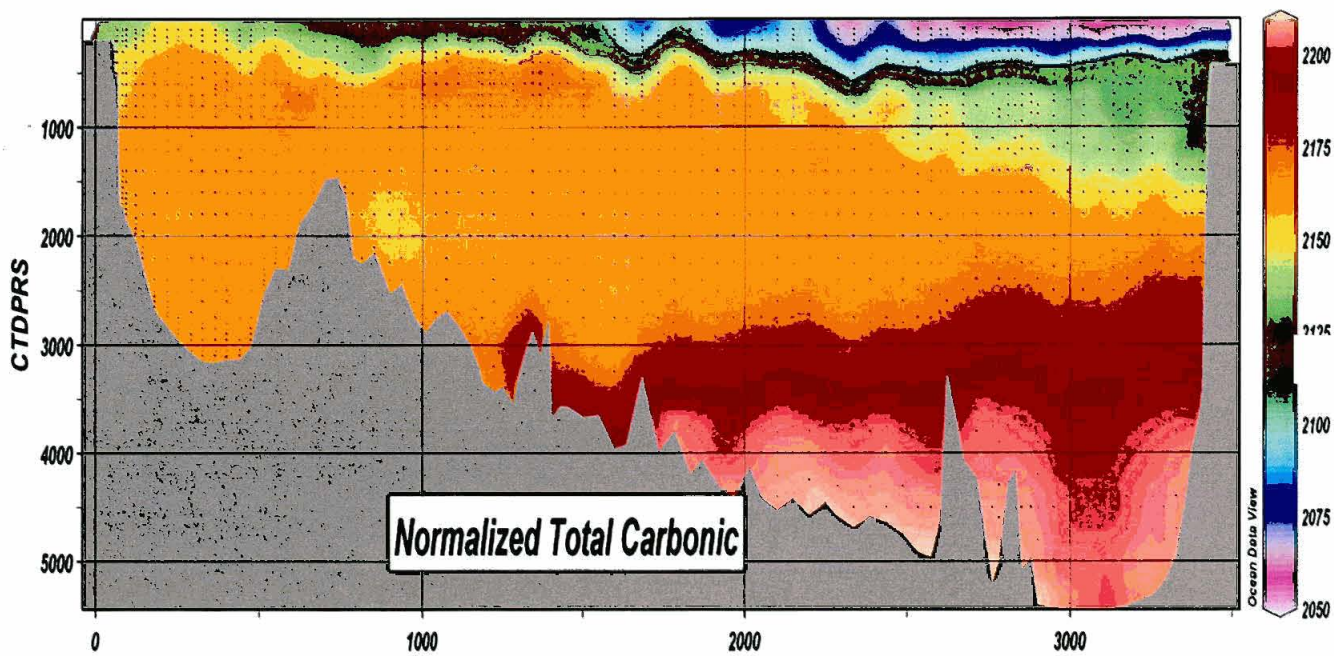
pCO_2 is corrected for the temperature shift between in-situ temperature and equilibrator temperature using an empirical equation (DOE, 1994) which was originally proposed by Takahashi *et al.* (1993).



d) Total Inorganic Carbon and anthropogenic CO_2 calculations.

Samples for Total Inorganic Carbon to be analysed at lab were collected at selected stations and depths (Table 1). Emptied and clean Certified Reference Material bottles were rinsed twice and filled from the bottom, overflowing half a volume while taking care not to entrain any bubbles. Then 0.2 ml of saturated mercuric chloride solution was added to the sample as a preservative and the bottle was sealed with glass stoppers covered with Apiezon-L grease and stored in the dark at room temperature. These samples are to be analysed by Dr. Dickson at SIO, a reference CO_2 laboratory. The results from Dickson' lab did not allowed us to perform an internal consistency analysis because their results showed a big shift due to long period, near a year, between the sampling and the analysis. The results of these measurements are presented at the end of this report. Also we have included a summary with our comments about them.

From the A_T and and pH, the C_T is determined using the equilibrium constants of the carbonic system. In the next figure the normalized total carbonic acid ($=C_T*35/Salinity$) is shown. The pattern is quite similar to the nitrate distribution and it is mainly controlled by the regeneration of organic matter (biological pump).



Using a new algorithm to determine the anthropogenic carbon we used the Salinity and oxygen dissolved in conjunction with A_T and C_T. The next figure shows the distributions of anthropogenic carbon dioxide (C_{ANT}) along the FOUREX 4X (1997) and OVIDE (2002) sections. Both cruises show similar patterns with high values of CANT in warmer upper waters

and low values in the cold and deep waters. The spreading of LSW has a clear imprint in the CANT distribution creating a small relative maximum at about 1600 meter depth. In the Irminger Sea, the waters content higher values of C_{ANT} in 1997 than 2002. In fact, in FOUREX relatively low maximum of C_{ANT} are found near the bottom in relation to the spreading of DSOW.

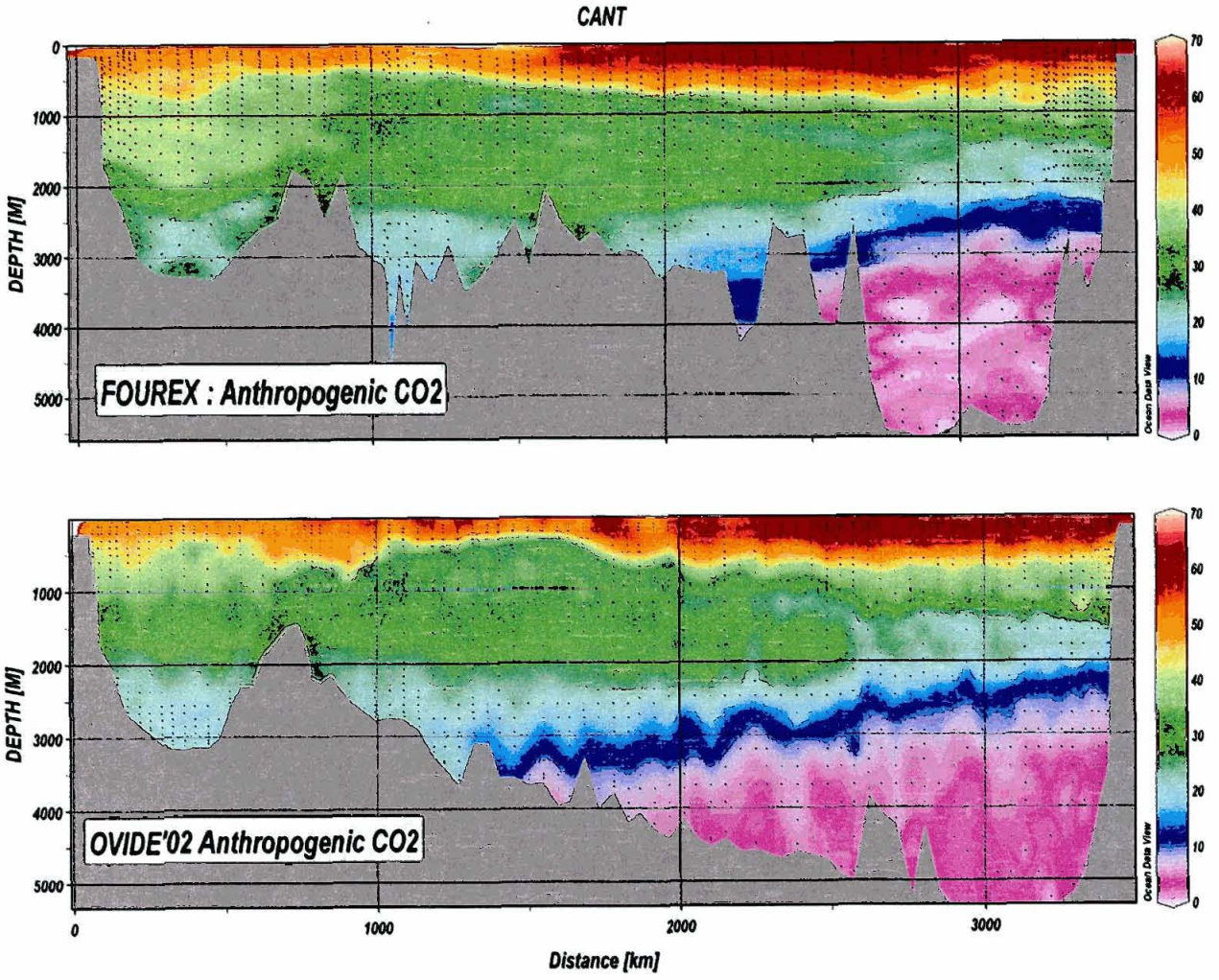


Table 1. Stations sampled for pH, Total Alkalinity (A_T) and Total Inorganic Carbon (C_T).

Station	pH	TA	TIC
0	+	+	
1			
2	+	+	
3	+	+	
4	+	+	
5	+	+	
6	+	+	
7	+	+	
8	+	+	
9	+	+	
10	+	+	
11	+	+	
12	+	+	
13			
14	+		
15			
16	+	+	
17	+		
18	+	+	
19	+		
20	+	+	
21	+		
22	+	+	+
23	+		
24	+	+	
25	+		
26	+	+	
27	+		
28	+	+	+
29	+		
30	+	+	

Station	pH	TA	TIC
31	+		
32	+	+	
33	+		
34	+	+	+
35	+		
36	+	+	
37	+		
38	+	+	
39	+		
40	+	+	
41	+		
42	+	+	
43	+		
44	+	+	+
45	+		
46	+	+	
47	+		
48	+	+	
49	+		
50	+		
51	+	+	
52	+		
53	+		
54	+		
55	+	+	+
56	+		
57	+		
58	+		
59	+	+	
60	+		
61	+		

REFERENCES.

Byrne R. H. (1987). Standardization of standard buffers by visible spectrometry. *Analytical Chemistry*, 59, 1479-1481.

Clayton and Byrne (1993). Spectrophotometric seawater pH measurements: total hydrogen ion concentration scale concentration scale calibration of m-cresol purple and at-sea results. *Deep-sea Research I*, Vol. 40, 10, 2115-2129.

DOE, (1994). Handbook of the Methods for the Analysis of the Various Parameters of the Carbon Dioxide System in Sea Water, Version 2, ORNL/CDIAC-74. A.G. Dickson and C. Goyet (Editors).

Körtzinger A., Thomas H., Schneider B., Gronau N., Mintrop L., Duinker J.C. (1996). At-sea intercomparison of two newly esigned underway pCO_2 system -Encouraging results. *Marine Chem*istry, 52: 133-145.

Pérez, F.F. and F. Fraga. 1987. A precise and rapid analytical procedure for alkalinity determination. *Marine Chem*istry, 21, 169-182

Pérez, F.F., A.F. Ríos, T. Rellán and M. Álvarez. (2000). Improvements in a fast potentiometric seawater alkalinity determination. *Ciencias Marinas*, 26, 463-478.

Takahashi, T., Olafsson J., Goddard J.G., Chipman D.W. and Sutherland S.C. (1993). Seasonal variation of CO_2 and nutrient salts in the high latitude oceans: a comparative study. *Global Biogeochemical Cycles*, 7, 1431-1438.

25-07-2005

Report on Alkalinity for Samples from Ovide by A. Dickson

During June and July of 2005, 119 dissolved total carbon (DIC) and total alkalinity (A_T) analyses were run on seawater samples from Ovide.

Total Alkalinity (TA):

All samples were analyzed using the same batch of acid, prepared on Dec 02, 2004 (0.6 M NaCl, Bottle 3) with a concentration of 0.10045 mol/kg-sol based on coulometric titrations. An Orion electrode (model 8102BN), No. 3, was used to analyze the samples. Heather Becker-Brungard was responsible for the analysis of all samples and CRMs. The procedure used an open cell titration system, where air was bubbled through an ascarite trap system for each titration for degassing CO_2. The titration data were processed according the technique described by Dickson *et al.*, 2003. CRMs were analyzed about every 10 samples, and at the beginning and end of a day's work. Batches 69-71 were used for these samples.

Measurements of CRMs:

Date Analyzed	Batch	Bottle #	Run[1]	A_T/μmolkg^{-1}	Certified A_T Value/μmolkg^{-1}	Δ^2
6/27/2005	69	706	1	2114.42	2114.42	0.00
6/27/2005	69	700	1	2114.96	2114.42	0.54
6/27/2005	69	700	2	2113.61	2114.42	-0.81
6/28/2005	69	685	1	2115.04	2114.42	0.62
6/28/2005	69	685	2	2115.79	2114.42	1.37
6/28/2005	69	698	1	2113.22	2114.42	-1.20
7/13/2005	70	613	1	2161.43	2160.46	0.97
7/13/2005	70	613	2	2160.96	2160.46	0.50
7/13/2005	70	114	1	2160.26	2160.46	-0.20
7/14/2005	70	494	1	2161.07	2160.46	0.61
7/14/2005	70	494	2	2161.13	2160.46	0.67
7/14/2005	71	346	1	2255.94	2255.15	0.79
7/15/2005	70	303	1	2160.45	2160.46	-0.01
7/15/2005	70	534	1	2161.74	2160.46	1.28
7/15/2005	70	534	2	2159.27	2160.46	-1.19
7/18/2005	71	580	1	2255.77	2255.15	0.62
7/18/2005	71	580	2	2255.27	2255.15	0.12
7/25/2005	69	157	1	2114.16	2114.42	-0.26
7/25/2005	69	157	2	2114.53	2114.42	0.11
					Mean	0.24
					Standard Deviation	0.74

The difference between the certified CRM values and the measured CRM values were computed, and then the average and standard deviations were calculated to demonstrate the accuracy of the equipment. The mean of the differences was 0.24 μmolkg^{-1}, with a standard deviation of 0.74 μmolkg^{-1}.

Comments on Results:

Many of the duplicates did not agree when running the alkalinity, especially the following station-bottles: 28-30, 34-18, 44-3, 44-23, 55-3, 55-27, 67-3, 67-29, 75-3, 81-3, 81-30, 87-3, 87-30, 93-3, 100-3, 100-30, and 106-3. Currently, we need to analyze the salinity to decide whether the samples were significantly different.

[1] The "Run" column indicates the number of times a CRM was analyzed from the same bottle.
[2] This difference is calculated by subtracting the certified CRM value from the measured CRM value.

Equipment used for Alkalinity measurements:

Two cell system with drierite, ascarite, flow air-meter set up
Keithley 199 System DMM/Scanner Voltmeter (S/N 473258)
Guideline 9540 Digital Platinum Resistance Thermometer (S/N 55302)
665 Brinkmann Metrohm Dosimat (S/N 5MO/428, Burette ID: A.G.D. 1)
YSI Precision Thermometer 4600 (S/N 99F101632)

Total Alkalinity Results:

Date Analyzed	Station	Bottle No.	Duplicate	$A_T/\mu molkg^{-1}$	|Difference|	Notes
7/13/2005	12	8		2115.72		
7/18/2005	18	27		2301.43		
6/27/2005	22	3	a	2294.01		
6/28/2005	22	3	b	2293.43	0.58	
6/28/2005	22	10		2301.95		
6/27/2005	22	15		2298.95		
6/28/2005	22	23		2299.57		
6/27/2005	22	28		2297.87		
7/14/2005	24	29		2286.81		
6/28/2005	28	3	a	2296.81		
6/28/2005	28	3	b	2294.55	2.26	
6/28/2005	28	11		2300.56		
6/28/2005	28	16		2293.61		
6/27/2005	28	30	a	2299.68		
7/18/2005	28	30	b	2304.63	4.95	
7/25/2005	30	29		2302.14		
7/18/2005	32	24		2298.15		
6/27/2005	34	3	a	2300.31		
6/27/2005	34	3	b	2300.40	0.09	
6/27/2005	34	7		2302.86		
6/28/2005	34	11		2298.75		
6/27/2005	34	18	a	2295.89		
7/14/2005	34	18	b	2304.72	8.83	
7/25/2005	36	15		2302.34		Unclear label.
7/25/2005	38	18		2308.93		Unclear label.
7/14/2005	40	23	a	2303.97		
7/14/2005	40	23	b	2301.62	2.35	
7/14/2005	42	22		2306.65		
6/28/2005	44	3	a	2306.35		
6/27/2005	44	3	b	2302.25	4.10	
6/28/2005	44	7		2301.48		
7/15/2005	44	13		2301.11		
7/18/2005	44	16		2305.77		
7/14/2005	44	23	a	2310.49		
7/15/2005	44	23	b	2303.34	7.15	
7/14/2005	46	25		2298.59		
7/14/2005	48	26		2279.55		
7/14/2005	51	26		2316.99		
7/15/2005	55	3	a	2305.83		
7/18/2005	55	3	b	2314.32	8.49	
7/15/2005	55	11		2295.00		

Date Analyzed	Station	Bottle No.	Duplicate	$A_T/\mu molkg^{-1}$	|Difference|	Notes
7/18/2005	55	15		2302.37		
7/15/2005	55	20		2305.71		
7/14/2005	55	27	a	2311.49		
7/18/2005	55	27	b	2315.16	3.67	
7/14/2005	59	24		2308.56		
7/14/2005	63	28		2323.69		
7/14/2005	65	28		2318.08		
7/15/2005	67	3	a	2342.76		
7/15/2005	67	3	b	2339.04	3.72	
7/15/2005	67	7		2308.74		
7/15/2005	67	11		2300.85		
7/15/2005	67	16		2302.01		
7/18/2005	67	21		2313.81		
7/15/2005	67	29	a	2337.12		
7/15/2005	67	29	b	2334.03	3.09	
7/15/2005	69	29		2341.13		
7/18/2005	71	28		2329.42		
7/14/2005	73	29		2336.62		
7/15/2005	75	3	a	2346.99		
7/15/2005	75	3	b	2352.28	5.29	
7/18/2005	75	8		2325.88		
7/15/2005	75	12		2297.90		
7/13/2005	75	17		2321.57		
7/13/2005	75	22		2315.91		
7/13/2005	75	30	a	2347.27		
7/18/2005	75	30	b	2347.05	0.22	
7/18/2005	77	30		2352.41		
7/15/2005	79	30		2348.30		
7/13/2005	81	3	a	2342.26		
7/14/2005	81	3	b	2347.23	4.97	
7/13/2005	81	9		2315.44		
7/14/2005	81	13		2302.37		
7/13/2005	81	18		2326.12		
7/13/2005	81	23		2327.52		
7/13/2005	81	30	a	2358.38		
7/15/2005	81	30	b	2351.08	7.30	
7/15/2005	83	30		2354.05		
7/18/2005	85	30		2346.99		
7/13/2005	87	3	a	2348.52		
7/13/2005	87	3	b	2351.81	3.29	
7/13/2005	87	9		2321.17		
7/14/2005	87	13		2300.44		
7/13/2005	87	18		2361.44		
7/13/2005	87	24		2331.95		
7/14/2005	87	30	a	2352.46		
7/15/2005	87	30	b	2356.15	3.69	
7/15/2005	90	28		2355.63		
7/15/2005	92	30		2352.64		
7/13/2005	93	3	a	2356.35		
7/13/2005	93	3	b	2347.17	9.18	
7/13/2005	93	9		2327.48		
6/27/2005	93	13		2310.08		
7/13/2005	93	17		2362.25		

Date Analyzed	Station	Bottle No.	Duplicate	$A_T/\mu molkg^{-1}$	|Difference|	Notes
6/27/2005	93	23		2326.25		
7/13/2005	93	30	a	2352.59		
7/15/2005	93	30	b	2353.29	0.70	
7/15/2005	97	30		2354.76		
6/27/2005	100	3	a	2349.43		
6/27/2005	100	3	b	2345.16	4.27	
7/13/2005	100	9		2333.74		
6/27/2005	100	14		2311.58		
7/13/2005	100	19		2362.57		
6/28/2005	100	24		2329.83		
6/27/2005	100	30	a	2349.13		
7/18/2005	100	30	b	2355.48	6.35	
7/15/2005	102	30		2351.60		
7/14/2005	104	30		2359.09		
6/27/2005	106	3	a	2347.17		
6/27/2005	106	3	b	2341.91	5.26	
6/27/2005	106	8		2328.50		
6/28/2005	106	12		2317.34		
6/28/2005	106	17		2383.90		
6/27/2005	106	23		2329.63		
6/28/2005	106	30	a	2356.50		
7/15/2005	106	30	b	2357.10	0.60	
7/14/2005	110	30		2371.65		
6/27/2005	114	23		2340.59		
6/28/2005	118	6		2327.14		

Dissolved Inorganic carbon (DIC):

All samples were analyzed using the SOMMA SYSTEM by Jeffrey Skacel, Brendan Carter, and Martín Hernandez. All samples were analyzed between June 6 and July 22, 2005 using the UIC coulometer. Every day new solutions for cathode and anode were used. Also blanks, CO_2 pure gas calibrations, and CRM's were analyzed (see table). The certificate reference values for the batches are also included on the table.

Measurements of CRMs:

Date Analyzed	Batch	Bottle No.	$DIC/\mu molkg^{-1}$	Certified DIC Value/$\mu molkg^{-1}$	Δ^3
6/06/2005	67	674	1984.99	1983.75	1.24
6/06/2005	67	670	1985.50	1983.75	1.75
6/07/2005	69	129	1907.41	1907.63	-0.22
6/07/2005	55	663	2013.08	2012.06	1.02
6/20/2005	71	540	2036.34	2033.46	2.88
6/20/2005	71	485	2035.95	2033.46	2.49
6/21/2005	71	416	2035.82	2033.46	2.36
6/21/2005	71	346	2035.16	2033.46	1.70
7/13/2005	70	613	1991.30	1989.42	1.88
7/13/2005	70	114	1989.84	1989.42	0.42
7/13/2005	70	442	1989.60	1989.42	0.18
7/13/2005	70	494	1990.03	1989.42	0.61
7/13/2005	70	313	1991.31	1989.42	1.89
7/14/2005	69	653	1908.39	1907.63	0.76

[3] This difference is calculated by subtracting the certified CRM value from the measured CRM value.

Date Analyzed	Batch	Bottle No.	DIC/μmolkg^{-1}	Certified DIC Value/μmolkg^{-1}	Δ^4
7/14/2005	71	310	2033.49	2033.46	0.03
7/14/2005	69	651	1907.69	1907.63	0.06
7/14/2005	69	654	1908.76	1907.63	1.13
7/15/2005	69	652	1909.46	1907.63	1.83
7/15/2005	69	655	1908.14	1907.63	0.51
7/15/2005	71	580	2034.23	2033.46	0.77
7/15/2005	70	492	1991.25	1989.42	1.82
7/22/2005	K	300	1999.92	1999.50	0.42
7/22/2005	K	358	2000.66	1999.50	1.16
				Mean	1.16
				Standard Deviation	0.86

The difference between the certified CRM for DIC values and the measured CRM values were computed, and then the average and standard deviations were calculated to demonstrate the accuracy of the equipment. The mean of the differences was 1.16 μmolkg^{-1}, with a standard deviation of 0.86 μmolkg^{-1}.

Comments on DIC Results:

Most of the samples were measured by pure gas calibration, but some were analyzed based on CRM calibration (analysis done on June 21 and July 14, 15, 21 and 22).
Also for DIC, most of the duplicates did not agree with the exception of the following station-bottles: 22-3, 34-3, 87-3 and 106-30. We compared the DIC measured by SOMMA versus DIC reported by Dr. Marta Alvarez and all the values are different in an average of ~20 μmolkg^{-1}.

DIC Results:

Date Analyzed	Station	Bottle No.	Duplicate	DIC/μmolkg^{-1}	|Difference|	Notes
7/13/2005	12	8		1978.29		
7/15/2005	18	27		2149.51		
6/07/2005	22	3	a	2158.67		
6/07/2005	22	3	b	2158.23	0.40	
6/07/2005	22	10		2166.26		
6/07/2005	22	15		2166.23		
6/06/2005	22	23		2161.03		
6/20/2005	22	28		2139.28		
7/13/2005	24	29		2124.92		
6/07/2005	28	3	a	2166.91		
6/07/2005	28	3	b	2205.92	39.0	
6/07/2005	28	11		2167.36		
6/06/2005	28	16		2176.75		
6/07/2005	28	30	a	2134.38		
7/15/2005	28	30	b	2231.01	96.6	
7/22/2005	30	29		2148.92		
7/15/2005	32	24		2130.68		
6/06/2005	34	3	a	2169.22		
6/20/2005	34	3	b	2172.06	2.80	

[4] This difference is calculated by subtracting the certified CRM value from the measured CRM value.

Date Analyzed	Station	Bottle No.	Duplicate	DIC/μmolkg^{-1}	|Difference|	Notes
6/07/2005	34	7		2168.03		
6/06/2005	34	11		2173.32		
6/06/2005	34	18	a	2137.29		
7/13/2005	34	18	b	2178.54	41.2	
7/22/2005	36	15		2112.78		Unclear label.
7/22/2005	38	18		2122.01		Unclear label.
7/13/2005	40	23	a	2152.00		
7/13/2005	40	23	b	2122.01	30.0	
7/13/2005	42	22		2119.58		
6/06/2005	44	3		2200.37		
6/07/2005	44	3		2175.48		
6/07/2005	44	7		2232.25		
7/15/2005	44	13		2168.15		
7/15/2005	44	16		2178.04		
7/13/2005	44	23	a	2115.48		
7/15/2005	44	23	b	2110.99	4.50	
7/13/2005	46	25		2153.74		
7/13/2005	48	26		2099.38		
7/13/2005	51	26		2108.39		
7/15/2005	55	3		2181.96		
7/15/2005	55	3		2183.32		
7/15/2005	55	11		2175.22		
7/15/2005	55	15		2165.58		
7/15/2005	55	20		2185.45		
7/13/2005	55	27	a	2118.48		
7/15/2005	55	27	b	2107.99	10.5	
7/13/2005	59	24		2097.00		
7/13/2005	63	28		2174.72		
7/13/2005	65	28		2114.54		
7/15/2005	67	3	a	2198.81		
7/15/2005	67	3	b	2203.91	5.10	
7/15/2005	67	7		2167.33		
7/15/2005	67	11		2160.33		
7/15/2005	67	16		2169.27		
7/15/2005	67	21		2174.52		
7/14/2005	67	29	a	2085.86		
7/15/2005	67	29	b	2075.24	10.6	
7/14/2005	69	29		2122.15		
7/14/2005	71	28		2133.27		
7/14/2005	73	29		2073.32		
7/15/2005	75	3	a	2212.38		
7/15/2005	75	3	b	2207.40	5.00	
7/15/2005	75	8		2181.35		
7/15/2005	75	12		2165.29		
6/21/2005	75	17		2196.11		
7/13/2005	75	22		2188.34		
7/13/2005	75	30	a	2082.55		
7/15/2005	75	30	b	2089.43	6.90	
7/15/2005	77	30		2079.64		
7/15/2005	79	30		2079.18		
7/13/2005	81	3	a	2220.01		

Date Analyzed	Station	Bottle No.	Duplicate	DIC/μmolkg^{-1}	|Difference|	Notes
7/13/2005	81	3	b	2210.20	9.80	
7/13/2005	81	9		2204.77		
7/13/2005	81	13		2161.71		
6/21/2005	81	18		2182.42		
7/13/2005	81	23		2153.24		
7/13/2005	81	30	a	2100.24		
7/14/2005	81	30	b	2118.90	18.7	
7/14/2005	83	30		2081.49		
7/14/2005	85	30		2082.80		
6/21/2005	87	3	a	2211.35		
7/13/2005	87	3	b	2208.11	3.20	
6/21/2005	87	9		2192.41		
7/13/2005	87	13		2165.80		
7/13/2005	87	18		2202.15		
7/13/2005	87	24		2153.19		
7/13/2005	87	30	a	2089.38		
7/14/2005	87	30	b	2082.97	6.40	
7/15/2005	90	28		2087.65		
7/14/2005	92	30		2091.36		
6/21/2005	93	3	a	2214.25		
7/13/2005	93	3	b	2242.02	27.8	
6/21/2005	93	9		2197.85		
6/20/2005	93	13		2244.53		
6/21/2005	93	17		2206.63		
6/20/2005	93	23		2165.45		
6/21/2005	93	30	a	2088.68		
7/14/2005	93	30	b	2084.60	4.10	
7/14/2005	97	30		2087.77		
6/06/2005	100	3	a	2208.77		
6/20/2005	100	3	b	2215.77	7.00	
6/21/2005	100	9		2189.85		
6/20/2005	100	14		2170.91		
6/21/2005	100	19		2199.13		
6/06/2005	100	24		2157.18		
6/06/2005	100	30	a	2092.87		
7/14/2005	100	30	b	2087.07	5.80	
7/15/2005	102	30		2090.76		
7/13/2005	104	30		2093.72		
6/07/2005	106	3	a	2235.83		
6/20/2005	106	3	b	2209.51	26.3	
6/20/2005	106	8		2213.32		
6/06/2005	106	12		2175.89		
6/07/2005	106	17		2281.22		
6/20/2005	106	23		2220.00		
6/07/2005	106	30	a	2089.65		
7/15/2005	106	30	b	2089.54	0.10	
7/13/2005	110	30		2091.64		
6/20/2005	114	23		2070.92		
6/07/2005	118	6		2084.87		

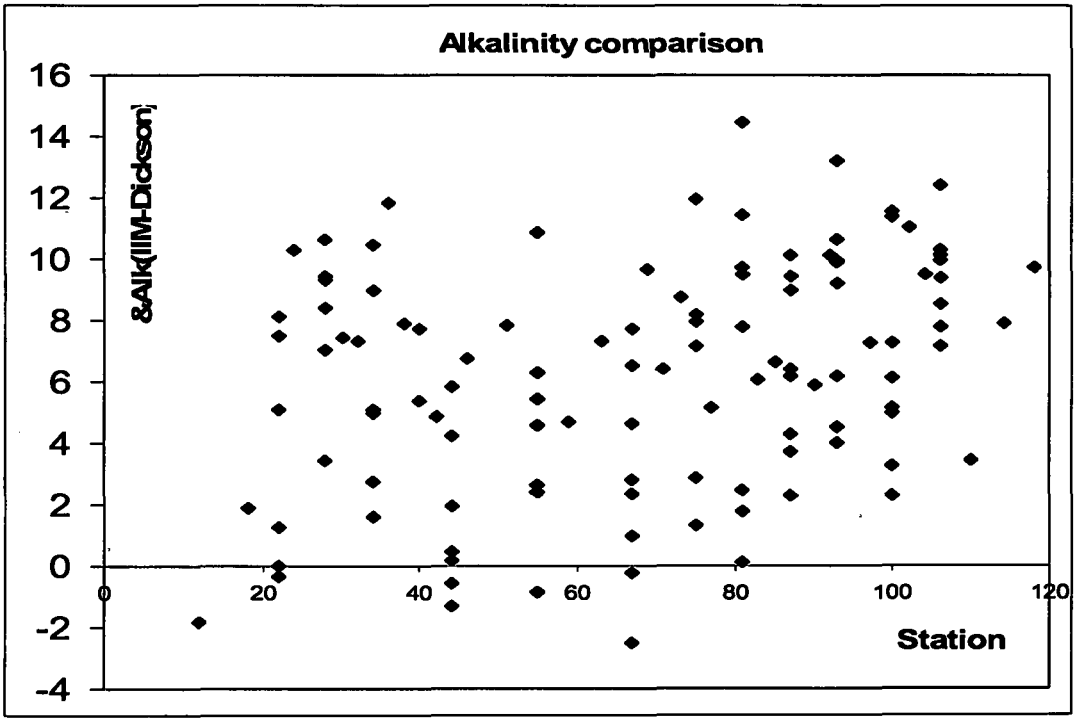
Report of intercalibration exercise of Alkalinity and Total Inorganic Carbon by Fiz F. Pérez

Introduction:

During August we received the result of the 119 analysis of total inorganic carbon (C_T) and total alkalinity (A_T) done during June and July in the Dr. Dickson lab in Scripps Institution Oceanographic (SIO). We had selected 40 samples for A_T and 79 for C_T however SIO lab has made an extra effort analyzing both variables in all samples. The C_T was analyzed on June (6, 7, 20 and 21) and July (13, 14, 15 and 22), and the A_T was analyzed on June (27, 28) and on July (13-18 and 25). The measurements of A_T were made after the C_T analysis. The samples of A_T were stored for several days after the C_T analysis. They had a significant volume of air inside due to the extraction of seawater for the C_T analysis.

Comments on A_T Results:

The results show that the A_T values measured by IIM are systematically higher in average value of 6.2 $\mu molkg^{-1}$ with a standard deviation of 3.7 $\mu molkg^{-1}$. This deviation is about 0.27% of average A_T and represents three times higher that one expected of the 2 $\mu molkg^{-1}$ taking into account that both lab reported an analytical error of about 1 $\mu molkg^{-1}$. In addition, the duplicate samples analyzed in the SIO lab yielded an average error 4.3±2.7 $\mu molkg^{-1}$ which is quite higher that the reproducibility of CRM (1 $\mu molkg^{-1}$).

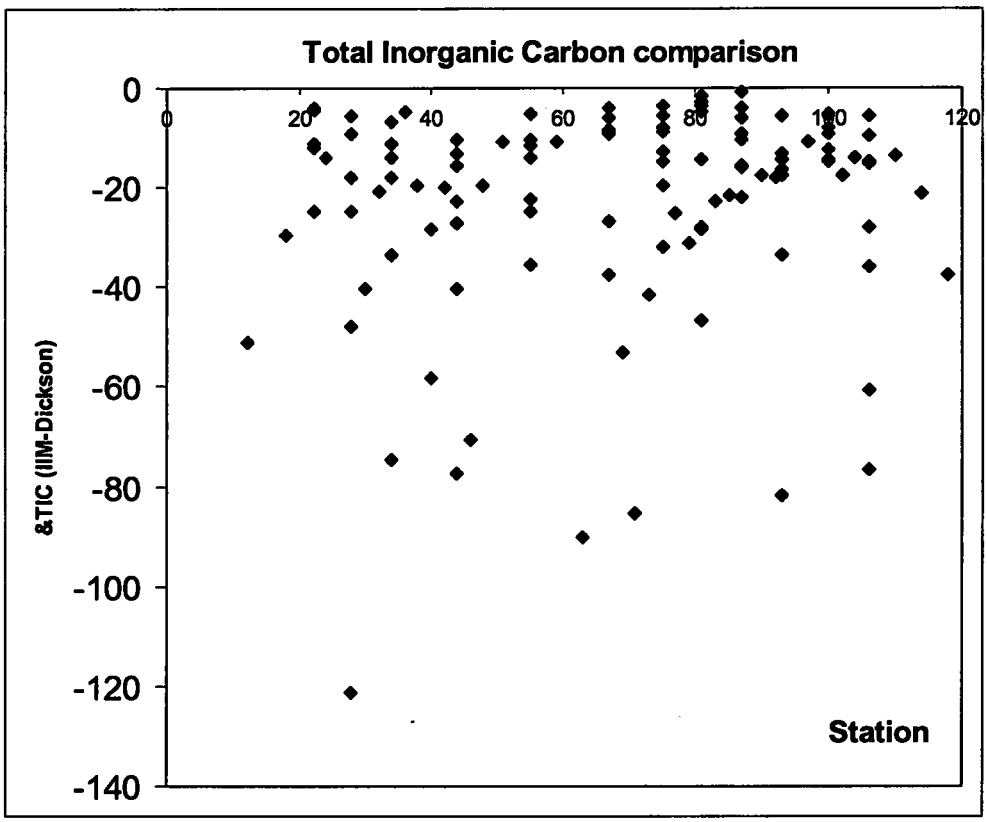


A possible no good sampling on board could be thought in order to understand this disagreement. However the reproducibility exercises made on board during the cruise using 23 pairs of samples yielded an average error of 1.3±1.7 $\mu molkg^{-1}$ which is quite lower than the average error given in the SIO report.

We do not have a clear conclusion about these discrepancies. We postpone any decision about A_T to do a comparison with others cruises using a water masses analysis.

Comments on C_T Results:

As Dr. Dickson said in his report, the C_T measured by SOMMA versus C_T reported by Dr. Marta Alvarez was different in an average of ~20 $\mu molkg^{-1}$ (-22 ± 21). All values reported by SIO lab are higher than IIM. The replication of duplicates at SIO was 16 ± 22 $\mu molkg^{-1}$. However the replication on board was 0.0015 ± 0.0016 for pH equivalent to a replication in C_T of 0.6 ± 0.7 $\mu molkg^{-1}$, two order of magnitude lower.

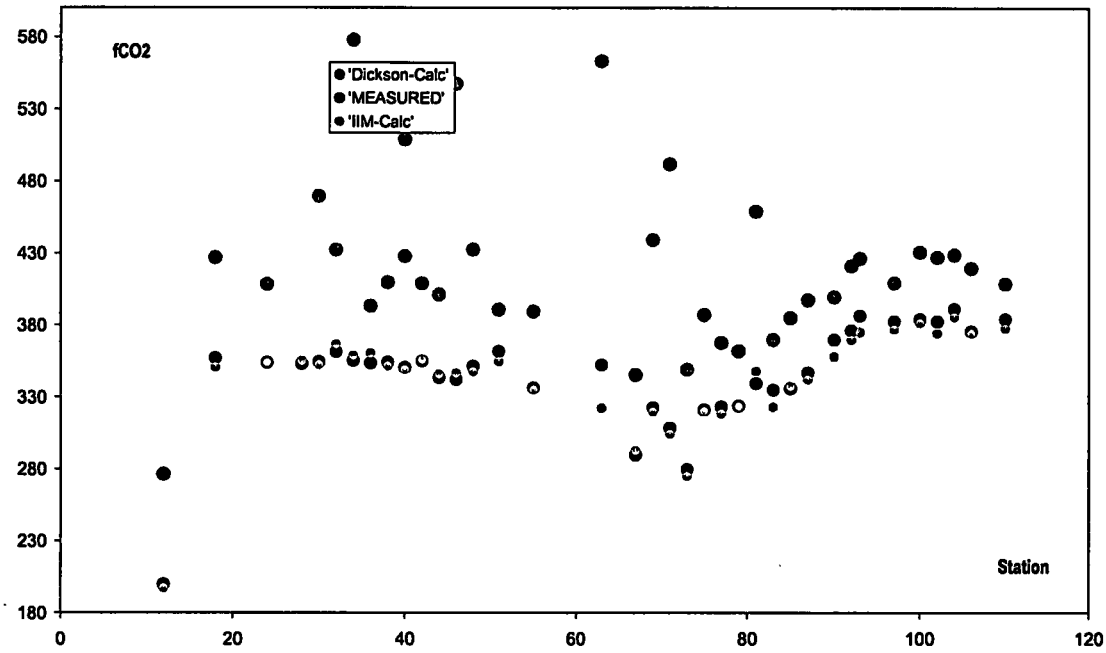


We can not also get an explanation for this systematic discrepancy. The differences is so big that it possible to think that the samples correspond to another different cruise. But it is not the case. We can not imagine some else reason.

Comparison with the fCO_2

We have hopefully another measurement of the carbon system to check this discrepancy. We use the surface measurement of fCO_2 obtained on board using an equilibrator system. In order to compare with the measured fCO_2 we are calculated the fCO_2 of the surface samples using the data get by the SIO lab and also the fCO_2 calculated from pH and alkalinity analyzed on board.

In the following figure it is possible to see clearly the important difference between the results in terms of fCO_2 using the SIO data and those obtained using the IIM data. The differences between the calculated and measured fCO_2 are 86±107 for SIO data and -3.0±6.6 µatm for the IIM on board analysis. The differences in term of C_T between IIM and SIO versus the differences in term of fCO_2 using the SIO data are strongly correlated (r^2=0.86) for 36 pairs of data.



It is very difficult to match so big discrepancies and take any decision in order to modify the results obtained on board. The first possibility may be that the samples sent to SIO suffered some important modification from the sampling in June 2004 to the analysis in June 2005. However, we had followed the rules of storing and preserving samples given by SIO.

OVIDE 2004

Contract number: 03/ 2210446

FINAL DATA

Flags for pH and A_T

2- accepted

3-suspected

4-interpolated

9-absent

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
2	3	3571	7.728	2	2309	2	2164
2	4	3572	7.726	2		9	2165
2	5	3501	7.733	2	2310	2	2164
2	6	3253	7.740	2	2306	2	2157
2	7	3000	7.739	2		9	2155
2	8	3001	7.738	2	2303	2	2155
2	9	2752	7.739	2	2306	2	2157
2	10	2499	7.739	2	2309	2	2160
2	11	2250	7.737	2	2305	2	2158
2	12	2001	7.740	2	2299	2	2151
2	13	1801	7.739	2	2299	2	2150
2	14	1601	7.732	2	2299	2	2154
2	15	1399	7.732	2	2298	2	2153
2	16	1198	7.728	2	2302	2	2158
2	17	1001	7.725	2	2299	2	2157
2	18	900	7.724	2	2298	2	2156
2	19	799	7.717	2	2310	2	2171
2	20	699	7.728	2	2320	2	2174
2	21	599	7.716	2	2325	2	2184
2	22	500	7.724	2	2323	2	2179
2	23	401	7.733	2	2318	2	2171
2	24	300	7.763	2	2326	2	2165
2	25	199	7.825	2	2327	2	2138
2	26	150	7.838	2	2330	2	2134
2	27	99	7.900	4	2337	2	2109
2	28	50	7.892	2		9	2115
2	29	5	7.894	2		9	2107
2	30	6	7.892	2	2329	2	2107
3	3	195	7.773	2	2303	2	2140
3	4	151	7.778	2	2286	2	2123
3	5	101	7.778	2	2270	2	2110
3	6	52	7.793	2	2269	2	2103
3	7	6	7.854	2	2150	2	1973
4	3	200	7.772	2	2309	2	2146
4	4	152	7.778	2	2299	2	2135
4	5	102	7.785	2	2290	2	2124
4	6	52	7.782	2	2268	2	2106
4	7	7	7.804	2	2248	2	2080
5	3	243	7.760	2	2303	2	2146
5	4	202	7.787	2	2304	2	2135
5	5	151	7.791	2	2300	2	2129
5	6	100	7.799	2	2299	2	2126
5	7	52	7.776	2	2271	2	2111
6	3	170	7.779	2	2290	2	2126
6	4	148	7.782	2	2281	2	2118
6	5	99	7.779	2	2269	2	2109
6	6	50	7.793	2	2276	2	2109

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
6	7	5	7.927	2	2128	2	1921
7	3	195	7.771	2	2296	2	2134
7	4	151	7.782	2	2285	2	2120
7	5	50	7.784	2	2268	2	2104
7	6	51	7.783	2	2267	2	2106
7	7	6	7.798	2	2249	2	2083
8	3	463	7.768	2	2305	2	2144
8	4	400	7.766	2	2306	2	2146
8	5	301	7.769	2	2308	2	2146
8	6	202	7.783	2	2316	2	2148
8	7	151	7.792	2	2315	2	2143
8	8	100	7.796	2	2301	2	2128
8	9	50	7.790	2	2291	2	2123
8	10	7	7.802	2	2273	2	2101
9	3	1887	7.737	2	2299	2	2152
9	4	1801	7.740	2	2302	2	2153
9	5	1679	7.741	2	2302	2	2153
9	6	1601	7.740	2	2302	2	2153
9	7	1403	7.736	2		9	2154
9	8	1202	7.738	2	2301	2	2153
9	9	1001	7.735	2	2308	2	2161
9	10	898	7.736	2	2306	2	2159
9	11	801	7.737	2	2307	2	2160
9	12	700	7.738	2	2306	2	2158
9	13	599	7.742	2	2307	2	2157
9	14	499	7.743	2	2305	2	2155
9	15	400	7.749	2	2307	2	2154
9	16	300	7.758	2	2307	2	2150
9	17	249	7.762	2	2306	2	2147
9	18	200	7.767	2	2305	2	2145
9	19	150	7.773	2	2306	2	2142
9	20	100	7.786	2	2310	2	2140
9	21	52	7.813	2	2307	2	2125
9	22	7	7.829	2	2306	2	2117
10	14	1707	7.737	2	2303	2	2156
10	15	1599	7.737	2	2298	2	2151
10	16	1399	7.734	2	2296	2	2150
10	17	1199	7.731	2	2299	2	2154
10	18	999	7.740	2	2301	2	2152
10	19	901	7.739	2	2307	2	2158
10	20	799	7.745	4	2305	2	2154
10	21	699	7.755	2	2302	2	2147
10	22	597	7.760	2	2297	2	2140
10	23	500	7.767	2	2306	2	2145
10	24	400	7.772	2	2309	2	2146
10	25	296	7.778	2	2308	2	2142
10	27	149	7.794	2	2304	2	2132

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
10	28	100	7.796	2	2302	2	2130
10	29	52	7.796	2	2299	2	2127
10	30	8	7.802	2	2295	2	2120
11	3	1041	7.740	2	2298	2	2150
11	4	1001	7.737	2	2295	2	2147
11	5	899	7.744	2	2296	2	2146
11	6	800	7.751	2	2299	2	2145
11	7	702	7.760	2	2296	2	2139
11	8	600	7.766	2	2295	2	2136
11	9	502	7.769	2	2300	2	2139
11	10	401	7.774	2	2294	2	2131
11	11	302	7.779	2	2298	2	2133
11	12	202	7.784	2	2303	2	2135
11	13	151	7.793	2	2303	2	2131
11	14	100	7.798	2	2298	2	2124
11	15	50	7.802	2	2299	2	2123
11	16	6	7.803	2	2298	2	2122
12	3	189	7.778	2	2264	2	2104
12	4	151	7.780	2	2250	2	2091
12	5	112	7.781	2	2217	2	2063
12	6	52	7.810	2	2172	2	2011
12	7	32	7.840	2	2151	2	1981
12	8	7	7.889	2	2114	2	1927
14	3	185	7.795	2		9	2128
14	4	152	7.790	2		9	2112
14	5	111	7.789	2		9	2102
14	6	51	7.783	2		9	2052
14	7	21	7.849	2		9	1977
14	8	6	7.899	2		9	1927
16	3	591	7.759	2	2300	2	2143
16	4	550	7.758	2	2307	2	2150
16	5	500	7.763	2	2305	2	2146
16	6	400	7.766	2	2305	2	2145
16	7	299	7.768	2	2305	2	2144
16	8	200	7.783	2	2304	2	2137
16	9	151	7.787	2	2308	2	2139
16	10	84	7.795	2	2299	2	2127
16	11	52	7.799	2	2303	2	2129
16	12	22	7.804	2	2301	2	2125
16	13	5	7.834	2	2198	2	2024
16	14	5	7.834	2	2190	2	2016
17	3	1225	7.737	2		9	2155
17	4	1147	7.735	2		9	2157
17	5	1102	7.737	2		9	2156
17	6	1051	7.738	2		9	2156
17	7	1000	7.744	2		9	2154
17	8	900	7.753	2		9	2150

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
17	9	801	7.755	2		9	2148
17	10	801	7.757	2		9	2147
17	11	702	7.758	2		9	2145
17	12	601	7.760	2		9	2144
17	13	501	7.760	2		9	2147
17	14	400	7.762	2		9	2146
17	15	301	7.765	2		9	2146
17	16	201	7.775	2		9	2145
17	17	149	7.782	2		9	2145
17	18	99	7.793	2		9	2139
17	19	50	7.817	2		9	2128
17	20	26	7.818	2		9	2124
17	21	6	7.821	2		9	2099
18	3	1737	7.741	2	2300	2	2151
18	4	1701	7.739	2	2301	2	2153
18	5	1651	7.738	2	2301	2	2153
18	6	1600	7.738	2	2298	2	2151
18	7	1551	7.740	2	2300	2	2151
18	8	1499	7.738	2	2304	2	2156
18	9	1451	7.739	2	2304	2	2155
18	10	1401	7.736	2	2304	2	2157
18	11	1201	7.737	2	2303	2	2156
18	12	997	7.737	2	2304	2	2156
18	13	900	7.738	2	2304	2	2156
18	14	800	7.740	2	2302	2	2153
18	15	701	7.737	2	2300	2	2152
18	16	600	7.744	2	2301	2	2150
18	17	501	7.743	2	2303	2	2152
18	18	441	7.750	2	2303	2	2150
18	19	400	7.757	2	2305	2	2149
18	20	301	7.763	2	2308	2	2148
18	21	201	7.771	2	2308	2	2145
18	22	151	7.778	2	2308	2	2142
18	23	101	7.797	2	2311	2	2136
18	24	52	7.817	2	2308	2	2125
18	25	8	7.819	2	2303	2	2120
19	3	1864	7.741	2		9	2150
19	4	1801	7.741	3		9	2150
19	5	1750	7.739	2		9	2150
19	6	1699	7.740	2		9	2151
19	7	1650	7.740	2		9	2151
19	8	1600	7.737	2		9	2151
19	9	1499	7.738	2		9	2154
19	10	1401	7.737	2		9	2155
19	11	1199	7.733	2		9	2157
19	12	1000	7.733	2		9	2158
19	13	901	7.733	2		9	2157

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
19	14	802	7.734	2		9	2155
19	15	700	7.735	2		9	2154
19	16	600	7.738	2		9	2153
19	17	501	7.729	3		9	2158
19	18	401	7.747	2		9	2152
19	20	251	7.762	2		9	2146
19	21	200	7.767	2		9	2145
19	22	150	7.770	2		9	2145
19	23	100	7.784	2		9	2143
19	24	51	7.821	2		9	2120
19	25	7	7.823	2		9	2119
20	3	2056	7.740	2	2296	2	2147
20	4	1976	7.738	2	2298	2	2150
20	5	1931	7.738	2	2300	2	2152
20	6	1882	7.738	2	2299	2	2151
20	7	1830	7.738	2	2298	2	2154
20	8	1830	7.738	2	2301	2	2151
20	9	1720	7.739	2	2306	2	2157
20	10	1626	7.737	2	2300	2	2152
20	11	1399	7.736	2	2300	2	2153
20	12	1202	7.734	2	2301	2	2155
20	13	1002	7.734	2	2303	2	2157
20	14	898	7.735	2	2302	2	2156
20	15	802	7.735	4	2302	2	2156
20	16	704	7.736	2	2303	2	2156
20	17	600	7.734	2	2302	2	2155
20	18	501	7.738	2	2303	2	2154
20	19	403	7.745	2	2303	2	2152
20	20	271	7.756	2	2304	2	2148
20	21	241	7.760	2	2304	2	2146
20	22	180	7.769	2	2311	2	2148
20	23	130	7.778	2	2313	2	2147
20	24	100	7.782	2	2313	2	2145
20	25	52	7.818	2	2308	2	2124
20	26	22	7.818	2		9	2123
20	27	6	7.818	2	2307	2	2123
21	3	2307	7.736	2		9	2151
21	4	2202	7.735	2		9	2150
21	5	2151	7.736	2		9	2150
21	6	2099	7.736	2		9	2150
21	8	2001	7.735	2		9	2154
21	9	1951	7.737	2		9	2153
21	10	1801	7.737	2		9	2154
21	12	1401	7.734	2		9	2155
21	13	1200	7.730	2		9	2157
21	14	1200	7.730	2		9	2157
21	15	1001	7.728	2		9	2159

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
21	16	900	7.728	2		9	2157
21	17	801	7.726	2		9	2158
21	18	701	7.725	2		9	2160
21	19	600	7.735	2		9	2156
21	20	500	7.740	2		9	2154
21	22	301	7.743	2		9	2155
21	23	200	7.770	2		9	2146
21	24	151	7.776	2		9	2146
21	25	100	7.790	2		9	2141
21	26	52	7.825	2		9	2121
21	27	7	7.829	2		9	2119
22	3	2690	7.737	2	2302	2	2154
22	4	2649	7.734	2	2296	2	2150
22	5	2601	7.735	2	2296	2	2150
22	6	2551	7.738	2	2297	2	2149
22	7	2500	7.739	2	2297	2	2149
22	8	2400	7.737	2	2297	2	2150
22	9	2199	7.739	2	2300	2	2152
22	10	2002	7.738	2	2303	2	2155
22	11	1800	7.738	2	2302	2	2154
22	12	1600	7.735	2	2302	2	2155
22	13	1399	7.735	2	2301	2	2155
22	14	1200	7.732	2	2301	2	2156
22	15	1001	7.731	2	2299	2	2154
22	16	1001	7.731	2		9	2154
22	17	902	7.729	2	2298	2	2154
22	18	799	7.727	2	2299	2	2156
22	19	699	7.727	2	2302	2	2159
22	20	600	7.725	2		9	2160
22	21	502	7.724	2	2303	2	2161
22	22	400	7.735	2	2304	2	2157
22	23	301	7.743	2	2300	2	2150
22	24	202	7.741	2	2298	2	2149
22	25	151	7.750	2	2300	2	2147
22	26	100	7.766	2	2301	2	2142
22	27	51	7.825	2		9	2118
22	28	7	7.830	2	2303	2	2114
23	3	2838	7.733	2		9	2154
23	4	2740	7.734	2		9	2154
23	5	2700	7.736	2		9	2154
23	6	2650	7.736	2		9	2152
23	7	2600	7.736	2		9	2153
23	8	2500	7.738	2		9	2154
23	9	2399	7.738	2		9	2156
23	10	2200	7.739	2		9	2156
23	11	2000	7.736	2		9	2156
23	12	2000	7.739	2		9	2155

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
23	13	1850	7.738	2		9	2153
23	14	1600	7.734	2		9	2154
23	15	1400	7.731	2		9	2157
23	16	1219	7.729	2		9	2159
23	17	1119	7.728	2		9	2158
23	18	1000	7.729	2		9	2155
23	19	800	7.727	2		9	2157
23	20	601	7.723	2		9	2161
23	21	450	7.740	2		9	2155
23	22	341	7.741	2		9	2155
23	23	220	7.758	2		9	2149
23	24	169	7.761	2		9	2149
23	25	100	7.766	2		9	2146
23	26	50	7.799	2		9	2130
23	27	7	7.841	2		9	2110
24	3	2963	7.727	2	2299	2	2156
24	4	2899	7.735	2	2298	2	2152
24	5	2852	7.731	2	2299	2	2155
24	6	2800	7.733	2	2301	2	2155
24	7	2750	7.737	2	2302	2	2154
24	8	2719	7.740	2	2305	2	2156
24	9	2500	7.740	2	2306	2	2157
24	10	2251	7.740	2	2306	2	2157
24	11	2000	7.738	2	2302	2	2154
24	12	1800	7.736	2	2300	2	2153
24	13	1599	7.733	2	2299	2	2153
24	14	1400	7.732	2	2301	2	2156
24	15	1201	7.723	2	2305	2	2163
24	16	1002	7.730	2	2301	2	2157
24	17	901	7.729	2	2299	2	2156
24	18	800	7.728	2	2301	2	2158
24	19	700	7.729	2	2302	2	2158
24	20	700	7.726	2		9	2159
24	21	599	7.730	2	2302	2	2158
24	22	500	7.725	2	2302	2	2160
24	23	401	7.723	2	2302	2	2160
24	24	299	7.732	2	2303	2	2158
24	25	200	7.738	2	2303	2	2155
24	26	151	7.744	2		9	2154
24	27	100	7.750	2	2305	2	2152
24	28	52	7.794	2		9	2128
24	29	8	7.827	2	2297	2	2111
25	3	3080	7.728	2		9	2157
25	4	3052	7.730	2		9	2156
25	5	3000	7.733	2		9	2157
25	6	2950	7.735	2		9	2157
25	7	2900	7.737	2		9	2156

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
25	8	2800	7.737	3		9	2157
25	9	2700	7.738	2		9	2158
25	10	2500	7.739	2		9	2158
25	11	2400	7.740	2		9	2157
25	12	2201	7.735	2		9	2159
25	13	1999	7.735	2		9	2156
25	14	1800	7.734	2		9	2154
25	15	1600	7.731	2		9	2156
25	16	1401	7.726	2		9	2159
25	17	1299	7.726	2		9	2159
25	18	1080	7.732	2		9	2156
25	19	899	7.731	2		9	2156
25	20	801	7.730	2		9	2158
25	21	699	7.724	2		9	2160
25	22	700	7.726	2		9	2159
25	23	598	7.724	2		9	2161
25	24	540	7.739	4		9	2155
25	25	400	7.740	2		9	2155
25	26	250	7.747	2		9	2155
25	27	151	7.762	2		9	2148
25	28	101	7.771	2		9	2145
25	29	51	7.810	2		9	2128
25	30	8	7.847	2		9	2110
26	3	3155	7.737	2	2304	2	2157
26	4	3100	7.734	2	2301	2	2155
26	5	3050	7.738	2	2301	2	2154
26	6	3000	7.737	2	2306	2	2159
26	7	2951	7.741	3	2307	2	2158
26	8	2850	7.740	2	2308	2	2159
26	9	2800	7.739	2	2307	2	2158
26	10	2599	7.740	2	2307	2	2158
26	11	2400	7.739	2		9	2158
26	12	2199	7.737	2	2305	2	2157
26	13	2000	7.736	2		9	2156
26	14	1800	7.733	2	2301	2	2156
26	15	1599	7.731	2	2302	2	2157
26	16	1398	7.730	2	2301	2	2157
26	17	1199	7.730	2		9	2156
26	18	998	7.728	2	2301	2	2157
26	19	800	7.725	2	2302	2	2159
26	20	701	7.732	2	2301	2	2155
26	21	551	7.739	2	2303	2	2154
26	22	398	7.739	2	2303	2	2155
26	23	398	7.740	2		9	2154
26	24	299	7.748	2	2304	2	2152
26	25	201	7.754	2		9	2150
26	26	150	7.763	2	2306	2	2147

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
26	27	99	7.770	2		9	2146
26	28	53	7.811	2	2307	2	2127
26	29	8	7.866	2	2310	2	2104
27	3	3161	7.734	4		9	2158
27	4	3101	7.738	2		9	2155
27	5	3052	7.736	2		9	2157
27	6	3001	7.737	2		9	2159
27	7	2950	7.737	2		9	2159
27	8	2850	7.737	2		9	2161
27	9	2750	7.740	2		9	2160
27	10	2502	7.739	2		9	2159
27	11	2251	7.736	2		9	2160
27	12	2000	7.738	2		9	2156
27	13	1799	7.740	2		9	2154
27	14	1599	7.731	2		9	2159
27	15	1400	7.722	2		9	2162
27	16	1201	7.729	2		9	2158
27	17	1001	7.730	3		9	2157
27	18	902	7.729	2		9	2158
27	19	800	7.726	2		9	2159
27	20	699	7.722	2		9	2161
27	21	646	7.727	2		9	2159
27	22	601	7.734	2		9	2157
27	23	500	7.745	2		9	2153
27	24	401	7.749	2		9	2151
27	25	300	7.747	2		9	2151
27	26	201	7.749	2		9	2151
27	27	201	7.749	3		9	2151
27	28	150	7.758	2		9	2147
27	29	100	7.769	2		9	2143
27	30	8	7.859	2		9	2105
28	3	3137	7.734	2	2304	2	2158
28	4	3100	7.733	2	2306	2	2161
28	5	3050	7.738	2	2305	2	2157
28	6	3000	7.736	2	2306	2	2159
28	7	2950	7.738	2	2307	2	2159
28	8	2899	7.739	2	2309	2	2160
28	9	2800	7.738	2	2310	2	2161
28	10	2601	7.740	2	2311	2	2162
28	11	2500	7.738	2	2310	2	2162
28	12	2250	7.740	2	2310	2	2160
28	13	2000	7.738	2	2307	2	2159
28	14	1800	7.738	2	2305	2	2157
28	15	1602	7.735	2	2305	2	2158
28	16	1398	7.732	2	2304	2	2159
28	17	1199	7.729	2	2303	2	2159
28	18	1000	7.728	2	2302	2	2159

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
28	19	801	7.728	2	2302	2	2159
28	20	651	7.733	2	2304	2	2158
28	21	581	7.723	2	2307	2	2165
28	22	501	7.730	2		9	2162
28	23	401	7.732	2	2309	2	2163
28	24	280	7.754	2	2307	2	2152
28	25	199	7.763	2	2308	2	2149
28	26	150	7.770	2		9	2145
28	27	100	7.787	2	2308	2	2139
28	28	100	7.789	2		9	2138
28	29	50	7.833	2		9	2118
28	30	7	7.849	2	2308	2	2110
29	3	3135	7.735	2		9	2158
29	4	3100	7.737	3		9	2159
29	5	3048	7.738	2		9	2158
29	6	3000	7.736	2		9	2161
29	7	2951	7.737	2		9	2161
29	8	2750	7.739	2		9	2159
29	9	2501	7.739	2		9	2159
29	10	2249	7.736	2		9	2161
29	11	1999	7.736	2		9	2160
29	12	1791	7.735	2		9	2161
29	13	1601	7.731	2		9	2160
29	14	1398	7.728	2		9	2159
29	15	1280	7.730	2		9	2156
29	16	1200	7.728	2		9	2157
29	17	1000	7.726	2		9	2160
29	18	900	7.723	2		9	2161
29	19	799	7.723	2		9	2162
29	20	730	7.717	2		9	2168
29	21	600	7.737	2		9	2159
29	22	501	7.747	2		9	2158
29	23	419	7.770	2		9	2148
29	24	301	7.776	2		9	2148
29	25	201	7.792	2		9	2142
29	26	151	7.792	2		9	2142
29	27	101	7.799	2		9	2138
29	28	47	7.858	2		9	2108
29	29	7	7.859	2		9	2108
29	30	7	7.863	2		9	2105
30	3	3025	7.743	2	2304	2	2154
30	4	3023	7.739	2	2305	2	2156
30	5	2999	7.739	2	2309	2	2160
30	6	2951	7.738	2	2309	2	2161
30	7	2899	7.739	2	2310	2	2161
30	8	2851	7.740	2	2305	2	2156
30	9	2750	7.740	2	2305	2	2156

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
30	10	2500	7.735	2	2306	2	2158
30	11	2251	7.732	3	2306	2	2160
30	12	2001	7.736	2	2306	2	2159
30	13	1801	7.738	2	2306	2	2158
30	14	1601	7.731	2		9	2160
30	15	1401	7.728	2	2303	2	2159
30	16	1200	7.723	2	2300	2	2159
30	17	999	7.726	2	2300	2	2158
30	18	902	7.723	2		9	2159
30	19	800	7.722	3	2301	2	2160
30	20	701	7.732	2		9	2156
30	21	600	7.742	2	2302	2	2153
30	22	502	7.744	2	2306	2	2155
30	23	399	7.767	2	2306	2	2146
30	24	300	7.766	2	2310	2	2149
30	25	201	7.779	2	2313	2	2146
30	26	150	7.787	2		9	2142
30	27	100	7.799	2	2314	2	2138
30	28	51	7.846	2		9	2114
30	29	8	7.855	2	2310	2	2108
31	3	2531	7.739	2		9	2159
31	4	2501	7.739	3		9	2159
31	5	2448	7.740	2		9	2158
31	6	2449	7.740	3		9	2159
31	7	2401	7.739	2		9	2159
31	8	2351	7.737	3		9	2160
31	9	2300	7.737	2		9	2160
31	10	2200	7.737	2		9	2159
31	11	2001	7.736	3		9	2161
31	12	1799	7.740	2		9	2159
31	13	1601	7.734	2		9	2161
31	14	1400	7.735	2		9	2160
31	15	1200	7.734	2		9	2160
31	16	1002	7.729	2		9	2163
31	17	900	7.728	2		9	2162
31	18	800	7.725	2		9	2163
31	19	700	7.724	3		9	2164
31	20	600	7.723	2		9	2166
31	21	549	7.727	2		9	2162
31	22	499	7.722	2		9	2165
31	23	400	7.727	2		9	2163
31	24	301	7.739	2		9	2161
31	25	201	7.764	2		9	2149
31	26	149	7.771	2		9	2147
31	27	89	7.804	2		9	2132
31	28	50	7.850	2		9	2112
31	29	6	7.852	2		9	2109

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
32	3	2298	7.738	2	2309	2	2160
32	4	2249	7.738	4		9	2160
32	5	2200	7.739	2	2308	2	2159
32	6	2150	7.742	2	2309	2	2159
32	7	2100	7.741	2	2310	2	2160
32	8	2101	7.741	2	2309	2	2160
32	9	2001	7.737	2	2310	2	2162
32	10	1801	7.735	2	2310	2	2162
32	11	1600	7.734	2	2308	2	2161
32	12	1400	7.734	2	2309	2	2162
32	13	1251	7.731	2	2307	2	2162
32	14	1000	7.728	2	2311	2	2167
32	15	800	7.728	2	2309	2	2164
32	16	599	7.728	2	2310	2	2166
32	17	500	7.717	2	2310	2	2170
32	18	379	7.730	2	2310	2	2165
32	19	291	7.742	2		9	2160
32	20	251	7.750	2	2309	2	2155
32	21	150	7.780	2		9	2146
32	22	101	7.795	2	2310	2	2137
32	23	50	7.842	2		9	2114
32	24	7	7.844	2	2305	2	2110
33	3	2309	7.740	4		9	2160
33	5	2200	7.740	2		9	2159
33	7	2101	7.737	2		9	2160
33	8	2001	7.738	2		9	2160
33	9	1800	7.737	2		9	2160
33	10	1600	7.737	2		9	2160
33	11	1410	7.736	2		9	2161
33	12	1201	7.728	2		9	2163
33	13	1001	7.722	2		9	2168
33	14	764	7.721	3		9	2167
33	15	600	7.719	2		9	2170
33	16	515	7.751	2		9	2156
33	17	400	7.763	2		9	2155
33	19	298	7.781	2		9	2148
33	21	101	7.813	2		9	2134
33	22	51	7.836	2		9	2118
33	23	7	7.861	2		9	2104
34	3	1883	7.736	2	2305	2	2158
34	4	1750	7.732	2	2307	2	2161
34	5	1602	7.733	2	2308	2	2162
34	6	1399	7.734	2	2306	2	2159
34	7	1201	7.728	2	2306	2	2161
34	8	1000	7.724	2	2307	2	2164
34	9	850	7.718	2	2308	2	2168
34	10	699	7.714	2	2311	2	2173

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
34	11	551	7.748	2	2308	2	2155
34	12	450	7.751	2	2309	2	2155
34	13	351	7.765	2	2312	2	2152
34	14	199	7.781	2	2314	2	2146
34	15	149	7.792	2		9	2141
34	16	100	7.809	2	2315	2	2135
34	17	50	7.846	2		9	2113
34	18	7	7.857	2	2306	2	2104
35	3	1702	7.734	2		9	2162
35	4	1599	7.732	2		9	2163
35	5	1500	7.727	2		9	2164
35	6	1400	7.727	2		9	2163
35	7	1199	7.726	2		9	2163
35	8	999	7.721	2		9	2165
35	9	798	7.719	2		9	2170
35	10	650	7.721	2		9	2171
35	11	480	7.770	2		9	2153
35	12	298	7.792	2		9	2145
35	13	200	7.792	2		9	2146
35	14	101	7.818	2		9	2131
35	15	50	7.859	2		9	2108
35	16	6	7.863	2		9	2104
36	3	1477	7.735	2	2308	2	2161
36	4	1201	7.733	2	2308	2	2162
36	5	1000	7.732	2		9	2161
36	6	900	7.724	2	2307	2	2164
36	7	800	7.728	2	2313	2	2168
36	8	601	7.722	2	2309	2	2167
36	9	504	7.729	2	2316	2	2170
36	10	401	7.748	2	2315	2	2161
36	11	301	7.775	2	2311	2	2146
36	12	199	7.781	2	2317	2	2148
36	13	126	7.794	2	2314	2	2140
36	14	51	7.842	2		9	2112
36	15	8	7.863	2		9	2103
37	3	1461	7.722	2		9	2166
37	4	1401	7.725	2		9	2163
37	5	1201	7.728	2		9	2162
37	6	1000	7.724	2		9	2163
37	7	901	7.726	2		9	2165
37	8	800	7.727	3		9	2167
37	9	699	7.726	2		9	2168
37	10	630	7.729	2		9	2168
37	11	500	7.743	2		9	2166
37	12	421	7.762	2		9	2158
37	13	288	7.765	2		9	2156
37	14	249	7.783	2		9	2149

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
37	15	180	7.788	2		9	2147
37	16	101	7.834	3		9	2123
37	17	50	7.871	2		9	2105
37	18	7	7.876	2		9	2101
38	3	1629	7.733	3	2306	2	2160
38	4	1600	7.734	2	2304	2	2158
38	5	1550	7.733	2	2307	2	2160
38	6	1500	7.733	2	2307	2	2161
38	7	1400	7.733	3	2303	2	2157
38	8	1200	7.733	2	2302	2	2156
38	9	1000	7.735	2	2306	2	2159
38	10	799	7.725	2	2311	2	2168
38	11	600	7.738	2	2315	2	2165
38	12	400	7.795	2	2319	2	2144
38	13	300	7.799	2	2318	2	2142
38	14	201	7.801	2	2318	2	2141
38	15	151	7.799	2		9	2141
38	16	100	7.804	2	2318	2	2138
38	17	51	7.862	2		9	2110
38	18	6	7.878	2	2317	2	2102
39	3	2197	7.730	2		9	2165
39	4	1999	7.734	2		9	2162
39	5	1800	7.737	2		9	2159
39	6	1600	7.736	2		9	2156
39	7	1400	7.731	2		9	2158
39	8	1201	7.730	2		9	2157
39	9	1000	7.725	2		9	2160
39	10	900	7.727	4		9	2163
39	11	801	7.725	2		9	2166
39	12	700	7.735	2		9	2166
39	13	600	7.743	2		9	2163
39	14	501	7.771	2		9	2151
39	15	401	7.788	2		9	2145
39	16	300	7.793	2		9	2143
39	17	259	7.788	2		9	2144
39	18	151	7.809	2		9	2136
39	19	101	7.823	2		9	2130
39	20	51	7.852	2		9	2113
39	21	6	7.876	2		9	2101
40	3	2251	7.735	3	2306	2	2159
40	4	2200	7.735	2	2307	2	2159
40	5	2200	7.736	2	2306	2	2159
40	6	2000	7.741	2	2306	2	2156
40	7	1801	7.742	2	2304	2	2154
40	8	1600	7.739	2	2305	2	2157
40	9	1402	7.734	2	2306	2	2159
40	10	1200	7.728	2	2303	2	2159

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
40	11	1000	7.727	3	2301	2	2157
40	12	900	7.722	3		9	2161
40	13	801	7.723	2	2306	2	2163
40	14	670	7.714	2	2308	2	2169
40	15	600	7.734	2		9	2164
40	16	488	7.770	2	2312	2	2148
40	17	450	7.782	3		9	2144
40	18	371	7.780	2	2313	2	2145
40	19	251	7.798	2	2313	2	2137
40	20	151	7.819	2		9	2131
40	21	101	7.842	2	2318	2	2121
40	22	50	7.862	2		9	2107
40	23	7	7.882	2	2309	2	2094
41	3	2154	7.738	2		9	2157
41	4	2100	7.735	2		9	2158
41	5	1999	7.737	2		9	2156
41	6	1800	7.744	2		9	2151
41	7	1800	7.740	2		9	2152
41	8	1600	7.739	2		9	2151
41	9	1401	7.736	2		9	2154
41	10	1201	7.732	2		9	2156
41	11	1000	7.727	2		9	2157
41	12	799	7.721	3		9	2162
41	13	550	7.722	2		9	2166
41	14	401	7.796	2		9	2141
41	15	302	7.795	2		9	2139
41	16	200	7.806	2		9	2135
41	17	150	7.816	2		9	2134
41	18	101	7.827	2		9	2127
41	19	51	7.855	2		9	2111
41	20	6	7.876	2		9	2099
42	3	2528	7.728	3	2306	2	2162
42	4	2401	7.733	2	2306	2	2160
42	5	2240	7.739	3	2306	2	2157
42	6	2000	7.739	2	2303	2	2154
42	7	1800	7.738	2	2299	2	2152
42	8	1600	7.733	2	2296	2	2150
42	9	1599	7.730	2		9	2152
42	10	1400	7.725	2	2298	2	2156
42	11	1200	7.724	2	2301	2	2159
42	12	1000	7.723	2	2302	2	2160
42	13	900	7.719	2	2303	2	2163
42	14	700	7.716	2	2307	2	2168
42	15	601	7.714	2	2311	2	2172
42	16	400	7.772	2	2316	2	2151
42	17	299	7.786	2	2314	2	2143
42	18	201	7.808	2		9	2135

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
42	19	149	7.808	2		9	2133
42	20	101	7.825	2	2317	2	2129
42	21	51	7.832	2		9	2120
42	22	7	7.874	2	2311	2	2100
43	3	2449	7.726	3		9	2162
43	4	2401	7.731	2		9	2160
43	5	2200	7.741	2		9	2154
43	6	1999	7.741	2		9	2153
43	7	1800	7.741	2		9	2152
43	8	1600	7.735	2		9	2152
43	9	1400	7.735	2		9	2154
43	10	1200	7.728	2		9	2158
43	11	1200	7.728	2		9	2158
43	12	1001	7.727	2		9	2158
43	13	899	7.724	2		9	2160
43	14	800	7.720	2		9	2164
43	15	699	7.718	2		9	2167
43	16	598	7.716	2		9	2168
43	17	500	7.716	2		9	2168
43	18	419	7.722	2		9	2167
43	19	309	7.728	2		9	2160
43	20	199	7.783	2		9	2142
43	21	151	7.800	2		9	2135
43	22	109	7.819	2		9	2128
43	23	50	7.855	2		9	2108
43	24	7	7.895	2		9	2087
44	3	2736	7.733	2	2307	2	2160
44	4	2701	7.733	3	2307	2	2161
44	5	2601	7.733	2	2305	2	2158
44	6	2400	7.737	2	2304	2	2156
44	7	2199	7.739	2	2303	2	2155
44	8	2000	7.736	2	2301	2	2154
44	9	2000	7.737	2		9	2153
44	10	1801	7.737	2	2299	2	2152
44	11	1600	7.735	3	2300	2	2153
44	12	1399	7.732	2	2301	2	2155
44	13	1199	7.728	2	2302	2	2158
44	14	1000	7.722	2	2299	2	2158
44	15	800	7.721	2	2305	2	2164
44	16	500	7.718	3	2305	2	2165
44	17	401	7.750	2	2312	2	2157
44	18	301	7.744	2	2309	2	2157
44	19	200	7.819	2	2319	2	2133
44	20	151	7.800	2		9	2139
44	21	100	7.834	2	2319	2	2126
44	22	61	7.853	2		9	2112
44	23	7	7.894	2	2309	2	2088

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
45	3	2887	7.730	2		9	2165
45	4	2886	7.730	3		9	2165
45	5	2750	7.733	2		9	2162
45	6	2500	7.739	2		9	2159
45	7	2250	7.740	2		9	2156
45	8	2000	7.742	2		9	2152
45	9	1801	7.734	2		9	2154
45	10	1601	7.729	2		9	2157
45	11	1400	7.728	4		9	2157
45	12	1201	7.728	2		9	2158
45	13	999	7.722	2		9	2160
45	14	901	7.722	2		9	2161
45	15	900	7.720	2		9	2162
45	16	799	7.717	2		9	2165
45	17	701	7.711	2		9	2171
45	18	601	7.710	2		9	2170
45	19	500	7.714	2		9	2167
45	20	400	7.725	2		9	2165
45	21	300	7.789	2		9	2142
45	22	200	7.814	2		9	2135
45	23	150	7.822	2		9	2132
45	24	101	7.832	2		9	2125
45	25	51	7.886	2		9	2095
45	26	7	7.902	2		9	2085
46	3	2753	7.735	2	2310	2	2163
46	4	2700	7.736	4	2312	2	2164
46	5	2499	7.735	2	2311	2	2163
46	6	2250	7.738	2	2307	2	2158
46	7	2000	7.740	4	2303	2	2154
46	8	1800	7.739	2	2300	2	2152
46	9	1600	7.734	2	2301	2	2155
46	10	1401	7.729	2	2301	2	2157
46	11	1198	7.726	2	2302	2	2159
46	12	998	7.723	2		9	2162
46	13	901	7.720	2	2305	2	2164
46	14	801	7.717	3	2306	2	2166
46	15	700	7.713	2	2309	2	2171
46	16	599	7.709	2	2311	2	2174
46	17	599	7.705	2		9	2175
46	18	499	7.715	2	2310	2	2171
46	19	360	7.749	2	2312	2	2158
46	20	299	7.768	2		9	2150
46	21	200	7.782	3	2310	2	2141
46	22	151	7.796	2		9	2136
46	23	100	7.826	2	2313	2	2124
46	24	49	7.853	2		9	2109
46	25	7	7.897	2	2305	2	2083

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
47	3	2688	7.737	2		9	2165
47	4	2600	7.739	2		9	2162
47	5	2399	7.739	3		9	2160
47	6	2198	7.738	2		9	2158
47	7	2000	7.742	4		9	2153
47	8	2000	7.742	4		9	2153
47	9	1783		9		9	2155
47	10	1598		9		9	2155
47	11	1401		9		9	2154
47	12	1200		9		9	2157
47	13	1001		9		9	2162
47	14	800		9		9	2164
47	15	600		9		9	2172
47	16	390		9		9	2167
47	17	310		9		9	2165
47	18	200		9		9	2141
47	19	200		9		9	2141
47	20	150		9		9	2130
47	21	101		9		9	2133
48	3	2830	7.731	2	2314	2	2168
48	4	2830	7.734	2		9	2167
48	5	2700	7.733	2	2314	2	2167
48	6	2501	7.735	3	2309	2	2162
48	7	2250	7.739	2	2307	2	2158
48	8	1986	7.740	2	2302	2	2153
48	9	1800	7.737	2	2301	2	2153
48	10	1597	7.734	2	2301	2	2155
48	11	1401	7.732	2	2300	2	2155
48	12	1401	7.731	2		9	2155
48	13	1200	7.730	2	2300	2	2156
48	14	992	7.727	2	2301	2	2158
48	15	900	7.723	2		9	2160
48	16	801	7.722	2	2303	2	2162
48	17	700	7.719	2		9	2165
48	18	599	7.715	2	2309	2	2170
48	19	502	7.712	2	2307	2	2169
48	20	401	7.716	2	2305	2	2166
48	21	301	7.725	2	2304	2	2161
48	22	199	7.777	2	2305	2	2140
48	23	151	7.803	2		9	2129
48	24	100	7.813	2	2308	2	2126
48	25	50	7.856	2		9	2101
48	26	7	7.896	2	2300	2	2080
49	3	3008	7.729	2		9	2171
49	4	2900	7.735	2		9	2167
49	5	2751	7.740	2		9	2164
49	6	2500	7.741	2		9	2158

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
49	7	2250	7.741	2		9	2156
49	8	2001	7.742	3		9	2151
49	9	1800	7.740	2		9	2153
49	10	1600	7.736	3		9	2154
49	11	1400	7.730	2		9	2156
49	12	1200	7.728	2		9	2156
49	13	1000	7.725	2		9	2158
49	14	1000	7.725	2		9	2158
49	15	899	7.725	2		9	2161
49	16	800	7.716	3		9	2167
49	17	697	7.715	2		9	2170
49	18	601	7.714	2		9	2174
49	19	500	7.717	2		9	2172
49	20	400	7.732	2		9	2166
49	21	287	7.767	2		9	2152
49	22	201	7.819	2		9	2134
49	23	150	7.819	2		9	2135
49	24	100	7.830	2		9	2130
49	25	50	7.881	2		9	2103
49	26	6	7.895	2		9	2094
50	3	3210	7.729	2		9	2170
50	4	1999	7.739	2		9	2153
50	5	1000	7.728	2		9	2157
50	6	800	7.721	2		9	2164
50	7	700	7.718	2		9	2169
50	8	581	7.725	2		9	2174
50	9	500	7.724	2		9	2173
50	10	451	7.724	2		9	2170
50	11	300	7.773	2		9	2150
50	12	200	7.813	2		9	2136
50	13	161	7.831	2		9	2130
50	14	101	7.836	2		9	2126
50	15	51	7.894	2		9	2099
50	16	7	7.883	2		9	2104
51	3	3355	7.738	2		9	2164
51	4	3355	7.738	4	2312	2	2163
51	5	3000	7.739	2	2314	2	2165
51	6	2749	7.740	2	2312	2	2163
51	7	2500	7.740	2	2305	2	2156
51	8	2250	7.740	2	2305	2	2156
51	9	2000	7.738	2	2301	2	2153
51	10	1800	7.736	3	2301	2	2154
51	11	1600	7.734	3	2301	2	2154
51	12	1400	7.735	2	2300	2	2153
51	13	1200	7.729	2	2301	2	2156
51	14	1000	7.727	2	2300	2	2157
51	15	900	7.724	2	2305	2	2163

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
51	16	801	7.720	3	2307	2	2166
51	17	699	7.716	2		9	2170
51	18	601	7.709	2	2311	2	2174
51	19	500	7.719	2	2313	2	2172
51	20	400	7.732	2	2308	2	2161
51	21	300	7.762	2	2313	2	2153
51	22	200	7.816	2	2320	2	2135
51	23	149	7.822	2		9	2133
51	24	100	7.835	2	2324	2	2130
51	25	50	7.892	2		9	2099
51	26	7	7.902	2	2325	2	2098
52	3	3399	7.730	2		9	2169
52	4	2000	7.739	2		9	2152
52	5	1000	7.727	2		9	2157
52	6	900	7.724	2		9	2161
52	7	800	7.722	2		9	2163
52	8	699	7.718	2		9	2166
52	9	600	7.716	2		9	2168
52	10	500	7.713	2		9	2168
52	11	400	7.723	2		9	2161
52	12	299	7.726	2		9	2156
52	13	199	7.778	2		9	2137
52	14	151	7.792	2		9	2133
52	15	98	7.818	2		9	2120
52	16	49	7.877	2		9	2101
52	17	7	7.916	2		9	2078
53	3	3429	7.729	2		9	2170
53	4	3200	7.735	2		9	2171
53	5	3000	7.735	2		9	2170
53	6	2800	7.740	2		9	2164
53	7	2600	7.735	2		9	2161
53	8	2401	7.740	2		9	2156
53	9	2200	7.739	2		9	2155
53	10	2000	7.739	2		9	2152
53	11	1800	7.737	2		9	2153
53	12	1599	7.738	2		9	2153
53	13	1401	7.732	2		9	2155
53	14	1200	7.729	2		9	2156
53	15	1000	7.726	2		9	2158
53	16	800	7.722	2		9	2160
53	17	600	7.710	2		9	2169
53	18	469	7.718	2		9	2161
53	19	400	7.722	2		9	2162
53	20	300	7.715	2		9	2159
53	21	200	7.763	2		9	2139
53	22	101	7.796	2		9	2125
53	23	52	7.856	2		9	2099

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
53	24	52	7.855	2		9	2100
53	25	7	7.913	2		9	2074
54	3	3391	7.734	2		9	2169
54	4	1999	7.739	2		9	2152
54	5	1000	7.738	2		9	2154
54	6	901	7.724	2		9	2162
54	7	800	7.723	2		9	2162
54	8	699	7.721	2		9	2160
54	9	600	7.718	2		9	2162
54	10	500	7.711	4		9	2162
54	11	402	7.719	4		9	2165
54	12	301	7.751	4		9	2153
54	13	201	7.792	4		9	2138
54	14	151	7.798	4		9	2135
54	15	101	7.840	4		9	2122
54	16	51	7.877	4		9	2101
54	17	7	7.922	4		9	2074
55	3	3431	7.729	2	2317	2	2172
55	4	3400	7.737	2	2316	2	2168
55	5	3250	7.737	2	2326	2	2177
55	6	3000	7.735	2	2322	2	2174
55	7	2750	7.739	2	2312	2	2163
55	8	2501	7.740	2	2305	2	2156
55	9	2250	7.740	2	2303	2	2154
55	10	2000	7.738	2	2300	2	2152
55	11	1800	7.738	2	2300	2	2153
55	12	1601	7.733	2	2300	2	2154
55	13	1400	7.732	2	2301	2	2155
55	14	1186	7.722	2	2301	2	2160
55	15	1000	7.722	2	2302	2	2161
55	16	901	7.722	2	2304	2	2163
55	17	800	7.719	2	2306	2	2166
55	18	800	7.718	2		9	2166
55	19	700	7.714	2		9	2169
55	20	601	7.713	2	2310	2	2172
55	21	449	7.734	2	2312	2	2164
55	22	379	7.794	2	2315	2	2141
55	23	252	7.839	2	2322	2	2125
55	24	150	7.837	2		9	2126
55	25	100	7.840	2	2325	2	2127
55	26	49	7.887	2		9	2104
55	27	6	7.918	2	2318	2	2083
56	3	3538	7.736	2		9	2173
56	4	2000	7.736	2		9	2154
56	5	1000	7.723	2		9	2160
56	6	901	7.721	2		9	2164
56	7	800	7.717	2		9	2168

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
56	8	662	7.715	2		9	2172
56	9	601	7.715	2		9	2171
56	10	500		2		9	2173
56	12	300	7.834	2		9	2129
56	13	201	7.840	2		9	2127
56	14	150	7.835	2		9	2128
56	15	100	7.844	2		9	2123
56	16	52	7.890	2		9	2103
56	17	7	7.904	2		9	2097
57	3	3354	7.737	2		9	2178
57	4	3249	7.737	2		9	2182
57	5	2999	7.737	2		9	2178
57	6	2750	7.737	2		9	2170
57	7	2501	7.739	2		9	2161
57	8	2251	7.738	2		9	2157
57	9	2001	7.736	2		9	2155
57	10	1799	7.733	2		9	2156
57	11	1601	7.732	2		9	2156
57	12	1401	7.729	2		9	2158
57	13	1200	7.727	2		9	2159
57	14	1001	7.727	2		9	2158
57	15	901	7.721	2		9	2164
57	16	801	7.718	2		9	2168
57	17	749	7.722	2		9	2164
57	18	650	7.718	2		9	2173
57	19	501	7.720	2		9	2172
57	20	501	7.720	2		9	2172
57	21	400	7.741	2		9	2166
57	22	303	7.815	2		9	2138
57	23	201	7.831	2		9	2131
57	24	150	7.834	2		9	2130
57	25	100	7.860	2		9	2117
57	26	51	7.895	2		9	2101
57	27	7	7.902	2		9	2098
58	3	3084	7.741	2		9	2180
58	4	2800	7.738	2		9	2175
58	5	2000	7.741	3		9	2153
58	6	1000	7.726	2		9	2161
58	7	800	7.719	2		9	2169
58	8	600	7.716	2		9	2172
58	9	401	7.727	2		9	2169
58	10	300	7.751	2		9	2159
58	11	280	7.780	2		9	2147
58	12	200	7.807	2		9	2135
58	13	150	7.812	2		9	2132
58	14	101	7.804	2		9	2134
58	15	51	7.878	2		9	2105

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
58	16	7	7.899	2		9	2088
59	3	2874	7.739	2	2332	2	2182
59	4	2751	7.742	2	2325	2	2174
59	5	2500	7.741	2	2316	2	2166
59	6	2250	7.741	2	2308	2	2159
59	7	2001	7.738	2	2304	2	2156
59	8	1800	7.736	2	2302	2	2155
59	9	1600	7.734	2	2303	2	2156
59	10	1400	7.729	2	2304	2	2160
59	11	1109	7.727	2	2303	2	2160
59	12	1000	7.727	2	2301	2	2158
59	13	1000	7.728	2	2302	2	2157
59	14	901	7.724	2	2307	2	2164
59	15	701	7.720	2	2312	2	2171
59	16	600	7.712	2	2312	2	2174
59	17	500	7.712	2	2318	2	2179
59	18	400	7.718	2	2320	2	2179
59	19	300	7.731	2	2308	2	2162
59	20	243	7.768	2	2301	2	2140
59	21	151	7.794	2		9	2142
59	22	100	7.832	2	2321	2	2129
59	23	55	7.860	2		9	2111
59	24	8	7.905	2	2313	2	2086
60	3	3089	7.738	2		9	2180
60	4	2000	7.738	2		9	2156
60	5	1001	7.725	2		9	2160
60	6	903	7.723	2		9	2164
60	7	800	7.721	2		9	2166
60	8	701	7.715	2		9	2172
60	9	601	7.716	2		9	2173
60	10	501	7.715	2		9	2174
60	11	400	7.720	2		9	2175
60	12	301	7.730	2		9	2163
60	13	200	7.773	2		9	2141
60	14	152	7.790	2		9	2136
60	15	100	7.806	2		9	2134
60	16	50	7.866	2		9	2102
60	17	8	7.915	2		9	2081
61	3	2759	7.737	2		9	2170
61	4	2600	7.738	2		9	2165
61	5	2601	7.740	2		9	2164
61	6	2400	7.741	2		9	2159
61	7	2200	7.739	2		9	2157
61	8	2001	7.738	2		9	2156
61	9	1800	7.734	2		9	2156
61	10	1600	7.732	2		9	2156
61	11	1400	7.731	2		9	2158

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
61	12	1199	7.732	2		9	2156
61	13	1001	7.729	2		9	2157
61	14	800	7.724	2		9	2162
61	15	639	7.716	2		9	2168
61	16	400	7.715	2		9	2169
61	17	301	7.733	2		9	2158
61	18	193	7.771	2		9	2145
61	19	150	7.785	2		9	2144
61	20	101	7.810	2		9	2133
61	21	51	7.886	2		9	2101
61	22	7	7.973	2		9	2053
62	3	3661	7.739	2		9	2189
62	4	1998	7.738	2		9	2156
62	5	1000	7.727	2		9	2160
62	6	901	7.723	2		9	2164
62	7	701	7.721	2		9	2168
62	8	601	7.717	2		9	2172
62	9	515	7.715	2		9	2174
62	10	401	7.722	2		9	2173
62	11	299	7.748	2		9	2161
62	12	194	7.816	2		9	2133
62	13	150	7.835	2		9	2130
62	14	100	7.828	2		9	2133
62	15	52	7.883	2		9	2106
62	16	7	7.963	2		9	2064
63	3	3567	7.742	2	2338	2	2186
63	4	3501	7.739	2	2334	2	2184
63	5	3251	7.737	2	2321	2	2172
63	6	3000	7.736	2	2314	2	2168
63	7	3001	7.735	2	2316	2	2167
63	8	2751	7.737	2	2312	2	2164
63	9	2502	7.738	2	2305	2	2156
63	10	2250	7.738	2	2305	2	2157
63	11	2001	7.737	2	2304	2	2157
63	12	1801	7.736	2	2303	2	2156
63	13	1601	7.735	2	2301	2	2154
63	14	1401	7.733	2	2301	2	2156
63	15	1201	7.730	2	2302	2	2157
63	16	1001	7.725	2	2303	2	2161
63	17	902	7.723	2	2304	2	2162
63	18	801	7.720	2	2305	2	2164
63	19	701	7.717	2		9	2168
63	20	599	7.712	2	2311	2	2173
63	21	501	7.725	4	2316	2	2172
63	22	400	7.731	2	2316	2	2169
63	23	300	7.765	2	2317	2	2156
63	24	200	7.813	2	2323	2	2140

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
63	25	150	7.819	2		9	2139
63	26	101	7.857	2	2325	2	2120
63	27	51	7.900	2		9	2099
63	28	7	7.937	2	2331	2	2084
64	3	3571	7.735	2		9	2188
64	4	3501	7.735	2		9	2184
64	5	3400	7.738	2		9	2179
64	6	3199	7.736	2		9	2171
64	7	3001	7.737	2		9	2167
64	8	2801	7.737	2		9	2163
64	9	2602	7.739	2		9	2159
64	10	2601	7.739	2		9	2159
64	11	2401	7.739	2		9	2157
64	12	2201	7.737	2		9	2158
64	13	2000	7.735	2		9	2157
64	14	1800	7.737	2		9	2156
64	15	1600	7.731	2		9	2156
64	16	1401	7.728	2		9	2159
64	17	1199	7.727	2		9	2159
64	18	1000	7.725	2		9	2161
64	19	801	7.721	2		9	2166
64	20	599	7.714	2		9	2171
64	21	399	7.735	2		9	2169
64	22	297	7.773	2		9	2156
64	23	200	7.827	2		9	2133
64	24	149	7.827	2		9	2135
64	25	100	7.853	2		9	2129
64	26	71	7.889	2		9	2105
64	27	41	7.932	2		9	2083
64	28	7	7.926	2		9	2089
65	3	3669	7.737	2	2341	2	2192
65	4	3494	7.735	2	2329	2	2181
65	5	3251	7.737	2	2321	2	2172
65	6	3000	7.744	2	2316	2	2164
65	7	2749	7.741	2	2308	2	2159
65	8	2499	7.742	2	2307	2	2157
65	9	2251	7.740	2	2306	2	2157
65	10	2002	7.740	3	2303	2	2155
65	11	2002	7.733	3	2304	2	2157
65	12	1801	7.730	2	2303	2	2158
65	13	1598	7.726	2	2301	2	2158
65	14	1401	7.725	2	2303	2	2161
65	15	1201	7.724	2	2302	2	2160
65	16	1000	7.719	2	2302	2	2162
65	17	900	7.720	2	2302	2	2162
65	18	800	7.717	2	2312	2	2172
65	19	699	7.710	2	2303	2	2167

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
65	20	556	7.714	2		9	2165
65	21	499	7.725	2	2310	2	2167
65	22	402	7.782	2	2317	2	2148
65	23	300	7.834	2	2325	2	2131
65	24	200	7.837	2	2326	2	2130
65	25	150	7.843	2		9	2127
65	26	100	7.854	2	2328	2	2124
65	27	51	7.905	2		9	2101
66	3	3647	7.740	2		9	2182
66	4	3400	7.736	2		9	2174
66	5	3200	7.739	2		9	2167
66	6	2999	7.739	2		9	2163
66	7	2800	7.740	2		9	2159
66	8	2601	7.742	2		9	2155
66	9	2402	7.740	2		9	2155
66	10	2200	7.740	2		9	2153
66	11	1999	7.737	2		9	2153
66	12	1801	7.735	2		9	2154
66	13	1800	7.735	2		9	2154
66	14	1600	7.733	2		9	2156
66	15	1400	7.728	2		9	2159
66	16	1199	7.727	2		9	2159
66	17	1001	7.723	2		9	2163
66	18	741	7.716	2		9	2168
66	19	602	7.718	2		9	2169
66	20	500	7.728	2		9	2171
66	21	400	7.757	2		9	2157
66	22	302	7.826	2		9	2132
66	23	200	7.836	2		9	2129
66	24	150	7.836	2		9	2128
66	25	111	7.835	2		9	2128
66	26	50	7.901	2		9	2101
66	27	8	7.911	2		9	2100
67	3	3956	7.739	2	2346	2	2195
67	4	3749	7.736	2	2331	2	2182
67	5	3498	7.737	2	2322	2	2174
67	6	3249	7.738	2	2314	2	2165
67	7	3000	7.742	2	2309	2	2159
67	8	2750	7.742	2	2306	2	2156
67	9	2500	7.738	2	2301	2	2153
67	10	2251	7.736	2	2300	2	2153
67	11	2001	7.735	2	2298	2	2152
67	12	1801	7.733	2	2299	2	2153
67	13	1601	7.729	2	2304	2	2160
67	14	1401	7.726	2	2302	2	2160
67	15	1401	7.728	2	2303	2	2159
67	16	1200	7.721	2	2304	2	2163

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
67	17	1000	7.722	2	2310	2	2168
67	18	900	7.723	2	2314	2	2171
67	19	800	7.740	2	2333	2	2181
67	20	701	7.732	2		9	2177
67	21	560	7.726	2	2315	2	2170
67	22	500	7.739	2	2317	2	2167
67	23	400	7.768	2	2319	2	2156
67	24	300	7.816	2	2320	2	2135
67	25	200	7.839	2	2328	2	2131
67	26	150	7.844	2		9	2130
67	27	101	7.867	2	2330	2	2119
67	28	54	7.886	2		9	2113
67	29	9	8.016	2	2342	2	2048
68	3	3920	7.739	2		9	2193
68	4	3750	7.738	2		9	2187
68	5	3500	7.740	2		9	2180
68	6	3249	7.740	2		9	2173
68	7	3001	7.744	2		9	2163
68	8	2750	7.742	2		9	2159
68	9	2498	7.739	2		9	2155
68	10	2251	7.735	2		9	2155
68	11	2001	7.735	2		9	2155
68	12	1800	7.734	2		9	2154
68	13	1600	7.729	2		9	2159
68	14	1400	7.726	2		9	2163
68	15	1201	7.722	2		9	2165
68	16	1201	7.721	2		9	2166
68	17	999	7.729	2		9	2173
68	18	900	7.733	2		9	2178
68	19	800	7.746	2		9	2180
68	20	700	7.736	2		9	2171
68	21	597	7.774	2		9	2162
68	22	548	7.837	2		9	2136
68	23	401	7.851	2		9	2131
68	24	301	7.860	2		9	2127
68	25	201	7.866	4		9	2127
68	26	150	7.875	2		9	2122
68	27	100	7.891	2		9	2115
68	28	50	7.920	2		9	2101
68	29	8	8.022	2		9	2048
69	3	3290	7.740	2	2337	2	2187
69	4	3200	7.740	2	2328	2	2178
69	5	3001	7.740	2	2321	2	2171
69	6	2801	7.740	2	2316	2	2166
69	7	2600	7.741	2	2308	2	2159
69	8	2400	7.740	2	2304	2	2156
69	9	2200	7.739	2	2303	2	2155

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
69	10	2000	7.735	2	2304	2	2157
69	11	1801	7.734	2	2302	2	2156
69	12	1601	7.729	2	2303	2	2158
69	13	1401	7.726	2	2305	2	2161
69	14	1201	7.726	4	2306	2	2163
69	15	1001	7.720	2	2315	2	2173
69	16	840	7.729	2		9	2177
69	17	841	7.730	2	2323	2	2176
69	18	720	7.742	2	2322	2	2169
69	19	670	7.747	2	2327	2	2173
69	20	601	7.774	2		9	2164
69	21	540	7.798	2	2326	2	2149
69	22	401	7.845	2		9	2130
69	23	400	7.839	3	2331	2	2133
69	24	260	7.848	2	2333	2	2131
69	25	200	7.866	2	2336	2	2125
69	26	151	7.878	2		9	2120
69	27	102	7.894	2	2342	2	2115
69	28	51	7.922	2		9	2105
69	29	7	7.992	3	2351	2	2069
70	3	3982	7.738	2		9	2199
70	4	3750	7.740	2		9	2196
70	5	3500	7.737	2		9	2192
70	6	3250	7.739	3		9	2184
70	7	2999	7.741	2		9	2172
70	8	2749	7.741	2		9	2166
70	9	2501	7.741	2		9	2160
70	10	2251	7.739	2		9	2159
70	11	1951	7.737	2		9	2156
70	12	1800	7.732	2		9	2156
70	13	1601	7.730	2		9	2158
70	14	1400	7.730	2		9	2162
70	15	1201	7.728	2		9	2166
70	16	1001	7.723	2		9	2167
70	17	901	7.724	2		9	2171
70	18	751	7.735	2		9	2172
70	19	752	7.731	2		9	2173
70	20	699	7.711	2		9	2170
70	21	601	7.720	2		9	2168
70	22	500	7.735	2		9	2165
70	23	401	7.773	2		9	2152
70	24	301	7.819	2		9	2136
70	25	201	7.836	2		9	2131
70	26	152	7.853	2		9	2126
70	27	102	7.890	2		9	2110
70	28	52	7.905	2		9	2102
70	29	8	8.021	2		9	2042

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
71	3	3796	7.738	2	2353	2	2202
71	4	3600	7.740	2	2350	2	2199
71	5	3399	7.740	2	2338	2	2187
71	6	3202	7.738	2	2335	2	2185
71	7	3001	7.739	2	2324	2	2175
71	8	2799	7.739	2	2318	2	2169
71	9	2600	7.740	2	2316	2	2166
71	10	2400	7.742	2	2311	2	2161
71	11	2200	7.742	2	2311	2	2160
71	12	2002	7.739	2	2306	2	2158
71	13	1801	7.738	2	2301	2	2154
71	14	1600	7.734	2	2303	2	2157
71	15	1398	7.733	2	2304	2	2158
71	16	1199	7.731	2	2307	2	2162
71	17	1000	7.729	2	2312	2	2167
71	18	800	7.728	2	2316	2	2171
71	19	600	7.731	2	2324	2	2176
71	20	600	7.729	2	2324	2	2177
71	21	551	7.731	2		9	2172
71	22	401	7.731	2	2310	2	2164
71	23	301	7.757	2	2319	2	2161
71	24	201	7.814	2	2317	2	2133
71	25	150	7.824	2		9	2130
71	26	101	7.847	2	2325	2	2125
71	27	52	7.931	2		9	2083
71	28	7	8.009	2	2336	2	2048
72	3	4193	7.740	2		9	2203
72	4	4001	7.740	4		9	2201
72	5	3750	7.740	2		9	2200
72	6	3501	7.740	2		9	2192
72	7	3251	7.740	2		9	2183
72	8	3001	7.739	4		9	2174
72	9	2751	7.739	2		9	2166
72	10	2500	7.739	2		9	2161
72	11	2250	7.738	2		9	2159
72	12	2002	7.734	2		9	2158
72	13	1802	7.730	2		9	2156
72	14	1601	7.727	4		9	2158
72	15	1400	7.726	2		9	2159
72	16	1199	7.727	2		9	2160
72	17	1001	7.724	2		9	2163
72	18	901	7.721	2		9	2164
72	19	800	7.716	2		9	2168
72	20	700	7.721	2		9	2170
72	21	601	7.722	2		9	2170
72	22	601	7.722	2		9	2172
72	23	497	7.721	2		9	2168

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
72	24	440	7.725	2		9	2165
72	25	350	7.765	2		9	2152
72	26	201	7.810	2		9	2142
72	27	151	7.842	2		9	2130
72	28	99	7.861	2		9	2124
72	29	51	7.937	2		9	2086
72	30	8	8.057	2		9	2022
73	3	4063	7.739	2	2350	2	2199
73	4	3799	7.736	2	2348	2	2199
73	5	3799	7.736	2	2349	2	2199
73	6	3597	7.737	2	2346	2	2196
73	7	3397	7.739	2	2336	2	2186
73	8	3200	7.739	2	2328	2	2178
73	9	2988	7.740	2	2323	2	2173
73	10	2799	7.739	2	2315	2	2165
73	11	2601	7.738	2	2308	2	2160
73	12	2402	7.734	2	2305	2	2159
73	13	2200	7.734	2	2303	2	2157
73	14	2001	7.733	2	2303	2	2157
73	15	1799	7.736	2	2301	2	2154
73	16	1600	7.732	2	2301	2	2156
73	17	1400	7.727	2	2301	2	2158
73	18	1250	7.727	2	2301	2	2158
73	19	1100	7.725	2	2301	2	2159
73	20	851	7.726	2	2316	2	2172
73	21	751	7.720	2	2310	2	2168
73	22	550	7.730	2	2316	2	2169
73	23	401	7.777	2	2319	2	2152
73	24	300	7.827	2	2323	2	2133
73	25	201	7.855	2	2333	2	2127
73	26	150	7.858	2		9	2126
73	27	99	7.875	2	2337	2	2120
73	28	49	7.918	2		9	2100
73	29	8	8.048	2	2345	2	2032
74	3	4291	7.741	2		9	2201
74	4	4000	7.743	2		9	2197
74	5	3749	7.741	2		9	2196
74	6	3750	7.740	2		9	2196
74	7	3500	7.736	2		9	2192
74	8	3250	7.739	2		9	2182
74	9	3001	7.744	2		9	2174
74	10	2750	7.741	2		9	2166
74	11	2501	7.741	2		9	2159
74	12	2250	7.742	2		9	2154
74	13	2000	7.744	2		9	2153
74	14	1801	7.736	2		9	2155
74	15	1600	7.734	2		9	2156

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
74	16	1401	7.730	2		9	2159
74	17	1202	7.729	2		9	2168
74	18	1000	7.745	2		9	2176
74	19	861	7.749	2		9	2179
74	20	800	7.743	2		9	2181
74	21	656	7.748	2		9	2171
74	22	601	7.766	2		9	2166
74	23	500	7.810	2		9	2148
74	24	401	7.830	2		9	2139
74	25	300	7.865	2		9	2124
74	26	200	7.869	2		9	2125
74	27	151	7.883	2		9	2121
74	28	100	7.905	2		9	2116
74	29	54	7.921	2		9	2116
74	30	7	8.010	2		9	2069
75	3	4411	7.740	2	2355	2	2204
75	4	3999	7.742	2	2349	2	2197
75	5	3751	7.744	2	2346	2	2193
75	6	3500	7.742	2	2340	2	2188
75	7	3250	7.743	2	2333	2	2181
75	8	3000	7.743	2	2327	2	2176
75	9	2750	7.743	2	2318	2	2168
75	10	2500	7.742	2	2312	2	2162
75	11	2235	7.740	2	2305	2	2156
75	12	2000	7.738	2	2305	2	2157
75	13	1800	7.738	2	2304	2	2156
75	14	1600	7.733	2	2305	2	2158
75	15	1400	7.733	2	2309	2	2163
75	16	1198	7.734	2	2318	2	2170
75	17	961	7.740	2	2334	2	2181
75	18	900	7.726	2	2321	2	2176
75	19	800	7.736	2	2329	2	2179
75	20	700	7.731	2		9	2176
75	21	600	7.745	2	2323	2	2169
75	22	500	7.776	4	2324	2	2156
75	23	500	7.778	2		9	2156
75	24	400	7.815	2	2328	2	2142
75	25	300	7.845	2	2333	2	2132
75	26	199	7.866	2	2338	2	2126
75	27	150	7.882	2		9	2118
75	28	101	7.898	2	2344	2	2114
75	29	50	7.944	2		9	2103
75	30	8	8.020	2	2370	2	2070
76	3	4134	7.741	2		9	2200
76	4	3999	7.741	3		9	2199
76	5	3749	7.741	2		9	2197
76	6	3500	7.743	2		9	2191

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
76	7	3500	7.743	2		9	2191
76	8	3251	7.744	2		9	2184
76	9	3000	7.744	2		9	2176
76	10	2751	7.741	2		9	2170
76	11	2500	7.743	2		9	2162
76	12	2249	7.743	2		9	2157
76	13	2000	7.741	2		9	2155
76	14	1801	7.740	2		9	2157
76	15	1600	7.738	2		9	2155
76	16	1399	7.731	2		9	2162
76	17	1201	7.729	2		9	2168
76	18	1000	7.737	2		9	2176
76	19	900	7.726	2		9	2173
76	20	800	7.725	2		9	2177
76	21	700	7.734	2		9	2174
76	22	601	7.735	2		9	2171
76	23	500	7.756	2		9	2164
76	24	400	7.790	2		9	2151
76	25	301	7.829	2		9	2139
76	26	200	7.855	4		9	2132
76	27	150	7.877	2		9	2121
76	28	101	7.887	2		9	2118
76	29	54	7.946	2		9	2096
76	30	10	8.022	2		9	2060
77	3	4413	7.743	2	2355	2	2202
77	4	3998	7.743	2	2353	2	2200
77	5	3750	7.742	2	2351	2	2199
77	6	3500	7.743	2	2347	2	2194
77	7	3251	7.746	2	2339	2	2186
77	8	3000	7.744	2	2328	2	2178
77	9	3001	7.744	2	2330	2	2176
77	10	2751	7.747	2	2322	2	2170
77	11	2499	7.743	2	2314	2	2163
77	12	2249	7.743	2	2309	2	2159
77	13	1999	7.743	2	2304	2	2154
77	14	1801	7.739	2	2308	2	2159
77	15	1600	7.735	2	2304	2	2157
77	16	1400	7.733	2	2308	2	2162
77	17	1199	7.730	2	2313	2	2167
77	18	999	7.740	2	2327	2	2175
77	19	899	7.742	2		9	2176
77	20	785	7.746	2	2335	2	2179
77	21	700	7.734	2		9	2173
77	22	600	7.740	2	2320	2	2169
77	23	500	7.770	2	2325	2	2160
77	24	400	7.814	2	2330	2	2144
77	25	301	7.850	2	2336	2	2132

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
77	26	200	7.869	2	2341	2	2127
77	27	150	7.875	2		9	2124
77	28	98	7.892	2	2344	2	2118
77	29	51	7.941	2		9	2096
77	30	7	8.025	2	2358	2	2054
78	3	4526	7.741	2		9	2205
78	4	4401	7.740	2		9	2204
78	5	4201	7.741	2		9	2203
78	6	4002	7.739	2		9	2203
78	7	3802	7.740	2		9	2200
78	8	3602	7.741	2		9	2197
78	9	3401	7.740	2		9	2193
78	10	3002	7.741	2		9	2179
78	11	2800	7.741	2		9	2173
78	12	2600	7.741	2		9	2167
78	13	2400	7.744	2		9	2160
78	14	2200	7.740	2		9	2158
78	15	2000	7.735	2		9	2158
78	16	1800	7.735	2		9	2159
78	17	1600	7.732	2		9	2159
78	18	1400	7.728	2		9	2163
78	19	1200	7.733	2		9	2168
78	20	1000	7.735	2		9	2178
78	21	801	7.746	2		9	2177
78	22	602	7.755	2		9	2169
78	23	400	7.812	2		9	2146
78	24	301	7.855	2		9	2131
78	25	301	7.855	2		9	2131
78	26	201	7.866	2		9	2130
78	27	151	7.875	2		9	2135
78	28	100	7.903	2		9	2125
78	29	52	7.913	2		9	2122
78	30	7	8.014	2		9	2066
79	3	4422	7.743	2	2355	2	2203
79	4	4000	7.741	2	2354	2	2202
79	5	3753	7.740	2	2350	2	2199
79	6	3502	7.739	2	2346	2	2196
79	7	3252	7.739	2	2339	2	2188
79	8	3000	7.742	2	2329	2	2178
79	9	2750	7.742	2	2320	2	2171
79	10	2751	7.742	2	2322	2	2169
79	11	2500	7.740	2	2312	2	2163
79	12	2252	7.739	2	2306	2	2158
79	13	2001	7.738	2	2306	2	2157
79	14	1800	7.737	2	2304	2	2157
79	15	1600	7.731	2	2305	2	2159
79	16	1399	7.731	2	2307	2	2162

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
79	17	1200	7.730	2	2313	2	2167
79	18	1000	7.738	2	2329	2	2177
79	19	899	7.743	2		9	2178
79	20	830	7.750	2	2336	2	2179
79	21	730	7.734	2		9	2174
79	22	600	7.742	2	2326	2	2173
79	23	500	7.766	2	2324	2	2161
79	24	399	7.808	2	2330	2	2147
79	25	300	7.854	2	2334	2	2129
79	26	199	7.862	2	2338	2	2128
79	27	151	7.862	2		9	2144
79	28	100	7.882	2		9	2135
79	29	50	7.916	2		9	2122
79	30	8	8.008	2		9	2075
80	3	4571	7.741	2		9	2206
80	4	4245	7.736	2		9	2205
80	5	4002	7.737	3		9	2202
80	6	3800	7.736	2		9	2200
80	7	3602	7.743	2		9	2193
80	8	3402	7.738	2		9	2191
80	9	3200	7.739	2		9	2185
80	10	3001	7.735	2		9	2180
80	11	2999	7.733	2		9	2181
80	12	2800	7.730	2		9	2175
80	13	2599	7.731	2		9	2169
80	14	2400	7.732	2		9	2163
80	15	2202	7.731	2		9	2160
80	16	2001	7.729	2		9	2161
80	17	1800	7.728	2		9	2161
80	18	1600	7.726	2		9	2162
80	19	1399	7.720	2		9	2168
80	20	1199	7.722	2		9	2172
80	21	1000	7.738	2		9	2180
80	22	780	7.728	2		9	2178
80	23	650	7.738	2		9	2173
80	24	441	7.830	2		9	2141
80	25	321	7.838	2		9	2138
80	26	201	7.857	2		9	2134
80	27	140	7.861	2		9	2140
80	28	95	7.887	2		9	2129
80	29	53	7.936	2		9	2105
80	30	8	7.994	2		9	2075
81	3	4460	7.740	3	2357	2	2205
81	4	3999	7.741	3	2351	2	2200
81	5	3998	7.740	3	2353	2	2201
81	6	3751	7.738	3	2347	2	2197
81	7	3499	7.738	3	2341	2	2191

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
81	8	3248	7.739	2	2335	2	2185
81	9	3000	7.740	3	2327	2	2176
81	10	2749	7.739	2	2316	2	2167
81	11	2500	7.739	2	2310	2	2161
81	12	2248	7.737	2	2304	2	2157
81	13	2002	7.729	2	2304	2	2160
81	14	1800	7.727	3	2306	2	2162
81	15	1601	7.723	2	2306	2	2164
81	16	1400	7.724	2	2313	2	2170
81	17	1201	7.726	2	2323	2	2178
81	18	1028	7.728	2	2326	2	2180
81	19	898	7.722	2		9	2179
81	20	801	7.720	2	2318	2	2176
81	21	697	7.758	2		9	2168
81	22	601	7.779	2	2329	2	2159
81	23	501	7.812	2	2335	2	2150
81	24	399	7.845	2	2340	2	2138
81	25	300	7.854	2	2344	2	2137
81	26	200	7.882	2	2349	2	2127
81	27	150	7.898	2		9	2121
81	28	101	7.908	2	2354	2	2117
81	29	50	7.927	2		9	2108
81	30	8	7.999	2	2361	2	2072
82	3	4591	7.740	3		9	2206
82	4	4301	7.741	3		9	2202
82	5	3999	7.739	3		9	2200
82	6	3801	7.739	3		9	2198
82	7	3600	7.740	3		9	2193
82	8	3394	7.737	3		9	2189
82	9	3201	7.738	3		9	2182
82	10	2997	7.738	3		9	2175
82	11	2799	7.735	3		9	2169
82	12	2600	7.740	3		9	2161
82	13	2401	7.735	2		9	2159
82	14	2204	7.736	2		9	2156
82	15	2001	7.731	2		9	2158
82	16	1802	7.725	2		9	2162
82	17	1601	7.725	2		9	2165
82	18	1400	7.724	2		9	2173
82	19	1182	7.729	2		9	2179
82	20	1060	7.736	3		9	2181
82	21	1002	7.718	2		9	2177
82	22	801	7.763	2		9	2168
82	23	602	7.836	2		9	2138
82	24	400	7.870	2		9	2128
82	25	250	7.905	2		9	2116
82	26	150	7.906	2		9	2116

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
82	27	101	7.920	2		9	2110
82	28	57	7.938	2		9	2101
82	29	56	7.941	2		9	2100
82	30	12	8.013	2		9	2065
83	3	4687	7.740	2	2357	2	2206
83	4	4500	7.741	2	2355	2	2203
83	5	4001	7.739	2	2350	2	2199
83	6	3751	7.740	3	2349	2	2198
83	7	3499	7.742	4	2341	2	2190
83	8	3248	7.745	2	2331	2	2178
83	9	3001	7.743	2	2322	2	2170
83	10	2748	7.741	2	2314	2	2164
83	11	2499	7.741	2	2306	2	2156
83	12	2252	7.739	2	2301	2	2153
83	13	2001	7.736	2	2302	2	2155
83	14	1800	7.736	2	2303	2	2155
83	15	1602	7.734	2	2305	2	2159
83	16	1401	7.734	2	2310	2	2163
83	17	1201	7.727	2	2317	2	2172
83	18	1001	7.741	2	2329	2	2176
83	19	900	7.753	2		9	2175
83	20	780	7.766	2	2327	2	2163
83	21	700	7.801	2		9	2149
83	22	600	7.836	2	2333	2	2136
83	23	502	7.861	2	2339	2	2129
83	24	401	7.874	2	2342	2	2125
83	25	299	7.900	2	2346	2	2115
83	26	201	7.911	2	2349	2	2112
83	27	150	7.911	2		9	2112
83	28	101	7.917	2	2351	2	2111
83	29	51	7.948	2		9	2096
83	30	9	8.021	2	2360	2	2059
84	3	4589	7.741	2		9	2204
84	4	4301	7.739	2		9	2202
84	5	4000	7.739	2		9	2200
84	6	3800	7.740	2		9	2199
84	7	3803	7.740	2		9	2198
84	8	3599	7.740	2		9	2194
84	9	3400	7.741	2		9	2188
84	10	3201	7.740	2		9	2182
84	11	3001	7.740	2		9	2175
84	12	2800	7.739	2		9	2169
84	13	2600	7.739	2		9	2163
84	14	2399	7.743	2		9	2156
84	15	2202	7.736	2		9	2156
84	16	2001	7.732	2		9	2157
84	17	1798	7.729	2		9	2158

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
84	18	1590	7.728	2		9	2160
84	19	1387	7.721	2		9	2167
84	20	1152	7.722	2		9	2170
84	21	1000	7.732	2		9	2175
84	22	872	7.742	2		9	2177
84	23	601	7.802	2		9	2152
84	24	401	7.847	2		9	2134
84	25	301	7.864	2		9	2129
84	26	201	7.890	2		9	2119
84	27	153	7.896	2		9	2119
84	28	99	7.909	2		9	2115
84	29	46	7.956	2		9	2091
84	30	13	8.014	2		9	2063
85	3	4643	7.738	2	2356	2	2205
85	4	4501	7.735	2	2354	2	2204
85	5	4000	7.736	2	2353	2	2203
85	6	3751	7.737	2	2350	2	2200
85	7	3500	7.738	2	2344	2	2194
85	8	3248	7.737	2	2338	2	2188
85	9	2999	7.739	2	2328	2	2178
85	10	2751	7.738	2	2320	2	2171
85	11	2500	7.736	2	2311	2	2163
85	12	2252	7.734	2	2306	2	2159
85	13	2000	7.731	2	2303	2	2158
85	14	1799	7.728	2	2302	2	2158
85	15	1600	7.726	2	2304	2	2161
85	16	1400	7.724	2	2306	2	2164
85	17	1203	7.723	2	2312	2	2169
85	18	1037	7.733	2	2323	2	2175
85	19	900	7.735	2		9	2178
85	20	800	7.734	2	2330	2	2181
85	21	701	7.747	2		9	2176
85	22	620	7.758	2	2328	2	2169
85	23	500	7.803	2	2328	2	2147
85	24	380	7.834	2	2334	2	2138
85	25	300	7.853	2	2338	2	2132
85	26	200	7.879	2	2342	2	2123
85	27	148	7.881	2		9	2122
85	28	101	7.897	2	2347	2	2118
85	29	49	7.921	2		9	2105
85	30	9	8.008	2	2354	2	2061
86	3	4747	7.742	2		9	2204
86	4	4301	7.741	2		9	2201
86	5	3997	7.743	4		9	2199
86	6	3800	7.742	2		9	2197
86	7	3600	7.743	4		9	2193
86	8	3402	7.744	2		9	2188

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
86	9	3201	7.745	2		9	2182
86	10	2998	7.743	2		9	2177
86	11	2799	7.745	2		9	2170
86	12	2598	7.746	2		9	2163
86	13	2400	7.746	2		9	2158
86	14	2199	7.741	2		9	2157
86	15	2001	7.739	2		9	2154
86	16	1800	7.738	4		9	2155
86	17	1799	7.739	2		9	2155
86	18	1600	7.732	2		9	2159
86	19	1353	7.730	2		9	2166
86	20	1099	7.758	2		9	2178
86	21	999	7.755	2		9	2179
86	22	801	7.732	2		9	2176
86	23	668	7.766	2		9	2170
86	24	550	7.804	2		9	2148
86	25	397	7.854	2		9	2130
86	26	302	7.877	2		9	2123
86	27	199	7.892	2		9	2116
86	28	103	7.913	2		9	2109
86	29	52	7.951	2		9	2091
86	30	9	8.016	2		9	2060
87	3	4919	7.738	2	2358	2	2207
87	4	4502	7.739	2	2354	2	2203
87	5	3999	7.740	2	2350	2	2199
87	6	3750	7.741	2	2348	2	2196
87	7	3501	7.742	2	2342	2	2191
87	8	3248	7.742	2	2335	2	2184
87	9	2999	7.747	2	2330	2	2177
87	10	2749	7.747	2	2321	2	2169
87	11	2499	7.744	2	2313	2	2162
87	12	2249	7.742	2	2309	2	2159
87	13	2001	7.740	2	2304	2	2155
87	14	1801	7.734	2	2307	2	2160
87	15	1598	7.736	2	2313	2	2164
87	16	1435	7.739	2	2322	2	2171
87	17	1201	7.767	2	2355	2	2188
87	18	1065	7.777	2	2366	2	2193
87	19	997	7.778	2		9	2186
87	20	921	7.772	2		9	2183
87	21	800	7.771	2	2345	2	2177
87	22	700	7.779	2		9	2168
87	23	597	7.797	2	2334	2	2155
87	24	500	7.814	2	2334	2	2147
87	25	401	7.837	2	2338	2	2139
87	26	201	7.893	2	2348	2	2120
87	27	148	7.915	2		9	2112

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
87	28	98	7.923	2	2355	2	2110
87	29	51	7.938	2		9	2102
87	30	8	8.010	2	2363	2	2067
88	3	4961	7.743	2		9	2207
88	4	4500	7.743	2		9	2201
88	5	4000	7.742	2		9	2197
88	6	3750	7.742	2		9	2195
88	7	3501	7.746	2		9	2190
88	8	3251	7.745	2		9	2186
88	9	3000	7.746	2		9	2180
88	10	2752	7.748	2		9	2171
88	11	2500	7.742	2		9	2166
88	12	2252	7.745	2		9	2158
88	13	2000	7.745	2		9	2156
88	14	1800	7.740	2		9	2159
88	15	1499	7.734	2		9	2166
88	16	1401	7.737	2		9	2169
88	17	1200	7.773	2		9	2184
88	18	1017	7.771	2		9	2183
88	19	901	7.770	2		9	2180
88	20	798	7.762	2		9	2173
88	21	702	7.776	2		9	2163
88	22	602	7.806	4		9	2148
88	23	601	7.808	4		9	2146
88	24	400	7.862	2		9	2128
88	25	300	7.880	2		9	2125
88	26	201	7.912	2		9	2112
88	27	151	7.914	2		9	2112
88	28	100	7.920	2		9	2110
88	29	50	7.953	2		9	2092
88	30	8	8.018	2		9	2063
89	3	4645	7.740	2		9	2205
89	4	4150	7.741	4		9	2199
89	5	3752	7.741	2		9	2195
89	6	3502	7.743	2		9	2191
89	7	3251	7.743	2		9	2188
89	8	3000	7.745	2		9	2182
89	9	2700	7.746	2		9	2172
89	10	2545	7.746	2		9	2167
89	11	2249	7.742	2		9	2159
89	12	2050	7.749	2		9	2155
89	13	1850	7.736	2		9	2159
89	14	1602	7.731	2		9	2162
89	15	1401	7.729	2		9	2168
89	16	1201	7.742	2		9	2179
89	17	1000	7.770	2		9	2185
89	18	901	7.754	2		9	2178

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
89	19	802	7.753	2		9	2171
89	20	729	7.764	2		9	2164
89	21	601	7.802	2		9	2149
89	22	471	7.864	2		9	2127
89	23	401	7.861	2		9	2129
89	24	293	7.868	2		9	2127
89	25	293	7.870	2		9	2126
89	26	201	7.894	2		9	2121
89	27	151	7.900	2		9	2118
89	28	102	7.913	2		9	2113
89	29	51	7.941	2		9	2099
89	30	9	8.013	2		9	2065
90	5	3250	7.743	2	2341	2	2189
90	6	3000	7.745	2	2336	2	2183
90	7	2800	7.745	2	2328	2	2176
90	8	2601	7.746	2	2323	2	2170
90	9	2400	7.745	2	2318	2	2166
90	10	2201	7.741	2	2309	2	2159
90	11	2201	7.743	2	2310	2	2160
90	12	2000	7.742	2	2310	2	2159
90	13	1800	7.743	2	2311	2	2161
90	14	1601	7.737	2	2313	2	2165
90	15	1400	7.733	2	2314	2	2167
90	16	1199	7.741	2	2328	2	2176
90	17	1071	7.754	2	2345	2	2185
90	18	981	7.758	2	2345	2	2183
90	19	875	7.753	2		9	2174
90	20	800	7.749	2	2326	2	2170
90	21	602	7.800	2	2329	2	2150
90	22	402	7.866	2	2341	2	2128
90	23	301	7.878	2	2345	2	2126
90	24	202	7.899	2	2350	2	2119
90	25	151	7.908	2		9	2115
90	26	101	7.913	2	2353	2	2114
90	27	41	8.003	2		9	2066
90	28	8	8.004	2	2362	2	2070
91	3	4062	7.743	4		9	2199
91	4	3750	7.743	2		9	2197
91	5	3500	7.743	2		9	2194
91	6	3249	7.744	2		9	2190
91	7	2999	7.746	2		9	2185
91	8	2749	7.744	2		9	2177
91	9	2499	7.748	2		9	2170
91	10	2247	7.745	2		9	2163
91	11	2001	7.741	2		9	2162
91	12	1799	7.742	2		9	2161
91	13	1600	7.745	2		9	2166

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
91	14	1600	7.744	2		9	2167
91	15	1401	7.754	2		9	2175
91	16	1239	7.772	2		9	2183
91	17	1149	7.747	2		9	2181
91	18	970	7.775	2		9	2181
91	19	879	7.773	2		9	2179
91	20	800	7.777	2		9	2173
91	21	700	7.785	2		9	2166
91	22	600	7.804	2		9	2153
91	23	500	7.833	2		9	2141
91	24	399	7.845	2		9	2138
91	25	300	7.885	2		9	2122
91	26	200	7.903	2		9	2116
91	27	150	7.912	2		9	2113
91	28	101	7.928	2		9	2107
91	29	50	7.962	2		9	2087
91	30	7	8.017	2		9	2063
92	3	4236	7.745	2	2355	2	2202
92	4	4000	7.743	2	2353	2	2201
92	5	3799	7.745	2	2353	2	2200
92	6	3599	7.742	2	2351	2	2199
92	7	3400	7.742	2	2347	2	2195
92	8	3202	7.746	2	2344	2	2190
92	9	2999	7.745	2	2341	2	2188
92	10	2800	7.745	2	2334	2	2181
92	11	2600	7.750	2	2327	2	2173
92	12	2400	7.748	2	2325	2	2171
92	13	2199	7.748	2	2318	2	2164
92	14	2000	7.724	2	2314	2	2171
92	15	1800	7.736	2	2308	2	2159
92	16	1800	7.736	2	2307	2	2160
92	17	1601	7.736	2	2314	2	2165
92	18	1399	7.744	2	2328	2	2175
92	19	1201	7.765	2		9	2185
92	20	1099	7.784	2		9	2190
92	21	1000	7.790	2	2370	2	2190
92	22	800	7.782	2	2353	2	2179
92	23	590	7.796	2	2337	2	2159
92	24	392	7.829	2	2338	2	2144
92	25	292	7.865	2	2342	2	2129
92	26	193	7.885	2	2347	2	2123
92	27	132	7.912	2		9	2113
92	28	93	7.925	2	2353	2	2108
92	29	44	7.976	2		9	2080
92	30	0	8.000	2	2363	2	2073
93	3	5216	7.741	2	2360	2	2209
93	4	4501	7.743	2	2356	2	2203

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
93	5	4001	7.744	2	2353	2	2200
93	6	3750	7.742	2	2352	2	2200
93	7	3500	7.742	2	2350	2	2197
93	8	3250	7.741	2	2345	2	2194
93	9	3000	7.745	2	2337	2	2184
93	10	2751	7.747	2	2335	2	2182
93	11	2500	7.746	2	2326	2	2173
93	12	2251	7.746	2	2321	2	2168
93	13	2001	7.749	2	2316	2	2163
93	14	1801	7.744	2	2316	2	2165
93	15	1602	7.739	2	2317	2	2167
93	16	1400	7.750	2	2335	2	2178
93	17	1100	7.781	2	2367	2	2192
93	18	1002	7.777	2	2363	2	2190
93	19	872	7.759	2		9	2183
93	20	780	7.770	2	2345	2	2178
93	21	699	7.772	2		9	2171
93	22	596	7.795	2	2335	2	2158
93	23	501	7.814	2	2335	2	2149
93	24	401	7.840	2	2339	2	2139
93	25	302	7.871	2	2345	2	2129
93	26	202	7.882	2	2347	2	2125
93	27	150	7.909	2		9	2113
93	28	100	7.928	2	2352	2	2105
93	29	51	8.000	2		9	2066
93	30	7	8.004	2	2363	2	2071
94	3	4995	7.746	2		9	2204
94	4	4599	7.745	2		9	2203
94	5	4300	7.745	2		9	2201
94	6	3898	7.744	2		9	2199
94	7	3600	7.745	2		9	2197
94	8	3400	7.748	2		9	2193
94	9	3200	7.747	2		9	2190
94	10	3000	7.745	2		9	2185
94	11	2799	7.746	2		9	2183
94	12	2600	7.751	2		9	2175
94	13	2399	7.749	2		9	2170
94	14	2200	7.747	2		9	2166
94	15	2000	7.746	2		9	2163
94	16	1801	7.745	2		9	2164
94	17	1601	7.746	2		9	2170
94	18	1400	7.756	2		9	2179
94	19	1201	7.770	2		9	2188
94	20	910	7.786	2		9	2189
94	21	840	7.785	2		9	2183
94	22	601	7.785	2		9	2166
94	23	601	7.788	2		9	2165

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
94	24	400	7.830	2		9	2144
94	25	301	7.856	2		9	2136
94	26	200	7.912	2		9	2110
94	27	111	7.925	2		9	2108
94	28	53	7.982	2		9	2077
94	29	9	7.993	2		9	2078
95	3	4266	7.746	2		9	2201
95	4	4000	7.745	2		9	2199
95	5	4000	7.744	2		9	2200
95	6	3750	7.744	2		9	2199
95	7	3500	7.746	2		9	2195
95	8	3250	7.746	2		9	2191
95	9	3001	7.746	2		9	2185
95	10	2750	7.749	2		9	2182
95	11	2500	7.747	2		9	2174
95	12	2251	7.748	2		9	2166
95	13	2001	7.746	2		9	2162
95	14	1801	7.745	4		9	2163
95	15	1601	7.744	2		9	2171
95	16	1401	7.744	2		9	2181
95	17	1200	7.774	2		9	2190
95	18	975	7.794	2		9	2188
95	19	902	7.779	2		9	2187
95	20	800	7.782	2		9	2181
95	21	701	7.778	2		9	2175
95	22	601	7.789	2		9	2164
95	23	500	7.807	2		9	2153
95	24	401	7.828	2		9	2145
95	25	300	7.858	2		9	2134
95	26	200	7.887	2		9	2124
95	27	151	7.919	2		9	2110
95	28	101	7.926	2		9	2108
95	29	50	7.963	2		9	2087
95	30	6	7.992	2		9	2079
96	3	4171	7.744	2		9	2201
96	4	3700	7.743	2		9	2198
96	5	3399	7.743	2		9	2194
96	6	3200	7.745	2		9	2190
96	7	3000	7.746	2		9	2186
96	8	2798	7.746	2		9	2183
96	9	2600	7.747	2		9	2178
96	10	2400	7.747	2		9	2171
96	11	2199	7.748	2		9	2164
96	12	2000	7.743	2		9	2161
96	13	1801	7.739	2		9	2162
96	14	1600	7.739	2		9	2170
96	15	1400	7.757	2		9	2182

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
96	16	1250	7.769	2		9	2188
96	17	1100	7.780	2		9	2193
96	18	950	7.781	2		9	2189
96	19	799	7.783	2		9	2182
96	20	600	7.785	2		9	2167
96	21	400	7.822	2		9	2146
96	22	300	7.849	2		9	2135
96	23	201	7.900	2		9	2118
96	24	149	7.920	2		9	2110
96	25	100		9		9	2103
96	26	100		9		9	2102
96	27	50	7.977	2		9	2077
96	28	10	7.995	2		9	2077
97	3	5083	7.746	2	2358	2	2204
97	4	4499	7.743	2	2356	2	2203
97	5	4000	7.744	2	2353	2	2200
97	6	3751	7.745	2	2351	2	2197
97	7	3750	7.743	2	2350	2	2198
97	8	3252	7.744	2	2344	2	2191
97	9	3001	7.743	2	2340	2	2188
97	10	2749	7.746	2	2336	2	2183
97	11	2500	7.745	2	2328	2	2176
97	12	2250	7.744	2	2318	2	2167
97	13	2000	7.744	2	2311	2	2160
97	14	1801	7.737	2	2312	2	2163
97	15	1600	7.741	2	2322	2	2171
97	16	1401	7.753	2	2341	2	2182
97	17	1201	7.768	2	2359	2	2192
97	18	1094	7.777	2		9	2191
97	19	950	7.782	2	2366	2	2190
97	20	801	7.778	2	2356	2	2183
97	21	700	7.780	2		9	2176
97	22	601	7.787	2	2341	2	2166
97	23	499	7.803	2	2337	2	2155
97	24	400	7.826	2	2338	2	2145
97	25	300	7.848	2	2339	2	2136
97	26	200	7.867	2	2347	2	2133
97	27	151	7.905	2		9	2117
97	28	101	7.924	2	2354	2	2109
97	29	55	7.946	2		9	2095
97	30	10	7.993	2	2362	2	2077
98	3	4972	7.748	2		9	2202
98	4	4502	7.745	2		9	2201
98	5	4001	7.745	2		9	2199
98	6	3750	7.744	2		9	2196
98	7	3501	7.745	2		9	2193
98	8	3251	7.744	2		9	2190

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
98	9	3002	7.745	2		9	2186
98	10	2751	7.748	2		9	2181
98	11	2499	7.746	2		9	2175
98	12	2251	7.748	2		9	2166
98	13	2001	7.744	2		9	2160
98	14	1801	7.745	2		9	2163
98	15	1600	7.749	2		9	2170
98	16	1400	7.753	2		9	2181
98	17	1200	7.772	2		9	2191
98	18	981	7.788	2		9	2192
98	19	871	7.774	2		9	2186
98	20	780	7.760	2		9	2181
98	21	700	7.777	2		9	2172
98	22	601	7.797	2		9	2157
98	23	500	7.826	2		9	2144
98	24	400	7.862	2		9	2130
98	25	299	7.881	2		9	2122
98	26	200	7.904	2		9	2116
98	27	138	7.918	2		9	2110
98	28	98	7.924	2		9	2108
98	29	51	7.937	2		9	2101
98	30	7	8.009	2		9	2070
99	3	5402	7.744	2		9	2206
99	4	4800	7.745	2		9	2201
99	5	4500	7.746	2		9	2200
99	6	4200	7.743	2		9	2199
99	7	3900	7.743	2		9	2197
99	8	3601	7.743	2		9	2194
99	9	3298	7.748	2		9	2188
99	10	3001	7.748	2		9	2184
99	11	2700	7.755	2		9	2175
99	12	2400	7.749	2		9	2169
99	13	2199	7.748	2		9	2163
99	14	1999	7.744	2		9	2162
99	15	1801	7.743	2		9	2164
99	16	1601	7.745	2		9	2172
99	17	1400	7.759	2		9	2182
99	18	1200	7.778	2		9	2192
99	19	1009	7.785	2		9	2190
99	20	879	7.785	2		9	2185
99	21	801	7.782	2		9	2179
99	22	602	7.790	2		9	2163
99	23	501	7.817	2		9	2149
99	24	350	7.855	2		9	2134
99	25	201	7.898	2		9	2118
99	26	151	7.907	2		9	2115
99	27	105	7.923	2		9	2108

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
99	28	52	7.971	2		9	2080
99	29	52	7.965	2		9	2083
99	30	8	7.997	2		9	2075
100	3	5428	7.744	2	2357	2	2204
100	4	4984	7.746	3	2353	2	2199
100	5	4501	7.744	3	2351	2	2198
100	6	4001	7.742	2	2348	2	2196
100	7	3501	7.750	2	2344	2	2189
100	8	3250	7.749	2	2340	2	2185
100	9	3002	7.748	2	2336	2	2182
100	10	2750	7.749	2	2332	2	2177
100	11	2500	7.750	2	2325	2	2170
100	12	2282	7.749	2	2319	2	2166
100	13	2131	7.749	2	2314	2	2160
100	14	2000	7.739	2	2315	2	2165
100	15	1801	7.747	2	2316	2	2163
100	16	1602	7.751	2	2328	2	2171
100	17	1399	7.764	2	2347	2	2182
100	18	1185	7.787	2	2373	2	2195
100	19	1042	7.789	2	2369	2	2190
100	20	901	7.787	2		9	2184
100	21	761	7.785	2	2352	2	2177
100	22	701	7.787	2		9	2170
100	23	600	7.796	2	2336	2	2157
100	24	521	7.825	2	2335	2	2143
100	25	291	7.892	2	2344	2	2118
100	26	201	7.895	2	2348	2	2119
100	27	151	7.911	2		9	2112
100	28	101	7.918	2	2350	2	2109
100	29	51	7.953	2		9	2089
100	30	9	7.989	2	2360	2	2078
101	3	5434	7.748	2		9	2200
101	4	5000	7.748	2		9	2198
101	5	4701	7.749	2		9	2196
101	6	4399	7.744	2		9	2197
101	7	4101	7.746	2		9	2195
101	8	3799	7.747	2		9	2192
101	9	3500	7.748	2		9	2190
101	10	3199	7.748	2		9	2185
101	11	3001	7.750	2		9	2181
101	12	2799	7.748	2		9	2179
101	13	2601	7.748	2		9	2175
101	14	2402	7.752	2		9	2169
101	15	2200	7.746	2		9	2167
101	16	1999	7.747	2		9	2164
101	17	1799	7.746	2		9	2166
101	18	1601	7.757	2		9	2175

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
101	19	1400	7.777	2		9	2183
101	20	1151	7.793	2		9	2196
101	21	1001	7.797	2		9	2191
101	22	750	7.794	2		9	2180
101	23	550	7.799	2		9	2156
101	24	401	7.830	2		9	2142
101	25	301	7.892	2		9	2115
101	26	201	7.889	2		9	2121
101	27	144	7.910	2		9	2112
101	28	110	7.920	3		9	2109
101	29	54	7.956	2		9	2088
101	30	8	7.994	2		9	2077
102	3	5440	7.747	2	2353	2	2199
102	4	5000	7.746	2	2353	2	2199
102	5	4499	7.748	2	2350	2	2195
102	6	4000	7.747	2	2348	2	2194
102	7	3500	7.746	2	2343	2	2190
102	8	3251	7.747	2	2339	2	2185
102	9	3001	7.749	2	2336	2	2181
102	10	2749	7.749	2	2332	2	2177
102	11	2501	7.751	2	2327	2	2172
102	12	2250	7.753	2	2324	2	2168
102	13	2002	7.754	2	2322	2	2165
102	14	1801	7.761	2	2336	2	2174
102	15	1601	7.776	2	2357	2	2186
102	16	1402	7.789	2	2370	2	2192
102	17	1179	7.797	2	2380	2	2196
102	18	1100	7.787	2	2369	2	2191
102	19	1002	7.792	2	2373	2	2192
102	20	900	7.795	2		9	2187
102	21	800	7.795	2	2362	2	2181
102	22	650	7.785	2		9	2171
102	23	501	7.814	2	2339	2	2152
102	24	402	7.831	2	2337	2	2141
102	25	300	7.853	2	2341	2	2135
102	26	200	7.886	2	2347	2	2123
102	27	150	7.906	2		9	2115
102	28	99	7.930	2	2355	2	2106
102	29	51	7.956	2		9	2091
102	30	8	8.001	2	2363	2	2073
103	3	5444	7.748	2		9	2198
103	4	4693	7.748	2		9	2197
103	5	4394	7.747	2		9	2196
103	6	4101	7.746	2		9	2196
103	7	3801	7.747	2		9	2193
103	8	3601	7.746	2		9	2191
103	9	3400	7.748	4		9	2188

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
103	10	3196	7.750	2		9	2184
103	11	3001	7.749	2		9	2181
103	12	2800	7.750	2		9	2178
103	13	2600	7.750	2		9	2174
103	14	2401	7.752	2		9	2170
103	15	2200	7.752	2		9	2167
103	16	2000	7.754	2		9	2162
103	17	1801	7.752	2		9	2170
103	18	1600	7.757	2		9	2174
103	19	1400	7.778	2		9	2188
103	20	1211	7.803	2		9	2196
103	21	1000	7.795	2		9	2195
103	22	800	7.797	2		9	2183
103	23	600	7.796	2		9	2164
103	24	401	7.831	2		9	2143
103	25	300	7.853	2		9	2136
103	26	201	7.902	2		9	2115
103	27	151	7.924	2		9	2110
103	28	105	7.940	2		9	2106
103	29	53	7.975	2		9	2086
103	30	9	8.009	2		9	2072
104	3	5433	7.749	2	2352	2	2196
104	4	5000	7.749	4	2352	2	2198
104	5	4498	7.749	4	2350	2	2195
104	6	4002	7.749	2	2350	2	2195
104	7	3499	7.748	2	2344	2	2189
104	8	3000	7.750	2	2336	2	2181
104	9	2752	7.748	2	2332	2	2178
104	10	2503	7.756	2	2327	2	2169
104	11	2300	7.750	2	2326	2	2171
104	12	2141	7.749	2	2320	2	2166
104	13	1961	7.750	2	2318	2	2164
104	14	1801	7.754	2	2327	2	2170
104	15	1600	7.764	2	2344	2	2180
104	16	1401	7.791	2	2371	2	2192
104	17	1220	7.799	2	2388	2	2202
104	18	1100	7.808	2	2393	2	2202
104	19	1000	7.812	2	2390	2	2198
104	20	901	7.810	2		9	2195
104	21	802	7.817	2	2382	2	2188
104	22	700	7.809	2		9	2180
104	23	601	7.798	2	2351	2	2169
104	24	500	7.803	2	2344	2	2161
104	25	421	7.814	2	2338	2	2151
104	26	200	7.878	2	2344	2	2124
104	27	152	7.901	3		9	2117
104	28	101	7.924	2	2357	2	2112

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
104	29	51	7.969	2		9	2084
104	30	8	7.997	2	2369	2	2080
105	3	5402	7.746	2		9	2200
105	4	5000	7.745	2		9	2200
105	5	4701	7.748	2		9	2198
105	6	4399	7.745	2		9	2197
105	7	4100	7.744	4		9	2197
105	8	3799	7.743	2		9	2196
105	9	3501	7.744	2		9	2192
105	10	3200	7.746	2		9	2187
105	11	3001	7.746	2		9	2184
105	12	2801	7.746	2		9	2182
105	13	2599	7.748	2		9	2177
105	14	2399	7.750	2		9	2173
105	15	2200	7.748	2		9	2172
105	16	2000	7.753	2		9	2167
105	17	1802	7.758	2		9	2171
105	18	1599	7.763	2		9	2184
105	19	1400	7.796	2		9	2196
105	20	1222	7.808	2		9	2204
105	21	1000	7.810	2		9	2199
105	22	802	7.819	2		9	2188
105	23	601	7.799	2		9	2174
105	24	401	7.814	2		9	2152
105	25	300	7.838	2		9	2142
105	26	200	7.881	2		9	2125
105	27	150	7.907	2		9	2117
105	28	101	7.926	2		9	2112
105	29	51	7.955	2		9	2094
105	30	9	8.003	2		9	2077
106	3	5352	7.747	2	2354	2	2200
106	4	5001	7.745	2	2355	2	2201
106	5	4499	7.745	3	2352	2	2199
106	6	4001	7.744	2	2350	2	2197
106	7	3501	7.744	2	2346	2	2193
106	8	3001	7.746	2	2339	2	2185
106	9	2751	7.747	2	2336	2	2182
106	10	2503	7.751	2	2332	2	2177
106	11	2250	7.749	2	2328	2	2173
106	12	2000	7.750	2	2325	2	2170
106	13	1800	7.753	2	2326	2	2170
106	14	1600	7.763	2	2342	2	2179
106	15	1400	7.780	2	2365	2	2192
106	16	1221	7.810	2	2391	2	2200
106	17	1101	7.806	2	2394	2	2205
106	18	1002	7.805	2	2390	2	2200
106	19	902	7.812	2		9	2193

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
106	20	801	7.812	2	2380	2	2188
106	21	702	7.805	2		9	2181
106	22	601	7.796	2	2350	2	2170
106	23	500	7.796	2	2338	2	2159
106	24	400	7.818	2	2339	2	2150
106	25	289	7.839	2	2342	2	2142
106	26	201	7.864	2	2346	2	2133
106	27	151	7.899	2		9	2121
106	28	100	7.931	2	2359	2	2109
106	29	51	7.983	2		9	2077
106	30	8	8.003	2	2366	2	2075
107	3	5308	7.744	2		9	2203
107	4	5000	7.743	2		9	2202
107	5	4698	7.743	2		9	2201
107	6	4399	7.743	2		9	2200
107	7	4100	7.744	2		9	2199
107	8	3799	7.744	2		9	2197
107	9	3499	7.744	2		9	2194
107	10	3201	7.746	2		9	2190
107	11	2999	7.746	2		9	2187
107	12	2799	7.746	2		9	2185
107	13	2599	7.746	2		9	2181
107	14	2400	7.748	2		9	2177
107	15	2200	7.746	2		9	2175
107	16	2001	7.747	2		9	2171
107	17	1799	7.744	2		9	2173
107	18	1601	7.753	2		9	2177
107	19	1401	7.772	2		9	2190
107	20	1250	7.788	2		9	2197
107	21	1101	7.795	2		9	2202
107	22	850	7.793	2		9	2192
107	23	651	7.794	2		9	2178
107	24	450	7.808	2		9	2155
107	25	350	7.839	2		9	2141
107	26	200	7.885	2		9	2123
107	27	150	7.913	2		9	2113
107	28	100	7.922	2		9	2114
107	29	52	7.970	2		9	2083
107	30	9	7.996	2		9	2080
108	3	5188	7.749	2	2356	2	2201
108	4	4799	7.750	2	2355	2	2199
108	5	4502	7.745	2	2354	2	2201
108	6	3999	7.745	2	2353	2	2200
108	7	3748	7.744	2	2351	2	2198
108	8	3500	7.746	2	2349	2	2195
108	9	3250	7.748	2	2346	2	2192
108	10	2999	7.748	2	2342	2	2187

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
108	11	2750	7.746	2	2340	2	2187
108	12	2500	7.748	2	2334	2	2180
108	13	2237	7.750	2	2329	2	2174
108	14	2070	7.749	2	2327	2	2172
108	15	1851	7.748	2	2326	2	2171
108	16	1601	7.758	2	2338	2	2178
108	17	1401	7.776	2	2358	2	2187
108	18	1150	7.795	2	2381	2	2198
108	19	1000	7.802	2	2385	2	2198
108	20	900	7.806	2		9	2196
108	21	780	7.825	2	2382	2	2185
108	22	601	7.798	2	2351	2	2170
108	23	500	7.807	2	2339	2	2154
108	24	401	7.838	2	2340	2	2141
108	25	300	7.875	2	2345	2	2127
108	26	200	7.910	2	2350	2	2113
108	27	151	7.916	2		9	2113
108	28	101	7.925	2	2357	2	2111
108	29	51	7.986	2		9	2076
108	30	8	8.005	2	2367	2	2074
109	3	4932	7.748	2		9	2204
109	4	4699	7.746	2		9	2203
109	5	4400	7.744	2		9	2201
109	6	4098	7.744	2		9	2201
109	7	3801	7.746	2		9	2197
109	8	3501	7.746	2		9	2195
109	9	3200	7.747	2		9	2191
109	10	2997	7.747	2		9	2188
109	11	2799	7.746	2		9	2186
109	12	2600	7.749	2		9	2181
109	13	2399	7.752	2		9	2176
109	14	2200	7.754	2		9	2173
109	15	2051	7.751	2		9	2171
109	16	1870	7.752	2		9	2172
109	17	1649	7.767	2		9	2177
109	18	1350	7.804	2		9	2195
109	19	1150	7.814	2		9	2203
109	20	951	7.810	2		9	2198
109	21	801	7.814	2		9	2187
109	22	600	7.794	2		9	2170
109	23	401	7.814	2		9	2150
109	24	300	7.849	2		9	2135
109	25	200	7.877	2		9	2125
109	26	149	7.901	2		9	2117
109	27	149	7.905	2		9	2114
109	28	108	7.916	2		9	2110
109	29	58	7.975	2		9	2077

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
109	30	8	8.011	2		9	2080
110	3	4416	7.743	2	2355	2	2202
110	4	3999	7.742	2	2354	2	2202
110	5	3751	7.742	2	2350	2	2198
110	6	3499	7.743	2	2348	2	2196
110	7	3250	7.745	2	2345	2	2191
110	8	2997	7.745	2	2343	2	2190
110	9	2752	7.747	2	2338	2	2184
110	10	2501	7.748	2	2333	2	2178
110	11	2252	7.749	2	2331	2	2176
110	12	2001	7.747	2	2325	2	2172
110	13	1801	7.758	2	2333	2	2173
110	14	1601	7.769	2	2348	2	2181
110	15	1400	7.796	2	2384	2	2201
110	16	1201	7.817	2	2402	2	2206
110	17	1001	7.799	2	2386	2	2201
110	18	900	7.809	2	2385	2	2195
110	19	801	7.813	2	2381	2	2189
110	20	701	7.811	2		9	2180
110	21	702	7.809	2		9	2181
110	22	600	7.805	2	2357	2	2172
110	23	502	7.805	2	2345	2	2160
110	24	402	7.814	2	2338	2	2151
110	25	301	7.847	2	2339	2	2136
110	26	200	7.896	2	2347	2	2117
110	27	150	7.908	2		9	2118
110	28	102	7.931	2	2364	2	2113
110	29	50	7.983	2		9	2083
110	30	8	8.008	2	2375	2	2078
111	3	3953	7.741	2		9	2202
111	4	3749	7.743	2		9	2198
111	5	3499	7.743	2		9	2196
111	6	3250	7.745	2		9	2192
111	7	3002	7.746	2		9	2188
111	8	2750	7.745	2		9	2185
111	9	2498	7.747	2		9	2179
111	10	2251	7.748	2		9	2175
111	11	1999	7.753	2		9	2171
111	12	1801	7.758	2		9	2174
111	13	1599	7.779	2		9	2185
111	14	1400	7.801	2		9	2200
111	15	1401				9	2200
111	16	1211	7.821	2		9	2203
111	17	981	7.815	2		9	2197
111	18	886	7.806	2		9	2194
111	19	821	7.823	2		9	2187
111	20	700	7.814	2		9	2180

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
111	21	641	7.807	2		9	2177
111	22	500	7.804	2		9	2161
111	23	451	7.803	2		9	2156
111	24	301	7.851	2		9	2133
111	25	200	7.888	2		9	2118
111	26	152	7.903	2		9	2117
111	27	99	7.922	2		9	2110
111	28	49	7.978	2		9	2075
111	29	7	8.006	2		9	2068
111	30	8	8.006	2		9	2068
112	3	3590	7.741	2	2349	2	2197
112	4	3400	7.743	2	2346	2	2193
112	5	3200	7.742	2	2344	2	2192
112	6	3002	7.743	2	2340	2	2187
112	7	2800	7.745	2	2337	2	2184
112	8	2603	7.741	2	2334	2	2183
112	9	2401	7.747	2	2331	2	2177
112	10	2201	7.748	2	2327	2	2173
112	11	2001	7.753	2	2328	2	2171
112	12	1802	7.758	2	2337	2	2176
112	13	1801	7.758	2	2337	2	2177
112	14	1600	7.770	2	2355	2	2187
112	15	1401	7.792	2	2380	2	2199
112	16	1131	7.812	2	2400	2	2206
112	17	1020	7.808	2	2390	2	2200
112	18	829	7.805	2	2380	2	2192
112	19	649	7.803	2	2365	2	2180
112	20	540	7.807	2	2352	2	2166
112	21	401	7.803	2	2340	2	2158
112	22	299	7.830	2	2339	2	2144
112	23	199	7.855	2	2342	2	2134
112	24	151	7.892	2		9	2121
112	25	110	7.922	2	2353	2	2109
112	26	60	7.977	2		9	2075
112	27	8	8.015	2	2349	2	2053
113	3	3428	7.743	2		9	2189
113	4	3251	7.744	2		9	2187
113	5	2999	7.743	2		9	2184
113	6	2749	7.745	2		9	2181
113	7	2501	7.746	2		9	2179
113	8	2250	7.748	2		9	2176
113	9	2001	7.752	2		9	2171
113	10	2000	7.749	2		9	2173
113	11	1798	7.755	2		9	2174
113	12	1598	7.772	2		9	2185
113	13	1401	7.790	2		9	2200
113	14	1321	7.809	2		9	2203

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
113	15	1201	7.813	2		9	2205
113	16	1001	7.816	2		9	2198
113	17	899	7.819	2		9	2193
113	18	800	7.816	2		9	2189
113	19	599	7.802	2		9	2179
113	20	501	7.805	2		9	2168
113	21	400	7.805	2		9	2160
113	22	302	7.820	2		9	2149
113	23	199	7.854	2		9	2137
113	24	150	7.881	2		9	2126
113	25	100	7.895	2		9	2120
113	26	51	7.961	2		9	2082
113	27	8	8.023	2		9	2049
114	3	2381	7.750	2	2333	2	2177
114	4	2250	7.751	2	2330	2	2174
114	5	2001	7.754	2	2328	2	2172
114	6	2002	7.753	2	2329	2	2171
114	7	1801	7.758	2	2331	2	2171
114	8	1601	7.771	2	2352	2	2184
114	9	1402	7.798	2	2388	2	2203
114	10	1201	7.816	2	2401	2	2206
114	11	1001	7.816	2	2395	2	2200
114	12	901	7.817	2	2390	2	2195
114	13	802	7.821	2	2387	2	2191
114	14	700	7.818	2	2381	2	2186
114	15	600	7.809	2	2369	2	2180
114	16	499	7.807	2	2358	2	2172
114	17	360	7.815	2	2344	2	2155
114	18	300	7.819	2	2342	2	2151
114	19	201	7.843	2	2347	2	2145
114	20	151	7.893	2		9	2122
114	21	97	7.902	2	2351	2	2118
114	22	49	7.974	2		9	2076
114	23	9	8.020	2	2349	2	2050
115	3	807	7.822	2	2387	2	2190
115	4	601	7.812	2	2368	2	2178
115	5	481	7.811	2	2354	2	2166
115	6	350	7.815	2	2338	2	2150
115	7	200	7.857	2	2342	2	2133
115	8	149	7.900	2	2345	2	2113
115	9	99	7.921	2	2351	2	2107
115	10	49	7.970	2	2356	2	2085
115	11	7	8.023	2	2352	2	2051
116	3	1464	7.798	2		9	2196
116	4	1349	7.807	2		9	2199
116	5	1151	7.819	2		9	2196
116	6	1000	7.822	2		9	2192

St	Bot	Press (dbar)	pHT_{25}	Flag pH	A_T mmol/kg	Flag A_T	C_T mmol/kg
116	7	799	7.821	2		9	2187
116	8	601	7.809	2		9	2175
116	9	400	7.806	2		9	2157
116	10	299	7.828	2		9	2145
116	11	200	7.862	2		9	2132
116	12	151	7.889	2		9	2121
116	13	101	7.920	2		9	2105
116	14	50	7.976	2		9	2082
116	15	7	8.018	2		9	2058
117	3	419	7.810	2		9	2164
117	4	300	7.814	2		9	2154
117	5	200	7.845	2		9	2140
117	6	150	7.882	2		9	2124
117	7	100	7.905	2		9	2114
117	8	48	7.969	2		9	2083
117	9	6	8.022	2		9	2044
118	3	139	7.843	2	2347	2	2144
118	4	101	7.897	2	2348	2	2117
118	5	48	7.959	2	2350	2	2086
118	6	6	8.009	2	2337	2	2047