

data report

CalCOFI Cruise 0704
28 March – 29 April 2007

CC Reference 08-06
25 June 2008

**UNIVERSITY OF CALIFORNIA, SAN DIEGO
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PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

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CONTENTS

Introduction	3
Literature Cited	7
CalCOFI Cruise 0704	
List of Figures	9
Personnel	20
Tabulated Rosette Cast Data	21
Tabulated Primary Productivity Data	55
Tabulated Macrozooplankton Data	58

INTRODUCTION

The data in this report were collected during cruises 0704 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the NOAA ship RV *David Starr Jordan*. The CalCOFI program was organized in the late 1940's to study the causes of variations in population size of fishes of importance to the State of California. It is carried out by NOAA's National Marine Fisheries Service Southwest Fisheries Science Center, the California Department of Fish and Game, and the Integrative Oceanography Division (IOD) at Scripps Institution of Oceanography (SIO). IOD contributes to this program by investigations of the physical, chemical and biological structure of the California Current. Data from the cruises were collected and processed by personnel of the Integrative Oceanography Division and the Southwest Fisheries Science Center. Volunteers and other SIO staff members also assisted in the collection of data and chemical analyses at sea. CalCOFI data presented in this report and collected on previous cruises can be accessed at <http://www.calcofi.org>.

STANDARD PROCEDURES

CTD/Rosette Cast Data

A Sea-Bird Electronics, Inc., Conductivity-Temperature-Depth (CTD) instrument with a rosette was deployed at each station on these cruises. The rosette was equipped with 24 ten-liter plastic (PVC) bottles. The CTD/rosette cast usually sampled 20 depths to a maximum sampling depth of 525 meters, bottom depth permitting. Occasional stations have multiple bottles tripped at the same depth to provide more water for ancillary programs. The sample spacing was designed to sample depth intervals as close as 10 meters around the sharp upper thermocline features such as the chlorophyll, oxygen, nitrite maxima and the shallow salinity minimum. Salinity, oxygen and nutrients were determined at sea for all depths sampled. Chlorophyll-*a* and phaeopigments were determined at sea within the top 200 meters, bottom depth permitting.

Pressures and temperatures assigned to the water sample data were derived from the CTD signals recorded just prior to the bottle trip. Pressures have been converted to depths by the Saunders (1981) pressure-to-depth conversion technique. CTD temperatures reported with the bottle data have been rounded to the nearest hundredth of a degree Celsius.

Salinity samples were collected from all rosette bottles and analyzed at sea using a Guildline model 8410 Portasal salinometer. Salinity samples were drawn in to 200 ml Kimax high-alumina borosilicate bottles that were rinsed three times with sample prior to filling. The results were compared with the CTD salinity in order to verify that the rosette bottle did not mis-trip or leak. The salinometer was standardized before and after each group of samples with substandard seawater. Periodic checks on the conductivity of the substandard were made by comparison with IAPSO Standard Seawater batch P144. Salinity values have been calculated using the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and were reported to three decimal places, provided that accepted standards were met.

Dissolved oxygen samples were collected in calibrated 100 ml iodine flasks, allowing at least 200% overflow. The dissolved oxygen samples were analyzed at sea by the Winkler method, as modified by Carpenter (1965), using the equipment and procedure outlined by Anderson (1971). Percent oxygen saturation was calculated from the equations of Weiss (1970).

Nutrient samples were analyzed at sea for dissolved silicate, phosphate, nitrate and nitrite using procedures similar to those described in Gordon et al., 1993. Samples were collected in 45 ml high-density polypropylene screw-capped tubes which were rinsed three times prior to filling. Standardizations were done at the beginning and end of each group of samples with a set of mid-concentration range standards prepared fresh for each run. Samples

* The first two digits represent the year and the last digits the month of the cruise.

not analyzed immediately after collection were refrigerated and run the following day. Sets of six different concentration standards were analyzed periodically to determine the deviation from linearity as a function of concentration, primarily for the silicate and nitrate analyses. Final sample concentrations were corrected for deviations from linearity.

Samples for chlorophyll-*a* and phaeopigments were collected in calibrated 138 ml polyethylene bottles and filtered onto Whatman GF/F filters. The pigments were extracted with a cold extraction technique in 90% acetone (Venrick and Hayward, 1984), and the fluorescence determined before and after acidification with a Turner Designs Fluorometer Model 10-AU-005-CE (Yentsch and Menzel, 1963; Holm-Hansen *et al.*, 1965).

As part of broadening CalCOFI program, phytoplankton pigment concentrations have been added to the regular sampling during cruises. They were made by filtering sufficient 10m water samples to analyze pigments using HPLC and absorption coefficients of particulate soluble material.

Evaluation of the water sample data involved comparisons with the CTD cast profiles, adjacent stations and consideration of the variation of a property as a function of density or depth and the relationships with other properties (Klein, 1973). Precision estimates for the routine analyses were made on CalCOFI cruise 9003 and are reported in SIO Ref. 91-4.

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN). Primary production was estimated from ^{14}C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the up rosette cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. The ten-liter bottles were equipped with epoxy-coated springs and Viton O-rings. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with 53.14 μCi of ^{14}C as NaHCO_3 (200 μl of 271.32 $\mu\text{Ci/ml}$ stock) prepared in a 0.3 g/liter solution of sodium carbonate (Fitzwater *et al.*, 1982). Samples were incubated from LAN to civil twilight in seawater-cooled incubators with neutral-density screens which simulate *in situ* light levels. At the end of the incubation, the samples were filtered onto Millipore HA filters and placed in scintillation vials. One half ml of 10% HCl was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation fluor were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter. Salinity, oxygen, nutrients, chlorophyll-*a* and phaeopigments were determined from all rosette productivity bottles.

Macrozooplankton Net Tows

Macrozooplankton was sampled with a 71 cm mouth diameter paired net (bongo net) equipped with 0.505mm plankton mesh. Bottom depth permitting, the nets were towed obliquely from 210 meters to the surface. The tow time for a standard tow was 21.5 minutes. Volumes filtered were determined from flowmeter readings and the mouth area of the net. Only one sample of each pair was retained and preserved. The biomass, as wet displacement volume, after removal of large (>5 ml) organisms, was determined in the laboratory ashore. These procedures are summarized in greater detail in Kramer *et al.* (1972). An Optical Plankton Counter (OPC) was routinely used in one side of the paired bongo net frame. The purpose of the OPC is to obtain information on the vertical distributions of size categories of zooplankton, using data from the counter, without affecting the ongoing time series of data obtained from the catches of the integrative bongo net.

Ancillary Programs

Several ancillary programs produced data on these cruises that are not presented in this report. These programs include:

- 1) *Underway Data.* Continuous near surface measurements of temperature, salinity and *in vivo* chlorophyll fluorescence were recorded from seawater pumped through the ship's uncontaminated seawater system from a depth of approximately 3 meters. The data were logged in one-minute averages using a Sea-Bird Electronics, Inc., SBE 45 MicroTSG Thermosalinograph and a Turner Designs SCUFA®II fluorometer.
- 2) *ADCP.* Continuous profiles of ocean currents and acoustic backscatter between 20 and 500 meters deep were measured along the shiptrack from a hull-mounted 150 kHz Acoustic Doppler Current Profiler (ADCP). The ADCP data were averaged over 5-minute intervals. Sixty 8-meter depth bins were recorded.
- 3) *California Current Ecosystem Long Term Ecological Research Program:* The CCE-LTER program augments standard CalCOFI measurements to further characterize the lower trophic levels as well as the carbon system. These additional samples, taken at all CalCOFI stations, are for measurements of particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen, taxon-specific phytoplankton pigments, flow-cytometric counts of bacteria and picoautotrophs, microscopic counts of nano- microplankton, determination of mesozooplankton size structure using a Laser Optical Plankton Counter, and mesozooplankton community structure. (M. Ohman, SIO)
- 4) *SCCOOS Nearshore and Bio-optical Observations:* The objective of these observations is to extend CalCOFI time series to the nearshore and make bio-optical observations for the development of empirical proxies for particle size load and structure and phytoplankton biomass and rates of primary production. The nearshore observations consist of 9 stations at the ends and interspersed with current CalCOFI lines on the 20 m isobath with a standard set of CalCOFI observations. Bio-optical measurements at all CalCOFI and SCCOOS stations consist of irradiance at 9 wavelengths, light transmission at three wavelengths, fluorescence of Chl a, CDOM and phycoerythrin and light scattering at three wavelengths. (R. Goericke, SIO)
- 5) *Underway Sea Surface xCO_2 .* Continuous measurements of the partial pressure of CO_2 were made from the ship's uncontaminated seawater system. The seawater was equilibrated in a membrane contactor with a gas loop that was analyzed with a Licor 6262 infrared CO_2/H_2O analyzer. One-minute averages were recorded and the mole fraction of CO_2 (xCO_2) at sea surface temperature was calculated. The system was calibrated with standard gases traceable to CMDL every two hours; at that time absolute zero and atmospheric samples were also collected. (G. Friederich, MBARI)
- 6) *Marine mammal observations.* During daylight transits, visual line-transect surveys were conducted by marine mammal observers focusing on cetaceans. Acoustic line-transect surveys were performed using a towed hydrophone array which consists of multiple hydrophone elements that sample sounds up to 100 kHz allowing for localization of calling animals. Acoustic monitoring also takes place on individual stations using sonobuoys. (J. Hildebrand, SIO)

TABULATED DATA

CTD/Rosette Cast Data

The time reported is the Coordinated Universal Time (UTC) of the first rosette bottle trip on the up cast. The rosette bottles tripped on the up cast are reported as cast 2, where cast 1 is considered to be the down CTD profile. The sample number reported is the cast number followed by a two-digit rosette bottle number. Bottom depths, determined acoustically, have been corrected using British Admiralty Tables (Carter, 1980) and are reported in meters. Weather conditions have been coded using WMO code 4501. Secchi depths are reported for most daylight stations.

Observed data from individual CTD/rosette trip levels are interpolated and reported for standard depths. Interpolated or extrapolated standard level data are noted by the footnote "ISL" printed after the depth. Multiple bottles tripped at the same depth to provide water for ancillary programs are not used in the calculation of standard depth data. Density-related parameters have been calculated from the International Equation of State of Seawater 1980 (UNESCO, 1981b). Computed values of potential temperature, sigma-theta, specific volume anomaly (SVA), and dynamic height or geopotential anomaly are included with both observed and interpolated standard depth levels.

On stations where primary productivity samples were drawn a footnote appears after each productivity depth sampled. The corresponding primary productivity data are reported in a separate section following the tabulated rosette cast data.

Primary Productivity Data

In addition to the normal hydrographic data also reported in the rosette cast data section, the tabulated data include: the *in situ* light levels at which the samples were collected, the uptake from each of the replicate light bottles, uptake 1 and uptake 2 (which have been corrected for dark uptake by subtracting the dark value), the mean of the two uptake values and the dark uptake. The uptake values are totals for the incubation period. Also shown are the times of LAN, civil twilight, and the value of the mean uptake integrated from the surface to the deepest sample, assuming the shallowest value continues to the surface and that negative values (when dark uptake exceeds light

uptake) are zero. The uptake data have been presented to two significant digits (values <1.00) or one decimal (values >1.00). Precision of the higher production values may not warrant all of the digits presented.

Incubation

time, LAN, and civil twilight are given in local Pacific Standard Time (PST); to convert to UTC, add eight hours to the PST time. Incubation light intensities are listed in a footnote at the bottom of each page.

Macrozooplankton Data

Macrozooplankton biomass volumes are tabulated as total biomass volume (cm³/1000m³ strained) and as the total volume minus the volume of larger organisms under the heading "Small." Tow times are given in local PST (+8) time.

FOOTNOTES

In addition to footnotes, special notations are used without footnotes because the meaning is always the same:

ISL: Values for standard levels from CTD sensors corrected as noted, nutrients calculated as double reciprocal regression.

CSL: Values for standard levels from CTD sensors corrected as noted, nutrients not calculated due to uncertainty.

D: CTD values listed in place of ship board analysis, corrected as noted.

U: Uncertain value. Values which are not used in interpolation because they seem to be in error without apparent reason.

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FIGURES

Cruise 0704

1. CalCOFI Cruise 0704 track and station positions.
2. Horizontal distribution of dynamic height anomaly (0 over 500m). In areas shallower than 500 m, the dynamic heights were extrapolated on the basis of the offshore deeper steric height as described in Reid and Mantyla (1976).
3. Horizontal distributions at 10 meters: A) chlorophyll-*a*; B) potential density; C) temperature; and D) salinity.
4. Horizontal distributions at 200 meters: A) dynamic height anomaly (200 over 500 m); B) potential density; C) temperature; and D) salinity.
5. Sections along CalCOFI line 90 (vertical exaggeration, 1000): A) potential density; B) temperature; C) salinity; D) silicate; E) nitrate; F) phosphate; G) chlorophyll-*a*; H) oxygen saturation; I) oxygen; J) nitrite; and K) phaeopigments.

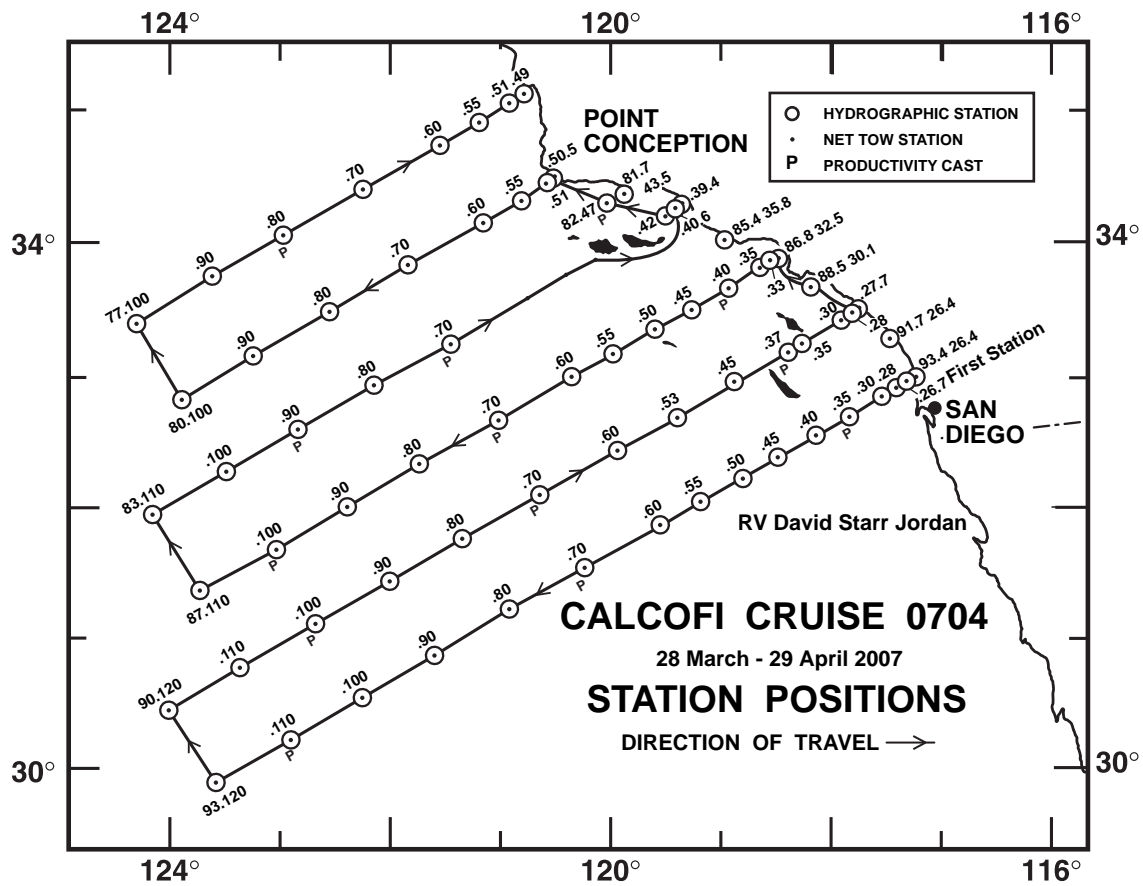


FIGURE 1

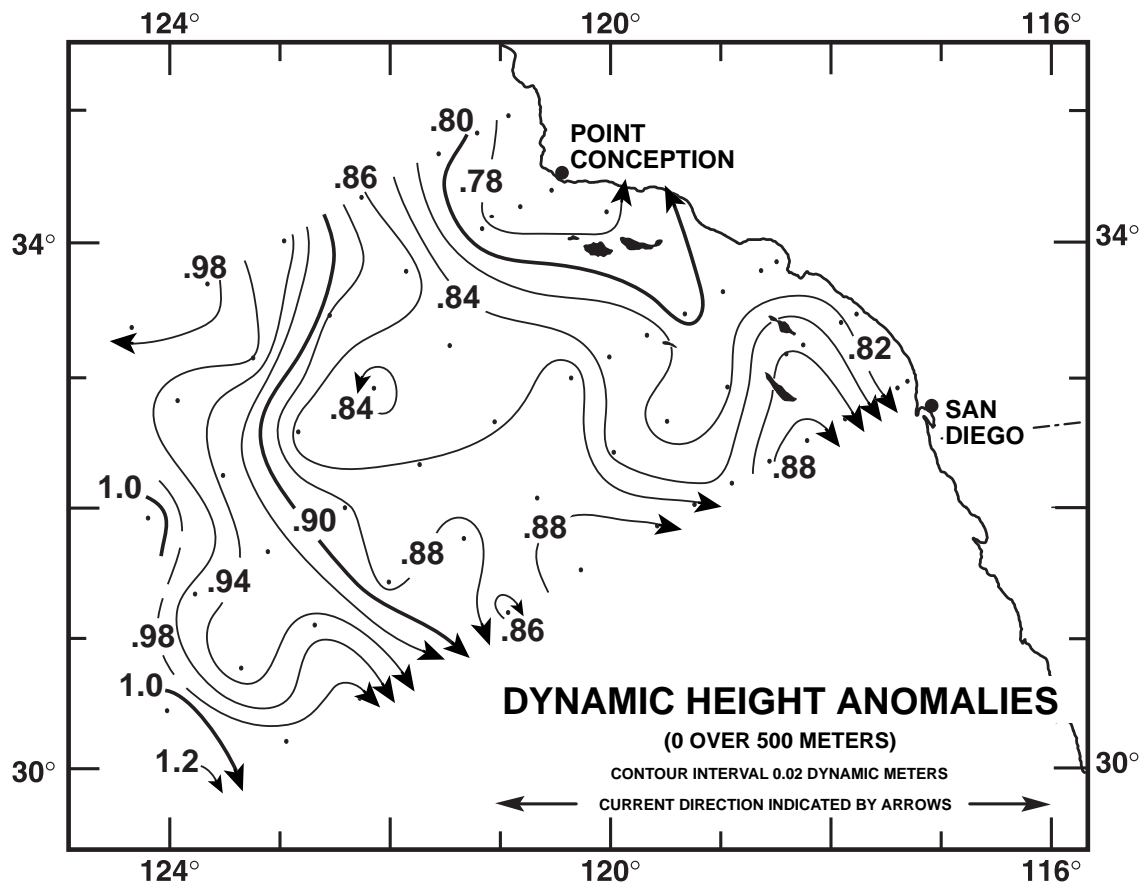


FIGURE 2

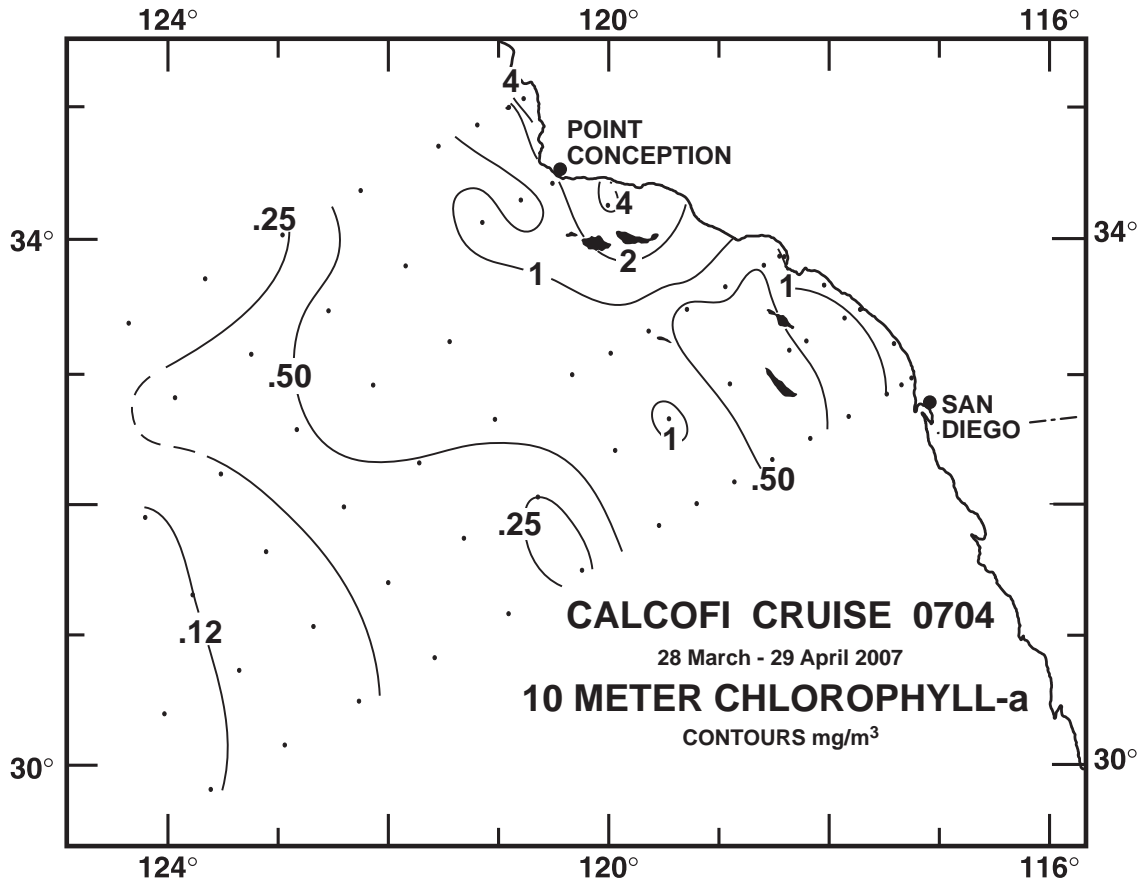


FIGURE 3A

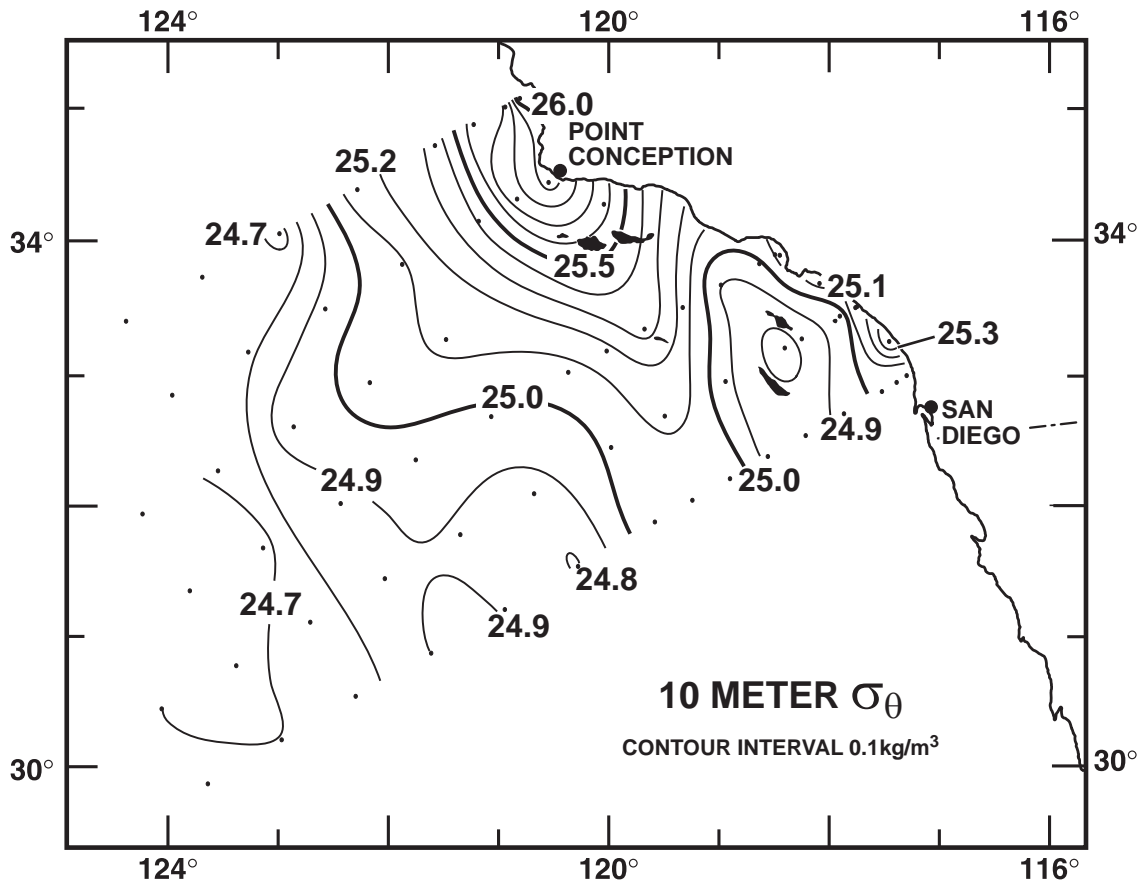


FIGURE 3B

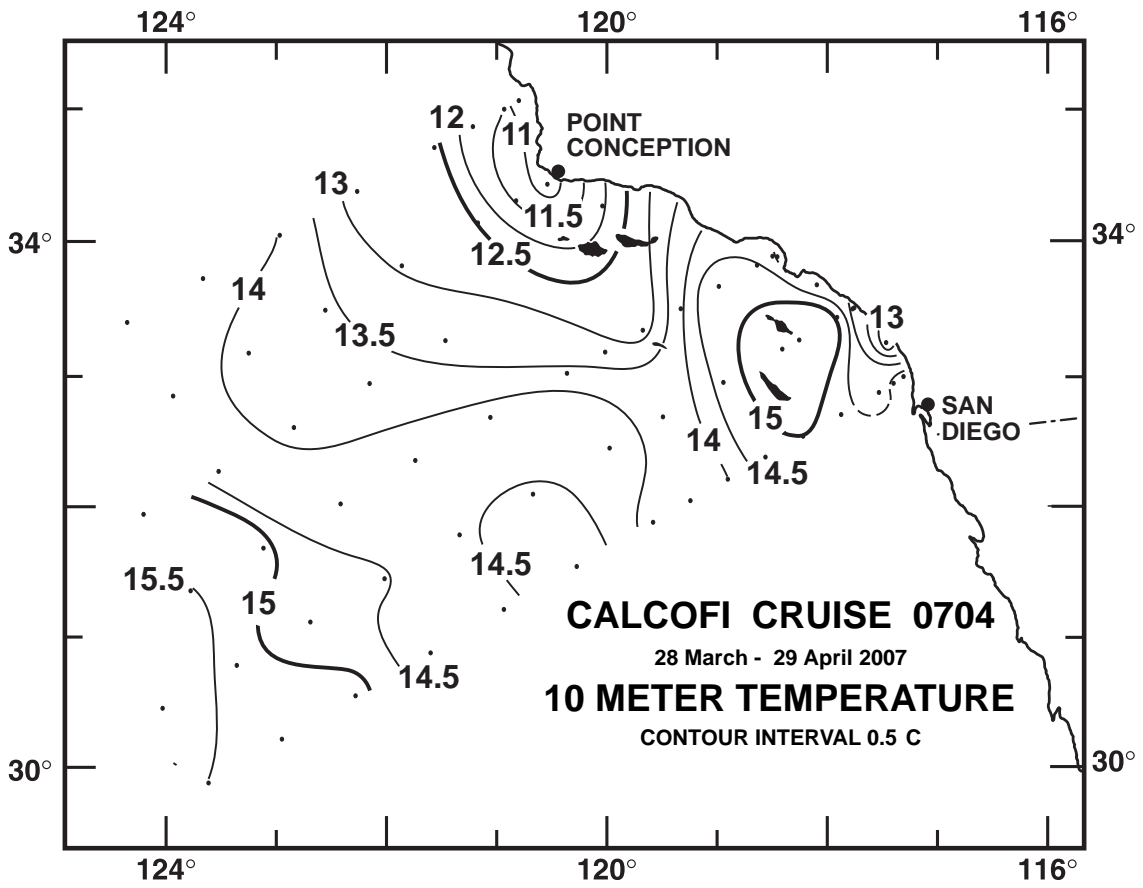


FIGURE 3C

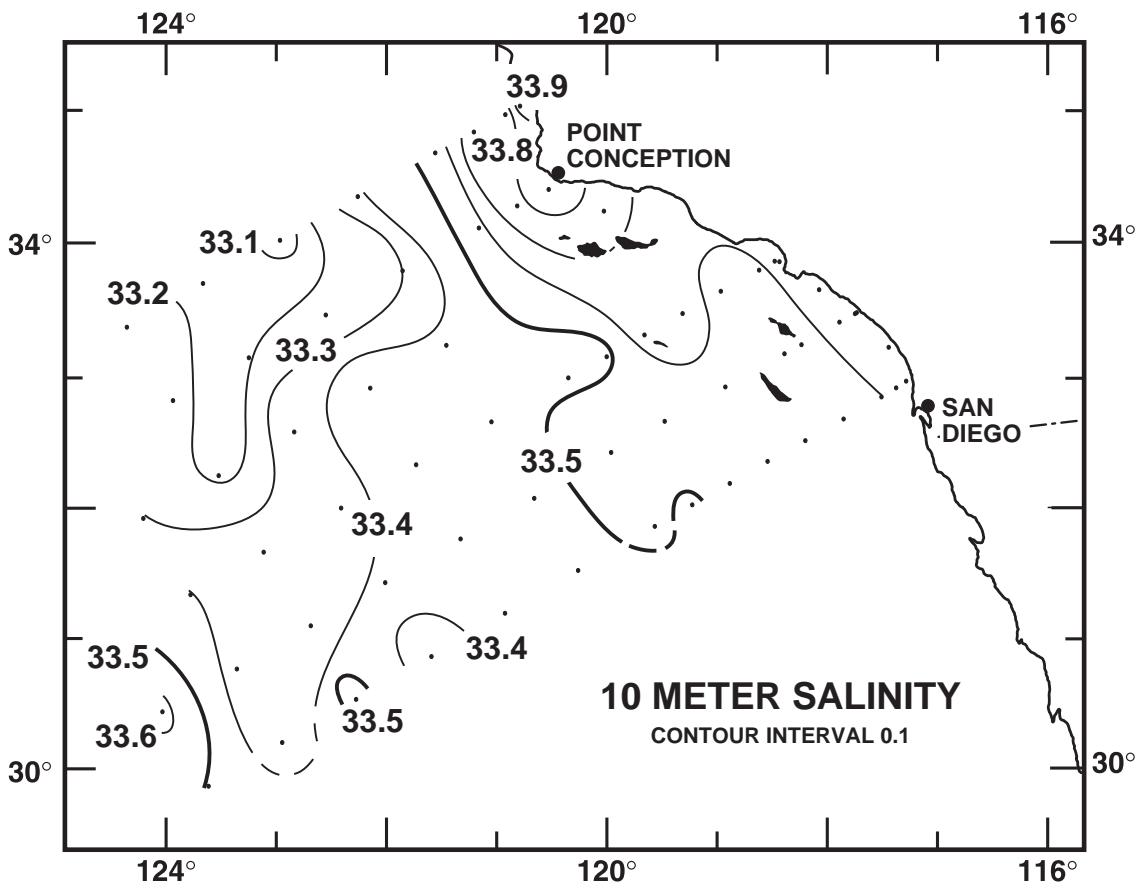


FIGURE 3D

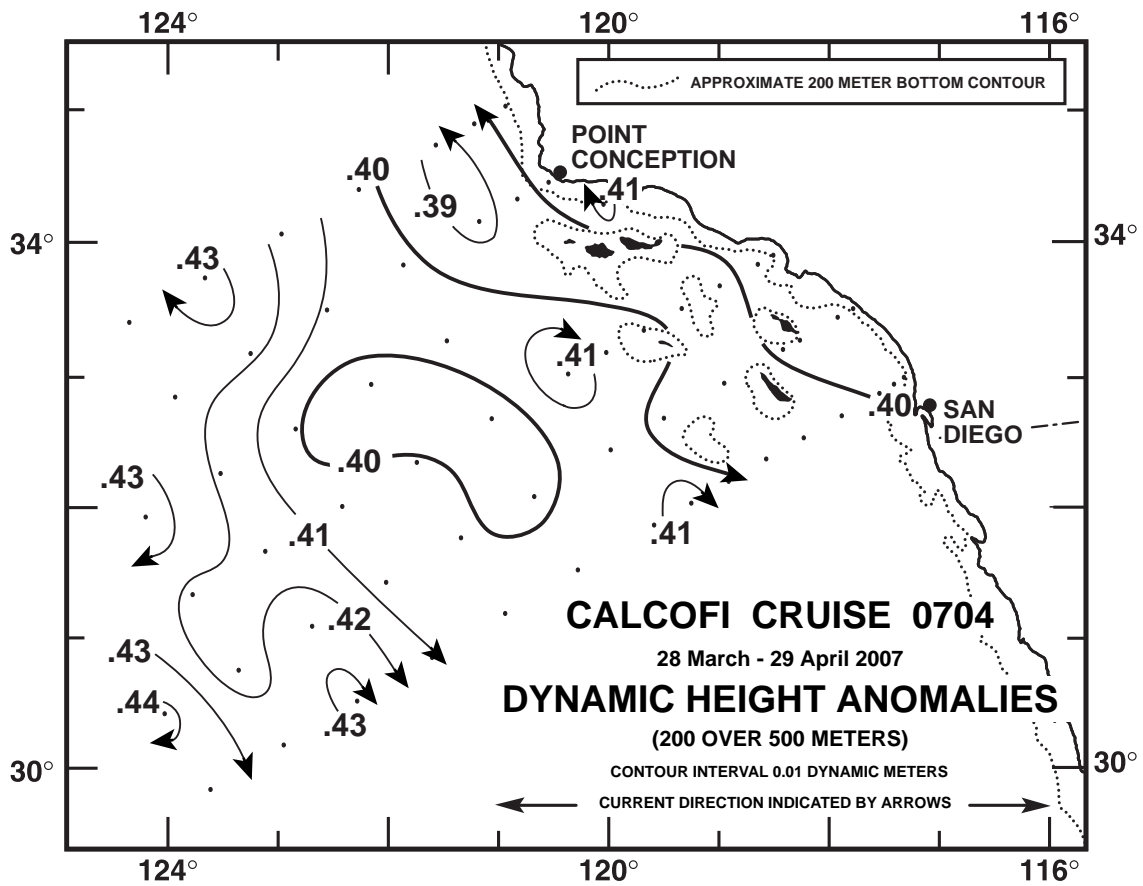


FIGURE 4A

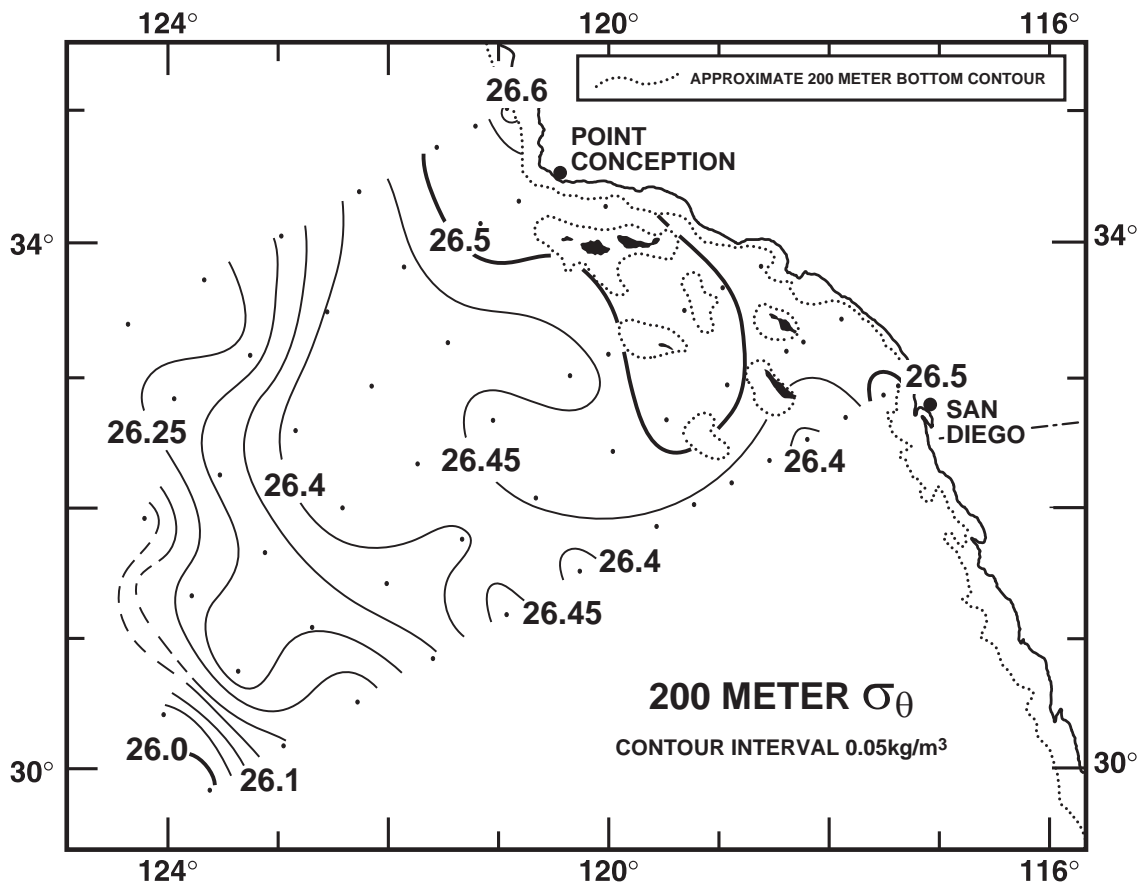


FIGURE 4B

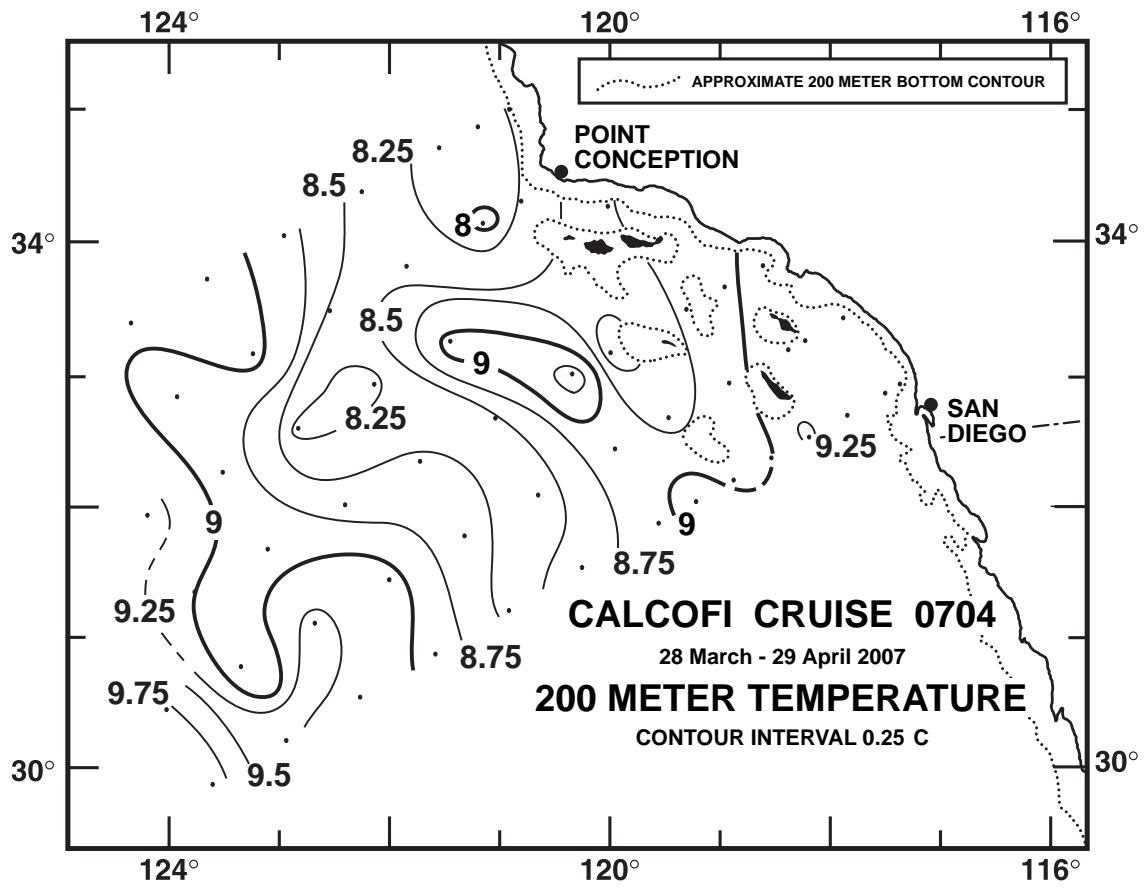


FIGURE 4C

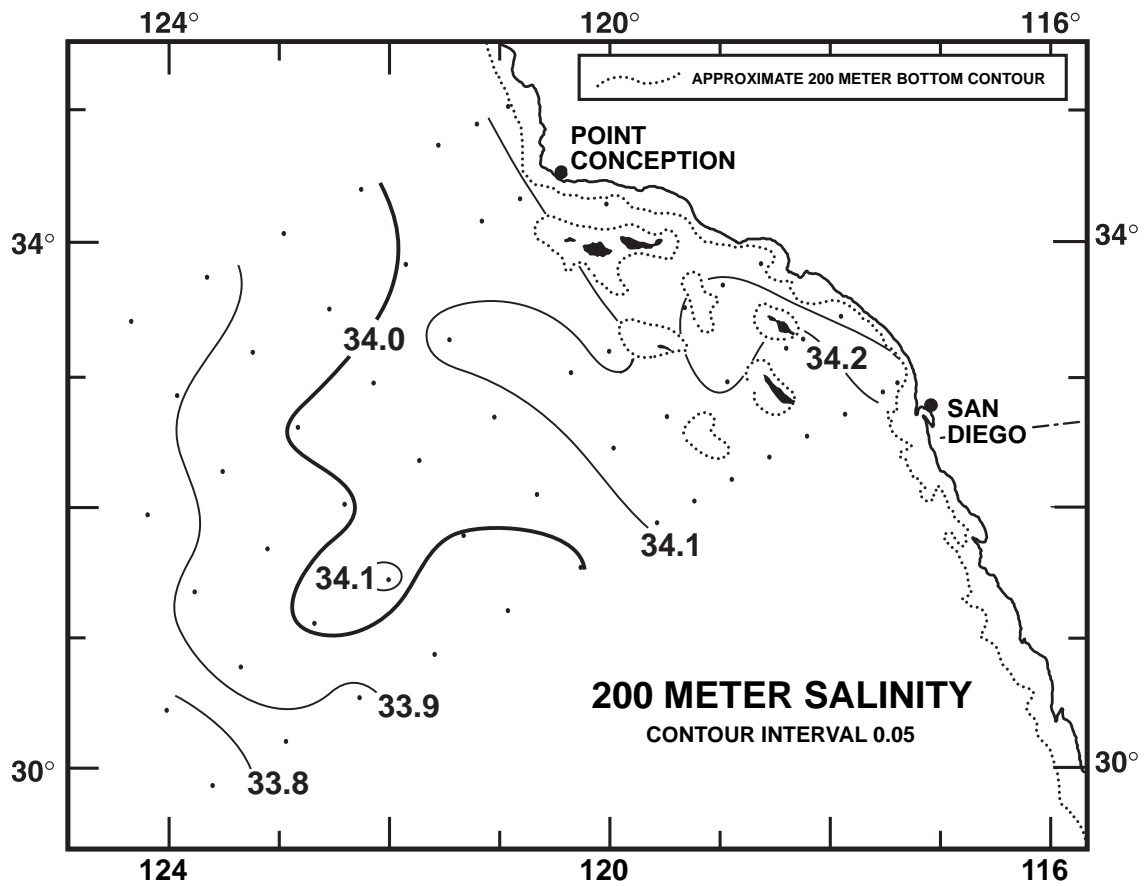


FIGURE 4D

CALCOFI CRUISE 0704

4 - 7 April 2007

POTENTIAL DENSITY (σ_t) ALONG CALCOFI LINE 90

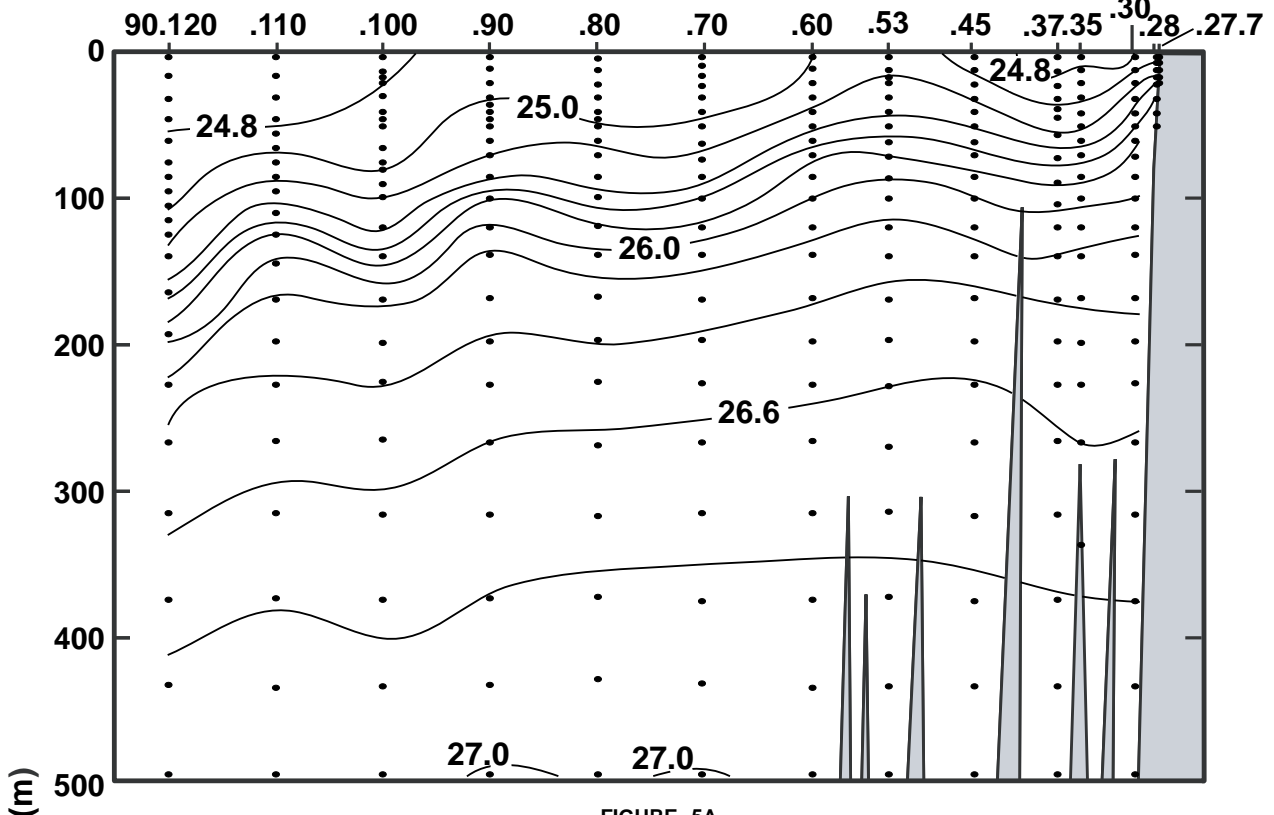


FIGURE 5A

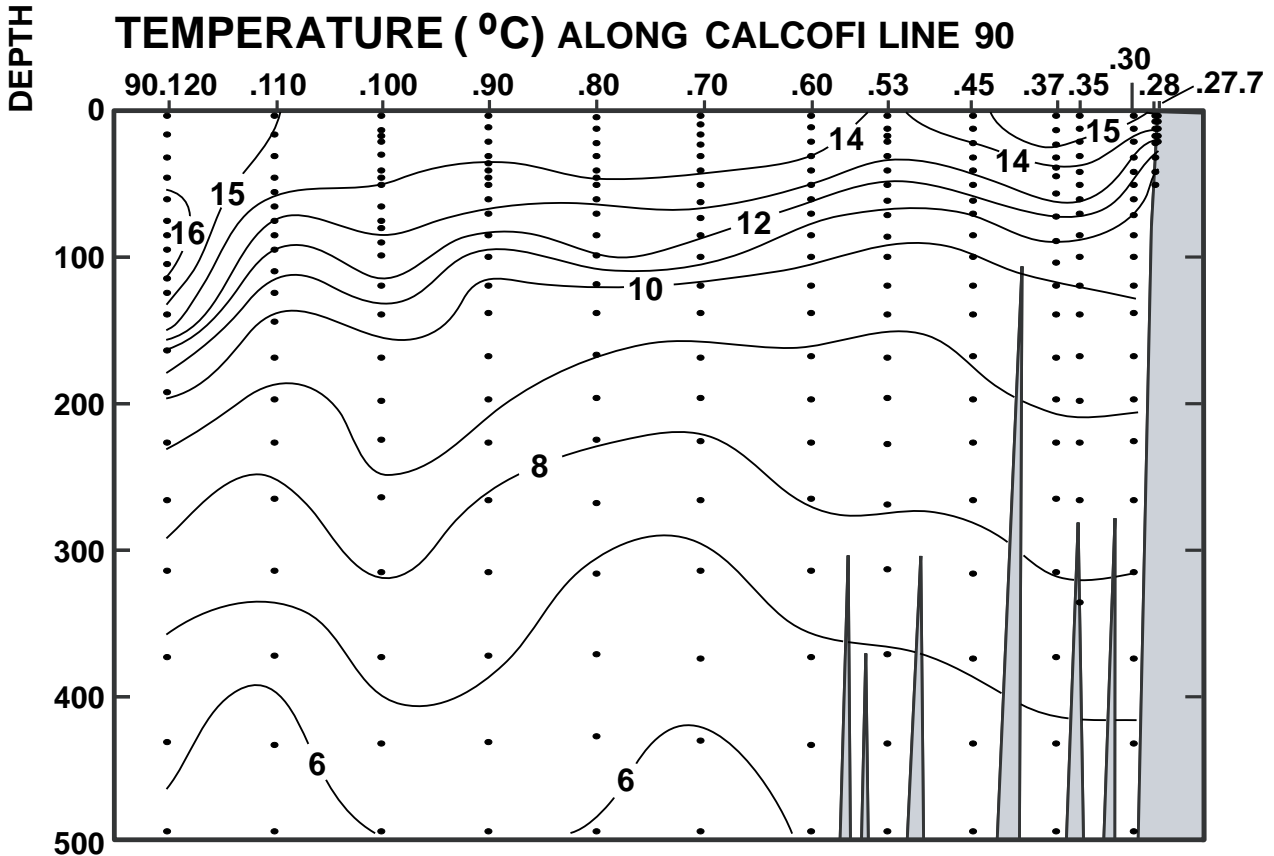


FIGURE 5B

CALCOFI CRUISE 0704

4 - 7 April 2007

SALINITY ALONG CALCOFI LINE 90

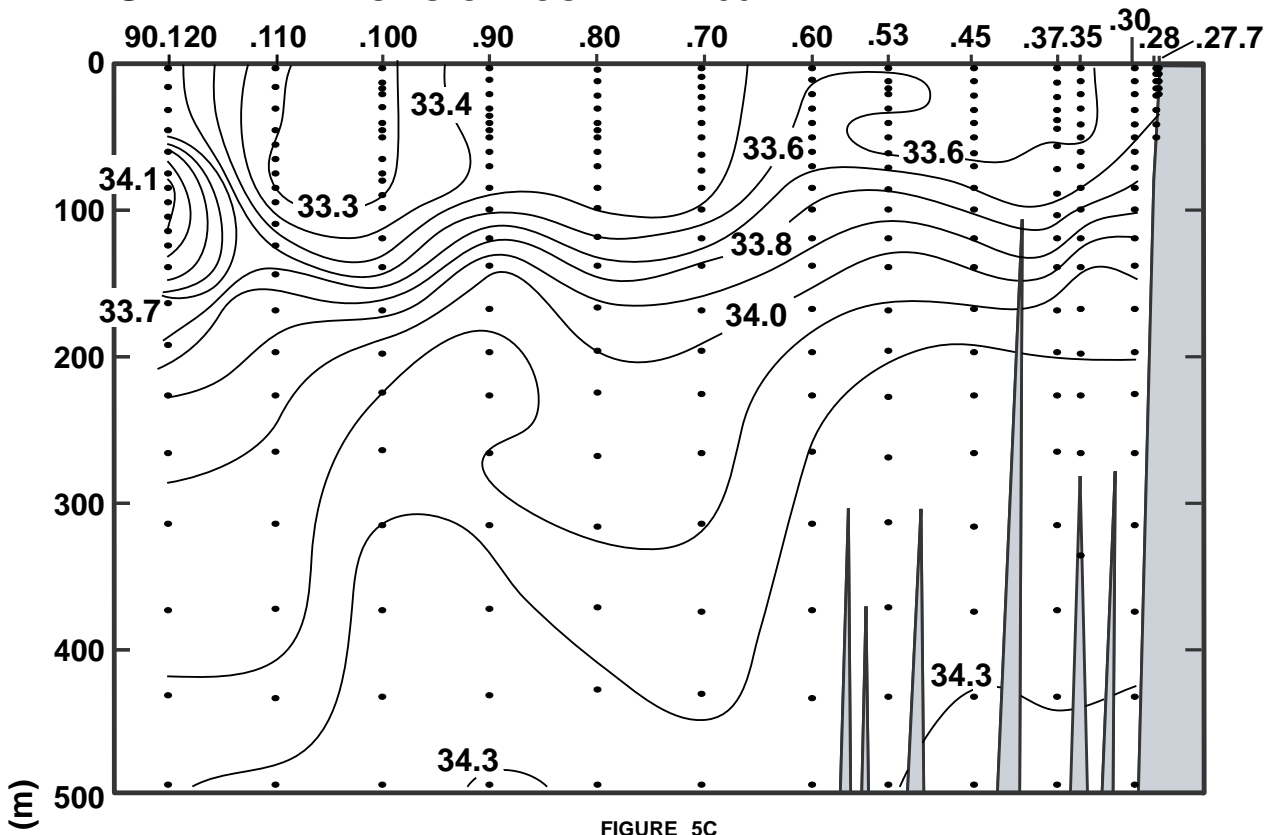


FIGURE 5C

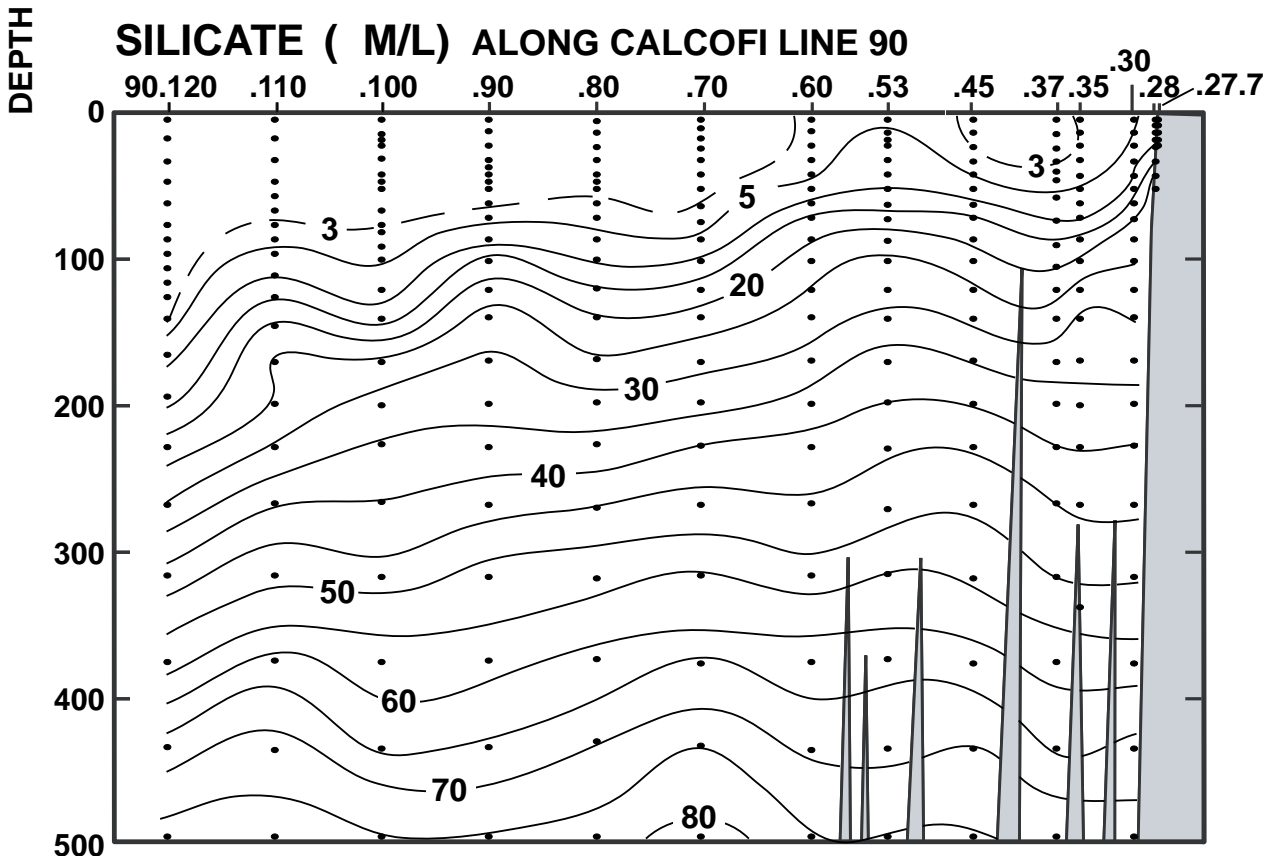


FIGURE 5D

CALCOFI CRUISE 0704

4 - 7 April 2007

NITRATE (M/L) ALONG CALCOFI LINE 90

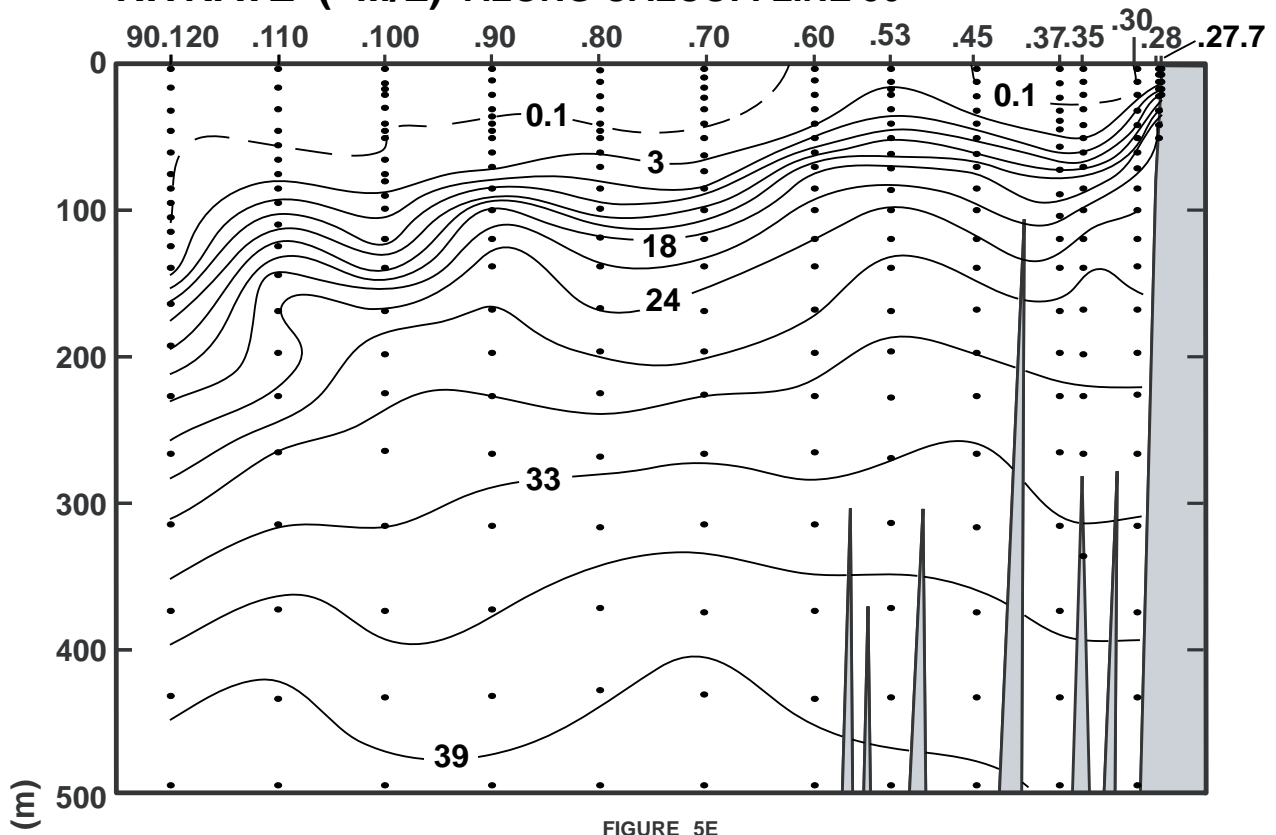


FIGURE 5E

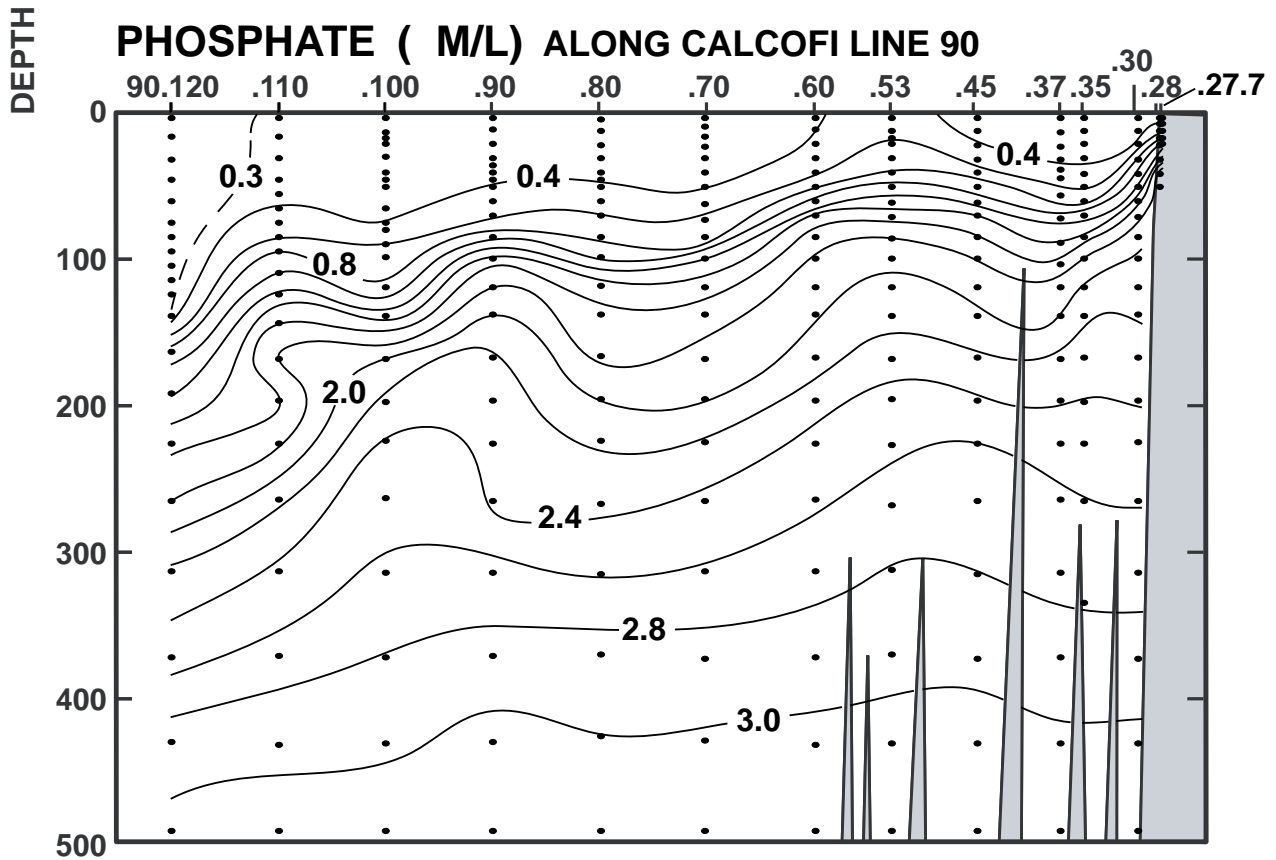


FIGURE 5F

CALCOFI CRUISE 0704

04 - 07 April 2007

CHLOROPHYLL-a (g/L) ALONG CALCOFI LINE 90

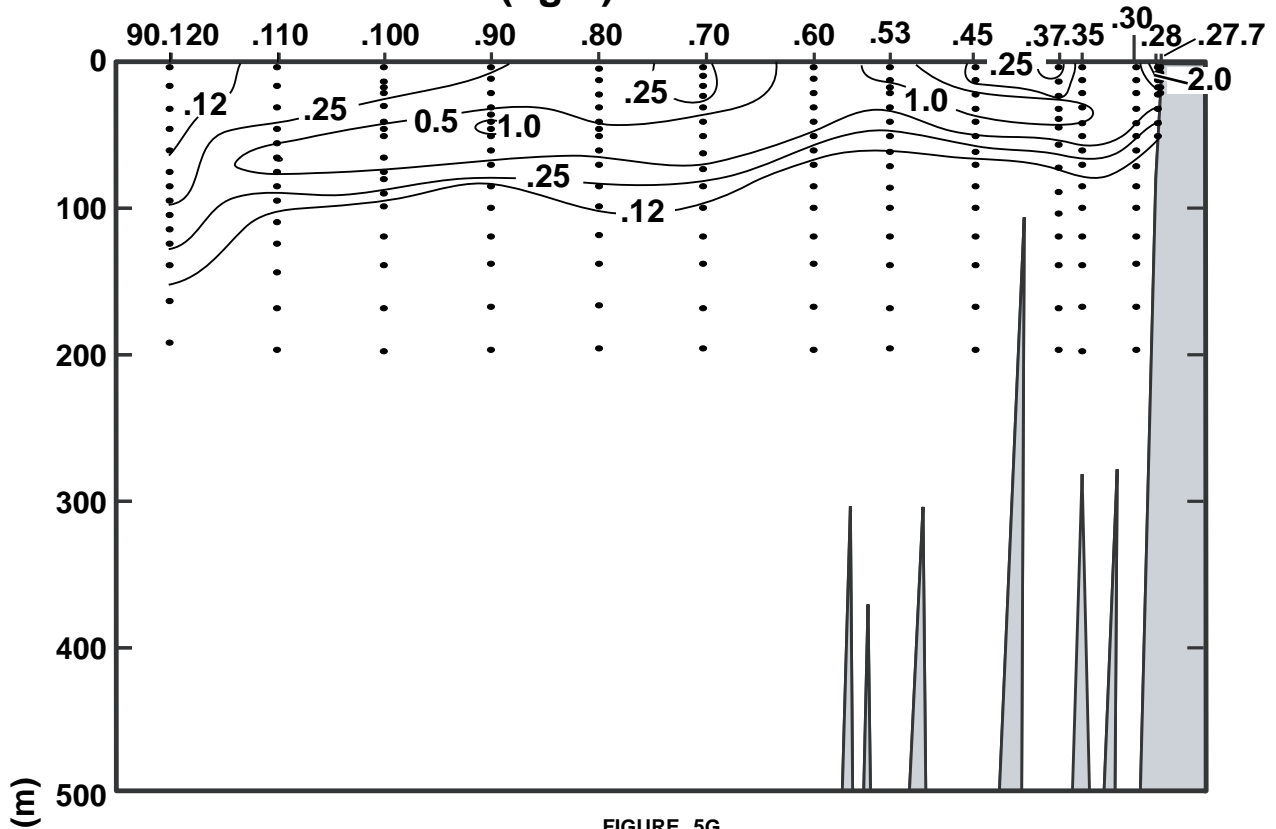


FIGURE 5G

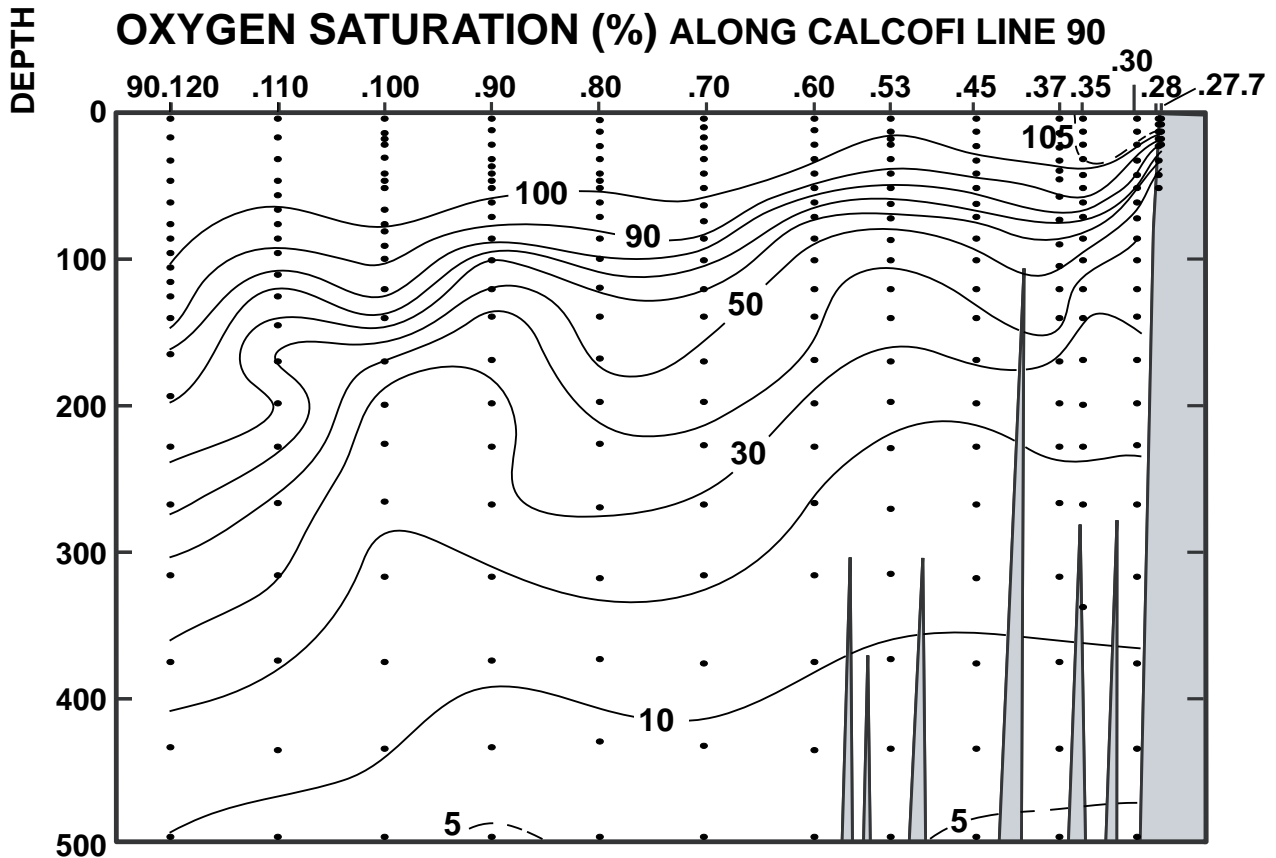


FIGURE 5H

CALCOFI CRUISE 0704

4 - 7 April 2007

OXYGEN (mL/L) ALONG CALCOFI LINE 90

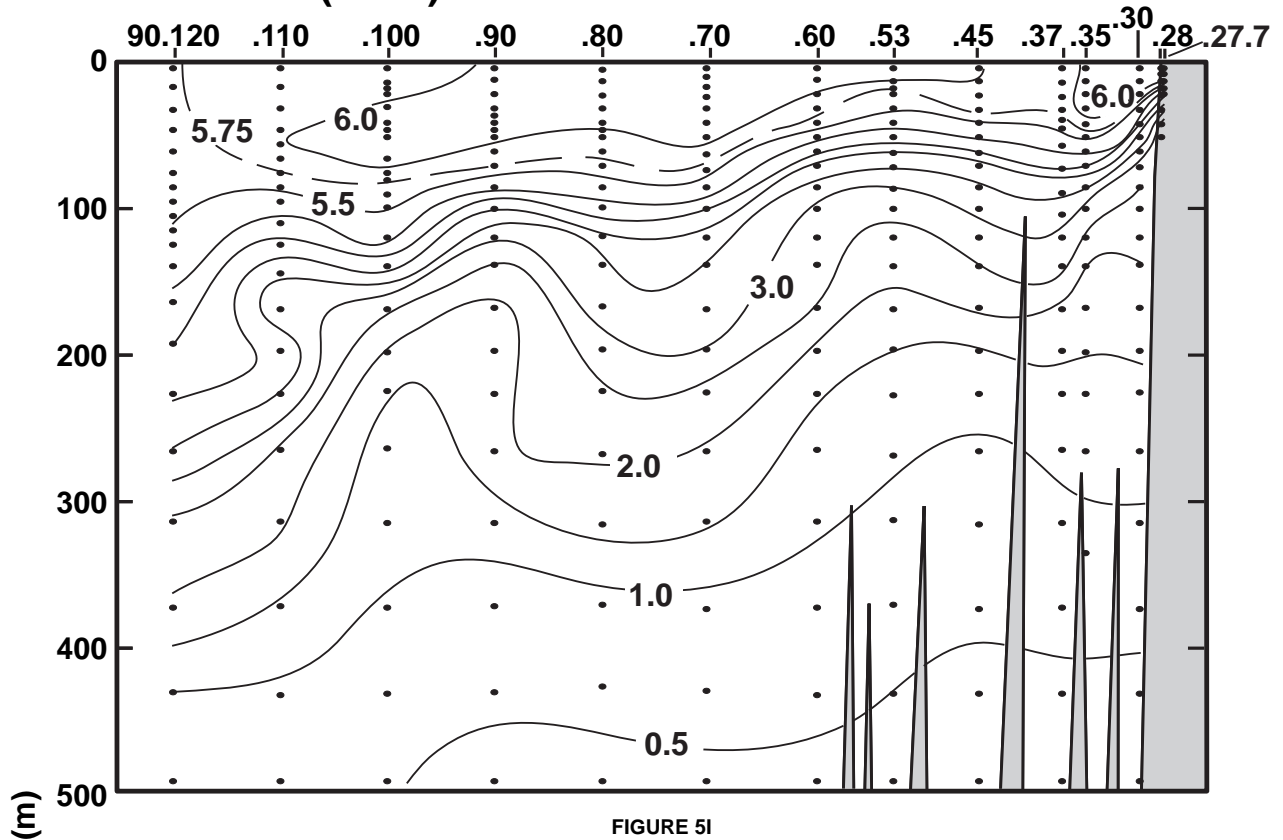


FIGURE 5I

NITRITE (M/L) ALONG CALCOFI LINE 90

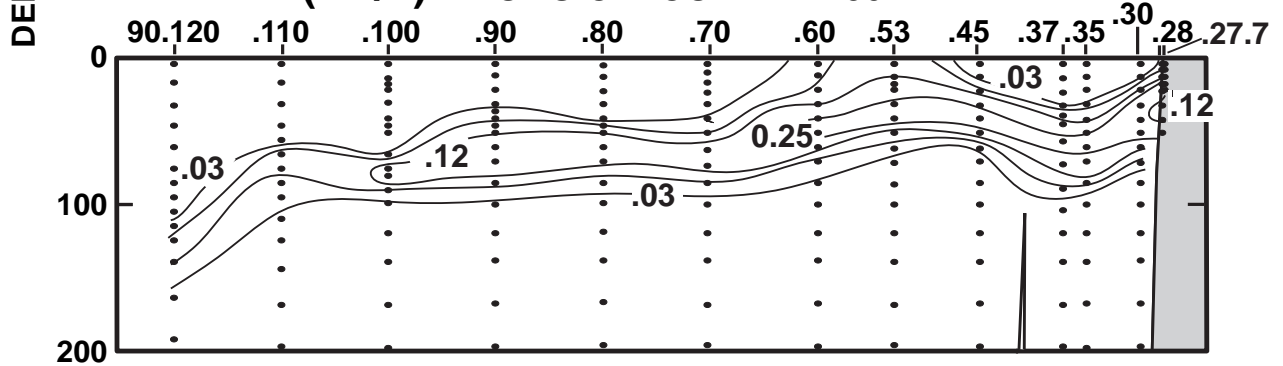


FIGURE 5J

PHAEOPIGMENTS (g/L) ALONG CALCOFI LINE 90

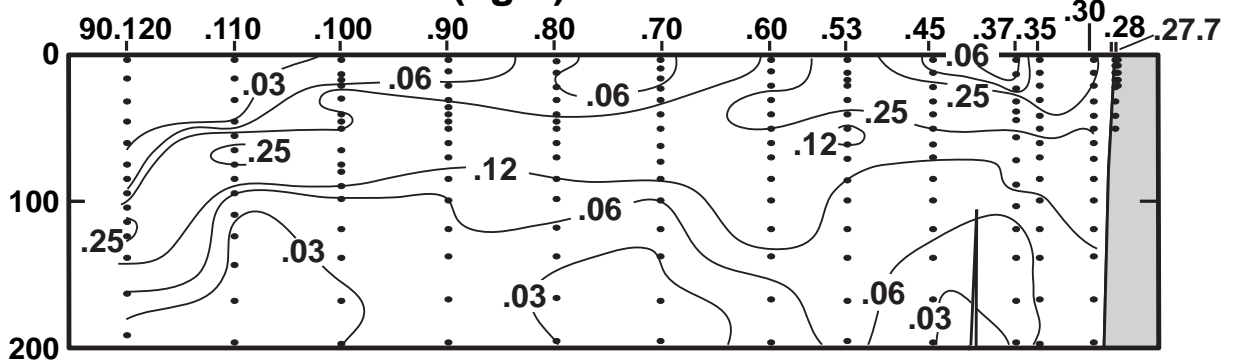


FIGURE 5K

PERSONNEL

CalCOFI Cruise 0704

SHIP'S CAPTAIN

Keith Roberts, RV *David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Legs)
Hays, Amy E. (Chief Scientist)	Fishery Biologist, NMFS	1-3
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS	1, 3
Becker, Susan M.	Staff Research Associate, SIO	1
Bowlin, Noelle M.	Fishery Biologist, NMFS	2-3
Cambell, Gregory	Staff Research Associate, SIO	1
Claussen, Stephen M.	Marine Mammal Observer, Cascadia Research	1
Davis, Edward P.	Volunteer	1
Dotson, Ronald C.	Fishery Biologist, NMFS	1-3
Dovel, Shonna L.	Staff Research Associate, SIO	1
Griffith, David A.	Fishery Biologist, NMFS	2-3
Macewicz, Beverly	Fishery Biologist, NMFS	2-3
Overcash, Bryan J.	Scientific Aid, Cal. Department of Fish and Game	1-2
Sheldon, Jennifer L.	Staff Research Associate, SIO	1
Stanaway, Kathryn E.	Staff Research Associate, SIO	1
Thombley, Robert L.	Staff Research Associate, SIO	1
Wilkinson, James R.	Programmer Analyst, SIO	1
Wolgast, David M.	Staff Research Associate, SIO	1

Leg 1: San Diego to Monterey, California 27 March-15 April, 2007

Leg 2: Monterey to Santa Cruz, California 24-25 April 2007

Leg 3: Santa Cruz to San Diego, California 27-29 April, 2007

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
36 47.0 N	122 3.4 W	27/04/07	2204 UTC	264 m	300 20 kn	290 02 07	1	1014.8 mb	14.1 c	12.2 c	7m	3/8	CS			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	10.07	10.07	33.861	26.051	194.8	0.000	4.60	72.4	29.0		21.3		1.92	0.49	0	
2 A	10.07	10.07	33.861	26.051	194.9	0.004	4.60	72.4	29.0		21.3		1.92	0.49	2	212
5	10.18	10.18	33.818 D	25.999	199.9	0.010	4.63 D	73.0	27.2		21.1		1.21	0.32	5	211
10	10.07	10.07	33.926 D	26.102	190.2	0.020	3.94 D	62.0	30.3		21.6		2.31	0.60	10	210
20	9.33	9.33	33.920 D	26.220	179.2	0.038	3.34 D	51.7	34.5		25.0		0.96	0.64	20	209
30	9.27	9.27	33.916 D	26.227	178.8	0.056	3.29 D	50.9	34.5		25.6		0.48	0.56	30	208
40	9.21	9.21	33.932 D	26.249	176.8	0.074	3.02 D	46.6	35.3		26.0		0.35	0.55	40	207
50 ISL	9.18 D	9.17	33.953 D	26.271	175.0	0.091	2.80 D	43.2	36.1		26.5		0.33	0.55	50	
60	9.09	9.08	34.000 D	26.322	170.3	0.109	2.25 D	34.7	36.8		27.1		0.31	0.55	60	206
75 ISL	8.79 D	8.78	34.027 D	26.391	164.1	0.134	1.92 D	29.4	37.0		28.6		0.11	0.32	75	
80	8.75	8.74	34.043 D	26.410	162.4	0.142	1.90 D	29.1	37.0		29.1		0.05	0.24	80	205
99	8.55	8.54	34.085	26.474	156.6	0.172	1.68	25.6	40.6		30.3		0.04	0.21	100	204
100 ISL	8.52 D	8.51	34.091 D	26.483	155.7	0.174	1.63 D	24.8	40.7		30.3		0.04	0.21	101	
125 ISL	8.28 D	8.27	34.120 D	26.543	150.5	0.212	1.58 D	23.9	43.4		31.2		0.02	0.15	126	
149	8.11	8.09	34.140 D	26.585	146.9	0.248	1.44 D	21.7	45.3		31.8		0.01	0.11	150	203
150 ISL	8.12 D	8.10	34.140 D	26.583	147.1	0.249	1.43 D	21.6	45.4		31.8		0.01	0.11	151	
199	7.84	7.82	34.167 D	26.646	141.9	0.320	1.17 D	17.5	51.0		33.1		0.01	0.10	200	202
200 ISL	7.80 D	7.78	34.174 D	26.658	140.8	0.321	1.15 D	17.2	51.0		33.1		0.01	0.10	201	
250 ISL	7.63 D	7.61	34.185 D	26.692	138.4	0.391	1.08 D	16.1	53.5		33.6		0.01	0.09	252	
260	7.58	7.55	34.189	26.702	137.6	0.405	1.05	15.6	54.0		33.7		0.01	0.09	262	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
36 42.0 N	122 13.9 W	28/04/07	0112 UTC	1136 m	310 22 kn	280 03 07	1	1013.5 mb	12.8 c	11.5 c	9m	2/8	CS			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	11.10	11.10	33.490	25.582	239.4	0.000	6.13	98.4	15.8		14.1	0.24			0	
2 A	11.10	11.10	33.490	25.582	239.4	0.005	6.13	98.4	15.8		14.1	0.24			2	212
10 ISL	11.09 D	11.09	33.487 D	25.582	239.6	0.024	6.02 D	96.6	17.2		15.7	0.26			10	
20 ISL	10.88 D	10.88	33.494 D	25.625	235.8	0.048	5.71 D	91.2	19.3		17.9	0.28			20	
30 ISL	10.04 D	10.04	33.704 D	25.934	206.6	0.070	3.82 D	60.0	21.8		20.5	0.31			30	
50	9.54	9.53	33.886 D	26.160	185.6	0.109	2.44 D	38.0	28.2		26.5	0.34			50	211
75 ISL	9.00 D	8.99	33.958 D	26.304	172.4	0.154	2.40 D	36.9	32.9		27.8	0.24			75	
99	8.78	8.77	34.055	26.415	162.3	0.194	1.93	29.5	36.6		29.0	0.12			100	210
100 ISL	8.75 D	8.74	34.062 D	26.425	161.3	0.196	1.87 D	28.6	36.7		29.0	0.12			101	
125 ISL	8.51 D	8.50	34.107 D	26.498	154.9	0.235	1.63 D	24.8	39.9		29.6	0.11			126	
150 ISL	8.32 D	8.30	34.128 D	26.544	150.9	0.273	1.51 D	22.9	42.5		30.0	0.11			151	
199	7.89	7.87	34.170 D	26.641	142.4	0.345	1.21 D	18.2	46.1		30.4	0.10			200	209
200 ISL	7.86 D	7.84	34.170 D	26.646	142.0	0.347	1.20 D	18.0	46.1		30.4	0.10			201	
250 ISL	7.51 D	7.49	34.181 D	26.706	137.0	0.416	1.09 D	16.2	47.1		30.7	0.11			252	
298	7.33	7.30	34.192 D	26.741	134.4	0.482	0.98 D	14.5	49.0		31.5	0.11			300	208
300 ISL	7.32 D	7.29	34.192 D	26.742	134.3	0.484	0.98 D	14.5	49.3		31.6	0.11			302	
397	6.61	6.57	34.202 D	26.848	125.3	0.610	0.75 D	10.9	66.2		36.7	0.09			400	207
400 ISL	6.43 D	6.39	34.187 D	26.860	124.1	0.614	0.77 D	11.2	66.6		36.8	0.09			403	
497	5.72	5.68	34.238	26.991	112.4	0.729	0.42	6.0	79.7		39.8	0.07			501	206
500 ISL	5.67 D	5.63	34.242 D	27.000	111.4	0.732	0.40 D	5.7	80.1		39.9	0.07			504	
595	5.14	5.09	34.312 D	27.119	100.7	0.833	0.26 D	3.7	91.6		41.1	0.06			600	205
600 ISL	5.11 D	5.06	34.316 D	27.126	100.1	0.838	0.26 D	3.7	92.1		41.1				605	
693	4.76	4.70	34.361 D	27.202	93.5	0.928	0.25 D	3.5	100.2		42.0				699	204
700 ISL	4.74 D	4.68	34.363 D	27.206	93.2	0.934	0.26 D	3.6	100.7		42.1				706	
792	4.43	4.37	34.407 D	27.276	87.1	1.017	0.31 D	4.3	107.1		43.2				799	203
800 ISL	4.40 D	4.34	34.409 D	27.281	86.7	1.024	0.31 D	4.3	107.7		43.2				807	
892	4.06	3.99	34.444 D	27.345	80.9	1.101	0.40 D	5.5	115.2		42.5				900	202
900 CSL	4.01	3.94	34.448	27.353	80.0	1.108	0.41	5.6							908	200
1000 CSL	3.69	3.62	34.474	27.407	75.2	1.185	0.53	7.2							1009	200
1026	3.64	3.56	34.478 D	27.415	74.5	1.205	0.55 D	7.5	125.9		42.8				1035	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
36 37.2 N	122 25.0 W	28/04/07	0343 UTC	2600 m	300 18 kn			1014.2 mb	12.5 c	11.2 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	11.03	11.03	33.515	25.614	236.3	0.000	6.12	98.1	16.3		14.5	0.24	1.07	0.30	0	
1 A	11.03	11.03	33.515	25.614	236.4	0.002	6.12	98.1	16.3		14.5	0.24	1.07	0.30	1	212
6	11.04	11.04	33.514 D	25.612	236.7	0.014	6.17 D	99.0	16.2		14.9	0.26	1.11	0.28	6	211
10 ISL	11.02 D	11.02	33.514 D	25.616	236.4	0.024	6.15 D	98.6	16.2		14.7	0.26	1.10	0.29	10	
11	11.04	11.04	33.515 D	25.613	236.7	0.026	6.14 D	98.5	16.2		14.6	0.26	1.10	0.29	11	210
20 ISL	10.66 D	10.66	33.530 D	25.692	229.4	0.047	5.97 D	95.0	16.4		15.1	0.27	1.37	0.38	20	
21	10.66	10.66	33.531 D	25.693	229.4	0.049	5.94 D	94.5	16.5		15.2	0.27	1.40	0.39	21	209
30 ISL	10.49 D	10.49	33.596 D	25.773	221.9	0.070	5.43 D	86.1	17.2		15.9	0.30	1.15	0.39	30	
31	10.49	10.49	33.605 D	25.780	221.3	0.072	5.31 D	84.2	17.3		16.1	0.30	1.10	0.39	31	208
40	10.15	10.15	33.677 D	25.895	210.6	0.091	4.66 D	73.4	20.1		19.1	0.37	0.71	0.35	40	207
50 ISL	9.90 D	9.89	33.743 D	25.989	201.9	0.112	4.01 D	62.8	22.4		21.3	0.38	0.38	0.26	50	
60	9.80	9.79	33.778 D	26.033	197.9	0.132	3.68 D	57.5	24.4		22.7	0.38	0.18	0.19	60	206
75 ISL	9.64 D	9.63	33.834 D	26.103	191.5	0.161	3.36 D	52.4	27.7		24.2	0.38	0.19	0.20	75	
80	9.64	9.63	33.850 D	26.116	190.4	0.171	3.37 D	52.5	28.5		24.6	0.38	0.19	0.21	80	205
100	9.19	9.18	33.890	26.221	180.8	0.208	2.66	41.0	28.4		26.1		0.03	0.15	101	204
125 ISL	9.12 D	9.11	33.986 D	26.307	173.1	0.252	2.32 D	35.8	31.8		27.9		0.04	0.14	126	
149	8.79	8.77	34.052 D	26.412	163.5	0.292	2.02 D	30.9	36.0		29.2		0.05	0.14	150	203
150 ISL	8.77 D	8.75	34.053 D	26.416	163.2	0.294	2.01 D	30.8	36.1		29.2		0.05	0.14	151	
199	8.20	8.18	34.079	26.524	153.6	0.372	1.94	29.3	40.3		30.2		0.01	0.09	200	202
200 ISL	8.20 D	8.18	34.081 D	26.526	153.5	0.373	1.91 D	28.9	40.4		30.2		0.01	0.09	201	
250 CSL	7.80	7.78	34.123	26.618	145.5	0.448	1.51	22.6							252	200
300 CSL	7.26	7.23	34.136	26.706	137.7	0.519	1.25	18.5							302	200
400 CSL	6.63	6.59	34.186	26.833	126.8	0.651	0.79	11.5							403	200
500 CSL	5.82	5.78	34.239	26.979	113.6	0.771	0.44	6.3							504	200
600 CSL	5.26	5.21	34.298	27.094	103.3	0.880	0.27	3.8							605	200
700 CSL	4.82	4.76	34.355	27.191	94.8	0.979	0.24	3.4							706	200
800 CSL	4.42	4.36	34.404	27.274	87.3	1.070	0.30	4.1							807	200
900 CSL	4.01	3.94	34.441	27.348	80.5	1.153									908	200
1000 CSL	3.81	3.74	34.462	27.385	77.5	1.233	0.46	6.3							1009	200
1029	3.74	3.66	34.470 D	27.399	76.3	1.255	0.50 D	6.8	118.6		43.3		0.00	0.02	1038	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
36 26.9 N	122 46.2 W	28/04/07	0804 UTC	2921 m	320 14 kn			1016.0 mb	13.6 c	11.3 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.05	12.05	33.357	25.304	265.8	0.000	6.16	100.9	5.7		7.8	0.17	0.43	0.19	0	
3 A	12.05	12.05	33.357	25.304	265.9	0.008	6.16	100.9	5.7		7.8	0.17	0.43	0.19	3	212
6	12.05	12.05	33.357 D	25.304	265.9	0.016	6.16 D	100.9	6.1	0.68	8.4	0.21	0.42	0.17	6	211
10 ISL	12.03 D	12.03	33.358 D	25.309	265.6	0.027	6.14 D	100.5	5.3	0.67	7.3	0.18	0.41	0.18	10	
11	12.05	12.05	33.358 D	25.305	266.0	0.029	6.14 D	100.5	5.0	0.67	6.9	0.17	0.41	0.19	11	210
20	12.01	12.01	33.370 D	25.322	264.6	0.053	6.10 D	99.8	6.3	0.68	8.5	0.20	0.42	0.21	20	209
30	11.54	11.54	33.412 D	25.443	253.4	0.079	6.07 D	98.3	8.8	0.71	10.8	0.21	0.43	0.27	30	208
40	11.39	11.39	33.444 D	25.495	248.6	0.104	5.94 D	95.9	9.6	1.02	11.8	0.22	0.64	0.33	40	207
50 ISL	11.05 D	11.04	33.576 D	25.659	233.3	0.128	5.43 D	87.1	10.2	1.07	13.3	0.24	0.54	0.25	50	
59	10.96	10.95	33.601 D	25.695	230.1	0.149	5.35 D	85.7	11.5	1.12	15.0	0.25	0.34	0.15	59	206
75 ISL	10.61 D	10.60	33.678 D	25.817	218.8	0.185	4.28 D	68.1	17.4	1.35	19.4	0.27	0.11	0.09	75	
79	10.35	10.34	33.737 D	25.908	210.2	0.194	3.82 D	60.4	19.1	1.41	20.5	0.27	0.07	0.09	79	205
99	9.74	9.73	33.817	26.074	194.8	0.234	2.95	46.1	25.0	1.68	25.0	0.21	0.03	0.10	100	204
100 ISL	9.74 D	9.73	33.816 D	26.073	194.9	0.236	2.88 D	45.0	25.2	1.69	25.1		0.03	0.10	101	
125 ISL	9.09 D	9.08	33.889 D	26.236	179.8	0.283	2.60 D	40.0	29.0	1.81	26.4		0.02	0.11	126	
149	8.78	8.76	33.983 D	26.359	168.5	0.325	2.36 D	36.1	31.5	1.86	27.7		0.02	0.12	150	203
150 ISL	8.78 D	8.76	33.986 D	26.362	168.3	0.326	2.35 D	36.0	31.7	1.86	27.8		0.02	0.12	151	
199	8.26	8.24	34.097	26.529	153.2	0.405	1.80	27.2	40.3	2.11	31.1		0.01	0.10	200	202
200 ISL	8.27 D	8.25	34.098 D	26.528	153.3	0.407	1.77 D	26.8	40.4	2.11	31.1		0.01	0.10	201	
250 CSL	7.61	7.59	34.100	26.628	144.4	0.481	1.51	22.5							252	200
300 CSL	7.10	7.07	34.115	26.712	137.0	0.551	1.28	18.9							302	200
400 CSL	6.24	6.20	34.155	26.859	124.0	0.682	0.80	11.5							403	200
500 CSL	5.57	5.53	34.220	26.995	111.8	0.800	0.42	6.0							504	200
600 CSL	5.12	5.07	34.297	27.110	101.7	0.907	0.25	3.5							605	200
700 CSL	4.79	4.73	34.358	27.197	94.2	1.004	0.23	3.2							706	200
800 CSL	4.43	4.37	34.401	27.271	87.6	1.095	0.27	3.7							807	200
900 CSL	4.11	4.04	34.432	27.330	82.4	1.180	0.35	4.8							908	200
1000 CSL	3.80	3.73	34.460	27.385	77.5	1.260	0.45	6.1							1009	200
1021	3.72	3.64	34.467 D	27.398	76.2	1.276	0.47 D	6.4	119.6	2.91	43.8		0.00	0.03	1030	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
36 17.5 N	123 7.6 W	28/04/07	1423 UTC	3259 m	340 22 kn	320 09 07	2	1015.6 mb	12.5 c	11.4 c		8/8	ST			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.37	12.37	33.208	25.128	282.6	0.000	6.22	102.4	3.4		4.6	0.14	0.35	0.16	0	
2 A	12.37	12.37	33.208	25.128	282.7	0.006	6.22	102.4	3.4		4.6	0.14	0.35	0.16	2	212
6	12.37	12.37	33.207 D	25.127	282.8	0.017	6.24 D	102.8	3.6	0.46	4.8	0.17	0.38	0.17	6	211
10	12.37	12.37	33.207 D	25.127	282.9	0.028	6.24 D	102.8	3.4		4.7	0.15	0.33	0.17	10	210
20	12.38	12.38	33.209 D	25.127	283.2	0.057	6.23 D	102.6	3.3	0.43	4.7	0.18	0.35	0.15	20	209
30	12.30	12.30	33.281 D	25.199	276.6	0.085	6.19 D	101.8	3.4		4.9	0.15	0.35	0.16	30	208
40	12.17	12.16	33.310 D	25.246	272.4	0.112	6.04 D	99.1	4.5	0.42	6.5	0.17	0.44	0.21	40	207
50 ISL	10.88 D	10.87	33.375 D	25.533	245.2	0.138	5.14 D	82.1	10.9	0.84	12.7	0.19	0.28	0.17	50	
60	10.09	10.08	33.586 D	25.834	216.7	0.161	3.88 D	61.0	18.0	1.29	19.2	0.21	0.07	0.11	60	206
75 ISL	9.76 D	9.75	33.691 D	25.972	204.0	0.193	3.13 D	48.9	21.1	1.41	21.5	0.11	0.05	0.12	75	
80	9.60	9.59	33.744 D	26.040	197.6	0.203	2.93 D	45.6	21.6	1.45	21.7	0.07	0.05	0.12	80	205
100	9.32	9.31	33.829	26.152	187.3	0.241	2.82	43.6	27.2	1.45	25.4	0.06	0.03	0.16	101	204
125 ISL	8.95 D	8.94	33.936 D	26.295	174.2	0.286	2.42 D	37.2	32.1	1.66	28.3		0.03	0.16	126	
149	8.51	8.49	34.029 D	26.437	161.1	0.326	2.07 D	31.5	35.7	1.90	30.0		0.03	0.16	150	203
150 ISL	8.49 D	8.47	34.032 D	26.442	160.6	0.328	2.07 D	31.5	35.8	1.90	30.0		0.03	0.16	151	
198	7.90	7.88	34.073	26.564	149.7	0.403	1.81	27.2	42.3	2.05	31.6		0.01	0.09	199	202
200 ISL	7.86 D	7.84	34.074 D	26.570	149.1	0.406	1.76 D	26.4	42.5	2.05	31.6		0.01	0.09	201	
250 CSL	7.25	7.23	34.105	26.683	139.0	0.478	1.44	21.3							252	200
300 CSL	6.42	6.39	34.065	26.764	131.6	0.545	1.33	19.3							302	200
400 CSL	6.02	5.99	34.194	26.918	118.2	0.670	0.60	8.6							403	200
500 CSL	5.37	5.33	34.249	27.042	107.2	0.783	0.34	4.8							504	200
600 CSL	4.98	4.93	34.319	27.143	98.3	0.886	0.23	3.2							605	200
700 CSL	4.71	4.65	34.366	27.212	92.6	0.981	0.23	3.2							706	200
800 CSL	4.36	4.30	34.404	27.281	86.5	1.071	0.28	3.9							807	200
900 CSL	4.07	4.00	34.435	27.337	81.7	1.155	0.36	4.9							908	200
1000 CSL	3.78	3.71	34.463	27.389	77.1	1.234	0.47	6.4							1009	200
1021	3.74	3.66	34.470 D	27.399	76.2	1.250	0.49 D	6.7	118.9	3.21	44.2		0.00	0.02	1030	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
36 6.8 N	123 28.6 W	28/04/07	1807 UTC	3565 m	330 20 kn	320 06 06	2	1017.8 mb	12.8 c	11.7 c	12m	8/8	ST			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.00	12.00	33.183	25.179	277.8	0.000	6.31	103.1	4.7		6.6	0.19	0.86	0.28	0	
3 A	12.00	12.00	33.183	25.179	277.8	0.008	6.31	103.1	4.7		6.6	0.19	0.86	0.28	3	212
5	12.00	12.00	33.183 D	25.179	277.9	0.014	6.35 D	103.7	4.6		6.5	0.20	0.85	0.28	5	211
10	12.00	12.00	33.183 D	25.179	278.0	0.028	6.34 D	103.6	4.4	0.53	6.5	0.21	0.81	0.26	10	210
20	11.99	11.99	33.182 D	25.180	278.1	0.056	6.33 D	103.4	4.5	0.43	6.5	0.21	0.82	0.25	20	209
30	11.98	11.98	33.181 D	25.182	278.2	0.083	6.31 D	103.0	4.6	0.47	6.6	0.21	0.80	0.25	30	208
40	11.93	11.92	33.182 D	25.192	277.5	0.111	6.21 D	101.3	4.7		6.7	0.21	0.85	0.27	40	207
50 ISL	10.59 D	10.58	33.112 D	25.379	259.8	0.138	5.64 D	89.3	8.0	0.72	9.8	0.20	0.49	0.19	50	
60	10.07	10.06	33.194 D	25.532	245.5	0.163	4.91 D	76.9	12.5	0.89	14.0	0.18	0.08	0.10	60	206
75 ISL	9.71 D	9.70	33.453 D	25.794	220.8	0.198	4.15 D	64.6	17.6	1.11	19.1	0.10	0.04	0.08	75	
79	9.82	9.81	33.581 D	25.876	213.2	0.207	3.75 D	58.6	18.8	1.16	20.3	0.09	0.03	0.08	79	205
100	9.50	9.49	33.812	26.110	191.4	0.249	2.98	46.3	24.2	1.32	24.2	0.27	0.05	0.12	101	204
125 ISL	8.94 D	8.93	33.940 D	26.300	173.7	0.295	2.63 D	40.4	30.0	1.64	27.3		0.04	0.12	126	
149	8.64	8.62	34.016 D	26.407	164.0	0.336	2.13 D	32.5	34.6	1.91	29.0		0.03	0.12	150	203
150 ISL	8.63 D	8.61	34.018 D	26.410	163.7	0.337	2.13 D	32.5	34.7	1.91	29.0		0.03	0.12	151	
199	7.92	7.90	34.047	26.540	152.0	0.415	2.04	30.6	39.5	1.96	30.0		0.01	0.07	200	202
200 ISL	7.90 D	7.88	34.046 D	26.543	151.8	0.416	2.03 D	30.4	39.6	1.96	30.0		0.01	0.07	201	
250 CSL	7.36	7.34	34.079	26.647	142.5	0.490	1.61	23.9							252	200
300 CSL	6.84	6.81	34.109	26.743	133.9	0.559	1.20	17.6							302	200
400 CSL	6.01	5.98	34.154	26.887	121.1	0.686	0.75	10.8							403	200
500 CSL	5.40	5.36	34.212	27.009	110.3	0.802	0.44	6.2							504	200
600 CSL	5.01	4.96	34.284	27.112	101.3	0.908	0.25	3.5							605	200
700 CSL	4.58	4.53	34.344	27.209	92.7	1.005	0.22	3.1							706	200
800 CSL	4.32	4.26	34.406	27.287	85.9	1.094	0.29	4.0							807	200
900 CSL	4.02	3.95	34.444	27.349	80.5	1.177	0.39	5.3							908	200
1000 CSL	3.73	3.66	34.470	27.400	76.0	1.255	0.49	6.7							1009	200
1018	3.67	3.59	34.476 D	27.410	74.9	1.269	0.51 D	6.9	122.6	3.12	43.8		0.00	0.02	1027	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
35 56.9 N	123 50.0 W	28/04/07	2239 UTC	3869 m	350 20 kn	320 06 08	2	1017.7 mb	13.3 c	12.1 c	12m	8/8	ST			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.31	12.31	32.905	24.904	303.9	0.000	6.51	106.9	3.7		2.5		1.00	0.25	0	
2 A	12.31	12.31	32.905	24.904	303.9	0.006	6.51	106.9	3.7		2.5		1.00	0.25	2	212
6	12.30	12.30	32.905 D	24.906	303.8	0.018	6.49 D	106.5	3.5	0.34	2.5	0.12	1.06	0.25	6	211
10	12.30	12.30	32.905 D	24.906	303.9	0.030	6.49 D	106.5	3.2		2.4		1.00	0.29	10	210
20	12.29	12.29	32.905 D	24.909	304.0	0.061	6.49 D	106.5	2.7	0.41	2.0	0.13	0.98	0.26	20	209
30	12.20	12.20	32.901 D	24.923	302.9	0.091	6.44 D	105.5	3.2	0.42	2.7	0.16	0.98	0.27	30	208
40	11.82	11.81	32.904 D	24.997	296.1	0.121	6.33 D	102.8	4.5	0.58	3.7	0.21	0.88	0.28	40	207
50 ISL	11.19 D	11.18	32.955 D	25.151	281.5	0.150	6.09 D	97.6	8.2	0.71	7.1	0.30	0.50	0.23	50	
60	10.69	10.68	33.066 D	25.326	265.1	0.177	5.74 D	91.1	12.0	0.80	11.0	0.34	0.12	0.16	60	206
75 ISL	10.70 D	10.69	33.346 D	25.543	244.9	0.216	4.88 D	77.6	12.8	0.81	14.0	0.15	0.07	0.13	75	
80	10.63	10.62	33.379 D	25.581	241.3	0.228	4.60 D	73.0	13.0	0.81	14.8	0.08	0.05	0.12	80	205
100	9.58	9.57	33.484	25.840	216.9	0.274	4.13	64.1	19.4	1.12	18.1	0.10	0.04	0.08	101	204
125 ISL	9.06 D	9.05	33.728 D	26.115	191.3	0.325	3.44 D	52.9	25.6	1.42	22.4		0.03	0.09	126	
150	8.86	8.84	33.915 D	26.293	174.8	0.370	2.67 D	40.9	30.4	1.65	26.1		0.03	0.11	151	203
199	8.31	8.29	34.059	26.492	156.7	0.452	1.94	29.4	37.9	1.95	30.4		0.01	0.05	200	202
200 ISL	8.29 D	8.27	34.069 D	26.503	155.7	0.453	1.89 D	28.6	38.0	1.95	30.4		0.01	0.05	201	
250 CSL	7.73	7.71	34.086	26.599	147.2	0.529	1.68	25.1							252	200
300 CSL	7.03	7.00	34.068	26.685	139.5	0.600	1.63	24.0							302	200
400 CSL	6.18	6.14	34.107	26.829	126.7	0.734	1.02	14.7							403	200
500 CSL	5.61	5.57	34.201	26.975	113.7	0.854	0.50	7.1							504	200
600 CSL	5.28	5.23	34.292	27.087	104.0	0.963	0.27	3.8							604	200
700 CSL	4.81	4.75	34.343	27.182	95.5	1.063	0.22	3.1							705	200
800 CSL	4.38	4.32	34.378	27.258	88.7	1.155	0.24	3.3							806	200
900 CSL	4.12	4.05	34.435	27.332	82.3	1.240	0.36	4.9							908	200
996	3.85	3.78	34.457 D	27.377	78.3	1.317	0.44 D	6.0	118.4	2.97	43.6		0.00	0.02	1005	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
35 47.3 N	124 11.4 W	29/04/07	0230 UTC	3946 m	350 16 kn	330 06 09	2	1017.0 mb	13.5 c	11.8 c		8/8	ST			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.32	12.32	32.874	24.878	306.3	0.000	6.54	107.4	3.1		2.2	0.17	0.90	0.27	0	
2 A	12.32	12.32	32.874	24.878	306.4	0.006	6.54	107.4	3.1		2.2	0.17	0.90	0.27	2	212
6	12.33	12.33	32.879 D	24.881	306.3	0.018	6.53 D	107.2	3.1	0.45	2.3	0.17	0.97	0.27	6	211
10 ISL	12.35 D	12.35	32.894 D	24.888	305.6	0.031	6.54 D	107.4	3.1	0.53	2.4	0.16	0.88	0.28	10	
11	12.37	12.37	32.995 D	24.963	298.6	0.034	6.51 D	107.1	3.1		2.5	0.16	0.85	0.28	11	210
20 ISL	12.32 D	12.32	33.044 D	25.011	294.3	0.060	6.46 D	106.2	4.3	0.72	4.0	0.15	0.71	0.25	20	
21	12.28	12.28	33.050 D	25.023	293.1	0.063	6.41 D	105.3	4.5		4.2	0.15	0.70	0.25	21	209
30	11.86	11.86	33.070 D	25.118	284.3	0.089	6.32 D	102.9	7.0	0.92	5.9	0.21	0.49	0.24	30	208
40	11.39	11.39	33.147 D	25.264	270.6	0.117	6.08 D	98.0	9.2	1.00	7.8	0.21	0.40	0.25	40	207
50 ISL	11.00 D	10.99	33.195 D	25.372	260.6	0.144	5.89 D	94.2	9.3	1.08	8.4	0.23	0.25	0.20	50	
60	10.73	10.72	33.239 D	25.454	253.0	0.169	5.61 D	89.2	9.7	1.14	9.3	0.25	0.12	0.14	60	206
75 ISL	10.30 D	10.29	33.331 D	25.600	239.3	0.206	5.11 D	80.5	15.2	1.15	14.7	0.25	0.07	0.11	75	
80	10.11	10.10	33.381 D	25.671	232.6	0.218	4.78 D	75.0	17.3	1.15	16.7	0.25	0.06	0.11	80	205
100	9.55	9.54	33.542	25.890	212.2	0.262	4.30	66.7	21.2	1.33	20.4	0.17	0.05	0.11	101	204
125 ISL	8.85 D	8.84	33.746 D	26.162	186.7	0.312	3.38 D	51.7	24.7	1.36	22.6		0.03	0.09	126	
150	8.54	8.52	33.913 D	26.341	170.1	0.357	3.07 D	46.7	28.4	1.38	24.1		0.01	0.07	151	203
200	8.39	8.37	34.083	26.499	156.2	0.438	1.75	26.6	40.8	1.87	30.7		0.02	0.09	201	202
250 CSL	7.66	7.64	34.063	26.591	147.9	0.514	1.82	27.1							252	200
300 CSL	6.93	6.90	34.097	26.721	136.0	0.585	1.33	19.5							302	200
400 CSL	6.19	6.15	34.169	26.876	122.3	0.715	0.73	10.5							403	200
500 CSL	5.55	5.51	34.207	26.987	112.5	0.832	0.49	7.0							504	200
600 CSL	5.13	5.08	34.289	27.102	102.4	0.939	0.27	3.8							604	200
700 CSL	4.55	4.50	34.319	27.192	94.2	1.038									705	200
800 CSL	4.36	4.30	34.400	27.278	86.8	1.128	0.28	3.9							806	200
900 CSL	4.06	3.99	34.437	27.339	81.4	1.212	0.37	5.1							908	200
1000 CSL	3.75	3.68	34.468	27.396	76.3	1.291	0.48	6.5							1009	200
1010	3.73	3.65	34.472 D	27.401	75.9	1.299	0.50 D	6.8	124.3	3.02	43.7		0.00	0.01	1019	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
35 37.0 N	124 32.4 W	29/04/07	0910 UTC	4196 m	350 12 kn			1018.2 mb	12.9 c	11.2 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.27	12.27	32.953	24.949	299.6	0.000	6.49	106.5	4.4		3.1	0.14	0.76	0.24	0	
2 A	12.27	12.27	32.953	24.949	299.7	0.006	6.49	106.5	4.4		3.1	0.14	0.76	0.24	2	212
5	12.27	12.27	32.954 D	24.950	299.6	0.015	6.48 D	106.3	4.4	0.24	3.1	0.16	0.76	0.26	5	211
10	12.27	12.27	32.954 D	24.950	299.8	0.030	6.47 D	106.2	4.1	0.33	3.0	0.15	0.84	0.24	10	210
20	12.27	12.27	32.954 D	24.951	300.0	0.060	6.46 D	106.0	3.6	0.28	3.0	0.15	0.71	0.22	20	209
30	12.27	12.27	32.953 D	24.950	300.3	0.090	6.45 D	105.8	4.0	0.25	3.0	0.14	0.69	0.25	30	208
40	12.19	12.18	32.966 D	24.975	298.1	0.120	6.38 D	104.5	3.5	0.42	3.0	0.15	0.63	0.23	40	207
50 ISL	11.82 D	11.81	33.005 D	25.075	288.8	0.149	6.25 D	101.6	5.6	0.60	4.7	0.19	0.44	0.18	50	
60	11.26	11.25	33.008 D	25.180	279.0	0.178	6.05 D	97.2	8.1	0.75	6.8	0.24	0.25	0.14	60	206
75 ISL	10.91 D	10.90	33.216 D	25.404	258.0	0.218	5.88 D	93.8	8.9	0.83	8.3	0.25	0.18	0.14	75	
80	10.86	10.85	33.234 D	25.427	255.9	0.231	5.77 D	92.0	9.1	0.84	8.8	0.25	0.18	0.14	80	205
99	10.70	10.69	33.418	25.599	240.0	0.278	5.71	90.8	11.8	0.92	12.4	0.26	0.08	0.09	100	204
100 ISL	10.68 D	10.67	33.421 D	25.605	239.5	0.280	5.59 D	88.9	12.1	0.93	12.7		0.08	0.09	101	
125 ISL	9.52 D	9.51	33.520 D	25.879	213.8	0.337	4.19 D	65.0	19.1	1.22	18.9		0.05	0.11	126	
149	9.14	9.12	33.748 D	26.118	191.5	0.386	3.31 D	51.0	26.3	1.52	24.4		0.03	0.14	150	203
150 ISL	8.95 D	8.93	33.762 D	26.159	187.5	0.387	3.31 D	50.8	26.5	1.53	24.5		0.03	0.14	151	
199	8.22	8.20	33.949	26.419	163.6	0.473	2.81	42.4	34.4	1.79	27.8		0.01	0.07	200	202
200 ISL	8.21 D	8.19	33.950 D	26.421	163.4	0.475	2.73 D	41.2	34.5	1.79	27.8		0.01	0.07	201	
250 CSL	7.68	7.66	34.015	26.551	151.8	0.554	2.18	32.5							252	200
300 CSL	7.36	7.33	34.086	26.653	142.8	0.628	1.56	23.1							302	200
400 CSL	6.47	6.43	34.139	26.817	128.2	0.763	0.95	13.8							403	200
500 CSL	5.81	5.77	34.202	26.951	116.2	0.885	0.52	7.4							504	200
600 CSL	5.13	5.08	34.256	27.076	104.8	0.996	0.32	4.5							604	200
700 CSL	4.74	4.68	34.326	27.177	95.9	1.096	0.22	3.1							705	200
800 CSL	4.45	4.39	34.378	27.250	89.6	1.189	0.24	3.3							806	200
900 CSL	4.09	4.02	34.421	27.323	83.0	1.275	0.32	4.4							907	200
1000 CSL	3.79	3.72	34.461	27.386	77.3	1.355	0.45	6.1							1009	200
1022	3.72	3.64	34.468 D	27.399	76.2	1.372	0.48 D	6.5	122.7	3.06	43.2		0.00	0.01	1031	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
35 27.1 N	124 53.4 W	29/04/07	1453 UTC	4390 m	350 14 kn	320 05 04	2	1019.0 mb	14.0 c	11.9 c	14m	8/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.69	12.69	32.790	24.742	319.3	0.000	6.38	105.5	2.1		0.2	0.06	0.54	0.17	0	
2 A	12.69	12.69	32.790	24.742	319.4	0.006	6.38	105.5	2.1		0.2	0.06	0.54	0.17	2	212
5	12.69	12.69	32.791 D	24.743	319.4	0.016	6.41 D	106.0	2.0	0.26	0.3	0.07	0.55	0.17	5	211
10	12.69	12.69	32.791 D	24.743	319.5	0.032	6.41 D	106.0	1.8		0.2	0.06	0.54	0.18	10	210
20	12.69	12.69	32.789 D	24.742	319.8	0.064	6.41 D	106.0	2.2		0.2	0.05	0.53	0.18	20	209
30	12.65	12.65	32.783 D	24.745	319.8	0.096	6.41 D	105.9	1.9	0.23	0.1	0.09			30	208
40	12.14	12.13	32.821 D	24.872	307.9	0.127	6.35 D	103.8	2.7	0.27	1.1	0.14	0.45	0.23	40	207
50 ISL	11.23 D	11.22	32.676 D	24.927	302.9	0.158	6.37 D	102.0	4.3	0.31	2.5	0.22	0.33	0.21	50	
61	11.11	11.10	32.790 D	25.037	292.6	0.191	6.11 D	97.7	6.4	0.39	4.5	0.27	0.20	0.18	61	206
75 ISL	10.84 D	10.83	32.900 D	25.171	280.2	0.231	5.84 D	92.9	9.2	0.59	8.2	0.19	0.10	0.13	75	
80	10.67	10.66	32.968 D	25.253	272.4	0.244	5.60 D	88.8	10.1	0.67	9.6	0.15	0.08	0.11	80	205
99	10.55	10.54	33.328	25.555	244.2	0.294	4.69	74.3	12.2	0.89	13.6	0.05	0.03	0.06	99	204
100 ISL	10.49 D	10.48	33.340 D	25.575	242.3	0.296	4.58 D	72.5	12.4	0.91	13.8		0.03	0.06	100	
125 ISL	9.75 D	9.74	33.629 D	25.926	209.4	0.352	3.56 D	55.5	18.3	1.34	19.2		0.02	0.06	126	
149	9.34	9.32	33.782 D	26.113	192.0	0.401	3.01 D	46.6	24.6	1.72	23.6		0.02	0.06	150	203
150 ISL	9.29 D	9.27	33.783 D	26.122	191.2	0.403	2.99 D	46.2	24.8	1.72	23.7		0.02	0.06	151	
200	8.68	8.66	33.986	26.378	167.7	0.492	2.45	37.4	33.3	1.83	27.8		0.01	0.04	201	202
250 CSL	8.05	8.02	34.043	26.519	155.0	0.573	2.08	31.3							251	200
300 CSL	7.48	7.45	34.098	26.646	143.6	0.648	1.49	22.1							302	200
400 CSL	6.62	6.58	34.138	26.796	130.2	0.784	0.95	13.8							403	200
500 CSL	5.82	5.78	34.193	26.943	117.0	0.908	0.56	8.0							503	200
600 CSL	5.21	5.16	34.254	27.065	106.0	1.020	0.32	4.5							604	200
700 CSL	4.76	4.70	34.310	27.162	97.4	1.121	0.23	3.2							705	200
800 CSL	4.42	4.36	34.375	27.251	89.4	1.215	0.24	3.3							806	200
900 CSL	4.09	4.02	34.419	27.322	83.1	1.301	0.31	4.3							907	200
1000 CSL	3.82	3.74	34.447	27.372	78.7	1.382	0.39	5.3							1009	200
1018	3.76	3.68	34.452 D	27.382	77.8	1.396	0.41 D	5.6	124.0	3.12	43.5		0.00	0.01	1027	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
35 16.9 N	125 15.4 W	29/04/07	1931 UTC	4494 m	340 14 kn	340 03 06	0	1020.4 mb	15.1 c	13.3 c	15m	0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.00	13.00	32.799	24.689	324.4	0.000	6.44	107.2	2.2		0.3	0.05	0.51	0.13	0	
1 A	13.00	13.00	32.799	24.689	324.4	0.003	6.44	107.2	2.2		0.3	0.05	0.51	0.13	1	212
6	12.95	12.95	32.798 D	24.698	323.7	0.019	6.45 D	107.3	1.8	0.23	0.2	0.05	0.53	0.13	6	211
10	12.80	12.80	32.792 D	24.723	321.4	0.032	6.46 D	107.1	1.8	0.29	0.1	0.06	0.56	0.15	10	210
20	12.68	12.68	32.784 D	24.740	320.0	0.064	6.47 D	107.0	1.7	0.15	0.1	0.05	0.64	0.18	20	209
30	12.63	12.63	32.779 D	24.746	319.7	0.096	6.47 D	106.8	1.8	0.17	0.0	0.05	0.69	0.19	30	208
40	12.66	12.65	32.792 D	24.751	319.5	0.128	6.40 D	105.8	2.2	0.15	0.2	0.06	0.65	0.12	40	207
50 ISL	12.57 D	12.56	32.906 D	24.857	309.7	0.160	6.26 D	103.3	2.5	0.23	0.8	0.16	0.47	0.15	50	
60	12.36	12.35	32.954 D	24.934	302.5	0.190	6.05 D	99.4	3.1	0.35	1.9	0.25	0.27	0.19	60	206
75 ISL	11.90 D	11.89	33.082 D	25.121	285.1	0.235	5.74 D	93.5	5.5	0.54	5.2	0.15	0.14	0.14	75	
80	11.45	11.44	33.030 D	25.163	281.1	0.249	5.83 D	94.0	6.4		6.4	0.10	0.12	0.12	80	205
100	11.07	11.06	33.254	25.406	258.5	0.303	5.47	87.6	9.4	0.90	10.3	0.05	0.04	0.07	100	204
125 ISL	10.25 D	10.24	33.489 D	25.733	227.8	0.363	4.20 D	66.2	16.3	1.27	16.9		0.02	0.06	126	
149	9.63	9.61	33.737 D	26.031	199.9	0.415	3.07 D	47.8	23.3	1.57	22.7		0.01	0.06	150	203
150 ISL	9.59 D	9.57	33.751 D	26.048	198.3	0.417	3.04 D	47.3	23.5	1.58	22.8		0.01	0.06	151	
199	8.88	8.86	33.948	26.317	173.6	0.508	2.57	39.4	30.9	1.85	26.9		0.01	0.04	200	202
200 ISL	8.82 D	8.80	33.948 D	26.326	172.6	0.510	2.61 D	39.9	31.0	1.85	26.9		0.01	0.04	201	
250 CSL	8.29	8.26	34.053	26.491	157.8	0.592	2.00	30.3							251	200
300 CSL	7.82	7.79	34.086	26.587	149.3	0.669	1.68	25.2							302	200
400 CSL	6.78	6.74	34.115	26.757	134.1	0.811	1.11	16.2							403	200
500 CSL	5.93	5.89	34.174	26.914	119.8	0.938	0.68	9.7							503	200
600 CSL	5.29	5.24	34.227	27.035	109.0	1.052	0.38	5.4							604	200
700 CSL	4.84	4.78	34.303	27.147	98.9	1.156	0.24	3.4							705	200
800 CSL	4.52	4.46	34.368	27.235	91.1	1.251	0.23	3.2							806	200
900 CSL	4.18	4.11	34.415	27.309	84.5	1.339	0.30	4.1							907	200
1000 CSL	3.84	3.76	34.443	27.367	79.3	1.421	0.39	5.3							1009	200
1100 CSL	3.53	3.45	34.473	27.422	74.2	1.497	0.50	6.8							1110	200
1122	3.48	3.40	34.480 D	27.433	73.2	1.514			129.7	3.02	42.5		0.00	0.01	1132	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
35 7.3 N	125 35.9 W	29/04/07	2307 UTC	4608 m	350 18 kn	360 04 07	0	1019.9 mb	15.3 c	13.7 c	16m	0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.90	13.90	32.978	24.646	328.5	0.000	6.09	103.4	1.9		0.0	0.04	0.17	0.04	0	
3 A	13.90	13.90	32.978	24.646	328.5	0.010	6.09	103.4	1.9		0.0	0.04	0.17	0.04	3	212
6	13.88	13.88	32.977 D	24.650	328.3	0.020	6.16 D	104.5	1.7	0.17	0.0	0.05	0.18	0.05	6	211
10 ISL	13.86 D	13.86	32.977 D	24.654	328.0	0.033	6.16 D	104.5	1.6	0.19	0.1	0.06	0.17	0.05	10	
11	13.87	13.87	32.977 D	24.652	328.2	0.036	6.16 D	104.5	1.6	0.19	0.1	0.06	0.17	0.05	11	210
20	13.65	13.65	32.977 D	24.697	324.2	0.065	6.17 D	104.2	1.9		0.3	0.08	0.17	0.05	20	209
30	13.63	13.63	32.976 D	24.701	324.1	0.098	6.17 D	104.2	1.7	0.24	0.0	0.04	0.17	0.05	30	208
40	13.63	13.62	32.977 D	24.702	324.3	0.130	6.16 D	104.0	1.9		0.0	0.04	0.19	0.06	40	207
50 ISL	13.63 D	13.62	32.981 D	24.705	324.2	0.163	6.16 D	104.0	2.1	0.23	0.1	0.05	0.26	0.09	50	
60	12.96	12.95	32.899 D	24.776	317.7	0.195	6.24 D	103.8	2.3	0.22	0.2	0.07	0.32	0.13	60	206
75 ISL	12.17 D	12.16	33.002 D	25.008	295.9	0.241	6.11 D	100.1	3.8	0.44	2.4	0.47	0.25	0.15	75	
80	12.23	12.22	33.057 D	25.039	293.0	0.256	6.01 D	98.6	4.3	0.53	3.2	0.58	0.21	0.15	80	205
100	11.89	11.88	33.076	25.119	286.0	0.313	5.84	95.1	5.6		5.4	0.18	0.11	0.09	100	204
125 ISL	10.98 D	10.96	33.248 D	25.418	257.9	0.381	5.30 D	84.7	10.2	1.04	11.2		0.04	0.07	126	
150	10.58	10.56	33.496 D	25.682	233.3	0.443	3.97 D	63.0	16.2	1.27	17.6		0.01	0.05	151	203
199	9.43	9.41	33.874	26.171	187.6	0.546	2.61	40.5	27.5	1.78	25.3		0.00	0.04	200	202
200 ISL	9.43 D	9.41	33.878 D	26.174	187.3	0.548	2.58 D	40.0	27.5	1.78	25.3		0.00	0.04	201	
250 CSL	8.59	8.56	34.019	26.419	164.8	0.636	2.34	35.6							251	200
300 CSL	8.03	8.00	34.088	26.558	152.2	0.715	1.77	26.6							302	200
400 CSL	7.45	7.41	34.211	26.740	136.3	0.859	0.87	12.9							403	200
500 CSL	6.39	6.34	34.212	26.886	123.0	0.989	0.61	8.8							503	200
600 CSL	5.23	5.18	34.191	27.013	110.9	1.106	0.48	6.8							604	200
700 CSL	4.80	4.74	34.272	27.127	100.7	1.212	0.27	3.8							705	200
800 CSL	4.41	4.35	34.329	27.216	92.7	1.308	0.22	3.0							806	200
900 CSL	4.05	3.98	34.386	27.300	85.1	1.397	0.26	3.6							907	200
1000 CSL	3.88	3.80	34.452	27.370	79.1	1.479	0.44	6.0							1008	200
1025	3.80	3.72	34.456 D	27.382	78.0	1.499	0.45 D	6.1	27.9	2.20	25.7		0.00	0.01	1034	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
36 47.8 N	121 50.6 W	27/04/07	1950 UTC	202 m	280 17 kn	270 02 08	1	1014.8 mb	14.0 c	13.1 c	4m	3/8	CS			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	11.94	11.94	33.916	25.759	222.6	0.000	7.29	119.5	16.4		7.1		5.76	1.02	0	
2 A	11.94	11.94	33.916	25.759	222.6	0.004	7.29	119.5	16.4		7.1		5.76	1.02	2	212
5	11.85	11.85	33.915 D	25.775	221.2	0.011	6.89 D	112.7	16.8		8.0		5.84	1.08	5	211
10	11.19	11.19	33.915 D	25.897	209.7	0.022	4.67 D	75.3	20.9		13.3		8.65	1.58	10	210
20	9.82	9.82	33.968 D	26.177	183.3	0.042	2.95 D	46.2	32.2		23.6		1.02	0.75	20	209
30	9.21	9.21	34.017 D	26.316	170.3	0.059	2.03 D	31.4	35.0		26.3		0.88	0.53	30	208
41	8.86	8.86	34.050 D	26.397	162.8	0.078	1.73 D	26.5	38.3		29.0		0.11	0.41	41	207
50 ISL	8.76 D	8.75	34.062 D	26.423	160.6	0.092	1.67 D	25.6	39.4		29.3		0.08	0.37	50	
51	8.76	8.75	34.062 D	26.423	160.6	0.094	1.67 D	25.6	39.5		29.3		0.08	0.37	51	206
60	8.60	8.59	34.085 D	26.466	156.7	0.108	1.57 D	23.9	40.8		30.2		0.06	0.25	60	205
75 ISL	8.47 D	8.46	34.102 D	26.499	153.7	0.131	1.47 D	22.4	42.4		30.7		0.04	0.20	75	
80	8.45	8.44	34.103 D	26.503	153.5	0.139	1.47 D	22.3	42.8		30.8		0.03	0.18	80	204
100	8.35	8.34	34.112	26.526	151.7	0.169	1.42	21.5	43.9		31.3		0.03	0.16	101	203
125 ISL	8.27 D	8.26	34.113 D	26.539	150.9	0.207	1.37 D	20.7	46.2		31.8		0.03	0.17	126	
150 ISL	8.09 D	8.07	34.129 D	26.579	147.5	0.245	1.30 D	19.6	49.1		32.2		0.04	0.18	151	
151	8.09	8.07	34.129 D	26.579	147.5	0.246	1.30 D	19.6	49.2		32.2		0.04	0.18	152	202
190	7.76	7.74	34.151	26.645	141.8	0.302	1.20	18.0	53.9		32.9		0.04	0.27	191	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
35 5.3 N	120 46.8 W	24/04/07	0102 UTC	67 m	310 27 kn	320 05 04	1	1020.1 mb	12.0 c	10.6 c		1/8	CI			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	10.32	10.32	33.967	26.091	191.0	0.000	4.53	71.7	27.6		20.9		6.03	0.18	0	
3 A	10.32	10.32	33.967	26.091	191.1	0.006	4.53	71.7	27.6		20.9		6.03	0.18	3	208
6	10.33	10.33	33.966 D	26.089	191.4	0.011	4.59 D	72.7	28.4		21.4		6.36	0.51	6	207
10	10.30	10.30	33.965 D	26.093	191.1	0.019	4.49 D	71.1	28.8		21.8		6.71	0.17	10	206
20	10.26	10.26	33.963	26.099	190.8	0.038	4.23	66.9	28.9		22.2		5.40	0.19	20	205
30 ISL	9.74 D	9.74	33.944 D	26.172	184.0	0.057	2.98 D	46.6	29.1		24.5		1.39	0.28	30	
31	9.74	9.74	33.941 D	26.170	184.2	0.059	3.00 D	46.9	29.1		24.7		1.03	0.29	31	204
39	9.74	9.74	33.962 D	26.186	182.9	0.073	2.93 D	45.8	29.8		25.2		0.77	0.35	39	203
50	9.57	9.56	34.013 D	26.254	176.6	0.093	2.35 D	36.6	32.3		26.3		0.51	0.23	50	202
62	9.54	9.53	34.032	26.274	175.0	0.114	2.16	33.6	34.9		27.1		0.65	0.38	62	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
35 1.3 N	120 54.7 W	24/04/07	0311 UTC	222 m	320 22 kn			1020.8 mb	12.0 c	10.5 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	11.47	11.47	33.707	25.684	229.7	0.000	5.58	90.4	16.4		15.9		1.05	0.28	0	
2 A	11.47	11.47	33.707	25.684	229.8	0.005	5.58	90.4	16.4		15.9		1.05	0.28	2	212
10 ISL	11.49 D	11.49	33.703 D	25.677	230.6	0.023	5.60 D	90.8	16.1		15.7		0.97	0.27	10	
11	11.49	11.49	33.703 D	25.677	230.6	0.025	5.59 D	90.6	16.1		15.7		0.96	0.27	11	211
20 ISL	11.32 D	11.32	33.713 D	25.717	227.1	0.046	5.44 D	87.9	16.9		16.4		1.01	0.27	20	
21	11.33	11.33	33.716	25.717	227.1	0.048	5.46	88.2	17.0		16.5		1.01	0.27	21	210
30	10.68	10.68	33.765 D	25.872	212.6	0.068	4.88 D	77.8	20.8		19.3		0.85	0.42	30	209
40	10.55	10.55	33.767 D	25.896	210.5	0.089	4.59 D	72.9	21.3		19.9		0.62	0.28	40	208
50 ISL	10.17 D	10.16	33.790 D	25.980	202.7	0.110	4.00 D	63.0	23.3		21.8		0.58	0.33	50	
51	10.16	10.15	33.801 D	25.990	201.8	0.112	3.99 D	62.9	23.5		22.0		0.58	0.34	51	207
75 ISL	9.85 D	9.84	33.840 D	26.073	194.4	0.159	3.41 D	53.4	25.6		23.8		0.42	0.28	75	
77	9.79	9.78	33.842 D	26.085	193.3	0.163	3.26 D	51.0	25.8		23.9		0.40	0.28	77	206
100 ISL	9.35 D	9.34	34.039 D	26.312	172.2	0.205	1.94 D	30.1	33.1		27.5		0.05	0.19	101	
101	9.35	9.34	34.048	26.319	171.5	0.207	1.90	29.5	33.4		27.7		0.04	0.19	102	205
125 ISL	9.20 D	9.19	34.104 D	26.387	165.5	0.247	1.60 D	24.7	35.7		28.8		0.04	0.19	126	
128	9.24	9.23	34.108 D	26.384	165.9	0.252	1.58 D	24.4	35.9		28.8		0.04	0.19	129	204
147	8.87	8.85	34.138 D	26.466	158.4	0.283	1.50 D	23.0	39.4		29.8		0.03	0.17	148	203
150 ISL	8.72 D	8.70	34.154 D	26.503	154.9	0.288	1.46 D	22.3	40.1		29.9		0.03	0.17	151	
198	8.25	8.23	34.201	26.612	145.3	0.360	1.12	17.0	48.1		31.7		0.03	0.19	199	202
200 ISL	8.25 D	8.23	34.201 D	26.612	145.4	0.363	1.15 D	17.4	48.1		31.8				201	
206	8.23	8.21	34.203	26.617	145.0	0.372	1.09	16.5	48.3		32.1				207	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
34 53.3 N	121 11.7 W	24/04/07	0654 UTC	462 m	330 26 kn			1022.2 mb	12.2 c	11.3 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	11.71	11.71	33.738	25.664	231.6	0.000	5.82	94.8	15.6		15.0		1.31	0.41	0	
3 A	11.71	11.71	33.738	25.664	231.7	0.007	5.82	94.8	15.6		15.0		1.31	0.41	3	212
10	11.71	11.71	33.735 D	25.662	232.1	0.023	5.83 D	95.0	15.6		15.1		1.40	0.59	10	211
20	11.64	11.64	33.741	25.680	230.6	0.046	5.72	93.1	15.6		15.2		1.25	0.44	20	210
30	11.53	11.53	33.741 D	25.700	228.9	0.069	5.63 D	91.4	15.3		14.9		1.12	0.43	30	209
40	11.43	11.43	33.747 D	25.723	226.9	0.092	5.45 D	88.3	15.8		15.4		0.95	0.58	40	208
50	11.21	11.20	33.753 D	25.768	222.9	0.115	5.23 D	84.3	16.6		16.5		0.84	0.37	50	207
75	10.78	10.77	33.769 D	25.858	214.9	0.169	4.49 D	71.7	19.1	1.16	18.7		0.45	0.38	75	206
100	10.66	10.65	33.802	25.905	211.0	0.223	4.28	68.2	20.5	1.38	19.3		0.33	0.32	101	205
124	9.89	9.88	33.875 D	26.173	186.0	0.270	2.25 D	35.3	29.4	1.88	25.6		0.18	0.36	125	204
125 ISL	9.86 D	9.85	33.977 D	26.179	185.4	0.272	2.23 D	34.9	29.6	1.88	25.7		0.18	0.36	126	
150	9.40	9.38	34.023 D	26.292	175.1	0.317	2.16 D	33.5	32.7	1.99	27.0		0.09	0.34	151	203
199	8.22	8.20	34.048	26.497	156.3	0.398	2.11	31.9	38.7	1.99	29.8		0.02	0.15	200	202
200 ISL	8.15 D	8.13	34.055 D	26.513	154.7	0.400	2.04 D	30.8	38.8	1.99	29.8				201	
250 CSL	7.62	7.60	34.069	26.602	146.9	0.475	1.86	27.7							252	200
300 CSL	7.02	6.99	34.081	26.696	138.4	0.547	1.53	22.5							302	200
400 CSL	6.39	6.35	34.155	26.840	125.9	0.679	0.92	13.3							403	200
500 CSL	5.68	5.64	34.259	27.012	110.3	0.797	0.42	6.0							504	200
512	5.55	5.51	34.265	27.033	108.4	0.810	0.39	5.5	83.7	3.00	39.8				516	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
34 43.6 N	121 32.6 W	24/04/07	1104 UTC	913 m	330 27 kn			1022.1 mb	12.5 c	11.2 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.65	12.65	33.544	25.334	263.0	0.000	6.03	100.1	6.7		6.8		0.86	0.34	0	
3 A	12.65	12.65	33.544	25.334	263.0	0.008	6.03	100.1	6.7		6.8		0.86	0.34	3	212
10	12.65	12.65	33.544 D	25.335	263.2	0.026	6.05 D	100.4	6.7	0.43	6.8		0.79	0.31	10	211
20	12.65	12.65	33.547	25.337	263.2	0.053	6.03	100.1	6.7	0.49	7.0		0.77	0.31	20	210
30	12.65	12.65	33.545 D	25.336	263.6	0.079	6.05 D	100.4	6.6	0.51	6.8		0.82	0.35	30	209
40	12.66	12.65	33.544 D	25.333	264.1	0.105	6.04 D	100.3	6.8	0.53	6.8		0.77	0.31	40	208
49	12.64	12.63	33.547 D	25.340	263.7	0.129	5.96 D	98.9	6.8	0.58	6.9		0.74	0.31	49	207
50 ISL	12.62 D	12.61	33.549 D	25.345	263.2	0.132	5.86 D	97.2	7.1	0.60	7.3		0.72	0.30	50	
74	10.77	10.76	33.617 D	25.741	226.0	0.190	3.87 D	61.7	17.1	1.21	18.0		0.14	0.15	74	206
75 ISL	10.64 D	10.63	33.622 D	25.768	223.4	0.193	3.82 D	60.8	17.4	1.23	18.3		0.14	0.15	75	
99	9.60	9.59	33.728	26.027	199.2	0.243	3.15	49.0	23.3	1.50	22.8		0.03	0.10	100	205
100 ISL	9.55 D	9.54	33.769 D	26.068	195.4	0.245	2.94 D	45.7	23.5	1.51	22.9		0.03	0.10	101	
124	9.02	9.01	33.898 D	26.255	178.0	0.290	2.80 D	43.0	28.7	1.71	25.5		0.01	0.12	125	204
125 ISL	8.97 D	8.96	33.902 D	26.266	177.0	0.292	2.79 D	42.8	28.9	1.71	25.6		0.01	0.12	126	
150	8.66	8.64	33.973 D	26.370	167.5	0.335	2.64 D	40.3	32.4	1.76	27.3		0.01	0.11	151	203
198	8.15	8.13	34.046	26.506	155.4	0.412	2.17	32.7	39.1	2.07	29.7		0.01	0.07	199	202
200 ISL	8.13 D	8.11	34.051 D	26.512	154.7	0.416	2.13 D	32.1	39.4	2.08	29.8				201	
250 CSL	7.39	7.37	34.064	26.631	144.0	0.490	1.82	27.0							252	200
300 CSL	6.76	6.73	34.084	26.734	134.7	0.560	1.42	20.7							302	200
400 CSL	6.01	5.98	34.158	26.891	120.8	0.688	0.77	11.1							403	200
500 CSL	5.43	5.39	34.238	27.026	108.7	0.802	0.41	5.8							504	200
510	5.38	5.34	34.245	27.037	107.7	0.813	0.37	5.2	86.1	3.05	40.7				514	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
34 23.4 N	122 14.4 W	24/04/07	1740 UTC	4015 m	330 28 kn	310 09 05	1	1025.1 mb	13.2 c	12.0 c	13m	4/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.80	12.80	33.389	25.185	277.2	0.000	6.19	103.0	4.1		4.4	0.19	0.56	0.22	0	
2 A	12.80	12.80	33.389	25.185	277.2	0.006	6.19	103.0	4.1		4.4	0.19	0.56	0.22	2	212
10	12.79	12.79	33.390 D	25.188	277.1	0.028	6.17 D	102.6	3.9	0.37	4.4	0.19	0.58	0.22	10	211
20	12.77	12.77	33.391	25.193	276.9	0.055	6.16	102.4	4.0	0.42	4.4	0.18	0.61	0.22	20	210
30	12.78	12.78	33.399 D	25.198	276.8	0.083	6.16 D	102.4	3.9	0.39	4.4	0.19	0.62	0.23	30	209
40	12.64	12.63	33.518 D	25.317	265.6	0.110	5.99 D	99.4	5.5	0.52	6.2	0.19	0.75	0.34	40	208
50	12.36	12.35	33.557 D	25.402	257.8	0.136	5.86 D	96.7	7.0	0.64	7.9	0.23	0.49	0.24	50	207
75	12.10	12.09	33.585 D	25.474	251.6	0.200	5.66 D	92.9	9.0	0.79	10.0	0.25	0.34	0.15	75	206
100	11.54	11.53	33.649	25.628	237.5	0.261	5.52	89.5	13.4	1.18	14.6	0.29	0.41	0.23	101	205
125	10.33	10.32	33.684 D	25.871	214.7	0.318	3.31 D	52.3	20.7	1.39	21.6		0.04	0.11	126	204
149	9.66	9.64	33.832 D	26.100	193.4	0.367	2.70 D	42.1	26.2	1.74	25.1		0.01	0.11	150	203
150 ISL	9.64 D	9.62	33.834 D	26.105	192.9	0.369	2.70 D	42.1	26.4	1.74	25.2		0.01	0.11	151	
199	8.43	8.41	33.988	26.418	163.8	0.456	2.56	38.9	34.2	1.85	28.4		0.00	0.07	200	202
200 ISL	8.42 D	8.40	33.986 D	26.418	163.8	0.458	2.48 D	37.6	34.4	1.85	28.4				201	
250 CSL	8.01	7.98	34.062	26.540	153.0	0.537	1.87	28.1							251	200
300 CSL	7.36	7.33	34.109	26.671	141.0	0.610	1.38	20.4							302	200
400 CSL	6.40	6.36	34.183	26.861	124.0	0.743	0.77	11.2							403	200
500 CSL	5.69	5.65	34.245	27.000	111.5	0.861	0.44	6.3								

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
34 3.2 N	122 56.4 W	25/04/07	0139 UTC	4227 m	330 26 kn	340 06 04	1	1022.9 mb	14.0 c	12.0 c		2/8	ST			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/L	ug/L	db	
0 ISL	14.08	14.08	33.034	24.652	327.9	0.000	6.06	103.3	2.1		0.2	0.04	0.16	0.05	0	
2 A	14.08	14.08	33.034	24.652	327.9	0.007	6.06	103.3	2.1		0.2	0.04	0.16	0.05	2	212
10	14.04	14.04	33.023 D	24.652	328.1	0.033	6.10 D	103.9	2.1	0.25	0.3	0.03	0.18	0.04	10	211
20	14.01	14.01	33.026	24.661	327.6	0.066	6.08	103.5	2.0	0.23	0.3	0.04	0.18	0.04	20	210
30	14.00	14.00	33.024 D	24.662	327.8	0.098	6.10 D	103.8	1.9	0.20	0.4	0.04	0.18	0.05	30	209
40	13.95	13.94	33.031 D	24.678	326.6	0.131	6.10 D	103.7	1.9	0.15	0.2	0.04	0.23	0.05	40	208
49	14.11	14.10	33.084 D	24.686	326.0	0.160	6.06 D	103.4	1.7	0.16	0.3	0.05	0.20	0.09	49	207
50 ISL	13.63 D	13.62	33.065 D	24.770	318.0	0.164	6.13 D	103.5	1.7	0.16	0.3	0.05	0.21	0.10	50	
75 ISL	12.42 D	12.41	32.896 D	24.878	308.2	0.242	6.19 D	101.8	2.8	0.26	1.0	0.11	0.43	0.19	75	
76	12.42	12.41	32.898 D	24.880	308.1	0.245	6.18 D	101.7	2.9	0.27	1.0	0.11	0.44	0.19	76	206
100	12.18	12.17	33.172	25.139	284.1	0.316	5.67	93.0	4.0	0.40	4.0	0.13	0.20	0.18	100	205
125 ISL	11.02 D	11.00	33.301 D	25.452	254.6	0.383	5.29 D	84.7	6.7	0.63	8.0		0.04	0.06	126	
126	10.98	10.96	33.297 D	25.456	254.3	0.386	5.23 D	83.6	6.9	0.64	8.2		0.04	0.05	127	204
144	10.04	10.02	33.501 D	25.778	223.9	0.429	4.40 D	69.0	13.9	1.02	15.2		0.01	0.03	145	203
150 ISL	9.65 D	9.63	33.572 D	25.898	212.5	0.442	3.96 D	61.6	15.8	1.12	16.8		0.01	0.03	151	
200	8.85	8.83	33.925	26.304	174.8	0.539	2.98	45.6	28.7	1.74	25.2		0.01	0.04	201	202
250 CSL	7.94	7.91	34.011	26.510	155.8	0.622	2.63	39.5							251	200
300 CSL	7.23	7.20	34.000	26.604	147.3	0.697	2.55	37.6							302	200
400 CSL	6.04	6.01	34.060	26.809	128.4	0.835	1.40	20.1							403	200
500 CSL	5.62	5.58	34.195	26.969	114.3	0.957	0.60	8.5							503	200
516	5.57	5.53	34.199	26.978	113.6	0.975	0.50	7.1	79.5	3.05	39.6				520	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 43.2 N	123 38.0 W	25/04/07	1008 UTC	4134 m	350 30 kn			1022.7 mb	14.0 c	12.3 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/L	ug/L	db	
0 ISL	14.13	14.13	33.209	24.777	316.0	0.000	6.08	103.9	2.5	0.16	0.3	0.05	0.19	0.07	0	
2 A	14.13	14.13	33.209	24.777	316.1	0.006	6.08	103.9	2.5	0.16	0.3	0.05	0.19	0.07	2	212
10	14.13	14.13	33.206 D	24.775	316.5	0.032	6.04 D	103.2	2.3	0.16	0.1	0.05	0.19	0.06	10	211
20	14.14	14.14	33.206	24.773	316.9	0.063	6.02	102.9	2.3	0.17	0.2	0.04	0.20	0.07	20	210
29	14.14	14.14	33.205 D	24.773	317.2	0.092	6.03 D	103.0	2.3	0.21	0.4	0.07	0.19	0.07	29	209
30 ISL	14.13 D	14.13	33.205 D	24.775	317.1	0.095	6.03 D	103.0	2.3	0.21	0.4	0.07	0.19	0.07	30	
39	14.11	14.10	33.205 D	24.779	316.9	0.124	6.03 D	103.0	2.3	0.23	0.2	0.06	0.21	0.08	39	208
49	14.10	14.09	33.202 D	24.779	317.2	0.155	6.02 D	102.8	2.2	0.24	0.1	0.06	0.22	0.08	49	207
50 ISL	14.08 D	14.07	33.202 D	24.783	316.8	0.158	6.01 D	102.5	2.2	0.24	0.1	0.06	0.22	0.08	50	
74	13.89	13.88	33.199 D	24.821	313.9	0.234	5.96 D	101.3	2.3	0.27	0.4	0.08	0.31	0.15	74	206
75 ISL	13.88 D	13.87	33.202 D	24.826	313.5	0.237	5.95 D	101.1	2.4	0.27	0.5		0.31	0.15	75	
99	12.69	12.68	33.258	25.108	287.1	0.309	5.82	96.5	3.9				0.18	0.13	99	205
100 ISL	12.68 D	12.67	33.263 D	25.113	286.6	0.312	5.81 D	96.3	3.9	0.38	3.6		0.18	0.13	100	
124	12.48	12.46	33.317 D	25.194	279.5	0.380	5.63 D	93.0	4.7	0.49	4.9		0.11	0.09	125	204
125 ISL	12.42 D	12.40	33.325 D	25.212	277.8	0.383	5.58 D	92.0	4.9	0.50	5.1		0.11	0.09	126	
149	11.17	11.15	33.453 D	25.544	246.5	0.446	4.55 D	73.1	10.3	0.86	12.1		0.03	0.05	150	203
150 ISL	10.87 D	10.85	33.465 D	25.607	240.5	0.448	4.42 D	70.6	10.6	0.88	12.4		0.03	0.05	151	
198	9.37	9.35	33.829	26.146	190.0	0.552	3.10	48.0	25.0	1.60	23.7		0.00	0.04	199	202
200 ISL	9.19 D	9.17	33.855 D	26.195	185.2	0.555	3.09 D	47.7	25.3	1.61	23.8				201	
250 CSL	8.76	8.73	34.064	26.427	164.0	0.643	2.26	34.6							251	200
300 CSL	8.17	8.14	34.108	26.553	152.8	0.722	1.80	27.2							302	200
400 CSL	6.69	6.65	34.116	26.770	132.8	0.865	1.19	17.4							402	200
500 CSL	6.31	6.26	34.241	26.919	119.8	0.991	0.53	7.7							503	200
512	6.24	6.19	34.252	26.937	118.2	1.005	0.47	6.8	71.6	2.95	38.4				515	201

A) NUTRIENTS WERE FROZEN AND RUN FOLLOWING THE CRUISE. VALUES THAT WERE SUSPECT WERE OMITTED.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; CRUISE CORRECTED 02;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 23.0 N	124 19.1 W	25/04/07	1631 UTC	4584 m	340 23 kn	320 08 06	1	1024.9 mb	14.7 c	12.4 c		7/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/L	ug/L	db	
0 ISL	14.23	14.23	33.127	24.693	324.0	0.000	5.93	101.5	1.8		0.2	0.03	0.14	0.05	0	
2 A	14.23	14.23	33.127	24.693	324.1	0.006	5.93	101.5	1.8		0.2	0.03	0.14	0.05	2	212
10	14.23	14.23	33.127 D	24.693	324.3	0.032	5.99 D	102.5	1.8	0.23	0.1	0.03	0.15	0.06	10	211
20 ISL	14.23 D	14.23	33.126 D	24.693	324.6	0.065	5.99 D	102.5	1.9	0.28	0.2	0.06	0.15	0.05	20	
21	14.22	14.22	33.127	24.696	324.4	0.068	5.98	102.3	1.9	0.29	0.2	0.06	0.15	0.05	21	210
29	14.22	14.22	33.125 D	24.694	324.7	0.094	5.98 D	102.3	1.7	0.22	0.1	0.03	0.17	0.05	29	209
30 ISL	14.22 D	14.22	33.126 D	24.695	324.7	0.097	5.98 D	102.3	1.7	0.22	0.1	0.03	0.17	0.05	30	
39	14.22	14.21	33.125 D	24.695	325.0	0.127	5.99 D	102.5	1.6	0.21	0.1	0.03	0.15	0.06	39	208
50	14.22	14.21	33.124 D	24.694	325.3	0.162	5.97 D	102.1	1.6	0.16	0.2	0.03	0.20	0.01	50	207
75	13.47	13.46	33.072 D	24.809	315.1	0.242	6.03 D	101.5	1.8	0.21	0.1	0.03	0.40	0.43	75	206
100	12.99	12.98	33.062	24.897	307.2	0.320	5.96	99.3	2.2	0.29	1.0		0.30	0.29	100	205
125	11.93	11.91	33.318 D	25.300	269.4	0.392	5.43 D	88.6	4.2	0.41	4.4		0.08	0.10	126	204
150	10.37	10.35	33.399 D	25.643	237.0	0.4										

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
34 26.7 N	120 31.3 W	13/04/07	2355 UTC	76 m	300 28 kn	280 03 04	1	1019.1 mb	13.5 c	12.0 c	8m	2/8	CI			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	10.79	10.79	33.888	25.947	204.7	0.000	4.09	65.4	24.5	1.97	21.7	0.31	1.40	0.51	0	
2	10.79	10.79	33.888	25.948	204.7	0.004	4.09	65.4	24.5	1.97	21.7	0.31	1.40	0.51	2	209
6	10.76	10.76	33.889	25.954	204.2	0.012	4.05	64.7	24.6	1.97	21.8	0.30	1.47	0.52	6	208
10 ISL	10.71 D	10.71	33.888 D	25.962	203.5	0.020	3.92	62.6	24.7	1.97	21.9	0.28	1.48	0.60	10	
11	10.67	10.67	33.907	25.984	201.5	0.022	3.88	61.9	24.7	1.97	22.0	0.28	1.48	0.62	11	207
20 ISL	10.33 D	10.33	33.898 D	26.036	196.7	0.040	3.24	51.3	25.5	1.99	22.9	0.21	0.76	0.47	20	
21	10.55	10.55	33.894	25.995	200.7	0.042	3.16	50.3	25.6	1.99	23.0	0.20	0.66	0.44	21	206
30 ISL	10.15 D	10.15	33.932 D	26.094	191.5	0.060	2.64	41.6	27.6	2.07	24.5	0.14	0.25	0.43	30	
31	10.15	10.15	33.932	26.094	191.5	0.062	2.60	41.0	27.8	2.08	24.6	0.14	0.23	0.43	31	205
40	10.13	10.13	33.937	26.101	191.0	0.079	2.65	41.8	28.0	2.08	24.7	0.14	0.21	0.44	40	204
50	10.05	10.04	33.952	26.127	188.8	0.098	2.57	40.4	28.6	2.11	25.1	0.13	0.20	0.37	50	203
60	9.76	9.75	34.001	26.214	180.7	0.117	2.02	31.6	31.3	2.22	26.6	0.11	0.11	0.34	60	202
66	9.73	9.72	34.006	26.223	180.0	0.127	1.97	30.8	31.5	2.23	26.8	0.11	0.10	0.36	66	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
34 19.1 N	120 48.3 W	14/04/07	0349 UTC	772 m	330 21 kn			1020.8 mb	12.2 c	10.9 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	11.38	11.38	33.778	25.756	222.9	0.000	4.62	74.8	18.6	1.55	17.6	0.29	0.82	0.22	0	
3	11.38	11.38	33.778	25.756	223.0	0.007	4.62	74.8	18.6	1.55	17.6	0.29	0.82	0.22	3	221
10 ISL	11.38 D	11.38	33.778 D	25.756	223.1	0.022	4.61	74.6	18.6	1.55	17.7	0.29	0.79	0.22	10	
11	11.38	11.38	33.778	25.756	223.1	0.025	4.61	74.6	18.6	1.55	17.7	0.29	0.79	0.22	11	219
11	11.39	11.39	33.776	25.753	223.5	0.025									11	220
20 ISL	11.38 D	11.38	33.781 D	25.759	223.1	0.045	4.61	74.6	18.6	1.55	17.7	0.29	0.76	0.19	20	
21	11.39	11.39	33.779	25.755	223.5	0.047	4.61	74.6	18.6	1.55	17.7	0.29	0.76	0.19	21	218
30 ISL	11.36 D	11.36	33.792 D	25.771	222.2	0.067	4.55	73.6	19.0	1.56	17.8	0.34	0.99	0.22	30	
31	11.37	11.37	33.790	25.768	222.5	0.069	4.54	73.5	19.0	1.56	17.8	0.35	1.02	0.22	31	217
40	11.34	11.34	33.791	25.774	222.1	0.089	4.50	72.8	18.3	1.55	17.3	0.45	1.32	0.23	40	216
50	11.34	11.33	33.794	25.777	222.1	0.111	4.48	72.4	18.2	1.54	17.2	0.48	1.73	0.28	50	215
61	11.05	11.04	33.769	25.810	219.2	0.136	4.08	65.5	18.3	1.56	18.0	0.36	1.02	0.26	61	214
71	10.12	10.11	33.788	25.987	202.5	0.157	3.01	47.4	23.1	1.83	22.7	0.06	0.09	0.33	71	213
75 ISL	9.91 D	9.90	33.781 D	26.017	199.7	0.165	2.86	44.8	23.9	1.87	23.0	0.05	0.08	0.31	75	
85	9.99	9.98	33.864	26.069	195.0	0.185	2.70	42.4	25.4	1.93	23.9	0.03	0.06	0.24	85	212
99	9.75	9.74	33.982	26.201	182.7	0.211	2.22	34.7	29.4	2.10	26.0	0.02	0.04	0.19	100	211
100 ISL	9.70 D	9.69	33.993 D	26.218	181.1	0.213	2.22	34.7	29.4	2.10	26.0	0.02	0.04	0.19	101	
120	9.20	9.19	33.964	26.277	175.8	0.248	2.57	39.7	29.6	2.04	26.2	0.02	0.02	0.14	121	210
125 ISL	9.02 D	9.01	33.949 D	26.294	174.3	0.257	2.65	40.8	29.7	2.02	26.2	0.02	0.02	0.13	126	
140	8.81	8.80	33.955	26.332	170.9	0.283	2.80	42.9	30.1	1.99	26.5	0.02	0.01	0.11	141	209
150 ISL	8.64 D	8.62	33.975 D	26.375	167.0	0.300	2.75	41.9	31.4	2.02	27.0	0.02	0.01	0.10	151	
170	8.46	8.44	34.030	26.446	160.6	0.333	2.50	38.0	34.8	2.12	28.3	0.02	0.01	0.09	171	208
199	8.39	8.37	34.096	26.509	155.2	0.379	2.06	31.3	39.1	2.29	29.8	0.02	0.01	0.08	200	207
200 ISL	8.35 D	8.33	34.094 D	26.513	154.8	0.380	2.06	31.2	39.2	2.29	29.8	0.02			201	
229	7.94	7.92	34.079	26.563	150.4	0.424	2.07	31.1	42.1	2.32	30.9	0.03			230	206
250 ISL	7.72 D	7.70	34.087 D	26.602	147.0	0.456	1.89	28.2	44.8	2.41	31.9	0.02			252	
269	7.60	7.57	34.117	26.643	143.4	0.483	1.66	24.7	47.5	2.51	32.9	0.01			271	205
300 ISL	7.29 D	7.26	34.121 D	26.690	139.2	0.527	1.29	19.1	52.5	2.66	34.5	0.01			302	
318	7.23	7.20	34.173	26.740	134.8	0.552	1.09	16.1	55.3	2.74	35.3	0.01			320	204
378	6.96	6.92	34.236	26.828	127.3	0.630	0.70	10.3	62.2	2.92	36.8	0.01			381	203
400 ISL	6.68 D	6.64	34.250 D	26.877	122.7	0.658	0.62	9.0	65.2	2.97	37.4	0.01			403	
438	6.44	6.40	34.257	26.914	119.5	0.704	0.51	7.4	70.2	3.05	38.5	0.00			441	202
500 ISL	6.11 D	6.07	34.279 D	26.975	114.4	0.776	0.39	5.6	76.5	3.14	39.8	0.00			504	
514	6.00	5.95	34.285	26.994	112.7	0.792	0.36	5.2	77.9	3.16	40.1	0.00			518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
34 8.9 N	121 9.0 W	14/04/07	0803 UTC	2175 m	320 15 kn			1020.2 mb	12.7 c	11.0 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.43	12.43	33.579	25.404	256.3	0.000	6.01	99.3	6.4	0.83	7.8	0.25	1.20	0.22	0	
3	12.43	12.43	33.579	25.404	256.4	0.008	6.01	99.3	6.4	0.83	7.8	0.25	1.20	0.22	3	220
10 ISL	12.42 D	12.42	33.578 D	25.406	256.4	0.026	6.01	99.3	6.4	0.83	7.8	0.25	1.25	0.20	10	
11	12.43	12.43	33.579	25.404	256.6	0.028	6.01	99.3	6.4	0.83	7.8	0.25	1.26	0.20	11	219
20	12.43	12.43	33.580	25.405	256.7	0.051	6.01	99.3	6.4	0.83	7.8	0.25	1.30	0.17	20	218
30	12.25	12.25	33.602	25.457	252.0	0.077	5.93	97.6	6.4	0.87	8.2	0.33	1.60	0.23	30	217
40	12.15	12.14	33.610	25.483	249.9	0.102	5.83	95.8	6.9	0.91	8.9	0.32	1.46	0.23	40	216
50	11.43	11.42	33.647	25.646	234.6	0.126	5.13	83.0	10.9	1.20	12.6	0.32	0.90	0.26	50	215
60	10.15	10.14	33.706	25.918	208.8	0.148	3.25	51.2	21.1	1.77	22.0	0.07	0.25	0.38	60	214
70	9.94	9.93	33.720	25.964	204.6	0.169	3.12	48.9	22.4	1.82	22.9	0.04	0.17	0.37	70	213
75 ISL	9.72 D	9.71	33.748 D	26.023	199.1	0.179	3.05	47.6	23.3	1.85	23.5	0.04	0.14	0.33	75	
85	9.46	9.45	33.793	26.101	191.9	0.199	2.94	45.6	24.9	1.91	24.5	0.03	0.09	0.26	85	212
100	9.32	9.31	33.836	26.158	186.8	0.227	2.85	44.1	26.2	1.94	25.3	0.03	0.05	0.24	101	211
120	9.01	9.00	33.926	26.278	175.7	0.263	2.69	41.4	28.9	2.02	26.5	0.05	0.05	0.24	121	210
125 ISL	8.95 D	8.94	33.947 D	26.304	173.3	0.272	2.69	41.3	29.4	2.03	26.7	0.05	0.05	0.24	126	
140	8.70	8.69	33.972	26.363	168.0	0.298	2.68	40.9	31.1	2.05	27.2	0.06	0.05	0.23	141	209
150 ISL	8.56 D	8.54	33.989 D	26.398	164.8	0.314	2.62	39.9	32.5	2.07	27.7	0.06	0.04	0.20	151	
169	8.36	8.34	34.016	26.450	160.2	0.345	2.46	37.3	35.4	2.14	28.9	0.05	0.01	0.15	170	208
199	8.03	8.01	34.052	26.528	153.2	0.392	2.15	32.3	39.8	2.29	30.7	0.03	0.01	0.12	200	207
200 ISL	7.96 D	7.94	34.068 D	26.551	151.0	0.394	2.14	32.1	40.0	2.30	30.8	0.03			201	
228	7.66	7.64	34.073	26.599	146.8	0.435	1.86	27.7	45.1	2.43	32.6	0.02			229	206
250 ISL	7.40 D	7.38	34.077 D	26.640	143.2	0.467	1.74	25.8	48.8	2.51	33.7	0.01			252	
269	7.11	7.08	34.071	26.676	140.0	0.494	1.65	24.3	51.8	2.57	34.5	0.01			271	205
300 ISL	6.78 D	6.75	34.090 D	26.736	134.5	0.537	1.39	20.3	56.4	2.69	36.0	0.01			302	
320	6.60	6.57	34.101	26.769	131.6	0.563	1.23	17.9	59.4	2.77	36.9	0.01			322	204
378	6.01	5.98	34.113	26.855	123.8	0.637	0.99	14.2	68.9	2.92	39.0	0.01			381	203
400 ISL	5.82 D	5.79	34.127 D	26.890	120.7	0.664	0.83	11.9	72.7	2.99	39.7	0.01			403	
438	5.63	5.59	34.182	26.957	114.6	0.709	0.57	8.1	79.1	3.10	40.8	0.00			441	202
500 ISL	5.38 D	5.34	34.246 D	27.038	107.5	0.778	0.37	5.2	87.3	3.21	42.0	0.00			504	
517	5.27	5.23	34.266	27.067	104.9	0.796	0.31	4.4	89.5	3.24	42.3	0.00			521	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 49.1 N	121 50.2 W	14/04/07	1410 UTC	3623 m	310 11 kn	330 05 05	1	1020.6 mb	13.7 c	12.1 c	14m	6/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	12.96	12.96	33.296	25.082	287.0	0.000	6.08	101.4	3.2	0.49	2.1	0.17	0.63	0.20	0	
2	12.96	12.96	33.296	25.082	287.1	0.006	6.08	101.4	3.2	0.49	2.1	0.17	0.63	0.20	2	220
10	12.95	12.95	33.296	25.084	287.1	0.029	6.08	101.4	3.2	0.49	2.1	0.17	0.63	0.19	10	219
20	12.95	12.95	33.297	25.085	287.2	0.057	6.08	101.4	3.2	0.49	2.1	0.17	0.60	0.19	20	218
30	12.94	12.94	33.308	25.095	286.5	0.086	6.06	101.1	3.1	0.50	2.3	0.17	0.60	0.20	30	217
39	12.94	12.93	33.314	25.100	286.3	0.112	6.08	101.4	3.1	0.50	2.3	0.17	0.65	0.20	39	216
50	12.88	12.87	33.331	25.126	284.1	0.143	6.05	100.8	3.2	0.53	2.6	0.18	0.54	0.20	50	215
60	12.74	12.73	33.405	25.211	276.3	0.171	6.00	99.7	3.5	0.61	3.4	0.23	0.44	0.21	60	214
70	12.70	12.69	33.497	25.290	269.0	0.199	5.97	99.2	3.5	0.67	4.1	0.26	0.27	0.18	70	213
75 ISL	12.60 D	12.59	33.505 D	25.316	266.7	0.212	5.84	96.8	4.4	0.73	5.3	0.31	0.20	0.17	75	
84	12.05	12.04	33.487	25.407	258.2	0.236	5.55	90.9	6.5	0.87	7.9	0.36	0.11	0.16	84	212
99	11.38	11.37	33.439	25.494	250.1	0.274	5.13	82.8	9.8	1.07	11.5	0.07	0.07	0.09	99	211
100 ISL	11.10 D	11.09	33.434 D	25.541	245.7	0.276	5.06	81.2	10.2	1.10	12.0	0.07	0.07	0.09	100	
119	9.91	9.90	33.602	25.878	213.8	0.320	3.71	58.1	18.6	1.60	20.3	0.02	0.01	0.06	120	210
125 ISL	9.60 D	9.59	33.676 D	25.987	203.5	0.332	3.63	56.4	20.0	1.67	21.4	0.02	0.01	0.06	126	
140	9.40	9.38	33.766	26.091	194.0	0.362	3.44	53.3	22.5	1.74	22.7	0.02	0.01	0.06	141	209
150 ISL	9.12 D	9.10	33.873 D	26.219	181.9	0.381	3.40	52.4	24.4	1.77	23.4	0.02	0.01	0.06	151	
169	8.72	8.70	33.944	26.338	170.9	0.414	3.34	51.0	28.0	1.82	24.6	0.02	0.00	0.05	170	208
199	8.31	8.29	33.995	26.442	161.5	0.464	2.92	44.2	33.5	2.00	27.2	0.01	0.00	0.04	200	207
200 ISL	8.29 D	8.27	33.996 D	26.445	161.1	0.466	2.91	44.0	33.7	2.01	27.3	0.01			201	
229	7.96	7.94	34.035	26.526	153.9	0.512	2.49	37.4	39.0	2.18	29.6	0.01			230	206
250 ISL	7.66 D	7.64	34.046 D	26.578	149.2	0.543	2.13	31.8	42.8	2.32	31.3	0.01			251	
269	7.57	7.54	34.085	26.622	145.3	0.571	1.82	27.1	46.3	2.44	32.7	0.01			271	205
300 ISL	7.14 D	7.11	34.101 D	26.695	138.6	0.615	1.45	21.4	52.0	2.61	34.6	0.01			302	
318	7.03	7.00	34.124	26.729	135.7	0.640	1.29	19.0	55.1	2.69	35.5	0.01			320	204
378	6.38	6.35	34.114	26.808	128.5	0.719	1.12	16.2	63.9	2.82	37.7	0.01			380	203
400 ISL	6.39 D	6.35	34.161 D	26.844	125.5	0.747	0.97	14.1	66.3	2.88	38.3	0.01			403	
437	6.15	6.11	34.180	26.891	121.4	0.793	0.71	10.2	70.3	2.98	39.1	0.01			440	202
500 ISL	5.56 D	5.52	34.195 D	26.976	113.6	0.867	0.56	8.0	80.1	3.09	40.9	0.01			503	
508	5.50	5.46	34.194	26.983	113.0	0.876	0.54	7.7	81.4	3.10	41.1	0.01			512	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 28.6 N	122 31.7 W	14/04/07	2145	UTC	3976 m	320	15 kn	320 04 04	1	1022.5 mb	16.1 c	13.2 c	14m	4/8		AC
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/l	ug/l	db	
0 ISL	13.53	13.53	33.257	24.937	300.7	0.000	6.11	103.1	2.8	0.42	1.1	0.09	0.54	0.07		0
2	13.53	13.53	33.257	24.937	300.8	0.006	6.11	103.1	2.8	0.42	1.1	0.09	0.54	0.07		2 220
10 ISL	13.51 D	13.51	33.257 D	24.942	300.6	0.030	6.13	103.4	2.7	0.42	1.1	0.09	0.61	0.04		10
11	13.49	13.49	33.257	24.946	300.2	0.033	6.13	103.4	2.7	0.42	1.1	0.09	0.63	0.04		11 219
20	13.22	13.22	33.311	25.042	291.3	0.060	6.19	103.8	2.7	0.46	1.7	0.11	0.92	0.05		20 218
30	13.10	13.10	33.342	25.090	287.0	0.089	6.19	103.6	2.8	0.48	2.1	0.12	0.95	0.16		30 217
40	13.07	13.06	33.404	25.144	282.1	0.117	6.17	103.2	2.9	0.52	2.7	0.15	0.85	0.24		40 216
50	12.68	12.67	33.424	25.237	273.5	0.145	6.10	101.2	2.4	0.61	3.4	0.22	0.50	0.22		50 215
60	12.52	12.51	33.440	25.281	269.6	0.172	5.98	98.9	3.0	0.69	4.0	0.33	0.26	0.22		60 214
70	12.58	12.57	33.493	25.310	267.1	0.199	5.92	98.1	4.0	0.70	4.1	0.40	0.26	0.17		70 213
75 ISL	12.49 D	12.48	33.490 D	25.325	265.8	0.212	5.85	96.7	4.7	0.75	5.2	0.36	0.21	0.16		75
85	11.85	11.84	33.439	25.407	258.1	0.238	5.53	90.2	6.9	0.90	8.5	0.22	0.10	0.13		85 212
100	10.78	10.77	33.465	25.622	237.9	0.276	4.50	71.7	12.3	1.23	14.2	0.02	0.04	0.07		100 211
120	10.18	10.17	33.606	25.836	217.9	0.321	3.67	57.8	17.8	1.57	19.7	0.02	0.02	0.05		121 210
125 ISL	10.08 D	10.07	33.637 D	25.877	214.1	0.332	3.65	57.4	18.7	1.61	20.4	0.02	0.02	0.05		126
139	9.47	9.45	33.713	26.038	199.0	0.361	3.60	55.8	20.9	1.68	21.7	0.01	0.01	0.05		140 209
150 ISL	9.23 D	9.21	33.826 D	26.165	187.1	0.382	3.65	56.3	22.3	1.68	22.1	0.01	0.01	0.05		151
169	8.95	8.93	33.904	26.271	177.3	0.417	3.68	56.5	24.7	1.69	22.7	0.01	0.00	0.04		170 208
199	8.51	8.49	33.979	26.399	165.7	0.468	3.21	48.8	30.2	1.89	25.6	0.01	0.00	0.04		200 207
200 ISL	8.49 D	8.47	33.987 D	26.408	164.8	0.470	3.18	48.3	30.5	1.90	25.7	0.01				201
228	8.10	8.08	34.038	26.507	155.7	0.515	2.41	36.3	37.7	2.19	29.6	0.01				229 206
250 ISL	7.90 D	7.87	34.029 D	26.530	153.9	0.549	2.39	35.8	40.9	2.23	30.6	0.01				251
270	7.53	7.50	34.025	26.581	149.2	0.579	2.37	35.2	43.3	2.27	31.1	0.01				272 205
300 ISL	7.05 D	7.02	34.034 D	26.655	142.3	0.623	2.13	31.3	48.3	2.39	32.8	0.01				302
319	6.88	6.85	34.034	26.678	140.3	0.650	1.94	28.4	51.7	2.48	34.0	0.01				321 204
377	6.16	6.13	34.044	26.781	130.9	0.728	1.52	21.9	62.2	2.71	37.0	0.01				379 203
400 ISL	5.86 D	5.83	34.053 D	26.826	126.7	0.758	1.36	19.4	66.5	2.79	38.0	0.01				403
437	5.62	5.58	34.082	26.879	122.0	0.804	1.10	15.6	72.9	2.91	39.4	0.01				440 202
500 ISL	5.54 D	5.50	34.167 D	26.956	115.4	0.879	0.70	9.9	79.3	3.06	40.8	0.01				503
515	5.47	5.43	34.177	26.973	113.9	0.896	0.60	8.5	80.8	3.09	41.1	0.01				519 201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 29.3 N	122 30.8 W	14/04/07	2017	UTC	3953 m	320	15 kn	320 04 04	1	1022.5 mb	16.1 c	13.2 c	14m	4/8		AC
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/l	ug/l	db	
0 ISL	13.49	13.49	33.259	24.947	299.8	0.000	6.12	103.2	2.8	0.42	1.0	0.09	0.52	0.11		0
2 A	13.49	13.49	33.259	24.947	299.9	0.006	6.12	103.2	2.8	0.42	1.0	0.09	0.52	0.11		2 207
8 A	13.48	13.48	33.259	24.949	299.8	0.024	6.11	103.0	2.8	0.47	1.1	0.09	0.55	0.08		8 206
10 ISL	13.45 D	13.45	33.260 D	24.956	299.2	0.030	6.11 D	103.0	2.8	0.46	1.1	0.09	0.58	0.08		10
19 A	13.40	13.40	33.263	24.969	298.3	0.057	6.13	103.2	2.6	0.43	1.0	0.09	0.70	0.06		19 205
20 ISL	13.40 D	13.40	33.260 D	24.967	298.5	0.060	6.10 D	102.7	2.6	0.44	1.1	0.09	0.70	0.08		20
27 A	13.10	13.10	33.335	25.085	287.4	0.080	6.18	103.4	2.8	0.49	2.1	0.12	0.67	0.20		27 204
30 ISL	13.07 D	13.07	33.338 D	25.093	286.7	0.089	6.19 D	103.5	2.9	0.49	2.2	0.12	0.69	0.21		30
34 A	13.05	13.05	33.342	25.100	286.1	0.100	6.19	103.5	2.9	0.49	2.3	0.13	0.71	0.22		34 203
50 ISL	12.77 D	12.76	33.426 D	25.221	275.1	0.145	6.12 D	101.8	2.7	0.57	3.1	0.19	0.48	0.20		50
54 A	12.71	12.70	33.425	25.232	274.1	0.156	6.09	101.1	2.7	0.60	3.3	0.21	0.39	0.19		54 202
75 ISL	12.47 D	12.46	33.435 D	25.287	269.4	0.213	5.90 D	97.5	6.6	0.78	6.5	0.18	0.34	0.17		75
100 ISL	11.11 D	11.10	33.436 D	25.541	245.7	0.278	4.80 D	77.0	11.3	1.00	10.2	0.15	0.27	0.14		100
125 ISL	9.80 D	9.79	33.644 D	25.929	209.1	0.335	3.68 D	57.5	16.0	1.22	14.0	0.12	0.21	0.12		126
150 ISL	9.22 D	9.20	33.832 D	26.171	186.5	0.384	3.45 D	53.2	20.6	1.44	17.7	0.08	0.15	0.09		151
200 ISL	8.59 D	8.57	33.974 D	26.382	167.2	0.472	3.27 D	49.8	30.0	1.88	25.2	0.02	0.02	0.04		201
205	8.54	8.52	33.984	26.398	165.8	0.481	3.08	46.9	30.9	1.92	26.0	0.01	0.01	0.04		206 201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S; STATION CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 8.8 N	123 13.2 W	15/04/07	0250	UTC	4232 m	330	27 kn	320 06 06	1	1022.4 mb	13.5 c	10.4 c				SC
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/l	ug/l	db	
0 ISL	13.94	13.94	33.181	24.795	314.3	0.000	6.04	102.8	2.6	0.34	0.1	0.02	0.26	0.07		0
2	13.94	13.94	33.181	24.795	314.4	0.006	6.04	102.8	2.6	0.34	0.1	0.02	0.26	0.07		2 222
10	13.95	13.95	33.180	24.792	314.8	0.031	6.04	102.8	2.5	0.33	0.1	0.02	0.28	0.06		10 221
20	13.94	13.94	33.181	24.795	314.8	0.063	6.04	102.8	2.5	0.34	0.1	0.02	0.28	0.06		20 220
30	13.94	13.94	33.182	24.796	315.0	0.094	6.04	102.8	2.5	0.34	0.1	0.02	0.29	0.06		30 219
40	13.63	13.62	33.180	24.859	309.3	0.126	6.07	102.6	2.6	0.36	0.3	0.05	0.39	0.12		40 218
50	13.55	13.54	33.193	24.885	307.1	0.156	6.05	102.1	2.7	0.39	0.5	0.07	0.43	0.14		50 217
60	13.48	13.47	33.198	24.904	305.6	0.187	6.04	101.8	2.8	0.40	0.6	0.08	0.40	0.14		60 216
71	13.46	13.45	33.200	24.909	305.4	0.221	6.03	101.6	2.7	0.41	0.6	0.08	0.40	0.16		71 21

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 49.0 N	123 54.2 W	15/04/07	0853 UTC	4393 m	340 36 kn			1023.8 mb	13.1 c	9.9 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.07	14.07	33.204	24.786	315.2	0.000	6.01	102.5	2.3	0.33	0.0	0.00	0.28	0.05	0	
2	14.07	14.07	33.204	24.786	315.2	0.006	6.01	102.5	2.3	0.33	0.0	0.00	0.28	0.05	2	220
10 ISL	14.07 D	14.07	33.204 D	24.786	315.4	0.032	6.01	102.5	2.2	0.33	0.0	0.00	0.27	0.06	10	
15	14.08	14.08	33.208	24.787	315.5	0.047	6.01	102.6	2.2	0.33	0.0	0.00	0.26	0.06	15	219
20 ISL	14.08 D	14.08	33.204 D	24.784	315.9	0.063	6.01	102.6	2.2	0.33	0.0	0.00	0.26	0.06	20	
30	14.08	14.08	33.207	24.787	315.9	0.095	6.01	102.6	2.2	0.33	0.0	0.00	0.25	0.07	30	218
46	14.06	14.05	33.203	24.788	316.3	0.145	6.02	102.7	2.1	0.33	0.1	0.00	0.27	0.08	46	217
50 ISL	14.02 D	14.01	33.205 D	24.798	315.4	0.158	6.04	102.9	2.5	0.34	0.3	0.02	0.36	0.11	50	
54	13.60	13.59	33.216	24.893	306.5	0.170	6.05	102.2	2.8	0.35	0.5	0.05	0.45	0.14	54	216
65	13.30	13.29	33.310	25.026	294.0	0.203	6.06	101.8	2.9	0.41	0.9	0.09	0.46	0.18	65	215
75	13.06	13.05	33.309	25.074	289.8	0.233	5.98	100.0	3.2	0.45	1.4	0.15	0.40	0.21	75	214
85	12.88	12.87	33.334	25.129	284.8	0.261	5.92	98.6	3.5	0.51	2.3	0.24	0.25	0.20	85	213
93	12.89	12.88	33.375	25.159	282.1	0.284	5.92	98.6	3.4	0.52	2.5	0.25	0.23	0.13	93	212
100 ISL	12.77 D	12.76	33.389 D	25.193	279.0	0.304	5.87	97.6	3.8	0.56	2.9	0.35	0.19	0.13	100	
110	12.62	12.61	33.435	25.259	273.1	0.331	5.74	95.1	4.3	0.65	4.3	0.42	0.12	0.12	110	211
125	11.73	11.71	33.400	25.400	259.8	0.371	5.45	88.6	7.4	0.85	8.6	0.02	0.08	0.07	126	210
145	10.33	10.31	33.494	25.723	229.2	0.420	4.26	67.2	14.7	1.33	16.6	0.02	0.02	0.05	146	209
150 ISL	9.95 D	9.93	33.569 D	25.846	217.5	0.431	4.10	64.2	16.3	1.41	18.0	0.02	0.02	0.04	151	
169	9.32	9.30	33.679	26.036	199.7	0.471	3.71	57.3	21.4	1.63	21.8	0.01	0.01	0.03	170	208
199	8.78	8.76	33.856	26.260	178.8	0.528	3.24	49.5	27.4	1.86	25.2	0.01	0.00	0.03	200	207
200 ISL	8.85 D	8.83	33.895 D	26.280	177.0	0.529	3.24	49.6	27.5	1.86	25.2	0.01			201	
228	8.63	8.61	33.982	26.383	167.8	0.578	3.24	49.4	30.0	1.84	25.3	0.01			229	206
250 ISL	8.42 D	8.39	34.036 D	26.458	161.0	0.614	2.78	42.2	34.5	2.01	27.6	0.01			251	
269	8.11	8.08	34.048	26.514	155.8	0.644	2.31	34.8	38.9	2.20	29.9	0.01			271	205
300 ISL	7.54 D	7.51	34.038 D	26.590	148.9	0.691	1.99	29.6	44.2	2.36	32.1	0.01			302	
317	7.45	7.42	34.064	26.623	145.9	0.716	1.90	28.2	47.1	2.43	33.0	0.01			319	204
378	6.36	6.33	34.054	26.764	132.7	0.801	1.60	23.2	59.8	2.65	36.3	0.00			380	203
400 ISL	5.93 D	5.90	34.049 D	26.814	127.9	0.830	1.34	19.2	63.7	2.75	37.4	0.00			402	
439	6.01	5.97	34.139	26.876	122.7	0.879	0.87	12.5	69.9	2.92	39.2	0.00			442	202
500 ISL	5.65 D	5.61	34.193 D	26.964	114.8	0.951	0.57	8.1	78.7	3.07	40.8	0.00			503	
514	5.60	5.56	34.201	26.976	113.8	0.967	0.50	7.1	80.7	3.10	41.2	0.00			517	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
34 16.7 N	120 1.5 W	13/04/07	1848 UTC	574 m	270	260 04 08	1	1020.1 mb	16.0 c	13.3 c	11m	2/8	CC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.03	13.03	33.746	25.416	255.2	0.000	5.23	87.6	10.9	0.95	10.6	0.56	4.32	0.27	0	
2 A,B	13.03	13.03	33.746	25.416	255.2	0.005	5.23	87.6	10.9	0.95	10.6	0.56	4.32	0.27	2	224
7 B	12.09	12.09	33.748	25.600	237.8	0.017	4.77	78.4	12.7	1.13	12.1	0.56	4.82	0.46	7	223
10 ISL	11.89 D	11.89	33.749 D	25.639	234.3	0.025	4.62	75.6	13.3	1.18	12.7	0.53	4.43	0.44	10	
15 B	11.76	11.76	33.749 D	25.663	232.0	0.036	4.45 D	72.6							15	222
20 ISL	11.60 D	11.60	33.751 D	25.695	229.2	0.048	4.26	69.2	15.4	1.33	15.0	0.39	3.14	0.36	20	
22 B	11.59	11.59	33.753	25.698	228.9	0.052	4.18	67.9	15.9	1.36	15.5	0.35	2.88	0.34	22	221
28 B	11.23	11.23	33.771	25.778	221.4	0.066	3.82	61.6	18.5	1.54	17.8	0.27	1.09	0.23	28	220
30 ISL	10.60 D	10.60	33.814 D	25.924	207.6	0.070	3.59	57.1	19.9	1.62	19.0	0.23	0.94	0.22	30	
42 B	9.96	9.96	33.930	26.124	188.8	0.094	2.38	37.4	27.2	2.02	24.9	0.03	0.04	0.18	42	219
50 ISL	9.94 D	9.93	33.936 D	26.133	188.2	0.109	2.37	37.2	27.4	2.04	25.0	0.03	0.03	0.17	50	
52	9.93	9.92	33.937	26.135	188.0	0.113	2.37	37.2	27.5	2.04	25.0	0.03	0.03	0.17	52	218
60	9.88	9.87	33.957	26.159	185.9	0.128	2.30	36.1	28.1	2.07	25.4	0.03	0.03	0.24	60	217
70	9.80	9.79	33.987	26.196	182.6	0.146	2.24	35.1	28.8	2.10	25.7	0.03	0.06	0.14	70	216
75 ISL	9.76 D	9.75	34.010 D	26.221	180.3	0.155	2.17	33.9	29.4	2.12	26.0	0.03	0.05	0.14	75	
85	9.71	9.70	34.029	26.244	178.3	0.173	2.04	31.9	30.5	2.17	26.6	0.02	0.02	0.13	85	215
100	9.67	9.66	34.039	26.259	177.2	0.200	2.00	31.2	31.0	2.19	26.9	0.02	0.02	0.11	101	214
120	9.54	9.53	34.078	26.311	172.7	0.235	1.86	29.0	32.5	2.26	27.7	0.02	0.02	0.13	121	213
125 ISL	9.50 D	9.49	34.114 D	26.346	169.5	0.243	1.78	27.7	33.3	2.30	28.1	0.02	0.02	0.14	126	
140	9.32	9.30	34.149	26.403	164.4	0.268	1.53	23.7	35.9	2.41	29.1	0.02	0.02	0.16	141	212
150 ISL	9.26 D	9.24	34.164 D	26.425	162.5	0.285	1.46	22.6	36.8	2.44	29.4	0.02	0.02	0.17	151	
169	9.11	9.09	34.177	26.459	159.6	0.315	1.39	21.4	38.3	2.47	29.8	0.02	0.02	0.18	170	211
200	8.74	8.72	34.196	26.533	153.0	0.364	1.14	17.4	43.2	2.61	31.2	0.01	0.01	0.13	201	210
229	8.45	8.43	34.209	26.589	148.2	0.407	1.01	15.4	46.5	2.68	32.2	0.01			230	209
250 ISL	8.37 D	8.34	34.217 D	26.607	146.8	0.438	0.94	14.3	48.8	2.72	32.6	0.01			252	
268	8.19	8.16	34.221	26.638	144.2	0.465	0.88	13.3	50.7	2.75	32.9	0.01			270	208
300 ISL	7.95 D	7.92	34.228 D	26.680	140.7	0.510	0.78	11.7	54.3	2.82	33.5	0.01			302	
318	7.80	7.77	34.231	26.704	138.6	0.535	0.73 D	10.9	56.3	2.86	33.7	0.01			320	207
377	7.49	7.45	34.240	26.757	134.4	0.616	0.56	8.3	63.0	2.97	33.9	0.01			380	206
400 ISL	7.34 D	7.30	34.244 D	26.781	132.3	0.646	0.48	7.1	66.7	3.02	33.7	0.01			403	
437	7.07	7.03	34.245	26.820	129.0	0.695	0.36	5.3	73.4	3.13	33.3	0.01				

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 14.6 N	121 26.6 W	11/04/07	1825 UTC	3796 m	310 23 kn	330 08 06	1	1020.2 mb	14.7 c	12.9 c	14m	4/8	AC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.14	13.14	33.423 D	25.144	281.1	0.000	6.15 D	103.1								0
1 A	13.14	13.14	33.423 D	25.144	281.1	0.003	6.15 D	103.1								1
8 A	13.14	13.14	33.423 D	25.144	281.3	0.022	6.05	101.4	3.7	0.53	2.8	0.15	0.73	0.21		8
10 ISL	13.12 D	13.12	33.423 D	25.148	280.9	0.028	6.06	101.5	3.6	0.53	2.8	0.15	0.74	0.22		10
11	13.12	13.12	33.424	25.149	280.9	0.031	6.07	101.7	3.6	0.53	2.8	0.15	0.75	0.22		11
19 A	13.13	13.13	33.424	25.147	281.3	0.053	6.06	101.5	3.8	0.53	2.8	0.15	0.74	0.22		19
20 ISL	13.11 D	13.11	33.423 D	25.151	281.0	0.056	6.06	101.5	3.8	0.53	2.8	0.15	0.75	0.22		20
28 A	13.09	13.09	33.424	25.156	280.7	0.079	6.06	101.5	3.7	0.53	2.8	0.15	0.80	0.24		28
30 ISL	13.09 D	13.09	33.422 D	25.154	280.9	0.084	6.06	101.4	3.6	0.53	2.8	0.15	0.80	0.24		30
34 A	13.08	13.08	33.424	25.158	280.7	0.096	6.05	101.3	3.6	0.53	2.8	0.15	0.80	0.24		34
45	12.68	12.67	33.443	25.251	272.0	0.126	5.81	96.4	4.5	0.67	4.5	0.27	0.50	0.22		45
50 ISL	12.38 D	12.37	33.528 D	25.375	260.3	0.139	5.32	87.8	7.0	0.88	8.0	0.26	0.27	0.16		50
54 A	12.07	12.06	33.557	25.457	252.7	0.150	4.96	81.3	8.9	1.03	10.6	0.25	0.11	0.12		54
63	12.06	12.05	33.615	25.504	248.4	0.172	5.06	83.0	9.9	1.08	10.6	0.47	0.12	0.12		63
71	11.94	11.93	33.620	25.531	246.1	0.192	4.92	80.5	10.7	1.13	11.5	0.46	0.10	0.14		71
75 ISL	11.91 D	11.90	33.616 D	25.533	245.9	0.202	4.78	78.1	11.4	1.18	12.4	0.39	0.09	0.14		75
86	11.37	11.36	33.667	25.673	232.8	0.228	4.15	67.1	14.6	1.40	16.0	0.17	0.06	0.15		86
100	10.72	10.71	33.793	25.888	212.7	0.259	2.75	43.9	22.0	1.85	22.0	0.02	0.02	0.11		100
119	10.30	10.29	33.897	26.042	198.4	0.298	2.33	36.8	25.7	2.02	24.4	0.02	0.02	0.14		119
125 ISL	10.18 D	10.17	33.907 D	26.071	195.8	0.310	2.26	35.6	26.6	2.05	25.0	0.02	0.02	0.14		125
140	9.82	9.80	33.968	26.179	185.7	0.339	2.14	33.5	28.6	2.12	26.1	0.01	0.02	0.12		140
150 ISL	9.60 D	9.58	33.995 D	26.237	180.4	0.357	2.09	32.6	30.0	2.16	26.8	0.01	0.02	0.12		150
170	9.31	9.29	34.061	26.336	171.3	0.392	1.98	30.7	32.6	2.23	27.9	0.01	0.01	0.11		170
200	9.18	9.16	34.147	26.425	163.5	0.442	1.64	25.3	36.2	2.37	29.2	0.01	0.01	0.09		200
229	8.76	8.74	34.167	26.508	156.0	0.489	1.57	24.0	39.1	2.43	30.4	0.01				229
250 ISL	8.31 D	8.28	34.129 D	26.547	152.5	0.521	1.71	25.9	41.2	2.42	31.3	0.01				250
269	7.86	7.83	34.093	26.586	148.8	0.550	1.81	27.1	43.4	2.42	32.1	0.01				269
300 ISL	7.50 D	7.47	34.135 D	26.672	141.1	0.595	1.54	22.9	48.4	2.55	33.7	0.01				300
319	7.36	7.33	34.137	26.693	139.3	0.621	1.31	19.4	51.5	2.65	34.7	0.01				319
378	6.94	6.90	34.178	26.785	131.3	0.701	0.97	14.2	58.7	2.84	36.4	0.01				378
400 ISL	6.85 D	6.81	34.206 D	26.819	128.3	0.730	0.82	12.0	61.4	2.90	36.9	0.01				400
437	6.66	6.62	34.247	26.877	123.2	0.776	0.59	8.6	66.3	3.00	37.8	0.01				437
500 ISL	6.08 D	6.04	34.278 D	26.978	114.1	0.851	0.38	5.5	75.9	3.14	39.7	0.01				500
516	5.98	5.93	34.295	27.004	111.7	0.869	0.33	4.7	78.4	3.17	40.2	0.01				516

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 54.8 N	122 7.7 W	11/04/07	0204 UTC	4177 m	350 32 kn	340 12 09	0	1019.6 mb	14.8 c	12.5 c		0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.74	13.74	33.506	25.087	286.5	0.000	6.14	104.2	3.6	0.43	1.3	0.07	0.99	0.21		0
3	13.74	13.74	33.506	25.087	286.6	0.009	6.14	104.2	3.6	0.43	1.3	0.07	0.99	0.21		3
10 ISL	13.74 D	13.74	33.504 D	25.086	286.9	0.029	6.16	104.6	3.6	0.43	1.3	0.07	0.97	0.20		10
11	13.74	13.74	33.506	25.087	286.8	0.032	6.16	104.6	3.6	0.43	1.3	0.07	0.97	0.20		11
11	13.73	13.73	33.504	25.088	286.7	0.032										11
20 ISL	13.74 D	13.74	33.504 D	25.086	287.2	0.057	6.14	104.2	3.4	0.43	1.3	0.07	1.14	0.24		20
21	13.74	13.74	33.505	25.087	287.1	0.060	6.14	104.2	3.4	0.43	1.3	0.07	1.15	0.24		21
30 ISL	13.75 D	13.75	33.504 D	25.084	287.6	0.086	6.14	104.3	3.3	0.44	1.3	0.07	0.99	0.22		30
31	13.74	13.74	33.505	25.087	287.3	0.089	6.14	104.2	3.3	0.44	1.3	0.07	0.96	0.22		31
40	13.09	13.08	33.491	25.208	276.1	0.114	5.84	97.8	4.0	0.59	3.2	0.22	0.73	0.23		40
50 ISL	12.61 D	12.60	33.526 D	25.329	264.7	0.141	5.66	93.9	5.8	0.76	5.6	0.29	0.59	0.30		50
51	12.58	12.57	33.534	25.342	263.6	0.144	5.64	93.5	6.0	0.78	5.9	0.30	0.58	0.30		51
61	12.06	12.05	33.589	25.484	250.3	0.170	5.05	82.8	9.0	1.04	10.0	0.47	0.28	0.19		61
70	11.76	11.75	33.597	25.547	244.5	0.192	4.59	74.8	10.9	1.20	12.8	0.49	0.17	0.14		70
75 ISL	11.30 D	11.29	33.632 D	25.658	234.0	0.204	4.14	66.8	13.5	1.36	15.4	0.35	0.12	0.14		75
85	10.66	10.65	33.708	25.832	217.6	0.227	3.25	51.7	19.1	1.68	20.3	0.04	0.05	0.13		85
100 ISL	10.24 D	10.23	33.811 D	25.985	203.3	0.258	2.72	42.9	22.9	1.86	23.0	0.03	0.04	0.15		100
101	10.27	10.26	33.802	25.973	204.5	0.260	2.70	42.6	23.0	1.87	23.1	0.03	0.04	0.15		101
120	9.85	9.84	33.872	26.099	192.9	0.298	2.52	39.5	25.8	1.98	24.8	0.02	0.02	0.15		120
125 ISL	9.88 D	9.87	33.926 D	26.136	189.5	0.307	2.43	38.1	26.6	2.02	25.2	0.02	0.02	0.16		125
140	9.61	9.59	33.958	26.206	183.1	0.335	2.29	35.7	28.5	2.10	26.2	0.02	0.03	0.18		140
150 ISL	8.95 D	8.93	33.909 D	26.275	176.6	0.353	2.57	39.4	28.7	2.04	26.0	0.02	0.02	0.15		150
169	8.62	8.60	33.954	26.362	168.6	0.386	3.15	48.0	29.3	1.91	25.7	0.02	0.01	0.08		169
200	8.16	8.14	34.005	26.472	158.6	0.437	2.79	42.1	34.9	2.07	28.1	0.02	0.00	0.06		200
230	7.82	7.80	34.045	26.554	151.2	0.483	2.31	34.6	40.8	2.27	30.5	0.02				230
250 ISL	7.74 D	7.72	34.106 D	26.614	145.9	0.513	1.85	27.7	44.8	2.43	32.1	0.02				250
269	7.64	7.61	34.147	26.661	141.7	0.540	1.43	21.3	48.3	2.58	33.4	0.02				269
300 ISL	7.46 D	7.43	34.191 D	26.721	136.4	0.583	1.07	15.9	52.3	2.73	34.5	0.01				300
318	7.35	7.32	34.211	26.753	133.6	0.608										

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 34.5 N	122 48.7 W	10/04/07	1848 UTC	4273 m	340 24 kn	340 09 08	1	1021.9 mb	15.1 c	13.8 c	15m	1/8	ST			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.92	13.92	33.403	24.970	297.6	0.000	6.17	105.1	3.4	0.39	0.8	0.05	0.44	0.09	0	
2 A	13.92	13.92	33.403	24.970	297.6	0.006	6.17	105.1	3.4	0.39	0.8	0.05	0.44	0.09	2	222
8 A	13.91	13.91	33.401	24.971	297.7	0.024	6.16	104.9	3.3	0.39	0.7	0.05	0.46	0.10	8	221
10	13.90	13.90	33.401	24.973	297.6	0.030	6.17	105.0	3.1	0.39	0.7	0.05	0.46	0.11	10	220
20 ISL	13.89 D	13.89	33.399 D	24.974	297.8	0.060	6.16	104.8	3.2	0.39	0.8	0.06	0.47	0.12	20	
21 A	13.82	13.82	33.404	24.992	296.1	0.063	6.16	104.7	3.2	0.39	0.8	0.06	0.47	0.12	21	219
28 A	13.46	13.46	33.431	25.087	287.3	0.083	6.21	104.8	3.2	0.44	1.4	0.08	0.61	0.16	28	218
30 ISL	13.43 D	13.43	33.434 D	25.095	286.5	0.089	6.19	104.4	3.2	0.46	1.5	0.09	0.59	0.18	30	
38 A	13.14	13.13	33.438	25.157	280.9	0.111	6.08	101.9	3.4	0.51	2.1	0.13	0.52	0.22	38	217
49	12.73	12.72	33.398	25.207	276.4	0.142	5.95	98.8	3.9	0.55	2.8	0.19	0.33	0.17	49	216
50 ISL	12.56 D	12.55	33.409 D	25.248	272.4	0.145	5.90	97.7	4.2	0.58	3.3	0.17	0.31	0.16	50	
58 A	11.80	11.79	33.341	25.340	263.8	0.166	5.49	89.4	7.0	0.83	7.8	0.04	0.15	0.12	58	215
64	11.56	11.55	33.344	25.387	259.5	0.182	5.38	87.1	8.0	0.92	9.2	0.04	0.12	0.14	64	214
70	11.48	11.47	33.397	25.443	254.3	0.197	5.13	83.0	9.3	1.02	10.8	0.03	0.08	0.09	70	213
75 ISL	11.08 D	11.07	33.446 D	25.553	243.9	0.210	4.74	76.0	11.4	1.16	13.1	0.02	0.06	0.10	75	
85	10.65	10.64	33.543	25.705	229.7	0.233	3.93	62.5	15.9	1.46	18.0	0.02	0.03	0.11	85	212
100	9.87	9.86	33.647	25.920	209.5	0.266	3.40	53.2	20.3	1.72	22.0	0.02	0.01	0.08	100	211
120	9.34	9.33	33.793	26.121	190.7	0.306	3.01	46.6	24.7	1.89	24.7	0.01	0.01	0.08	121	210
125 ISL	9.28 D	9.27	33.809 D	26.143	188.6	0.316	3.00	46.4	25.2	1.91	25.0	0.01	0.01	0.08	126	
140	9.10	9.08	33.861	26.213	182.3	0.344	2.96	45.6	26.5	1.93	25.4	0.01	0.01	0.07	141	209
150 ISL	8.97 D	8.95	33.899 D	26.264	177.7	0.362	2.95	45.3	27.7	1.94	25.8	0.01	0.01	0.07	151	
170	8.60	8.58	33.964	26.373	167.6	0.396	2.92	44.5	30.5	1.97	26.8	0.01	0.00	0.06	171	208
199	8.27	8.25	34.004	26.455	160.2	0.444	2.62	39.6	34.7	2.10	28.7	0.01	0.00	0.05	200	207
200 ISL	8.21 D	8.19	34.008 D	26.467	159.1	0.445	2.61	39.4	34.9	2.11	28.8	0.01			201	
228	7.88	7.86	34.043	26.544	152.2	0.489	2.25	33.7	40.3	2.26	30.8	0.01			229	206
250 ISL	7.55 D	7.53	34.056 D	26.602	146.9	0.522	2.06	30.7	44.9	2.37	32.2	0.01			251	
268	7.26	7.23	34.059	26.645	142.9	0.548	1.91	28.2	48.4	2.45	33.3	0.01			270	205
300 ISL	7.11 D	7.08	34.106 D	26.703	137.8	0.593	1.50	22.1	52.8	2.61	34.9	0.01			302	
318	7.05	7.02	34.128	26.729	135.6	0.617	1.28	18.8	54.9	2.69	35.6	0.01			320	204
379	6.59	6.56	34.170	26.825	127.2	0.698	0.89	13.0	63.1	2.86	37.5	0.01			381	203
400 ISL	6.16 D	6.12	34.152 D	26.867	123.1	0.724	0.81	11.7	66.9	2.93	38.4	0.01			403	
437	5.94	5.90	34.178	26.916	118.9	0.769	0.68	9.7	73.3	3.03	39.8	0.01			440	202
500 ISL	5.57 D	5.53	34.221 D	26.996	111.7	0.841	0.43	6.1	80.1	3.13	40.8	0.00			503	
513	5.68	5.64	34.258	27.012	110.5	0.856	0.38	5.4	81.5	3.15	41.0	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 14.3 N	123 29.5 W	10/04/07	1137 UTC	4163 m	340 23 kn			1022.6 mb	14.7 c	11.8 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.14	14.14	33.179	24.752	318.4	0.000	6.04	103.2	2.8	0.33	0.0	0.00	0.22	0.07	0	
2	14.14	14.14	33.179	24.752	318.5	0.006	6.04	103.2	2.8	0.33	0.0	0.00	0.22	0.07	2	221
10	14.15	14.15	33.179	24.750	318.9	0.032	6.05	103.4	2.7	0.32	0.0	0.00	0.22	0.06	10	220
15	14.15	14.15	33.183	24.753	318.7	0.048	6.05	103.4	2.6	0.33	0.0	0.00	0.22	0.07	15	219
20 ISL	14.15 D	14.15	33.177 D	24.749	319.3	0.064	6.04	103.2	2.5	0.33	0.0	0.00	0.22	0.07	20	
30	14.13	14.13	33.175	24.752	319.3	0.096	6.04	103.2	2.4	0.33	0.0	0.00	0.22	0.07	30	218
45	13.77	13.76	33.157	24.812	313.9	0.143	6.08	103.1	2.3	0.33	0.0	0.00	0.32	0.15	45	217
50 ISL	13.57 D	13.56	33.150 D	24.848	310.6	0.159	6.06	102.3	2.4	0.35	0.1	0.04	0.37	0.19	50	
55	13.40	13.39	33.144	24.878	307.9	0.174	6.04	101.6	2.6	0.38	0.3	0.08	0.41	0.22	55	216
65	13.00	12.99	33.132	24.948	301.4	0.205	6.05	100.9	3.2	0.43	0.9	0.11	0.36	0.19	65	215
75	12.70	12.69	33.145	25.017	295.1	0.235	5.95	98.6	3.7	0.51	1.7	0.22	0.24	0.14	75	214
84	12.38	12.37	33.173	25.101	287.3	0.261	5.84	96.2	4.2	0.58	3.4	0.37	0.13	0.09	84	213
94	12.21	12.20	33.245	25.189	279.1	0.289	5.60	91.9	4.3	0.62	4.6	0.07	0.09	0.07	94	212
100 ISL	11.88 D	11.87	33.212 D	25.226	275.7	0.306	5.50	89.6	4.5	0.64	5.0	0.05	0.08	0.06	100	
109	11.98	11.97	33.368	25.329	266.2	0.330	5.33	87.1	4.9	0.68	6.0	0.03	0.06	0.06	109	211
125	11.12	11.10	33.438	25.541	246.3	0.371	4.71	75.6	9.7	1.05	11.8	0.02	0.03	0.05	126	210
145	10.13	10.11	33.635	25.867	215.5	0.417	3.55	55.8	18.1	1.59	20.2	0.01	0.01	0.05	146	209
150 ISL	9.82 D	9.80	33.713 D	25.980	204.8	0.428	3.39	53.0	19.8	1.67	21.5	0.01	0.01	0.05	151	
170	9.24	9.22	33.830	26.167	187.3	0.467	3.05	47.1	24.8	1.87	24.7	0.01	0.00	0.06	171	208
199	8.95	8.93	33.943	26.302	175.0	0.520	3.09	47.4	27.4	1.87	25.0	0.01	0.01	0.04	200	207
200 ISL	8.91 D	8.89	33.954 D	26.317	173.6	0.521	3.08	47.2	27.5	1.87	25.1	0.01			201	
228	8.57	8.55	34.004	26.410	165.2	0.569	2.78	42.3	31.9	2.01	27.2	0.01			229	206
250 ISL	8.37 D	8.34	34.044 D	26.472	159.6	0.604	2.74	41.5	35.7	2.07	28.3	0.01			251	
271	7.72	7.69	34.013	26.544	152.8	0.637	2.72	40.6	39.4	2.13	29.3	0.01			273	205
300 ISL	7.59 D	7.56	34.058 D	26.598	148.1	0.681	2.48	36.9	43.8	2.25	31.0	0.01			302	
317	7.20	7.17	34.024	26.627	145.4	0.706	2.29	33.8	46.5	2.33	32.1	0.01			319	204
377	6.41	6.38	34.056	26.759	133.2	0.789	1.57	22.7	59.2	2.66	36.3	0.01			379	203
400 ISL	5.93 D	5.90	34.040 D	26.807	128.5	0.819	1.41	20.2	64.8	2.75	37.7	0.01			402	
437	5.48	5.44	34.062	26.880	121.7	0.866	1.19	16.9	73.4	2.88	39.6	0.01			440	202
500 ISL	5.22 D	5.18	34.138 D	26.971	113.6	0.940	0.74	10.4	82.4	3.05	41.3	0.00			503	
516	5.18	5.14	34.154	26.989	112.1	0.958	0.63	8.9	84.7	3.09	41.7	0.00			519	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
31 54.5 N	124 10.2 W	10/04/07	0443 UTC	4200 m	350	21 kn			1023.2 mb	15.0 C	13.0 C					
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.31	15.31	33.291	24.588	334.0	0.000	5.85	102.4	2.5	0.31	0.0	0.00	0.09	0.01		0
2	15.31	15.31	33.291	24.588	334.1	0.007	5.85	102.4	2.5	0.31	0.0	0.00	0.09	0.01		2 221
10	15.31	15.31	33.292	24.589	334.2	0.033	5.86	102.6	2.3	0.31	0.0	0.00	0.09	0.01		10 220
15	15.29	15.29	33.287	24.590	334.3	0.050	5.86	102.5	2.1	0.31	0.0	0.00	0.09	0.01		15 219
20 ISL	14.98 D	14.98	33.252 D	24.630	330.6	0.067	5.89	102.4	2.1	0.31	0.0	0.00	0.10	0.01		20
30	14.56	14.56	33.201	24.681	326.0	0.100	5.95	102.5	2.2	0.32	0.0	0.00	0.12	0.02		30 218
45	14.76	14.75	33.307	24.721	322.7	0.148	5.90	102.1	2.0	0.30	0.0	0.00	0.13	0.02		45 217
50 ISL	14.76 D	14.75	33.315 D	24.727	322.2	0.164	5.89	102.0	2.0	0.30	0.0	0.00	0.15	0.03		50
60	14.73	14.72	33.320	24.738	321.5	0.197	5.89	101.9	2.0	0.30	0.0	0.00	0.24	0.06		60 216
75	14.32	14.31	33.283	24.797	316.3	0.244	5.88	100.9	1.9	0.33	0.0	0.01	0.50	0.15		75 215
83	14.23	14.22	33.281	24.814	314.9	0.270	5.81	99.5	1.9	0.34	0.1	0.09	0.42	0.21		83 214
94	13.48	13.47	33.172	24.884	308.4	0.304	5.86	98.7	2.2	0.42	0.7	0.24	0.31	0.14		94 213
100 ISL	13.23 D	13.22	33.180 D	24.941	303.1	0.322	5.86	98.2	2.4	0.49	1.0	0.30	0.30	0.14		100
104	13.14	13.13	33.172	24.953	302.1	0.334	5.86	98.0	2.5	0.52	1.3	0.31	0.30	0.14		104 212
114	12.83	12.81	33.191	25.029	295.0	0.364	5.80	96.4	3.0	0.51	2.2	0.21	0.20	0.09		114 211
125	12.74	12.72	33.286	25.120	286.6	0.396	5.59	92.8	3.3	0.56	3.4	0.03	0.11	0.06		126 210
142	12.19	12.17	33.439	25.345	265.6	0.443	5.20	85.4	4.9	0.68	6.1	0.01	0.05	0.04		143 209
150 ISL	11.88 D	11.86	33.457 D	25.417	258.8	0.464	4.98	81.3	6.8	0.83	8.5	0.01	0.03	0.03		151
165	10.72	10.70	33.511	25.670	234.9	0.501	4.59	73.1	11.0	1.12	13.3	0.01	0.01	0.02		166 208
196	9.60	9.58	33.774	26.065	197.6	0.568	4.26	66.3	17.2	1.39	18.4	0.01	0.00	0.02		197 207
200 ISL	9.42 D	9.40	33.788 D	26.106	193.8	0.576	4.22	65.4	18.1	1.42	18.9	0.01	0.01	0.01		201
228	8.93	8.91	33.948	26.310	174.8	0.628	3.84	58.9	24.3	1.62	22.0	0.01	0.01	0.01		229 206
250 ISL	8.61 D	8.58	33.985 D	26.389	167.6	0.665	3.21	48.9	29.6	1.86	25.2	0.01	0.01	0.01		251
268	8.41	8.38	34.021	26.448	162.2	0.695	2.68	40.7	33.8	2.06	27.7	0.01	0.01	0.01		269 205
300 ISL	7.89 D	7.86	34.033 D	26.535	154.2	0.746	2.27	34.0	39.7	2.24	30.3	0.00	0.01	0.01		302
317	7.71	7.68	34.053	26.577	150.4	0.772	2.14	32.0	42.6	2.31	31.4	0.00	0.01	0.01		319 204
377	6.95	6.91	34.094	26.717	137.7	0.858	1.44	21.1	54.0	2.63	35.3	0.00	0.01	0.01		379 203
400 ISL	6.69 D	6.65	34.096 D	26.754	134.3	0.889	1.30	19.0	57.7	2.72	36.3	0.00	0.01	0.01		402
435	6.38	6.34	34.118	26.812	129.0	0.935	1.14	16.5	63.1	2.82	37.6	0.00	0.01	0.01		438 202
500 ISL	5.60 D	5.56	34.113 D	26.906	120.2	1.016	0.87	12.4	74.3	2.97	40.0	0.00	0.01	0.01		503
511	5.56	5.52	34.124	26.920	119.0	1.029	0.83	11.8	76.2	2.99	40.4	0.00	0.01	0.01		514 201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
33 53.5 N	118 29.3 W	07/04/07	1204 UTC	53 m	320	01 kn			1012.3 mb	15.3 C	14.0 C					
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.57	14.57	33.678	25.046	290.4	0.000	6.27	108.4	8.7	0.44	1.5	0.10	0.86	0.35		0
1	14.57	14.57	33.678	25.046	290.4	0.003	6.27	108.4	8.7	0.44	1.5	0.10	0.86	0.35		1 208
6	14.57	14.57	33.680	25.048	290.4	0.017	6.29	108.7	8.7	0.42	1.5	0.10	0.88	0.33		6 207
10	14.53	14.53	33.679	25.056	289.7	0.029	6.31	109.0	8.7	0.42	1.5	0.10	0.86	0.28		10 205
10	14.54	14.54	33.681	25.055	289.8	0.029										10 206
19	13.71	13.71	33.677	25.226	273.8	0.054	5.97	101.4	9.2	0.56	3.3	0.14	0.77	0.35		19 204
20 ISL	13.65 D	13.65	33.682 D	25.242	272.3	0.057	5.95	100.9	9.3	0.57	3.4	0.15	0.77	0.36		20
30	13.17	13.17	33.681	25.339	263.4	0.084	5.46	91.7	10.0	0.78	6.1	0.25	0.70	0.44		30 203
40	11.86	11.85	33.694	25.603	238.5	0.109	4.12	67.3	14.6	1.33	13.9	0.42	0.46	0.44		40 202
49	11.12	11.11	33.743	25.777	222.1	0.130	3.20	51.5	19.5	1.70	18.9	0.41	0.33	0.34		49 201
50 CSL	11.12	11.11	33.746	25.779	221.9	0.132										50 200

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
33 49.4 N	118 37.7 W	07/04/07	1423 UTC			00 kn	300 02 07	2	1012.6 mb	15.8 C	14.2 C					
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.90	14.90	33.579	24.899	304.4	0.000	6.01	104.5	3.0	0.33	0.1	0.01	0.39	0.10		0
1	14.90	14.90	33.579	24.899	304.4	0.003	6.01	104.5	3.0	0.33	0.1	0.01	0.39	0.10		1 221
10	14.50	14.50	33.572	24.980	297.0	0.030	6.03	104.0	3.2	0.36	0.3	0.03	0.46	0.13		10 219
10	14.49	14.49	33.572	24.982	296.8	0.030										10 220
20	14.01	14.01	33.556	25.071	288.6	0.059	5.79	98.9	3.7	0.45	1.5	0.11	0.79	0.27		20 218
30	12.83	12.83	33.562	25.314	265.7	0.087	5.09	84.8	6.6	0.79	6.5	0.25	0.78	0.28		30 217
40	11.61	11.60	33.600	25.576	241.0	0.112	4.10	66.6	12.7	1.23	13.9	0.13	0.32	0.20		40 216
50	11.23	11.22	33.638	25.675	231.7	0.136	3.82	61.6	14.8	1.37	15.9	0.08	0.30	0.13		50 215
60	11.05	11.04	33.672	25.734	226.4	0.159	3.57	57.3	16.5	1.48	17.3	0.09	0.24	0.16		60 214
70	10.71	10.70	33.730	25.840	216.5	0.181	3.21	51.2	19.2	1.64	19.7	0.04	0.13	0.12		70 213
75 ISL	10.53 D	10.52	33.792 D	25.920	209.0	0.192	3.12	49.6	20.1	1.68	20.4	0.04	0.09	0.12		75
85	10.41	10.40	33.807	25.953	206.1	0.213	2.94	46.6	22.0	1.77	21.7	0.03	0.05	0.14		85 212
100	10.08	10.07	33.932	26.107	191.8	0.242	2.31	36.4	26.4	2.02	24.7	0.02	0.02	0.13		101 211
120	9.91	9.90	34.037	26.218	181.6	0.280	2.01	31.5	29.1	2.15	26.0	0.03	0.02	0.15		121 210
125 ISL	9.86 D	9.85	34.046 D	26.233	180.3	0.289	1.95	30.6	29.8	2.18	26.3	0.03</				

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE				
33 39.6 N	118 58.4 W	07/04/07	1929 UTC	799 m	320 04 kn	300 03 06	2	1014.0 mb	17.1 c	15.1 c	21m	8/8	CI				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP	
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db		
0 ISL	14.96	14.96	33.559 D	24.871	307.1	0.000	6.09 D	106.0								0	
2 A	14.96	14.96	33.559 D	24.871	307.2	0.006	6.09 D	106.0								2	224
10 ISL	14.87 D	14.87	33.557 D	24.889	305.7	0.031	6.05	105.1								10	
11 A	14.86	14.86	33.559	24.893	305.3	0.034	6.04	105.0	2.6	0.33	0.0	0.01	0.35	0.11		11	222
11	14.87	14.87	33.559	24.890	305.5	0.034										11	223
20	14.65	14.65	33.555	24.935	301.6	0.061	6.03	104.3	2.6	0.34	0.0	0.01	0.38	0.14		20	221
28 A	14.24	14.24	33.556	25.023	293.4	0.085	5.96	102.3	2.9	0.38	0.4	0.06	0.58	0.25		28	220
30 ISL	13.73 D	13.73	33.559 D	25.131	283.2	0.091	5.81	98.6	3.5	0.44	1.3	0.09	0.58	0.29		30	
40 A	12.75	12.74	33.540	25.313	266.1	0.118	4.94	82.2	7.1	0.83	7.1	0.19	0.61	0.42		40	219
50 ISL	12.00 D	11.99	33.545 D	25.461	252.2	0.144	4.39	71.9	10.3	1.08	11.3	0.09	0.39	0.28		50	
51 A	12.00	11.99	33.552	25.466	251.7	0.146	4.34	71.1	10.6	1.10	11.7	0.08	0.36	0.26		51	218
66	10.87	10.86	33.626	25.731	226.8	0.182	3.71	59.3	16.0	1.45	17.2	0.04	0.08	0.09		66	217
75 ISL	10.27 D	10.26	33.704 D	25.896	211.2	0.202	3.58	53.4	19.2	1.62	19.8	0.02	0.04	0.10		75	
81 A	10.13	10.12	33.751	25.957	205.6	0.215	3.17	49.9	21.3	1.72	21.3	0.01	0.01	0.10		81	216
89	9.77	9.76	33.842	26.088	193.2	0.231	2.91	45.5	24.2	1.85	23.3	0.01	0.01	0.06		89	215
100	9.64	9.63	33.891	26.148	187.7	0.252	2.80	43.6	25.5	1.90	24.0	0.01	0.01	0.05		101	214
119	9.73	9.72	34.001	26.220	181.4	0.287	2.29	35.8	28.7	2.09	25.5	0.01	0.01	0.06		120	213
125 ISL	9.69 D	9.68	34.021 D	26.242	179.4	0.297	2.16	33.7	29.8	2.14	26.1	0.01	0.01	0.07		126	
139	9.50	9.48	34.075	26.316	172.7	0.322	1.90	29.6	32.3	2.23	27.4	0.01	0.01	0.09		140	212
150 ISL	9.44 D	9.42	34.085 D	26.334	171.2	0.341	1.78	27.7	33.7	2.28	28.0	0.01	0.01	0.09		151	
169	9.24	9.22	34.144	26.413	164.0	0.373	1.63	25.2	35.7	2.36	28.8	0.02	0.01	0.08		170	211
199	8.94	8.92	34.198	26.503	155.9	0.421	1.39	21.4	39.4	2.47	30.1	0.02	0.01	0.08		200	210
200 ISL	8.93 D	8.91	34.203 D	26.509	155.4	0.422	1.38	21.2	39.6	2.47	30.2	0.02				201	
229	8.50	8.48	34.234	26.601	147.1	0.466	1.12	17.0	44.8	2.61	31.7	0.04				230	209
250 ISL	8.41 D	8.38	34.247 D	26.625	145.2	0.497	1.03	15.6	46.6	2.66	32.4	0.03				252	
269	8.23	8.20	34.255	26.659	142.3	0.524	0.97	14.7	47.8	2.70	32.8	0.01				271	208
300 ISL	7.94 D	7.91	34.268 D	26.713	137.5	0.568	0.83	12.5	51.1	2.77	33.7	0.01				302	
319	7.80	7.77	34.273	26.737	135.5	0.594	0.75	11.2	53.3	2.81	34.2	0.01				321	207
378	7.34	7.30	34.288	26.816	128.7	0.671	0.57	8.5	59.8	2.92	35.8	0.01				380	206
400 ISL	7.13 D	7.09	34.295 D	26.851	125.6	0.699	0.52	7.7	61.5	2.96	36.3	0.01				403	
437	6.93	6.89	34.303	26.885	122.8	0.745	0.43	6.3	65.5	3.02	37.1	0.01				440	205
500 ISL	6.07 D	6.03	34.342 D	27.030	109.2	0.818	0.24	3.5	80.4	3.18	39.0	0.01				504	
513	6.01	5.96	34.347	27.041	108.2	0.833	0.21	3.0	83.6	3.21	39.3	0.01				517	204
592	5.62	5.57	34.369	27.108	102.5	0.916	0.19	2.7	91.4	3.28	39.6	0.01				596	203
600 ISL	5.56 D	5.51	34.371 D	27.117	101.7	0.924	0.19	2.7	92.4	3.29	39.5	0.01				604	
676	5.32	5.26	34.388	27.159	98.3	1.000	0.14	2.0	101.5	3.36	37.8	0.00				681	202
700 ISL	5.24 D	5.18	34.393 D	27.173	97.2	1.023	0.13	1.8	103.9	3.38	36.7	0.00				705	
753	5.18	5.12	34.399	27.185	96.5	1.075	0.11	1.5	109.2	3.44	34.3	0.00				759	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE				
33 29.3 N	119 19.0 W	08/04/07	0004 UTC	1639 m	310 06 kn	300 03 06	1	1012.7 mb	15.0 c	14.1 c	18m	6/8	SC				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP	
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db		
0 ISL	13.91	13.91	33.660	25.171	278.5	0.000	5.75	98.1	6.9	0.61	3.6	0.13	0.31	0.08		0	
2	13.91	13.91	33.660	25.171	278.6	0.006	5.75	98.1	6.9	0.61	3.6	0.13	0.31	0.08		2	221
10	13.92	13.92	33.660	25.169	279.0	0.028	5.73	97.7	6.8	0.61	3.6	0.13	0.29	0.07		10	219
10	13.91	13.91	33.660	25.171	278.8	0.028										10	220
20	13.75	13.75	33.660	25.205	275.9	0.056	5.72	97.2	6.8	0.60	3.5	0.13	0.39	0.11		20	218
30	13.23	13.23	33.648	25.301	266.9	0.083	5.47	92.0	8.0	0.73	5.5	0.15	0.56	0.15		30	217
40	11.82	11.81	33.679	25.599	238.8	0.108	4.25	69.4	13.6	1.25	13.3	0.23	0.42	0.18		40	216
50	11.06	11.05	33.707	25.760	223.7	0.131	3.51	56.4	17.5	1.53	17.9	0.17	0.20	0.21		50	215
60	10.64	10.63	33.768	25.882	212.3	0.153	3.03	48.2	20.7	1.72	20.8	0.07	0.11	0.17		60	214
70	10.36	10.35	33.852	25.996	201.7	0.174	2.59	41.0	23.9	1.90	23.0	0.04	0.06	0.16		70	213
75 ISL	10.23 D	10.22	33.871 D	26.033	198.2	0.184	2.49	39.3	25.1	1.95	23.8	0.03	0.04	0.15		75	
86	9.94	9.93	33.929	26.128	189.4	0.205	2.36	37.0	27.2	2.02	25.0	0.02	0.02	0.12		86	212
100	9.81	9.80	34.000	26.205	182.4	0.231	2.13	33.3	29.3	2.12	26.1	0.02	0.02	0.13		101	211
120	9.49	9.48	34.029	26.281	175.5	0.267	2.08	32.3	31.6	2.17	26.9	0.03	0.02	0.11		121	210
125 ISL	9.12 D	9.11	33.988 D	26.309	172.9	0.276	2.08	32.1	31.9	2.17	27.0	0.03	0.02	0.10		126	
140	9.27	9.25	34.075	26.353	169.1	0.301	2.09	32.3	32.9	2.19	27.5	0.04	0.01	0.08		141	209
150 ISL	9.25 D	9.23	34.155 D	26.419	163.0	0.318	1.91	29.6	34.4	2.25	28.1	0.04	0.01	0.07		151	
170	9.10	9.08	34.200	26.479	157.7	0.350	1.51	23.3	37.6	2.40	29.3	0.04	0.01	0.05		171	208
200	8.82	8.80	34.204	26.527	153.7	0.397	1.37	21.0	40.7	2.49	30.6	0.03	0.00	0.06		201	207
230	8.61	8.59	34.239	26.588	148.4	0.442	1.21	18.5	43.1	2.55	31.3	0.03				231	206
250 ISL	8.37 D	8.34	34.251 D	26.634	144.3	0.471	1.08	16.4	46.0	2.62	32.2	0.02				252	
268	8.13	8.10	34.259	26.677	140.5	0.497	0.97	14.6	48.7	2.69	33.0	0.02				270	205
300 ISL	7.81 D	7.78	34.272 D	26.735	135.4	0.541	0.83	12.4	51.8								

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 19.4 N	119 39.6 W	08/04/07	0436	UTC	78 m	310	21 kn			1013.5 mb	14.1 C	13.5 C				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/l	ug/l	db	ug/l
0 ISL	12.86	12.86	33.613	25.347	261.8	0.000	5.80	96.8	8.4	0.78	6.4	0.18	0.66	0.22	0	
2	12.86	12.86	33.613	25.347	261.8	0.005	5.80	96.8	8.4	0.78	6.4	0.18	0.66	0.22	2	210
6	12.85	12.85	33.614	25.350	261.7	0.016	5.78	96.4	8.3	0.80	6.4	0.18	0.67	0.24	6	209
10 ISL	12.85 D	12.85	33.613 D	25.349	261.8	0.026	5.76	96.1	8.3	0.79	6.4	0.18	0.64	0.23	10	
10	12.84	12.84	33.614	25.352	261.6	0.026									10	208
11	12.85	12.85	33.613	25.349	261.8	0.029	5.76	96.1	8.3	0.78	6.4	0.18	0.63	0.23	11	207
20 ISL	12.83 D	12.83	33.613 D	25.353	261.7	0.052	5.76	96.0	8.3	0.78	6.4	0.18	0.62	0.26	20	
21	12.84	12.84	33.617	25.354	261.6	0.055	5.76	96.0	8.3	0.78	6.4	0.18	0.62	0.26	21	206
30	12.81	12.81	33.614	25.358	261.5	0.079	5.75	95.8	8.3	0.79	6.5	0.18	0.60	0.22	30	205
41	12.74	12.73	33.622	25.378	259.9	0.107	5.63	93.7	8.5	0.82	7.0	0.17	0.56	0.25	41	204
50	12.60	12.59	33.618	25.403	257.8	0.130	5.47	90.7	9.0	0.86	7.8	0.16	0.50	0.24	50	203
61	11.44	11.43	33.628	25.630	236.4	0.158	4.24	68.6	13.8	1.28	14.5	0.17	0.18	0.15	61	202
70	10.64	10.63	33.734	25.855	215.0	0.178	3.45	54.9	19.6	1.66	19.7	0.16	0.06	0.14	70	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 9.3 N	120 0.0 W	08/04/07	0837	UTC	1201 m	300	20 kn			1013.7 mb	13.9 C	13.0 C				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/l	ug/l	db	ug/l
0 ISL	13.24	13.24	33.475	25.164	279.1	0.000	5.95	100.0	4.2	0.55	2.9	0.15	0.49	0.14	0	
2	13.24	13.24	33.475	25.165	279.2	0.006	5.95	100.0	4.2	0.55	2.9	0.15	0.49	0.14	2	221
10	13.24	13.24	33.473	25.163	279.5	0.028	5.94	99.8	4.2	0.54	2.9	0.15	0.46	0.10	10	219
10	13.24	13.24	33.470	25.161	279.7	0.028									10	220
20	13.25	13.25	33.473	25.161	280.0	0.056	5.94	99.8	4.1	0.55	2.9	0.15	0.45	0.17	20	218
30	13.26	13.26	33.493	25.175	278.9	0.084	5.82	97.8	4.1	0.56	3.1	0.18	0.43	0.15	30	217
40	12.91	12.90	33.513	25.260	271.1	0.111	5.50	91.8	4.8	0.67	4.9	0.18	0.29	0.13	40	216
50	12.41	12.40	33.506	25.353	262.5	0.138	5.20	85.9	6.7	0.84	7.8	0.12	0.26	0.11	50	215
60	12.08	12.07	33.525	25.431	255.3	0.164	4.99	81.8	8.3	0.96	9.7	0.10	0.22	0.11	60	214
69	11.74	11.73	33.613	25.563	243.0	0.186	4.73	77.0	11.9	1.16	12.5	0.24	0.25	0.15	69	213
75 ISL	11.24 D	11.23	33.608 D	25.651	234.7	0.201	4.36	70.3	13.9	1.30	15.0	0.18	0.18	0.12	75	
85	10.30	10.29	33.623	25.828	217.9	0.223	3.71	58.6	17.2	1.52	19.2	0.03	0.05	0.06	85	212
99	9.60	9.59	33.763	26.055	196.6	0.252	3.23	50.3	22.5	1.76	23.0	0.01	0.01	0.05	100	211
100 ISL	9.62 D	9.61	33.761 D	26.050	197.0	0.254	3.23	50.3	22.6	1.76	23.0	0.01	0.01	0.05	101	
120	9.35	9.34	33.827	26.146	188.3	0.293	3.21	49.7	24.1	1.81	23.9	0.01	0.01	0.06	121	210
125 ISL	9.25 D	9.24	33.851 D	26.181	185.1	0.302	3.20	49.4	24.8	1.82	24.2	0.01	0.01	0.05	126	
139	8.98	8.97	33.915	26.274	176.4	0.327	3.14	48.2	27.0	1.86	24.9	0.01	0.01	0.03	140	209
150 ISL	8.93 D	8.91	33.926 D	26.291	175.0	0.347	3.08	47.3	28.2	1.88	25.4	0.01	0.01	0.03	151	
169	8.63	8.61	33.977	26.378	167.1	0.379	2.98	45.4	30.7	1.95	26.5	0.01	0.00	0.03	170	208
198	8.33	8.31	34.055	26.486	157.3	0.426	2.26	34.2	37.1	2.22	29.8	0.01	0.00	0.04	199	207
200 ISL	8.33 D	8.31	34.053 D	26.484	157.5	0.429	2.24	33.9	37.3	2.23	29.9	0.01			201	
230	8.09	8.07	34.073	26.536	153.0	0.476	2.07	31.2	40.2	2.31	31.0	0.01			231	206
250 ISL	7.99 D	7.96	34.084 D	26.560	151.1	0.506	1.84	27.7	43.3	2.41	32.1	0.01			251	
270	7.72	7.69	34.123	26.630	144.6	0.536	1.60	23.9	46.6	2.51	33.2	0.01			272	205
300 ISL	7.52 D	7.49	34.137 D	26.670	141.2	0.579	1.36	20.2	50.7	2.62	34.5	0.00			302	
320	7.27	7.24	34.150	26.716	137.1	0.607	1.23	18.2	53.2	2.68	35.2	0.00			322	204
378	7.01	6.97	34.227	26.814	128.6	0.684	0.77	11.3	60.6	2.89	36.8	0.00			380	203
400 ISL	6.95 D	6.91	34.234 D	26.828	127.6	0.712	0.66	9.7	63.4	2.95	37.4	0.00			403	
440	6.60	6.56	34.269	26.903	120.8	0.762	0.52	7.6	68.5	3.03	38.4	0.00			443	202
500 ISL	6.12 D	6.08	34.300 D	26.990	113.0	0.832	0.39	5.6	76.8	3.12	39.8	0.00			503	
509	6.09	6.04	34.299	26.993	112.7	0.842	0.37	5.3	78.0	3.13	40.0	0.00			513	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
32 59.5 N	120 20.7 W	08/04/07	1303	UTC	721 m	320	21 kn			1013.9 mb	13.9 C	11.2 C				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/l	ug/l	db	ug/l
0 ISL	13.90	13.90	33.491	25.042	290.7	0.000	5.99	102.0	2.6	0.35	0.3	0.04	0.73	0.18	0	
2	13.90	13.90	33.491	25.042	290.8	0.006	5.99	102.0	2.6	0.35	0.3	0.04	0.73	0.18	2	221
10	13.90	13.90	33.491	25.043	291.0	0.029	6.02	102.5	2.4	0.35	0.3	0.04	0.76	0.17	10	219
10	13.89	13.89	33.493	25.046	290.6	0.029									10	220
20	13.90	13.90	33.490	25.042	291.3	0.058	6.01	102.4	2.5	0.35	0.2	0.04	0.77	0.17	20	218
30	13.90	13.90	33.490	25.043	291.6	0.087	6.01	102.4	2.5	0.35	0.2	0.04	0.77	0.17	30	217
41	13.55	13.54	33.495	25.119	284.6	0.119	5.87	99.3	2.9	0.44	1.4	0.16	0.64	0.09	41	216
50	13.14	13.13	33.515	25.217	275.5	0.144	5.64	94.6	3.5	0.58	3.3	0.41	0.42	0.21	50	215
59	12.51	12.50	33.549	25.367	261.4	0.168	5.17	85.6	5.9	0.82	7.4	0.14	0.13	0.10	59	214
70	12.24	12.23	33.574	25.438	254.9	0.197	4.90	80.6	7.9	0.94	9.4	0.09	0.10	0.09	70	213
75 ISL	11.80 D	11.79	33.637 D	25.570	242.4	0.209	4.55	74.2	10.3	1.09	11.5	0.06	0.08	0.09	75	
84	11.42	11.41	33.676	25.671	233.0	0.231	3.88	62.8	14.9	1.36	15.5	0.02	0.05	0.09	84	212
99	11.07	11.06	33.736	25.781	222.8	0.265	3.39	54.5	18.2	1.56	18.3	0.02	0.05	0.07	99	211
100 ISL	10.92 D	10.91	33.763 D	25.829	218.3											

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 39.2 N	121 2.2 W	08/04/07	1953 UTC	3763 m	300 27 kn	320 04 09	1	1017.7 mb	15.2 c	14.0 c	10m	1/8	AS			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.22	14.22	33.471	24.960	298.5	0.000	6.05	103.7	2.8	0.35	0.1	0.02	0.60	0.15	0	
2 A	14.22	14.22	33.471	24.961	298.6	0.006	6.05	103.7	2.8	0.35	0.1	0.02	0.60	0.15	2	223
5 A	14.21	14.21	33.471	24.963	298.5	0.015	6.08	104.2	2.8	0.35	0.1	0.02	0.58	0.13	5	222
10 ISL	14.21 D	14.21	33.469 D	24.961	298.8	0.030	6.08	104.2	2.8	0.34	0.1	0.02	0.57	0.13	10	
10	14.20	14.20	33.471	24.965	298.4	0.030	6.06	103.8	2.7	0.34	0.1	0.02	0.60	0.14	10	221
14 A	14.20	14.20	33.471	24.965	298.5	0.042	6.08	104.2	2.7	0.34	0.1	0.02	0.57	0.13	14	220
19 A	14.18	14.18	33.471	24.969	298.2	0.057	6.06	103.8	2.6	0.36	0.1	0.02	0.58	0.15	19	219
20 ISL	14.17 D	14.17	33.469 D	24.970	298.2	0.060	6.06	103.8	2.6	0.36	0.1	0.02	0.59	0.15	20	
24 A	14.15	14.15	33.471	24.976	297.8	0.072	6.07	103.9	2.5	0.34	0.2	0.02	0.61	0.14	24	218
30 ISL	14.07 D	14.07	33.468 D	24.990	296.5	0.089	6.04	103.2	2.6	0.36	0.3	0.03	0.62	0.15	30	
32	14.03	14.03	33.469	25.000	295.8	0.095	6.03	103.0	2.6	0.37	0.3	0.04	0.62	0.15	32	217
40 A	13.59	13.58	33.466	25.088	287.5	0.119	6.08	102.9	2.7	0.41	0.9	0.08	0.64	0.21	40	216
50	13.30	13.29	33.484	25.161	280.9	0.147	6.06	101.9	3.0	0.49	1.9	0.12	0.80	0.40	50	215
60	12.96	12.95	33.480	25.226	274.9	0.175	5.85	97.7	3.3	0.59	3.2	0.22	0.26	0.23	60	214
70	12.50	12.49	33.491	25.324	265.8	0.202	5.36	88.7	5.6	0.77	6.4	0.24	0.14	0.14	70	213
75 ISL	12.11 D	12.10	33.509 D	25.413	257.4	0.215	4.98	81.7	7.9	0.93	9.2	0.17	0.11	0.12	75	
85	11.04	11.03	33.544	25.637	236.2	0.240	4.22	67.7	13.0	1.28	15.1	0.03	0.07	0.10	85	212
100	9.94	9.93	33.664	25.921	209.3	0.273	3.50 D	54.8	18.8	1.60	20.4	0.02	0.03	0.06	100	211
119	9.56	9.55	33.767	26.065	196.0	0.312	3.36	52.2	22.0	1.71	22.4	0.02	0.01	0.05	120	210
125 ISL	9.55 D	9.54	33.773 D	26.071	195.5	0.323	3.30	51.3	22.8	1.74	22.9	0.02	0.01	0.05	126	
140	9.31	9.29	33.841	26.164	187.0	0.352	3.15	48.7	24.6	1.81	23.9	0.02	0.01	0.04	141	209
150 ISL	9.11 D	9.09	33.900 D	26.242	179.7	0.370	3.10	47.7	25.8	1.84	24.5	0.02	0.01	0.04	151	
170	8.83	8.81	33.954	26.329	171.8	0.406	2.96	45.3	28.8	1.91	25.7	0.01	0.00	0.04	171	208
200	8.44	8.42	34.044	26.460	159.8	0.455	2.43	36.9	35.3	2.14	28.7	0.01	0.00	0.03	201	207
227	8.23	8.21	34.099	26.536	153.1	0.498	1.91	28.9	40.5	2.33	31.0	0.01			228	206
250 ISL	7.72 D	7.70	34.108 D	26.618	145.4	0.532	1.72	25.7	45.8	2.45	32.8	0.01			251	
268	7.30	7.27	34.092	26.666	141.0	0.558	1.62	24.0	49.8	2.52	34.0	0.01			270	205
300 ISL	7.17 D	7.14	34.123 D	26.709	137.4	0.602	1.30	19.2	54.2	2.65	35.4	0.01			302	
318	7.01	6.98	34.150	26.752	133.4	0.627	1.12	16.5	56.3	2.72	36.0	0.01			320	204
378	6.57	6.54	34.196	26.848	125.0	0.704	0.79	11.5	64.8	2.89	37.8	0.01			380	203
400 ISL	6.57 D	6.53	34.233 D	26.878	122.5	0.731	0.65	9.5	66.8	2.95	38.1	0.01			403	
438	6.47	6.43	34.282	26.930	118.1	0.777	0.44	6.4	70.1	3.04	38.6	0.01			441	202
500 ISL	5.99 D	5.95	34.314 D	27.018	110.2	0.848	0.32	4.6	78.1	3.13	40.1	0.00			503	
515	5.93	5.88	34.318	27.028	109.3	0.864	0.29	4.2	80.0	3.15	40.5	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 19.3 N	121 42.9 W	09/04/07	0229 UTC	4050 m	330 20 kn	330 07 06	0	1017.5 mb	15.0 c	13.0 c			0/8			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.32	14.32	33.473	24.941	300.4	0.000	6.06	104.1	2.8	0.35	0.3	0.03	0.52	0.00	0	
2	14.32	14.32	33.473	24.941	300.4	0.006	6.06	104.1	2.8	0.35	0.3	0.03	0.52	0.00	2	221
10	14.33	14.33	33.474	24.940	300.8	0.030	6.10	104.8	2.7	0.35	0.3	0.03	0.42	0.11	10	219
10	14.33	14.33	33.474	24.940	300.8	0.030									10	220
20 ISL	14.33 D	14.33	33.472 D	24.939	301.2	0.060	6.08	104.5	2.7	0.35	0.3	0.03	0.44	0.15	20	
21	14.33	14.33	33.473	24.940	301.1	0.063	6.08	104.5	2.7	0.35	0.3	0.03	0.44	0.15	21	218
30	13.99	13.99	33.469	25.008	294.9	0.090	6.11	104.2	2.8	0.34	0.1	0.02	0.57	0.14	30	217
40	13.69	13.68	33.474	25.074	288.9	0.119	6.01	101.9	2.9	0.39	0.6	0.12	0.93	0.18	40	216
50	12.83	12.82	33.415	25.201	277.0	0.147	5.72	95.2	4.8	0.63	4.1	0.21	0.55	0.17	50	215
60	12.22	12.21	33.392	25.301	267.7	0.175	5.47	89.9	6.5	0.78	6.8	0.05	0.31	0.11	60	214
69	11.86	11.85	33.415	25.387	259.7	0.198	5.17	84.3	8.4	0.95	9.3	0.03	0.15	0.09	69	213
75 ISL	11.74 D	11.73	33.449 D	25.435	255.2	0.214	4.93	80.2	10.0	1.06	11.2	0.02	0.10	0.08	75	
85	10.95	10.94	33.453	25.582	241.4	0.239	4.53	72.5	12.7	1.24	14.3	0.02	0.06	0.07	85	212
100 ISL	10.21 D	10.20	33.563 D	25.797	221.2	0.273	3.99	62.8	16.3	1.49	18.0	0.01	0.04	0.07	100	
101	10.43	10.42	33.530	25.733	227.3	0.276	3.96	62.7	16.5	1.51	18.2	0.01	0.04	0.07	101	211
119	9.72	9.71	33.686	25.975	204.5	0.315	3.40	53.0	21.4	1.72	22.1	0.01	0.01	0.06	120	210
125 ISL	9.53 D	9.52	33.757 D	26.062	196.4	0.327	3.32	51.6	22.6	1.76	22.8	0.01	0.01	0.06	126	
139	9.28	9.26	33.843	26.170	186.4	0.353	3.17	49.0	25.1	1.83	24.0	0.01	0.00	0.05	140	209
150 ISL	9.30 D	9.28	33.904 D	26.215	182.4	0.374	2.95	45.6	26.9	1.90	25.0	0.01	0.00	0.05	151	
169	9.15	9.13	33.975	26.295	175.1	0.408	2.56	39.5	29.8	2.03	26.5	0.01	0.00	0.04	170	208
199	8.78	8.76	34.045	26.409	164.8	0.459	2.27	34.7	34.0	2.16	28.4	0.01	0.01	0.03	200	207
200 ISL	8.74 D	8.72	34.053 D	26.421	163.7	0.460	2.27	34.7	34.1	2.16	28.4	0.01			201	
228	8.48	8.46	34.066	26.472	159.3	0.505	2.16	32.8	36.8	2.23	29.5	0.01			229	206
250 ISL	8.18 D	8.15	34.104 D	26.547	152.4	0.540	1.96	29.6	40.6	2.33	30.9	0.01			251	
268	7.93	7.90	34.109	26.589	148.6	0.567	1.76	26.4	44.1	2.43	32.1	0.01			270	205
300 ISL	7.54 D	7.51	34.162 D	26.687	139.7	0.613	1.40	20.8	49.7	2.59	33.7	0.01			302	
319	7.38	7.35	34.168	26.715	137.3	0.639	1.20	17.8	52.9	2.68	34.6	0.01			321	204
377	6.89	6.85	34.226	26.829	127.0	0.716										

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 59.3 N	122 23.4 W	09/04/07	0838 UTC	4069 m	300 18 kn			1019.5 mb	14.7 c	13.1 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.11	14.11	33.296	24.848	309.2	0.000	6.13	104.7	2.6	0.35	0.1	0.03	0.39	0.07	0	
2	14.11	14.11	33.296	24.848	309.3	0.006	6.13	104.7	2.6	0.35	0.1	0.03	0.39	0.07	2	221
10	14.11	14.11	33.297	24.849	309.4	0.031	6.15	105.1	2.6	0.35	0.1	0.03	0.37	0.08	10	219
10	14.11	14.11	33.296	24.849	309.5	0.031									10	220
20 ISL	13.87 D	13.87	33.303 D	24.904	304.5	0.062	6.19	105.2	2.5	0.36	0.2	0.04	0.42	0.11	20	
21	13.82	13.82	33.305	24.916	303.4	0.065	6.19	105.1	2.5	0.36	0.2	0.04	0.43	0.12	21	218
30	13.32	13.32	33.284	25.001	295.5	0.092	6.11	102.7	2.9	0.40	0.6	0.08	0.55	0.18	30	217
40	13.27	13.26	33.308	25.030	293.0	0.121	6.14	103.1	2.9	0.41	0.7	0.08	0.45	0.16	40	216
50	13.24	13.23	33.313	25.040	292.3	0.150	6.11	102.5	2.9	0.42	0.8	0.09	0.47	0.24	50	215
60	13.07	13.06	33.331	25.089	288.0	0.179	5.95	99.5	3.2	0.49	1.4	0.23	0.35	0.18	60	214
70	12.68	12.67	33.359	25.187	278.8	0.208	5.76	95.6	3.9	0.59	3.4	0.29	0.19	0.11	70	213
75 ISL	12.62 D	12.61	33.505 D	25.312	267.1	0.221	5.69	94.4	4.3	0.64	4.3	0.28	0.13	0.09	75	
85	12.36	12.35	33.487	25.348	263.8	0.248	5.41	89.2	5.1	0.78	6.7	0.26	0.05	0.07	85	212
99	11.26	11.25	33.475	25.544	245.4	0.283	4.46	71.8	11.2	1.18	13.5	0.02	0.03	0.07	99	211
100 ISL	11.14 D	11.13	33.483 D	25.572	242.7	0.286	4.40	70.7	11.6	1.20	13.9	0.02	0.03	0.07	100	
120	10.30	10.29	33.623	25.829	218.7	0.332	3.54	55.9	18.5	1.60	19.9	0.02	0.02	0.09	121	210
125 ISL	9.95 D	9.94	33.681 D	25.933	208.7	0.343	3.38	53.0	20.0	1.68	21.1	0.02	0.02	0.08	126	
140	9.52	9.50	33.757	26.064	196.5	0.373	3.16	49.1	23.3	1.81	23.4	0.01	0.01	0.05	141	209
150 ISL	9.20 D	9.18	33.829 D	26.172	186.4	0.392	3.50	54.0	23.1	1.71	22.5	0.01	0.01	0.04	151	
170	9.05	9.03	33.931	26.276	176.9	0.429	4.19	64.5	22.5	1.49	20.4	0.01	0.01	0.03	171	208
199	8.55	8.53	33.991	26.402	165.4	0.478	3.38	51.4	29.9	1.82	24.8	0.01	0.01	0.03	200	207
200 ISL	8.54 D	8.52	33.996 D	26.407	164.9	0.480	3.35	51.0	30.2	1.83	25.0	0.01			201	
229	8.17	8.15	34.044	26.501	156.3	0.526	2.42	36.5	37.6	2.18	29.3	0.01			230	206
250 ISL	7.93 D	7.90	34.067 D	26.555	151.5	0.559	2.08	31.2	41.8	2.32	31.1	0.01			251	
269	7.70	7.67	34.086	26.604	147.1	0.587	1.89	28.2	45.1	2.41	32.2	0.01			271	205
300 ISL	7.26 D	7.23	34.103 D	26.680	140.1	0.632	1.57	23.2	50.5	2.56	34.2	0.01			302	
317	7.07	7.04	34.108	26.711	137.4	0.655	1.42	20.9	53.4	2.64	35.1	0.01			319	204
377	6.49	6.46	34.151	26.823	127.2	0.735	0.95	13.8	63.6	2.87	37.7	0.00			379	203
400 ISL	6.47 D	6.43	34.173 D	26.844	125.6	0.764	0.82	11.9	65.8	2.92	38.1	0.00			403	
440	6.35	6.31	34.221	26.898	121.0	0.813	0.62	9.0	69.0	3.00	38.6	0.00			443	202
500 ISL	6.22 D	6.18	34.300 D	26.977	114.3	0.884	0.37	5.3	75.0	3.12	39.6	0.00			503	
511	6.16	6.11	34.307	26.991	113.1	0.896	0.32	4.6	76.1	3.14	39.8	0.00			514	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 38.9 N	123 5.2 W	09/04/07	1652 UTC	4145 m	330 24 kn	320 05 06	2	1021.3 mb	15.9 c	14.2 c	25m	8/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.25	15.25	33.368	24.660	327.1	0.000	5.85	102.3	1.8	0.31	0.0	0.00	0.11	0.02	0	
2 A	15.25	15.25	33.368	24.660	327.2	0.007	5.85	102.3	1.8	0.31	0.0	0.00	0.11	0.02	2	223
10 ISL	15.24 D	15.24	33.368 D	24.663	327.2	0.033	5.86	102.5	1.8	0.30	0.0	0.00	0.12	0.03	10	
11	15.24	15.24	33.370	24.664	327.1	0.036	5.86	102.5	1.8	0.30	0.0	0.00	0.12	0.03	11	222
13 A	15.24	15.24	33.369	24.664	327.2	0.043	5.85	102.3	1.7	0.30	0.0	0.00	0.12	0.03	13	221
20 ISL	15.24 D	15.24	33.372 D	24.666	327.2	0.065	5.85	102.3	1.7	0.30	0.0	0.00	0.12	0.03	20	
23	15.24	15.24	33.377	24.670	326.9	0.075	5.85	102.3	1.7	0.30	0.0	0.00	0.12	0.03	23	220
30 ISL	15.21 D	15.21	33.388 D	24.685	325.6	0.098	5.87	102.6	1.7	0.30	0.0	0.00	0.13	0.03	30	
34 A	15.14	15.13	33.380	24.695	324.9	0.111	5.88	102.6	1.7	0.30	0.0	0.00	0.13	0.03	34	219
40	14.70	14.69	33.323	24.746	320.1	0.130	5.96	103.1	1.7	0.31	0.0	0.00	0.17	0.05	40	218
47 A	14.40	14.39	33.287	24.782	316.9	0.153	6.00	103.1	1.8	0.32	0.0	0.00	0.27	0.11	47	217
50 ISL	14.32 D	14.31	33.282 D	24.795	315.7	0.162	6.00	102.9	1.8	0.32	0.0	0.00	0.28	0.11	50	
54	14.20	14.19	33.287	24.824	313.1	0.175	6.00	102.7	1.8	0.33	0.0	0.00	0.30	0.11	54	216
61 A	13.77	13.76	33.245	24.881	307.8	0.197	6.05	102.6	1.8	0.34	0.1	0.01	0.44	0.25	61	215
72	13.31	13.30	33.254	24.981	298.5	0.230	5.84	98.1	2.4	0.44	1.0	0.31	0.54	0.31	72	214
75 ISL	13.22 D	13.21	33.249 D	24.996	297.2	0.239	5.81	97.4	2.5	0.45	1.3	0.30	0.51	0.30	75	
85	13.15	13.14	33.334	25.076	289.9	0.268	5.70	95.5	3.1	0.50	2.5	0.15	0.31	0.20	85	213
96 A	12.63	12.62	33.388	25.220	276.4	0.299	5.53	91.7	4.2	0.64	4.9	0.03	0.07	0.06	96	212
100 ISL	12.56 D	12.55	33.394 D	25.238	274.7	0.310	5.49	90.9	4.4	0.66	5.3	0.03	0.06	0.06	100	
111	12.27	12.26	33.413	25.309	268.2	0.340	5.31	87.4	5.5	0.74	6.6	0.02	0.05	0.05	111	211
124	11.48	11.46	33.489	25.516	248.7	0.374	4.80	77.7	8.6	0.96	10.7	0.02	0.04	0.04	125	210
125 ISL	11.41 D	11.39	33.500 D	25.537	246.7	0.376	4.77	77.1	8.8	0.97	11.0	0.02	0.04	0.04	126	
145	10.38	10.36	33.671	25.853	216.9	0.423	4.40	69.6	13.6	1.23	15.6	0.01	0.02	0.03	146	209
150 ISL	9.93 D	9.91	33.701 D	25.953	207.4	0.433	4.33	67.8	14.9	1.29	16.6	0.01	0.01	0.03	151	
169	9.45	9.43	33.824	26.128	191.0	0.471	4.07	63.1	19.6	1.48	19.8	0.01	0.00	0.02	170	208
198	8.91	8.89	33.937	26.304	174.8	0.524	3.68	56.4	25.2	1.68	22.9	0.01	0.00	0.02	199	207
200 ISL	8.85 D	8.83	33.943 D	26.318	173.5	0.528	3.66	56.1	25.6	1.69	23.1	0.01			201	
228	8.38	8.36	33.985	26.424	163.8	0.575	3.31	50.2	31.0	1.85	25.5	0.01			229	206
250 ISL	8.03 D	8.00	34.015 D	26.500	156.8	0.610	2.80	42.1	36.6	2.06	28.3	0.01			251	
268	7.81	7.78	34.043	26.554	151.8	0.638	2.37	35.5	41.1	2.24						

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 19.2 N	123 44.7 W	09/04/07	2203 UTC	3844 m	320 16 kn	320 14 06	1	1022.1 mb	18.0 c	16.7 c	26m	6/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	15.72	15.72	33.413	24.591	333.7	0.000	5.86	103.5	1.9	0.30	0.0	0.00	0.11	0.01	0	
2	15.72	15.72	33.413	24.591	333.8	0.007	5.86	103.5	1.9	0.30	0.0	0.00	0.11	0.01	2	222
10	15.54	15.54	33.412	24.630	330.3	0.033	5.87	103.3	1.9	0.30	0.0	0.00	0.12	0.01	10	221
15	15.53	15.53	33.426	24.644	329.2	0.050	5.83	102.6	1.8	0.29	0.0	0.00	0.11	0.01	15	220
20 ISL	15.49 D	15.49	33.420 D	24.648	328.9	0.066	5.84	102.7	1.8	0.29	0.0	0.00	0.11	0.01	20	
30	15.41	15.41	33.408	24.657	328.4	0.099	5.85	102.7	1.8	0.30	0.0	0.00	0.12	0.00	30	219
45	14.81	14.80	33.361	24.752	319.8	0.148	5.98	103.7	1.7	0.31	0.0	0.00	0.14	0.03	45	218
50 ISL	14.52 D	14.51	33.296 D	24.764	318.7	0.164	6.02	103.7	1.8	0.32	0.0	0.00	0.18	0.02	50	
55	14.44	14.43	33.298	24.782	317.1	0.180	6.05	104.1	1.9	0.32	0.0	0.00	0.22	0.02	55	217
65	14.22	14.21	33.313	24.840	311.8	0.211	6.01	102.9	1.8	0.32	0.0	0.00	0.30	0.09	65	216
70	13.80	13.79	33.273	24.897	306.6	0.226	6.08	103.2	1.9	0.34	0.0	0.00	0.43	0.11	70	215
75	13.49	13.48	33.254	24.945	302.1	0.242	6.08	102.5	2.0	0.36	0.0	0.01	0.81	0.43	75	214
84	13.27	13.26	33.257	24.992	297.8	0.269	5.91	99.2	2.4	0.42	0.7	0.21	0.76	0.36	84	213
95	12.85	12.84	33.270	25.085	289.1	0.301	5.80	96.5	3.0	0.52	2.3	0.18	0.35	0.20	95	212
100 ISL	12.82 D	12.81	33.350 D	25.154	282.8	0.315	5.73	95.3	3.5	0.58	3.4	0.12	0.23	0.14	100	
109	12.29	12.28	33.333	25.243	274.4	0.340	5.55	91.3	4.8	0.69	5.5	0.02	0.09	0.06	109	211
124	11.64	11.62	33.440	25.448	255.2	0.380	4.98	80.8	7.4	0.88	9.2	0.02	0.04	0.04	125	210
125 ISL	11.43 D	11.41	33.456 D	25.499	250.3	0.383	4.94	79.8	7.7	0.90	9.5	0.02	0.04	0.04	126	
144	10.44	10.42	33.606	25.792	222.7	0.427	4.34	68.7	13.0	1.24	15.5	0.01	0.02	0.03	145	209
150 ISL	10.10 D	10.08	33.641 D	25.877	214.6	0.441	4.19	65.9	14.8	1.33	17.0	0.01	0.01	0.03	151	
169	9.49	9.47	33.764	26.075	196.1	0.480	3.88	60.2	19.5	1.55	20.5	0.01	0.00	0.02	170	208
199	9.04	9.02	33.923	26.272	177.8	0.536	4.04	62.1	22.5	1.55	21.2	0.01	0.00	0.02	200	207
200 ISL	8.99 D	8.97	33.932 D	26.287	176.4	0.537	4.04	62.1	22.6	1.55	21.3	0.01			201	
229	8.54	8.52	33.984	26.398	166.3	0.587	3.67	55.8	28.0	1.73	23.8	0.01			230	206
250 ISL	8.21 D	8.18	34.019 D	26.476	159.1	0.621	2.98	45.0	33.6	1.98	27.1	0.00			251	
267	8.01	7.98	34.038	26.521	155.1	0.648	2.43	36.5	38.3	2.19	29.8	0.00			268	205
300 ISL	7.18 D	7.15	34.016 D	26.623	145.5	0.698	2.25	33.2	45.7	2.35	32.3	0.00			302	
318	6.98	6.95	34.023	26.656	142.5	0.724	2.15	31.6	49.4	2.40	33.2	0.00			320	204
377	6.17	6.14	34.036	26.774	131.6	0.804	1.67	24.1	61.1	2.67	36.8	0.00			379	203
400 ISL	5.95 D	5.92	34.067 D	26.826	126.8	0.834	1.33	19.1	64.6	2.79	37.8	0.00			402	
438	6.10	6.06	34.172	26.891	121.4	0.881	0.78	11.2	69.8	2.98	39.2	0.01			441	202
500 ISL	5.78 D	5.74	34.246 D	26.990	112.6	0.954	0.47	6.7	77.9	3.11	40.6	0.00			503	
515	5.75	5.71	34.253	26.999	111.8	0.971	0.39	5.6	79.8	3.14	40.9	0.00			518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 53.3 N	118 26.7 W	07/04/07	1113 UTC		250 04 kn			1012.2 mb	15.2 c	13.9 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	14.47	14.47	33.671	25.062	288.9	0.000	6.05	104.4	8.8	0.53	2.4	0.13	1.82	0.43	0	
1	14.47	14.47	33.671	25.062	288.9	0.003	6.05	104.4	8.8	0.53	2.4	0.13	1.82	0.43	1	205
6	13.75	13.75	33.670	25.212	274.8	0.017	5.70	96.9	9.6	0.67	4.2	0.18	1.03	0.38	6	204
10	13.77	13.77	33.671	25.209	275.2	0.028	5.61	95.4	10.0	0.71	4.7	0.20	1.09	0.42	10	203
16	13.07	13.07	33.680	25.358	261.2	0.044	4.94	82.8	12.4	1.01	8.2	0.29	0.81	0.58	16	202
20	12.75	12.75	33.684	25.424	255.0	0.054	4.72	78.6	13.2	1.10	9.4	0.32	0.88	0.66	20	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 40.3 N	118 5.3 W	07/04/07	0732 UTC	19 m	110 04 kn			1013.1 mb	15.5 c	14.4 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	15.14	15.14	33.661	24.910	303.3	0.000	6.63	115.9	8.0	0.34	0.2	0.03	1.74	0.93	0	
2	15.14	15.14	33.661	24.910	303.4	0.006	6.63	115.9	8.0	0.34	0.2	0.03	1.74	0.93	2	204
6	14.94	14.94	33.660	24.953	299.4	0.018	6.65	115.8	8.2	0.36	0.4	0.04	2.98	1.14	6	203
10 ISL	14.11 D	14.11	33.660 D	25.130	282.7	0.030	6.23	106.7	9.0	0.51	2.4	0.12	2.03	0.79	10	
11	14.10	14.10	33.659	25.131	282.6	0.033	6.11	104.6	9.2	0.55	2.9	0.14	1.68	0.68	11	202
15	13.77	13.77	33.661	25.201	276.1	0.044	5.88	100.0	9.5	0.61	3.5	0.17	1.28	0.48	15	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 29.7 N	117 45.0 W	07/04/07	0451 UTC	26 m	320 01 kn			1013.7 mb	16.0 c	14.5 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	15.09	15.09	33.636	24.902	304.1	0.000	6.66	116.3	7.5	0.36	0.4	0.05	3.63	1.05	0	
2	15.09	15.09	33.636	24.902	304.2	0.006	6.66	116.3	7.5	0.36	0.4	0.05	3.63	1.05	2	205
6	14.73	14.73	33.651	24.991	295.8	0.018	6.56	113.8	7.4	0.37	0.5	0.05	3.37	1.11	6	204
10 ISL	14.25 D	14.25	33.644 D	25.088	286.7	0.030	6.18	106.1	7.7	0.50	1.4	0.09	2.52	0.90	10	
11	14.17	14.17	33.645	25.106	285.0	0.033	6.05	103.7	7.8	0.55	1.8	0.11	2.26	0.83	11	203
16	13.55	13.55	33.649	25.237	272.7	0.047	5.39	91.2	9.5	0.83	5.3	0.27	1.17	0.66	16	202
20	12.67	12.67	33.658	25.419	255.4	0.057	4.76	79.1	11.4	1.05	9.2	0.45	0.81	0.52	20	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 29.2 N	117 45.9 W	07/04/07	0302 UTC	55 m	200 04 kn			1012.8 mb	15.5 c	14.0 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.60	14.60	33.650	25.018	293.0	0.000	6.74	116.6	6.2	0.32	0.1	0.01	3.11	0.98	0	
2	14.60	14.60	33.650	25.018	293.1	0.006	6.74	116.6	6.2	0.32	0.1	0.01	3.11	0.98	2	208
6	13.99	13.99	33.650	25.147	281.0	0.017	6.23	106.4	7.0	0.48	2.1	0.07	2.07	0.74	6	207
10 ISL	13.64 D	13.64	33.651 D	25.220	274.1	0.028	5.97	101.2	7.6	0.57	3.4	0.12	1.59	0.57	10	
11	13.63	13.63	33.652	25.223	273.9	0.031	5.92	100.4	7.7	0.59	3.7	0.13	1.52	0.55	11	206
16	13.30	13.30	33.654	25.291	267.5	0.045	5.62	94.6	8.3	0.70	5.1	0.20	1.21	0.59	16	205
20 ISL	12.48 D	12.48	33.663 D	25.460	251.5	0.055	4.84	80.1	10.7	1.01	9.4	0.41	0.83	0.42	20	
21	12.45	12.45	33.663	25.466	251.0	0.058	4.63	76.6	11.4	1.09	10.6	0.46	0.74	0.37	21	204
30 ISL	11.73 D	11.73	33.688 D	25.622	236.4	0.080	3.79	61.8	14.9	1.40	15.0	0.55	0.46	0.38	30	
31	11.70	11.70	33.682	25.623	236.3	0.082	3.73	60.7	15.3	1.43	15.3	0.56	0.45	0.38	31	203
41	10.84	10.84	33.726	25.813	218.4	0.105	2.63	42.0	22.5	2.03	22.8	0.54	0.19	0.28	41	202
50	10.62	10.61	33.833	25.936	207.0	0.124	2.41	38.4	23.2	1.97	22.7	0.25	0.12	0.41	50	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 25.3 N	117 54.3 W	06/04/07	2346 UTC	616 m	240 09 kn	250 01 05	4	1012.3 mb	17.0 c	15.1 c	12m	4/8	ST			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.55	15.55	33.640	24.803	313.5	0.000	6.33	111.6	4.8	0.33	0.0	0.01	0.59	0.12	0	
2	15.55	15.55	33.640	24.803	313.5	0.006	6.33	111.6	4.8	0.33	0.0	0.01	0.59	0.12	2	220
10 ISL	15.17 D	15.17	33.631 D	24.881	306.4	0.031	6.36	111.3	4.8	0.33	0.0	0.01	0.58	0.14	10	
11	15.16	15.16	33.636	24.887	305.9	0.034	6.36	111.2	4.8	0.33	0.0	0.01	0.58	0.14	11	219
20	14.06	14.06	33.624	25.113	284.6	0.061	6.26	107.1	4.5	0.41	0.6	0.05	0.92	0.27	20	218
30 ISL	13.05 D	13.05	33.636 D	25.328	264.4	0.088	5.40	90.4	7.8	0.75	5.6	0.35	0.77	0.35	30	
31	12.97	12.97	33.638	25.345	262.8	0.091	5.31	88.8	8.2	0.79	6.2	0.38	0.76	0.35	31	217
41	12.66	12.65	33.641	25.409	257.0	0.117	4.96	82.4	9.6	0.93	8.5	0.47	0.56	0.31	41	216
50	12.05	12.04	33.624	25.513	247.3	0.139	4.30	70.5	11.6	1.16	12.2	0.42	0.34	0.25	50	215
60	11.33	11.32	33.697	25.703	229.3	0.163	3.25	52.5	16.8	1.58	18.4	0.10	0.13	0.22	60	214
71	10.93	10.92	33.764	25.828	217.7	0.188	2.77	44.4	20.1	1.79	21.3	0.03	0.07	0.25	71	213
75 ISL	10.86 D	10.85	33.780 D	25.853	215.5	0.197	2.68	42.9	20.9	1.83	21.8	0.03	0.06	0.25	75	
85	10.69	10.68	33.816	25.911	210.2	0.218	2.52	40.2	22.3	1.90	22.7	0.02	0.05	0.23	85	212
100	10.44	10.43	33.879	26.004	201.6	0.249	2.30	36.5	24.5	2.01	23.9	0.02	0.04	0.23	101	211
120	10.03	10.02	34.002	26.170	186.2	0.288	2.22	34.9	27.3	2.08	25.1	0.02	0.02	0.15	121	210
125 ISL	10.01 D	10.00	34.018 D	26.186	184.8	0.297	2.17	34.1	27.9	2.10	25.4	0.02	0.02	0.13	126	
139	9.92	9.90	34.069	26.242	179.8	0.322	2.01	31.6	29.3	2.17	26.1	0.02	0.01	0.09	140	209
150 ISL	9.78 D	9.76	34.097 D	26.287	175.7	0.342	1.94	30.4	30.4	2.21	26.6	0.02	0.01	0.09	151	
169	9.56	9.54	34.146	26.362	168.9	0.375	1.84	28.7	32.6	2.26	27.5	0.02	0.01	0.08	170	208
199	9.06	9.04	34.193	26.480	158.2	0.424	1.61	24.8	37.0	2.37	29.1	0.02	0.00	0.06	200	207
200 ISL	9.01 D	8.99	34.196 D	26.491	157.2	0.425	1.60	24.6	37.1	2.38	29.1	0.02	0.00	0.06	201	
228	8.86	8.84	34.238	26.548	152.3	0.469	1.33	20.4	40.3	2.51	30.3	0.01	0.00	0.05	229	206
250 ISL	8.62 D	8.59	34.248 D	26.593	148.3	0.502	1.24	18.9	42.4	2.56	31.0	0.01	0.00	0.04	252	
269	8.46	8.43	34.244	26.615	146.5	0.530	1.18	17.9	44.1	2.59	31.6	0.01	0.00	0.03	271	205
300 ISL	8.15 D	8.12	34.247 D	26.665	142.2	0.574	1.02	15.4	47.5	2.67	32.6	0.00	0.00	0.02	302	
319	7.98	7.95	34.262	26.702	138.9	0.601	0.92	13.8	49.7	2.73	33.3	0.00	0.00	0.01	321	204
379	7.44	7.40	34.285	26.799	130.4	0.682	0.62	9.2	57.6	2.91	35.4	0.00	0.00	0.00	381	203
400 ISL	7.19 D	7.15	34.292 D	26.840	126.6	0.709	0.53	7.8	61.0	2.96	36.1	0.00	0.00	0.00	403	
438	6.83	6.79	34.303	26.899	121.4	0.756	0.39	5.7	67.0	3.04	37.3	0.00	0.00	0.00	441	202
500 ISL	6.43 D	6.38	34.321 D	26.967	115.5	0.829	0.30	4.4	72.9	3.12	38.4	0.00	0.00	0.00	503	
511	6.41	6.36	34.322	26.970	115.3	0.842	0.28	4.1	73.9	3.13	38.6	0.00	0.00	0.00	515	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
33 14.9 N	118 14.8 W	06/04/07	1925 UTC	347 m	220 02 kn	300 01 05	2	1013.8 mb	16.8 c	15.0 c	15m	8/8	CS			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.34	15.34	33.584	24.807	313.2	0.000	6.05	106.2	3.5	0.32	0.1	0.01	0.60	0.19	0	
2	15.34	15.34	33.584	24.807	313.2	0.006	6.05	106.2	3.5	0.32	0.1	0.01	0.60	0.19	2	218
10 ISL	15.17 D	15.17	33.576 D	24.838	310.5	0.031	6.08	106.3	3.1	0.33	0.0	0.01	0.73	0.20	10	
11	15.18	15.18	33.578	24.838	310.6	0.034	6.08	106.3	3.1	0.33	0.0	0.01	0.75	0.20	11	216
11	15.18	15.18	33.577	24.837	310.6	0.034	6.07	106.2	3.2	0.33	0.0	0.01	0.90	0.14	11	217
20	14.81	14.81	33.572	24.914	303.6	0.062	6.10	105.9	3.2	0.33	0.1	0.01	0.85	0.18	20	215
30	14.58	14.58	33.574	24.965	299.0	0.092	6.12	105.7	3.3	0.34	0.1	0.01	1.03	0.11	30	214
41	13.96	13.95	33.590	25.108	285.7	0.124	5.90	100.7	4.5	0.46	1.5	0.08	1.03	0.28	41	213
50	13.76	13.75	33.600	25.157	281.2	0.150	5.70	96.9	5.0	0.54	2.6	0.13	0.92	0.31	50	212
60	13.16	13.15	33.589	25.270	270.7	0.177	5.24	87.9	6.3	0.73	5.4	0.28	0.46	0.24	60	211
70	12.38	12.37	33.599	25.431	255.6	0.204	4.68	77.3	9.0	0.96	9.4	0.27	0.26	0.23	70	210
75 ISL	11.60 D	11.59	33.615 D	25.590	240.5	0.216	4.23	68.7	11.8	1.16	12.5	0.20	0.18	0.19	75	
85	10.98	10.97	33.705	25.773	223.3	0.239	3.34	53.5	17.7	1.56	18.6	0.04	0.07	0.12	85	209
100	10.38	10.37	33.840	25.984</												

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
33 10.7 N	118 24.0 W	06/04/07	1732 UTC	1180 m	260	02 kn	300 01 05	2	1013.7 mb	10.2 c	8.9 c	23m		8/8	CS	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.53	15.53	33.548	24.737	319.8	0.000	5.84	102.8	1.7	0.32	0.0	0.00	0.24	0.04	0	
2 A	15.53	15.53	33.548	24.737	319.9	0.006	5.84	102.8	1.7	0.32	0.0	0.00	0.24	0.04	2	220
10 ISL	15.51 D	15.51	33.543 D	24.738	320.0	0.032	5.85	103.0	1.7	0.32	0.0	0.00	0.26	0.04	10	
12 A	15.50	15.50	33.549	24.745	319.4	0.038	5.85	103.0	1.7	0.32	0.0	0.00	0.27	0.04	12	219
20 ISL	15.32 D	15.32	33.541 D	24.779	316.5	0.064	5.90	103.5	1.8	0.32	0.0	0.00	0.31	0.06	20	
22	15.26	15.26	33.542	24.793	315.2	0.070	5.91	103.5	1.9	0.32	0.0	0.00	0.32	0.07	22	218
30 ISL	14.46 D	14.46	33.521 D	24.949	300.5	0.095	5.86	101.0	2.4	0.38	0.4	0.02	1.52	0.37	30	
31 A	14.43	14.43	33.525	24.959	299.6	0.098	5.85	100.7	2.5	0.39	0.4	0.03	1.63	0.41	31	217
38	14.09	14.08	33.524	25.030	293.1	0.119	5.64	96.4	3.4	0.48	1.8	0.11	0.95	0.43	38	216
44 A	13.87	13.86	33.521	25.073	289.1	0.136	5.51	93.8	3.9	0.54	2.6	0.15	0.74	0.43	44	215
50 ISL	13.72 D	13.71	33.598 D	25.164	280.6	0.153	5.42	92.0	4.8	0.62	3.5	0.26	0.53	0.30	50	
56 A	13.34	13.33	33.608	25.249	272.6	0.170	5.28	88.9	6.1	0.72	4.9	0.35	0.34	0.15	56	214
72	12.03	12.02	33.597	25.496	249.4	0.211	4.32	70.8	10.8	1.13	12.2	0.14	0.10	0.13	72	213
75 ISL	11.68 D	11.67	33.594 D	25.559	243.4	0.219	4.19	68.2	11.6	1.19	13.1	0.11	0.09	0.13	75	
89 A	11.25	11.24	33.649	25.681	232.1	0.252	3.73	60.1	15.1	1.41	16.4	0.03	0.06	0.14	89	212
100 ISL	10.50 D	10.49	33.718 D	25.868	214.5	0.277	3.45	54.7	18.2	1.57	18.9	0.02	0.03	0.09	100	
104	10.40	10.39	33.727	25.892	212.3	0.285	3.35	53.0	19.3	1.63	19.8	0.02	0.02	0.07	105	211
120	9.94	9.93	33.872	26.084	194.3	0.318	2.85	44.7	23.8	1.87	23.1	0.02	0.01	0.05	121	210
125 ISL	9.88 D	9.87	33.879 D	26.100	193.0	0.327	2.83	44.3	24.4	1.89	23.5	0.02	0.01	0.05	126	
140	9.59	9.57	33.939	26.195	184.2	0.356	2.79	43.4	25.9	1.92	24.2	0.01	0.01	0.05	141	209
150 ISL	9.57 D	9.55	34.028 D	26.268	177.5	0.374	2.52	39.2	28.2	2.03	25.4	0.01	0.01	0.05	151	
170	9.35	9.33	34.121	26.377	167.5	0.408	1.92	29.8	32.9	2.25	27.7	0.01	0.00	0.04	171	208
199	9.08	9.06	34.177	26.465	159.7	0.456	1.68	25.9	36.1	2.35	29.0	0.01	0.00	0.03	200	207
200 ISL	9.07 D	9.05	34.175 D	26.465	159.7	0.457	1.67	25.7	36.2	2.35	29.0	0.01			201	
229	8.79	8.77	34.218	26.543	152.7	0.503	1.43	21.9	39.8	2.48	30.3	0.02			230	206
250 ISL	8.56 D	8.53	34.232 D	26.590	148.6	0.534	1.24	18.9	42.8	2.57	31.2	0.02			251	
268	8.40	8.37	34.258	26.635	144.5	0.561	1.09	16.6	45.3	2.63	31.9	0.01			270	205
300 ISL	8.16 D	8.13	34.271 D	26.682	140.6	0.606	0.96	14.5	48.1	2.70	32.7	0.01			302	
319	8.04	8.01	34.274	26.703	138.9	0.633	0.90	13.6	49.7	2.74	33.1	0.01			321	204
378	7.42	7.38	34.288	26.805	129.8	0.712	0.61	9.1	57.8	2.91	35.4	0.01			380	203
400 ISL	7.23 D	7.19	34.291 D	26.834	127.3	0.740	0.55	8.1	60.3	2.95	36.1	0.01			403	
438	6.93	6.89	34.293	26.877	123.5	0.788	0.48	7.0	64.4	3.01	37.1	0.01			441	202
500 ISL	6.49 D	6.44	34.321 D	26.959	116.3	0.862	0.32	4.7	72.3	3.12	38.6	0.00			503	
513	6.38	6.33	34.325	26.977	114.7	0.877	0.29	4.2	74.0	3.14	38.9	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE	
32 55.3 N	118 55.9 W	06/04/07	1005 UTC	1702 m	300	18 kn			1013.3 mb	13.8 c	12.3 c					
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.78	14.78	33.568	24.916	302.7	0.000	6.00	104.1	2.5	0.33	0.0	0.00	0.42	0.09	0	
2	14.78	14.78	33.568	24.917	302.8	0.006	6.00	104.1	2.5	0.33	0.0	0.00	0.42	0.09	2	221
10 ISL	14.77 D	14.77	33.567 D	24.918	302.9	0.030	6.00	104.1	2.5	0.33	0.0	0.00	0.38	0.09	10	
11	14.77	14.77	33.569	24.920	302.7	0.033	6.00	104.1	2.5	0.33	0.0	0.00	0.38	0.09	11	219
11	14.77	14.77	33.568	24.919	302.8	0.033									11	220
20 ISL	13.98 D	13.98	33.584 D	25.098	286.0	0.060	6.01	102.6	3.3	0.40	0.6	0.06	1.22	0.39	20	
21	13.98	13.98	33.585	25.099	285.9	0.063	6.01	102.6	3.4	0.41	0.7	0.07	1.31	0.42	21	218
30 ISL	13.72 D	13.72	33.592 D	25.158	280.5	0.088	5.87	99.7	3.5	0.47	1.6	0.17	1.23	0.46	30	
31	13.75	13.75	33.594	25.154	281.0	0.091	5.84	99.2	3.5	0.48	1.7	0.19	1.22	0.46	31	217
40	13.28	13.27	33.601	25.255	271.6	0.116	5.49	92.4	4.9	0.66	4.0	0.44	0.82	0.33	40	216
50	12.44	12.43	33.590	25.412	256.9	0.142	5.09	84.1	7.0	0.88	8.0	0.10	0.41	0.26	50	215
61	11.82	11.81	33.590	25.530	245.9	0.170	4.44	72.4	11.0	1.13	12.3	0.02	0.16	0.16	61	214
70	11.00	10.99	33.631	25.711	228.8	0.191	3.76	60.3	15.6	1.42	16.8	0.02	0.09	0.13	70	213
75 ISL	10.74 D	10.73	33.653 D	25.775	222.8	0.203	3.58	57.1	17.0	1.50	18.2	0.02	0.07	0.11	75	
85	10.37	10.36	33.699	25.875	213.5	0.224	3.38	53.5	18.9	1.61	19.9	0.02	0.04	0.08	85	212
100	9.91	9.90	33.804	26.036	198.5	0.255	3.00	47.0	23.0	1.80	22.7	0.01	0.01	0.07	101	211
120	9.70	9.69	33.886	26.135	189.4	0.294	2.70	42.1	25.8	1.93	24.3	0.01	0.01	0.07	121	210
125 ISL	9.65 D	9.64	33.930 D	26.178	185.5	0.303	2.64	41.2	26.5	1.96	24.7	0.01	0.01	0.07	126	
140	9.42	9.40	33.983	26.257	178.2	0.331	2.45	38.0	28.9	2.05	25.9	0.02	0.01	0.05	141	209
150 ISL	9.16 D	9.14	34.049 D	26.351	169.5	0.348	2.33	36.0	30.8	2.11	26.8	0.02	0.01	0.04	151	
169	9.01	8.99	34.109	26.422	163.1	0.380	2.06	31.7	34.4	2.23	28.3	0.01	0.00	0.03	170	208
199	8.95	8.93	34.222	26.521	154.3	0.427	1.42	21.8	39.1	2.45	29.9	0.01	0.00	0.03	200	207
200 ISL	8.91 D	8.89	34.224 D	26.528	153.6	0.429	1.41	21.7	39.3	2.46	30.0	0.01			201	
229	8.46	8.44	34.253	26.622	145.1	0.472	1.14	17.3	44.9	2.61	31.7	0.01			230	206
250 ISL	8.25 D	8.22	34.264 D	26.662	141.6	0.502	1.00	15.1	47.6	2.68	32.6	0.00			251	
269	8.07	8.04	34.264	26.690	139.2	0.529	0.90	13.6	49.5	2.73	33.3	0.00			271	205
300 ISL	7.78 D	7.75	34.255 D	26.726	136.2	0.572	0.84	12.6	52.5	2.77	34.2	0.00			302	
320	7.60	7.57	34.256	26.753	133.9	0.599	0.81	12.1	54.5	2.80	34.7	0.00			322	204
379	7.01	6.97	34.274	26.851	125.2	0.675	0.58	8.5	62.8	2.95	36.7	0.00			381	203
400 ISL	6.92 D	6.88	34.291 D	26.877	123.0	0.701	0.50	7.3	65.7	3.00	37.4	0.00			403	
438	6.53	6.49	34.303	26.939	117.3	0.747	0.38	5.5	70.6	3.07	38.4	0.00			441	202
500 ISL	6.23 D	6.19	34.325 D	26.996	112.5	0.818	0.31	4.5	75.9	3.14	39.6	0.00			503	
512	6.14	6.09	34.320	27.004	111.9	0.831	0.30	4.3	76.9	3.15	39.8	0.00			516	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 39.4 N	119 28.7 W	06/04/07	0423 UTC	1313 m	310 15 kn			1014.5 mb	14.4 c	13.0 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.81	13.81	33.572	25.124	283.0	0.000	6.05	102.9	5.0	0.48	2.0	0.10	1.22	0.32	0	
2	13.81	13.81	33.572	25.124	283.1	0.006	6.05	102.9	5.0	0.48	2.0	0.10	1.22	0.32	2	221
10 ISL	13.81 D	13.81	33.574 D	25.125	283.1	0.028	6.05	102.9	5.0	0.49	2.0	0.10	1.22	0.33	10	
11	13.81	13.81	33.572	25.124	283.3	0.031	6.05	102.9	5.0	0.49	2.0	0.10	1.22	0.33	11	220
16	13.57	13.57	33.642	25.227	273.6	0.045	5.77	97.7	6.6	0.61	3.5	0.17	0.74	0.27	16	219
20	13.38	13.38	33.636	25.261	270.5	0.056	5.64	95.1	6.7	0.66	4.2	0.19	0.60	0.21	20	218
30	13.19	13.19	33.627	25.293	267.7	0.083	5.55	93.2	6.8	0.70	4.8	0.23	0.52	0.22	30	217
40	12.48	12.47	33.544	25.368	260.8	0.109	5.20	86.0	7.6	0.84	7.5	0.16	0.32	0.27	40	216
50	11.63	11.62	33.529	25.517	246.8	0.135	4.57	74.2	10.4	1.12	12.0	0.05	0.15	0.07	50	215
61	11.29	11.28	33.574	25.615	237.8	0.161	4.24	68.4	12.7	1.26	14.3	0.04	0.11	0.12	61	214
71	10.99	10.98	33.699	25.766	223.6	0.184	3.55	56.9	17.3	1.53	18.2	0.02	0.06	0.15	71	213
75 ISL	10.67 D	10.66	33.728 D	25.845	216.1	0.193	3.36	53.5	18.7	1.61	19.4	0.02	0.05	0.15	75	
86	10.24	10.23	33.778	25.959	205.5	0.216	2.97	46.9	22.0	1.78	22.2	0.02	0.03	0.12	86	212
100	9.64	9.63	33.869	26.131	189.4	0.244	2.65	41.3	26.1	1.96	24.8	0.01	0.02	0.10	101	211
120	9.43	9.42	33.951	26.230	180.4	0.281	2.38	36.9	28.8	2.08	26.2	0.01	0.01	0.09	121	210
125 ISL	9.42 D	9.41	34.011 D	26.279	175.9	0.290	2.35	36.5	29.5	2.11	26.6	0.01	0.01	0.09	126	
140	9.07	9.05	34.020	26.342	170.0	0.316	2.26	34.8	31.9	2.18	27.6	0.02	0.01	0.08	141	209
150 ISL	9.02 D	9.00	34.065 D	26.386	166.1	0.333	2.09	32.2	33.8	2.23	28.3	0.02	0.01	0.08	151	
170	8.83	8.81	34.137	26.472	158.3	0.365	1.74	26.7	37.4	2.34	29.6	0.02	0.00	0.08	171	208
198	8.68	8.66	34.179	26.529	153.4	0.409	1.49	22.8	40.3	2.47	30.5	0.01	0.00	0.07	199	207
200 ISL	8.65 D	8.63	34.184 D	26.538	152.6	0.412	1.47	22.4	40.6	2.48	30.6	0.01			201	
230	8.39	8.37	34.211	26.599	147.2	0.457	1.25	19.0	44.3	2.56	31.8	0.01			231	206
250 ISL	8.13 D	8.10	34.210 D	26.638	143.8	0.486	1.16	17.5	46.2	2.61	32.3	0.01			252	
272	8.07	8.04	34.227	26.661	142.0	0.517	1.07	16.1	48.4	2.66	32.9	0.01			274	205
300 ISL	7.65 D	7.62	34.243 D	26.735	135.2	0.556	0.92	13.7	52.8	2.76	34.2	0.01			302	
317	7.47	7.44	34.242	26.760	133.0	0.579	0.83	12.3	55.6	2.82	35.0	0.01			319	204
376	6.91	6.87	34.264	26.856	124.5	0.655	0.61	9.0	63.7	2.96	36.9	0.01			378	203
400 ISL	6.68 D	6.64	34.270 D	26.892	121.3	0.684	0.56	8.2	65.5	3.00	37.4	0.01			403	
438	6.63	6.59	34.273	26.902	120.9	0.730	0.50	7.3	68.1	3.05	38.0	0.01			441	202
500 ISL	6.16 D	6.12	34.296 D	26.982	113.8	0.803	0.38	5.5	75.3	3.11	39.4	0.01			503	
516	6.08	6.03	34.300	26.995	112.6	0.821	0.35	5.0	77.2	3.13	39.7	0.01			520	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 25.0 N	119 57.6 W	05/04/07	2232 UTC	863 m	300 22 kn	310 03 05	1	1014.9 mb	14.9 c	13.7 c	13m	6/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.51	14.51	33.601	25.000	294.8	0.000	6.00	103.5	3.4	0.39	0.5	0.05	0.63	0.13	0	
2	14.51	14.51	33.601	25.000	294.9	0.006	6.00	103.5	3.4	0.39	0.5	0.05	0.63	0.13	2	220
10	14.49	14.49	33.601	25.004	294.7	0.029	6.01	103.7	3.3	0.39	0.5	0.05	0.61	0.14	10	219
20	14.37	14.37	33.606	25.034	292.2	0.059	6.00	103.3	3.4	0.41	0.7	0.06	0.70	0.20	20	218
30	14.03	14.03	33.615	25.112	285.0	0.088	5.95	101.7	3.7	0.46	1.4	0.11	0.66	0.31	30	217
40	13.60	13.59	33.619	25.204	276.5	0.116	5.82	98.6	4.5	0.55	2.5	0.23	0.64	0.37	40	216
50	13.04	13.03	33.627	25.323	265.4	0.143	5.40	90.4	6.2	0.74	5.3	0.44	0.37	0.24	50	215
60	12.12	12.11	33.645	25.516	247.2	0.168	4.61	75.7	10.2	1.08	11.0	0.17	0.18	0.16	60	214
70	11.12	11.11	33.691	25.737	226.4	0.192	3.65	58.7	16.2	1.48	17.4	0.03	0.07	0.12	70	213
75 ISL	10.85 D	10.84	33.732 D	25.817	218.9	0.203	3.41	54.5	18.1	1.59	19.0	0.03	0.06	0.13	75	
85	10.55	10.54	33.765	25.896	211.6	0.225	3.15	50.1	20.7	1.71	20.6	0.03	0.05	0.17	85	212
100	10.22	10.21	33.817	25.993	202.6	0.256	2.83	44.7	23.4	1.84	22.6	0.02	0.04	0.17	101	211
120	9.72	9.71	33.856	26.108	192.0	0.295	2.71	42.3	25.2	1.91	23.9	0.02	0.00	0.18	121	210
125 ISL	9.49 D	9.48	33.902 D	26.182	185.0	0.305	2.70	41.9	25.9	1.93	24.3	0.02	0.00	0.16	126	
139	9.29	9.27	33.938	26.243	179.5	0.330	2.68	41.5	27.9	1.99	25.3	0.02	0.01	0.10	140	209
150 ISL	9.14 D	9.12	33.982 D	26.302	174.1	0.350	2.64	40.7	29.1	2.01	25.8	0.02	0.01	0.07	151	
169	8.95	8.93	34.036	26.374	167.5	0.382	2.56	39.3	31.4	2.06	26.6	0.02	0.00	0.04	170	208
199	8.84	8.82	34.147	26.479	158.2	0.431	1.86	28.5	36.5	2.31	29.0	0.02	0.00	0.04	200	207
200 ISL	8.84 D	8.82	34.144 D	26.477	158.4	0.433	1.85	28.4	36.7	2.32	29.1	0.02			201	
229	8.58	8.56	34.189	26.553	151.7	0.478	1.54	23.5	40.9	2.46	30.4	0.01			230	206
250 ISL	8.27 D	8.24	34.194 D	26.604	147.0	0.509	1.39	21.0	43.4	2.53	31.3	0.01			251	
268	8.18	8.15	34.207	26.629	145.1	0.535	1.29	19.5	45.5	2.57	32.1	0.01			270	205
300 ISL	7.84 D	7.81	34.208 D	26.680	140.5	0.581	1.15	17.2	49.4	2.66	33.3	0.01			302	
318	7.64	7.61	34.209	26.710	137.9	0.606	1.07	16.0	51.7	2.71	34.0	0.01			320	204
378	6.96	6.92	34.244	26.834	126.7	0.685	0.69	10.1	61.3	2.91	36.5	0.01			380	203
400 ISL	6.83 D	6.79	34.262 D	26.866	123.9	0.713	0.62	9.1	64.2	2.96	37.2	0.01			403	
439	6.51	6.47	34.254	26.903	120.7	0.761	0.54	7.8	68.7	3.02	38.3	0.01			442	202
500 ISL	6.12 D	6.08	34.275 D	26.970	114.8	0.832	0.40	5.8	74.9	3.11	39.7	0.00			503	
511	6.04	5.99	34.278	26.983	113.7	0.845	0.38	5.5	76.0	3.13	39.9	0.00			515	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 3.8 N	120 39.1 W	05/04/07	1705 UTC	3806 m	320 27 kn	300 03 05	2	1017.0 mb	15.7 c	14.8 c	16m	8/8	CS			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.56	14.56	33.432	24.859	308.2	0.000	5.94	102.5	1.9	0.31	0.0	0.00	0.22	0.05	0	
2 B	14.56	14.56	33.432	24.859	308.3	0.006	5.94	102.5	1.9	0.31	0.0	0.00	0.22	0.05	2	221
8 B	14.56	14.56	33.433	24.860	308.4	0.025	5.96	102.9	1.9	0.31	0.0	0.00	0.23	0.05	8	220
10 ISL	14.55 D	14.55	33.430 D	24.859	308.4	0.031	5.96	102.8	1.9	0.31	0.0	0.00	0.23	0.05	10	
15	14.54	14.54	33.433	24.864	308.2	0.046	5.95	102.6	1.8	0.32	0.0	0.00	0.22	0.06	15	219
20 ISL	14.54 D	14.54	33.430 D	24.862	308.5	0.062	5.94	102.5	1.8	0.32	0.0	0.00	0.23	0.06	20	
22 B	14.55	14.55	33.433	24.862	308.5	0.068	5.94	102.5	1.8	0.32	0.0	0.00	0.24	0.06	22	218
30 B	14.54	14.54	33.433	24.865	308.6	0.093	5.94	102.5	1.8	0.32	0.0	0.00	0.24	0.06	30	217
40 B	14.00	13.99	33.421	24.969	298.9	0.123	6.07	103.5	2.3	0.35	0.1	0.03	0.64	0.19	40	216
50	13.90	13.89	33.482	25.037	292.7	0.152	6.11	104.0	2.6	0.37	0.3	0.04	0.63	0.23	50	215
62 B	13.01	13.00	33.404	25.157	281.5	0.187	5.83	97.4	3.2	0.52	2.4	0.22	0.72 A	0.29 A	62	214
73	12.66	12.65	33.413	25.233	274.5	0.218	5.65	93.7	4.0	0.63	4.0	0.14	0.46	0.20	73	213
75 ISL	12.72 D	12.71	33.443 D	25.244	273.5	0.223	5.63	93.5	4.1	0.64	4.2	0.12	0.40	0.19	75	
85	12.42	12.41	33.465	25.320	266.6	0.250	5.41	89.3	5.1	0.75	6.0	0.04	0.16	0.13	85	212
100	11.14	11.13	33.501	25.586	241.4	0.288	4.42	71.0	11.2	1.19	13.4	0.02	0.05	0.06	100	211
120	9.90	9.89	33.669	25.932	208.7	0.333	3.84	60.1	17.7	1.53	19.3	0.01	0.01	0.04	121	210
125 ISL	9.65 D	9.64	33.728 D	26.020	200.5	0.343	3.72	57.9	19.1	1.59	20.3	0.01	0.01	0.04	126	
139	9.35	9.33	33.814	26.136	189.6	0.371	3.43	53.1	22.7	1.74	22.6	0.01	0.01	0.03	140	209
150 ISL	9.06 D	9.04	33.901 D	26.251	178.9	0.391	3.30	50.8	25.1	1.81	23.8	0.01	0.01	0.03	151	
170	8.74	8.72	33.969	26.355	169.3	0.426	3.15	48.1	28.9	1.90	25.2	0.01	0.00	0.02	171	208
198	8.28	8.26	34.009	26.457	160.0	0.472	2.98	45.1	33.6	2.00	26.9	0.01	0.00	0.02	199	207
200 ISL	8.23 D	8.21	34.008 D	26.464	159.4	0.475	2.95	44.6	34.0	2.01	27.1	0.01	0.00	0.02	201	
228	7.82	7.80	34.042	26.552	151.4	0.519	2.43	36.4	40.2	2.20	30.1	0.01	0.00	0.02	229	206
250 ISL	7.60 D	7.58	34.064 D	26.601	147.0	0.551	2.15	32.0	44.2	2.32	31.7	0.00	0.00	0.02	251	
269	7.30	7.27	34.064	26.644	143.1	0.579	1.95	28.8	47.4	2.42	32.8	0.00	0.00	0.02	271	205
300 ISL	6.96 D	6.93	34.073 D	26.698	138.2	0.623	1.68	24.7	52.6	2.56	34.6	0.00	0.00	0.02	302	
318	6.75	6.72	34.080	26.732	135.1	0.647	1.53	22.3	55.6	2.64	35.5	0.00	0.00	0.02	320	204
379	6.36	6.33	34.157	26.845	125.1	0.726	0.90	13.0	65.3	2.89	38.1	0.00	0.00	0.02	381	203
400 ISL	6.20 D	6.16	34.168 D	26.875	122.5	0.752	0.78	11.3	69.0	2.95	38.9	0.00	0.00	0.02	403	
436	5.82	5.78	34.175	26.928	117.5	0.796	0.64	9.1	75.2	3.04	40.1	0.00	0.00	0.02	439	202
500 ISL	5.46 D	5.42	34.221 D	27.009	110.4	0.869	0.45	6.4	83.2	3.14	41.4	0.00	0.00	0.02	503	
512	5.41	5.37	34.225	27.018	109.6	0.882	0.41	5.8	84.7	3.16	41.6	0.00	0.00	0.02	515	201

A) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

B) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 45.0 N	121 18.9 W	05/04/07	0908 UTC	3659 m	320 14 kn			1016.8 mb	15.0 c	13.2 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.46	14.46	33.451	24.894	304.8	0.000	6.00	103.3	2.5	0.34	0.0	0.00	0.32	0.07	0	
3	14.46	14.46	33.451	24.895	304.9	0.009	6.00	103.3	2.5	0.34	0.0	0.00	0.32	0.07	3	221
10 ISL	14.47 D	14.47	33.448 D	24.890	305.5	0.031	6.01	103.5	2.5	0.36	0.0	0.00	0.32	0.06	10	
11	14.46	14.46	33.453	24.896	305.0	0.034	6.01	103.5	2.5	0.36	0.0	0.00	0.32	0.06	11	220
20 ISL	14.34 D	14.34	33.449 D	24.919	303.1	0.061	6.03	103.6	2.4	0.35	0.0	0.00	0.33	0.06	20	
21	14.35	14.35	33.452	24.919	303.1	0.064	6.03	103.6	2.4	0.35	0.0	0.00	0.33	0.06	21	219
30	14.31	14.31	33.449	24.926	302.7	0.091	6.04	103.7	2.3	0.34	0.0	0.00	0.32	0.07	30	218
40	14.25	14.24	33.449	24.938	301.8	0.121	6.04	103.6	2.4	0.33	0.0	0.00	0.40	0.10	40	217
45	14.09	14.08	33.447	24.970	298.9	0.136									45	216
50	13.79	13.78	33.428	25.018	294.5	0.151	5.94	100.9	2.6	0.40	0.6	0.09	0.64	0.17	50	215
60	12.94	12.93	33.409	25.175	279.8	0.180	5.78	96.4	3.6	0.56	2.9	0.27	0.60	0.22	60	214
70	12.68	12.67	33.449	25.257	272.2	0.208	5.61	93.1	4.4	0.65	4.6	0.13	0.38	0.14	70	213
75 ISL	12.65 D	12.64	33.461 D	25.272	270.9	0.221	5.53	91.7	4.7	0.69	5.2	0.08	0.31	0.13	75	
85	12.43	12.42	33.474	25.325	266.1	0.248	5.33	88.0	5.6	0.77	6.5	0.03	0.22	0.12	85	212
99	11.88	11.87	33.494	25.445	254.9	0.284	4.88	79.7	8.0	0.93	9.5	0.02	0.13	0.10	99	211
100 ISL	11.92 D	11.91	33.494 D	25.438	255.7	0.287	4.83	78.9	8.4	0.95	9.9	0.02	0.12	0.10	100	
119	10.32	10.31	33.588	25.798	221.5	0.332	3.97	62.7	15.5	1.43	17.7	0.01	0.03	0.05	120	210
125 ISL	10.04 D	10.03	33.644 D	25.889	212.9	0.345	3.80	59.7	17.1	1.52	19.1	0.01	0.02	0.05	126	
139	9.72	9.70	33.717	26.000	202.7	0.375	3.53	55.1	20.1	1.66	21.2	0.01	0.01	0.04	140	209
150 ISL	9.34 D	9.32	33.804 D	26.130	190.4	0.396	3.51	54.3	22.1	1.70	22.1	0.01	0.00	0.03	151	
168	8.99	8.97	33.908	26.268	177.6	0.429	3.49	53.6	25.2	1.74	23.2	0.01	0.00	0.02	169	208
198	8.61	8.59	33.996	26.396	165.9	0.481	2.80	42.7	31.5	2.00	26.8	0.01	0.00	0.03	199	207
200 ISL	8.61 D	8.59	33.995 D	26.396	166.0	0.484	2.78	42.4	31.8	2.01	26.9	0.01	0.00	0.03	201	
227	8.26	8.24	34.035	26.481	158.3	0.528	2.53	38.3	35.9	2.14	28.6	0.01	0.00	0.02	228	206
250 ISL	7.76 D	7.74	34.046 D	26.564	150.6	0.563	2.29	34.2	40.6	2.27	30.4	0.01	0.00	0.02	251	
271	7.47	7.44	34.052	26.610	146.4	0.595	2.07	30.7	45.0	2.38	32.1	0.01	0.00	0.02	273	205
300 ISL	7.15 D	7.12	34.073 D	26.672	140.8	0.636	1.80	26.5	49.9	2.51	33.7	0.01	0.00	0.02	302	
320	6.94	6.91	34.070	26.699	138.5	0.664	1.61	23.6	53.0	2.59	34.7	0.01	0.00	0.02	322	204
376	6.72</															

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 24.8 N	121 59.6 W	05/04/07	0226 UTC	3867 m	340 13 kn	350 02 05	2	1017.2 mb	15.2 c	13.5 c		8/8	SC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.59	14.59	33.471	24.882	306.0	0.000	6.01	103.8	2.5	0.33	0.0	0.01	0.24	0.05	0	
2	14.59	14.59	33.471	24.882	306.0	0.006	6.01	103.8	2.5	0.33	0.0	0.01	0.24	0.05	2	222
10	14.58	14.58	33.470	24.884	306.1	0.031	6.00	103.6	2.3	0.33	0.0	0.00	0.25	0.05	10	221
20	14.55	14.55	33.472	24.892	305.6	0.061	6.02	103.9	2.2	0.32	0.0	0.00	0.28	0.06	20	220
30	14.07	14.07	33.476	24.997	296.0	0.091	6.11	104.4	2.4	0.33	0.0	0.01	0.48	0.11	30	219
35	13.67	13.67	33.465	25.071	289.0	0.106	6.16	104.4	2.5	0.36	0.1	0.03	0.86	0.20	35	218
40	13.60	13.59	33.460	25.081	288.2	0.120	6.15	104.1	2.4	0.37	0.2	0.05	1.03	0.22	40	217
45	13.52	13.51	33.448	25.088	287.6	0.135	6.10	103.0	2.4	0.39	0.4	0.08	1.29	0.11	45	216
50	13.46	13.45	33.438	25.093	287.3	0.149	6.08	102.6	2.3	0.41	0.6	0.10	0.87	0.25	50	215
60	13.19	13.18	33.426	25.138	283.3	0.178	5.89	98.8	2.9	0.49	1.6	0.22	0.62	0.16	60	214
70	13.00	12.99	33.419	25.171	280.4	0.206	5.82	97.2	3.2	0.57	2.6	0.26	0.44	0.13	70	213
75 ISL	12.59 D	12.58	33.420 D	25.252	272.8	0.220	5.73	94.9	3.8	0.64	3.9	0.19	0.31	0.12	75	
85	12.03	12.02	33.425	25.363	262.4	0.246	5.27	86.3	6.8	0.88	8.2	0.04	0.09	0.09	85	212
100	10.33	10.32	33.593	25.800	220.9	0.283	3.65	57.7	17.0	1.60	19.4	0.02	0.04	0.06	100	211
120	9.64	9.63	33.799	26.077	194.9	0.324	3.03	47.2	22.7	1.83	23.3	0.01	0.01	0.06	121	210
125 ISL	9.62 D	9.61	33.892 D	26.153	187.8	0.334	2.85	44.4	24.0	1.89	24.0	0.01	0.01	0.06	126	
139	9.59	9.57	33.973	26.221	181.6	0.360	2.37	36.9	27.3	2.06	25.6	0.01	0.01	0.06	140	209
150 ISL	9.52 D	9.50	34.022 D	26.271	177.1	0.379	2.14	33.3	29.0	2.14	26.4	0.01	0.01	0.06	151	
169	9.54	9.52	34.096	26.326	172.3	0.413	1.91	29.7	31.0	2.22	27.2	0.01	0.01	0.05	170	208
199	9.18	9.16	34.125	26.408	165.1	0.463	1.84	28.4	33.3	2.28	28.3	0.01	0.01	0.05	200	207
200 ISL	9.19 D	9.17	34.129 D	26.410	164.9	0.465	1.84	28.4	33.4	2.28	28.4	0.01			201	
229	8.63	8.61	34.134	26.502	156.5	0.511	1.75	26.7	37.3	2.37	29.9	0.01			230	206
250 ISL	8.51 D	8.48	34.183 D	26.559	151.4	0.544	1.89	29.8	40.5	2.38	30.8	0.01			251	
269	7.60	7.57	34.075	26.610	146.5	0.572	1.98	29.5	43.5	2.38	31.7	0.01			271	205
300 ISL	7.33 D	7.30	34.108 D	26.674	140.7	0.617	1.56	23.1	48.9	2.55	33.6	0.00			302	
319	7.27	7.24	34.154	26.719	136.8	0.643	1.23	18.2	52.0	2.67	34.6	0.00			321	204
377	7.11	7.07	34.231	26.803	129.7	0.720	0.76	11.2	58.7	2.88	35.9	0.00			379	203
400 ISL	6.90 D	6.86	34.232 D	26.833	127.1	0.750	0.66	9.7	61.6	2.96	36.6	0.00			403	
437	6.59	6.55	34.255	26.893	121.7	0.796	0.54	7.9	66.6	3.08	37.8	0.01			440	202
500 ISL	6.02 D	5.98	34.319 D	27.018	110.2	0.869	0.32	4.6	76.6	3.14	39.7	0.00			503	
515	5.95	5.90	34.321	27.028	109.3	0.885	0.27	3.9	79.0	3.16	40.1	0.00			518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 4.8 N	122 39.8 W	04/04/07	1954 UTC	4012 m	350 10 kn	360 01 06	3	1019.9 mb	16.8 c	15.0 c		6/8	AS			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.51	14.51	33.297	24.765	317.1	0.000	5.96	102.7	2.1	0.33	0.1	0.00	0.15	0.04	0	
2 A	14.51	14.51	33.297	24.765	317.2	0.006	5.96	102.7	2.1	0.33	0.1	0.00	0.15	0.04	2	223
10 ISL	14.50 D	14.50	33.300 D	24.770	317.0	0.032	5.94	102.3	2.1	0.32	0.0	0.00	0.15	0.04	10	
12 A	14.48	14.48	33.301	24.775	316.6	0.038	5.94	102.3	2.1	0.32	0.0	0.00	0.15	0.04	12	222
16	14.38	14.38	33.289	24.787	315.5	0.051	5.96	102.4	2.1	0.32	0.0	0.00	0.19	0.05	16	221
20	14.31	14.31	33.281	24.796	314.8	0.063	5.98	102.6	2.1	0.33	0.0	0.00	0.22	0.06	20	220
29 A	14.12	14.12	33.274	24.830	311.8	0.091	6.03	103.0	2.3	0.35	0.1	0.01	0.33	0.17	29	219
30 ISL	14.10 D	14.10	33.275 D	24.835	311.3	0.095	6.03	103.0	2.3	0.35	0.1	0.01	0.33	0.17	30	
40 A	14.05	14.04	33.275	24.846	310.6	0.126	6.04	103.0	2.3	0.35	0.1	0.01	0.34	0.11	40	218
45	14.01	14.00	33.278	24.857	309.7	0.141	6.05	103.1	2.4	0.35	0.1	0.02	0.34	0.11	45	217
50 A	14.01	14.00	33.279	24.857	309.8	0.157	6.05	103.1	2.4	0.35	0.1	0.02	0.34	0.12	50	216
65	13.95	13.94	33.286	24.876	308.5	0.203	6.05	103.0	2.5	0.36	0.2	0.03	0.38	0.12	65	215
75	13.66	13.65	33.288	24.937	302.9	0.234	6.00	101.5	2.6	0.39	0.3	0.11	0.41	0.16	75	214
80 A	13.31	13.30	33.262	24.988	298.1	0.249	5.84	98.1	2.8	0.44	1.0	0.27	0.37	0.19	80	213
90	12.79	12.78	33.310	25.128	285.0	0.278	5.64	93.7	3.9	0.58	3.6	0.04	0.17	0.10	90	212
99	12.60	12.59	33.362	25.206	277.8	0.303	5.57	92.2	4.5	0.64	4.6	0.03	0.09	0.06	99	211
100 ISL	12.60 D	12.59	33.364 D	25.207	277.7	0.306	5.56	92.1	4.5	0.64	4.7	0.03	0.09	0.06	100	
120	12.03	12.01	33.414	25.355	264.0	0.360	5.17	84.6	6.6	0.81	7.6	0.02	0.05	0.05	121	210
125 ISL	11.62 D	11.60	33.438 D	25.450	255.0	0.373	4.97	80.6	7.9	0.91	9.1	0.02	0.04	0.05	126	
140	10.91	10.89	33.514	25.638	237.4	0.410	4.23	67.6	12.9	1.25	14.5	0.01	0.02	0.05	141	209
150 ISL	10.31 D	10.29	33.655 D	25.852	217.1	0.433	3.64	57.5	17.4	1.52	18.3	0.01	0.01	0.04	151	
170	9.68	9.66	33.842	26.105	193.4	0.474	2.56	39.9	25.9	1.99	24.9	0.01	0.00	0.02	171	208
200	9.34	9.32	34.030	26.308	174.6	0.529	1.82	28.2	32.4	2.26	28.5	0.00	0.00	0.03	201	207
227	9.21	9.19	34.101	26.385	167.9	0.575	1.51	23.3	35.1	2.44	29.8	0.00			228	206
250 ISL	9.03 D	9.00	34.135 D	26.441	163.0	0.613	1.37	21.1	37.3	2.46	30.5	0.00			251	
267	8.90	8.87	34.161	26.482	159.3	0.641	1.30	20.0	39.1	2.48	31.0	0.00			268	205
300 ISL	8.49 D	8.46	34.222 D	26.594	149.1	0.692	1.19	18.1	44.0	2.59	32.2	0.00			302	
319	8.13	8.10	34.197	26.629	145.9	0.720	1.13	17.1	47.2	2.66	32.9	0.00			321	204
378	7.36	7.32	34.207	26.749	135.0	0.802	0.88	13.0	56.5	2.81	35.4	0.00			380	203
400 ISL	7.12 D	7.08	34.207 D	26.783	132.0	0.832	0.82	12.1	59.0	2.86	36.0	0.00			402	
438	6.82	6.78	34.209	26.826	128.2	0.881	0.73	10.7	63.							

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
30 44.8 N	123 19.7 W	04/04/07	1319	UTC	4008 m	310	06 kn			1018.8 mb	15.9 C	14.0 C				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	15.03	15.03	33.327	24.677	325.6	0.000	5.88	102.4	1.8	0.31	0.0	0.00	0.16	0.01	0	
2	15.03	15.03	33.327	24.677	325.6	0.007	5.88	102.4	1.8	0.31	0.0	0.00	0.16	0.01	2	221
10 ISL	15.02 D	15.02	33.320 D	24.674	326.1	0.033	5.89	102.5	1.8	0.32	0.0	0.00	0.15	0.02	10	
15	14.99	14.99	33.329	24.687	325.0	0.049	5.89	102.5	1.8	0.32	0.0	0.00	0.14	0.02	15	220
20 ISL	14.89 D	14.89	33.319 D	24.701	323.8	0.065	5.89	102.3	1.8	0.32	0.0	0.00	0.15	0.02	20	
30	14.85	14.85	33.326	24.716	322.7	0.097	5.90	102.3	1.8	0.31	0.0	0.00	0.16	0.02	30	219
45	14.52	14.51	33.314	24.777	317.3	0.145	5.97	102.9	2.0	0.32	0.0	0.00	0.26	0.03	45	218
50 ISL	14.49 D	14.48	33.309 D	24.780	317.2	0.161	6.00	103.3	2.0	0.33	0.0	0.00	0.34	0.06	50	
55	14.16	14.15	33.295	24.839	311.7	0.177	6.01	102.8	2.1	0.34	0.0	0.00	0.48	0.12	55	217
65	13.26	13.25	33.258	24.994	297.1	0.207	5.96	100.0	2.6	0.41	0.5	0.08	1.11	0.42	65	216
75	12.85	12.84	33.268	25.083	288.8	0.237	5.71	95.0	3.4	0.53	2.6	0.09	0.68	0.24	75	215
85	12.52	12.51	33.301	25.173	280.5	0.265	5.57	92.1	4.2	0.59	4.2	0.05	0.37	0.17	85	214
95	11.97	11.96	33.345	25.312	267.4	0.293	5.30	86.6	5.9	0.74	6.7	0.02	0.16	0.06	95	213
100 ISL	11.61 D	11.60	33.374 D	25.402	259.0	0.306	5.13	83.2	7.0	0.82	8.2	0.02	0.11	0.05	100	
110	11.14	11.13	33.432	25.532	246.7	0.331	4.75	76.3	9.7	1.01	11.5	0.02	0.05	0.03	110	212
125	10.14	10.13	33.573	25.817	219.8	0.366	4.21	66.2	15.0	1.33	16.9	0.01	0.01	0.02	126	211
145	9.46	9.44	33.736	26.057	197.2	0.408	3.56	55.2	21.1	1.65	21.7	0.01	0.00	0.02	146	210
150 ISL	9.29 D	9.27	33.798 D	26.134	190.1	0.417	3.41	52.7	22.4	1.71	22.6	0.01	0.00	0.02	151	
170	9.10	9.08	33.874	26.224	181.9	0.455	3.13	48.2	25.9	1.84	24.4	0.01	0.00	0.02	171	209
199	8.77	8.75	33.962	26.345	170.8	0.506	3.96	60.6	25.3	1.58	21.9	0.01	0.00	0.01	200	208
200 ISL	8.74 D	8.72	33.960 D	26.348	170.5	0.507	3.95	60.4	25.4	1.58	21.9	0.01	0.00	0.01	201	
229	8.34	8.32	33.979	26.425	163.7	0.556	3.56	53.9	30.3	1.76	24.5	0.01	0.00	0.01	230	207
250 ISL	7.97 D	7.94	34.011 D	26.505	156.2	0.590	2.93	44.0	35.5	2.00	27.5	0.01	0.00	0.01	251	
268	7.84	7.81	34.038	26.546	152.6	0.617	2.40	35.9	40.1	2.20	30.1	0.01	0.00	0.01	269	206
300 ISL	7.21 D	7.18	34.010 D	26.614	146.3	0.665	2.25	33.2	46.1	2.33	32.1	0.00	0.00	0.01	302	
318	6.99	6.96	34.027	26.658	142.3	0.691	2.17	31.9	49.2	2.38	32.9	0.00	0.00	0.01	320	205
377	6.17	6.14	34.057	26.790	130.0	0.771	1.47	21.2	62.1	2.71	37.0	0.00	0.00	0.01	379	204
400 ISL	5.92 D	5.89	34.071 D	26.833	126.1	0.801	1.25	17.9	66.8	2.81	38.2	0.00	0.00	0.01	402	
439	5.65	5.61	34.114	26.901	120.0	0.849	0.93	13.2	73.5	2.96	39.7	0.00	0.00	0.01	442	203
500 ISL	5.72 D	5.68	34.220 D	26.977	113.7	0.920	0.55	7.8	78.9	3.10	40.6	0.00	0.00	0.01	503	
522	5.64	5.60	34.246	27.007	111.0	0.945	0.41	5.8	80.9	3.15	40.9	0.00	0.00	0.01	525	202

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
30 25.0 N	123 59.9 W	04/04/07	0656	UTC	4239 m	320	08 kn			1021.4 mb	16.0 C	14.5 C				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	16.04	16.04	33.648	24.700	323.4	0.000	5.74	102.2	1.5	0.25	0.0	0.00	0.07	0.01	0	
2	16.04	16.04	33.648	24.700	323.4	0.006	5.74	102.2	1.5	0.25	0.0	0.00	0.07	0.01	2	220
10 ISL	16.03 D	16.03	33.644 D	24.699	323.7	0.032	5.73	102.0	1.6	0.25	0.0	0.00	0.07	0.01	10	
15	15.98	15.98	33.648	24.714	322.5	0.049	5.73	101.9	1.6	0.25	0.0	0.00	0.07	0.01	15	219
20 ISL	15.89 D	15.89	33.646 D	24.733	320.9	0.065	5.74	101.9	1.6	0.25	0.0	0.00	0.07	0.01	20	
30 ISL	15.79 D	15.79	33.646 D	24.755	319.0	0.097	5.76	102.0	1.6	0.25	0.0	0.00	0.07	0.01	30	
31	15.78	15.78	33.645	24.757	318.9	0.100	5.76	102.0	1.6	0.25	0.0	0.00	0.07	0.01	31	218
45	15.77	15.76	33.678	24.785	316.7	0.144	5.77	102.2	1.6	0.25	0.0	0.00	0.09	0.02	45	217
50 ISL	15.77 D	15.76	33.671 D	24.780	317.3	0.160	5.74	101.6	1.6	0.23	0.0	0.00	0.09	0.02	50	
60	16.45	16.44	33.949	24.839	312.1	0.192	5.66	101.7	1.5	0.20	0.0	0.00	0.10	0.02	60	216
75	16.61	16.60	34.073	24.898	307.0	0.238	5.64	101.8	1.4	0.18	0.0	0.00	0.16	0.05	75	215
85	16.75	16.74	34.145	24.921	305.2	0.269	5.59	101.2	1.4	0.18	0.0	0.00	0.18	0.05	85	214
95	16.67	16.65	34.151	24.945	303.2	0.299	5.60	101.2	1.4	0.17	0.0	0.00	0.21	0.06	95	213
100 ISL	16.52 D	16.50	34.117 D	24.954	302.5	0.314	5.57	100.4	1.5	0.18	0.0	0.00	0.28	0.13	100	
105	16.41	16.39	34.112	24.975	300.6	0.329	5.54	99.6	1.6	0.19	0.0	0.01	0.34	0.20	105	212
115	15.95	15.93	34.101	25.072	291.6	0.359	5.47	97.4	1.9	0.22	0.2	0.05	0.35	0.27	115	211
125	15.41	15.39	34.045	25.151	284.4	0.388	5.42	95.5	2.1	0.25	0.6	0.10	0.27	0.26	126	210
140	14.72	14.70	33.960	25.236	276.6	0.430	5.38	93.4	2.5	0.31	1.5	0.06	0.20	0.22	141	209
150 ISL	14.24 D	14.22	33.904 D	25.295	271.1	0.457	5.15	88.5	4.5	0.52	4.5	0.04	0.14	0.15	151	
165	11.84	11.82	33.604	25.539	247.6	0.496	4.76	77.7	8.2	0.89	9.6	0.01	0.06	0.05	166	208
194	10.42	10.40	33.718	25.884	215.1	0.563	4.51	71.4	13.1	1.18	14.6	0.01	0.01	0.02	195	207
200 ISL	9.80 D	9.78	33.756 D	26.018	202.2	0.576	4.44	69.4	14.6	1.25	15.7	0.01	0.01	0.01	201	
229	9.14	9.12	33.895	26.235	182.0	0.631	4.06	62.6	22.3	1.55	20.6	0.01	0.00	0.01	230	206
250 ISL	8.50 D	8.47	33.969 D	26.393	167.1	0.668	3.77	57.3	26.6	1.69	23.0	0.01	0.00	0.01	251	
269	8.42	8.39	33.975	26.410	165.8	0.700	3.46	52.5	30.4	1.80	24.9	0.01	0.00	0.01	270	205
300 ISL	7.94 D	7.91	34.015 D	26.514	156.3	0.750	2.78	41.7	37.7	2.08	28.5	0.00	0.00	0.01	302	
318	7.71	7.68	34.036	26.564	151.7	0.777	2.41	36.0	41.9	2.24	30.4	0.00	0.00	0.01	320	204
378	6.84	6.80	34.040	26.689	140.2	0.865	1.92	28.1	52.7	2.51	34.2	0.00	0.00	0.01	380	203
400 ISL	6.41 D	6.37	34.053 D	26.757	133.8	0.895	1.57	22.7	58.1	2.67	35.9	0.00	0.00	0.01	402	
437	6.18	6.14	34.131	26.848	125.4											

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
32 58.0 N	117 18.3 W	28/03/07	0537 UTC	2016 m	330 30 kn			1016.9 mb	13.5 c	11.7 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/l	ug/l	db	
0 ISL	14.90	14.90	33.609 D	24.922	302.2	0.000	6.12	106.5	2.5	0.29	0.2	0.02				0
1	14.90	14.90	33.609 D	24.922	302.2	0.003	6.12	106.5	2.5	0.29	0.2	0.02				1 210
5	14.90	14.90	33.618	24.929	301.7	0.015	6.14	106.8	2.4	0.29	0.2	0.02	1.33	0.44		5 209
10 ISL	14.88 D	14.88	33.618 D	24.934	301.4	0.030	6.14	106.8	2.4	0.29	0.2	0.03	1.34	0.46		10
11	14.89	14.89	33.620	24.933	301.5	0.033	6.14	106.8	2.4	0.29	0.2	0.03	1.34	0.46		11 208
19	14.66	14.66	33.616	24.980	297.3	0.057	6.06	104.9	2.9	0.33	0.4	0.06	1.37	0.42		19 207
20 ISL	14.05 D	14.05	33.618 D	25.110	284.9	0.060	5.86	100.2	3.7	0.42	1.5	0.13	1.41	0.45		20
25	12.78	12.78	33.616	25.365	260.7	0.074	4.74	78.9	8.1	0.91	7.5	0.46	1.52	0.51		25 206
30	12.23	12.23	33.588	25.450	252.7	0.087	4.06	66.8	11.2	1.21	11.6	0.52	1.27	0.28		30 205
41	11.89	11.88	33.641	25.556	242.9	0.114	3.66	59.8	13.4	1.39	14.6	0.41	0.35	0.28		41 203
48	11.44	11.43	33.684	25.673	232.0	0.130	3.09	50.0	17.5	1.65	17.8	0.39	0.28	0.36		48 202
50 ISL	11.29 D	11.28	33.702 D	25.714	228.1	0.135	3.04	49.1	17.9	1.67	18.1	0.39	0.26	0.35		50
56	11.24	11.23	33.708	25.728	226.9	0.149	2.88	46.4	19.2	1.72	19.0	0.39	0.20	0.33		56 201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
32 54.9 N	117 23.7 W	28/03/07	1201 UTC	639 m	360 09 kn			1018.0 mb	16.8 c	12.9 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/l	ug/l	db	
0 ISL	14.60	14.60	33.632	25.004	294.4	0.000	6.04	104.5	2.5	0.30	0.4	0.06	1.25	0.45		0
3	14.60	14.60	33.632	25.004	294.4	0.009	6.04	104.4	2.5	0.30	0.4	0.06	1.25	0.45		3 220
10 ISL	14.61 D	14.61	33.629 D	25.000	295.1	0.029	6.04	104.5	2.5	0.30	0.4	0.06	1.21	0.45		10
11	14.61	14.61	33.632	25.003	294.9	0.032	6.04	104.5	2.5	0.30	0.4	0.06	1.20	0.45		11 219
20 ISL	14.43 D	14.43	33.614 D	25.027	292.8	0.059	5.83	100.5	3.5	0.42	1.6	0.13	1.12	0.44		20
21	14.31	14.31	33.606	25.046	291.0	0.062	5.81	99.9	3.7	0.44	1.7	0.14	1.11	0.44		21 218
30 ISL	12.71 D	12.71	33.568 D	25.342	263.0	0.087	4.98	82.8	7.5	0.84	6.9	0.29	0.60	0.29		30
31	12.66	12.66	33.569	25.353	262.0	0.089	4.87	80.9	8.0	0.89	7.6	0.30	0.54	0.27		31 217
40	11.91	11.90	33.610	25.528	245.6	0.112	3.84	62.8	13.5	1.33	14.2	0.16	0.30	0.22		40 216
50	11.21	11.20	33.700 D	25.727	226.8	0.136	3.04	49.0								50 215
60	10.92	10.91	33.756	25.823	217.9	0.158	2.76	44.2	20.9	1.81	21.0	0.03	0.07	0.23		60 214
71	10.64	10.63	33.835	25.934	207.6	0.181	2.49	39.7	23.6	1.95	22.7	0.03	0.04	0.17		71 213
75 ISL	10.50 D	10.49	33.878 D	25.992	202.2	0.190	2.44	38.8	24.4	1.99	23.2	0.03	0.04	0.16		75
85	10.31	10.30	33.923 D	26.060	195.9	0.210	2.34	37.0								85 212
100	10.08	10.07	33.997	26.158	186.9	0.238	2.13	33.5	28.3	2.13	25.4	0.03	0.02	0.10		101 211
120	9.59	9.58	34.057	26.287	175.0	0.274	2.28	35.5	30.2	2.12	26.1	0.02	0.01	0.04		121 210
125 ISL	9.71 D	9.70	34.120 D	26.316	172.4	0.283	2.18	34.1	31.1	2.16	26.5	0.02	0.01	0.04		126
141	9.59	9.57	34.165	26.372	167.5	0.310	1.79	27.9	33.8	2.29	27.7	0.01	0.01	0.04		142 209
150 ISL	9.49 D	9.47	34.191 D	26.408	164.1	0.325	1.71	26.6	34.6	2.32	28.1	0.01	0.01	0.04		151
170	9.39	9.37	34.205	26.436	161.9	0.358	1.62	25.2	36.1	2.37	28.6	0.01	0.01	0.03		171 208
200	9.11	9.09	34.233	26.504	156.0	0.406	1.43	22.1	39.2	2.46	29.7	0.01	0.00	0.04		201 207
217	8.85	8.83	34.220	26.535	153.2	0.432	1.36	20.9	41.1	2.50	30.6	0.01				218 206
250 ISL	8.57 D	8.54	34.254 D	26.606	147.1	0.481	1.16	17.7	45.0	2.61	31.8	0.01				252
269	8.40	8.37	34.258	26.635	144.6	0.509	1.04	15.8	47.3	2.67	32.3	0.01				271 205
300 ISL	8.12 D	8.09	34.261 D	26.680	140.7	0.553	0.90	13.6	50.6	2.74	33.4	0.01				302
319	7.91	7.88	34.269	26.718	137.4	0.580	0.83	12.5	52.6	2.78	34.0	0.01				321 204
379	7.37	7.33	34.289	26.813	129.1	0.660	0.58	8.6	60.3	2.94	36.0	0.01				381 203
400 ISL	7.15 D	7.11	34.293 D	26.847	126.0	0.686	0.50	7.4	63.9	3.00	36.8	0.01				403
441	6.72	6.68	34.311	26.920	119.3	0.737	0.36	5.3	70.9	3.10	38.2	0.00				444 202
500 ISL	6.25 D	6.21	34.331 D	26.998	112.4	0.805	0.26	3.8	78.3	3.17	39.3	0.01				503
513	6.20	6.15	34.332	27.005	111.8	0.820	0.24	3.5	79.9	3.19	39.6	0.01				517 201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE		
32 50.7 N	117 31.6 W	28/03/07	1509 UTC	829 m	010 14 kn	320 03 06	1	1018.3 mb	13.8 c	10.9 c	13m					
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			ml/L	PCT	um/L	um/L	um/L	um/L	ug/l	ug/l	db	
0 ISL	14.30	14.30	33.598	25.042	290.8	0.000	6.04	103.8	3.0	0.36	0.3	0.05	1.04	0.36		0
3	14.30	14.30	33.598	25.042	290.9	0.009	6.04	103.8	3.0	0.36	0.3	0.05	1.04	0.36		3 220
10 ISL	14.30 D	14.30	33.597 D	25.041	291.1	0.029	6.03	103.6	3.0	0.37	0.3	0.05	1.03	0.35		10
11	14.30	14.30	33.599	25.043	291.0	0.032	6.03	103.6	3.0	0.37	0.3	0.05	1.03	0.35		11 219
20 ISL	14.30 D	14.30	33.596 D	25.041	291.5	0.058	6.05	104.0	3.0	0.36	0.3	0.05	1.02	0.35		20
21	14.30	14.30	33.601	25.045	291.1	0.061	6.05	104.0	3.0	0.36	0.3	0.05	1.02	0.35		21 218
30 ISL	13.85 D	13.85	33.571 D	25.115	284.6	0.087	5.87	99.9	3.5	0.43	1.1	0.11	0.94	0.34		30
31	14.03	14.03	33.581	25.086	287.5	0.090	5.85	100.0	3.6	0.44	1.2	0.12	0.93	0.34		31 217
40	12.62	12.61	33.535	25.334	264.0	0.115	4.77	79.1	7.9	0.91	8.1	0.22	0.38	0.30		40 216
50	12.12	12.11	33.587 D	25.471	251.3	0.140	4.35	71.4								50 215
59	11.37	11.36	33.616	25.633	236.0	0.162	3.75	60.6	14.6	1.40	15.8	0.04	0.09	0.14		59 214
70	11.04	11.03	33.692	25.752	224.9	0.188	3.26	52.3	17.8	1.61	18.6	0.03	0.05	0.09		70 213
75 ISL	10.75 D	10.74	33.747 D	25.846	216.0	0.199	3.00	47.9	19.6	1.72	19.9	0.03	0.04	0.09		75
85	10.63	10.62	33.819	25.924	208.9	0.220	2.62	41.7	22.5	1.90	22.1	0.02	0.02	0.09		85 212
100	10.19	10.18	33.850	26.024	199.6	0.251	2.76	43.5	23.4	1.89	22.8	0.02	0.01	0.07		101 211
120	9.99	9.98	34.016	26.188	184.5	0.289	2.18	34.3	28.0	2.12	25.4	0.02	0.01	0.06		121 210
125 ISL	9.84 D	9.83	34.026 D	26.221	181.4	0.298	2.22	34.8	28.6	2.12	25.6	0.02	0.01	0.06		126
138	9.41	9.39	34.036	26.300	174.1	0.321	2.41	37.4	29.7	2.08	26.0	0.02	0.01	0.05		139 209
150 ISL	8.88 D	8.86	33.984 D	26.344	170.0	0.342	2.32	35.6	31.4	2.11	26.6	0.02	0.01	0.04		151
169	8.96	8.94	34.112	26.432	162.1	0.374	2.19	33.7	34.3	2.20	27.8	0.02	0.01	0.03		170 208
199	9.15	9.13	34.232													

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
32 40.5 N	117 52.1 W	28/03/07	2004	UTC	623 m	360	12 kn	320 03 05	1	1019.9 mb	15.7 c	13.0 c	16m		1/8	CI
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.73	14.73	33.568	24.927	301.7	0.000	5.98	103.6	2.2	0.35	0.0	0.02	0.53	0.18	0	
3 A	14.73	14.73	33.568	24.927	301.8	0.009	5.98	103.6	2.2	0.35	0.0	0.02	0.53	0.18	3	223
8 A	14.64	14.64	33.572	24.950	299.8	0.024	5.99	103.6	2.2	0.33	0.0	0.02	0.60	0.20	8	222
10 ISL	14.62 D	14.62	33.565 D	24.949	300.0	0.030	5.99	103.6	2.2	0.33	0.0	0.01	0.61	0.21	10	
11	14.61	14.61	33.566	24.952	299.7	0.033	5.99	103.6	2.2	0.33	0.0	0.01	0.61	0.21	11	221
14	14.60	14.60	33.566	24.954	299.6	0.042	5.99	103.5	1.6	0.33	0.0	0.01	0.63	0.22	14	220
20 ISL	14.59 D	14.59	33.564 D	24.955	299.7	0.060	5.99	103.5	1.7	0.33	0.0	0.01	0.67	0.25	20	
21 A	14.58	14.58	33.566	24.958	299.4	0.063	5.99	103.5	1.7	0.33	0.0	0.01	0.68	0.25	21	219
30 ISL	14.57 D	14.57	33.564 D	24.959	299.6	0.090	5.97	103.1	1.7	0.33	0.0	0.02	0.74	0.25	30	
31 A	14.56	14.56	33.566	24.963	299.2	0.093	5.97	103.1	1.7	0.33	0.0	0.02	0.74	0.25	31	218
39 A	14.52	14.51	33.564	24.970	298.8	0.117	5.95	102.7	1.8	0.34	0.1	0.03	0.73	0.28	39	217
50	13.59	13.58	33.539	25.145	282.4	0.149	5.53	93.6	3.7	0.55	2.4	0.37	0.80	0.40	50	216
52	13.53	13.52	33.538	25.156	281.4	0.155	5.50	93.0	3.9	0.58	2.6	0.40	0.81	0.40	52	215
62 A	13.11	13.10	33.555	25.254	272.3	0.182	5.07	85.0	6.0	0.77	5.4	0.52	0.45	0.29	62	214
74	12.56	12.55	33.565	25.370	261.5	0.214	4.53	75.1	8.8	1.00	9.5	0.12	0.26	0.19	74	213
75 ISL	12.36 D	12.35	33.581 D	25.421	256.7	0.217	4.46	73.6	9.3	1.03	10.0	0.11	0.24	0.18	75	
85	11.57	11.56	33.621	25.601	239.7	0.242	3.75	60.9	14.2	1.38	15.6	0.03	0.06	0.11	85	212
100	10.69	10.68	33.731 D	25.845	216.7	0.276	3.15 D	50.2							100	211
120	10.20	10.19	33.856	26.027	199.8	0.318	2.67	42.1	23.7	1.91	23.1	0.03	0.01	0.07	120	210
125 ISL	9.98 D	9.97	33.888 D	26.090	193.9	0.327	2.58	40.5	24.5	1.95	23.6	0.03	0.01	0.07	126	
140	10.05	10.03	33.942	26.120	191.4	0.356	2.40	37.8	26.3	2.03	24.5	0.02	0.00	0.06	141	209
150 ISL	9.85 D	9.83	33.997 D	26.197	184.2	0.375	2.45	38.4	27.2	2.03	24.9	0.02	0.00	0.06	151	
169	9.35	9.33	34.002	26.284	176.3	0.409	2.58	40.0	28.9	2.03	25.6	0.01	0.00	0.05	170	208
199	9.03	9.01	34.099	26.412	164.7	0.460	2.22	34.2	33.6	2.20	27.6	0.01	0.00	0.04	200	207
200 ISL	9.02 D	9.00	34.101 D	26.415	164.4	0.462	2.20	33.9	33.8	2.21	27.7	0.01			201	
229	8.63	8.61	34.166	26.527	154.1	0.508	1.76	26.9	39.1	2.37	30.0	0.01			230	206
250 ISL	8.46 D	8.43	34.176 D	26.562	151.2	0.540	1.47	22.3	42.0	2.48	30.9	0.01			251	
268	8.45	8.42	34.232	26.607	147.2	0.567	1.26	19.2	44.1	2.57	31.5	0.01			270	205
300 ISL	8.21 D	8.18	34.233 D	26.645	144.1	0.614	1.02	15.4	48.1	2.69	32.7	0.01			302	
318	7.97	7.94	34.264	26.705	138.6	0.639	0.92	13.8	50.3	2.74	33.4	0.01			320	204
377	7.40	7.36	34.277	26.799	130.4	0.719	0.67	9.9	57.8	2.89	35.5	0.00			379	203
400 ISL	7.10 D	7.06	34.289 D	26.850	125.6	0.748	0.59	8.7	60.5	2.95	36.2	0.00			403	
438	6.91	6.87	34.296	26.882	123.0	0.795	0.47	6.9	65.0	3.04	37.3	0.00			441	202
500 ISL	6.48 D	6.43	34.322 D	26.961	116.1	0.869	0.34	4.9	73.4	3.12	38.8	0.00			503	
513	6.35	6.30	34.327	26.982	114.1	0.884	0.31	4.5	75.2	3.14	39.1	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
32 30.5 N	118 12.7 W	29/03/07	0031	UTC	1653 m	340	20 kn	320 04 06	0	1018.3 mb	15.1 c	12.7 c			0/8	
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.00	15.00	33.531	24.840	310.0	0.000	5.83	101.6	1.9	0.34	0.1	0.01	0.37	0.08	0	
2	15.00	15.00	33.531	24.840	310.0	0.006	5.83	101.6	1.9	0.34	0.1	0.01	0.37	0.08	2	224
10 CSL	15.00	15.00	33.526	24.837	310.6	0.031									10	200
10	14.99	14.99	33.526	24.839	310.4	0.031									10	223
11	15.00	15.00	33.528	24.838	310.5	0.034	5.83	101.6	1.9	0.33	0.1	0.01	0.42	0.04	11	222
20	14.96	14.96	33.524	24.844	310.2	0.062	5.82	101.3	1.9	0.33	0.1	0.01	0.44	0.06	20	221
30 ISL	14.86 D	14.86	33.521 D	24.864	308.6	0.093	5.85	101.6	1.9	0.33	0.1	0.01	0.44	0.11	30	
31	14.86	14.86	33.522	24.865	308.6	0.096	5.85	101.6	1.9	0.33	0.1	0.01	0.44	0.11	31	220
40	14.81	14.80	33.520	24.874	307.9	0.124	5.84	101.3	2.0	0.34	0.1	0.01	0.47	0.13	40	219
50	14.80	14.79	33.519	24.876	308.1	0.155	5.82	101.0	1.9	0.34	0.1	0.01	0.49	0.15	50	218
60	14.78	14.77	33.517	24.879	308.1	0.185	5.81	100.8					0.47	0.15	60	217
70	13.82	13.81	33.486	25.057	291.3	0.215	5.37	91.3	4.3	0.58	3.4	0.11	0.42	0.25	70	216
75 ISL	13.21 D	13.20	33.493 D	25.186	279.1	0.230	5.12	86.0	5.7	0.71	5.4	0.09	0.35	0.23	75	
85	12.29	12.28	33.493	25.366	262.1	0.257	4.62	76.1	8.9	0.98	9.7	0.05	0.21	0.15	85	215
99	11.21	11.20	33.551	25.612	238.9	0.292	4.09	65.8	13.1	1.28	14.8	0.03	0.08	0.08	99	214
100 ISL	10.89 D	10.88	33.587 D	25.697	230.8	0.294	4.05	64.8	13.4	1.30	15.1	0.03	0.08	0.08	100	
119	10.38	10.37	33.708	25.881	213.7	0.336	3.30	52.2	19.4	1.67	20.3	0.02	0.03	0.06	120	213
125 ISL	10.28 D	10.27	33.744 D	25.927	209.5	0.349	3.13	49.4	21.2	1.75	21.5	0.02	0.02	0.05	126	
139	9.83	9.81	33.879	26.108	192.4	0.377	2.81	44.0	25.0	1.91	23.7	0.02	0.01	0.04	140	212
150 ISL	9.71 D	9.69	33.945 D	26.180	185.8	0.398	2.62	40.9	26.7	1.99	24.7	0.02	0.00	0.04	151	
169	9.66	9.64	34.008	26.238	180.7	0.433	2.34	36.5	29.0	2.09	25.8	0.01	0.00	0.04	170	211
199	9.33	9.31	34.135	26.392	166.7	0.485	1.90	29.5	34.1	2.27	28.0	0.01	0.00	0.04	200	210
200 ISL	9.31 D	9.29	34.136 D	26.396	166.3	0.487	1.89	29.3	34.2	2.27	28.0	0.01			201	
229	8.96	8.94	34.193	26.497	157.2	0.534	1.71	26.3	37.9	2.38	29.2	0.01			230	209
250 ISL	8.71 D	8.68	34.251 D	26.582	149.4	0.566	1.47	22.5	41.0	2.49	30.3	0.01			251	
269	8.49	8.46	34.248	26.614	146.7	0.594	1.25	19.0	43.9	2.58	31.3	0.01			271	208
300 ISL	8.08 D	8.05	34.267 D	26.691	139.7	0.638										

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 20.9 N	118 33.1 W	29/03/07	0513 UTC	1316 m	330 14 kn			1019.3 mb	13.7 c	12.2 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	NO3	NO2	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.87	14.87	33.534	24.871	307.1	0.000	5.84	101.5	1.9	0.33	0.1	0.01	0.35	0.11	0	
3	14.87	14.87	33.534	24.871	307.1	0.009	5.84	101.5	1.9	0.33	0.1	0.01	0.35	0.11	3	220
10 ISL	14.87 D	14.87	33.524	24.863	308.1	0.031	5.84	101.5	1.9	0.33	0.1	0.01	0.34	0.10	10	
16	14.88	14.88	33.532	24.868	307.9	0.049	5.84	101.5	1.8	0.33	0.1	0.01	0.34	0.09	16	219
20 ISL	14.88 D	14.88	33.524	24.862	308.6	0.062	5.84	101.5	1.8	0.33	0.1	0.01	0.34	0.09	20	
30 ISL	14.88 D	14.88	33.523	24.861	308.9	0.092	5.85	101.7	1.8	0.34	0.1	0.01	0.35	0.10	30	
31	14.88	14.88	33.538	24.873	307.8	0.096	5.85	101.7	1.8	0.34	0.1	0.01	0.35	0.10	31	218
46	14.87	14.86	33.531	24.870	308.5	0.142	5.85	101.6	1.7	0.33	0.1	0.01	0.36	0.11	46	217
50 ISL	14.74 D	14.73	33.515	24.886	307.2	0.154	5.86	101.5	1.8	0.34	0.1	0.01	0.42	0.15	50	
56	14.44	14.43	33.510	24.946	301.6	0.172	5.87	101.1	2.0	0.35	0.1	0.03	0.52	0.22	56	216
66	13.09	13.08	33.459	25.184	279.1	0.201	5.35	89.6	4.9	0.66	4.5	0.10	0.63	0.37	66	215
75	12.47	12.46	33.483	25.324	265.9	0.226	4.81	79.5	7.7	0.90	8.6	0.04	0.30	0.22	75	214
86	11.91	11.90	33.501	25.444	254.6	0.255	4.43	72.4	10.2	1.08	11.6	0.03	0.19	0.16	86	213
95	11.44	11.43	33.548	25.568	243.1	0.277	4.11	66.5	12.5	1.25	14.2	0.02	0.11	0.11	95	212
100 ISL	10.78 D	10.77	33.612	25.736	227.1	0.289	3.95	63.0	14.0	1.34	15.7	0.02	0.08	0.09	100	
110	10.31	10.30	33.664	25.859	215.6	0.311	3.66	57.8							110	211
125	9.85	9.84	33.764	26.015	201.0	0.342	3.35	52.4	21.4	1.70	21.6	0.01	0.01	0.04	126	210
146	9.49	9.47	33.899	26.180	185.7	0.383	3.03	47.1	25.4	1.86	23.8	0.01	0.00	0.03	147	209
150 ISL	9.44 D	9.42	33.910	26.197	184.1	0.390	3.00	46.6	25.9	1.88	24.1	0.01	0.00	0.03	151	
170	9.24	9.22	33.984	26.287	175.9	0.426	2.83	43.7	28.2	1.96	25.2	0.01	0.00	0.03	171	208
198	9.02	9.00	34.091	26.407	165.1	0.474	2.32	35.7	33.3	2.15	27.5	0.01	0.00	0.02	199	207
200 ISL	8.99 D	8.97	34.099	26.418	164.0	0.477	2.28	35.1	33.7	2.17	27.7	0.01			201	
229	8.63	8.61	34.176	26.535	153.4	0.523	1.78	27.2	39.5	2.38	29.9	0.01			230	206
250 ISL	8.49 D	8.46	34.190	26.568	150.6	0.555	1.58	24.0	41.9	2.46	30.8	0.00			251	
269	8.34	8.31	34.205	26.603	147.6	0.583	1.45	22.0	43.9	2.52	31.5	0.00			271	205
300 ISL	7.71 D	7.68	34.198	26.691	139.4	0.628	1.26	18.8	49.8	2.64	33.5	0.00			302	
320	7.36	7.33	34.185	26.731	135.7	0.655	1.16	17.2	53.8	2.72	34.7	0.00			322	204
379	6.83	6.79	34.202	26.818	128.0	0.733	0.93	13.6	60.8	2.85	36.6	0.00			381	203
400 ISL	6.73 D	6.69	34.216	26.843	125.9	0.760	0.80	11.7	63.7	2.91	37.3	0.00			403	
436	6.49	6.45	34.254	26.905	120.4	0.804	0.58	8.4	68.7	3.02	38.5	0.00			439	202
500 ISL	6.11 D	6.07	34.290	26.983	113.5	0.879	0.39	5.6	76.7	3.14	40.1	0.00			503	
518	5.98	5.93	34.298	27.006	111.5	0.899	0.34	4.9	78.9	3.17	40.6	0.00			522	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 10.7 N	118 53.5 W	29/03/07	0944 UTC	1462 m	310 08 kn			1019.4 mb	13.9 c	12.2 c						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	NO3	NO2	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.98	13.98	33.578	25.093	285.9	0.000	5.95	101.6	3.1	0.41	0.8	0.08	0.75	0.27	0	
3	13.98	13.98	33.578	25.093	286.0	0.009	5.95	101.6	3.1	0.41	0.8	0.08	0.75	0.27	3	220
10	13.97	13.97	33.578	25.096	286.0	0.029	5.95	101.5	3.1	0.41	0.8	0.08	0.77	0.27	10	219
20	13.98	13.98	33.578	25.094	286.4	0.057	5.95	101.6	3.1	0.42	0.8	0.08	0.74	0.29	20	218
30	13.97	13.97	33.579	25.097	286.4	0.086	5.96	101.7	3.1	0.41	0.8	0.08	0.76	0.27	30	217
41	13.79	13.78	33.591	25.144	282.3	0.117	5.94	101.0	2.8	0.45	1.0	0.11	0.76	0.33	41	216
50	12.71	12.70	33.593	25.362	261.7	0.142	5.36	89.1	6.0	0.82	5.9	0.50	0.24	0.21	50	215
59	12.23	12.22	33.618	25.474	251.2	0.165	4.91	80.8	8.7	1.01	9.3	0.48	0.16	0.20	59	214
69	11.93	11.92	33.621	25.534	245.8	0.190	4.58	74.9	10.7	1.14	11.8	0.23	0.10	0.22	69	213
75 ISL	11.73 D	11.72	33.613	25.565	242.9	0.204	4.40	71.7	11.8	1.21	13.1	0.14	0.08	0.21	75	
86	11.04	11.03	33.611	25.689	231.3	0.230	4.07	65.3	14.3	1.35	15.7	0.04	0.06	0.17	86	212
99	10.09	10.08	33.683	25.911	210.3	0.259	3.58	56.3	18.8	1.62	19.8	0.02	0.03	0.09	99	211
100 ISL	9.99 D	9.98	33.721	25.957	205.9	0.261	3.53	55.4	19.2	1.64	20.1	0.02	0.03	0.09	100	
119	9.66	9.65	33.885	26.141	188.9	0.299	2.82	44.0	25.6	1.92	24.1	0.02	0.01	0.06	120	210
125 ISL	9.58 D	9.57	33.899	26.165	186.7	0.310	2.82	43.9	25.8	1.93	24.2	0.02	0.01	0.06	126	
140	9.44	9.42	33.918	26.203	183.3	0.338	2.81	43.6	26.4	1.94	24.6	0.02	0.01	0.06	141	209
150 ISL	9.26 D	9.24	33.983	26.283	175.9	0.356	2.67	41.3	28.2	2.00	25.5	0.02	0.01	0.07	151	
170	9.03	9.01	34.033	26.359	169.0	0.390	2.32	35.7	32.2	2.14	27.5	0.02	0.01	0.08	171	208
198	9.02	9.00	34.104	26.417	164.1	0.437	1.93	29.7	35.3	2.28	28.7	0.06	0.00	0.05	199	207
200 ISL	8.96 D	8.94	34.121	26.440	162.0	0.440	1.91	29.4	35.5	2.29	28.8	0.06			201	
229	8.75	8.73	34.156	26.501	156.7	0.486	1.67	25.6	39.0	2.40	30.1	0.04			230	206
250 ISL	8.58 D	8.55	34.181	26.547	152.6	0.519	1.50	22.9	41.4	2.48	30.9	0.03			251	
267	8.46	8.43	34.195	26.577	150.1	0.544	1.36	20.7	43.5	2.54	31.5	0.02			269	205
300 ISL	8.02 D	7.99	34.230	26.671	141.5	0.592	1.07	16.1	49.4	2.69	33.3	0.01			302	
319	7.73	7.70	34.239	26.721	137.0	0.619	0.92	13.8	53.0	2.78	34.4	0.01			321	204
378	7.05	7.01	34.269	26.841	126.1	0.697	0.67	9.9							380	203
400 ISL	6.86 D	6.82	34.285	26.880	122.6	0.724	0.57	8.4	64.9	3.02	37.3	0.00			403	
436	6.66	6.62	34.292	26.913	119.9	0.768	0.44	6.4	69.3	3.09	38.2	0.00			439	202
500 ISL	6.21 D	6.17	34.304	26.982	113.8	0.842	0.36	5.2	75.8	3.15	39.5	0.00			503	
512	6.19	6.14	34.305	26.985	113.7	0.856	0.34	4.9	77.0	3.16	39.7	0.00			516	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
32 0.8 N	119 13.8 W	29/03/07	1359 UTC	1583 m	320 05 kn	320 04 07	1	1019.0 mb	13.9 c	12.3 c	20m	1/8	CI			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.76	13.76	33.473	25.057	289.3	0.000	5.98	101.6	2.7	0.38	0.6	0.07	0.56	0.13	0	
1	13.76	13.76	33.473	25.057	289.3	0.003	5.98	101.6	2.7	0.38	0.6	0.07	0.56	0.13	1	221
10	13.76	13.76	33.473	25.058	289.5	0.029	5.99	101.7	2.7	0.38	0.6	0.07	0.50	0.16	10	219
10	13.76	13.76	33.474	25.058	289.5	0.029									10	220
20	13.77	13.77	33.474	25.057	289.9	0.058	5.98	101.6	2.7	0.38	0.6	0.07	0.52	0.23	20	218
30	13.76	13.76	33.474	25.059	290.0	0.087	5.96	101.2	2.7	0.39	0.6	0.07	0.59	0.09	30	217
40	13.70	13.69	33.492	25.086	287.8	0.116	5.98	101.4	2.7	0.41	0.7	0.08	0.55	0.17	40	216
49	13.22	13.21	33.550	25.228	274.5	0.141	5.80	97.4	3.0	0.56	2.4	0.20	0.40	0.16	49	215
50 ISL	13.11 D	13.10	33.551 D	25.251	272.3	0.144	5.79	97.0	3.1	0.57	2.5	0.22	0.38	0.16	50	
60	12.93	12.92	33.555	25.290	268.8	0.171	5.62	93.8	4.0	0.67	4.0	0.35	0.22	0.17	60	214
70	12.51	12.50	33.547	25.366	261.8	0.197	5.28	87.4	5.9	0.82	6.7	0.35	0.12	0.13	70	213
75 ISL	12.17 D	12.16	33.543 D	25.428	256.0	0.210	4.93	81.0	8.1	0.96	9.2	0.25	0.10	0.13	75	
84	11.37	11.36	33.595	25.617	238.1	0.233	4.25	68.7	12.7	1.24	13.9	0.05	0.08	0.12	84	212
99	10.32	10.31	33.714 D	25.896	211.8	0.266	3.45 D	54.5							99	211
100 ISL	10.22 D	10.21	33.733 D	25.928	208.8	0.268	3.41	53.8	18.8	1.58	19.3	0.04	0.05	0.11	100	
119	9.93	9.92	33.859	26.076	195.1	0.307	2.76	43.3	24.7	1.89	23.5	0.02	0.02	0.09	120	210
125 ISL	9.86 D	9.85	33.928 D	26.141	189.0	0.318	2.50	39.2	26.6	1.99	24.6	0.02	0.02	0.09	126	
138	9.78	9.76	34.032	26.236	180.3	0.342	2.00	31.3	30.1	2.18	26.6	0.02	0.01	0.08	139	209
150 ISL	9.61 D	9.59	34.086 D	26.307	173.8	0.364	1.90	29.6	31.9	2.26	27.5	0.02	0.01	0.08	151	
168	9.48	9.46	34.119	26.354	169.6	0.395	1.75	27.2	33.6	2.30	28.1	0.01	0.01	0.07	169	208
198	9.25	9.23	34.162	26.426	163.4	0.444	1.60	24.8	36.0	2.37	29.1	0.01	0.01	0.06	199	207
200 ISL	9.18 D	9.16	34.172 D	26.445	161.6	0.448	1.60	24.7	36.2	2.37	29.2	0.01			201	
227	8.84	8.82	34.165	26.494	157.4	0.491	1.61	24.7	38.5	2.41	30.0	0.01			228	206
250 ISL	8.71 D	8.68	34.186 D	26.531	154.2	0.527	1.44	22.0	40.7	2.48	30.7	0.01			251	
268	8.62	8.59	34.215	26.568	151.1	0.554	1.28	19.5	42.5	2.55	31.3	0.01			270	205
300 ISL	8.30 D	8.27	34.237 D	26.635	145.2	0.601	1.11	16.8	46.0	2.64	32.3	0.01			302	
319	8.17	8.14	34.243	26.659	143.1	0.629	1.03	15.6	47.9	2.68	32.9	0.01			321	204
377	7.47	7.43	34.254	26.771	133.1	0.709	0.88	13.1	51.6	2.77	34.0	0.01			379	203
400 ISL	7.33 D	7.29	34.261 D	26.796	130.9	0.739	0.75	11.1	56.5	2.86	35.3	0.01			403	
438	6.87	6.83	34.273	26.870	124.2	0.788	0.54	7.9	65.2	3.00	37.4	0.01			441	202
500 ISL	6.51 D	6.46	34.291 D	26.933	118.8	0.863	0.42	6.1	71.3	3.08	38.6	0.01			503	
513	6.44	6.39	34.294	26.944	117.8	0.878	0.40	5.8	72.6	3.10	38.9	0.01			516	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS;PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 50.8 N	119 34.0 W	29/03/07	2023 UTC	1830 m	300 06 kn	310 04 08	0	1020.0 mb	16.5 c	15.0 c		0/8				
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.18	14.18	33.522	25.008	294.0	0.000	6.08	104.2	3.1	0.44	0.9	0.09	0.67	0.12	0	
2	14.18	14.18	33.522	25.008	294.0	0.006	6.08	104.2	3.1	0.44	0.9	0.09	0.67	0.12	2	220
10 ISL	13.69 D	13.69	33.517 D	25.106	285.0	0.029	6.10	103.5	3.1	0.44	1.1	0.12	0.81	0.15	10	
11	13.65	13.65	33.516	25.114	284.3	0.032	6.10	103.4	3.1	0.44	1.1	0.12	0.83	0.16	11	219
20 ISL	13.58 D	13.58	33.511 D	25.124	283.5	0.057	6.07	102.7	3.2	0.46	1.1	0.12	0.88	0.25	20	
21	13.58	13.58	33.514	25.127	283.3	0.060	6.07	102.7	3.2	0.46	1.1	0.12	0.88	0.26	21	218
30 ISL	13.55 D	13.55	33.511 D	25.130	283.2	0.086	6.07	102.6	3.1	0.44	1.1	0.12	0.92	0.24	30	
31	13.55	13.55	33.512	25.131	283.1	0.089	6.07	102.6	3.1	0.44	1.1	0.12	0.92	0.24	31	217
41	13.55	13.54	33.513	25.132	283.3	0.117	6.04	102.1	3.1	0.45	1.1	0.12	0.88	0.27	41	216
50	13.56	13.55	33.520	25.136	283.2	0.142	6.03	102.0	3.1	0.44	1.0	0.11	0.83	0.28	50	215
60	13.56	13.55	33.519	25.136	283.6	0.171	6.02	101.8	3.0	0.45	1.0	0.11	0.79	0.31	60	214
70	13.55	13.54	33.518	25.137	283.7	0.199	5.99	101.3	3.0	0.46	1.0	0.11	0.73	0.28	70	213
75 ISL	13.55 D	13.54	33.517 D	25.136	283.9	0.213	5.92	100.1	3.2	0.50	1.6	0.17	0.60	0.25	75	
85	13.03	13.02	33.481	25.213	276.8	0.241	5.79	96.8	3.7	0.57	2.8	0.26	0.30	0.18	85	212
100	11.60	11.59	33.531	25.526	247.2	0.281	4.71	76.4	9.3	1.02	10.9	0.04	0.08	0.08	100	211
121	10.21	10.20	33.642	25.859	215.8	0.329	4.17	65.7	15.6	1.37	17.0	0.02	0.02	0.06	122	210
125 ISL	10.06 D	10.05	33.667 D	25.904	211.6	0.338	4.06	63.8	16.9	1.43	18.0	0.02	0.02	0.05	126	
139	9.55	9.53	33.771	26.070	196.0	0.366	3.61	56.1	21.2	1.65	21.1	0.02	0.01	0.04	140	209
150 ISL	9.43 D	9.41	33.839 D	26.143	189.2	0.388	3.10	48.1	24.5	1.83	23.2	0.02	0.01	0.04	151	
168	9.52	9.50	34.024	26.273	177.3	0.421	2.36	36.7	29.3	2.09	25.9	0.01	0.01	0.05	169	208
199	9.10	9.08	34.115	26.413	164.6	0.473	2.08	32.1	34.2	2.26	27.9	0.01	0.00	0.04	200	207
200 ISL	8.89 D	8.87	34.114 D	26.446	161.4	0.475	2.08	31.9	34.4	2.26	28.0	0.01			201	
229	8.37	8.35	34.096	26.512	155.4	0.521	2.00	30.3	39.2	2.32	30.1	0.01			230	206
250 ISL	8.17 D	8.14	34.116 D	26.558	151.3	0.553	1.75	26.4	42.2	2.43	31.1	0.01			251	
269	8.15	8.12	34.174	26.607	147.1	0.582	1.48	22.3	44.8	2.54	31.9	0.01			271	205
300 ISL	7.87 D	7.84	34.213 D	26.680	140.6	0.626	1.16	17.4	48.8	2.66	33.0	0.00			302	
318	7.85	7.82	34.241	26.705	138.5	0.651	1.01	15.1	51.0	2.72	33.6	0.00			320	204
378	7.36	7.32	34.261	26.792	131.0	0.732	0.74	11.0	57.6	2.89	35.5	0.01			380	203
400 ISL	7.25 D	7.21	34.262 D	26.808	129.7	0.761	0.66	9.8	60.4	2.94	36.2	0.01			403	
437	6.82	6.78	34.269	26.873	123.8	0.808	0.55	8.1	65.2	3.01	37.4	0.01			440	202
500 ISL</																

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 30.4 N	120 15.4 W	02/04/07	1714 UTC	3930 m	320 21 kn	300 06 07	2	1016.3 mb	14.9 c	14.0 c	21m	8/8	CC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.04	15.04	33.465	24.781	315.6	0.000	5.87	102.3	2.0	0.30	0.0	0.00	0.16	0.03	0	
2 A	15.04	15.04	33.465	24.781	315.7	0.006	5.87	102.3	2.0	0.30	0.0	0.00	0.16	0.03	2	220
10 ISL	15.03 D	15.03	33.465 D	24.783	315.7	0.032	5.87	102.3	1.9	0.30	0.0	0.00	0.17	0.03	10	
12 A	15.03	15.03	33.464	24.783	315.8	0.038	5.87	102.3	1.9	0.30	0.0	0.00	0.17	0.03	12	219
20 ISL	14.98 D	14.98	33.459 D	24.790	315.4	0.063	5.87	102.2	1.8	0.30	0.0	0.00	0.16	0.03	20	
21	15.01	15.01	33.463	24.786	315.7	0.066	5.87	102.2	1.8	0.30	0.0	0.00	0.16	0.03	21	218
29 A	13.85	13.85	33.297	24.904	304.7	0.091	6.15	104.5	2.2	0.36	0.0	0.00	0.33	0.09	29	217
30 ISL	13.79 D	13.79	33.294 D	24.914	303.8	0.094	6.14	104.2	2.2	0.36	0.0	0.00	0.37	0.11	30	
40 A	13.65	13.64	33.281	24.933	302.3	0.124	6.08	102.9	2.3	0.35	0.0	0.03	0.71	0.24	40	216
50 ISL	13.61 D	13.60	33.423 D	25.051	291.3	0.154	5.94	100.5	2.5	0.41	0.6	0.10	0.58	0.23	50	
51 A	13.63	13.62	33.426	25.049	291.5	0.157	5.93	100.4	2.5	0.42	0.7	0.11	0.57	0.23	51	215
66	12.85	12.84	33.388	25.176	279.8	0.200	5.85	97.4	3.7	0.56	2.3	0.37	0.29	0.18	66	214
75 ISL	12.89 D	12.88	33.442 D	25.210	276.8	0.225	5.77	96.2	3.8	0.60	2.8	0.44	0.23	0.15	75	
81 A	12.93	12.92	33.517	25.261	272.1	0.241	5.71	95.3	4.0	0.63	3.4	0.48	0.21	0.13	81	213
90	12.87	12.86	33.551 D	25.299	268.7	0.266	5.66 D	94.4							90	212
100 ISL	11.79 D	11.78	33.403 D	25.391	260.1	0.292	5.10	83.0	7.3	0.87	8.4	0.06	0.06	0.06	100	
101	11.77	11.76	33.405	25.396	259.6	0.295	5.03	81.9	7.6	0.89	8.8	0.03	0.05	0.06	101	211
120	10.41	10.40	33.518	25.728	228.2	0.341	4.21	66.6	14.6	1.36	16.4	0.02	0.02	0.04	121	210
125 ISL	10.01 D	10.00	33.606 D	25.865	215.3	0.352	4.01	62.9	16.3	1.46	17.9	0.02	0.02	0.04	126	
140	9.66	9.64	33.731	26.021	200.7	0.383	3.54	55.1	20.9	1.68	21.3	0.02	0.01	0.03	141	209
150 ISL	9.43 D	9.41	33.789 D	26.104	192.9	0.403	3.54	54.9	22.7	1.72	22.3	0.02	0.01	0.03	151	
170	8.99	8.97	33.909	26.269	177.6	0.440	3.53	54.2	25.6	1.76	23.3	0.01	0.01	0.04	171	208
200	8.69	8.67	33.997	26.385	167.0	0.492	2.84	43.4	31.6	2.01	26.6	0.01	0.01	0.03	201	207
230	8.56	8.54	34.093	26.481	158.5	0.541	2.02	30.8	37.6	2.48	29.8	0.01			231	206
250 ISL	8.19 D	8.16	34.107 D	26.548	152.3	0.572	1.95	29.5	41.3	2.46	31.1	0.01			251	
269	7.78	7.75	34.090	26.596	147.9	0.600	1.89	28.3	44.7	2.44	32.0	0.01			271	205
300 ISL	7.38 D	7.35	34.111 D	26.670	141.2	0.645	1.61	23.9	49.8	2.56	33.8	0.00			302	
319	7.21	7.18	34.117	26.699	138.7	0.672	1.42	21.0	53.0	2.66	34.9	0.00			321	204
378	6.30	6.27	34.104	26.811	128.2	0.750	1.16	16.8	64.4	2.85	37.9	0.00			380	203
400 ISL	6.22 D	6.18	34.117 D	26.832	126.5	0.778	1.02	14.7	67.7	2.91	38.7	0.00			403	
437	5.97	5.93	34.158	26.896	120.7	0.824	0.78	11.2	72.5	3.01	39.7	0.00			440	202
500 ISL	5.83 D	5.79	34.253 D	26.989	112.7	0.898	0.44	6.3	79.6	3.15	40.9	0.00			503	
512	5.76	5.72	34.259	27.003	111.5	0.911	0.38	5.4	80.9	3.18	41.1	0.00			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
31 10.6 N	120 54.9 W	02/04/07	2253 UTC	3826 m	320 18 kn	310 05 05	1	1017.8 mb	16.2 c	14.5 c		5/8	AC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	14.42	14.42	33.430	24.887	305.6	0.000	6.02	103.6	1.3	0.32	0.0	0.00	0.31	0.06	0	
2	14.42	14.42	33.430	24.887	305.6	0.006	6.02	103.6	1.3	0.32	0.0	0.00	0.31	0.06	2	221
10	14.38	14.38	33.431	24.896	304.9	0.031	6.04	103.9	1.3	0.31	0.0	0.00	0.30	0.06	10	220
20	14.10	14.10	33.428	24.953	299.8	0.061	6.07	103.8	1.3	0.32	0.0	0.00	0.37	0.06	20	219
30	13.88	13.88	33.426	24.997	295.9	0.091	6.06	103.1	1.4	0.32	0.0	0.01	0.85	0.17	30	218
35	13.87	13.87	33.428	25.001	295.7	0.105	6.10 D	103.8	1.4	0.35	0.0	0.02	0.87	0.25	35	217
41	13.86	13.85	33.428	25.003	295.6	0.123	6.01	102.2	1.5	0.35	0.0	0.03	0.86	0.22	41	216
50	12.90	12.89	33.443	25.208	276.3	0.149	5.73	95.6	3.5	0.62	3.3	0.29	0.87	0.32	50	215
60	12.74	12.73	33.533	25.310	266.9	0.176	5.58	92.8	5.0	0.70	4.6	0.31	0.20	0.14	60	214
70	12.39	12.38	33.529	25.375	260.9	0.202	5.30	87.5	6.7	0.82	7.1	0.05	0.12	0.10	70	213
75 ISL	11.97 D	11.96	33.513 D	25.442	254.6	0.215	5.02	82.1	8.2	0.93	9.0	0.04	0.10	0.09	75	
85	11.43	11.42	33.535	25.560	243.6	0.240	4.36	70.5	11.9	1.21	13.4	0.02	0.07	0.08	85	212
100	10.30	10.29	33.650	25.849	216.2	0.275	3.40	53.7	18.8	1.65	20.3	0.02	0.02	0.05	100	211
120	9.81	9.80	33.829	26.072	195.4	0.316	2.69	42.1	24.9	1.94	24.2	0.01	0.01	0.05	121	210
125 ISL	9.78 D	9.77	33.842 D	26.087	194.1	0.326	2.74	42.8	25.3	1.93	24.2	0.01	0.01	0.05	126	
140	9.29	9.27	33.880	26.198	183.8	0.354	3.01	46.5	25.8	1.90	24.2	0.01	0.01	0.04	141	209
150 ISL	9.01 D	8.99	33.924 D	26.277	176.4	0.372	2.96	45.5	27.3	1.91	24.8	0.01	0.01	0.04	151	
168	8.74	8.72	33.992	26.373	167.6	0.403	2.88	44.0	30.8	1.98	26.2	0.01	0.01	0.03	169	208
199	8.38	8.36	34.052	26.476	158.3	0.453	2.41	36.5	36.2	2.19	28.7	0.01	0.00	0.03	200	207
200 ISL	8.38 D	8.36	34.059 D	26.481	157.8	0.455	2.38	36.1	36.3	2.20	28.8	0.01			201	
229	8.43	8.41	34.133	26.532	153.6	0.500	1.70	25.8	40.3	2.41	30.8	0.01			230	206
250 ISL	8.10 D	8.07	34.138 D	26.586	148.7	0.532	1.51	22.8	43.5	2.50	31.9	0.01			251	
268	7.90	7.87	34.151	26.626	145.1	0.558	1.45	21.8	46.2	2.55	32.8	0.01			270	205
300 ISL	7.56 D	7.53	34.161 D	26.684	140.0	0.604	1.29	19.2	50.7	2.64	34.2	0.01			302	
318	7.27	7.24	34.151	26.717	137.0	0.629	1.22	18.0	53.4	2.69	34.9	0.01			320	204
378	6.39	6.36	34.124	26.815	127.9	0.708	1.06	15.4	64.0	2.85	37.7	0.00			380	203
400 ISL	6.32 D	6.28	34.163 D	26.855	124.4	0.736	0.89	12.9	66.8	2.92	38.3	0.00			403	
437	6.23	6.19	34.217	26.910	119.7	0.781	0.59	8.5	71.3	3.04	39.1	0.00			440	202
500 ISL	5.55 D	5.51	34.231 D	27.006	110.7	0.854	0.4									

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
30 50.6 N	121 34.6 W	03/04/07	0520 UTC	4084 m	320 16 kn			1019.3 mb	14.2 C	13.0 C						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	13.97	13.97	33.326	24.901	304.2	0.000	6.13	104.5	2.3	0.36	0.1	0.03	0.54	0.01	0	
2	13.97	13.97	33.326	24.901	304.3	0.006	6.13	104.5	2.3	0.36	0.1	0.03	0.54	0.01	2	220
10 ISL	13.97 D	13.97	33.325 D	24.900	304.6	0.030	6.13	104.5	2.3	0.37	0.1	0.03	0.47	0.03	10	
11	13.97	13.97	33.327	24.902	304.5	0.033	6.13	104.5	2.3	0.37	0.1	0.03	0.47	0.03	11	219
20	13.75	13.75	33.327	24.947	300.4	0.061	6.13	104.0	2.5	0.37	0.1	0.04	0.67	0.09	20	218
30	13.67	13.67	33.321	24.959	299.5	0.091	6.10	103.3	2.5	0.37	0.2	0.05	0.78	0.05	30	217
40	13.33	13.32	33.265	24.985	297.3	0.121	6.05	101.7	2.8	0.41	0.5	0.09	0.70	0.10	40	216
50	13.37	13.36	33.304	25.007	295.4	0.150	6.12	103.0	2.6	0.39	0.4	0.07	0.71	0.22	50	215
60	13.28	13.27	33.307	25.028	293.7	0.180	6.09	102.3	2.7	0.41	0.6	0.09	0.74	0.13	60	214
69	13.18	13.17	33.312	25.052	291.7	0.206	6.06	101.6	3.0	0.44	0.8	0.11	0.49	0.15	69	213
75 ISL	12.95 D	12.94	33.311 D	25.097	287.5	0.223	5.89	98.2	3.3	0.50	1.9	0.08	0.34	0.12	75	
85	12.74	12.73	33.355	25.173	280.6	0.252	5.59	92.8	4.0	0.61	4.0	0.03	0.14	0.05	85	212
100	12.55	12.54	33.411	25.253	273.3	0.293	5.46	90.4	4.8	0.68	5.1	0.02	0.07	0.04	100	211
122	11.35	11.33	33.419	25.485	251.6	0.351	4.80	77.4	9.2	1.01	10.8	0.02	0.03	0.04	123	210
125 ISL	11.06 D	11.04	33.446 D	25.558	244.6	0.358	4.71	75.5	9.9	1.06	11.6	0.02	0.03	0.04	126	
140	10.51	10.49	33.544	25.731	228.4	0.394	4.28	67.8	13.9	1.28	15.4	0.02	0.02	0.04	141	209
150 ISL	9.80 D	9.78	33.636 D	25.924	210.1	0.416	4.01	62.6	17.1	1.45	18.0	0.02	0.01	0.04	151	
171	9.22	9.20	33.814	26.158	188.2	0.458	3.54	54.6	23.3	1.74	22.4	0.01	0.00	0.04	172	208
200	8.84	8.82	33.963	26.335	171.8	0.510	3.20	49.0	28.5	1.86	24.7	0.01	0.00	0.03	201	207
228	8.36	8.34	34.013	26.449	161.4	0.557	2.72	41.2	34.7	2.06	27.6	0.01	0.00	0.03	229	206
250 ISL	8.10 D	8.07	34.058 D	26.523	154.6	0.591	2.30	34.7	38.9	2.23	29.6	0.01	0.00	0.03	251	
271	7.98	7.95	34.089	26.566	150.9	0.623	1.93	29.0	42.7	2.38	31.3	0.00	0.00	0.03	273	205
300 ISL	7.42 D	7.39	34.103 D	26.658	142.4	0.666	1.61	23.9	48.1	2.54	33.1	0.00	0.00	0.03	302	
318	7.38	7.35	34.124	26.680	140.5	0.691	1.44	21.3	51.3	2.62	34.1	0.00	0.00	0.03	320	204
378	6.98	6.94	34.215	26.808	129.1	0.772	0.77	11.3	60.8	2.89	36.8	0.00	0.00	0.03	380	203
400 ISL	6.85 D	6.81	34.227 D	26.836	126.8	0.800	0.69	10.1	64.1	2.94	37.5	0.00	0.00	0.03	402	
436	6.31	6.27	34.210	26.894	121.3	0.845	0.64	9.3	69.3	3.00	38.6	0.00	0.00	0.03	439	202
500 ISL	5.72 D	5.68	34.207 D	26.966	114.7	0.921	0.50	7.1	78.8	3.11	40.3	0.00	0.00	0.03	503	
515	5.67	5.63	34.221	26.984	113.2	0.938	0.47	6.7	81.0	3.14	40.7	0.00	0.00	0.03	518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
30 30.8 N	122 15.3 W	03/04/07	1152 UTC	4172 m	330 15 kn			1019.2 mb	15.2 C	13.0 C						
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	db	
0 ISL	15.56	15.56	33.547	24.730	320.5	0.000	5.76	101.5	1.6	0.28	0.0	0.00	0.11	0.01	0	
2	15.56	15.56	33.547	24.730	320.6	0.006	5.76	101.5	1.6	0.28	0.0	0.00	0.11	0.01	2	220
10 ISL	15.57 D	15.57	33.546 D	24.727	321.1	0.032	5.76	101.5	1.6	0.28	0.0	0.00	0.12	0.00	10	
16	15.57	15.57	33.547	24.728	321.2	0.051	5.76	101.5	1.6	0.28	0.0	0.00	0.12	0.00	16	219
20 ISL	15.57 D	15.57	33.545 D	24.727	321.4	0.064	5.76	101.5	1.6	0.28	0.0	0.00	0.12	0.00	20	
30	15.56	15.56	33.545	24.729	321.5	0.096	5.77	101.7	1.6	0.28	0.0	0.00	0.12	0.01	30	218
45	15.56	15.55	33.545	24.730	321.9	0.145	5.77	101.7	1.7	0.28	0.0	0.00	0.12	0.02	45	217
50 ISL	15.56 D	15.55	33.544 D	24.729	322.1	0.161	5.76	101.5	1.7	0.28	0.0	0.00	0.13	0.02	50	
60	15.54	15.53	33.548	24.737	321.7	0.193	5.76	101.4	1.6	0.28	0.0	0.00	0.17	0.04	60	216
75	15.03	15.02	33.495	24.809	315.3	0.241	5.79	100.9	1.7	0.30	0.0	0.00	0.27	0.09	75	215
85	14.88	14.87	33.481	24.830	313.5	0.272	5.78	100.4	1.7	0.30	0.0	0.00	0.37	0.13	85	214
95	14.42	14.41	33.449	24.904	306.7	0.303	5.69	97.9	2.3	0.37	0.5	0.06	0.61	0.24	95	213
100 ISL	13.83 D	13.82	33.431 D	25.014	296.3	0.318	5.55	94.3	3.0	0.45	1.7	0.05	0.56	0.23	100	
105	13.59	13.58	33.432	25.063	291.7	0.333	5.41	91.5	3.7	0.54	3.0	0.03	0.45	0.20	105	212
115	13.18	13.16	33.465	25.172	281.6	0.362	5.27	88.4	4.5	0.62	4.4	0.03	0.26	0.20	115	211
125	12.74	12.72	33.481	25.271	272.3	0.389	5.04	83.8	5.8	0.73	6.4	0.03	0.24	0.12	126	210
139	11.93	11.91	33.573	25.498	250.9	0.426	4.78	78.1	8.0	0.87	9.1	0.02	0.14	0.07	140	209
150 ISL	10.93 D	10.91	33.578 D	25.684	233.2	0.452	4.57	73.1	10.9	1.06	12.2	0.01	0.08	0.05	151	
164	10.12	10.10	33.641	25.874	215.2	0.484	4.33	68.1	14.8	1.30	16.0	0.01	0.03	0.04	165	208
193	9.45	9.43	33.805	26.114	192.9	0.543	4.00	62.0	20.1	1.50	19.6	0.01	0.00	0.01	194	207
200 ISL	9.21 D	9.19	33.855 D	26.192	185.6	0.556	3.92	60.5	21.4	1.54	20.3	0.01	0.00	0.01	201	
229	8.85	8.83	33.937	26.314	174.4	0.609	3.57	54.7	26.7	1.72	23.1	0.01	0.00	0.01	230	206
250 ISL	8.53 D	8.50	33.977 D	26.395	167.0	0.644	3.31	50.3	30.2	1.83	24.8	0.01	0.00	0.01	251	
268	8.33	8.30	34.001	26.444	162.5	0.674	3.07	46.5	33.3	1.93	26.3	0.01	0.00	0.01	269	205
300 ISL	7.92 D	7.89	34.034 D	26.532	154.6	0.725	2.56	38.4	39.1	2.14	29.1	0.00	0.00	0.01	302	
318	7.70	7.67	34.050	26.577	150.5	0.752	2.28	34.0	42.7	2.26	30.7	0.00	0.00	0.01	320	204
377	6.67	6.64	34.079	26.743	135.0	0.836	1.56	22.7	56.9	2.62	35.3	0.00	0.00	0.01	379	203
400 ISL	6.38 D	6.34	34.086 D	26.787	130.9	0.867	1.36	19.7	61.2	2.72	36.6	0.00	0.00	0.01	402	
438	6.08	6.04	34.113	26.847	125.5	0.916	1.07	15.4	67.6	2.85	38.2	0.00	0.00	0.01	441	202
500 ISL	5.73 D	5.69	34.196 D	26.956	115.6	0.990	0.66	9.4	77.4	3.03	40.1	0.00	0.00	0.01	503	
515	5.65	5.61	34.205	26.973	114.1	1.008	0.56	8.0	79.8	3.07	40.5	0.00	0.00	0.01	518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
30 10.8 N	122 55.2 W	03/04/07	1824 UTC	3996 m	330 05 kn	030 02 08	1	1019.2 mb	17.0 c	16.0 c	29m	3/8	CS			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	15.09	15.09	33.330	24.666	326.6	0.000	5.86	102.2	1.9	0.31	0.0	0.00	0.12	0.03	0	
2 A	15.09	15.09	33.330	24.666	326.6	0.007	5.86	102.2	1.9	0.31	0.0	0.00	0.12	0.03	2	221
10 ISL	14.95 D	14.95	33.329 D	24.696	324.0	0.033	5.87	102.0	1.9	0.31	0.0	0.00	0.13	0.03	10	
15 A	14.94	14.94	33.328	24.697	324.0	0.049	5.87	102.0	1.9	0.31	0.0	0.00	0.13	0.03	15	220
20 ISL	14.93 D	14.93	33.330 D	24.701	323.8	0.065	5.87	102.0	1.9	0.31	0.0	0.00	0.13	0.03	20	
27	14.95	14.95	33.338	24.703	323.8	0.088	5.86	101.9	1.9	0.31	0.0	0.00	0.13	0.03	27	219
30 ISL	15.11 D	15.11	33.438 D	24.746	319.9	0.097	5.88	102.6	1.9	0.31	0.0	0.00	0.15	0.04	30	
39 A	14.53	14.52	33.299	24.764	318.4	0.126	5.92	102.0	1.8	0.32	0.0	0.00	0.21	0.07	39	218
47	14.48	14.47	33.286	24.764	318.6	0.151	5.92	101.9	2.0	0.31	0.0	0.00	0.27	0.10	47	217
50 ISL	14.50 D	14.49	33.294 D	24.766	318.5	0.161	5.92	101.9	1.9	0.31	0.0	0.00	0.28	0.11	50	
55 A	14.48	14.47	33.290	24.768	318.5	0.177	5.91	101.7	1.8	0.31	0.0	0.00	0.31	0.13	55	216
63	14.45	14.44	33.291	24.775	318.0	0.202	5.88	101.1	1.8	0.33	0.0	0.01	0.37	0.17	63	215
70 A	15.12	15.11	33.500	24.793	316.7	0.225	5.78	100.9	1.7	0.32	0.1	0.03	0.34	0.20	70	214
75 ISL	16.05 D	16.04	33.838 D	24.846	311.9	0.240	5.71	101.8	1.6	0.28	0.1	0.02	0.31	0.17	75	
84	16.44	16.43	33.972	24.860	310.9	0.268	5.60	100.6	1.5	0.22	0.0	0.00	0.27	0.13	84	213
98	15.59	15.57	33.847	24.957	302.0	0.311	5.54	97.8	2.0	0.27	0.4	0.07	0.25	0.25	98	212
100 ISL	15.52 D	15.50	33.836 D	24.964	301.3	0.317	5.53	97.5	2.1	0.29	0.6	0.07	0.24	0.25	100	
111 A	14.06	14.04	33.630	25.120	286.6	0.350	5.45	93.2	3.0	0.44	2.0	0.07	0.18	0.22	111	211
125 ISL	13.37 D	13.35	33.710 D	25.324	267.5	0.388	5.19	87.5	4.6	0.55	4.5	0.04	0.10	0.12	126	
127	12.97	12.95	33.688	25.387	261.5	0.394	5.14	86.0	4.9	0.57	4.9	0.03	0.09	0.11	128	210
145	11.44	11.42	33.572	25.588	242.4	0.439	4.66	75.4	9.4	0.97	10.7	0.01	0.05	0.05	146	209
150 ISL	11.28 D	11.26	33.578 D	25.622	239.2	0.451	4.60	74.2	10.3	1.04	11.8	0.01	0.04	0.04	151	
169	10.27	10.25	33.639	25.847	218.0	0.495	4.40	69.4	14.0	1.25	15.4	0.01	0.01	0.02	170	208
199	9.24	9.22	33.852	26.185	186.2	0.555	3.82	59.0	22.4	1.61	21.2	0.01	0.00	0.02	200	207
200 ISL	9.24 D	9.22	33.850 D	26.183	186.4	0.557	3.82	59.0	22.5	1.61	21.2	0.01			201	
229	8.71	8.69	33.964	26.357	170.3	0.609	3.92	59.9	26.5	1.63	22.1	0.01			230	206
250 ISL	8.30 D	8.27	33.989 D	26.439	162.7	0.644	3.49	52.8	31.8	1.80	24.8	0.00			251	
268	7.98	7.95	34.004	26.499	157.2	0.672	3.02	45.4	36.7	1.98	27.4	0.00			269	205
300 ISL	7.57 D	7.54	34.018 D	26.570	150.8	0.722	2.49	37.1	42.6	2.21	30.3	0.00			302	
319	7.38	7.35	34.036	26.611	147.1	0.750	2.23	33.0	46.0	2.33	31.8	0.00			321	204
378	6.47	6.44	34.078	26.768	132.4	0.832	1.42	20.6	60.2	2.73	36.6	0.00			380	203
400 ISL	6.30 D	6.26	34.106 D	26.813	128.4	0.861	1.18	17.1	63.9	2.83	37.6	0.00			402	
438	6.12	6.08	34.148	26.869	123.4	0.909	0.86	12.4	69.4	2.95	38.8	0.00			441	202
500 ISL	5.72 D	5.68	34.201 D	26.962	115.1	0.983	0.60	8.6	77.7	3.07	40.5	0.00			503	
515	5.65	5.61	34.208	26.976	113.9	1.000	0.54	7.7	79.7	3.10	40.9	0.00			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE			
29 50.6 N	123 35.0 W	04/04/07	0038 UTC	4097 m	350 10 kn	330 03 04	1	1019.4 mb	18.0 c	16.0 c		3/8	CC			
DEPTH	TEMP	POT TEMP	SALINITY	SIGMA	SVA	DYN HT	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	PRES	SAMP
m	DEG C	DEG C		THETA			mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	db	
0 ISL	15.87	15.87	33.497	24.622	330.8	0.000	5.77	102.3	1.8	0.28	0.0	0.00	0.07	0.01	0	
2	15.87	15.87	33.497	24.622	330.8	0.007	5.77	102.3	1.8	0.28	0.0	0.00	0.07	0.01	2	221
10 ISL	15.52 D	15.52	33.494 D	24.698	323.8	0.033	5.78	101.7	1.7	0.28	0.0	0.00	0.08	0.02	10	
16	15.50	15.50	33.493	24.702	323.6	0.052	5.79	101.9	1.7	0.28	0.0	0.00	0.08	0.02	16	219
20 ISL	15.49 D	15.49	33.493 D	24.704	323.5	0.065	5.79	101.8	1.7	0.29	0.0	0.00	0.08	0.02	20	
30 ISL	15.48 D	15.48	33.494 D	24.708	323.6	0.098	5.78	101.6	1.7	0.31	0.0	0.00	0.08	0.02	30	
31	15.48	15.48	33.494	24.708	323.6	0.101	5.78	101.6	1.7	0.31	0.0	0.00	0.08	0.02	31	218
45	15.48	15.47	33.525	24.732	321.7	0.146	5.80	102.0	1.7	0.27	0.0	0.00	0.09	0.02	45	217
50 ISL	15.45 D	15.44	33.525 D	24.739	321.2	0.162	5.80	102.0	1.7	0.27	0.0	0.00	0.10	0.02	50	
60	15.44	15.43	33.526	24.742	321.2	0.194	5.79	101.8	1.6	0.27	0.0	0.00	0.13	0.04	60	216
75	15.77	15.76	33.724	24.822	314.2	0.242	5.71	101.1	1.6	0.24	0.0	0.00	0.23	0.10	75	215
85	15.77	15.76	33.726	24.823	314.3	0.273	5.70	100.9	1.6	0.25	0.0	0.00	0.26	0.14	85	214
95	15.77	15.76	33.738	24.833	313.7	0.305	5.67	100.4	1.6	0.25	0.0	0.02	0.33	0.23	95	213
100 ISL	15.81 D	15.79	33.770 D	24.849	312.4	0.320	5.65	100.2	1.7	0.26	0.1	0.06	0.32	0.24	100	
105	15.53	15.51	33.732	24.882	309.3	0.336	5.62	99.1	1.8	0.28	0.1	0.10	0.30	0.25	105	212
115	14.98	14.96	33.693	24.973	300.8	0.366	5.58	97.2	2.2	0.34	0.8	0.10	0.27	0.25	115	211
125	13.95	13.93	33.543	25.076	291.1	0.396	5.59	95.3	2.8	0.42	1.6	0.05	0.21	0.16	126	210
140	13.52	13.50	33.542	25.164	283.1	0.439	5.47	92.4	3.4	0.51	2.7	0.02	0.12	0.10	141	209
150 ISL	12.93 D	12.91	33.580 D	25.311	269.2	0.467	5.27	88.0	4.4	0.59	4.3	0.02	0.08	0.07	151	
165	12.23	12.21	33.628	25.485	252.9	0.506	4.91	80.8	6.9	0.76	7.7	0.01	0.05	0.05	166	208
195	10.15	10.13	33.621	25.854	217.8	0.576	4.30	67.7	15.3	1.32	16.4	0.01	0.00	0.02	196	207
200 ISL	9.91 D	9.89	33.701 D	25.957	208.1	0.587	4.17	65.3	17.1	1.40	17.6	0.01			201	
229	8.85	8.83	33.942	26.318	174.1	0.642	3.51	53.8	27.2	1.75	23.4	0.01			230	206
250 ISL	8.60 D	8.57	33.966 D	26.375	168.9	0.678	3.26	49.7	31.3	1.87	25.4	0.01			251	
271	8.19	8.16	33.998	26.463	160.7	0.713	3.08	46.5	34.7	1.96	26.8	0.00			272	205
300 ISL	7.55 D	7.52	34.016 D	26.571	150.6	0.758	2.72	40.5	41.0	2.14	29.4	0.00			302	
317	7.42	7.39	34.019	26.592	148.8	0.784	2.49	36.9	44.8	2.25	30.9	0.00			319	204
378	6.64	6.61	34.053	26.726	136.5	0.871	1.67	24.3	57.1	2.61	35.6	0.00			380	203
400 ISL	6.44 D	6.40	34.071 D	26.767	132.8	0.900	1.42	20.6	61.6	2.73	36.8	0.00			402	
439	6.06	6.02	34.114	26.850	125.2	0.951	1.05	15.1	69.1	2.91	38.6	0.00			442	202
500 ISL	5.72 D	5.68	34.174 D	26.940	117.1	1.025	0.68	9.7	77.6	3.04	40.4	0.00			503	
515	5.65	5.61	34.185	26.958	115.6	1.042	0.59	8.4	79.7	3.07	40.8	0.00			518	201

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED S;

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 80.0 80.0

LATITUDE LONGITUDE DAY/MO/YR CAST TIME SECCHI INCUBATION TIME LAN CIVIL TWILIGHT INTEGRATED VALUE
 33 29.3 N 122 30.8 W 14/04/07 2017 UTC 14 m 1255 - 1909 PST 1210 PST 1908 PST 203.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN mL/L	OXY PCT	SI03 uM/L	P04 uM/L	N03 uM/L	N02 uM/L	CHL-A ug/L	PHAE0 ug/L	LIGHT PCT	UPTAKE (mg C/m3)			
													1	2	MEAN	DARK
2	13.49	33.259	24.947	6.12	103.2	2.8	0.42	1.0	0.09	0.52	0.11	80. A	6.2	6.1	6.1	0.09
8	13.48	33.259	24.949	6.11	103.0	2.8	0.47	1.1	0.09	0.55	0.08	42.	8.5	7.9	8.2	0.07
19	13.40	33.263	24.969	6.13	103.2	2.6	0.43	1.0	0.09	0.70	0.06	12.	5.8	5.5	5.7	0.12
27	13.10	33.335	25.085	6.18	103.4	2.8	0.49	2.1	0.12	0.67	0.20	5.2	3.6	3.7	3.6	0.10
34	13.05	33.342	25.100	6.19	103.5	2.9	0.49	2.3	0.13	0.71	0.22	2.4	1.6	1.5	1.6	0.06
54	12.71	33.425	25.232	6.09	101.1	2.7	0.60	3.3	0.21	0.39	0.19	0.27	0.07	0.11	0.09	0.03

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 81.8 46.9

LATITUDE LONGITUDE DAY/MO/YR CAST TIME SECCHI INCUBATION TIME LAN CIVIL TWILIGHT INTEGRATED VALUE
 34 16.7 N 120 1.5 W 13/04/07 1848 UTC 11 m 1203 - 1900 PST 1201 PST 1859 PST 1411.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN mL/L	OXY PCT	SI03 uM/L	P04 uM/L	N03 uM/L	N02 uM/L	CHL-A ug/L	PHAE0 ug/L	LIGHT PCT	UPTAKE (mg C/m3)			
													1	2	MEAN	DARK
2	13.03	33.746	25.416	5.23	87.6	10.9	0.95	10.6	0.56	4.32	0.27	76. A	81.7	81.5	81.6	0.30
7	12.09	33.748	25.600	4.77	78.4	12.7	1.13	12.1	0.56	4.82	0.46	38.	89.0	91.2	90.1	0.28
15 B	11.76	33.749 D	25.663	4.45 D	72.6							12.	41.1	38.5	39.8	0.24
22	11.59	33.753	25.698	4.18	67.9	15.9	1.36	15.5	0.35	2.88	0.34	4.6	17.3	21.5	19.4	0.13
28	11.23	33.771	25.778	3.82	61.6	18.5	1.54	17.8	0.27	1.09	0.23	2.0	3.8	3.0	3.4	0.09
42	9.96	33.930	26.124	2.38	37.4	27.2	2.02	24.9	0.03	0.04	0.18	0.28	0.00	0.00	0.00	0.04

B) 15 METER PRIMARY PRODUCTIVITY SAMPLE WAS DRAWN FROM THE 7 METER BOTTLE DUE TO SURFACE BOTTLE NON-CLOSURE AND INCUBATED AT THE 12% LIGHT LEVEL.

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 83.3 70.0

LATITUDE LONGITUDE DAY/MO/YR CAST TIME SECCHI INCUBATION TIME LAN CIVIL TWILIGHT INTEGRATED VALUE
 33 14.6 N 121 26.6 W 11/04/07 1825 UTC 14 m 1203 - 1856 PST 1207 PST 1856 PST 333.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN mL/L	OXY PCT	SI03 uM/L	P04 uM/L	N03 uM/L	N02 uM/L	CHL-A ug/L	PHAE0 ug/L	LIGHT PCT	UPTAKE (mg C/m3)			
													1	2	MEAN	DARK
1 B	13.14	33.423 D	25.144	6.15 D	103.1							90. A	10.1	10.1	10.1	0.08
8	13.14	33.423	25.144	6.05	101.4	3.7	0.53	2.8	0.15	0.73	0.21	42.	13.5	12.9	13.2	0.09
11	13.12	33.424	25.149	6.07	101.7	3.6	0.53	2.8	0.15	0.75	0.22					
19	13.13	33.424	25.147	6.06	101.5	3.8	0.53	2.8	0.15	0.74	0.22	12.	9.8	9.8	9.8	0.10
28	13.09	33.424	25.156	6.06	101.5	3.7	0.53	2.8	0.15	0.80	0.24	4.6	5.2	5.7	5.4	0.09
34	13.08	33.424	25.158	6.05	101.3	3.6	0.53	2.8	0.15	0.80	0.24	2.4	2.3	2.2	2.3	0.07
45	12.68	33.443	25.251	5.81	96.4	4.5	0.67	4.5	0.27	0.50	0.22					
54	12.07	33.557	25.457	4.96	81.3	8.9	1.03	10.6	0.25	0.11	0.12	0.27	0.03	0.04	0.04	0.06

B) SURFACE PRIMARY PRODUCTIVITY SAMPLE WAS DRAWN FROM THE 8 METER BOTTLE DUE TO SURFACE BOTTLE NON-CLOSURE AND INCUBATED AT THE 90% LIGHT LEVEL.

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 83.3 90.0

LATITUDE LONGITUDE DAY/MO/YR CAST TIME SECCHI INCUBATION TIME LAN CIVIL TWILIGHT INTEGRATED VALUE
 32 34.5 N 122 48.7 W 10/04/07 1848 UTC 15 m 1204 - 1933 PST 1213 PST 1900 PST 244.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN mL/L	OXY PCT	SI03 uM/L	P04 uM/L	N03 uM/L	N02 uM/L	CHL-A ug/L	PHAE0 ug/L	LIGHT PCT	UPTAKE (mg C/m3)			
													1	2	MEAN	DARK
2	13.92	33.403	24.970	6.17	105.1	3.4	0.39	0.8	0.05	0.44	0.09	81. A	6.5	6.5	6.5	0.09
8	13.91	33.401	24.971	6.16	104.9	3.3	0.39	0.7	0.05	0.46	0.10	44.	9.6	9.3	9.4	0.08
10	13.90	33.401	24.973	6.17	105.0	3.1	0.39	0.7	0.05	0.46	0.11					
21	13.82	33.404	24.992	6.16	104.7	3.2	0.39	0.8	0.06	0.47	0.12	12.	6.4	6.8	6.6	0.09
28	13.46	33.431	25.087	6.21	104.8	3.2	0.44	1.4	0.08	0.61	0.16	5.7	4.1	4.3	4.2	0.07
38	13.14	33.438	25.157	6.08	101.9	3.4	0.51	2.1	0.13	0.52	0.22	2.0	1.4	1.3	1.4	0.05
49	12.73	33.398	25.207	5.95	98.8	3.9	0.55	2.8	0.19	0.33	0.17					
58	11.80	33.341	25.340	5.49	89.4	7.0	0.83	7.8	0.04	0.15	0.12	0.26	0.04	0.05	0.04	0.04

A) INCUBATION LIGHT INTENSITIES WERE 96, 45, 13, 5.4, 2.4, 0.26 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 86.7 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
33 39.6 N	118 58.4 W	07/04/07	1929 UTC	21 m	1238 - 1848 PST	1158 PST	1849 PST	314.0 mg C/m ²								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2 B	14.96	33.559 D	24.871	6.09 D	106.0							86. A	4.3	4.9	4.6	0.10
11	14.86	33.559	24.893	6.04	105.0	2.6	0.33	0.0	0.01	0.35	0.11	45.	7.7	7.7	7.7	0.10
20	14.65	33.555	24.935	6.03	104.3	2.6	0.34	0.0	0.01	0.38	0.14					
28	14.24	33.556	25.023	5.96	102.3	2.9	0.38	0.4	0.06	0.58	0.25	13.	8.1	8.1	8.1	0.10
40	12.75	33.540	25.313	4.94	82.2	7.1	0.83	7.1	0.19	0.61	0.42	5.4	4.2	4.3	4.2	0.07
51	12.00	33.552	25.466	4.34	71.1	10.6	1.10	11.7	0.08	0.36	0.26	2.4	0.87	0.91	0.89	0.04
66	10.87	33.626	25.731	3.71	59.3	16.0	1.45	17.2	0.04	0.08	0.09					
81	10.13	33.751	25.957	3.17	49.9	21.3	1.72	21.3	0.01	0.01	0.10	0.27	0.00	0.00	0.00	0.02

B) SURFACE PRIMARY PRODUCTIVITY SAMPLE WAS DRAWN FROM THE 11 METER BOTTLE DUE TO SURFACE BOTTLE NON-CLOSURE AND INCUBATED AT THE 86% LIGHT LEVEL.

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 86.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
32 39.2 N	121 2.2 W	08/04/07	1953 UTC	10 m	1251 - 1857 PST	1206 PST	1856 PST	136.4 mg C/m ²								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	14.22	33.471	24.961	6.05	103.7	2.8	0.35	0.1	0.02	0.60	0.15	74. A	7.1	7.4	7.2	0.09
5	14.21	33.471	24.963	6.08	104.2	2.8	0.35	0.1	0.02	0.58	0.13	46.	9.1	8.8	8.9	0.10
14	14.20	33.471	24.965	6.08	104.2	2.7	0.34	0.1	0.02	0.57	0.13	12.	5.5	5.6	5.6	0.11
19	14.18	33.471	24.969	6.06	103.8	2.6	0.36	0.1	0.02	0.58	0.15	5.4	2.4	2.5	2.5	0.10
24	14.15	33.471	24.976	6.07	103.9	2.5	0.34	0.2	0.02	0.61	0.14	2.5	0.50	0.62	0.56	0.11
32	14.03	33.469	25.000	6.03	103.0	2.6	0.37	0.3	0.04	0.62	0.15					
40	13.59	33.466	25.088	6.08	102.9	2.7	0.41	0.9	0.08	0.64	0.21	0.22	0.02	0.05	0.03	0.08

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 86.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
31 38.9 N	123 5.2 W	09/04/07	1652 UTC	25 m	1216 - 1906 PST	1214 PST	1905 PST	130.5 mg C/m ²								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	15.25	33.368	24.660	5.85	102.3	1.8	0.31	0.0	0.00	0.11	0.02	88. A	1.8	1.8	1.8	0.07
11	15.24	33.370	24.664	5.86	102.5	1.8	0.30	0.0	0.00	0.12	0.03					
13	15.24	33.369	24.664	5.85	102.3	1.7	0.30	0.0	0.00	0.12	0.03	45.	2.4	2.4	2.4	0.06
23	15.24	33.377	24.670	5.85	102.3	1.7	0.30	0.0	0.00	0.12	0.03					
34	15.14	33.380	24.695	5.88	102.6	1.7	0.30	0.0	0.00	0.13	0.03	12.	1.7	1.8	1.8	0.06
40	14.70	33.323	24.746	5.96	103.1	1.7	0.31	0.0	0.00	0.17	0.05					
47	14.40	33.287	24.782	6.00	103.1	1.8	0.32	0.0	0.00	0.27	0.11	5.6	1.7	1.7	1.7	0.08
54	14.20	33.287	24.824	6.00	102.7	1.8	0.33	0.0	0.00	0.30	0.11					
61	13.77	33.245	24.881	6.05	102.6	1.8	0.34	0.1	0.01	0.44	0.25	2.4	0.96	1.1	1.0	0.06
72	13.31	33.254	24.981	5.84	98.1	2.4	0.44	1.0	0.31	0.54	0.31					
85	13.15	33.334	25.076	5.70	95.5	3.1	0.50	2.5	0.15	0.31	0.20					
96	12.63	33.388	25.220	5.53	91.7	4.2	0.64	4.9	0.03	0.07	0.06	0.28	0.03	0.03	0.03	0.02

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE								
33 10.7 N	118 24.0 W	06/04/07	1732 UTC	23 m	1201 - 1840 PST	1155 PST	1840 PST	534.6 mg C/m ²								
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/L	ug/L	PCT	1	2	MEAN	DARK
2	15.53	33.548	24.737	5.84	102.8	1.7	0.32	0.0	0.00	0.24	0.04	88. A	5.6	5.7	5.7	0.05
12	15.50	33.549	24.745	5.85	103.0	1.7	0.32	0.0	0.00	0.27	0.04	45.	7.1	6.9	7.0	0.06
22	15.26	33.542	24.793	5.91	103.5	1.9	0.32	0.0	0.00	0.32	0.07					
31	14.43	33.525	24.959	5.85	100.7	2.5	0.39	0.4	0.03	1.63	0.41	13.	18.7	19.6	19.2	0.07
38	14.09	33.524	25.030	5.64	96.4	3.4	0.48	1.8	0.11	0.95	0.43					
44	13.87	33.521	25.073	5.51	93.8	3.9	0.54	2.6	0.15	0.74	0.43	5.3	5.5	5.0	5.3	0.06
56	13.34	33.608	25.249	5.28	88.9	6.1	0.72	4.9	0.35	0.34	0.15	2.4	0.86	0.88	0.87	0.05
72	12.03	33.597	25.496	4.32	70.8	10.8	1.13	12.2	0.14	0.10	0.13					
89	11.25	33.649	25.681	3.73	60.1	15.1	1.41	16.4	0.03	0.06	0.14	0.26	0.01	0.00	0.01	0.03

A) INCUBATION LIGHT INTENSITIES WERE 96, 45, 13, 5.4, 2.4, 0.26 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT	INTEGRATED VALUE					
32 3.8 N	120 39.1 W	05/04/07	1705 UTC	16 m	1205 - 1846 PST				1205 PST	1846 PST	117.2 mg C/m ²					
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	14.56	33.432	24.859	5.94	102.5	1.9	0.31	0.0	0.00	0.22	0.05	83. A	2.6	2.9	2.8	0.08
8	14.56	33.433	24.860	5.96	102.9	1.9	0.31	0.0	0.00	0.23	0.05	46.	4.3	4.3	4.3	0.07
15	14.54	33.433	24.864	5.95	102.6	1.8	0.32	0.0	0.00	0.22	0.06					
22	14.55	33.433	24.862	5.94	102.5	1.8	0.32	0.0	0.00	0.24	0.06	12.	3.0	2.9	2.9	0.08
30	14.54	33.433	24.865	5.94	102.5	1.8	0.32	0.0	0.00	0.24	0.06	5.6	1.2	1.3	1.3	0.08
40	14.00	33.421	24.969	6.07	103.5	2.3	0.35	0.1	0.03	0.64	0.19	2.2	0.97	0.93	0.95	0.08
50	13.90	33.482	25.037	6.11	104.0	2.6	0.37	0.3	0.04	0.63	0.23					
62	13.01	33.404	25.157	5.83	97.4	3.2	0.52	2.4	0.22	0.72 B	0.29 B	0.26	0.11	0.16	0.13	0.04

B) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 90.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT	INTEGRATED VALUE					
31 4.8 N	122 39.8 W	04/04/07	1954 UTC	21 m	1250 - 1854 PST				1214 PST	1854 PST	119.2 mg C/m ²					
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	14.51	33.297	24.765	5.96	102.7	2.1	0.33	0.1	0.00	0.15	0.04	86. A	4.3	3.1	3.7	0.06
12	14.48	33.301	24.775	5.94	102.3	2.1	0.32	0.0	0.00	0.15	0.04	42.	2.6	2.0	2.3	0.06
16	14.38	33.289	24.787	5.96	102.4	2.1	0.32	0.0	0.00	0.19	0.05					
20	14.31	33.281	24.796	5.98	102.6	2.1	0.33	0.0	0.00	0.22	0.06					
29	14.12	33.274	24.830	6.03	103.0	2.3	0.35	0.1	0.01	0.33	0.17	12.	3.0	3.0	3.0	0.07
40	14.05	33.275	24.846	6.04	103.0	2.3	0.35	0.1	0.01	0.34	0.11	5.4	1.2	1.3	1.3	0.06
45	14.01	33.278	24.857	6.05	103.1	2.4	0.35	0.1	0.02	0.34	0.11					
50	14.01	33.279	24.857	6.05	103.1	2.4	0.35	0.1	0.02	0.34	0.12	2.6	0.27	0.33	0.30	0.08
65	13.95	33.286	24.876	6.05	103.0	2.5	0.36	0.2	0.03	0.38	0.12					
75	13.66	33.288	24.937	6.00	101.5	2.6	0.39	0.3	0.11	0.41	0.16					
80	13.31	33.262	24.988	5.84	98.1	2.8	0.44	1.0	0.27	0.37	0.19	0.29	0.03	0.06	0.04	0.03

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 93.3 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT	INTEGRATED VALUE					
32 40.5 N	117 52.1 W	28/03/07	2004 UTC	16 m	1304 - 1835 PST				1157 PST	1835 PST	324.5 mg C/m ²					
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
3	14.73	33.568	24.927	5.98	103.6	2.2	0.35	0.0	0.02	0.53	0.18	75. A	8.0	8.2	8.1	0.12
8	14.64	33.572	24.950	5.99	103.6	2.2	0.33	0.0	0.02	0.60	0.20	46.	12.5	12.4	12.4	0.15
11	14.61	33.566	24.952	5.99	103.6	2.2	0.33	0.0	0.01	0.61	0.21					
14	14.60	33.566	24.954	5.99	103.5	1.6	0.33	0.0	0.01	0.63	0.22					
21	14.58	33.566	24.958	5.99	103.5	1.7	0.33	0.0	0.01	0.68	0.25	13.	9.5	8.8	9.2	0.18
31	14.56	33.566	24.963	5.97	103.1	1.7	0.33	0.0	0.02	0.74	0.25	5.1	4.7	4.6	4.6	0.10
39	14.52	33.564	24.970	5.95	102.7	1.8	0.34	0.1	0.03	0.73	0.28	2.4	1.3	1.4	1.3	0.08
50	13.59	33.539	25.145	5.53	93.6	3.7	0.55	2.4	0.37	0.80	0.40					
52	13.53	33.538	25.156	5.50	93.0	3.9	0.58	2.6	0.40	0.81	0.40					
62	13.11	33.555	25.254	5.07	85.0	6.0	0.77	5.4	0.52	0.45	0.29	0.26	0.08	0.10	0.09	0.05

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT	INTEGRATED VALUE					
31 30.4 N	120 15.4 W	02/04/07	1714 UTC	21 m	1205 - 1849 PST				1205 PST	1848 PST	235.3 mg C/m ²					
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	15.04	33.465	24.781	5.87	102.3	2.0	0.30	0.0	0.00	0.16	0.03	86. A	1.6	1.6	1.6	0.08
12	15.03	33.464	24.783	5.87	102.3	1.9	0.30	0.0	0.00	0.17	0.03	42.	3.1	3.0	3.0	0.06
21	15.01	33.463	24.786	5.87	102.2	1.8	0.30	0.0	0.00	0.16	0.03					
29	13.85	33.297	24.904	6.15	104.5	2.2	0.36	0.0	0.00	0.33	0.09	12.	4.9	4.7	4.8	0.12
40	13.65	33.281	24.933	6.08	102.9	2.3	0.35	0.0	0.03	0.71	0.24	5.4	6.7	6.7	6.7	0.08
51	13.63	33.426	25.049	5.93	100.4	2.5	0.42	0.7	0.11	0.57	0.23	2.4	2.0	1.9	2.0	0.08
66	12.85	33.388	25.176	5.85	97.4	3.7	0.56	2.3	0.37	0.29	0.18					
81	12.93	33.517	25.261	5.71	95.3	4.0	0.63	3.4	0.48	0.21	0.13	0.27	0.13	0.09	0.11	0.05

RV DAVID STARR JORDAN

CALCOFI CRUISE 0704

STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME				LAN	CIVIL TWILIGHT	INTEGRATED VALUE					
30 10.8 N	122 55.2 W	03/04/07	1824 UTC	29 m	1205 - 1856 PST				1215 PST	1858 PST	192.2 mg C/m ²					
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m ³)			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	15.09	33.330	24.666	5.86	102.2	1.9	0.31	0.0	0.00	0.12	0.03	90. A	2.3	1.9	2.1	0.06
15	14.94	33.328	24.697	5.87	102.0	1.9	0.31	0.0	0.00	0.13	0.03	45.	2.5	2.6	2.5	0.07
27	14.95	33.338	24.703	5.86	101.9	1.9	0.31	0.0	0.00	0.13	0.03					
39	14.53	33.299	24.764	5.92	102.0	1.8	0.32	0.0	0.00	0.21	0.07	13.	2.6	2.7	2.7	0.10
47	14.48	33.286	24.764	5.92	101.9	2.0	0.31	0.0	0.00	0.27	0.10					
55	14.48	33.290	24.768	5.91	101.7	1.8	0.31	0.0	0.00	0.31	0.13	5.4	2.4	2.3	2.3	0.06
63	14.45	33.291	24.775	5.88	101.1	1.8	0.33	0.0	0.01	0.37	0.17					
70	15.12	33.500	24.793	5.78	100.9	1.7	0.32	0.1	0.03	0.34	0.20	2.5	1.3	1.4	1.3	0.04
84	16.44	33.972	24.860	5.60	100.6	1.5	0.22	0.0	0.00	0.27	0.13					
98	15.59	33.847	24.957	5.54	97.8	2.0	0.27	0.4	0.07	0.25	0.25					
111	14.06	33.630	25.120	5.45	93.2	3.0	0.44	2.0	0.07	0.18	0.22	0.28	0.12	0.09	0.10	0.02

A) INCUBATION LIGHT INTENSITIES WERE 96, 45, 13, 5.4, 2.4, 0.26 PERCENT RESPECTIVELY.

CalCOFI Cruise 0704

MACROZOOPLANKTON BIOMASS

Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST)		Water Volume Strained (m ³)	Max. Tow Depth (m)	Volume per 1000 m ³ Strained	
					Start	End			Total (cm ³)	Small (cm ³)
66.7	50.0	36 47.2	122 03.3	04/27	1506	1528	457	192	64	64
66.7	55.0	36 37.4	122 25.0	04/27	2059	2121	440	202	134	134
66.7	60.0	36 27.2	122 46.3	04/28	0111	0133	377	212	223	223
66.7	70.0	36 07.2	123 29.1	04/28	1115	1137	387	212	59	59
66.7	80.0	35 47.2	124 11.8	04/28	1945	2007	386	212	130	130
66.7	90.0	35 27.3	124 54.1	04/29	0803	0824	392	217	36	36
66.7	100.0	35 07.3	125 36.2	04/29	1627	1648	405	204	41	41
76.7	49.0	35 05.3	120 46.9	04/23	1746	1754	168	64	24	24
76.7	51.0	35 01.5	120 54.8	04/23	2005	2027	397	207	78	78
76.7	55.0	34 53.3	121 11.9	04/23	2348	0010	387	213	140	140
76.7	60.0	34 43.4	121 32.8	04/24	0359	0421	419	208	45	45
76.7	70.0	34 23.4	122 14.7	04/24	1049	1111	420	213	26	26
76.7	80.0	34 03.3	122 56.4	04/24	1853	1914	413	211	15	15
76.7	100.0	33 23.2	124 19.4	04/25	1348	1410	490	163	4	4
80.0	51.0	34 26.9	120 31.4	04/13	1647	1656	189	74	42	42
80.0	55.0	34 19.0	120 48.1	04/13	2105	2127	442	200	86	86
80.0	60.0	34 09.1	121 08.9	04/14	0113	0135	403	212	136	136
80.0	70.0	33 49.1	121 50.5	04/14	0719	0741	382	212	42	42
80.0	80.0	33 29.4	122 30.9	04/14	1255	1317	401	213	30	30
80.0	90.0	33 09.0	123 13.3	04/14	2002	2024	502	172	40	40
80.0	100.0	32 49.0	123 54.3	04/15	0159	0220	411	204	51	51
81.8	46.9	34 16.5	120 01.5	04/13	1205	1227	391	214	59	59
83.3	70.0	33 14.7	121 26.6	04/11	1133	1154	395	213	40	40
83.3	90.0	32 34.7	122 48.7	04/10	1148	1209	428	199	42	42
83.3	100.0	32 14.6	123 29.5	04/10	0445	0507	386	216	26	26
83.3	110.0	31 54.7	124 10.3	04/09	2147	2209	420	213	17	17
86.7	33.0	33 53.4	118 29.3	04/07	0455	0500	95	47	105	105
86.7	35.0	33 49.5	118 37.7	04/07	0749	0810	388	206	41	41
86.7	40.0	33 39.4	118 58.5	04/07	1303	1325	389	212	26	26
86.7	45.0	33 29.5	119 19.1	04/07	1739	1801	399	205	58	58
86.7	50.0	33 19.5	119 39.7	04/07	2142	2150	126	70	71	71
86.7	55.0	33 09.4	120 00.4	04/08	0156	0217	348	213	89	89
86.7	70.0	32 39.3	121 02.2	04/08	1323	1345	397	206	40	40
86.7	80.0	32 19.3	121 42.9	04/08	1939	2001	394	217	51	51
86.7	90.0	31 59.4	122 23.6	04/09	0139	0200	377	214	72	72
86.7	100.0	31 39.4	123 04.2	04/09	0754	0815	414	207	19	19
86.7	110.0	31 19.4	123 44.5	04/09	1520	1541	413	208	60	24
86.8	32.5	33 53.4	118 26.7	04/07	0325	0327	38	13	105	105
88.5	30.1	33 40.1	118 05.1	04/06	2343	2345	38	12	240	240
90.0	27.7	33 29.8	117 45.0	04/06	2102	2105	65	14	123	123
90.0	28.0	33 29.3	117 45.9	04/06	2000	2007	147	65	259	259
90.0	30.0	33 25.1	117 54.4	04/06	1722	1744	384	203	138	138
90.0	35.0	33 15.1	118 15.0	04/06	1242	1304	375	213	40	40
90.0	37.0	33 11.1	118 23.2	04/06	0837	0859	392	207	41	41
90.0	45.0	32 55.1	118 56.1	04/06	0325	0347	389	216	118	118
90.0	53.0	32 39.1	119 29.0	04/05	2154	2216	400	215	180	180
90.0	60.0	32 25.0	119 57.6	04/05	1607	1628	393	209	84	84
90.0	70.0	32 05.1	120 38.4	04/05	0808	0830	408	208	24	24
90.0	80.0	31 45.1	121 18.9	04/05	0226	0248	386	213	96	96
90.0	90.0	31 25.0	121 59.5	04/04	1957	2018	387	209	106	106
90.0	100.0	31 05.0	122 39.8	04/04	1312	1334	381	213	47	47
90.0	110.0	30 45.0	123 20.0	04/04	0643	0705	374	214	37	37
90.0	120.0	30 25.0	123 59.9	04/04	0017	0039	395	212	33	33
91.7	26.4	33 13.9	117 26.8	03/28	0117	0120	56	20	106	106
93.3	28.0	32 54.8	117 23.2	03/28	0517	0539	404	214	59	59
93.3	30.0	32 50.8	117 31.8	03/28	0830	0852	399	215	40	40
93.3	35.0	32 40.6	117 52.2	03/28	1311	1333	409	214	24	24
93.3	40.0	32 30.8	118 12.8	03/28	1758	1820	414	210	39	39
93.3	45.0	32 20.8	118 33.3	03/28	2219	2241	398	216	161	161
93.3	50.0	32 10.8	118 53.6	03/29	0248	0309	426	211	132	132
93.3	55.0	32 00.9	119 13.9	03/29	0723	0745	399	217	30	30
93.3	60.0	31 50.8	119 34.3	03/29	1338	1359	408	214	69	69
93.3	70.0	31 30.8	120 14.8	04/02	0805	0829	468	242	30	30
93.3	80.0	31 10.8	120 55.0	04/02	1601	1623	401	210	55	55
93.3	90.0	30 50.8	121 35.2	04/02	2224	2246	390	211	98	98
93.3	100.0	30 30.8	122 15.3	04/03	0503	0525	404	212	30	30
93.3	110.0	30 10.8	122 55.3	04/03	1138	1160	410	214	22	22
93.3	120.0	29 50.8	123 35.1	04/03	1747	1809	410	209	32	32