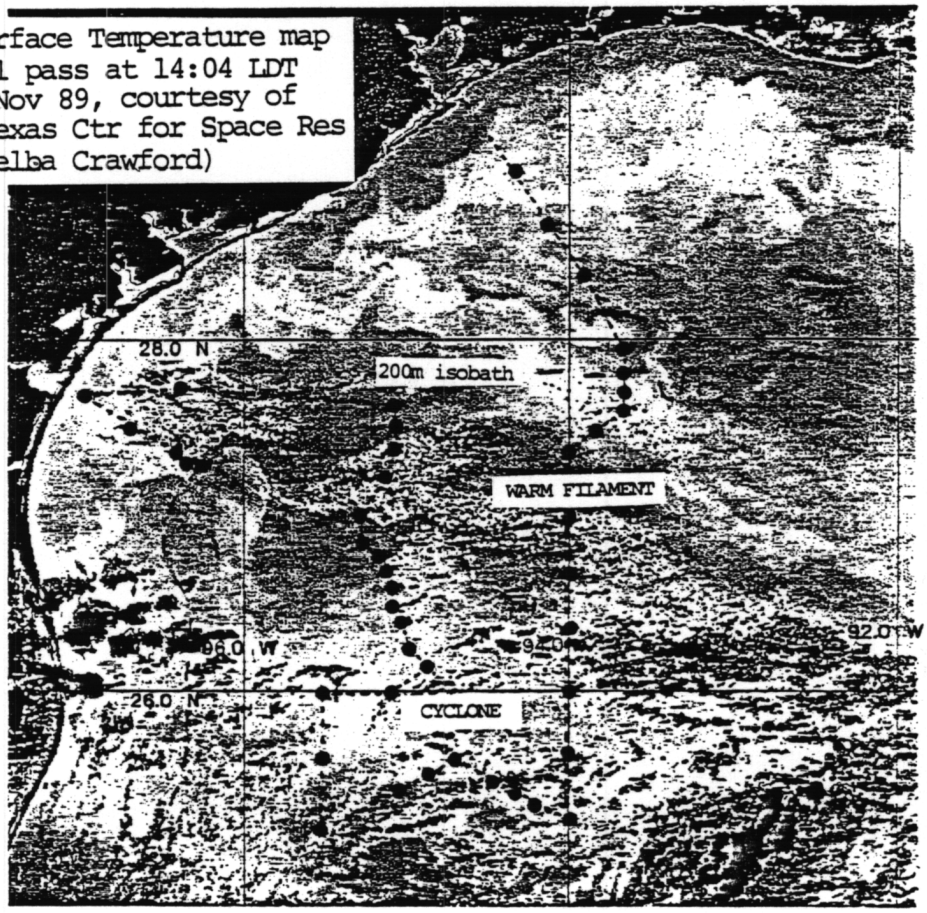
HYDROGRAPHIC DATA FROM THE TEXAS CONTINENTAL SHELF AND THE NORTHWEST CONTINENTAL SLOPE OF THE GULF OF MEXICO: TEXAS INSTITUTIONS GULF ECOSYSTEM RESEARCH CRUISE 89G15



Technical Report 89-05-T of the Department of Oceanography
of Texas A&M University, College Station, TX 77843

Prepared for the US Minerals Management Service by the Technical Support Services Group of Texas A&M University to archive oceanographic data collected in collaboration with researchers from Center for Space Research of University of Texas; Direccion General de Oceanografia Naval de Mexico; and Instituto de Ciencias del Mar y Limnologia, Universidad Nacional Autonoma de Mexico

for TAMU Technical Support Services Group
(D.C. Biggs, Technical Editor)

19 December 1989

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CONTENTS

ACKNOWLEDGMENTS

Texas A&M University funds the shiptime and provides partial salary for technicial specialists in a Department of Oceanography pool comprised of autoanalyzer technicians, electronics technicians, and other marine technicians who support each of the TIGER Training and Research cruises of R/V GYRE. A cooperative agreement 14-35-000130501 with the US Minerals Management Service supports the at-sea participation of four TAMU technicians on TIGER cruises and the preparation of technical reports to archive and share the hydrographic data.

MMS also provided the XBTs that we deployed on cruise 89G-15; the three cases of T7 Sippican probes that we used in November 1989 were the remainder of a shipment of seven cases this agency had provided TAMU in the fall of 1988 for "rings" cruise 88G-05, through arrangement with Science Applications International Corporation in Raleigh, N.C.

COLLABORATION WITH OTHER INSTITUTIONS

Cruise 89G-15 was planned in collaboration with colleagues from the Mexican Navy and Mexican National University and from the University of Texas in Austin. Cruise 89G-15 was the third field effort in an ongoing AMIGO program (Analysis Multidisciplinario de Investigaciones de Golfo Occidental) that has been planned as a five-year project between TAMU and Mexico's Direccion General de Oceanografia Naval. As for previous cruises in Fall 1987 (87G-11) and Fall 1988 (88G-05), two Mexican researchers from the Navy flew to Texas to join us for the fieldwork, and we were joined as well this year by a third Mexican scientist, Dr. David Salas de Leon who flew up from the Instituto de Ciencias del Mar y Limnologia at UNAM. Cruise 89G-15 also marked the first "rings" cruise in which our at sea work was guided by same day insights into the mesoscale circulation field that could be provided by environmental satellite imagery: beginning in early November 1989, Dr. Melba Crawford at the UT Center for Space Research monitored AVHRR data that were collected by NOAA-11 twice daily from morning and afternoon satellite passes over the NW Gulf of Mexico. An image that she processed and FAXed same day to the ship on 10 November (the day before we sailed) is featured on the cover of this report; it is annotated with the location of hydrographic stations made on 89G-15 to illustrate the dominance of eddy-like features in the surface circulation field. Note the surface expression of a mesoscale cyclonic circulation that was centered near 26N and 95W (visible as an elliptical region of cool surface temperature bounded to the north, east, and south by warmer water); note also the mesoscale warm filament to the north of the cyclone, as well as the fine-scale eddy variability of surface temperature over the continental shelf inshore of this warm filament.

AND SPECIAL THANKS TO:

. . . the crew chartered to staff GYRE from Hornbeck Offshore Services and to Deck Engineers Desmond Rolf and David Barrow, who sailed with us from the TAMU Marine Operations group in Galveston to run GYRE's winches, cranes, and A-frames.

BRIEF DESCRIPTION OF CRUISE AND SCIENTIFIC RESULTS

Training and research in support of the Texas Institutions Gulf Ecosystem Research program was conducted with a full shipboard science party of 21 persons, made up of Chief Scientist D.C. Biggs, 2 visiting scientists from the Direccion General de Oceanografia Naval in Mexico City, a visiting oceanographer from the Instituto de Ciencias del Mar y Limnologia at UNAM, a research associate plus 4 graduate students and 8 technicians from the Department of Oceanography at TAMU College Station, a research assistant from the Geochemical and Environmental Research Group at TAMU College Station, two research assistants from TAMU Galveston, and a visiting scientist from the Gulf Breeze Environmental Laboratory in Panama City, Florida.

Cruise 89G-15 departed Galveston at 8 AM on 11 November and after 9 days at sea returned to Galveston at 3 PM on 19 November. The principal science programs were inter-disciplinary in nature:

1) Survey the T/S and nutrients + oxygen + chlorophyll signature of a mesoscale cyclonic ring in the NW Gulf, as a Fall 1989 follow-up to previous hydrographic surveys of "rings" in Spring 1987 on GYRE cruise 87G-04, in Fall 1987 on GYRE cruises 87G-11 and 87G-12, and in Fall 1988 on GYRE cruise 88G-05;

2) Make collections with drifting sediment traps near the center of the cyclone;

3) Transect the continental shelf with "standard" stations in water depths of 20m, 50m, 100m and 200m off Galveston and off Corpus Christi. At each station,

   a) do a vertical profile of the water column with CTD/rosette multisampler, taking bottle samples every 5m (20m station), 10m (50m and 100m stations) or 20m (200m station) for analysis of nutrients + oxygen + chlorophyll;

   b) take 6 samples with Small Box Core to describe infaunal biomass, trace metal content, hydrocarbon composition;

   c) make collections with 30-foot otter trawl to describe macroepifauna and fish;

5) Make daily measurements of 14C production to compare primary productivity of shelf with slope regions of the NW Gulf, and cyclone with adjacent slope;

6) Compile surface data on temperature, salinity and chlorophyll continuously throughout the cruise to continue/extend a local reference for remote sensing AVHRR data, for the TAMU Sea Grant program;

7) Field test Multiple InSitu Pumping System (MIPS), for geochemical sampling by in situ pumping at up to six user selectable depths (six cartridge filters)

GYRE CRUISE 89G-15

Type of Observations	No. of Stas. or Observs.	Type of Observations	No. of Stas. or Observs.
Rock Dredge		Underway sfc. temperature	logged every minute
Grab sampler		Underway sfc. salinity	" "
Piston Corer		Masthead irradiance	" "
Gravity Corer		STD (CTD)	20 stations
Box Corer: 6 at each shelf station, plus 2 cores at 500m off Galveston		XBT	33 stations
Bottom Photography		Optical Measurements	
Seabed engineering studies		Acoustics measurements: ADCP ensemble avg every 5 m	
Magnetics		Bottom Trawls: at shelf stations in 20m, 50m, 100m	
Gravity		Zooplankton tows: meter net hauls, each CTD station	
Bathymetry: to check depth, at each CTD station		Phytoplankton tows	
Subbottom profiling		Neuston tows	
Side-scan sonar		Dip-net collections	
Current meter		Midwater trawls	
Drift cards or bottles		Chlorophyll measurements: continuous in CTDs as well as bottles, upper 150m	
Drogues		Primary product. measuremts: 6 stations	
Swallow floats		PAR photometer profiles: 0-70m, every 14C station	
Dye dispersal measurements		Transmissometer meas: every CTD cast	
Tide gauge measurements		Interstitial water meas.	
Bottom pressure gauges		Suspended matter meas.	
Sea/Swell observations	logged every 4h	Scientific diving	
Meteorological observations	(See pp 156-159)	Research submersible opers.	

(mark "c" if observations were taken continuously)

Analyses		Analyses	
Salinity: all bottles, each CTD station		Trace elements: subsample of mud from each box core station	
Oxygen: all bottles, each CTD station		Radioactivity	
Phosphorous, Nitrogen, Silicon: by Technicon-800 autoanalyzer, on board, all bottles, each CTD station		Dissolved gases	
		Hydrocarbons: subsample of mud from each box core station	
pH		Suspended matter	
Alkalinity: on all samples for 14C uptake		Particulate carbon	
Interstitial analyses		Dissolved org. carbon	

Other observations or analyses: Multiple Instant Pumping System (MIPS) prototype was field tested this trip; up to 6 cartridges were tested (6 different depths) at outer shelf and slope stations; pumped 15-26 min at each depth. At station 14, deep water was retrieved for 14C analysis by AMS, and for dissolved aluminum analysis

21 SCIENTIFIC PERSONNEL ABOARD:

Name:	Title:	Affiliation:
1. D.C. Biggs	Chief Scientist	Dept of Oceanography, TAMU
2. Octavio Salas Flores	Visiting Scientist	Direccion General de Oceanografia Naval
3. Silvia Escoto Hidalgo	"	" "
4. David Salas de Leon	"	" , Instituto de Ciencias del Mar Y Limnolo
5. Kathleen Cole	Research Associate,	Dept of Oceanography, TAMU
6. Ken Bottom	Marine Technician,	" "
7. Barbara Rector	Marine Technician,	" "
8. Mark Spears	Autoanalyzer Technician,	" "
9. Dennis Guffy	Autoanalyzer Technician,	" "
10. David Murphy	Electronics Technician,	" "
11. Eddie Webb	Electronics Technician,	" "
12. Denise Hudson	Engineering Technician,	" "
13. Mark Beifuss	Research Assistant,	" "
14. Victoria Vasek	Research Assistant,	Geochem & Environ Res Group, TAMU
15. M Baskaran	Research Associate,	Marine & Atmo Res Section, TAMU
16. L Hyde	Research Associate,	" "
17. A Price	Visiting Scientist,	Gulf Breeze Environ Lab

plus Diego Lopez-Veneroni, Jeff Kovacs, Mike Cook, Vita Pariente: grad students, TAMU

SUMMARY OF STATION ACTIVITIES, R/V GYRE Training & Research cruise 89G-06:

PART ONE: Continental shelf hydrographic work off Galveston Bay

Date	GMT	Start Station Work		Finish Station Work		Station : Activity
11-11	1405	departed dock in Galveston				
	1515	cleared Galveston Sea Buoy				
	1705 - 1713	29 03.3	94 27.0	29 03.4	94 27.0	CTD-rosette cast
	1823 - 1935	28 53.8	94 20.8	28 54.0	94 21.0	STA 01 : box coring
	2033 - 2050	28 54.0	94 20.8	28 53.9	94 20.8	: CTD 01
	2111 - 2129	28 53.8	94 20.7	28 53.6	94 20.6	: ZP net tow
	2133 - 2140	28 53.6	94 20.6	28 53.5	94 20.5	: phyto net tow
	2202 - 2310	28 53.8	94 20.9	28 54.7	94 20.9	: MIPS testing
11-12	2358 - 0029	28 53.8	94 20.8	28 52.5	94 20.0	: benthic trawl
	0034 - 0120	28 52.3	94 19.9	28 50.2	94 19.5	: benthic trawl
	0301 - 0321	28 38.1	94 07.1	28 38.3	94 07.3	STA 02 : CTD 02A
	0356 - 0406	28 35.3	94 05.0	28 35.5	94 05.0	: CTD 02B
	0547 - 0557	28 22.8	93 56.1	28 22.9	93 56.2	STA 03 : CTD 03
	0618 - 0627	28 23.1	93 56.4	28 23.3	93 56.3	: ZP net tow
	0632 - 0702	28 23.3	93 56.3	28 23.4	93 56.4	: phyto net tow
	0738 - 0820	28 22.9	93 56.2	28 23.2	93 56.4	: box coring
	0905 - 0930	28 22.4	93 55.7	28 21.5	93 55.0	: benthic trawl
	1000 - 1024	28 20.2	93 54.0	28 19.3	93 53.2	: benthic trawl
	1308 - 1313	27 58.1	93 36.6	27 58.2	93 36.6	STA 04 : PAR profile
	1327 - 1341	27 58.0	93 36.6	27 57.9	93 36.4	: CTD 04
	1420 - 1524	27 56.2	93 34.8	27 56.6	93 34.5	: box coring
	1538 - 1554	27 56.5	93 34.5	27 56.5	93 34.0	: ZP net tow
	1555 - 1611	27 56.6	93 33.9	27 56.8	93 33.9	: phyto net tow
	1715 - 1823	27 57.8	93 33.7	27 59.0	93 33.0	: MIPS
	1940 - 2144	unsuccessful attempts to benthic trawl				
	2202 - 2230	27 52.8	93 38.5	27 52.3	93 39.5	: benthic trawl
11-13	2347 - 0007	27 48.0	93 36.9	27 48.1	93 36.9	STA 05 : CTD 05
	0048 - 0113	27 45.7	93 36.9	27 45.6	93 36.4	STA 06 : ZP net tow
	0117 - 0136	27 50.0	93 37.0	27 50.0	93 37.0	: phyto net tow
	0151 - 0218	27 45.9	93 36.0	27 46.1	93 35.9	: CTD 06
	0308 - 0500	27 45.9	93 35.6	27 46.1	93 34.3	: MIPS
	0517 - 0651	27 46.1	93 34.0	27 46.1	93 32.0	: box coring
	0835 - 0919	27 34.7	93 36.9	27 34.9	93 36.4	STA 07 : CTD 07A
	0932 - 0954	27 34.5	93 37.0	27 34.7	93 36.3	: ZP net tow
	1000 - 1023	27 34.7	93 36.2	27 34.7	93 36.1	: phyto net tow
	1036 - 1244	27 34.8	93 36.1	27 35.2	93 35.3	: MIPS
	1306 - 1314	27 34.7	93 36.9	27 34.7	93 36.8	: PAR profile
	1329 - 1338	27 34.7	93 36.9	27 34.7	93 36.9	: box core
	1356 - 1413	27 34.6	93 36.9	27 34.6	93 36.5	: CTD 07B
	1419 - 1445	27 34.7	93 36.3	27 34.7	93 36.4	: box core

PART TWO: Hydrographic survey of continental slope and cold-core ring

Date	GMT	Start Station Work		Finish Station Work		Station	Activity
	1610	27 26.5	93 49.1			STA 08	XBT
	1716	27 20.0	94 00.0			STA 09	XBT
	1903	27 01.1	94 00.0			STA 10	XBT
	1915 - 2028	27 00.0	94 00.0	27 00.0	93 59.8		CTD
	2032 - 2055	27 00.0	94 00.0	27 00.0	94 00.0		ZP net tow
	2104 - 2126	26 59.9	93 59.9	26 59.9	93 59.8		MIPS
	2315	26 40.6	94 00.0			STA 11	XBT
11-14	0105	26 20.4	94 00.0			STA 12	XBT
	0118 - 0249	26 20.0	94 00.0	26 20.6	94 00.6		CTD
	0259 - 0320	26 20.7	94 00.7	26 20.8	94 00.8		ZP net tow
	0517	26 00.7	93 59.9			STA 13	XBT
	0712	25 40.2	94 00.0			STA 14	XBT
	0726 - 0942	25 40.0	94 00.1	25 41.7	94 00.1		CTD
	0949 - 1017	25 41.7	94 00.1	25 42.2	93 59.1		ZP net tow
	1245	25 20.0	94 00.0			STA 15	XBT
	1411	25 26.5	94 13.9			STA 16	XBT
	1458	25 29.6	94 22.3			STA 17	XBT
	1543	25 33.1	94 29.9			STA 18	XBT
	1711	25 39.7	94 44.6			STA 19	XBT
	1720 - 1844	25 39.9	94 45.0	25 40.8	94 43.2		CTD
	1856 - 1927	25 40.8	94 42.4	25 40.9	94 41.6		ZP net tow
	2106	25 35.1	94 56.8			STA 20	XBT
	2231	25 29.0	95 09.8			STA 21	XBT
11-15	0033	25 20.0	95 29.3			STA 22	XBT
	0232	25 40.0	95 30.3			STA 23	XBT
	0248 - 0411	25 40.3	95 29.9	25 40.3	95 28.4		CTD
	0423 - 0449	25 40.3	95 27.7	25 40.4	95 27.2		ZP net tow
	0648	26 00.0	95 30.0			STA 24	XBT
	0848	25 59.9	95 07.1			STA 25	XBT
	1017	26 09.6	94 57.1			STA 26	XBT
	1030 - 1056	26 10.1	94 57.0	26 09.9	94 57.3		ZP net tow
	1114 - 1147	26 10.1	94 57.0	26 10.1	94 56.3		ZP net tow
	1209 - 1302	26 09.9	94 56.9	26 10.5	94 56.4		CTD
	1317	26 10.1	94 56.9				deploy FST
	1340 - 1345	26 10.6	94 56.8				PAR profile
	1525 - 1749	26 11.1	94 56.0	26 13.5	94 55.0		MIPS
	1823 - 1929	26 13.4	94 56.2	26 14.1	94 55.8	STA 27	CTD
	1946 - 2020	26 13.3	94 56.0	26 13.8	94 55.9		ZP net tow
	2107 - 2318	26 13.6	94 56.6	26 14.9	94 55.9		MIPS
11-16	0019 - 0114	26 14.9	94 55.9	26 14.8	94 56.2	STA 28	CTD
	0215	26 14.0	94 57.1				recover FST
	0344	26 09.9	94 57.0			STA 29	XBT
	0550	26 14.2	94 59.1			STA 30	XBT
	1007	26 24.7	95 07.7			STA 31	XBT
	1147	26 30.0	95 11.6			STA 32	XBT
	1317	26 35.1	95 15.4			STA 33	XBT
	1442	26 40.3	95 18.5			STA 34	XBT
	1548	26 45.0	95 20.1			STA 35	XBT
	1659	26 50.3	95 21.1			STA 36	XBT
	1858	27 00.0	95 20.9			STA 37	XBT
	2140	27 13.4	95 16.9			STA 38	XBT

PART TWO: Hydrographic survey of continental slope and cold-core ring (cont)

Date	GMT	Start Station Work		Finish Station Work		Station	Activity
	2354	27 25.0	95 10.4			STA 39	XBT
11-17	0135	27 37.3	95 07.1			STA 40	XBT
	0335 - 0400	27 49.6	95 06.8	27 49.2	95 07.0	STA 41	CTD #1 of 2
	0413 - 0440	27 49.0	95 07.1	27 48.9	95 07.3	STA 41	ZP net tow
	0447 - 0504	27 48.8	95 07.4	27 48.7	95 07.5		phyto net tow
	0529 - 0552	27 48.6	95 07.8	27 48.5	95 08.0		CTD #2 of 2

PART THREE: Continental shelf hydrographic work off Corpus Christi Bay

	1202 - 1216	27 42.6	96 21.3	27 42.8	96 21.3	STA 42	CTD for 14C
	1341 - 1347	27 41.8	96 34.9				PAR profile
	1550 - 1608	27 39.3	96 55.7	27 38.7	96 54.8	STA 43	benthic trawl
	1712 - 1744	27 39.4	97 02.2	27 39.8	97 02.3		MIPS
	1806 - 1931	27 39.8	97 01.8	27 39.3	97 01.6		box coring
	2003 - 2023	27 39.4	97 01.8	27 39.2	97 01.5		ZP net tow
	2032 - 2046	27 39.3	97 02.2	27 39.4	97 01.9		phyto net tow
	2058 - 2112	27 39.4	97 01.8	27 39.6	97 01.6		CTD
	2200 - 2220	27 39.6	97 59.9	27 39.4	97 58.7		benthic trawl
11-18	2350 - 0025	27 33.5	96 51.5	27 32.3	96 50.5	STA 44	benthic trawl
	0052 - 0124	27 32.0	96 50.0	27 30.5	96 50.0		benthic trawl
	0232 - 0355	27 30.8	96 43.0	27 30.3	96 41.4		box coring
	0434 - 0449	27 30.2	96 42.7	27 30.1	96 42.5		CTD
	0505 - 0513	27 29.8	96 42.0	27 29.8	96 41.8		ZP net tow
	0518 - 0528	27 29.5	96 41.6	27 29.3	96 41.2		phyto net tow
	0557 - 0708	27 30.1	96 42.8	27 29.3	96 42.8		MIPS
	0917 - 0926	27 21.5	96 26.5	27 21.4	96 26.3	STA 45	CTD
	0936 - 0957	27 21.3	96 26.3	27 21.1	96 25.8		ZP net tow
	1001 - 1017	27 21.1	96 25.7	27 21.1	96 25.9		phyto net tow
	1032 - 1139	27 21.3	96 26.3	27 21.1	96 27.6		box coring
	1248 - 1318	27 20.7	96 25.0	27 20.1	96 23.5		benthic trawl
	1600	27 18.7	96 13.8			STA 46	XBT
	1639	27 18.9	96 20.2			STA 47	XBT
	2018	27 29.9	97 00.2				box core
	2030	27 29.6	97 00.4				box core

2045 weather forced us to shut down over-the-side work; laid in course for Galveston
11-19 2030 entered Houston UTS system at buoys #7 & 8
2210 docked at Pelican Island

(4-74)

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

FORM APPROVED
O.M.B. No. 41-R2734

MARINE COASTAL WEATHER LOG — SHIP STATION

SHIP NAME: R/V GYRE

RADIO CALL SIGN: KJCL

DATE (month and year): NOV. 1989

(1) DATE	(2) TIME (GMT) +6	(3) POSITION	(4) PRESENT WEATHER	(5) VISIBILITY (MI)	(6) WIND DIR. (16 pts)	(6) WIND SPEED (Kts)	(7) STATE OF SEA WAVE HEIGHT (Ft)	(7) STATE OF SEA SWELL DIRECTION (8 Pts)	(7) STATE OF SEA SWELL HEIGHT (Ft)	(8) SEA WATER TEMP. ☒C ☐F	(9) AIR TEMP. ☐C ☒F	(10) +2.5mB PRESSURE INCHES	(11) REMARKS (Icing, etc.) CLOUD TYPE
11	1800	28°-58'N 94°-23'W	17, 18	10	SE	10	1-2	—	—	-	78	30.05	CLEAR
11	2191	28° 53' N 94° 20' W	17, 18	10	SE	10-15	2-3	—	—	—	81°	30.09	CL1-2 L-S 40%
11/12	0130	28045'N 94 14' W	17, 18	10	SE	10	2-3	—	—	-	74	30.02	L1-L2 70%
12	0600	28°-23'N 93°-56'W	17, 18	10	SE	10	2-3	—	—	—	76	30.04	CIRRUS ALTOCUMULUS
12	0954	28° 20 N 93° 58 W	17, 18	10	SE	10-15	2-3	—	—	—	76	30.05	C-1 L-2
12	1330	27°57'N 93° 36'W	17, 18	10	SE	10	2-3	—	—	-	76	30.06	L1-L2
12	1800	27°-58'N 93°-33'W	17, 18	10	E	10	1-2	E	2-4	25.5	84	30.09	CUMULUS HUMILIS
12	2119	27° 58' N 93 38 W	17, 18	10	E	10-15	2-3	SE	2-3	—	87°	30.00	C-1 L-2
13	0130	27 45 N 93 36 W	17, 18	10	SE	15	4-5	SE	5	—	77	30.00	L1 L2
13	0600	27°46'N 93°33'W	17, 18	10	SE	15	4-5	SE	5-6	-	78	30.00	CUMULUS
13	0951	27° 34 N 93° 36 W	17, 18	10	ESE	15-20	4-5	SE	4-5	-	78°	29.94	L1 L2 30%
13	1226	27° 35 N 93 35 W	17, 18	6-8	SE	7-10	4-5	SE	4-5	—	77°	29.90	L1 L2 30%
13	1800	27°13'N 94°00 W	17, 18	10	SE	10	2-3	E	4-5	80	82	29.98	CUMULUS
13	2043	27.00 94 00	17, 18	10	ESE	5-10	1-2	ESE	4-6		86°	29.92	L1 L2 40%
14	0129	26 20 N 93 59 W	17, 18	10	SE	7	0-1	SE	2-4		80	29.9	L1 L2 35%
14	0600	25°-52'N 94°-00'W	17, 18	10	SE	8	1-3	E	3-5	78	76	29.91	CUMULUS HUMILIS
11	0924	25°41' N 94 00 W	17, 18	10	SE	10	1-3	E	3-5	80°	75°	29.96	L1 L2 10%

NOAA FORM 72-8B (4-74)

Key: 17 = partly cloudy
18 = clear

(4-74)

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

FORM APPROVED
O.M.B. No. 41-R2734

MARINE COASTAL WEATHER LOG — SHIP STATION

SHIP NAME: R/V GYRE

RADIO CALL SIGN: KTCL

DATE (month and year): NOV 89

(1) DATE	(2) TIME (GMT)	(3) POSITION	(4) PRESENT WEATHER	(5) VISIBILITY (MI)	(6) WIND DIR. (16 pts)	(6) WIND SPEED (Kts)	(7) STATE OF SEA WAVE HEIGHT (Ft)	(7) SWELL DIRECTION (8 Pts)	(7) SWELL HEIGHT (Ft)	(8) SEA WATER TEMP. °C °F	(9) AIR TEMP. °C °F	(10) PRESSURE (+2.5mB) INCHES	(11) REMARKS (Icing, etc.)
14	1333	25 33 N 94 07 W	17	10	SW	8-10	1-2	SE	3-4		80°	29.90	C 123 30%
14	1730	25°-40'N 94°-45'W	17 + 18	10	SSW	12	2-3	ESE	3-5	77.5	87	29.90	CUMULOWINBUS CALVUS
"	2157	25°31'N 95°04 W	17 + 18	10	SSW	15-20	2-3	SE	4-6	—	82°	29.80	C 1-2 20%
15	0128	25°28 N 95°29 W	17 + 18	10	SSW	15	2-4	SE	4-6	—	80°	29.75	C 1-2 20%
15	0600	25°-51N 95°-28W	17+18	10	SSW	15	2-4	SE	4-6	—	78	29.82	
15	0939	26 02 N 94 58 W	17 + 18	10	SSE	10.15	2-4	SE	4 6	—	79°	29.78	C 1 10%
15	1348	26 10 N 94 56 W	17+18	10	SSW	11	2-4	SE	4-6	—	80°	29.80	H-2 10%
15	1930	94 56 W 26 10 N	17	8	SW	8	1-2	SE	3-4	—	80	29.80	H 2 5%
15	1800	26°-12'N 94°-25'W	18	10	SSW	10	1-2	S	3-4	77.5	79	29.84	clear
11		26° 14 N 94 56 W	17	10	SW	5-10	1-2	SW	3-4	—	83°	29.80	M5-H6-H-9 M-3 41-2 70%
→ 16	0130	26°13'0 94°57'W	4, 13, 16	3	NW	20+	3-4	NW	4-6	—	72	29.88	Cld From Past Hr
16	0300	26°-12'.N2W 94°-57'W	13, 16	3-4	NNW	25+	5-7'	NNW	5-7		72	29.96	TEMP DROP
16	0400	26°-10'N 94°-57'W	15, 16	4-5	N	30	7-10'	N	7-10'		72	29.98	ROUGH SEAS
16	0500	26°-12'N 94°-58'W	17	8	N	35+	10-15'	—	—		72	30.00	CLEARING SKYS
16	0600	26°-14'N 94°-58'W	17	8	N	35+	10-15	—	—	—	72	30.02	WINDS GUSTY
16	0700	26° 17' 95° 01	17	6-8	N	35+	10-15	—	—		72	30.02	Sustained High Winds
16	0800	26°20° N 95°03' W	17	6-8	N	35+	10-15	—	—	—	70°	30.06	No change

NOAA FORM 72-8B (4-74)

CORR. +2.5mB.

Key: 4 = thunderstorm
13 = rain
15 = haze

NOAA FORM 72-5B
(4-74)

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

FORM APPROVED
O.M.B. No. 41-R2734

MARINE COASTAL WEATHER LOG — SHIP STATION

SHIP NAME: R/V GYRE

RADIO CALL SIGN: KJTL

DATE (month and year): NOV. 1989

(1) DATE	(2) TIME (GMT)	(3) POSITION	(4) PRESENT WEATHER	(5) VISIBILITY (MI)	(6) WIND DIR. (16 pts)	(6) WIND SPEED (Kts)	(7) STATE OF SEA WAVE HEIGHT (Ft)	(7) STATE OF SEA SWELL DIRECTION (8 Pts)	(7) STATE OF SEA SWELL HEIGHT (Ft)	(8) SEA WATER TEMP. ☐C ☐F	(9) AIR TEMP. ☐C ☐F	(10) CORR. PRESSURE +0.9 inches	(11) REMARKS (Icing, etc.)
16	0900	26°22' 95°05'	17	6-5	N	35+	10-15 occ 20	—	—	—	70°	30.10	Gusty winds
"	1000	26°29' 95°01'	17	6-8	N	55+	10-15 occ 20	—	—	—	68°	30.10	Gusty winds
"	1100	26 27 N 95 09 W	17,3,13	6	N	30-45	10-15 occ 20	—	—	—	68	30.08	Gale 8+9
"	1200	26°30 N 95°12 W	3/13/17	6	N	G40 30-35	10-15' occ 20'	—	—	—	68	30.14	Gale 8
"	1300	26 34 N 95 14 W	3,13,17	6	N	G40 30-35	10-15 occ 20	—	—	—	68	30.16	Gale 8
16	1400	26°-37'N 95°-17'W	17,18	6	N	35+	10-15 occ-20	—	—	—	68	30.18	WIND GUSTS
16	1500	26°-42'N 95°-19'W	17,18	6-8	NNE	30	10-15	—	—		68	30.20	WIND GUSTS
16	1600	26°-45'N 95°-20'W	17,18	6-8	NNE	20-25	occ 15 8-12	—	—	—	68	30.22	WIND VEERING
16	1700	26°-50'N 95°-21'W	17,18	8	NNE	20-25	8-12	N	8-10	—	69	30.20	WIND VEERING
16	1800	27 00 N 95 21 W	17.18	8	NNE	20-25	8-12	NE	8-10	—	70°	30.12	Clearing skies
16	2000	27 05 N 95 20 W	17, 18	8	NNE	20	8-12	NE	8-10	—	72°	30.12	NNE wind no veering
16	2100	27°10 N 95°14'W	17, 18	8	NNE	20 occ G30	8-10	NE	8-10	—	73°	30.14	L-1 M-5 M-7 H-5
16	2200	27 15 N 94 12 W	17, 18	10	NNE	20	6-9	NE	8-10	—	72	3010	L-1 M-7 H-2
16	2300	27 19 N 95 13 W	17, 18	10	NNE	20 occ G30	6-8	NE	8-10	—	70°	30.10	H-9 M-2 L-5
17	0000	27 25 N 95 10 W	17	6	NNE	20	4-5	NE	8-10	—	66	30.10	H-9 L 5
17	0100	27°33'N 95°07 W	17	6	NNE	10-15	4-5	NE	8-10	—	64	30.11	H E L-5
17	0300	27°-41'N 95°-06'W	17, 18	10	NNE	10	3-5	NE	5	—	64	30.11	

NOAA FORM 72-5B (4-74)

Key: 3 = squall

NOAA FORM 72-5b
(4-74)

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

FORM APPROVED
O.M.B. No. 41-R2734

MARINE COASTAL WEATHER LOG——SHIP STATION

SHIP NAME: R/V GYRE

RADIO CALL SIGN: KTCL

DATE (month and year): NOV, 1989

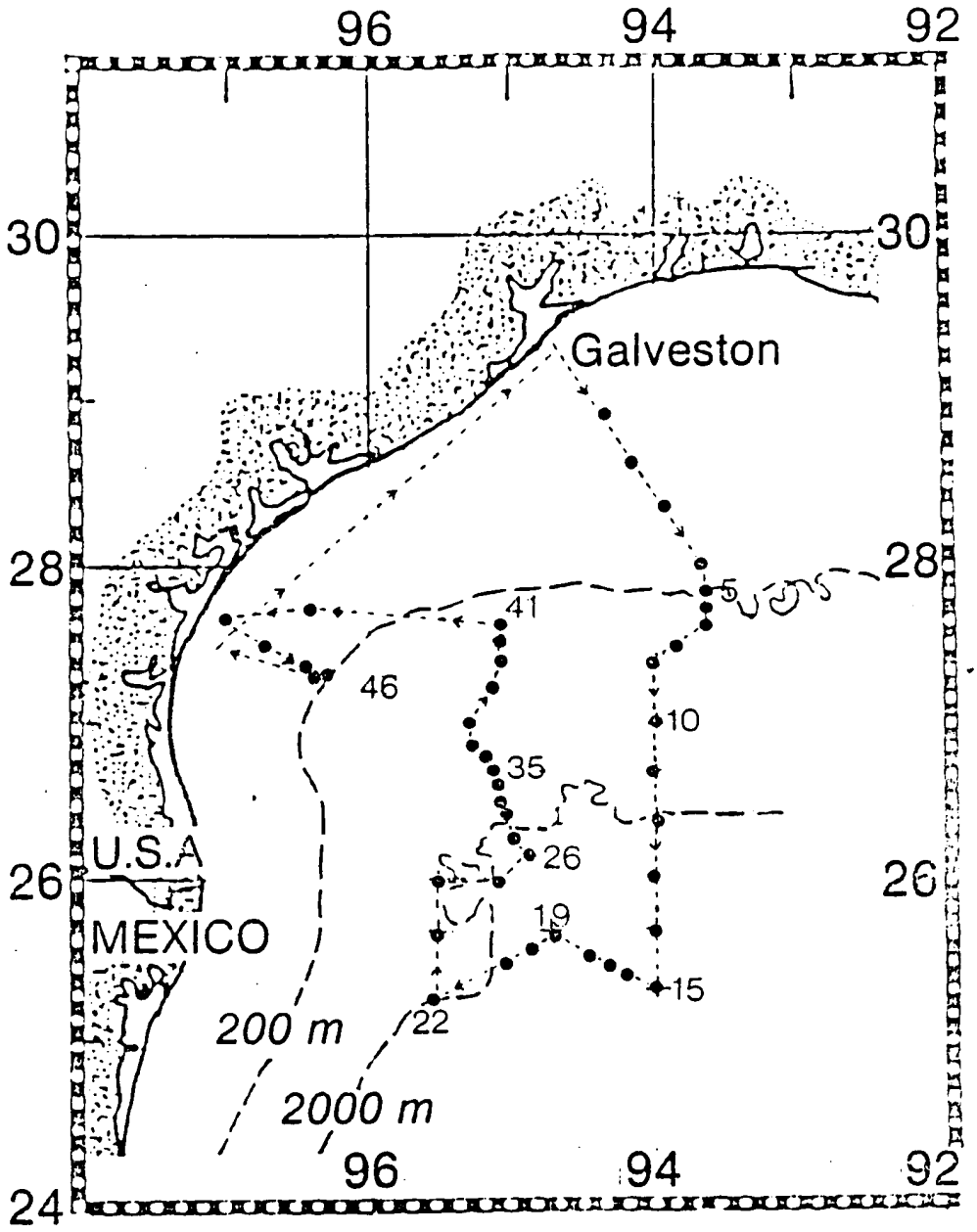
(1) DATE	(2) TIME (GMT)	(3) POSITION	(4) PRESENT WEATHER	(5) VISIBILITY (MI)	(6) WIND DIR. (16 pts)	(6) WIND SPEED (Kts)	(7) STATE OF SEA: WAVE HEIGHT (Ft)	(7) SWELL DIRECTION (8 Pts)	(7) SWELL HEIGHT (Ft)	(8) SEA WATER TEMP. ☐C ☒F	(9) AIR TEMP. ☐C ☒F	(10) PRESSURE INCHES	(11) REMARKS (icing, etc.)
17	0600	27°-48'N 95°-08'W	17, 18	10	NNE	10	1-3	NE	4-5	24.5	60	30.12	CLEAR
17	1000	27° 44' 95° 55'	17	10	Sly	0-10	calm	—	—	—	67°	30.08	slight Haze
17	1400	27°41 N 96°34W	16	10	SE	5-10	1-2	SE	2-4	—	70°	30.05	L1 Mg Cloudy
17	1800	27°-39'N 97°-02'W	16	8	SE	15	3-4	—	—	72°	70°	30.04	OVERCAST
17	2141	27°39'N 97° 00' W	16	6-8	SE	15-20	4-6	—	—	--	74°	29.94	Cloudy
18	0130	27°30 N 96 49 W	16	3	SE	15-20	2-4	—	4-5		70°	29.94	cloudy
18	0600	27°-30'N 96°-42'W	13, 16	4	SE	15	2-4	ESE	4-5		68°	29.95	RAIN SQUALLS
18	1000	27° 21'N 96° 30 W	13, 16	2-3	SE	15-20	4-5	ESE	5-7		70°	29.90	Rain
18	1330	27 19 N 96 23 W	12, 16, 4	3	ESE	20+	4-6	ENE	8-10		70	29.99	O/C, RAIN SQUALLS
18	1500	27°-20'N 96°-20'W	13, 16	3	E	30+	8-12	ESE	6-8	—	70	29.97	INCREASING WINDS
18	1800	27°-23'N 96°-31'W	13, 3	2-3	ESE	20	4-6	E	8-10		70	29.99	RAIN SQUALLS
"	2200	27° 19' N 96° 23 W	14	2-3	ESE	20+	6-8	E	6-8		71°	29.96	Rain-drizzle
19	0139	27°4? N 96 3?? W	14	3	ENE	20+	6-8	E	12-14	—	70°	30.06	drizzle
19	0600	28°-03'N 96°-11'W	3, 13	3-4	NE	20+	5-7	ESE	8-10	—	71	30.09	RAIN SQUALLS
"	1000	28° 17' 95° 5?	16, [illegible]	2-3	NE	20+	5-7	ESE	6-8		73°	30.06	cloudy rain
"	1330	[illegible] 95 25 W	13, 16	3-4	E	20	6-8	Ely	10-12	—	72	30.12	O/C, RAIN
19	1800	28°-56'N 97°-54'W	7, 13	2-3	E	20+	6-8'	ESE	6-8	—	70	30.16	RAIN, FOG

NOAA FORM 72-5B (4-74)

key: 7 = fog ,

SURVEY OF CYCLONIC CIRCULATION OVER THE CONTINENTAL SLOPE

As we had done on "rings" cruise hydrographic surveys in Fall 1987 (87G-11) and Fall 1988 (88G-05), we planned to occupy four hydrographic lines at 94 00'W, 94 45'W, 95 30'W, and 96 15'W along which every 20 nautical miles from 27 40'N to 25 40'N we would make a CTD and/or XBT station. However, after we had completed the first of these lines from 27 40'N to 25 40'N along 94 00'W, we received a forecast that we could expect gale-force winds within 36 hours that would accompany the passage of a strong atmospheric cold front. Consequently, we decided instead to rapidly map the southern boundary of the cyclone by carrying out a modified star pattern of XBT and CTD stations, and use any time remaining until the front hit us to do time-series hydrographic work at the approximate center of the cyclone. Starting at 1030 GMT on 14 November, we steamed south to extend the line of stations along 94 00'W 20 nautical miles farther south to 25 20'N (station 15), then turned NW (stations 16-19), then SW (stations 20-21), then due N (stations 22-23), then due E (stations 24-25), and finally NNE to finish 24 hours later (station 26) near the center of the cyclone. At 0200 GMT on 16 November, only a few hours after its projected ETA, the cold front hit with gale force winds out of the NW and rapidly built to Beaufort force 8 conditions. For the next 24 hours we had to be content with heading slowly into the wind and seas with no over-the-side work possible other than to drop XBTs. After the front had passed, we were able to complete one additional CTD station over the slope (station 41) and occupy most of the line of standard shelf stations off Corpus Christi Bay before bad weather returned, this time as 30-35 knot winds from the SE created when a second, weaker atmospheric cold front on the heels of the first stalled over south Texas. This new bad weather, which by 1400 on November 18 had built to Beaufort force 7 conditions and was not forecast to let up for several days, prevented our return to ring center to make measurements there after the passage of the "blue norther" of 15 November. Consequently, we shut down all over-the-side work and returned to Galveston a day early than had been originally scheduled.



CRUISE TRACK FOR R/V GYRE CRUISE 89G-15 (11-19 NOVEMBER 1989). DOTS MARK THE LOCATION OF CTD OR XBT STATIONS; A TIME-SERIES OF CTD CASTS AT 6AM, NOON, AND 6PM WAS DONE NEAR THE CENTER OF A CYCLONIC (COLD-CORE) CIRCULATION AT 26 10N, 94 57W (STATIONS 26, 27 & 28) WHILE GYRE FOLLOWED A BUOY WHICH MARKED THE LOCATION OF A DRIFTING SEDIMENT TRAP ARRAY.

CTD AND XBT DATA

The following pages present tables and plots of 1m-averaged data (for shelf stations in water depths of 200m or less and/or for shallow CTD casts made to collect water for 14C productivity experiments) or 5m-averaged data (for all other stations). As illustrated on the next page, raw data XBT temperatures were corrected by -0.44 so that they would agree with raw data CTD temperatures. Furthermore, raw data CTD salinities were corrected by +0.025 (stations 1-12) and +0.036 (stations 14-45) so that vertical profiles would more closely agree with bottle salinities and with the historical data for salinity at the depth of the salinity minimum in the western Gulf of Mexico (Morrison et al., 1983) as well as with our own data from previous rings cruises to the NW corner of the Gulf of Mexico.

Triangles on the vertical profiles of corrected salinity versus depth present bottle salinity determined using our Guildline model 8400 conductive salinometer. A Seatech 25cm pathlength transmissometer attached to the CTD provided information about suspended particle concentrations; except at stations 23 and 26, where a 4-volt instrument was used, the transmissometer had a 0-5 volt range.

At the end of this section is a map of the depth of the 15 C isotherm that was generated from the corrected XBT data; it shows the general dimensions of the cyclone. Following this map is a composite temperature-salinity plot of 5m averaged data from all CTD stations that were made on cruise 89G-15.

REFERENCES

Morrison JM, Merrell WJ, Key RM, Key TC (1983) Property distributions and deep chemical measurements within the western Gulf of Mexico. J. Geophys. Res. 88: 2601-2608.

see also Technical Report 88-01-T of the Department of Oceanography, TAMU (Feb 1988): Observation of mesoscale eddies in the NW Gulf of Mexico in 1987 on R/V GYRE cruises 87G-03, 87G-04, 87G-10, 87G-11 & 87G-12. 361pp.

and Technical Report 88-05-T (Nov 1988): Hydrographic data from the Texas continental shelf and northwest continental slope of the Gulf of Mexico: TAMU Ecosystem Research Group "Rings" cruise 88G-05. 213pp.

TABLE 1: Comparison of XBT with CTD Temperature

STA	Probe S/N	Uncorrected XBT Temp (Z=5m)	(Z=10m)	CTD Temperature (Z =5m)	(Z=10m)	Offset, XBT-CTD (Z=5m)	(Z=10m)
10	596027	27.04	26.97	26.56	26.34	.48	.63
12	596029	26.78	26.51	26.21	26.07	.57	.44
14	596022	26.40	26.38	ND	26.05(12m)	ND	.33
19	623286	25.35	25.19	24.89	24.88	.46	.31
23	596053	25.13	25.14	24.71	24.70	.42	.44
26	623287	25.51	[illegible]	25.11	25.11	.40	.40

MEAN = 0.44

TABLE 2: Salinity Minimum in the NW Gulf of Mexico

Station	Depth	Corrected CTD Salinity	CTD Temperature
10	754-764	34.888	6.20 - 6.12
12	664-699	34.890	6.19 - 6.02
14	634	34.890	6.32
19	654	34.899	6.06
23	618-678	34.900	6.49 - 6.19
26	584-604	34.899	6.21 - 6.12
27	574-599	34.900	6.28 - 6.11
28	569-594	34.899	6.27 - 6.12

ROSETTE CAST TO COLLECT WATER FOR PRIMARY PRODUCTION EXPERIMENT
(inner shelf, water depth = 13m)

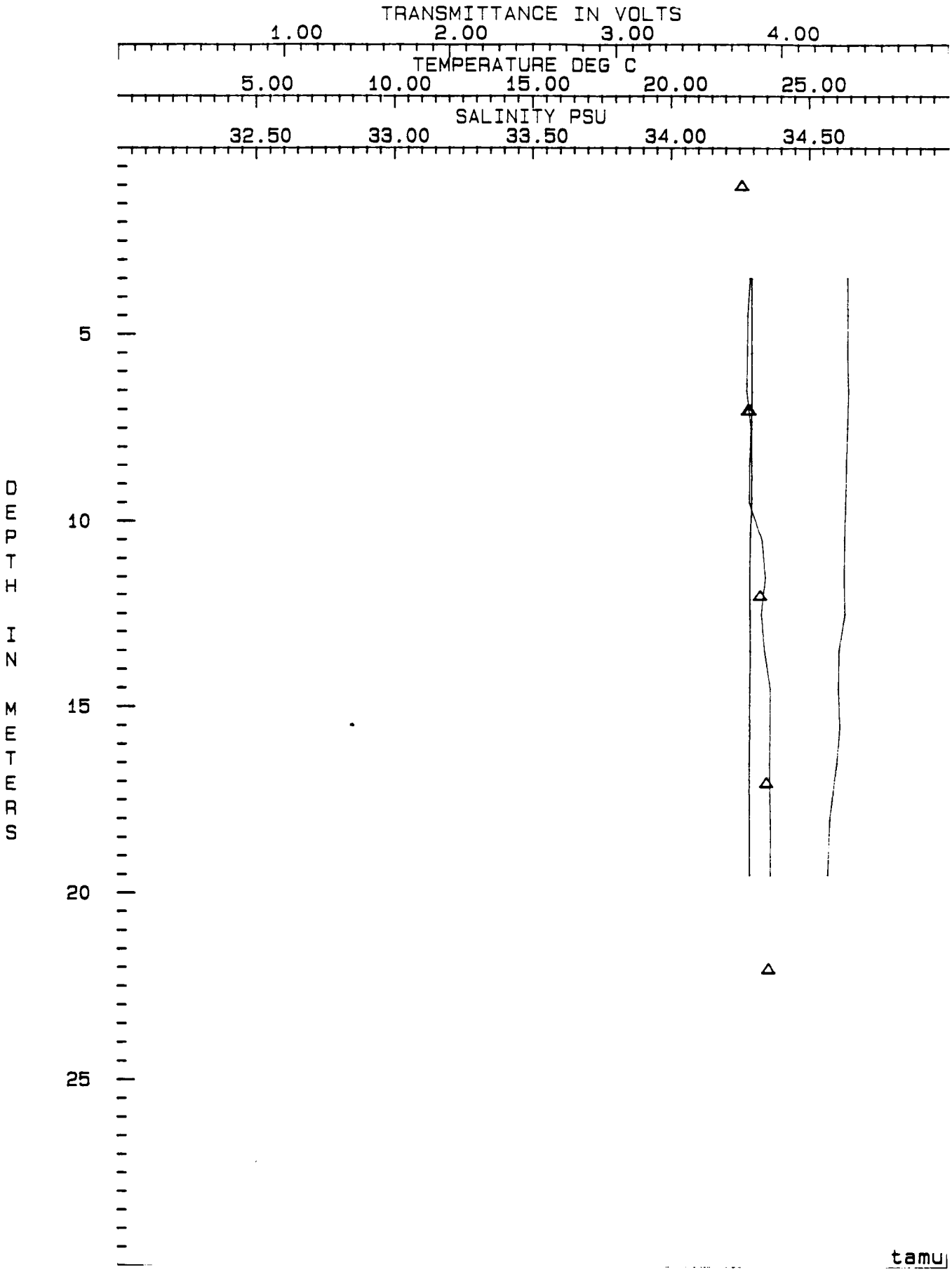
STATION SBE000.AVG:: CRUISE 89G15 DATE & TIME Sat [illegible] 11 [illegible] 1989
LAT 29 03.3 LON [illegible] DEPTH OFFSET [illegible]

DEPTH	TEMP	SALT	SIGMA-T	XBN
3.5	22.338	33.319	22.947	4.276
4.5	[illegible]	[illegible]	[illegible]	[illegible]
5.5	22.338	33.312	22.943	4.290
6.5	22.309	33.332	22.967	4.264
7.5	22.354	33.294	22.925	4.281
8.5	22.553	33.321	22.789	4.283
9.5	22.723	33.554	22.918	4.200
10.5	22.727	33.722	23.044	4.039
11.5	22.729	33.824	23.121	3.951

TRANSECT OF CONTINENTAL SHELF OFF GALVESTON: 20m station

STATION SBE001.AVG:: CRUISE 89G15 DATE & TIME Sat Nov 11 20:34:52 1989
LAT 29 53.74 LON 94 20.85 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XBN
3.5	22.929	34.285	23.413	4.394
4.5	22.937	34.277	23.405	4.395
5.5	22.936	34.276	23.405	4.394
6.5	22.940	34.273	23.401	4.399
7.5	22.922	34.289	23.419	4.397
8.5	22.930	34.283	23.412	4.396
9.5	22.932	34.283	23.411	4.397
10.5	22.873	34.330	23.464	4.376
11.5	22.857	34.342	23.477	4.373
12.5	22.866	34.326	23.463	4.377
13.5	22.862	34.337	23.472	4.339
14.5	22.845	34.358	23.493	4.337
15.5	22.846	34.357	23.492	4.346
16.5	22.840	34.356	23.493	4.329
17.5	22.837	34.358	23.495	4.301
18.1	22.836	34.360	23.496	4.296
19.5	22.836	34.359	23.496	4.277

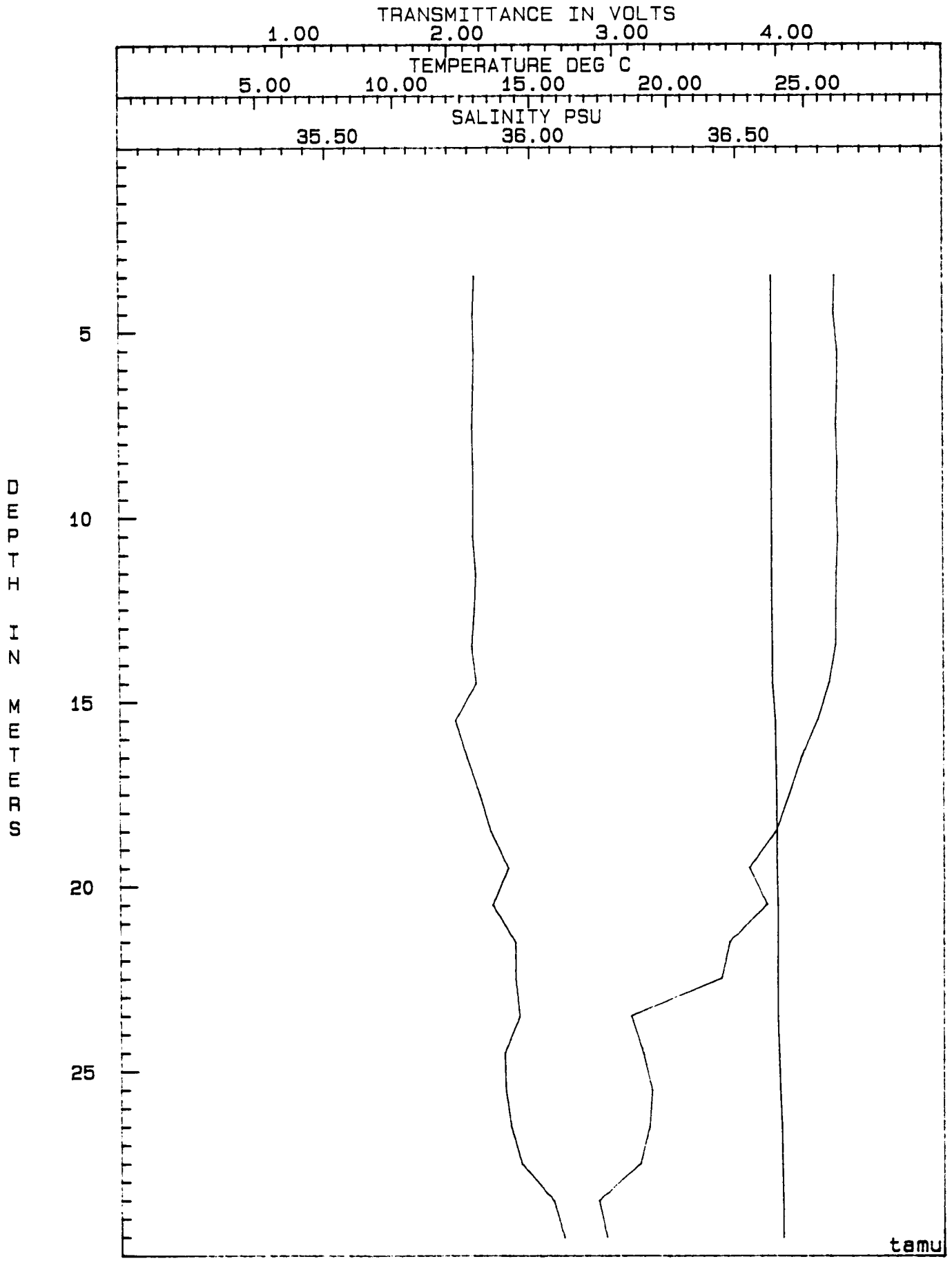


CRUISE: 89G15 STATION: SBE001.A DATE: Nov 11 20:34:52 1989
LATITUDE: 28 53.74 LONGITUDE: 94 20.85
TRIANGLES DENOTE DISCRETE SAMPLES

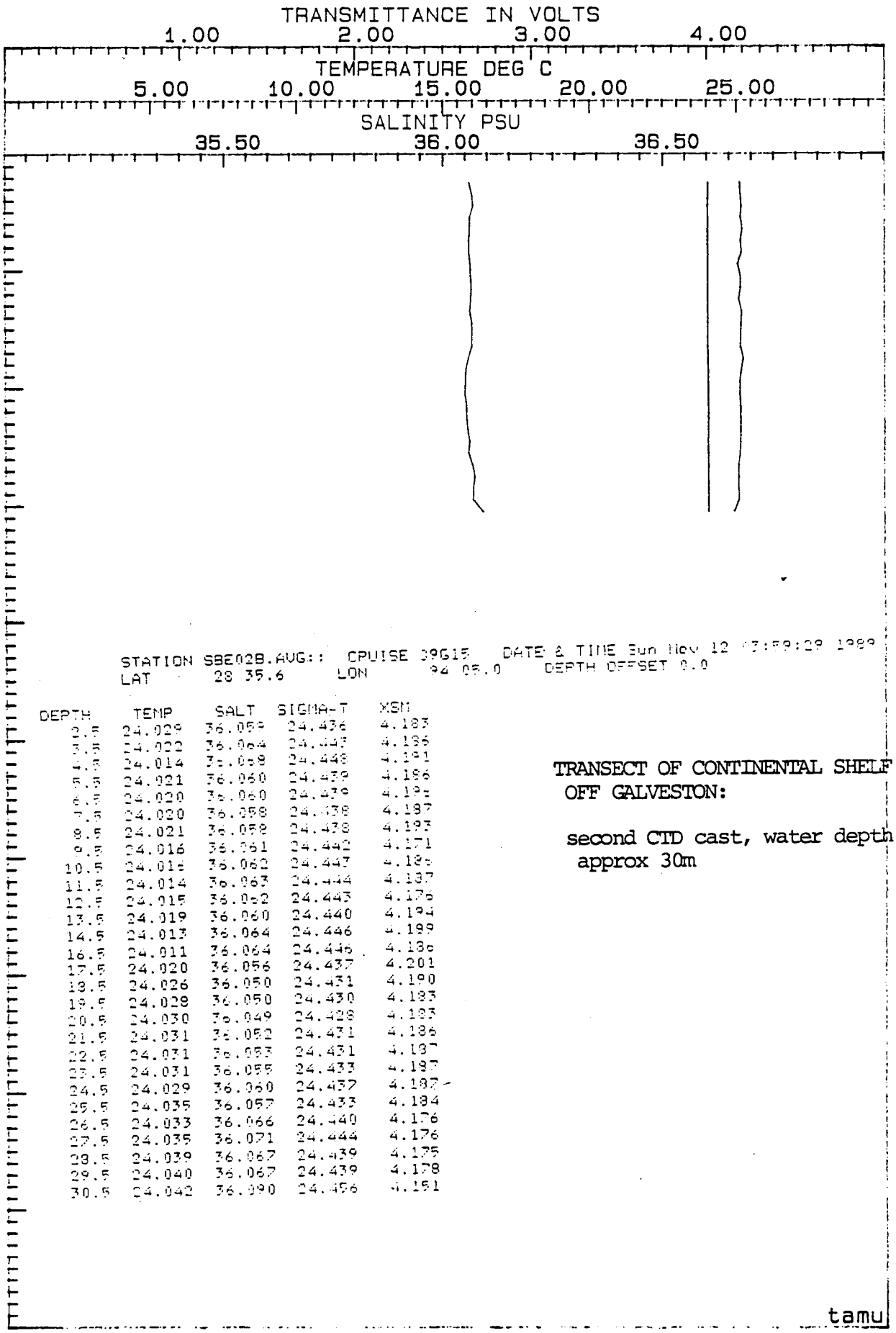
TRANSECT OF CONTINENTAL SHELF OFF GALVESTON: water depth 30m

STATION SRE002.AUG:: CRUISE 89G15 DATE & TIME [illegible] 1989,
LAT 28 30.29 LON 94 07.15 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XBM
3.5	23.776	35.864	24.364	4.342
4.5	23.780	35.860	24.360	4.336
5.5	23.779	35.862	24.361	4.359
6.5	23.781	35.860	24.360	4.356
7.5	23.783	35.857	24.357	4.349
8.5	23.781	35.860	24.359	4.357
9.5	23.781	35.860	24.359	4.354
10.5	23.782	35.859	24.358	4.361
11.5	23.777	35.866	24.365	4.351
12.5	23.779	35.862	24.361	4.346
13.5	23.787	35.856	24.354	4.344
14.5	23.790	35.866	24.362	4.304
15.5	23.885	35.815	24.294	4.235
16.5	23.907	35.843	24.309	4.173
17.5	23.919	35.874	24.329	4.064
18.5	23.929	35.901	24.346	3.935
19.5	23.932	35.943	24.377	3.821
20.5	23.958	35.905	24.341	3.927
21.5	23.951	35.959	24.384	3.700
22.5	23.949	35.959	24.385	3.651
23.5	23.958	35.969	24.390	3.098
24.5	23.996	35.933	24.351	3.171
25.5	24.033	35.935	24.342	3.224
26.5	24.092	35.948	24.333	3.207
27.5	24.111	35.973	24.347	3.152
28.5	24.136	36.049	24.397	2.999
29.5	24.133	36.075	24.418	2.947



CRUISE: 89G15 STATION: SBE002.A DATE: Nov 12 03:02:58 1989
LATITUDE: 28 38.29 LONGITUDE: 94 07.15

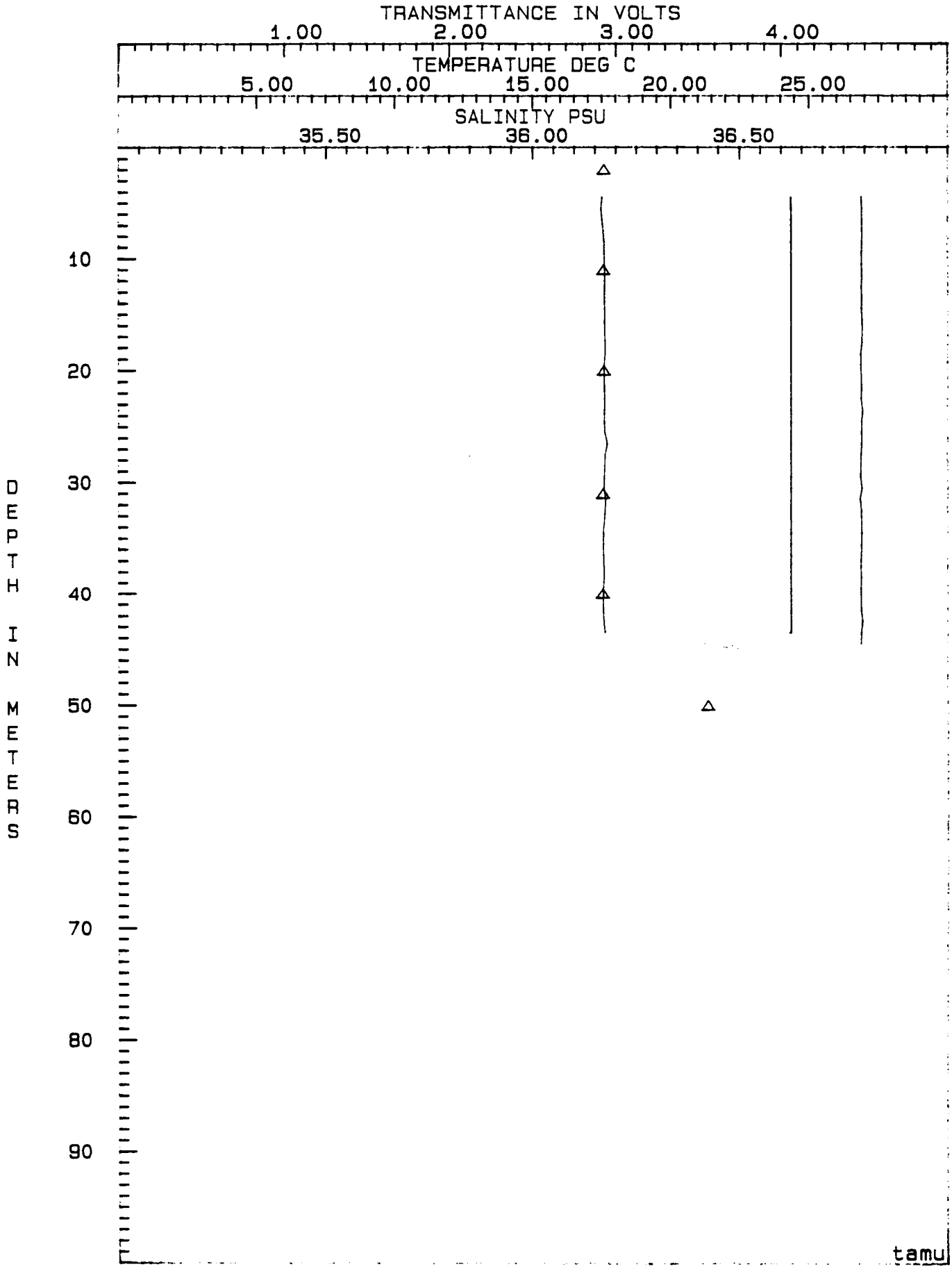


CRUISE: 89G15 STATION: SBE02B.A DATE: Nov 12 03: 59: 29 1989
LATITUDE: 28 35.6 LONGITUDE: 94 05.0

TRANSECT OF CONTINENTAL SHELF OFF GALVESTON: 50m station

STATION SBE003.AVG:: CRUISE 89g15 DATE & TIME Sun Nov 12 05:46:06 1989,
LAT 28 23.34 LON 93 5e.15 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	MSN
4.5	24.336	3e.166	24.42e	-.47e
5.5	24.344	3e.164	24.422	-.479
e.5	24.345	3e.1e7	24.42-	-.47?
7.5	24.345	36.169	24.426	4.480
8.5	24.344	3e.172	24.427	4.47?
9.5	24.345	36.172	24.427	4.477
10.5	24.344	3e.172	24.428	4.477
11.5	24.344	36.173	24.428	4.480
12.5	24.344	3e.173	24.428	-.47?
13.5	24.345	3e.172	24. [illegible]	[illegible]
14.5	24.344	3e.177	24.42?	-.47?
15.5	24.34?	36.173	24.428	-.491
17.5	24.345	3e.174	24.429	-.431
18.5	24.344	36.174	24.428	[illegible]
19.5	24.345	3e.172	24.427	-.47?
21.5	24.349	36.173	24.42?	-.47?
22.5	24.348	3e.173	24.427	-.47?
23.5	24.34?	3e.172	24.427	-.43?
[illegible]	24.3[illegible]	3e.172	24.42?	-.47?
[illegible]	24.349	36.177	24. [illegible]	[illegible]
25.5	24.342	3e.179	24.434	-.47?
27.5	24.344	3e.174	24.429	-.47?
29.5	24.344	3e.172	24.427	4.472
30.5	24.345	36.171	24.427	-.491
31.5	24.341	3e.175	24.431	-.461
32.5	24.339	36.174	24.431	[illegible]
34.5	24.342	3e.17?	24.427	-.47?
35.5	24.342	3e.171	24. [illegible]	[illegible]
36.5	24.342	3e.[illegible]	[illegible]	[illegible]
37.5	24.341	[illegible]	[illegible]	-.47?
39.5	24.342	36.171	24.427	-.47?
40.5	24.342	36.169	24.426	-.47?
41.5	24.343	3e.1e9	24.42?	-.47?
42.5	24.342	3e.171	24.427	-.431
43.5	24.33?	3[illegible].177	24.431	-.47?



CRUISE: 89g15 STATION: SBE003.A DATE: Nov 12 05:46:06 1989
LATITUDE: 28 23.34 LONGITUDE: 93 56.15
TRIANGLES DENOTE DISCRETE SAMPLES

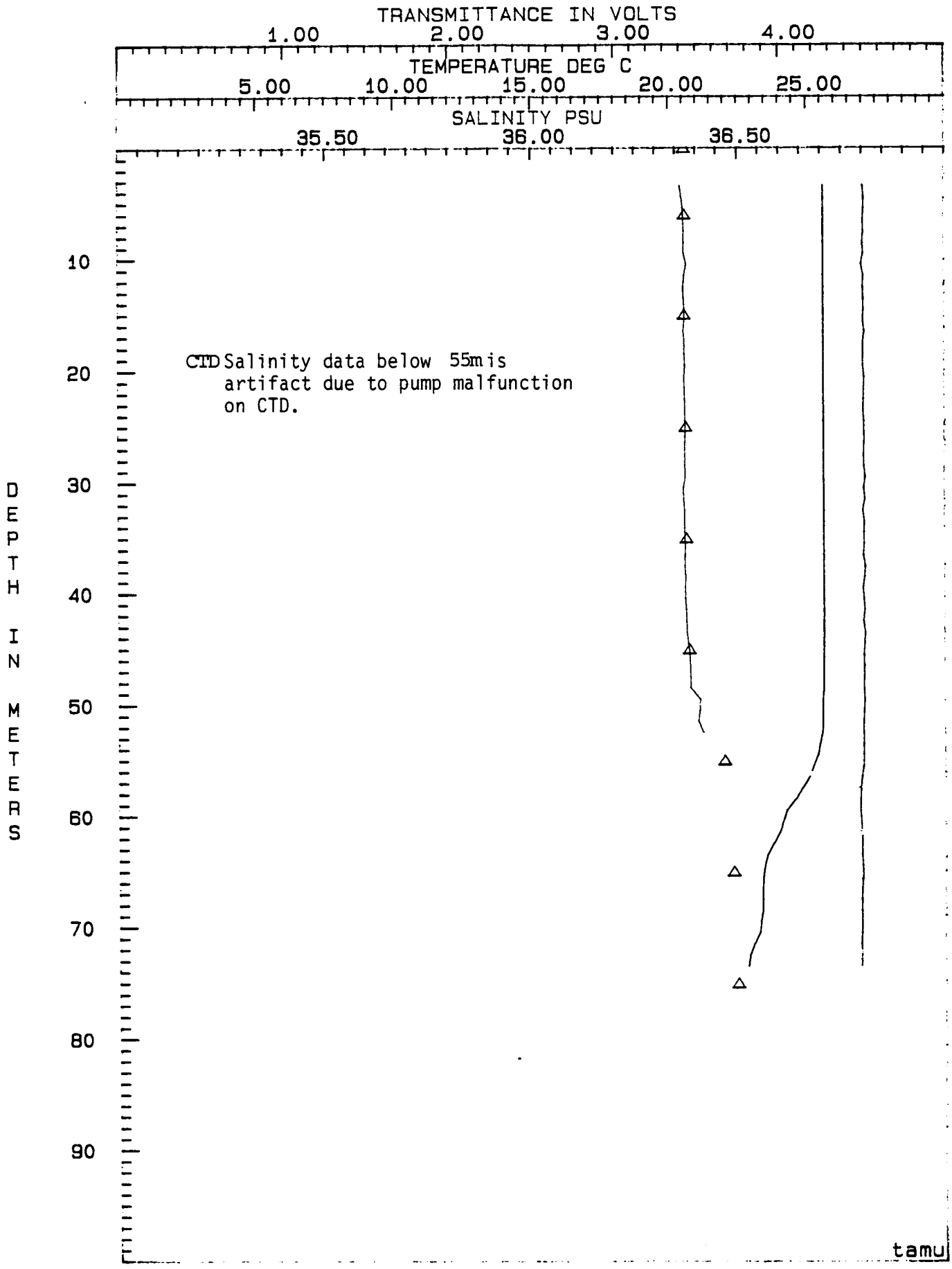
TRANSECT OF CONTINENTAL SHELF OFF GALVESTON: water depth 75m

STATION SBE004.AUG:: CRUISE 89G15 DATE & TIME Sun Nov 12 13:29:47 1989, Jul
LAT 27 59.7 LON 93 36.7 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	KSM
3.5	25.603	36.362	24.187	4.505
4.5	25.605	36.366	24.190	4.510
5.5	25.604	36.370	24.193	4.509
6.5	25.604	36.370	24.193	4.505
7.5	25.604	36.371	24.194	4.507
8.5	25.603	36.371	24.194	4.502
9.5	25.603	36.371	24.194	4.506
10.5	25.597	36.377	24.200	4.494
11.5	25.600	36.372	24.196	4.507
12.5	25.604	36.370	24.193	4.505
13.5	25.604	36.371	24.193	4.507
14.5	25.602	36.373	24.195	4.508
15.5	25.603	36.372	24.195	4.505
16.5	25.606	36.370	24.192	4.513
17.5	25.603	36.372	24.195	4.505
18.5	25.604	36.372	24.195	4.505
19.5	25.603	36.373	24.196	4.505
20.5	25.604	36.371	24.193	4.511
21.5	25.605	36.372	24.194	4.508
22.5	25.605	36.373	24.195	4.506
23.5	25.604	36.373	24.196	4.505
24.5	25.603	36.374	24.196	4.509
25.5	25.603	36.374	24.196	4.510
26.5	25.603	36.373	24.195	4.510
27.5	25.603	36.373	24.196	4.506
28.5	25.603	36.373	24.196	4.509
29.5	25.602	36.374	24.197	4.516
30.5	25.608	36.369	24.191	4.506
31.5	25.608	36.370	24.192	4.515
32.5	25.609	36.372	24.192	4.501
33.5	25.609	36.372	24.193	4.510
34.5	25.610	36.372	24.193	4.507
35.5	25.609	36.373	24.194	4.503
36.5	25.610	36.373	24.193	4.508
37.5	25.611	36.372	24.192	4.516
38.5	25.611	36.374	24.194	4.512
39.5	25.612	36.373	24.193	4.503
40.5	25.612	36.373	24.193	4.507
41.5	25.612	36.375	24.194	4.512
42.5	25.611	36.376	24.195	4.505
43.5	25.610	36.377	24.197	4.514
44.5	25.604	36.380	24.200	4.511
45.5	25.598	36.384	24.205	4.506
46.5	25.595	36.385	24.207	4.508
47.5	25.593	36.386	24.208	4.507
48.5	25.593	36.385	24.208	4.506
49.5	25.562	36.409	24.235	4.511
50.5	25.556	36.408	24.236	4.506
51.5	25.554	36.404	24.235	4.503
52.5	25.536	36.416	24.249	4.503

DEPTH	TEMP	SALT	SIGMA-T	KSM
53.5	25.447	36.467	24.315	4.503
54.5	25.375	36.506	24.367	4.502
55.5	25.215	[illegible]	[illegible]	4.501
56.5	25.073	[illegible]	[illegible]	4.491
57.5	24.916	[illegible]	[illegible]	4.485
58.5	24.670	[illegible]	[illegible]	4.492
59.5	24.242	[illegible]	[illegible]	4.491
61.5	23.835	[illegible]	[illegible]	4.491
62.5	27.771	[illegible]	[illegible]	4.492
63.5	23.546	[illegible]	[illegible]	4.490
64.5	23.438	[illegible]	[illegible]	4.485
65.5	23.377	[illegible]	[illegible]	4.486
66.5	27.364	[illegible]	[illegible]	4.489
67.5	23.362	[illegible]	[illegible]	4.488
68.5	23.360	[illegible]	[illegible]	4.488
69.5	23.290	[illegible]	[illegible]	4.489
70.5	27.255	[illegible]	[illegible]	4.486
71.5	23.269	[illegible]	[illegible]	4.488
72.5	22.901	[illegible]	[illegible]	4.490
73.5	22.375	[illegible]	[illegible]	4.486

NOTE: CTD Salinity below 55m is artifact due to pump malfunction on CTD

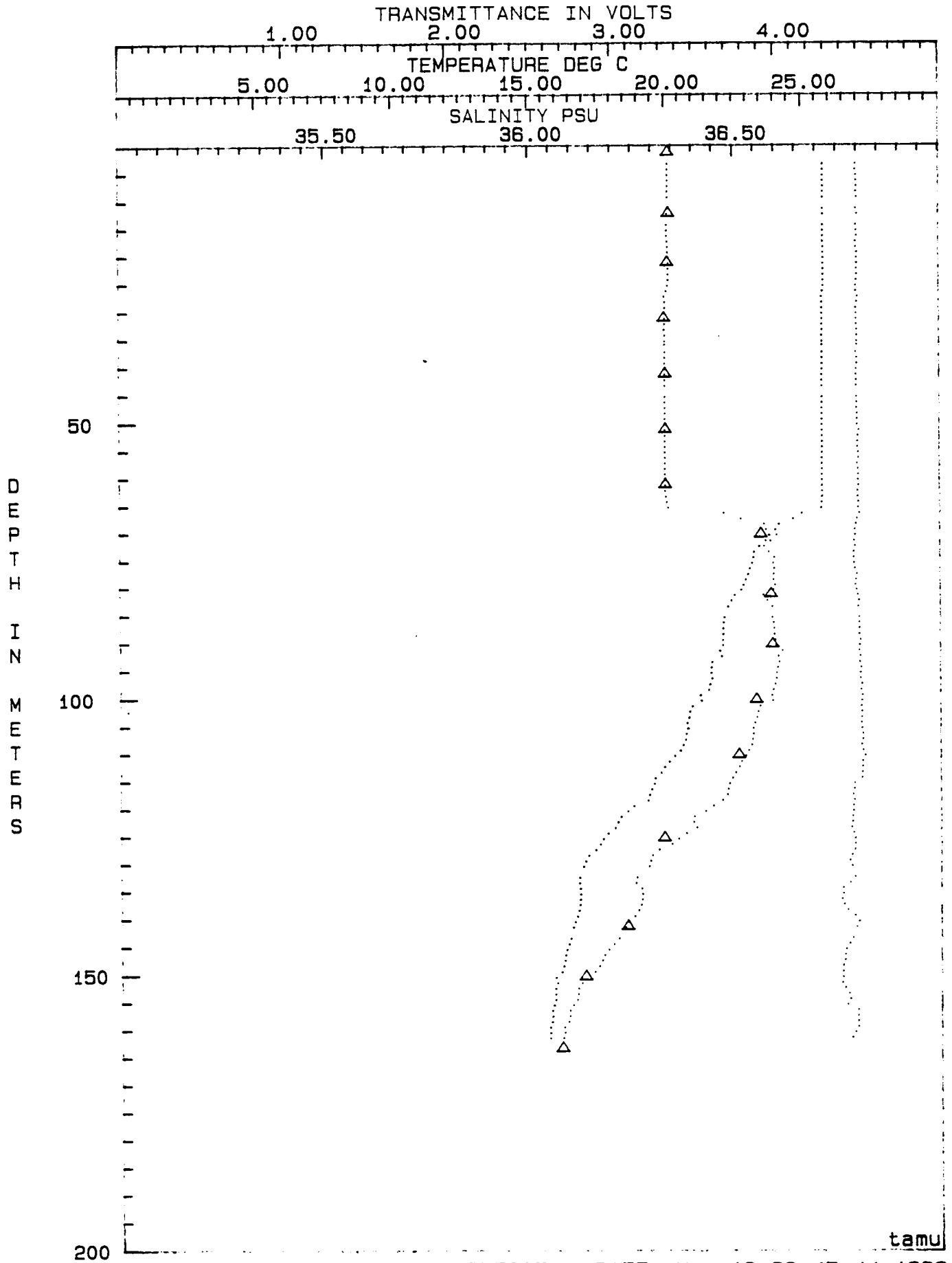


CRUISE: 89G15 STATION: SBE004.A DATE: Nov 12 13:29:47 1989
LATITUDE: 27 59.3 LONGITUDE: 93 36.7
TRIANGLES DENOTE DISCRETE SAMPLES

TRANSECT OF CONTINENTAL SHELF OFF GALVESTON: water depth 165m

STATION S8E005.AVG:: CRUISE S9g15 DATE & TIME Sun Nov 12 23:45:44 1989, Julian day = 316
LAT 27 49.3 LON 93 37.1 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSN
3.5	25.774	36.342	24.119	4.494
4.5	25.775	36.341	24.119	4.491
5.5	25.774	36.341	24.119	4.496
6.5	25.774	36.342	24.119	4.494
7.5	25.775	36.342	24.119	4.499
8.5	25.771	36.341	24.119	4.495
9.5	25.769	36.341	24.119	4.499
10.5	25.769	36.341	24.119	4.494
11.5	25.766	36.339	24.119	4.500
12.5	25.762	36.339	24.120	4.494
13.5	25.761	36.339	24.120	4.496
14.5	25.764	36.339	24.120	4.499
15.5	25.767	36.340	24.120	4.491
16.5	25.770	36.341	24.120	4.497
17.5	25.771	36.342	24.120	4.499
18.5	25.772	36.343	24.120	4.497
19.5	25.772	36.342	24.120	4.498
20.5	25.773	36.342	24.120	4.496
21.5	25.772	36.342	24.120	4.499
22.5	25.772	36.342	24.120	4.495
23.5	25.769	36.340	24.119	4.491
24.5	25.746	36.337	24.124	4.492
25.5	25.711	36.332	24.131	4.502
26.5	25.722	36.337	24.129	4.496
27.5	25.722	36.333	24.129	4.491
28.5	25.722	36.333	24.129	4.494
29.5	25.721	36.333	24.129	4.494
30.5	25.720	36.333	24.129	4.494
31.5	25.719	36.332	24.129	4.496
32.5	25.718	36.332	24.129	4.497
33.5	25.717	36.333	24.129	4.496
34.1	25.717	36.333	24.129	4.496
35.5	25.716	36.333	24.130	4.490
36.5	25.715	36.333	24.130	4.496
37.5	25.715	36.332	24.130	4.496
38.5	25.714	36.332	24.130	4.492
39.5	25.712	36.332	24.131	4.491
40.5	25.711	36.332	24.131	4.493
41.5	25.711	36.332	24.131	4.491
42.5	25.710	36.332	24.131	4.494
43.5	25.710	36.332	24.132	4.495
44.5	25.710	36.332	24.131	4.494
45.5	25.709	36.333	24.132	4.497
46.5	25.709	36.332	24.132	4.497
47.5	25.710	36.332	24.131	4.496
48.5	25.710	36.332	24.131	4.507
49.5	25.709	36.332	24.132	4.501
50.5	25.709	36.332	24.131	4.499
51.5	25.709	36.332	24.132	4.499
52.5	25.709	36.332	24.132	4.502
53.5	25.708	36.332	24.132	4.502
54.5	25.708	36.332	24.132	4.505
55.5	25.708	36.332	24.132	4.505
56.5	25.708	36.332	24.132	4.505
57.5	25.708	36.333	24.132	4.495
58.5	25.709	36.332	24.132	4.501
59.5	25.707	36.332	24.132	4.502
60.5	25.708	36.332	24.132	4.501
61.5	25.707	36.332	24.133	4.504
62.5	25.707	36.332	24.132	4.498
63.5	25.704	36.334	24.135	4.499
64.5	25.690	36.336	24.141	4.502
65.5	25.672	36.340	24.149	4.500
66.5	24.966	36.476	24.469	4.502
67.5	24.642	36.517	24.599	4.494
68.5	24.137	36.574	24.794	4.487
69.5	24.005	36.579	24.838	4.480
70.5	23.791	36.604	24.921	4.482
71.5	23.829	36.577	24.889	4.485
72.5	23.412	36.574	25.009	4.482
73.5	23.226	36.585	25.072	4.473
74.5	23.197	36.599	25.091	4.473
75.5	23.149	36.595	25.102	4.475
76.5	23.074	36.592	25.126	4.480
77.5	23.009	36.596	25.144	4.492
78.5	22.913	36.596	25.171	4.486
79.5	22.838	36.600	25.196	4.482
80.5	22.748	36.596	25.219	4.499
81.5	22.501	36.571	25.271	4.496
82.5	22.389	36.581	25.311	4.503
83.5	22.259	36.593	25.357	4.498
85.5	22.126	36.593	25.395	4.503
86.5	22.100	36.595	25.404	4.505
87.5	22.083	36.597	25.410	4.505
88.5	22.085	36.599	25.410	4.504
89.5	22.071	36.600	25.416	4.502
90.5	22.070	36.602	25.417	4.506
91.5	21.965	36.617	25.458	4.502
92.5	22.025	36.606	25.434	4.510
93.5	21.674	36.609	25.534	4.506
94.5	21.650	36.606	25.539	4.515
95.5	21.631	36.603	25.541	4.510
96.5	21.677	36.602	25.528	4.510
97.5	21.599	36.599	25.547	4.519
98.5	21.549	36.595	25.559	4.515
99.5	21.244	36.590	25.640	4.522
100.5	21.281	36.593	25.631	4.519
101.5	20.936	36.562	25.703	4.515
102.5	20.853	36.557	25.722	4.519
103.5	20.815	36.554	25.729	4.516
104.5	20.750	36.549	25.744	4.515
105.5	20.774	36.545	25.734	4.517
106.5	20.708	36.545	25.752	4.523
107.5	20.689	36.547	25.756	4.527
108.5	20.595	36.541	25.780	4.516
109.5	20.483	36.534	25.810	4.514
110.5	20.277	36.521	25.864	4.506
111.5	20.075	36.516	25.909	4.501
112.5	19.895	36.510	25.943	4.520
113.5	19.758	36.502	25.971	4.517
114.5	19.650	36.497	26.021	4.516
115.5	19.512	36.489	26.054	4.471
116.5	19.421	36.482	26.047	4.458
117.5	19.342	36.481	26.066	4.462
118.5	19.276	36.469	26.074	4.468
119.5	18.762	36.446	26.189	4.484
120.5	18.534	36.427	26.272	4.483
121.5	18.291	36.399	26.272	4.459
122.5	18.174	36.397	26.301	4.467
123.5	18.067	36.406	26.334	4.481
124.5	17.802	36.380	26.389	4.486
125.5	17.630	36.360	26.426	4.477
126.5	17.521	36.344	26.421	4.474
127.5	17.353	36.312	26.439	4.471
128.5	17.109	36.296	26.487	4.484
129.5	16.980	36.292	26.512	4.481
130.5	16.899	36.288	26.529	4.484
132.5	16.757	36.289	26.559	4.470
133.5	16.750	36.285	26.559	4.460
134.5	16.782	36.270	26.542	4.499
135.5	16.784	36.271	26.543	4.499
136.5	16.777	36.270	26.544	4.502
137.5	16.763	36.267	26.545	4.496
138.5	16.752	36.262	26.543	4.496
139.5	16.669	36.252	26.559	4.471
140.5	16.589	36.238	26.564	4.495
141.5	16.525	36.229	26.572	4.480
142.5	16.423	36.213	26.583	4.486
144.5	16.354	36.200	26.590	4.486
145.5	16.286	36.188	26.596	4.496
146.5	16.235	36.177	26.600	4.489
147.5	16.211	36.172	26.602	4.489
148.5	16.169	36.165	26.606	4.492
149.5	16.101	36.154	26.613	4.496
150.5	15.882	36.120	26.638	4.496
151.5	15.933	36.123	26.628	4.492
152.5	15.865	36.114	26.637	4.490
153.5	15.871	36.113	26.635	4.493
154.5	15.870	36.111	26.634	4.490
155.5	15.808	36.101	26.640	4.494
156.5	15.747	36.093	26.648	4.499
157.5	15.756	36.093	26.646	4.491
158.5	15.738	36.090	26.649	4.489
159.5	15.671	36.080	26.655	4.483
160.5	15.674	36.080	26.654	4.490
161.5	15.667	36.077	26.654	4.483



CRUISE: 89g15 STATION: SBE005.A DATE: Nov 12 23:45:44 1989
LATITUDE: 27 49.3 LONGITUDE: 93 37.1
TRIANGLES DENOTE DISCRETE SAMPLES

TRANSECT OF CONTINENTAL SHELF OFF GALVESTON: 200m STATION

STATION SSE006.AVG:: CRUISE 89g15 DATE & TIME Mon Nov 13 01:54:34 1989, Julian day = 317
LAT 27 47.21 LON 93 36.29 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	USM
3.5	25.787	36.312	24.093	4.485
[illegible]	25.793	36.310	[illegible]	4.499
5.5	25.804	36.310	24.086	4.495
6.5	25.795	36.311	24.088	4.474
7.5	25.785	36.311	24.092	4.482
8.5	25.782	36.310	24.093	4.497
9.5	25.781	36.311	24.093	4.492
10.5	25.780	36.310	24.093	4.491
11.5	25.780	36.311	24.094	4.484
12.5	25.780	36.310	24.093	4.496
13.5	25.776	36.310	24.094	4.499
14.1	25.774	36.311	24.095	4.505
15.5	25.775	36.310	24.094	4.500
17.5	25.781	36.310	24.093	4.503
18.5	25.779	36.310	24.093	4.499
19.5	25.783	36.310	24.092	4.493
20.5	25.784	36.309	24.091	4.511
[illegible]	[illegible]	36.310	[illegible]	[illegible]
22.5	25.779	36.309	24.089	4.501
23.7	25.780	36.310	24.093	4.499
24.5	25.781	36.310	24.093	4.494
25.5	25.782	36.313	24.095	4.500
26.5	25.782	36.313	24.095	4.496
27.5	25.779	36.311	24.094	4.501
28.5	25.780	36.311	24.094	4.501
29.5	25.780	36.311	24.094	4.495
30.5	25.783	36.315	24.096	4.501
31.5	25.781	36.321	24.101	4.498
32.5	25.782	36.322	24.101	4.498
33.5	25.782	36.323	24.102	4.492
34.5	25.783	36.323	24.102	4.499
35.5	25.782	36.325	24.104	4.504
36.5	25.781	36.327	24.105	4.503
37.5	25.782	36.327	24.105	4.501
38.5	25.781	36.327	24.106	4.501
39.5	25.780	36.327	24.106	4.503
40.5	25.779	36.326	24.105	4.500
41.5	25.779	36.328	24.106	4.502
43.5	25.778	36.329	24.108	4.500
44.5	25.778	36.329	24.108	4.506
45.5	25.778	36.330	24.108	4.503
46.5	25.777	36.330	24.109	4.499
48.5	25.775	36.332	24.111	4.504
49.5	25.773	36.332	24.111	4.505
50.5	25.772	36.333	24.113	4.507
51.5	25.770	36.333	24.114	4.502
52.5	25.762	36.334	24.115	4.503
53.5	25.768	36.334	24.115	4.510
54.5	25.768	36.335	24.115	4.502
55.5	25.768	36.334	24.115	4.507

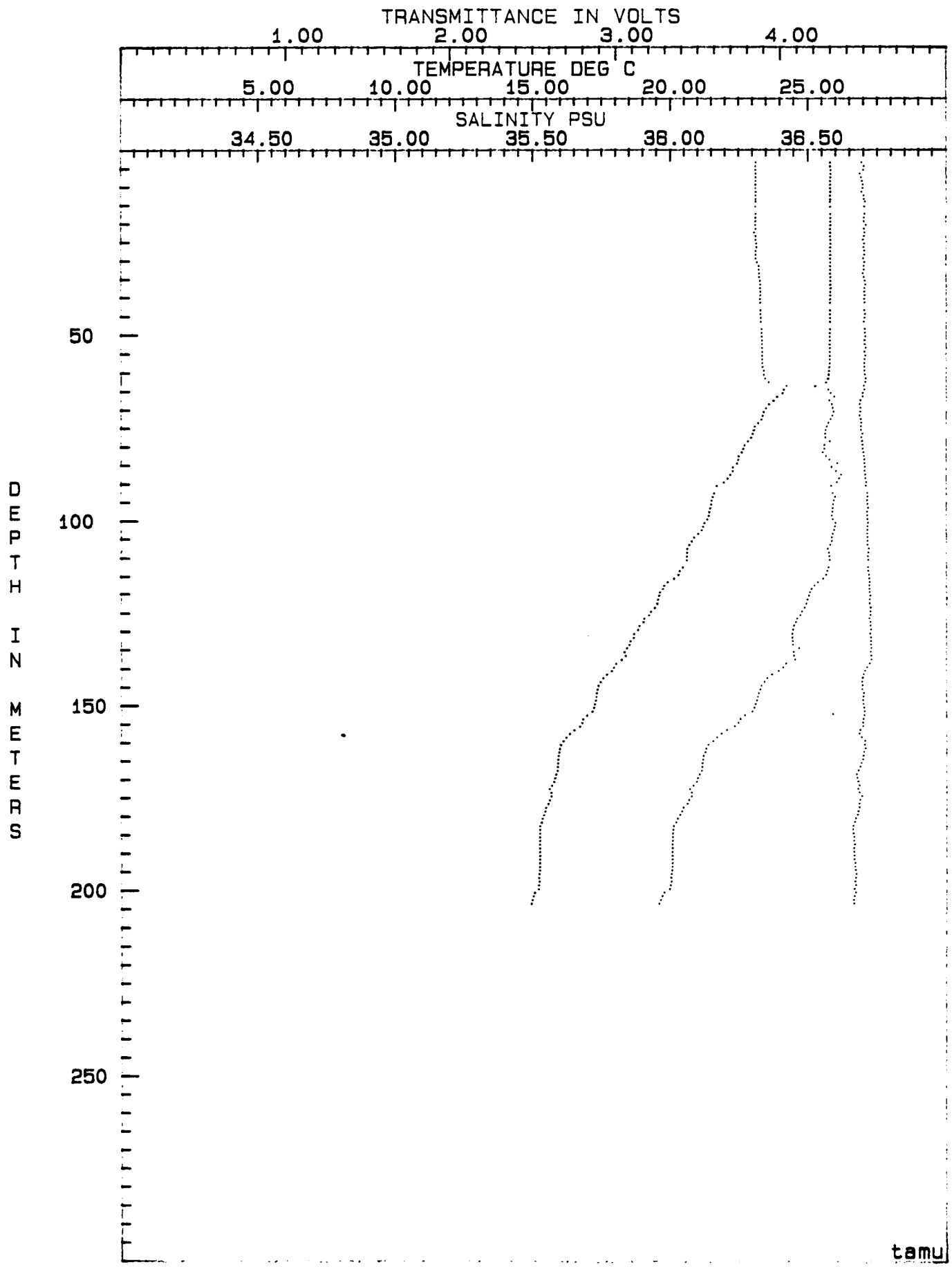
DEPTH	TEMP	SALT	SIGMA-T	USM
56.5	25.757	36.334	24.115	4.503
57.5	25.763	36.335	24.117	4.501
58.5	25.753	36.336	24.121	4.501
59.5	25.737	36.340	24.129	4.501
60.5	25.728	36.340	24.132	4.504
61.5	25.701	36.345	24.144	4.509
62.5	25.624	36.359	24.177	4.507
63.5	25.233	36.422	24.347	4.498
64.5	24.109	36.572	24.801	4.501
65.5	24.068	36.581	24.820	4.493
66.5	23.871	36.594	24.889	4.491
67.5	23.738	36.576	24.914	4.477
68.5	23.570	36.595	24.971	[illegible]
69.5	23.466	36.538	[illegible]	[illegible]
70.5	23.290	36.591	25.029	[illegible]
71.5	[illegible]	[illegible]	[illegible]	[illegible]
72.5	[illegible]	[illegible]	25.046	[illegible]
73.5	23.136	[illegible]	[illegible]	[illegible]
74.5	23.055	36.566	25.109	4.481
75.5	23.022	36.562	25.114	4.481
76.5	22.979	36.561	25.125	4.489
77.5	22.927	36.561	25.141	4.483
78.5	22.807	36.578	25.188	4.487
79.5	22.689	36.558	25.208	4.490
80.5	22.641	36.558	25.221	4.491
81.5	22.589	36.552	25.232	4.495
82.5	22.474	36.564	25.274	4.498
83.5	22.460	36.576	25.287	4.500
84.5	22.417	36.604	25.321	4.501
85.5	22.265	36.583	25.347	4.504
86.5	22.263	36.600	25.361	4.503
87.5	22.165	36.619	25.403	4.507
88.5	22.063	36.611	25.427	4.508
89.5	21.927	36.603	25.458	4.513
90.5	21.686	36.583	25.510	4.510
92.5	21.584	36.588	25.543	4.519
93.5	21.520	36.596	25.567	4.520
94.5	21.491	36.592	25.572	4.517
95.5	21.464	36.589	25.578	4.520
96.5	21.434	36.588	25.585	4.524
97.5	21.400	36.586	25.593	4.517
98.5	21.376	36.584	25.598	4.519
99.5	21.327	36.589	25.615	4.520
100.5	21.218	36.598	25.653	4.523
101.5	21.172	36.596	25.664	4.519
102.5	21.119	36.593	25.676	4.520
103.5	20.989	36.589	25.708	4.519
104.5	20.845	36.594	25.745	4.520
105.5	20.753	36.584	25.770	4.520
106.5	20.662	36.579	25.790	4.520

DEPTH	TEMP	SALT	SIGMA-T	USM
107.5	20.593	36.570	25.805	4.528
108.5	20.577	36.577	25.810	4.525
109.5	20.577	36.576	25.811	4.522
110.5	20.566	36.577	25.815	4.524
112.5	20.422	36.577	25.851	4.523
113.5	20.309	36.565	25.879	4.525
114.5	20.260	36.564	25.888	4.528
115.5	20.101	36.553	25.921	4.530
116.5	19.871	36.535	25.969	4.533
117.5	19.748	36.522	25.991	4.531
118.5	19.692	36.511	25.998	4.532
[illegible]	19.539	[illegible]	[illegible]	[illegible]
120.5	19.551	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	36.477	[illegible]	[illegible]
[illegible]	[illegible]	36.471	26.099	4.534
126.5	19.004	36.459	26.138	4.531
127.5	18.982	36.455	26.140	4.535
128.5	18.825	36.448	26.175	4.537
129.5	18.789	36.444	26.191	4.540
130.5	18.639	36.441	26.217	4.535
131.5	18.630	36.443	26.220	4.539
132.5	18.512	36.444	26.251	4.540
133.5	18.470	36.444	26.261	4.540
134.5	18.374	36.467	26.303	4.542
135.5	18.294	36.447	26.308	4.538
136.5	18.331	36.447	26.299	4.541
137.5	18.131	36.452	26.341	4.542
138.5	17.983	36.419	26.365	4.532
139.5	17.908	36.408	26.375	4.516
140.5	17.824	36.392	26.384	4.503
141.5	17.653	36.369	26.408	4.495
142.5	17.507	36.351	26.430	4.439
143.5	17.415	36.341	26.445	4.486
144.5	17.339	36.330	26.455	4.498
145.5	17.313	36.326	26.458	4.487
146.5	17.282	36.320	26.461	4.496
147.5	17.266	36.317	26.463	4.494
148.5	17.247	36.314	26.465	4.492
149.5	17.207	36.309	26.470	4.494
150.5	17.179	36.305	26.474	4.497
151.5	17.122	36.297	26.482	4.500
152.5	16.932	36.271	26.507	4.499
153.5	16.739	36.254	26.529	4.494
154.5	16.758	36.246	26.531	4.492
155.5	16.675	36.234	26.540	4.491
156.5	16.471	36.205	26.566	4.475
157.5	16.310	36.185	26.589	4.469

TRANSECT OF CONTINENTAL SHELF OFF GALVESTON: 200m STATION (continued)

STATION SBE006.AVG:: CRUISE 89g15 DATE & TIME Mon Nov 13 01:54:34 1989. Julian day = 317
LAT 27 49.11 LON 93 36.29 DEPTH OFFSET 0.0

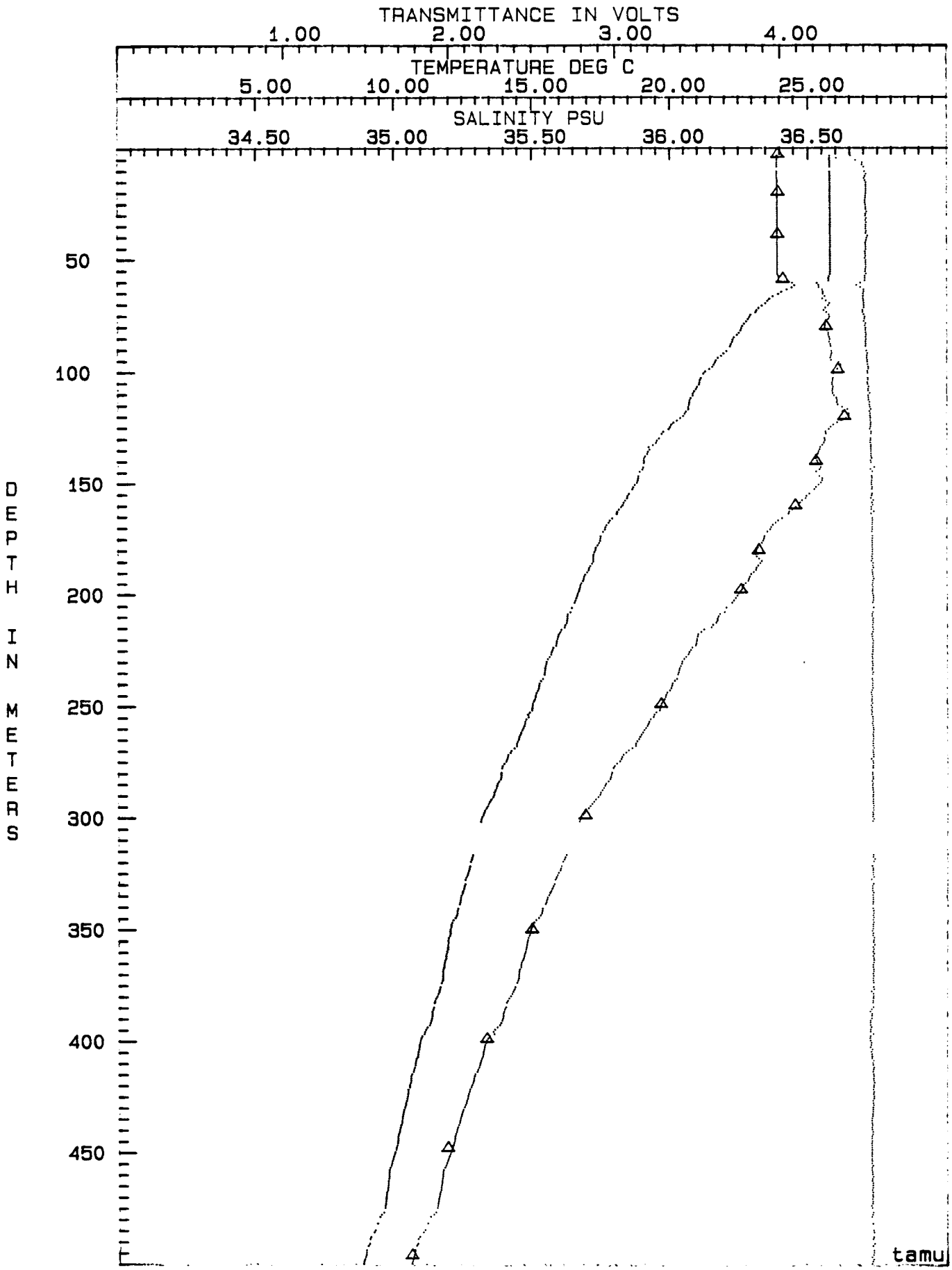
DEPTH	TEMP	SALT	SIGMA-T	OXYG
163.5	15.197	36.101	26.605	4.484
164.5	15.196	36.104	26.629	4.503
165.5	15.191	36.134	26.625	4.502
166.5	15.143	36.129	26.629	4.506
167.5	15.204	36.126	26.631	4.497
168.5	15.196	36.119	26.634	4.493
169.5	15.188	36.116	26.633	4.492
170.5	15.177	36.115	26.635	4.483
171.5	15.171	36.115	26.636	4.475
172.5	15.167	36.112	26.635	4.464
173.5	15.159	36.103	26.642	4.453
174.5	15.156	36.097	26.647	4.457
175.5	15.142	36.093	26.649	4.462
176.5	15.133	36.091	26.650	4.469
177.5	15.126	36.088	26.652	4.461
178.5	15.131	36.091	26.652	4.470
179.5	15.141	36.095	26.650	4.485
180.5	15.133	36.096	26.650	4.477
181.5	15.133	36.093	26.650	4.468
182.5	15.144	36.095	26.650	4.468
183.5	15.143	36.079	26.652	4.463
184.5	15.170	36.092	26.647	4.458
185.5	15.120	36.024	26.691	4.446
186.5	15.287	36.019	26.694	4.441
187.5	15.229	36.009	26.700	4.432
188.5	15.225	36.007	26.699	4.430
189.5	15.222	36.006	26.699	4.433
190.5	15.218	36.005	26.700	4.437
191.5	15.217	36.005	26.700	4.435
192.5	15.215	36.004	26.699	4.441
193.5	15.218	36.005	26.699	4.435
194.5	15.221	36.004	26.699	4.436
195.5	15.219	36.005	26.699	4.439
196.5	15.222	36.004	26.698	4.438
197.5	15.219	36.005	26.699	4.444
198.5	15.220	36.004	26.698	4.442
199.5	15.218	36.003	26.698	4.445
200.5	15.201	36.001	26.700	4.450
201.5	15.191	36.000	26.702	4.446
202.5	15.205	36.001	26.699	4.443
203.5	15.180	35.998	26.703	4.447
204.5	15.174	35.995	26.702	4.438
205.5	15.033	35.975	26.717	4.446
206.5	14.990	35.968	26.721	4.438
207.5	14.958	35.961	26.724	4.434
208.5	14.917	35.955	26.728	4.435



CRUISE: 89g15 STATION: SBE006.A DATE: Nov 13 01:54:34 1989
LATITUDE: 27 47.21 LONGITUDE: 93 36.29

STATION SBE007.AVG:: CRUISE 89g15 DATE & TIME Mon Nov 13 08:56:56 1989, Julian day = 317
LAT 27 34.7 LON 97 36.97 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
8.5	25.765	36.388	24.157	4.494
13.5	25.770	36.389	24.15e	4.509
18.5	25.772	36.390	24.15e	4.510
23.5	25.776	36.390	24.155	4.506
28.5	25.779	36.390	24.153	4.508
33.5	25.781	36.390	24.153	4.509
38.5	25.782	36.390	24.153	4.511
43.5	25.781	36.390	24.153	4.509
48.5	25.782	36.390	24.153	4.509
53.5	25.783	36.390	24.153	4.509
58.5	25.670	36.402	24.197	4.502
63.5	24.221	36.546	24.748	4.497
68.5	23.537	36.566	24.966	4.496
73.5	23.050	36.566	25.109	4.495
78.5	22.698	36.563	25.209	4.504
83.5	22.415	36.574	25.297	4.509
88.5	22.157	36.581	25.376	4.509
93.5	21.772	36.598	25.490	4.519
98.5	21.414	36.605	25.604	4.522
103.5	21.103	36.599	25.677	4.521
108.5	20.884	36.598	25.736	4.525
113.5	20.702	36.606	25.800	4.529
118.5	20.514	36.638	25.875	4.535
123.5	20.062	36.593	25.962	4.53e
128.5	19.638	36.561	26.050	4.538
133.5	19.304	36.546	26.125	4.539
138.5	19.071	36.532	26.175	4.541
143.5	18.948	36.536	26.210	4.546
148.5	18.787	36.546	26.259	4.545
153.5	18.649	36.513	26.294	4.547
158.5	18.305	36.472	26.324	4.545
163.5	18.021	36.426	26.361	4.545
168.5	17.705	36.377	26.402	4.548
173.5	17.489	36.346	26.430	4.548
178.5	17.309	36.320	26.455	4.548
183.5	17.186	36.321	26.485	4.547
188.5	17.006	36.308	26.518	4.550
193.5	16.806	36.280	26.545	4.551
198.5	16.666	36.255	26.558	4.550
203.5	16.512	36.224	26.572	4.553
208.5	16.311	36.186	26.589	4.548
213.5	16.172	36.153	26.596	4.550
218.5	15.939	36.104	26.612	4.547
223.5	15.776	36.082	26.633	4.549
228.5	15.674	36.052	26.656	4.546
233.5	15.458	36.033	26.667	4.547
238.5	15.311	36.015	26.687	4.547
243.5	15.164	35.991	26.701	4.543
248.5	15.034	35.970	26.713	4.542
253.5	14.871	35.942	26.728	4.545
258.5	14.704	35.915	26.744	4.549
263.5	14.533	35.889	26.761	4.550
268.5	14.340	35.859	26.780	4.550
273.5	14.065	35.818	26.806	4.549
278.5	13.909	35.791	26.819	4.546
283.5	13.794	35.772	26.829	4.547
288.5	13.636	35.747	26.842	4.549
293.5	13.423	35.715	26.862	4.550
298.5	13.217	35.682	26.878	4.549
303.5	13.080	35.661	26.890	4.544
308.5	12.992	35.614	26.911	4.552
313.5	12.894	35.598	26.919	4.549
318.5	12.580	35.581	26.928	4.548
323.5	12.460	35.563	26.938	4.547
328.5	12.356	35.546	26.944	4.548
333.5	12.223	35.527	26.956	4.550
338.5	12.038	35.497	26.969	4.549
343.5	11.975	35.486	26.972	4.550
348.5	11.908	35.476	26.977	4.55e
353.5	11.826	35.464	26.984	4.552
358.5	11.756	35.453	26.989	4.551
363.5	11.694	35.444	26.993	4.550
368.5	11.564	35.425	27.003	4.550
373.5	11.413	35.405	27.015	4.546
378.5	11.340	35.394	27.021	4.538
383.5	11.178	35.372	27.033	4.534
388.5	10.954	35.340	27.050	4.534
393.5	10.852	35.324	27.056	4.539
398.5	10.760	35.314	27.064	4.546
403.5	10.646	35.298	27.073	4.552
408.5	10.548	35.284	27.078	4.553
413.5	10.456	35.269	27.083	4.552
418.5	10.360	35.256	27.090	4.548
423.5	10.268	35.242	27.095	4.544
428.5	10.183	35.230	27.100	4.544
433.5	10.093	35.218	27.107	4.542
438.5	10.010	35.207	27.113	4.540
443.5	9.929	35.192	27.121	4.542
448.5	9.835	35.176	27.129	4.544
453.5	9.737	35.170	27.130	4.544
458.5	9.677	35.163	27.135	4.545
463.5	9.625	35.155	27.137	4.545
468.5	9.458	35.136	27.150	4.545
473.5	9.296	35.112	27.160	4.550
478.5	9.088	35.087	27.173	4.553
483.5	8.958	35.073	27.183	4.552



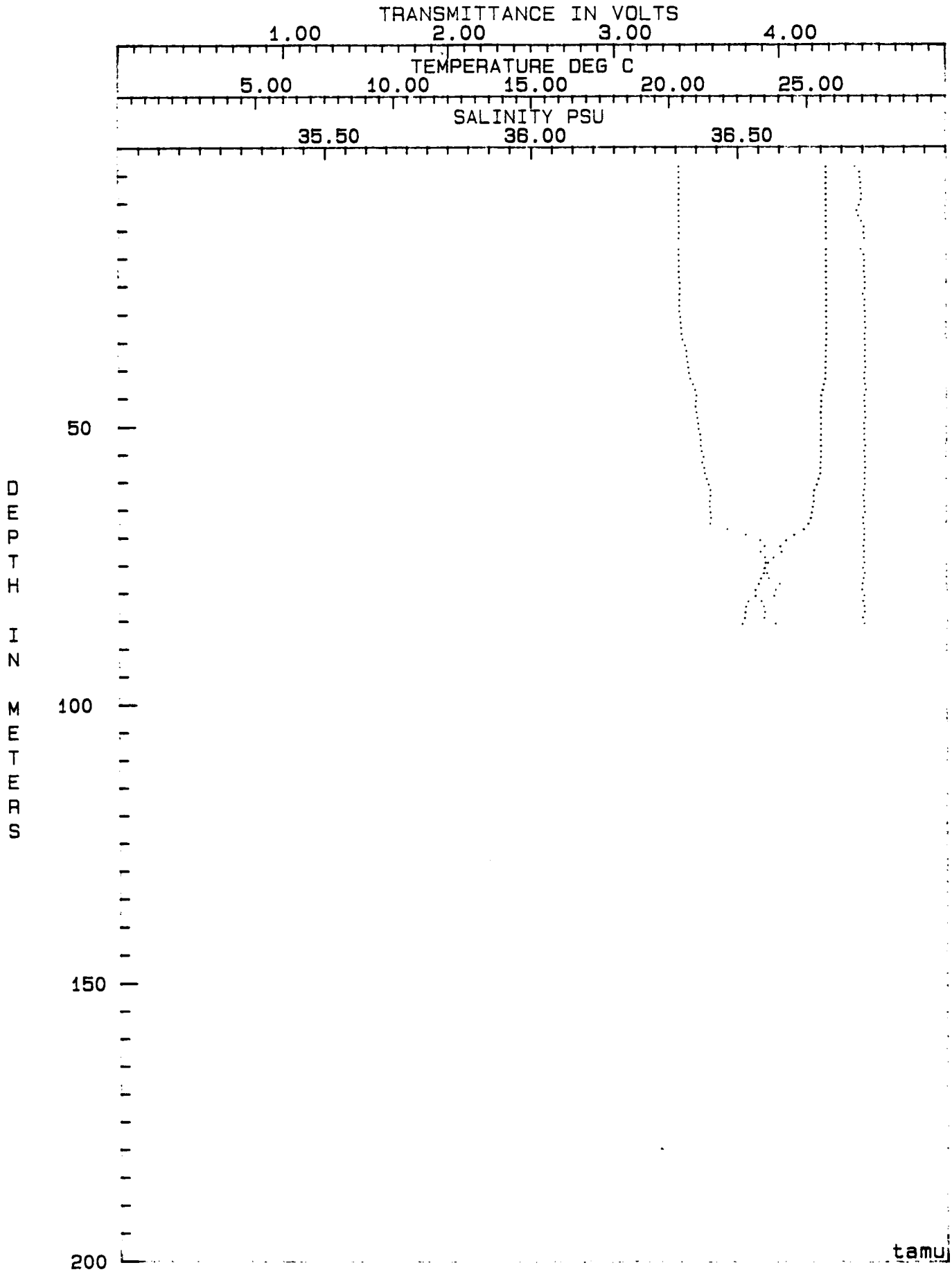
CRUISE: 89g15 STATION: SBE007.A DATE: Nov 13 08:36:56 1989
LATITUDE: 27 34.7 LONGITUDE: 93 36.97
TRIANGLES DENOTE DISCRETE SAMPLES

second CTD cast at STATION 07 to collect water for primary production expt
(cast to 85m; water depth = 500m)

STATION SBE07B.AVG:: CRUISE 89g15 DATE & TIME Mon Nov 13 13:57:46 1989, Juli
LAT 27 34.6 LON 93 36.9 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	KSM
3.5	25.668	36.357	24.163	4.451
4.5	25.671	36.357	24.162	4.479
5.5	25.669	36.357	24.163	4.480
6.5	25.670	36.357	24.162	4.485
7.5	25.669	36.357	24.163	4.484
8.5	25.670	36.356	24.162	4.490
9.5	25.670	36.357	24.162	4.487
10.5	25.672	36.356	24.162	4.475
11.5	25.670	36.356	24.162	4.461
12.5	25.666	36.357	24.164	4.471
13.5	25.666	36.357	24.164	4.489
14.5	25.672	36.357	24.162	4.505
15.5	25.671	36.357	24.162	4.502
16.5	25.672	36.356	24.161	4.506
18.5	25.667	36.356	24.163	4.485
19.5	25.667	36.356	24.163	4.502
20.5	25.667	36.357	24.163	4.506
21.5	25.667	36.357	24.164	4.505
22.5	25.668	36.357	24.163	4.505
23.5	25.668	36.357	24.163	4.508
24.5	25.668	36.358	24.164	4.510
25.5	25.668	36.359	24.164	4.508
26.5	25.668	36.358	24.164	4.496
27.5	25.669	36.357	24.163	4.509
28.5	25.669	36.358	24.163	4.506
29.5	25.669	36.358	24.163	4.509
30.5	25.668	36.360	24.165	4.511
31.5	25.668	36.361	24.166	4.508
32.5	25.668	36.362	24.167	4.512
33.5	25.668	36.363	24.167	4.508
34.5	25.666	36.365	24.170	4.507
35.5	25.658	36.371	24.177	4.508
36.5	25.652	36.375	24.181	4.509
37.5	25.652	36.375	24.182	4.506
38.5	25.648	36.377	24.185	4.509
39.5	25.642	36.379	24.188	4.510
40.5	25.636	36.381	24.191	4.505
41.5	25.624	36.383	24.197	4.504
42.5	25.580	36.391	24.216	4.508
43.5	25.531	36.396	24.235	4.515
44.5	25.481	36.399	24.253	4.505
45.5	25.479	36.397	24.252	4.503
46.5	25.474	36.397	24.253	4.506
47.5	25.469	36.399	24.256	4.507
48.5	25.471	36.401	24.257	4.510
49.5	25.472	36.403	24.259	4.501
50.5	25.473	36.404	24.259	4.504
51.5	25.474	36.408	24.262	4.503
52.5	25.474	36.409	24.262	4.503
53.5	25.474	36.409	24.263	4.509

DEPTH	TEMP	SALT	SIGMA-T	KSM
54.5	25.473	36.411	24.264	4.501
55.5	25.467	36.416	24.270	4.506
56.5	25.450	36.417	24.277	4.507
57.5	25.445	36.417	24.279	4.509
58.5	25.437	36.419	24.281	4.505
59.5	25.376	36.423	24.304	4.505
60.5	25.313	36.429	24.326	4.507
61.5	25.228	36.432	24.356	4.500
62.5	25.195	36.433	24.366	4.499
63.5	25.202	36.431	24.363	4.501
64.5	25.165	36.431	24.375	4.503
65.5	25.152	36.432	24.384	4.507
66.5	25.103	36.434	24.396	4.499
67.5	25.014	36.431	24.421	4.497
68.5	24.947	36.423	24.434	4.503
69.5	24.897	36.417	24.443	4.501
70.5	24.211	36.553	24.756	4.501
71.5	23.995	36.568	24.822	4.494
72.5	24.042	36.554	24.807	4.501
73.5	23.749	36.563	24.902	4.499
74.5	23.556	36.565	24.960	4.502
75.5	23.418	36.564	25.000	4.494
76.5	23.396	36.569	25.010	4.504
77.5	23.298	36.573	25.042	4.502
78.5	23.220	36.600	25.085	4.491
79.5	23.096	36.590	25.113	4.489
80.5	23.099	36.586	25.110	4.500
81.5	22.957	36.595	25.162	4.493
82.5	22.750	36.561	25.190	4.501
83.5	22.721	36.563	25.202	4.502
84.5	22.711	36.562	25.204	4.492
85.5	22.621	36.589	25.250	4.500



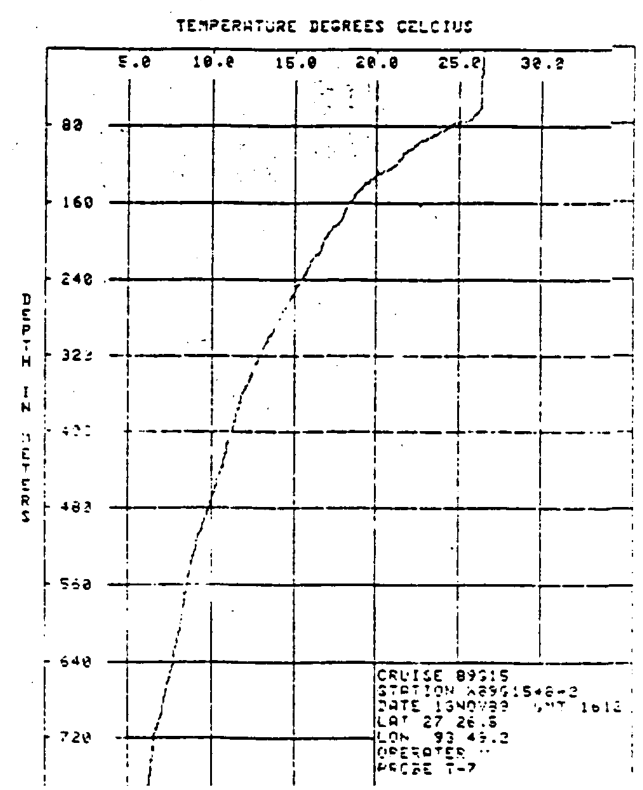
CRUISE: 89g15 STATION: SBE07B.A DATE: Nov 13 13:57:46 1989
LATITUDE: 27 34.6 LONGITUDE: 93 36.9

EXPENDABLE BATHYTHERMOGRAPH

DATE 13NOV89 GMT 1612 LAT 27 26.5 LON 93 49.2

PROBE T-7 CRUISE 89G15 STATION [illegible]-8-2

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	407.8	[illegible]	[illegible]	[illegible]
12.6	25.69	[illegible]	15.87	412.6	10.42	612.7	7.49
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10.37	[illegible]	[illegible]
22.4	25.67	222.5	15.38	422.4	10.29	[illegible]	7.34
27.8	25.65	[illegible]	15.27	427.3	10.21	[illegible]	[illegible]
32.5	25.63	[illegible]	15.11	432.5	10.14	632.6	7.22
37.6	25.62	[illegible]	[illegible]	437.6	10.10	[illegible]	7.21
42.5	25.62	[illegible]	14.77	442.6	9.99	[illegible]	7.16
47.7	25.61	247.4	14.59	447.4	9.87	647.4	7.09
52.6	25.61	252.7	14.42	452.5	9.78	652.6	7.03
57.5	25.60	257.7	14.23	457.5	9.71	657.3	6.95
62.7	25.56	262.7	14.08	462.6	9.65	662.6	6.87
67.5	25.76	267.7	13.95	467.7	9.53	667.4	6.82
72.4	25.09	272.6	13.75	472.4	9.44	672.6	6.72
77.7	24.21	277.6	13.59	477.5	9.35	677.3	6.66
82.5	23.61	282.6	13.47	482.6	9.26	682.6	[illegible]
87.4	23.02	287.6	13.32	487.4	9.16	687.5	6.55
92.7	22.48	292.6	13.17	492.5	9.05	692.3	6.51
97.6	21.92	297.6	13.01	497.5	8.95	697.5	6.46
102.5	21.56	302.6	12.82	502.6	8.86	702.7	6.37
107.7	21.12	307.6	12.69	507.7	8.71	707.5	6.25
112.6	20.94	312.6	12.54	512.5	8.63	712.4	6.20
117.5	20.71	317.6	12.42	517.6	8.55	717.6	6.10
122.4	20.36	322.6	12.27	522.7	8.49	722.8	6.07
127.4	19.82	327.7	12.14	527.5	8.42	727.7	6.03
132.6	19.31	332.7	11.96	532.6	8.36	732.7	6.00
137.5	18.93	337.7	11.88	537.7	8.27	737.4	[illegible]
142.4	18.61	342.4	11.79	542.5	8.22	742.6	5.93
147.7	18.32	347.4	11.67	547.6	8.17	747.3	5.90
152.6	18.07	352.4	11.54	552.7	8.07	752.7	5.80
157.6	17.91	357.5	11.39	557.5	8.03	757.5	[illegible]
162.5	17.63	362.5	11.23	562.7	7.95	762.4	5.81
167.4	17.49	367.5	11.14	567.8	7.92	767.3	5.78
172.7	17.36	371.6	11.09	572.6	7.89	772.6	5.71
177.6	17.26	377.6	11.01	577.4	7.85	777.7	5.69
182.6	17.04	382.6	10.92	582.5	7.81	782.6	5.65
187.5	16.69	387.7	10.87	587.6	7.77	787.5	5.63
192.5	16.50	392.7	10.79	592.4	7.71	792.4	5.62
197.4	16.28	397.4	10.71	597.6	7.64	797.3	5.59

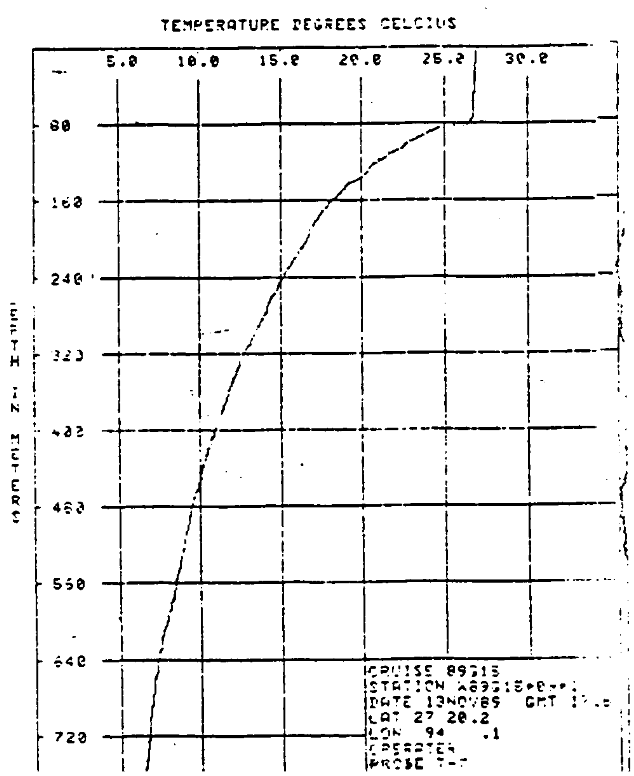


LAT 27 20.2 LON 94 .1

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15+09+1 DATE 13NOV89 GMT 1716

D	T	D	T	D	T	D	T	D	T
[illegible]	[illegible]	[illegible]	[illegible]	402.5	[illegible]	602.7	[illegible]	[illegible]	5.77
7.5	[illegible]	[illegible]	15.87	407.5	10.27	[illegible]	7.31		
12.6	26.15	212.6	15.64	412.6	10.15	612.7	7.20		
17.5	26.13	217.6	15.45	417.7	10.08	17.5	7.14		
22.4	26.12	222.5	15.26	422.4	9.94	622.6	7.11		
27.5	26.11	227.5	15.07	427.5	9.88	627.5	7.07		
32.6	26.11	232.5	14.88	432.5	9.79	632.6	6.95		
37.5	26.11	237.5	14.67	437.5	9.67	637.3	6.89		
42.5	26.10	242.4	14.49	442.6	9.57	642.6	6.86		
47.7	26.04	247.4	14.31	447.4	9.52	647.4	6.83		
52.6	25.99	252.7	14.19	452.5	9.50	652.6	6.79		
57.5	25.96	257.7	14.02	457.5	9.40	657.8	6.72		
62.7	25.95	262.7	13.82	462.6	9.32	662.6	6.65		
67.5	25.94	267.7	13.69	467.7	9.20	667.4	6.62		
72.4	25.94	272.6	13.58	472.4	9.12	672.6	6.60		
77.7	25.85	277.6	13.51	477.5	9.03	677.9	6.56		
82.5	25.51	282.6	13.32	482.6	8.95	682.6	6.52		
87.4	23.75	287.6	13.13	487.4	8.89	687.5	6.50		
92.7	23.15	292.6	12.99	492.5	8.84	692.3	6.47		
97.6	22.55	297.6	12.84	497.5	8.80	697.5	6.42		
102.5	22.06	302.6	12.69	502.6	8.72	702.7	6.39		
107.7	21.61	307.6	12.53	507.7	8.64	707.5	6.37		
112.6	21.03	312.6	12.38	512.5	8.59	712.4	6.36		
117.5	20.61	317.6	12.20	517.6	8.55	717.6	6.35		
122.4	20.13	322.6	12.05	522.7	8.50	722.8	6.32		
127.4	19.82	327.7	11.92	527.5	8.42	727.7	6.27		
132.6	19.61	332.7	11.83	532.6	8.36	732.5	6.23		
137.5	19.31	337.7	11.72	537.7	8.29	737.4	[illegible]		
142.4	18.75	342.4	11.62	542.5	8.22	[illegible]	6.14		
147.7	18.37	347.4	11.51	547.6	8.18	[illegible]	[illegible]		
152.6	[illegible]	352.4	11.36	552.7	8.07	752.7	[illegible]		
157.6	17.83	357.5	11.24	557.5	8.00	757.5	[illegible]		
162.5	17.49	362.5	11.17	562.7	7.95	762.4	5.96		
167.4	17.28	367.5	11.08	567.8	7.91	767.3	5.93		
172.7	17.03	372.6	10.98	572.6	7.86	772.6	5.88		
177.6	16.82	377.6	10.87	577.4	7.78	777.7	5.85		
182.6	16.60	382.6	10.78	582.5	7.70	782.6	5.84		
187.5	16.41	387.7	10.64	587.6	7.65	787.5	5.83		
192.5	16.24	392.7	10.52	592.4	7.56	792.4	5.80		
197.4	16.15	397.4	10.44	597.6	7.47	797.3	5.76		

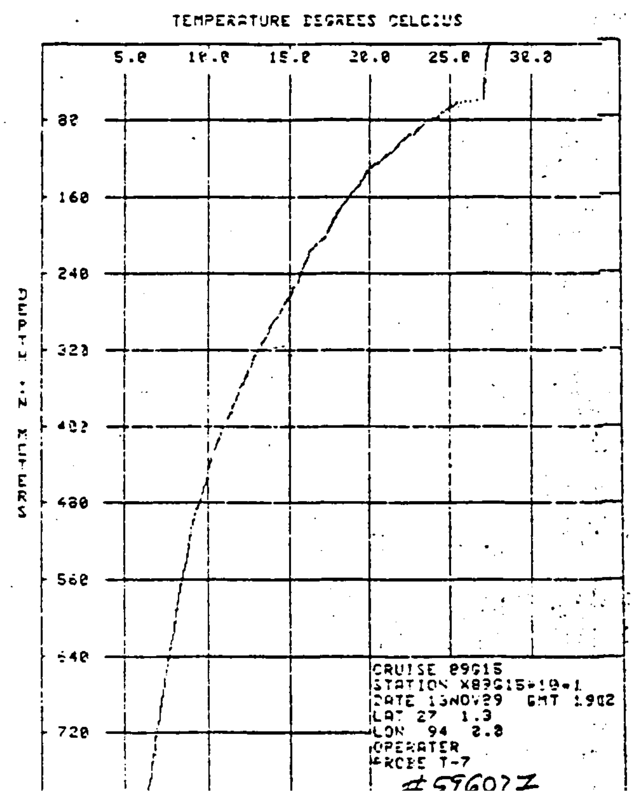


LAT 27 1.3 LON 94 0.8

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*10*1 DATE 13NOV89 GMT 1902

D	T	D	T	D	T	D	T	D	T
[illegible]	[illegible]	[illegible]	[illegible]	402.5	[illegible]	602.7	7.47	[illegible]	[illegible]
7.8	26.55	207.7	[illegible]	407.5	10.25	607.5	7.41		
12.6	26.51	212.5	15.87	412.6	10.16	612.7	7.38		
17.5	26.50	217.5	15.67	417.7	10.03	617.5	7.32		
22.4	26.40	222.5	15.51	422.4	9.94	622.6	7.26		
27.5	26.47	227.5	15.42	427.5	9.84	627.5	7.19		
32.8	26.42	232.5	15.27	432.5	9.74	632.6	7.14		
37.6	26.40	237.5	15.15	437.6	9.64	637.8	7.08		
42.5	26.40	242.4	15.04	442.6	9.57	642.6	7.05		
47.7	26.38	247.4	14.95	447.4	9.51	647.4	7.02		
52.6	26.36	252.7	14.77	452.5	9.43	652.6	6.97		
57.5	26.33	257.7	14.62	457.5	9.35	657.8	6.91		
62.7	25.00	262.7	14.46	462.6	9.28	662.6	6.87		
67.5	24.29	267.7	14.26	467.7	9.16	667.4	6.84		
72.4	23.87	272.6	14.08	472.4	9.09	672.6	6.77		
77.7	23.49	277.6	13.93	477.5	8.98	677.8	6.77		
82.5	22.82	282.6	13.77	482.6	8.89	682.6	6.69		
87.4	22.56	287.6	13.59	487.4	8.73	687.5	6.67		
92.7	22.23	292.6	13.35	492.5	8.66	692.3	6.59		
97.6	21.70	297.6	13.19	497.5	8.58	697.5	6.54		
102.5	21.32	302.6	13.10	502.6	8.50	702.7	6.53		
107.7	21.06	307.6	12.94	507.7	8.45	707.5	6.49		
112.6	20.82	312.6	12.76	512.5	8.43	712.4	6.43		
117.5	20.41	317.6	12.67	517.6	8.36	717.6	6.36		
122.4	20.05	322.6	12.48	522.7	8.30	722.8	6.30		
127.4	19.64	327.7	12.29	527.5	8.29	727.7	6.27		
132.6	19.26	332.7	12.15	532.6	8.21	732.5	6.24		
137.5	19.06	337.7	12.04	537.7	8.17	737.4	6.22		
142.4	18.85	342.4	11.96	542.5	8.13	742.6	6.20		
147.7	18.70	347.4	11.79	547.6	8.05	747.8	6.15		
152.6	18.42	352.4	11.64	552.7	7.97	752.7	6.09		
157.6	18.14	357.5	11.49	557.3	7.92	757.5	6.06		
162.5	18.00	362.5	11.36	562.7	7.86	762.4	6.04		
167.4	17.76	367.5	11.25	567.8	7.78	767.3	6.01		
172.7	17.50	372.6	11.13	572.6	7.74	772.6	5.96		
177.6	17.29	377.6	11.01	577.4	7.68	777.7	5.91		
182.6	17.15	382.6	10.90	582.5	7.64	782.6	5.89		
187.5	17.00	387.7	10.79	587.6	7.59	787.5	5.86		
192.5	16.85	392.7	10.60	592.4	7.53	792.4	5.82		
197.4	16.72	397.4	10.50	597.6	7.48	797.3	5.80		



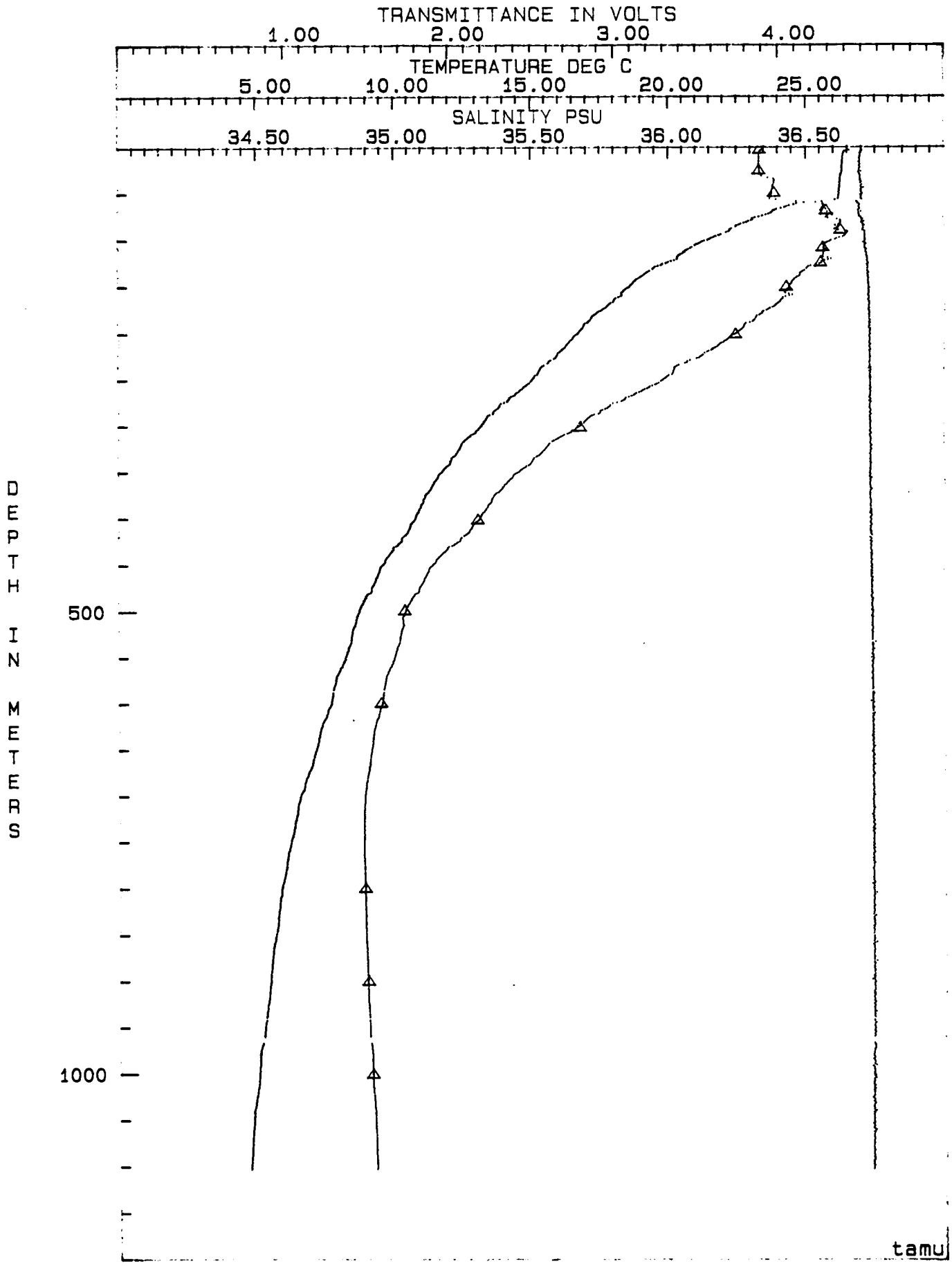
STATION SBE010.AVG:: CRUISE 89g15 DATE & TIME Mon Nov 13 19:17:42 1989. Julian day = 317
LAT 27 00.36 LON 93 59.76 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	VSM
3.5	26.340	36.333	23.934	4.492
13.5	26.319	36.332	23.940	4.490
18.5	26.309	36.332	23.943	4.489
23.5	26.302	36.333	23.947	4.489
28.5	26.279	36.337	23.957	4.488
33.5	26.239	36.369	23.993	4.493
38.5	26.224	36.391	24.015	4.495
43.5	26.209	36.382	24.012	4.499
48.5	26.196	36.379	24.014	4.499
53.5	26.178	36.375	24.017	4.499
58.5	25.328	36.420	24.161	4.494
63.5	24.487	36.554	24.674	4.486
68.5	23.890	36.563	24.860	4.487
73.5	23.552	36.597	24.985	4.485
78.5	23.031	36.596	25.137	4.500
83.5	22.677	36.623	25.260	4.508
88.5	22.333	36.612	25.350	4.508
93.5	22.026	36.646	25.464	4.518
98.5	21.790	36.621	25.567	4.519
103.5	21.173	36.580	25.651	4.519
108.5	20.854	36.566	25.728	4.520
113.5	20.588	36.567	25.801	4.527
118.5	20.359	36.565	25.862	4.530
123.5	20.094	36.567	25.934	4.534
128.5	19.633	36.522	26.022	4.536
133.5	19.313	36.494	26.084	4.536
138.5	19.062	36.477	26.136	4.538
143.5	18.805	36.457	26.187	4.539
148.5	18.642	36.445	26.219	4.541
153.5	18.423	36.435	26.266	4.543
158.5	18.271	36.433	26.304	4.542
163.5	18.070	36.418	26.342	4.542
168.5	17.863	36.399	26.379	4.545
173.5	17.646	36.373	26.413	4.543
178.5	17.366	36.341	26.457	4.545
183.5	17.172	36.318	26.486	4.544
188.5	17.011	36.296	26.508	4.548
193.5	16.871	36.273	26.524	4.545
198.5	16.733	36.255	26.543	4.549
203.5	16.595	36.229	26.565	4.548
208.5	16.411	36.207	26.582	4.547
213.5	16.268	36.183	26.597	4.547
218.5	16.100	36.155	26.614	4.549
223.5	15.947	36.127	26.628	4.547
228.5	15.766	36.092	26.643	4.549
233.5	15.526	36.049	26.665	4.546
238.5	15.335	36.023	26.687	4.548
243.5	15.240	36.015	26.702	4.549
248.5	15.076	35.987	26.718	4.549
253.5	14.924	35.963	26.732	4.549
258.5	14.717	35.927	26.750	4.549
263.5	14.512	35.891	26.767	4.549
268.5	14.292	35.856	26.788	4.547
273.5	14.090	35.827	26.805	4.549
278.5	13.960	35.786	26.825	4.546
283.5	13.686	35.757	26.839	4.549
288.5	13.477	35.724	26.857	4.548
293.5	13.339	35.700	26.867	4.549
298.5	13.222	35.681	26.876	4.549
303.5	13.078	35.658	26.888	4.549
308.5	12.904	35.631	26.902	4.549
313.5	12.667	35.596	26.922	4.552
318.5	12.503	35.569	26.934	4.551
323.5	12.422	35.556	26.940	4.554
328.5	12.322	35.541	26.948	4.551
333.5	12.173	35.520	26.960	4.552
338.5	12.078	35.504	26.967	4.552
343.5	11.945	35.485	26.978	4.551
348.5	11.780	35.460	26.989	4.550
353.5	11.635	35.438	27.000	4.549
358.5	11.527	35.423	27.009	4.551
363.5	11.432	35.408	27.014	4.550
368.5	11.333	35.394	27.022	4.553
373.5	11.194	35.374	27.032	4.550
378.5	11.109	35.362	27.038	4.551
383.5	11.035	35.352	27.044	4.552
388.5	10.958	35.341	27.050	4.553
393.5	10.863	35.328	27.057	4.556
398.5	10.792	35.318	27.062	4.555
403.5	10.680	35.303	27.070	4.554
408.5	10.588	35.289	27.075	4.554
413.5	10.518	35.278	27.079	4.554
418.5	10.376	35.259	27.090	4.555
423.5	10.258	35.241	27.096	4.555
428.5	10.107	35.218	27.104	4.554
433.5	9.951	35.194	27.113	4.554
438.5	9.819	35.175	27.120	4.556
443.5	9.695	35.158	27.128	4.556
448.5	9.597	35.146	27.135	4.556
453.5	9.474	35.130	27.143	4.556
458.5	9.424	35.123	27.146	4.557
463.5	9.349	35.114	27.151	4.558
468.5	9.286	35.107	27.156	4.556
473.5	9.198	35.097	27.163	4.557
478.5	9.162	35.092	27.164	4.556
483.5	8.996	35.075	27.178	4.557
488.5	8.899	35.063	27.184	4.559
493.5	8.807	35.052	27.190	4.557
498.5	8.732	35.044	27.196	4.560
503.5	8.667	35.037	27.200	4.558
508.5	8.614	35.033	27.206	4.558
513.5	8.582	35.035	27.212	4.556
518.5	8.505	35.031	27.221	4.559
523.5	8.459	35.026	27.225	4.557
528.5	8.476	35.023	27.226	4.558
533.5	8.409	35.020	27.228	4.559
538.5	8.343	35.014	27.233	4.560
543.5	8.286	35.008	27.238	4.560
548.5	8.229	35.004	27.242	4.560
553.5	8.171	34.998	27.247	4.560
558.5	8.095	34.991	27.253	4.557
563.5	7.994	34.981	27.260	4.558
568.5	7.923	34.975	27.266	4.559
573.5	7.868	34.970	27.270	4.559
578.5	7.833	34.967	27.273	4.560
583.5	7.776	34.963	27.279	4.559
588.5	7.752	34.961	27.281	4.561
593.5	7.731	34.960	27.283	4.560
598.5	7.706	34.957	27.284	4.561
603.5	7.631	34.952	27.292	4.560
608.5	7.565	34.947	27.297	4.563
613.5	7.517	34.943	27.300	4.562
618.5	7.422	34.935	27.303	4.561
623.5	7.361	34.932	27.314	4.561
628.5	7.306	34.927	27.319	4.560
633.5	7.277	34.925	27.321	4.561
638.5	7.238	34.923	27.325	4.561
643.5	7.207	34.921	27.328	4.561
648.5	7.158	34.918	27.333	4.562
653.5	7.104	34.916	27.338	4.562
658.5	7.058	34.913	27.343	4.564
663.5	7.020	34.911	27.347	4.562
668.5	6.973	34.909	27.351	4.563
673.5	6.892	34.906	27.360	4.561
678.5	6.827	34.903	27.367	4.562
683.5	6.770	34.900	27.372	4.561
688.5	6.731	34.898	27.375	4.562
693.5	6.680	34.896	27.381	4.562
698.5	6.592	34.893	27.391	4.564
703.5	6.550	34.892	27.396	4.560
708.5	6.503	34.891	27.401	4.561
713.5	6.479	34.890	27.404	4.563
718.5	6.460	34.890	27.406	4.560
723.5	6.419	34.890	27.411	4.561
728.5	6.378	34.890	27.417	4.564
733.5	6.354	34.890	27.420	4.564
738.5	6.328	34.890	27.423	4.563
743.5	6.280	34.890	27.430	4.564
748.5	6.235	34.889	27.435	4.562
753.5	6.202	34.888	27.439	4.563

STATION SBE010.AVG:: CRUISE 89g15 DATE & TIME Mon Nov 13 19:17:42 1989, Julian day = 317
LAT 27 00.36 LON 93 59.76 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
758.5	6.156	34.888	27.445	4.563
763.5	6.119	34.888	27.449	4.563
768.5	6.094	34.889	27.453	4.562
773.5	6.070	34.890	27.457	4.565
778.5	6.052	34.891	27.460	4.560
783.5	6.017	34.891	27.464	4.563
788.5	5.980	34.891	27.469	4.561
793.5	5.936	34.892	27.475	4.564
798.5	5.899	34.892	27.480	4.562
803.5	5.878	34.891	27.483	4.564
808.5	5.849	34.892	27.487	4.564
813.5	5.814	34.892	27.491	4.563
818.5	5.806	34.892	27.492	4.564
823.5	5.779	34.893	27.496	4.562
828.5	5.758	34.893	27.499	4.564
833.5	5.747	34.894	27.501	4.563
838.5	5.734	34.894	27.502	4.565
843.5	5.707	34.894	27.507	4.564
848.5	5.675	34.895	27.511	4.562
853.5	5.648	34.895	27.514	4.565
858.5	5.605	34.896	27.521	4.564
863.5	5.576	34.897	27.525	4.565
868.5	5.561	34.897	27.527	4.564
873.5	5.538	34.898	27.530	4.564
878.5	5.524	34.898	27.532	4.566
883.5	5.512	34.898	27.533	4.564
888.5	5.497	34.899	27.536	4.566
893.5	5.479	34.899	27.539	4.566
898.5	5.473	34.900	27.539	4.566
903.5	5.451	34.901	27.543	4.566
908.5	5.436	34.901	27.545	4.566
913.5	5.424	34.901	27.547	4.566
918.5	5.404	34.902	27.550	4.564
923.5	5.377	34.903	27.554	4.566
928.5	5.354	34.904	27.557	4.564
933.5	5.331	34.905	27.561	4.567
938.5	5.314	34.906	27.564	4.567
943.5	5.291	34.907	27.567	4.566
948.5	5.268	34.908	27.571	4.566
953.5	5.252	34.908	27.573	4.566
958.5	5.238	34.909	27.575	4.566
968.5	5.164	34.912	27.587	4.567
973.5	5.115	34.915	27.594	4.565
978.5	5.090	34.916	27.598	4.560
983.5	5.083	34.916	27.599	4.564
988.5	5.082	34.916	27.600	4.565
993.5	5.066	34.917	27.602	4.561
998.5	5.055	34.917	27.604	4.563
1003.5	5.043	34.918	27.605	4.567
1008.5	5.035	34.918	27.606	4.561

DEPTH	TEMP	SALT	SIGMA-T	XSM
1013.5	5.021	34.919	27.609	4.562
1018.5	4.994	34.920	27.613	4.562
1023.5	4.964	34.922	27.618	4.560
1028.5	4.936	34.923	27.622	4.563
1033.5	4.914	34.924	27.626	4.563
1038.5	4.878	34.926	27.631	4.564
1043.5	4.865	34.926	27.633	4.560
1048.5	4.859	34.927	27.634	4.560
1053.5	4.849	34.927	27.635	4.562
1058.5	4.838	34.928	27.637	4.562
1063.5	4.822	34.929	27.639	4.562
1068.5	4.806	34.929	27.642	4.561
1073.5	4.795	34.930	27.643	4.560
1078.5	4.790	34.930	27.644	4.558
1083.5	4.785	34.930	27.645	4.560
1088.5	4.774	34.931	27.647	4.560
1093.5	4.761	34.932	27.649	4.560
1098.5	4.750	34.932	27.651	4.558



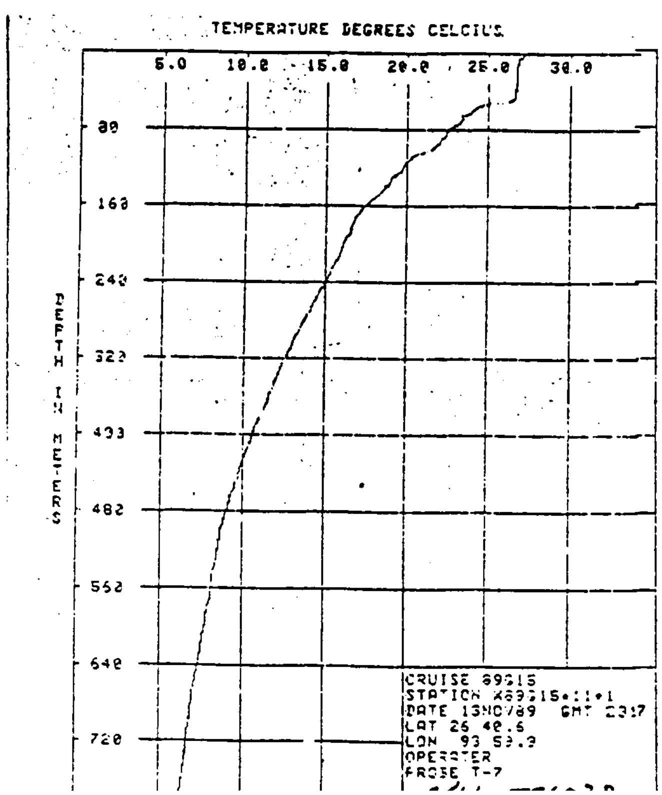
CRUISE: 89g15 STATION: SBE010.A DATE: Nov 13 19: 17: 42 1989
LATITUDE: 27 00.36 LONGITUDE: 93 59.76
TRIANGLES DENOTE DISCRETE SAMPLES

LAT 26 40.6 LON 93 53.9

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89915 STATION X89915*11*1 DATE 13NOV89 GMT 2317

D	T	D	T	D	T	D	T		
[illegible]	[illegible]	[illegible]	15.45	[illegible]	[illegible]	[illegible]	7.21	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	15.38	407.5	9.91	[illegible]	7.18		
12.6	26.02	212.6	15.25	412.6	9.80	612.7	7.11		
17.5	25.99	217.6	15.12	417.7	9.70	617.5	7.06		
22.4	25.98	222.5	14.94	422.4	9.59	622.6	7.03		
27.5	25.97	227.5	14.80	427.5	9.47	627.5	6.98		
32.5	25.95	232.5	14.68	432.5	9.35	632.6	6.92		
37.6	25.97	237.5	14.53	437.6	9.27	637.6	6.89		
42.5	25.90	242.4	14.35	442.6	9.21	642.6	6.84		
47.7	25.36	247.4	14.18	447.4	9.14	647.4	6.78		
52.6	24.99	252.7	14.03	452.5	9.05	652.6	6.72		
57.5	23.69	257.7	13.87	457.5	8.96	657.8	6.67		
62.7	23.25	262.7	13.70	462.6	8.81	662.6	6.63		
67.5	22.76	267.7	13.57	467.7	8.75	667.4	6.57		
72.4	22.60	272.6	13.46	472.4	8.68	672.6	6.57		
77.7	22.11	277.6	13.22	477.5	8.60	677.3	6.51		
82.5	21.78	282.6	13.05	482.6	8.49	682.6	6.47		
87.4	21.54	287.6	12.93	487.4	8.42	687.5	6.44		
92.7	21.33	292.6	12.78	492.5	8.32	692.7	6.42		
97.6	21.08	297.6	12.60	497.5	8.21	697.5	6.39		
102.5	20.68	302.6	12.45	502.6	8.16	702.7	6.34		
107.7	19.84	307.6	12.33	507.7	8.15	707.5	6.29		
112.6	19.49	312.6	12.21	512.5	8.06	712.4	6.25		
117.5	19.19	317.6	12.05	517.6	8.02	717.6	6.21		
122.4	19.05	322.6	11.87	522.7	7.96	722.3	6.19		
127.4	18.71	327.7	11.75	527.5	7.93	727.7	6.17		
132.6	18.40	332.7	11.65	532.6	7.91	732.5	6.10		
137.5	18.22	337.7	11.50	537.7	7.85	737.4	6.08		
142.4	17.94	342.4	11.41	542.5	7.77	742.6	6.05		
147.7	17.66	347.4	11.23	547.6	7.69	747.3	5.99		
152.6	17.32	352.4	11.10	552.7	7.65	752.7	5.96		
157.6	16.98	357.5	11.01	557.7	7.64	757.5	5.93		
162.5	16.70	362.5	10.93	562.7	7.62	762.4	5.90		
167.4	16.49	367.5	10.84	567.3	7.60	767.3	5.87		
172.7	16.25	372.6	10.72	572.6	7.55	772.6	5.82		
177.6	16.11	377.6	10.76	577.4	7.47	777.7	5.77		
182.6	15.99	382.6	10.47	582.5	7.39	782.6	5.73		
187.5	15.94	387.7	10.33	587.6	7.32	787.5	5.71		
192.5	15.75	392.7	10.17	592.4	7.28	792.4	5.70		
197.4	15.58	397.4	10.09	597.6	7.27	797.3	5.69		

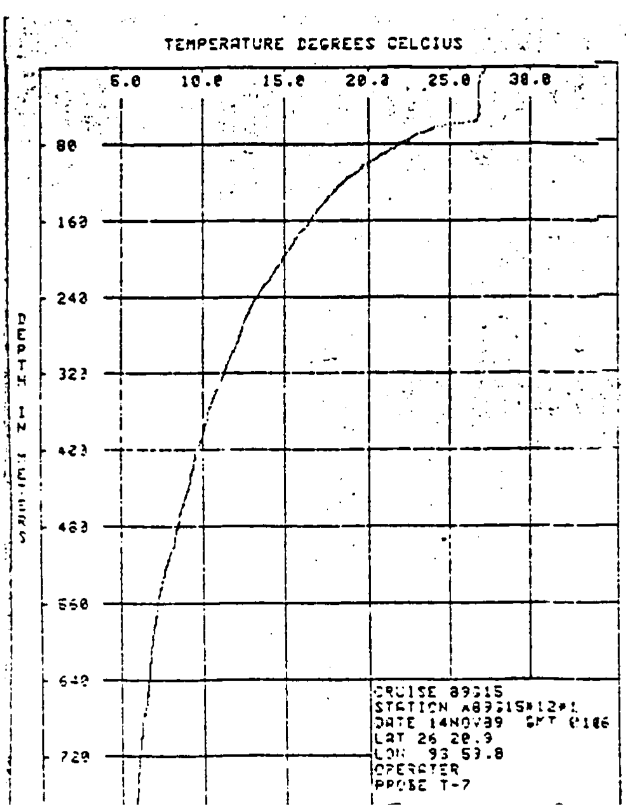


LAT 26 20.9 LON 93 59.9

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*12*1 DATE 14NOV89 GMT 0106

Z	T	Z	T	Z	T	Z	T	Z	T
[illegible]	[illegible]	[illegible]	[illegible]	402.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.5	26.11	207.7	14.08	407.5	[illegible]	607.5	[illegible]		
12.6	26.04	212.6	13.86	412.6	8.94	612.7	6.35		
17.5	26.01	217.6	13.67	417.7	8.89	617.8	6.33		
22.4	26.00	222.5	13.49	422.4	8.84	622.6	6.30		
27.5	25.98	227.5	13.26	427.5	8.76	627.5	6.27		
32.8	25.97	232.5	13.07	432.5	8.71	632.6	6.23		
37.6	25.97	237.5	12.87	437.6	8.65	637.8	6.21		
42.5	26.03	242.4	12.74	442.6	8.58	642.6	6.19		
47.7	25.99	247.4	12.52	447.4	8.50	647.4	6.17		
52.6	25.98	252.7	12.36	452.5	8.40	652.6	6.11		
57.5	25.54	257.7	12.24	457.5	8.30	657.8	6.09		
62.7	23.74	262.7	12.11	462.6	8.18	662.6	6.06		
67.5	22.85	267.7	12.00	467.7	8.09	667.4	6.02		
72.4	22.13	272.6	11.87	472.4	8.06	672.6	5.96		
77.7	21.59	277.6	11.78	477.5	7.99	677.8	5.90		
82.5	21.05	282.6	11.69	482.6	7.97	682.6	5.85		
87.4	20.56	287.6	11.59	487.4	7.86	687.5	5.79		
92.7	20.01	292.5	11.46	492.5	7.80	692.3	5.76		
97.6	19.54	297.6	11.32	497.5	7.76	697.5	5.74		
102.5	19.09	302.6	11.18	502.6	7.70	702.7	5.72		
107.7	18.80	307.6	11.05	507.7	7.58	707.5	5.70		
112.6	18.45	312.6	10.93	512.5	7.48	712.4	5.68		
117.5	18.05	317.6	10.84	517.6	7.38	717.6	5.65		
122.4	17.73	322.6	10.74	522.7	7.29	722.8	5.63		
127.4	17.46	327.7	10.64	527.5	7.20	727.7	5.60		
132.6	17.16	332.7	10.50	532.6	7.15	732.5	5.58		
137.5	16.90	337.7	10.31	537.7	7.07	737.4	5.55		
142.4	16.69	342.4	10.19	542.5	6.99	742.6	5.53		
147.7	16.41	347.4	10.08	547.6	6.95	747.8	5.50		
152.6	16.27	352.4	9.97	552.7	6.87	752.7	5.50		
157.6	16.05	357.5	9.88	557.5	6.73	757.5	5.47		
162.5	15.91	362.5	9.79	562.7	6.75	762.4	5.44		
167.4	15.70	367.5	9.75	567.8	6.70	767.3	5.43		
172.7	15.38	372.6	9.68	572.6	6.68	772.6	5.42		
177.6	15.17	377.6	9.55	577.4	6.66	777.7	5.42		
182.6	14.98	382.6	9.50	582.5	6.60	782.6	5.38		
187.5	14.83	387.7	9.44	587.6	6.56	787.5	5.36		
192.5	14.64	392.7	9.32	592.4	6.51	792.4	5.32		
197.4	14.40	397.4	9.17	597.6	6.46	797.3	5.29		



STATION SBE012.AVG:: CRUISE 89g15 DATE & TIME Tue Nov 14 01:21:02 1989, Julian day = 318
LAT 26 20.74 LON 93 59.80 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
8.5	26.073	36.360	24.039	4.498
13.5	26.042	36.357	24.046	4.494
18.5	26.024	36.354	24.050	4.499
23.5	26.009	36.351	24.052	4.497
28.5	26.000	36.351	24.055	4.496
33.5	25.998	36.352	24.056	4.499
38.5	26.049	36.382	24.063	4.496
43.5	26.042	36.445	24.113	4.492
48.5	25.893	36.422	24.142	4.493
53.5	25.814	36.402	24.151	4.489
58.5	24.739	36.467	24.516	4.488
63.5	23.524	36.502	24.921	4.485
68.5	22.697	36.522	25.178	4.470
73.5	22.049	36.555	25.387	4.490
78.5	21.574	36.569	25.531	4.502
83.5	21.052	36.578	25.683	4.508
88.5	20.548	36.566	25.811	4.515
118.5	18.132	36.415	26.324	4.533
123.5	17.845	36.389	26.376	4.535
128.5	17.477	36.344	26.432	4.540
133.5	17.296	36.318	26.456	4.540
138.5	17.051	36.287	26.491	4.539
143.5	16.755	36.245	26.530	4.539
148.5	16.560	36.213	26.552	4.543
153.5	16.365	36.184	26.574	4.543
158.5	16.138	36.150	26.601	4.540
163.5	15.944	36.120	26.624	4.544
168.5	15.781	36.094	26.641	4.542
173.5	15.609	36.068	26.660	4.542
178.5	15.426	36.039	26.679	4.541
183.5	15.312	36.020	26.690	4.543
188.5	15.133	35.992	26.709	4.545
193.5	14.936	35.960	26.728	4.546
198.5	14.736	35.929	26.748	4.544
203.5	14.528	35.894	26.766	4.548
208.5	14.346	35.866	26.783	4.545
213.5	14.176	35.837	26.797	4.545
218.5	14.017	35.811	26.811	4.548
223.5	13.762	35.771	26.834	4.544
228.5	13.544	35.736	26.852	4.545
233.5	13.327	35.701	26.870	4.545
238.5	13.099	35.665	26.889	4.547
243.5	12.915	35.636	26.904	4.547
248.5	12.755	35.611	26.917	4.549
253.5	12.605	35.587	26.928	4.546
258.5	12.454	35.563	26.939	4.549
263.5	12.329	35.544	26.949	4.548
268.5	12.188	35.521	26.958	4.549
273.5	12.043	35.500	26.970	4.547
278.5	11.936	35.482	26.977	4.549
283.5	11.817	35.464	26.985	4.550
288.5	11.684	35.445	26.995	4.550
293.5	11.546	35.424	27.005	4.549
298.5	11.440	35.408	27.013	4.550
303.5	11.291	35.385	27.025	4.551
308.5	11.185	35.370	27.031	4.550
313.5	11.098	35.357	27.036	4.549
318.5	10.984	35.340	27.044	4.550
323.5	10.904	35.328	27.050	4.551
328.5	10.810	35.315	27.056	4.552
333.5	10.703	35.300	27.064	4.551
338.5	10.553	35.278	27.073	4.551
343.5	10.380	35.255	27.086	4.551
348.5	10.266	35.238	27.092	4.551
353.5	10.130	35.219	27.101	4.550
358.5	10.066	35.209	27.104	4.551
363.5	9.980	35.198	27.111	4.552
368.5	9.870	35.184	27.118	4.554
373.5	9.771	35.170	27.124	4.553
378.5	9.668	35.156	27.130	4.553
383.5	9.597	35.147	27.136	4.551
388.5	9.523	35.139	27.141	4.552
393.5	9.405	35.125	27.150	4.553
398.5	9.304	35.111	27.156	4.552
403.5	9.221	35.100	27.161	4.554
408.5	9.140	35.091	27.167	4.552
413.5	9.058	35.082	27.173	4.553
418.5	8.959	35.070	27.180	4.552
423.5	8.849	35.058	27.188	4.552
428.5	8.767	35.048	27.194	4.554
433.5	8.694	35.038	27.198	4.554
438.5	8.619	35.030	27.203	4.555
443.5	8.542	35.023	27.209	4.555
448.5	8.464	35.014	27.214	4.555
453.5	8.402	35.007	27.219	4.558
458.5	8.359	35.002	27.221	4.553
463.5	8.302	34.997	27.226	4.558
468.5	8.206	34.988	27.234	4.554
473.5	8.145	34.982	27.239	4.556
478.5	8.081	34.979	27.245	4.556
483.5	8.006	34.971	27.250	4.554
488.5	7.892	34.961	27.260	4.555
493.5	7.853	34.957	27.262	4.558
498.5	7.786	34.952	27.269	4.556
503.5	7.762	34.949	27.270	4.556
508.5	7.649	34.941	27.280	4.556
513.5	7.611	34.938	27.283	4.558
518.5	7.547	34.934	27.289	4.555
523.5	7.472	34.928	27.296	4.557
528.5	7.379	34.922	27.304	4.557
533.5	7.322	34.917	27.310	4.555
538.5	7.230	34.915	27.319	4.557
543.5	7.135	34.910	27.329	4.556
548.5	7.117	34.909	27.330	4.555
553.5	7.096	34.911	27.332	4.555
558.5	7.034	34.911	27.344	4.561
563.5	7.000	34.908	27.347	4.561
568.5	6.936	34.905	27.353	4.559
573.5	6.903	34.903	27.356	4.560
578.5	6.849	34.901	27.361	4.562
583.5	6.819	34.900	27.365	4.560
588.5	6.761	34.899	27.373	4.559
593.5	6.746	34.897	27.373	4.564
598.5	6.632	34.896	27.388	4.555
603.5	6.592	34.895	27.392	4.560
608.5	6.565	34.895	27.396	4.562
613.5	6.517	34.894	27.402	4.560
618.5	6.490	34.894	27.405	4.562
623.5	6.453	34.894	27.410	4.560
628.5	6.395	34.892	27.416	4.561
633.5	6.364	34.892	27.420	4.561
638.5	6.305	34.891	27.427	4.562
643.5	6.257	34.891	27.433	4.562
648.5	6.216	34.891	27.438	4.561
653.5	6.189	34.890	27.441	4.561
658.5	6.147	34.890	27.447	4.564
663.5	6.126	34.890	27.449	4.562
668.5	6.094	34.890	27.454	4.560
673.5	6.074	34.890	27.456	4.562
678.5	6.060	34.890	27.458	4.561
683.5	6.045	34.890	27.460	4.561
688.5	6.017	34.890	27.464	4.563
693.5	5.991	34.891	27.469	4.561
698.5	5.969	34.891	27.470	4.562
703.5	5.938	34.891	27.475	4.562
708.5	5.905	34.891	27.479	4.564
713.5	5.865	34.891	27.484	4.562
718.5	5.846	34.891	27.487	4.562
723.5	5.828	34.892	27.489	4.563
728.5	5.797	34.893	27.494	4.562
733.5	5.773	34.893	27.497	4.563
738.5	5.742	34.894	27.502	4.562
743.5	5.695	34.895	27.508	4.562
748.5	5.672	34.895	27.511	4.562
753.5	5.647	34.896	27.515	4.563
758.5	5.617	34.896	27.519	4.563
763.5	5.594	34.897	27.523	4.565
768.5	5.573	34.897	27.526	4.562
773.5	5.557	34.898	27.528	4.564
778.5	5.546	34.898	27.529	4.563

STATION SBE012.AVG:: CRUISE 89g15 DATE & TIME Tue Nov 14 01:21:02 1989, Julian day = 318
LAT 26 20.74 LON 93 59.80 DEPTH OFFSET 0.0

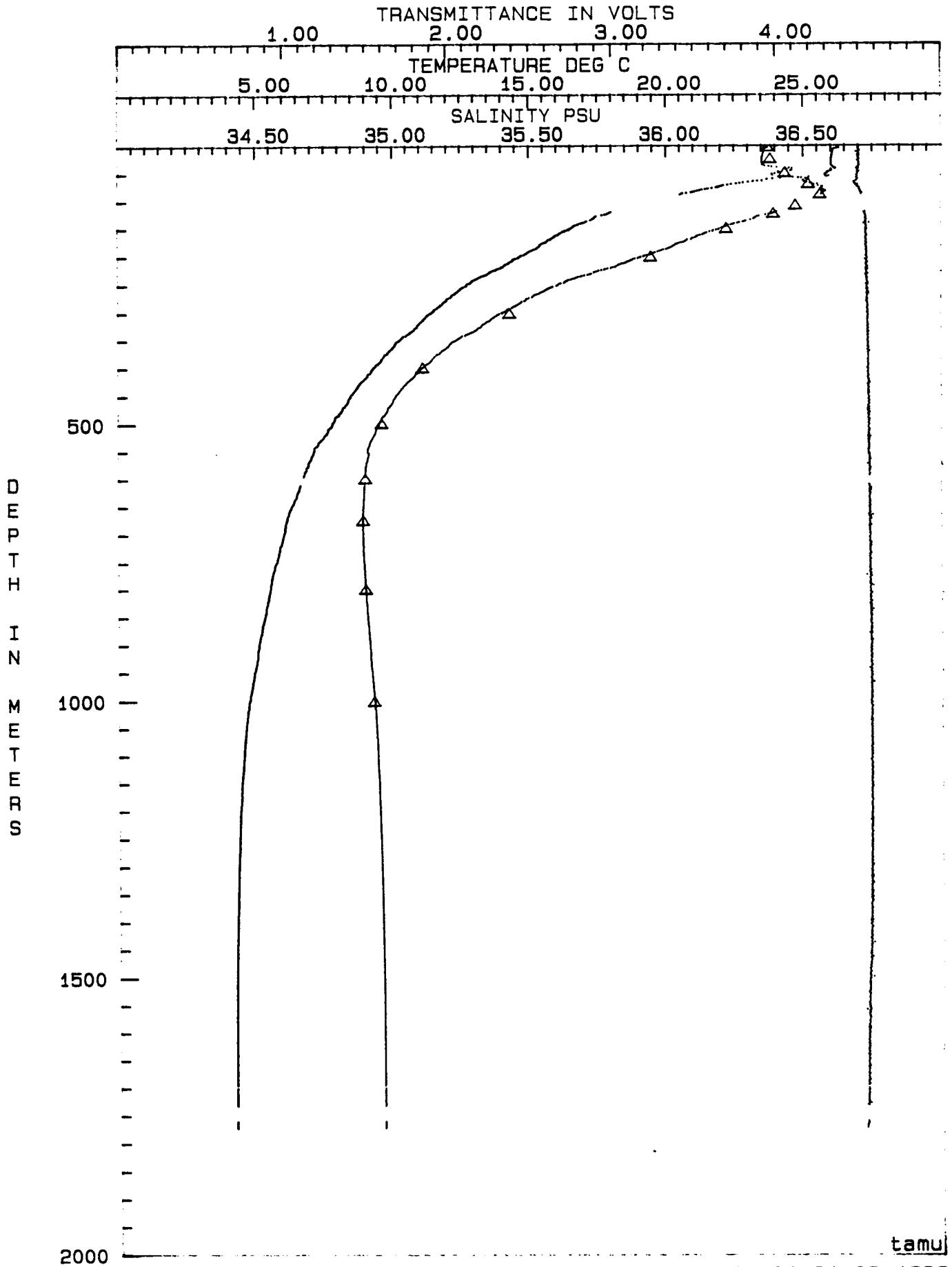
DEPTH	TEMP	SALT	SIGMA-T	VSN
793.5	5.527	34.899	27.532	4.565
798.5	5.514	34.899	27.534	4.562
803.5	5.497	34.900	27.537	4.562
808.5	5.475	34.901	27.540	4.564
813.5	5.467	34.902	27.544	4.562
818.5	5.436	34.902	27.546	4.563
823.5	5.404	34.904	27.551	4.563
828.5	5.395	34.904	27.553	4.564
833.5	5.366	34.904	27.556	4.566
838.5	5.358	34.904	27.557	4.564
843.5	5.339	34.905	27.560	4.564
848.5	5.310	34.907	27.564	4.565
853.5	5.289	34.907	27.568	4.564
858.5	5.261	34.908	27.572	4.565
863.5	5.232	34.910	27.576	4.567
868.5	5.213	34.910	27.579	4.568
873.5	5.201	34.910	27.581	4.565
878.5	5.179	34.912	27.584	4.565
883.5	5.152	34.912	27.588	4.564
888.5	5.132	34.913	27.591	4.567
893.5	5.112	34.914	27.594	4.568
898.5	5.096	34.915	27.597	4.566
903.5	5.086	34.915	27.598	4.565
908.5	5.067	34.916	27.601	4.565
913.5	5.050	34.917	27.604	4.564
918.5	5.049	34.917	27.604	4.565
923.5	5.043	34.917	27.605	4.565
928.5	5.018	34.919	27.609	4.565
933.5	5.008	34.919	27.610	4.566
938.5	4.989	34.920	27.613	4.567
943.5	4.965	34.921	27.617	4.565
948.5	4.939	34.922	27.621	4.565
953.5	4.920	34.923	27.624	4.566
958.5	4.904	34.924	27.626	4.565
963.5	4.886	34.925	27.629	4.566
968.5	4.868	34.926	27.632	4.565
973.5	4.853	34.926	27.634	4.566
978.5	4.837	34.927	27.636	4.566
983.5	4.816	34.928	27.640	4.567
988.5	4.790	34.930	27.644	4.566
993.5	4.776	34.930	27.646	4.566
998.5	4.762	34.931	27.648	4.565
1003.5	4.733	34.933	27.653	4.565
1008.5	4.724	34.933	27.654	4.565
1013.5	4.717	34.933	27.655	4.567
1018.5	4.695	34.934	27.658	4.568
1023.5	4.685	34.935	27.660	4.567
1028.5	4.675	34.935	27.661	4.566
1033.5	4.659	34.936	27.664	4.567
1038.5	4.651	34.936	27.665	4.566

DEPTH	TEMP	SALT	SIGMA-T	VSN
1043.5	4.637	34.937	27.667	4.564
1048.5	4.630	34.938	27.668	4.565
1053.5	4.623	34.938	27.670	4.566
1058.5	4.612	34.938	27.671	4.567
1063.5	4.599	34.939	27.673	4.567
1068.5	4.589	34.940	27.675	4.563
1073.5	4.577	34.940	27.677	4.567
1078.5	4.572	34.940	27.677	4.567
1083.5	4.564	34.941	27.678	4.566
1088.5	4.557	34.941	27.680	4.567
1093.5	4.552	34.942	27.680	4.567
1098.5	4.545	34.942	27.681	4.566
1103.5	4.538	34.942	27.683	4.566
1108.5	4.531	34.943	27.684	4.563
1113.5	4.526	34.943	27.684	4.567
1118.5	4.521	34.943	27.685	4.565
1123.5	4.515	34.944	27.686	4.569
1128.5	4.500	34.945	27.688	4.565
1133.5	4.490	34.945	27.690	4.568
1138.5	4.484	34.946	27.691	4.565
1143.5	4.472	34.946	27.693	4.566
1148.5	4.466	34.947	27.694	4.566
1153.5	4.456	34.947	27.696	4.567
1158.5	4.451	34.947	27.696	4.566
1163.5	4.449	34.947	27.696	4.565
1168.5	4.448	34.947	27.696	4.566
1173.5	4.448	34.947	27.697	4.565
1178.5	4.447	34.948	27.697	4.566
1183.5	4.437	34.948	27.698	4.565
1188.5	4.427	34.949	27.700	4.565
1193.5	4.416	34.949	27.701	4.567
1198.5	4.410	34.950	27.702	4.566
1203.5	4.405	34.950	27.703	4.565
1208.5	4.399	34.951	27.704	4.564
1213.5	4.394	34.951	27.705	4.566
1218.5	4.393	34.951	27.705	4.565
1223.5	4.389	34.951	27.706	4.566
1228.5	4.387	34.951	27.706	4.566
1233.5	4.386	34.951	27.706	4.563
1238.5	4.396	34.951	27.706	4.566
1243.5	4.377	34.952	27.708	4.564
1248.5	4.369	34.952	27.709	4.564
1253.5	4.367	34.952	27.709	4.564
1258.5	4.363	34.952	27.710	4.564
1263.5	4.361	34.953	27.710	4.564
1268.5	4.358	34.953	27.711	4.566
1273.5	4.353	34.953	27.712	4.564
1278.5	4.348	34.954	27.712	4.564
1283.5	4.346	34.954	27.713	4.565
1288.5	4.340	34.954	27.714	4.564

DEPTH	TEMP	SALT	SIGMA-T	VSN
1293.5	4.337	34.954	27.714	4.562
1298.5	4.336	34.954	27.714	4.566
1303.5	4.334	34.954	27.714	4.564
1308.5	4.330	34.955	27.715	4.564
1313.5	4.327	34.955	27.716	4.564
1318.5	4.324	34.955	27.716	4.565
1323.5	4.323	34.955	27.716	4.563
1328.5	4.322	34.955	27.717	4.564
1333.5	4.317	34.956	27.717	4.562
1338.5	4.316	34.955	27.717	4.561
1343.5	4.314	34.955	27.718	4.563
1348.5	4.309	34.956	27.719	4.563
1353.5	4.307	34.956	27.719	4.564
1358.5	4.305	34.957	27.719	4.563
1363.5	4.304	34.956	27.719	4.565
1368.5	4.304	34.957	27.719	4.560
1373.5	4.303	34.957	27.719	4.563
1378.5	4.301	34.957	27.720	4.561
1383.5	4.294	34.957	27.721	4.562
1388.5	4.291	34.958	27.721	4.561
1393.5	4.290	34.957	27.721	4.561
1398.5	4.290	34.957	27.721	4.559
1403.5	4.289	34.958	27.722	4.560
1408.5	4.288	34.958	27.722	4.563
1413.5	4.286	34.958	27.722	4.560
1418.5	4.280	34.958	27.723	4.560
1423.5	4.279	34.959	27.723	4.560
1428.5	4.274	34.958	27.724	4.562
1433.5	4.269	34.959	27.725	4.560
1438.5	4.267	34.959	27.724	4.562
1443.5	4.265	34.959	27.726	4.559
1448.5	4.265	34.959	27.726	4.558
1453.5	4.265	34.959	27.724	4.559
1458.5	4.263	34.959	27.726	4.558
1463.5	4.260	34.960	27.727	4.560
1468.5	4.258	34.960	27.727	4.559
1473.5	4.255	34.960	27.728	4.556
1478.5	4.253	34.960	27.728	4.554
1483.5	4.251	34.960	27.729	4.552
1488.5	4.248	34.961	27.729	4.552
1493.5	4.248	34.961	27.729	4.551
1498.5	4.248	34.961	27.729	4.553
1503.5	4.247	34.961	27.729	4.550
1508.5	4.246	34.961	27.729	4.551
1513.5	4.246	34.961	27.729	4.550
1518.5	4.245	34.961	27.729	4.551
1523.5	4.244	34.961	27.729	4.549
1528.5	4.243	34.961	27.730	4.548
1533.5	4.243	34.961	27.730	4.548
1538.5	4.242	34.961	27.730	4.549

STATION SBE012.AVG:: CRUISE 89g15 DATE & TIME Tue Nov 14 01:21:02 1989, Julian day = 318
LAT 26 20.74 LON 93 59.80 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSN
1543.5	4.242	34.961	27.730	4.549
1548.5	4.242	34.962	27.730	4.548
1553.5	4.240	34.962	27.730	4.548
1558.5	4.239	34.962	27.731	4.549
1563.5	4.239	34.962	27.731	4.547
1568.5	4.239	34.962	27.731	4.549
1573.5	4.239	34.962	27.731	4.549
1578.5	4.238	34.962	27.731	4.548
1583.5	4.239	34.962	27.731	4.548
1588.5	4.239	34.962	27.731	4.546
1593.5	4.239	34.962	27.731	4.548
1598.5	4.239	34.962	27.731	4.548
1603.5	4.238	34.962	27.731	4.544
1608.5	4.237	34.962	27.731	4.544
1613.5	4.236	34.962	27.731	4.542
1618.5	4.235	34.962	27.731	4.543
1623.5	4.235	34.963	27.731	4.545
1628.5	4.236	34.962	27.731	4.542
1633.5	4.236	34.963	27.731	4.542
1638.5	4.236	34.962	27.731	4.542
1643.5	4.236	34.962	27.731	4.541
1648.5	4.236	34.962	27.731	4.543
1653.5	4.236	34.962	27.731	4.540
1658.5	4.236	34.963	27.731	4.544
1663.5	4.236	34.962	27.731	4.541
1668.5	4.236	34.963	27.731	4.541
1673.5	4.236	34.963	27.731	4.541
1678.5	4.236	34.963	27.731	4.541
1683.5	4.236	34.963	27.731	4.543
1688.5	4.236	34.963	27.731	4.539
1693.5	4.236	34.963	27.732	4.542
1698.5	4.236	34.963	27.732	4.540
1703.5	4.236	34.963	27.732	4.541
1708.5	4.236	34.963	27.732	4.540
1713.5	4.236	34.963	27.732	4.539
1718.5	4.236	34.963	27.732	4.538
1723.5	4.236	34.963	27.732	4.539
1728.5	4.235	34.963	27.732	4.539
1733.5	4.236	34.963	27.731	4.540
1758.5	4.236	34.963	27.732	4.535
1763.5	4.236	34.963	27.732	4.536
1768.5	4.235	34.963	27.732	4.531



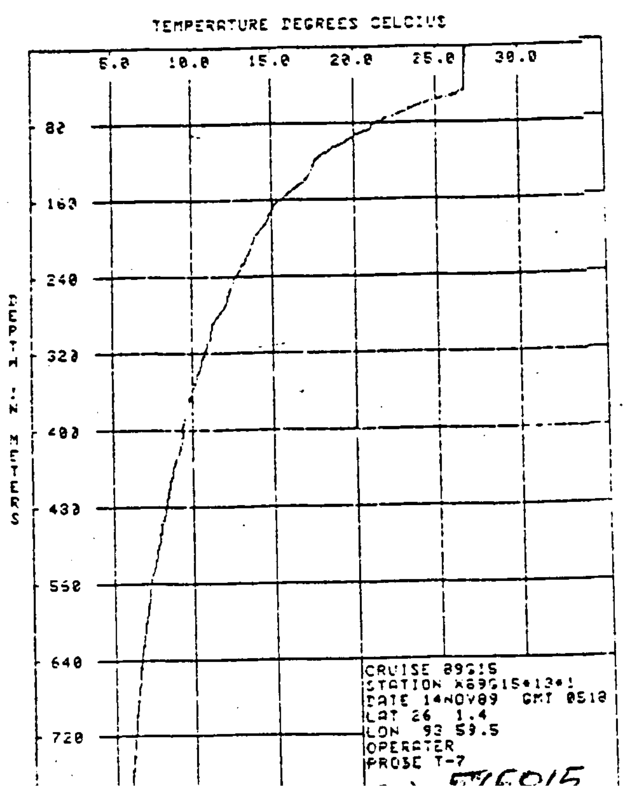
CRUISE: 89g15 STATION: SBE012.A DATE: Nov 14 01:21:02 1989
LATITUDE: 26 20.74 LONGITUDE: 93 59.80
TRIANGLES DENOTE DISCRETE SAMPLES

LAT 26 1.4 LON 93 59.5

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89515 STATION X89515*13*1 DATE 14NOV89 GMT 0518

D	T	D	T	D	T	D	T	D	T
[illegible]	25.6[illegible]	202.4	[illegible]	[illegible]	[illegible]	[illegible]	6.[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
12.6	26.02	212.6	13.05	412.5	8.92	612.7	6.41		
17.5	26.01	217.5	12.93	417.7	8.74	617.7	[illegible]		
22.4	25.99	222.5	12.80	422.4	8.66	622.6	6.34		
27.5	25.98	227.5	12.66	427.5	8.57	627.5	6.23		
32.5	25.99	232.5	12.48	432.5	8.44	632.6	6.22		
37.6	25.99	237.5	12.34	437.6	8.33	637.6	6.18		
42.5	25.99	242.4	12.11	442.6	8.27	642.6	6.15		
47.7	25.78	247.4	11.99	447.4	8.24	647.4	6.10		
52.6	25.26	252.7	11.86	452.5	8.15	652.6	6.08		
57.5	24.20	257.7	11.76	457.5	8.05	657.8	6.04		
62.7	23.30	262.7	11.69	462.6	8.00	662.6	6.03		
67.5	22.61	267.7	11.61	467.7	7.95	667.4	6.01		
72.4	21.97	272.6	11.46	472.4	7.90	672.6	5.97		
77.7	21.06	277.6	11.27	477.5	7.23	677.8	5.94		
82.5	20.51	282.6	11.04	482.6	7.79	682.6	5.92		
87.4	20.19	287.5	10.83	487.4	7.74	687.5	5.89		
92.7	19.56	292.6	10.71	492.5	7.66	692.7	5.85		
97.6	19.03	297.6	10.66	497.5	7.55	697.5	5.83		
102.5	18.55	302.6	10.60	502.6	7.47	702.7	5.81		
107.7	17.97	307.6	10.54	507.7	7.43	707.5	5.79		
112.6	17.56	312.6	10.42	512.5	7.40	712.4	5.76		
117.5	17.15	317.6	10.34	517.6	7.35	717.6	5.74		
122.4	16.95	322.6	10.22	522.7	7.29	722.8	5.72		
127.4	16.07	327.7	10.10	527.5	7.21	[illegible]	[illegible]		
132.6	16.69	332.7	10.03	532.6	7.16	732.5	5.69		
137.5	16.51	337.7	9.95	537.7	7.13	737.4	5.67		
142.4	16.25	342.4	9.82	542.5	7.07	742.6	5.63		
147.7	15.87	347.4	9.75	547.6	7.02	747.3	5.58		
152.4	15.52	352.4	9.70	552.7	6.93	752.7	5.56		
157.6	15.19	357.5	9.59	557.5	6.35	757.5	5.55		
162.5	14.89	362.5	9.47	562.7	6.80	762.4	5.54		
167.4	14.52	367.5	9.33	567.9	6.74	767.3	5.50		
172.7	14.39	372.6	9.22	572.6	6.72	772.6	5.48		
177.6	14.22	377.6	9.09	577.4	6.70	777.7	5.46		
182.6	14.13	382.6	9.10	582.5	6.66	782.6	5.44		
187.5	13.96	387.7	9.06	587.6	6.63	787.5	5.41		
192.5	13.71	392.7	8.98	592.4	6.59	792.4	5.37		
197.4	13.49	397.4	8.87	597.6	6.53	797.3	5.35		

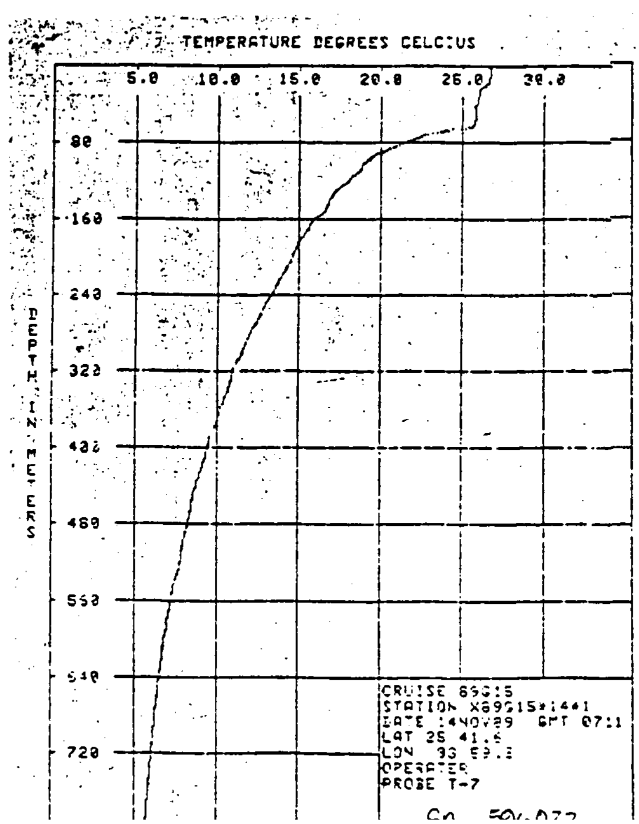


LAT 25 41.6 LON 97 59.5

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*14*1 DATE 14NOV89 GMT 0711

D	T	D	T	D	T	D	T	D	T
[illegible]	[illegible]	[illegible]	[illegible]	402.5	[illegible]	602.7	[illegible]	[illegible]	[illegible]
7.5	25.94	207.7	13.83	407.5	8.81	607.5	6.30		
12.6	25.93	212.6	13.69	412.6	8.74	612.7	6.29		
17.5	25.84	217.6	13.50	417.7	8.64	617.5	6.27		
22.4	25.55	222.5	13.31	422.4	8.55	622.6	6.21		
27.5	25.37	227.5	13.12	427.5	8.45	627.5	6.15		
32.9	25.27	232.5	13.01	432.5	8.39	632.6	6.11		
37.6	25.13	237.5	12.85	437.6	8.27	637.8	6.06		
42.5	25.07	242.4	12.69	442.6	8.19	642.6	6.02		
47.7	25.11	247.4	12.50	447.4	8.09	647.4	5.99		
52.6	25.10	252.7	12.33	452.5	8.01	652.6	5.95		
57.5	25.07	257.7	12.21	457.5	7.98	657.3	5.93		
62.7	24.93	262.7	12.02	462.6	7.96	662.6	5.91		
67.5	23.59	267.7	11.90	467.7	7.90	667.4	5.88		
72.4	22.21	272.6	11.68	472.4	7.85	672.6	5.84		
77.7	21.31	277.6	11.51	477.5	7.79	677.8	5.80		
82.5	20.61	282.6	11.38	482.6	7.74	682.6	5.77		
87.4	19.88	287.6	11.27	487.4	7.65	687.5	5.75		
92.7	19.15	292.6	11.13	492.5	7.58	692.3	5.73		
97.6	18.71	297.6	10.99	497.5	7.52	697.5	5.70		
102.5	18.34	302.6	10.93	502.6	7.45	702.7	5.68		
107.7	18.15	307.6	10.74	507.7	7.41	707.5	5.66		
112.6	17.90	312.6	10.58	512.5	7.36	712.4	5.64		
117.5	17.59	317.6	10.48	517.6	7.35	717.6	5.61		
122.4	17.33	322.6	10.39	522.7	7.29	722.8	5.59		
127.4	16.89	327.7	10.33	527.5	7.24	727.7	5.57		
132.6	16.59	332.7	10.23	532.6	7.15	732.5	5.51		
137.5	16.40	337.7	10.17	537.7	7.06	737.4	5.48		
142.4	16.21	342.4	10.08	542.5	6.99	742.6	5.46		
147.7	16.11	347.4	9.93	547.6	6.92	747.8	5.44		
152.6	15.94	352.4	9.83	552.7	6.86	752.7	5.43		
157.6	15.60	357.5	9.71	557.5	6.84	757.5	5.41		
162.5	15.29	362.5	9.61	562.7	6.78	762.4	5.39		
167.4	15.10	367.5	9.53	567.8	6.70	767.3	5.36		
172.7	14.92	372.6	9.44	572.6	6.65	772.6	5.32		
177.6	14.74	377.6	9.35	577.4	6.59	777.7	5.30		
182.6	14.48	382.6	9.23	582.5	6.56	782.6	5.29		
187.5	14.30	387.7	9.06	587.6	6.51	787.5	5.27		
192.5	14.22	392.7	8.99	592.4	6.47	792.4	5.25		
197.4	14.08	397.4	8.96	597.6	6.40	797.7	5.24		



STATION SBE014.AUG:: CRUISE 89g15 DATE & TIME Tue Nov 14 07:27:46 1989, Julian day = 318
LAT 25 41.2 LON 93 59.6 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
633.5	6.322	34.890	27.424	4.527
628.5	6.369	34.891	27.419	4.545
623.5	6.437	34.892	27.411	4.536
618.5	6.474	34.893	27.407	4.540
613.5	6.508	34.894	27.403	4.542
608.5	6.541	34.896	27.400	4.539
603.5	6.600	34.899	27.394	4.516
598.5	6.656	34.902	27.389	4.557
593.5	6.657	34.901	27.389	4.551
588.5	6.717	34.899	27.378	4.546
583.5	6.760	34.900	27.373	4.538
578.5	6.812	34.901	27.367	4.531
573.5	6.859	34.902	27.362	4.530
568.5	6.954	34.908	27.352	4.543
563.5	7.040	34.915	27.347	4.489
558.5	7.068	34.915	27.343	4.541
553.5	7.155	34.919	27.334	4.475
548.5	7.267	34.931	27.327	4.544
543.5	7.326	34.937	27.323	4.534
538.5	7.358	34.937	27.319	4.519
533.5	7.385	34.935	27.314	4.545
528.5	7.472	34.943	27.307	4.512
523.5	7.558	34.952	27.302	4.547
518.5	7.629	34.958	27.296	4.527
513.5	7.677	34.962	27.292	4.535
508.5	7.675	34.956	27.288	4.535
503.5	7.713	34.960	27.286	4.523
498.5	7.735	34.959	27.281	4.541
493.5	7.796	34.965	27.277	4.519
488.5	7.879	34.973	27.272	4.544
483.5	7.958	34.981	27.266	4.529
478.5	8.042	34.988	27.259	4.465
473.5	8.079	34.990	27.254	4.547
468.5	8.096	34.986	27.249	4.518
463.5	8.156	34.991	27.244	4.545
458.5	8.210	34.997	27.240	4.532
453.5	8.335	35.013	27.233	4.540
448.5	8.444	35.027	27.227	4.530
443.5	8.494	35.032	27.224	4.538
438.5	8.607	35.045	27.216	4.534
433.5	8.650	35.048	27.212	4.486
428.5	8.670	35.047	27.208	4.542
423.5	8.704	35.049	27.204	4.495
418.5	8.820	35.065	27.199	4.543
413.5	8.997	35.090	27.189	4.516
408.5	9.075	35.101	27.185	4.549
403.5	9.179	35.111	27.177	4.528
398.5	9.283	35.125	27.171	4.549
396.6	9.336	35.136	27.170	4.553
388.5	9.447	35.147	27.161	4.543
383.5	9.530	35.157	27.155	4.539
378.5	9.585	35.164	27.151	4.543
373.5	9.671	35.174	27.145	4.527
368.5	9.791	35.188	27.135	4.502
363.5	9.915	35.204	27.126	4.544
358.5	10.033	35.226	27.115	4.530
353.5	10.170	35.240	27.110	4.537
348.5	10.221	35.247	27.108	4.543
343.5	10.316	35.259	27.100	4.541
338.5	10.375	35.269	27.097	4.539
333.5	10.442	35.278	27.093	4.541
328.5	10.542	35.292	27.086	4.527
323.5	10.695	35.312	27.074	4.545
318.5	10.781	35.325	27.069	4.537
313.5	10.903	35.341	27.059	4.545
308.5	10.973	35.352	27.055	4.519
303.5	11.081	35.366	27.047	4.549
298.5	11.216	35.386	27.037	4.523
293.5	11.389	35.409	27.023	4.548
288.5	11.582	35.437	27.009	4.536
283.5	11.693	35.455	27.001	4.546
278.5	11.777	35.469	26.996	4.525
273.5	11.884	35.484	26.988	4.536
268.5	11.983	35.499	26.981	4.542
263.5	12.100	35.516	26.972	4.537
258.5	12.250	35.539	26.960	4.542
253.5	12.400	35.561	26.948	4.535
248.5	12.545	35.584	26.937	4.545
243.5	12.695	35.607	26.926	4.536
238.5	12.922	35.641	26.906	4.534
233.5	13.084	35.667	26.893	4.541
228.5	13.231	35.691	26.882	4.533
223.5	13.333	35.708	26.874	4.543
218.5	13.499	35.732	26.859	4.515
213.5	13.688	35.763	26.844	4.537
208.5	13.845	35.790	26.831	4.541
203.5	14.059	35.823	26.812	4.528
198.5	14.156	35.840	26.804	4.546
196.6	14.199	35.849	26.802	4.536
188.5	14.463	35.885	26.773	4.516
183.5	14.696	35.923	26.752	4.532
178.5	14.917	35.962	26.733	4.533
173.5	15.079	35.989	26.718	4.536
168.5	15.206	36.012	26.708	4.534
163.5	15.320	36.029	26.695	4.538
158.5	15.465	36.045	26.675	4.534
153.5	15.721	36.082	26.645	4.538
148.5	15.983	36.122	26.615	4.541
143.5	16.174	36.147	26.591	4.540
138.5	16.442	36.187	26.559	4.541
133.5	16.617	36.213	26.538	4.539
128.5	16.957	36.285	26.489	4.540
123.5	17.415	36.324	26.432	4.545
118.5	17.624	36.351	26.401	4.538
113.5	17.989	36.399	26.348	4.536
108.5	18.318	36.446	26.302	4.534
103.5	18.483	36.438	26.254	4.508
98.5	18.736	36.455	26.203	4.530
93.5	19.099	36.479	26.127	4.525
88.5	19.731	36.511	25.974	4.505
83.5	20.221	36.525	25.868	4.513
78.5	21.067	36.502	25.621	4.498
73.5	21.797	36.505	25.421	4.497
68.5	23.029	36.492	25.059	4.482
63.5	24.779	36.409	24.476	4.478
58.5	25.185	36.421	24.361	4.471
53.5	25.213	36.422	24.353	4.490
48.5	25.231	36.417	24.343	4.488
43.5	25.146	36.364	24.330	4.497
38.5	25.283	36.389	24.306	4.471
33.5	25.370	36.369	24.263	4.476
28.5	25.406	36.293	24.196	4.459
23.5	25.648	36.223	24.068	4.494
18.5	25.975	36.130	23.896	4.482
13.5	26.047	36.098	23.850	4.481

STATION [illegible].AVG:: CRUISE 89g15 DATE & TIME Tue Nov 14 07:27:46 1989, Julian day = 318
LAT [illegible] LON [illegible] DEPTH OFFSET [illegible]

DEPTH	TEMP	SALT	SIGMA T	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	4.301	34.966	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	4.551
1363.5	4.303	34.966	27.727	4.541
1358.5	4.304	34.965	27.727	4.536
1353.5	4.306	34.965	27.726	4.546
1348.5	4.310	34.965	27.725	4.528
1343.5	4.310	34.965	27.725	4.549
1338.5	4.313	34.965	27.725	4.541
1333.5	4.315	34.965	27.725	4.532
1328.5	4.316	34.965	27.725	4.552
1323.5	4.319	34.964	27.724	4.552
1318.5	4.323	34.964	27.723	4.550
1313.5	4.326	34.964	27.723	4.541
1308.5	4.328	34.964	27.723	4.545
1303.5	4.330	34.964	27.722	4.536
1298.5	4.333	34.963	27.721	4.544
1293.5	4.335	34.963	27.721	4.553
1288.5	4.340	34.963	27.720	4.545
1283.5	4.345	34.963	27.720	4.545
1278.5	4.350	34.962	27.719	4.550
1273.5	4.353	34.962	27.719	4.547
1268.5	4.354	34.962	27.718	4.542
1263.5	4.357	34.962	27.718	4.555
1258.5	4.364	34.961	27.717	4.544
1253.5	4.370	34.961	27.716	4.553
1248.5	4.374	34.961	27.715	4.545
1243.5	4.377	34.961	27.715	4.553
1238.5	4.381	34.961	27.714	4.547
1233.5	4.384	34.960	27.714	4.554
1228.5	4.385	34.960	27.714	4.548
1223.5	4.387	34.960	27.713	4.552
1218.5	4.390	34.960	27.713	4.539
1213.5	4.395	34.960	27.712	4.549
1208.5	4.396	34.960	27.712	4.548
1203.5	4.398	34.959	27.712	4.553
1198.5	4.402	34.960	27.712	4.558
1193.5	4.405	34.959	27.711	4.554
1188.5	4.409	34.959	27.709	4.545
1183.5	4.414	34.958	27.709	4.554
1178.5	4.420	34.958	27.708	4.547
1173.5	4.429	34.957	27.706	4.555
1168.5	4.440	34.957	27.705	4.549
1163.5	4.445	34.957	27.704	4.551
1158.5	4.451	34.956	27.703	4.551
1153.5	4.459	34.956	27.702	4.546
1148.5	4.465	34.955	27.701	4.550
1143.5	4.473	34.955	27.699	4.548
1138.5	4.480	34.955	27.698	4.546

DEPTH	TEMP	SALT	SIGMA T	[illegible]
[illegible]	[illegible]	[illegible]	27.697	4.544
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	4.506	34.953	27.694	4.547
1118.5	4.515	34.952	27.693	4.554
1113.5	4.517	34.952	27.693	4.528
1108.5	4.521	34.952	27.692	4.550
1103.5	4.534	34.951	27.690	4.551
1098.5	4.544	34.951	27.688	4.531
1093.5	4.547	34.951	27.688	4.551
1088.5	4.557	34.950	27.687	4.517
1083.5	4.562	34.950	27.686	4.547
1078.5	4.570	34.950	27.685	4.545
1073.5	4.579	34.949	27.683	4.515
1068.5	4.590	34.948	27.681	4.555
1063.5	4.604	34.948	27.679	4.541
1058.5	4.612	34.947	27.678	4.552
1053.5	4.621	34.947	27.677	4.544
1048.5	4.630	34.946	27.676	4.543
1043.5	4.644	34.946	27.673	4.546
1038.5	4.649	34.945	27.672	4.547
1033.5	4.654	34.945	27.672	4.546
1028.5	4.668	34.944	27.669	4.542
1023.5	4.686	34.943	27.666	4.546
1018.5	4.713	34.942	27.662	4.538
1013.5	4.731	34.941	27.659	4.549
1008.5	4.751	34.940	27.656	4.542
1003.5	4.766	34.939	27.654	4.554
998.5	4.774	34.939	27.653	4.558
996.5	4.780	34.940	27.653	4.557
988.5	4.798	34.938	27.650	4.549
983.5	4.814	34.937	27.647	4.552
978.5	4.828	34.936	27.645	4.550
973.5	4.840	34.936	27.643	4.551
968.5	4.850	34.935	27.641	4.534
963.5	4.866	34.934	27.639	4.552
958.5	4.881	34.934	27.636	4.544
953.5	4.893	34.933	27.635	4.514
948.5	4.910	34.932	27.632	4.553
943.5	4.931	34.931	27.629	4.545
938.5	4.955	34.930	27.625	4.549
933.5	4.969	34.929	27.623	4.543
928.5	4.978	34.929	27.622	4.529
923.5	4.985	34.929	27.621	4.545
918.5	4.993	34.929	27.619	4.533
913.5	5.006	34.928	27.618	4.499
908.5	5.016	34.927	27.616	4.557
903.5	5.034	34.926	27.613	4.540
898.5	5.054	34.925	27.610	4.544
893.5	5.075	34.924	27.607	4.545
888.5	5.089	34.924	27.605	4.547

DEPTH	TEMP	SALT	SIGMA T	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
878.5	5.123	34.922	27.598	4.546
873.5	5.126	34.922	27.599	4.532
868.5	5.140	34.922	27.597	4.537
863.5	5.164	34.920	27.593	4.545
858.5	5.193	34.919	27.588	4.544
853.5	5.224	34.918	27.584	4.541
848.5	5.250	34.916	27.580	4.550
843.5	5.296	34.915	27.574	4.532
838.5	5.317	34.914	27.570	4.546
833.5	5.334	34.913	27.567	4.546
828.5	5.353	34.913	27.564	4.536
823.5	5.371	34.912	27.562	4.548
818.5	5.392	34.911	27.559	4.545
813.5	5.406	34.911	27.557	4.547
808.5	5.421	34.910	27.554	4.540
803.5	5.440	34.909	27.551	4.544
798.5	5.459	34.909	27.549	4.545
796.4	5.482	34.909	27.546	4.556
788.5	5.519	34.907	27.539	4.547
783.5	5.534	34.906	27.537	4.545
778.5	5.551	34.906	27.535	4.537
773.5	5.572	34.905	27.532	4.544
768.5	5.583	34.905	27.530	4.543
763.5	5.603	34.904	27.527	4.539
758.5	5.626	34.903	27.524	4.543
753.5	5.649	34.902	27.520	4.545
748.5	5.682	34.901	27.515	4.542
743.5	5.710	34.901	27.511	4.532
738.5	5.742	34.900	27.507	4.539
733.5	5.772	34.899	27.502	4.541
728.5	5.794	34.897	27.498	4.546
723.5	5.805	34.897	27.496	4.544
718.5	5.838	34.896	27.491	4.546
713.5	5.868	34.896	27.488	4.539
708.5	5.881	34.895	27.485	4.536
703.5	5.913	34.895	27.481	4.547
698.5	5.956	34.894	27.475	4.536
693.5	5.975	34.894	27.472	4.547
688.5	5.998	34.893	27.469	4.537
683.5	6.042	34.893	27.463	4.523
678.5	6.088	34.894	27.458	4.543
673.5	6.122	34.894	27.453	4.527
668.5	6.154	34.895	27.450	4.522
663.5	6.170	34.893	27.446	4.539
658.5	6.204	34.893	27.442	4.538
653.5	6.221	34.893	27.439	4.527
648.5	6.235	34.892	27.437	4.541
643.5	6.262	34.891	27.433	4.521
638.5	[illegible]	34.891	27.429	4.549

STATION S9E014.AVG:: CPUISE 89g15 DATE & TIME Tue Nov 14 07:27:46 1989. Julian day = 318
LAT 25 41.2 LON 93 59.6 DEPTH OFFSET 3.0

DEPTH	TEMP	SALT	SIGMA-T	VSM
2173.5	4.262	34.973	27.737	4.544
2168.5	4.262	34.973	27.737	4.549
2163.5	4.262	34.973	27.737	4.547
2158.5	4.261	34.973	27.737	4.554
2153.5	4.261	34.973	27.737	4.553
2148.5	4.260	34.973	27.737	4.551
2143.5	4.260	34.973	27.737	4.557
2138.5	4.259	34.973	27.737	4.564
2133.5	4.259	34.973	27.737	4.559
2128.5	4.259	34.973	27.737	4.552
2123.5	4.258	34.973	27.737	4.554
2118.5	4.258	34.973	27.737	4.556
2113.5	4.258	34.973	27.737	4.552
2108.5	4.258	34.973	27.737	4.551
2103.5	4.258	34.973	27.737	4.557
2098.5	4.257	34.973	27.737	4.554
2093.5	4.257	34.973	27.737	4.559
2088.5	4.257	34.973	27.737	4.552
2083.5	4.257	34.973	27.737	4.554
2078.5	4.257	34.973	27.737	4.556
2073.5	4.257	34.973	27.737	4.552
2068.5	4.257	34.973	27.737	4.551
2063.5	4.257	34.973	27.737	4.557
2058.5	4.257	34.973	27.737	4.553
2053.5	4.257	34.973	27.737	4.556
2048.5	4.257	34.973	27.737	4.554
2043.5	4.257	34.972	27.737	4.539
2038.5	4.257	34.973	27.737	4.556
2033.5	4.256	34.973	27.737	4.554
2028.5	4.256	34.973	27.737	4.548
2023.5	4.256	34.972	27.737	4.548
2018.5	4.255	34.973	27.737	4.558
2013.5	4.255	34.972	27.737	4.553
2008.5	4.255	34.973	27.737	4.555
2003.5	4.254	34.973	27.738	4.560
1998.5	4.254	34.973	27.738	4.563
1993.5	4.254	34.973	27.738	4.548
1988.5	4.253	34.973	27.738	4.556
1983.5	4.252	34.973	27.738	4.554
1978.5	4.252	34.973	27.738	4.549
1973.5	4.251	34.973	27.738	4.555
1968.5	4.251	34.973	27.738	4.554
1963.5	4.251	34.972	27.738	4.551
1958.5	4.250	34.972	27.738	4.554
1953.5	4.250	34.972	27.738	4.555
1948.5	4.250	34.972	27.739	4.553
1943.5	4.250	34.972	27.738	4.549
1938.5	4.250	34.972	27.738	4.553
1933.5	4.250	34.973	27.739	4.551
1928.5	4.250	34.972	27.738	4.556
1923.5	4.250	34.972	27.738	4.553
1918.5	4.250	34.972	27.738	4.549
1913.5	4.250	34.972	27.737	4.555
1908.5	4.250	34.972	27.738	4.549
1903.5	4.250	34.972	27.738	4.545
1898.5	4.250	34.972	27.738	4.564
1893.5	4.250	34.972	27.738	4.554
1888.5	4.250	34.972	27.737	4.559

DEPTH	TEMP	SALT	SIGMA-T	VSM
1883.5	4.250	34.972	27.737	4.554
1878.5	4.250	34.972	27.737	4.557
1873.5	4.250	34.972	27.737	4.554
1868.5	4.250	34.972	27.737	4.556
1863.5	4.250	34.972	27.737	4.550
1858.5	4.250	34.972	27.737	4.557
1853.5	4.250	34.972	27.738	4.546
1848.5	4.251	34.972	27.737	4.555
1843.5	4.251	34.972	27.737	4.553
1838.5	4.251	34.972	27.737	4.551
1833.5	4.251	34.971	27.737	4.546
1828.5	4.251	34.971	27.737	4.553
1823.5	4.251	34.971	27.737	4.557
1818.5	4.251	34.971	27.737	4.541
1813.5	4.251	34.971	27.737	4.552
1808.5	4.251	34.971	27.737	4.552
1803.5	4.251	34.971	27.737	4.560
1798.5	4.251	34.972	27.737	4.563
1793.5	4.251	34.971	27.737	4.552
1788.5	4.251	34.971	27.737	4.553
1783.5	4.252	34.971	27.737	4.548
1778.5	4.251	34.971	27.737	4.555
1773.5	4.252	34.971	27.737	4.552
1768.5	4.252	34.971	27.737	4.556
1763.5	4.252	34.971	27.737	4.549
1758.5	4.252	34.971	27.737	4.552
1753.5	4.252	34.971	27.737	4.554
1748.5	4.252	34.971	27.736	4.552
1743.5	4.252	34.971	27.737	4.553
1738.5	4.252	34.971	27.737	4.551
1733.5	4.252	34.971	27.736	4.552
1728.5	4.252	34.971	27.736	4.549
1723.5	4.252	34.971	27.736	4.551
1718.5	4.252	34.971	27.736	4.553
1713.5	4.252	34.971	27.736	4.548
1708.5	4.252	34.971	27.736	4.549
1703.5	4.252	34.971	27.736	4.545
1698.5	4.252	34.971	27.736	4.547
1693.5	4.252	34.971	27.736	4.553
1688.5	4.252	34.971	27.736	4.544
1683.5	4.252	34.970	27.736	4.550
1678.5	4.253	34.970	27.736	4.540
1673.5	4.253	34.970	27.736	4.540
1668.5	4.253	34.970	27.736	4.548
1663.5	4.254	34.970	27.735	4.547
1658.5	4.254	34.970	27.736	4.551
1653.5	4.254	34.970	27.736	4.549
1648.5	4.254	34.970	27.736	4.549
1643.5	4.255	34.970	27.735	4.550
1638.5	4.255	34.970	27.735	4.541

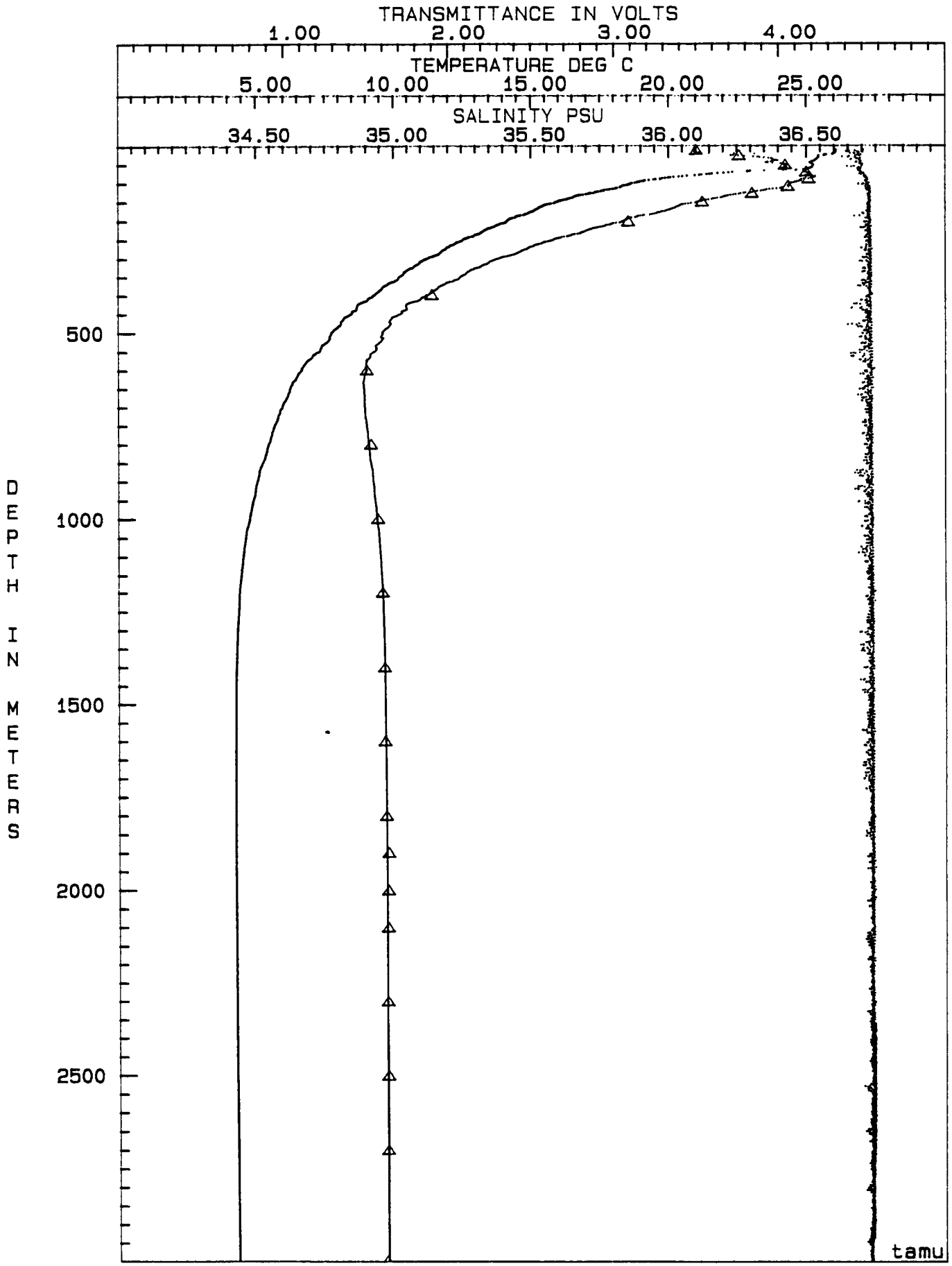
DEPTH	TEMP	SALT	SIGMA-T	VSM
1633.5	4.256	34.970	27.735	4.549
1628.5	4.256	34.970	27.735	4.550
1623.5	4.257	34.970	27.735	4.547
1618.5	4.260	34.970	27.735	4.547
1613.5	4.261	34.970	27.734	4.549
1608.5	4.261	34.970	27.734	4.549
1603.5	4.261	34.970	27.734	4.548
1598.5	4.262	34.970	27.735	4.554
1593.5	4.262	34.970	27.734	4.552
1588.5	4.262	34.969	27.734	4.550
1583.5	4.262	34.969	27.734	4.555
1578.5	4.263	34.969	27.734	4.533
1573.5	4.264	34.969	27.734	4.546
1568.5	4.265	34.969	27.734	4.546
1563.5	4.265	34.969	27.733	4.537
1558.5	4.265	34.969	27.733	4.547
1553.5	4.265	34.969	27.733	4.551
1548.5	4.266	34.969	27.733	4.538
1543.5	4.266	34.969	27.733	4.548
1538.5	4.266	34.969	27.733	4.549
1533.5	4.267	34.969	27.733	4.536
1528.5	4.267	34.969	27.733	4.553
1523.5	4.268	34.968	27.733	4.532
1518.5	4.269	34.968	27.733	4.553
1513.5	4.269	34.969	27.733	4.546
1508.5	4.269	34.968	27.733	4.547
1503.5	4.268	34.969	27.733	4.551
1498.5	4.269	34.968	27.733	4.546
1493.5	4.270	34.968	27.732	4.549
1488.5	4.271	34.968	27.732	4.544
1483.5	4.272	34.968	27.732	4.545
1478.5	4.273	34.968	27.732	4.542
1473.5	4.274	34.968	27.732	4.552
1468.5	4.275	34.968	27.731	4.539
1463.5	4.275	34.968	27.731	4.541
1458.5	4.276	34.969	27.731	4.549
1453.5	4.279	34.967	27.731	4.549
1448.5	4.280	34.967	27.731	4.547
1443.5	4.281	34.967	27.730	4.547
1438.5	4.283	34.967	27.730	4.526
1433.5	4.284	34.967	27.730	4.549
1428.5	4.285	34.967	27.730	4.552
1423.5	4.286	34.967	27.729	4.542
1418.5	4.288	34.967	27.729	4.551
1413.5	4.289	34.966	27.729	4.543
1408.5	4.292	34.966	27.729	4.544
1403.5	4.294	34.967	27.729	4.560
1398.5	4.295	34.966	27.729	4.553
1393.5	4.297	34.966	27.729	4.548

STATION SBE014.AVG:: CRUISE 89g19 DATE & TIME Tue Nov 14 07:27:46 1989, Julian day = 318
LAT 25 41.2 LON 93 59.6 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM	DEPTH	TEMP	SALT	SIGMA-T	XSM	DEPTH	TEMP	SALT	SIGMA-T	XSM
2358.5	4.278	34.975	27.737	4.563	2608.5	4.300	34.975	27.735	4.565	2858.5	4.325	34.976	27.732	4.560
2363.5	4.279	34.975	27.737	4.565	2613.5	4.300	34.975	27.735	4.566	2863.5	4.325	34.975	27.732	4.562
2368.5	4.279	34.975	27.737	4.565	2618.5	4.301	34.975	27.735	4.566	2868.5	4.325	34.976	27.732	4.560
2373.5	4.279	34.975	27.737	4.567	2623.5	4.301	34.975	27.735	4.565	2873.5	4.326	34.976	27.732	4.560
2378.5	4.280	34.975	27.737	4.567	2628.5	4.302	34.975	27.735	4.565	2878.5	4.326	34.976	27.732	4.559
2383.5	4.280	34.975	27.737	4.566	2633.5	4.302	34.975	27.735	4.565	2883.5	4.327	34.975	27.732	4.561
2388.5	4.281	34.975	27.737	4.563	2638.5	4.303	34.975	27.735	4.565	2888.5	4.327	34.975	27.732	4.564
2393.5	4.281	34.975	27.736	4.564	2643.5	4.303	34.975	27.734	4.566	2893.5	4.328	34.976	27.732	4.564
2398.5	4.281	34.975	27.736	4.566	2648.5	4.304	34.975	27.734	4.566	2898.5	4.328	34.975	27.732	4.561
2403.5	4.282	34.975	27.736	4.567	2653.5	4.304	34.975	27.734	4.566	2903.5	4.329	34.976	27.732	4.562
2408.5	4.282	34.975	27.736	4.565	2658.5	4.305	34.975	27.734	4.565	2908.5	4.330	34.976	27.732	4.562
2413.5	4.283	34.975	27.736	4.563	2663.5	4.305	34.975	27.734	4.566	2913.5	4.330	34.976	27.732	4.560
2418.5	4.283	34.975	27.736	4.566	2668.5	4.306	34.975	27.734	4.564	2918.5	4.331	34.976	27.732	4.560
2423.5	4.284	34.975	27.736	4.564	2673.5	4.306	34.975	27.734	4.564	2923.5	4.331	34.976	27.732	4.561
2428.5	4.284	34.975	27.736	4.565	2678.5	4.307	34.976	27.734	4.563	2928.5	4.332	34.976	27.732	4.560
2433.5	4.285	34.975	27.736	4.566	2683.5	4.307	34.975	27.734	4.565	2933.5	4.332	34.976	27.731	4.559
2438.5	4.285	34.975	27.736	4.566	2688.5	4.308	34.975	27.734	4.563	2938.5	4.333	34.976	27.731	4.555
2443.5	4.285	34.975	27.736	4.565	2693.5	4.309	34.975	27.734	4.562	2943.5	4.334	34.976	27.731	4.552
2448.5	4.286	34.975	27.736	4.564	2698.5	4.309	34.975	27.734	4.562	2948.5	4.334	34.976	27.731	4.549
2453.5	4.286	34.975	27.736	4.566	2703.5	4.309	34.976	27.734	4.564	2953.5	4.335	34.976	27.731	4.550
2458.5	4.287	34.975	27.736	4.564	2708.5	4.310	34.975	27.734	4.563	2958.5	4.335	34.976	27.731	4.549
2463.5	4.287	34.975	27.736	4.566	2713.5	4.310	34.975	27.734	4.562	2963.5	4.336	34.976	27.731	4.550
2468.5	4.288	34.975	27.736	4.566	2718.5	4.311	34.976	27.734	4.559	2968.5	4.336	34.976	27.731	4.549
2473.5	4.288	34.975	27.736	4.565	2723.5	4.311	34.976	27.734	4.562	2973.5	4.337	34.976	27.731	4.548
2478.5	4.288	34.975	27.736	4.565	2728.5	4.312	34.976	27.734	4.560	2978.5	4.337	34.976	27.731	4.549
2483.5	4.289	34.975	27.736	4.567	2733.5	4.312	34.976	27.733	4.561	2983.5	4.338	34.976	27.731	4.549
2488.5	4.289	34.975	27.736	4.566	2738.5	4.313	34.976	27.733	4.559	2988.5	4.339	34.976	27.731	4.549
2493.5	4.290	34.975	27.736	4.565	2743.5	4.313	34.976	27.733	4.560	2993.5	4.339	34.976	27.731	4.550
2498.5	4.290	34.975	27.736	4.564	2748.5	4.314	34.976	27.734	4.560	2993.5	4.339	34.975	27.730	4.548
2503.5	4.290	34.975	27.736	4.565	2753.5	4.314	34.976	27.733	4.560	2988.5	4.339	34.975	27.730	4.543
2508.5	4.291	34.975	27.736	4.565	2758.5	4.315	34.976	27.733	4.559	2983.5	4.338	34.975	27.730	4.542
2513.5	4.291	34.975	27.736	4.565	2763.5	4.315	34.976	27.733	4.559	2978.5	4.338	34.975	27.730	4.543
2518.5	4.292	34.975	27.735	4.565	2768.5	4.316	34.976	27.733	4.560	2973.5	4.337	34.975	27.730	4.545
2523.5	4.292	34.975	27.735	4.566	2773.5	4.316	34.976	27.733	4.559	2968.5	4.337	34.975	27.731	4.544
2528.5	4.292	34.975	27.736	4.565	2778.5	4.317	34.976	27.733	4.557	2963.5	4.336	34.975	27.731	4.544
2533.5	4.293	34.975	27.735	4.563	2783.5	4.317	34.976	27.733	4.558	2958.5	4.336	34.975	27.731	4.547
2538.5	4.293	34.975	27.735	4.566	2788.5	4.318	34.976	27.733	4.559	2953.5	4.335	34.975	27.731	4.538
2543.5	4.294	34.975	27.735	4.566	2793.5	4.318	34.976	27.733	4.558	2948.5	4.335	34.975	27.731	4.541
2548.5	4.294	34.975	27.735	4.566	2798.5	4.318	34.976	27.733	4.561	2943.5	4.334	34.975	27.731	4.544
2553.5	4.295	34.975	27.735	4.565	2803.5	4.319	34.976	27.733	4.560	2938.5	4.334	34.975	27.731	4.538
2558.5	4.295	34.975	27.735	4.566	2808.5	4.320	34.976	27.733	4.556	2933.5	4.333	34.975	27.731	4.542
2563.5	4.295	34.975	27.735	4.566	2813.5	4.320	34.976	27.733	4.558	2928.5	4.333	34.975	27.731	4.542
2568.5	4.296	34.975	27.735	4.567	2818.5	4.321	34.976	27.733	4.557	2923.5	4.332	34.975	27.731	4.543
2573.5	4.296	34.975	27.735	4.566	2823.5	4.321	34.976	27.733	4.559	2918.5	4.332	34.975	27.731	4.546
2578.5	4.297	34.975	27.735	4.565	2828.5	4.322	34.976	27.733	4.556	2913.5	4.331	34.975	27.731	4.549
2583.5	4.297	34.975	27.735	4.566	2833.5	4.322	34.976	27.732	4.558	2908.5	4.331	34.975	27.731	4.544
2588.5	4.298	34.975	27.735	4.565	2838.5	4.323	34.976	27.732	4.558	2903.5	4.330	34.975	27.731	4.554
2593.5	4.298	34.975	27.735	4.565	2843.5	4.323	34.976	27.733	4.558	2898.5	4.329	34.975	27.731	4.550
2598.5	4.299	34.975	27.735	4.566	2848.5	4.324	34.976	27.732	4.558	2893.5	4.329	34.975	27.731	4.551
2603.5	4.299	34.975	27.735	4.567	2853.5	4.325	34.976	27.732	4.558	2888.5	4.328	34.975	27.732	4.554

STATION SBE014.AVG:: CRUISE 89g15 DATE & TIME Tue Nov 14 07:27:46 1989. Julian day = 318
LAT 25 41.2 LON 93 59.6 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	KSM	DEPTH	TEMP	SALT	SIGMA-T	KSM	DEPTH	TEMP	SALT	SIGMA-T	KSM
2683.5	4.328	34.975	27.732	4.554	2633.5	4.307	34.975	27.734	4.555	2383.5	4.280	34.974	27.736	4.553
2678.5	4.327	34.975	27.732	4.554	2628.5	4.303	34.975	27.734	4.553	2378.5	4.280	34.974	27.736	4.551
2673.5	4.326	34.975	27.732	4.551	2623.5	4.302	34.975	27.734	4.549	2373.5	4.279	34.974	27.736	4.555
2668.5	4.326	34.975	27.732	4.553	2618.5	4.302	34.974	27.734	4.550	2368.5	4.279	34.974	27.736	4.549
2663.5	4.326	34.975	27.732	4.552	2613.5	4.301	34.975	27.734	4.556	2363.5	4.279	34.974	27.736	4.549
2658.5	4.325	34.975	27.732	4.557	2608.5	4.301	34.974	27.734	4.554	2358.5	4.278	34.974	27.736	4.554
2653.5	4.325	34.975	27.732	4.551	2603.5	4.300	34.975	27.734	4.551	2353.5	4.278	34.974	27.736	4.544
2648.5	4.324	34.975	27.732	4.556	2598.5	4.300	34.974	27.734	4.554	2348.5	4.277	34.974	27.736	4.555
2643.5	4.323	34.975	27.732	4.557	2593.5	4.299	34.975	27.734	4.555	2343.5	4.277	34.974	27.736	4.554
2638.5	4.323	34.975	27.732	4.550	2588.5	4.299	34.974	27.734	4.553	2338.5	4.276	34.974	27.736	4.556
2633.5	4.322	34.975	27.732	4.555	2583.5	4.299	34.974	27.734	4.552	2333.5	4.276	34.974	27.736	4.551
2628.5	4.322	34.975	27.732	4.556	2578.5	4.298	34.974	27.734	4.553	2328.5	4.276	34.974	27.736	4.557
2623.5	4.322	34.975	27.732	4.551	2573.5	4.298	34.974	27.735	4.555	2323.5	4.276	34.974	27.736	4.556
2618.5	4.321	34.975	27.732	4.554	2568.5	4.297	34.974	27.734	4.548	2318.5	4.275	34.974	27.736	4.552
2613.5	4.321	34.975	27.732	4.549	2563.5	4.297	34.974	27.734	4.554	2313.5	4.275	34.974	27.736	4.557
2608.5	4.320	34.975	27.732	4.549	2558.5	4.296	34.974	27.734	4.558	2308.5	4.274	34.974	27.736	4.551
2603.5	4.320	34.975	27.732	4.548	2553.5	4.295	34.974	27.734	4.556	2303.5	4.274	34.974	27.736	4.554
2598.5	4.319	34.975	27.732	4.543	2548.5	4.295	34.974	27.734	4.554	[illegible]	[illegible]	34.974	[illegible]	[illegible]
2593.5	4.319	34.975	27.732	4.547	2543.5	[illegible]	[illegible]	[illegible]	[illegible]	2293.5	[illegible]	[illegible]	27.736	[illegible]
2588.5	4.318	34.975	27.733	4.558	[illegible]	4.294	[illegible]	27.735	4.551	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	27.732	[illegible]	2533.5	4.293	34.974	27.735	4.551	2283.5	4.272	34.974	27.737	4.559
[illegible]	4.318	34.975	27.732	4.551	2528.5	4.293	34.974	27.735	4.553	2278.5	4.271	34.974	27.737	[illegible]
[illegible]	[illegible]	34.975	27.733	4.553	2523.5	4.292	34.974	27.735	4.559	2273.5	4.271	34.973	27.737	[illegible]
[illegible]	4.317	34.975	27.733	4.550	2518.5	4.292	34.974	27.735	4.557	[illegible]	[illegible]	34.974	27.737	4.547
2573.5	4.316	34.975	27.733	4.552	2513.5	[illegible]	[illegible]	[illegible]	[illegible]	2263.5	4.270	34.974	27.737	4.554
2568.5	4.316	34.975	27.733	[illegible]	[illegible]	4.291	34.974	27.735	4.557	2258.5	4.270	34.973	27.737	4.551
[illegible]	[illegible]	34.975	27.733	4.552	2503.5	4.291	34.974	27.735	4.561	2253.5	4.270	34.973	27.736	4.553
[illegible]	4.315	34.975	27.733	[illegible]	2498.5	4.290	34.975	27.735	4.563	2248.5	4.269	34.973	27.736	4.548
2548.5	4.314	34.975	27.733	4.547	2493.5	4.290	34.974	27.735	4.558	2243.5	4.269	34.973	27.737	4.553
2538.5	4.314	34.975	27.733	4.551	2488.5	4.290	34.974	27.735	4.553	2238.5	4.269	34.973	27.737	4.553
2533.5	4.313	34.975	27.733	4.543	2483.5	4.289	34.974	27.735	4.554	2233.5	4.269	34.973	27.736	4.549
2528.5	4.313	34.975	27.733	4.549	2478.5	4.289	34.974	27.735	4.552	2228.5	4.269	34.973	27.736	4.553
2523.5	4.312	34.975	27.733	4.549	2473.5	4.289	34.974	27.735	4.553	2223.5	4.269	34.973	27.736	4.547
2518.5	4.312	34.975	27.733	4.548	2468.5	4.288	34.974	27.735	4.547	2218.5	4.268	34.973	27.737	4.551
2513.5	4.311	34.975	27.733	4.553	2463.5	4.287	34.974	27.735	4.550	2213.5	4.268	34.973	27.737	4.551
2508.5	4.311	34.975	27.733	4.549	2458.5	4.287	34.974	27.735	4.554	2208.5	4.268	34.973	27.737	4.545
2503.5	4.310	34.975	27.733	4.555	2453.5	4.286	34.974	27.735	4.553	2203.5	4.267	34.973	27.737	4.552
2498.5	4.310	34.974	27.733	4.558	2448.5	4.286	34.974	27.735	4.554	2198.5	4.267	34.973	27.737	4.552
2493.5	4.309	34.975	27.733	4.555	2443.5	4.285	34.974	27.735	4.554	2193.5	4.267	34.973	27.736	4.550
2488.5	4.309	34.975	27.733	4.552	2438.5	4.285	34.974	27.735	4.557	2188.5	4.266	34.973	27.737	4.546
2483.5	4.309	34.975	27.733	4.550	2433.5	4.284	34.974	27.735	4.554	2183.5	4.266	34.973	27.737	4.550
2478.5	4.308	34.975	27.733	4.552	2428.5	4.284	34.974	27.736	4.554	2178.5	4.265	34.973	27.737	4.540
2473.5	4.308	34.975	27.733	4.550	2423.5	4.283	34.974	27.736	4.555	2173.5	4.265	34.973	27.737	4.551
2468.5	4.307	34.975	27.733	4.551	2418.5	4.283	34.974	27.736	4.550	2168.5	4.264	34.973	27.737	4.553
2463.5	4.307	34.975	27.733	4.553	2413.5	4.283	34.974	27.736	4.555	2163.5	4.264	34.973	27.737	4.551
2458.5	4.306	34.975	27.733	4.551	2408.5	4.282	34.974	27.736	4.551	2158.5	4.264	34.973	27.737	4.549
2453.5	4.306	34.975	27.734	4.549	2403.5	4.282	34.974	27.735	4.545	2153.5	4.263	34.973	27.737	4.554
2448.5	4.305	34.975	27.734	4.527	2398.5	4.281	34.974	27.736	4.552	2148.5	4.263	34.973	27.737	4.540
2443.5	4.304	34.975	27.734	4.551	2393.5	4.281	34.974	27.736	4.554	2143.5	4.263	34.973	27.737	4.555
2438.5	4.304	34.975	27.734	4.556	2388.5	4.281	34.974	27.736	4.551	2138.5	4.263	34.973	27.737	4.544



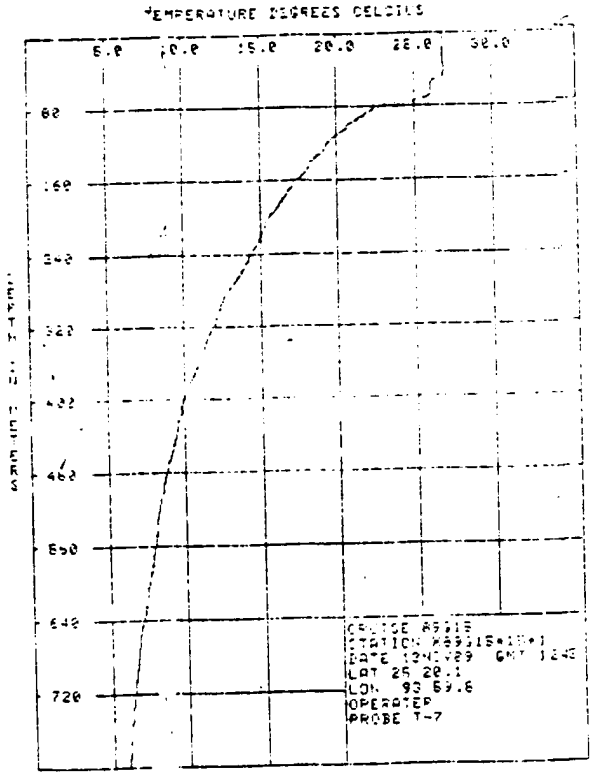
CRUISE: 89g15 STATION: SBE014.A DATE: Nov 14 07:27:46 1989
LATITUDE: 25 41.2 LONGITUDE: 93 59.6
TRIANGLES DENOTE DISCRETE SAMPLES

LAT 25 20.1 LON 93 59.8 EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*15*1 DATE 13NOV89 GMT 1245

Z	T	Z	T	Z	T	Z	T
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12.6	26.05	212.6	14.68	412.6	9.74	612.7	6.09
17.5	26.05	217.6	14.50	417.7	9.23	617.5	6.03
22.6	26.06	222.5	14.37	422.4	9.14	622.6	6.01
27.5	26.07	227.5	14.21	[illegible]	[illegible]	[illegible]	[illegible]
32.5	26.10	232.5	14.08	432.5	9.01	632.6	6.71
37.6	26.17	237.7	13.90	437.5	8.94	637.6	6.66
42.5	26.15	242.4	13.72	442.6	8.89	642.6	6.61
47.7	26.11	247.4	13.62	447.4	8.81	647.4	6.50
52.6	25.63	252.7	13.46	452.5	8.76	652.6	6.43
57.5	25.33	257.7	13.28	457.5	8.67	657.3	6.40
62.7	25.33	262.7	13.12	462.6	8.56	662.6	6.38
67.5	25.28	267.7	12.97	467.7	8.47	667.4	6.33
72.4	24.99	272.6	12.73	472.4	8.37	672.6	6.29
77.7	23.15	277.6	12.49	477.5	8.31	677.8	6.25
82.5	21.92	282.6	12.28	482.6	8.23	682.6	6.21
87.4	21.37	287.6	12.12	487.4	8.18	687.5	6.16
92.7	20.90	292.6	11.99	492.5	8.12	692.3	6.12
97.6	20.46	297.6	11.86	497.5	8.06	697.5	6.08
102.5	20.04	302.6	11.77	502.6	8.00	702.7	6.04
107.7	19.75	307.6	11.67	507.7	7.92	707.5	6.00
112.6	19.31	312.6	11.60	512.5	7.86	712.4	5.96
117.5	18.93	317.6	11.52	517.6	7.80	717.6	5.95
122.4	18.71	322.6	11.34	522.7	7.77	722.8	5.93
127.4	18.58	327.7	11.16	527.5	7.65	727.7	5.90
132.6	18.25	332.7	11.06	532.6	7.62	732.5	5.85
137.5	17.92	337.7	10.93	537.7	7.60	737.4	5.81
142.4	17.62	342.4	10.84	542.5	7.58	742.6	5.78
147.7	17.40	347.4	10.78	547.6	7.54	747.8	5.75
152.6	17.28	352.4	10.65	552.7	7.50	752.7	5.72
157.6	17.00	357.5	10.58	557.5	7.48	757.5	5.70
162.5	16.64	362.5	10.43	562.7	7.41	762.4	5.67
167.4	16.54	367.5	10.26	567.8	7.35	767.3	5.65
172.7	16.23	372.6	10.15	572.6	7.31	772.6	5.62
177.6	16.04	377.6	10.00	577.4	7.26	777.7	5.61
182.6	15.79	382.6	9.84	582.5	7.23	782.6	5.59
187.5	15.62	387.7	9.76	587.6	7.16	787.5	5.55
192.5	15.41	392.7	9.62	592.4	7.12	792.4	5.54
197.4	15.14	397.4	9.52	597.6	7.06	797.3	5.51

802.6 5.48

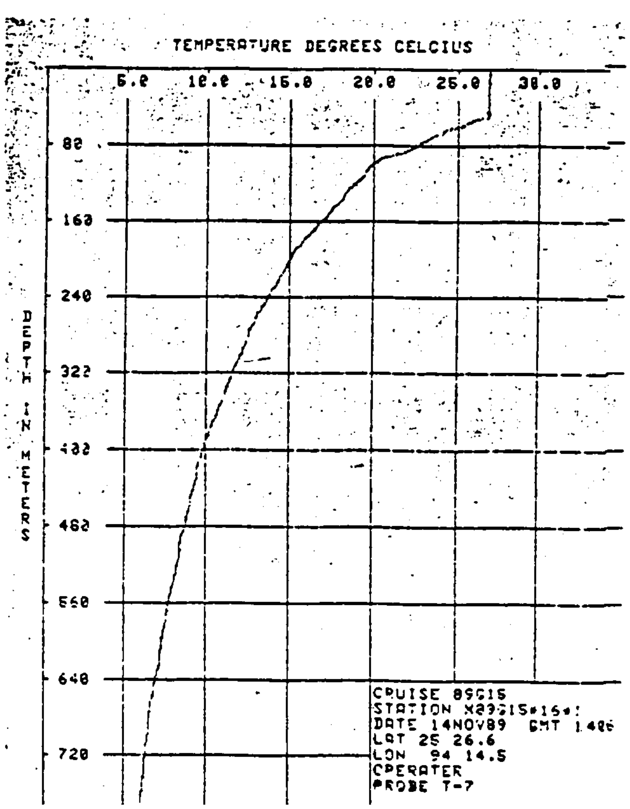


LAT 25 26.6 LON 94 14.5

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*16*1 DATE 14NOV89 GMT 1406

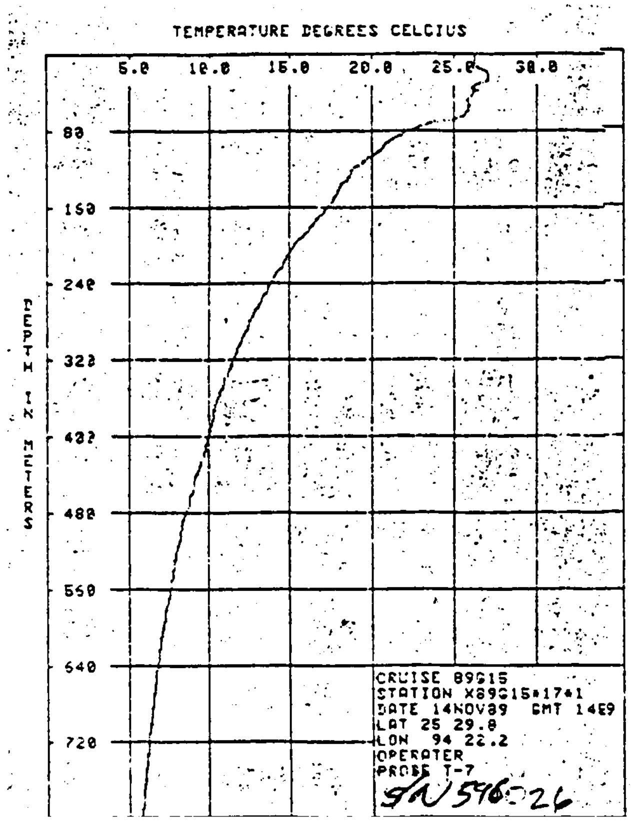
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.5	26.13	207.7	14.27	407.5	9.13	607.3	[illegible]		
12.5	26.12	212.6	14.11	412.6	9.08	612.3	6.75		
17.5	26.12	217.6	13.95	417.7	9.05	617.5	6.70		
22.4	26.12	222.5	13.78	422.4	8.89	622.5	6.67		
27.5	26.11	227.5	13.65	427.5	8.87	627.5	6.64		
32.8	26.11	232.5	13.45	432.5	8.85	632.6	6.56		
37.6	26.10	237.5	13.30	437.6	8.77	637.3	6.48		
42.5	26.07	242.4	13.12	442.6	8.67	642.6	6.42		
47.7	26.06	247.4	12.99	447.4	8.59	647.4	6.35		
52.6	25.63	252.7	12.80	452.5	8.53	652.6	6.33		
57.5	24.85	257.7	12.57	457.5	8.49	657.8	6.29		
62.7	24.05	262.7	12.44	462.6	8.43	662.6	6.21		
67.5	23.36	267.7	12.32	467.7	8.34	667.4	6.15		
72.4	22.72	272.6	12.15	472.4	8.29	672.6	6.12		
77.7	22.17	277.6	12.04	477.5	8.25	677.8	6.10		
82.5	21.72	282.6	12.00	482.6	8.17	682.5	6.08		
87.4	21.10	287.6	11.91	487.4	8.05	687.5	6.05		
92.7	20.11	292.6	11.77	492.5	7.96	692.3	6.04		
97.6	19.55	297.6	11.67	497.5	7.91	697.5	6.01		
102.5	19.18	302.6	11.55	502.6	7.89	702.7	5.96		
107.7	18.89	307.6	11.39	507.7	7.89	707.5	5.92		
112.6	18.73	312.6	11.27	512.5	7.86	712.4	5.88		
117.5	18.50	317.6	11.13	517.6	7.78	717.6	5.87		
122.4	18.15	322.6	11.04	522.7	7.70	722.8	5.83		
127.4	17.93	327.7	10.93	527.5	7.65	727.7	5.81		
132.6	17.62	332.7	10.81	532.6	7.61	732.5	5.79		
137.5	17.46	337.7	10.72	537.7	7.55	737.4	5.77		
142.4	17.13	342.4	10.60	542.5	7.47	742.6	5.74		
147.7	16.85	347.4	10.49	547.6	7.33	747.3	5.69		
152.6	16.67	352.4	10.38	552.7	7.32	752.7	5.67		
157.6	16.43	357.5	10.24	557.5	7.27	757.5	5.65		
162.5	16.18	362.5	10.17	562.7	7.19	762.4	5.63		
167.4	15.93	367.5	10.03	567.8	7.14	767.3	5.60		
172.7	15.68	372.6	9.88	572.6	7.13	772.6	5.56		
177.6	15.39	377.6	9.79	577.4	7.11	777.7	5.54		
182.6	15.15	382.6	9.67	582.5	7.03	782.6	5.51		
187.5	14.93	387.7	9.57	587.6	6.97	787.5	5.45		
192.5	14.68	392.7	9.47	592.4	6.92	792.4	5.41		
197.4	14.55	397.4	9.33	597.6	6.86	797.3	5.40		



LAT 25 29.8 LON 94 22.2 [illegible]

PROBE T-7 CRUISE 89G15 STATION X89G15*17*1 DATE 14NOV89 GMT 1459

2.5	25.77	202.4	14.64	402.5	[illegible]	602.7	[illegible]	802.6	5.39
7.5	25.43	207.7	14.47	407.5	9.35	607.7	[illegible]		
12.6	25.55	212.6	14.27	412.6	9.29	612.7	[illegible]		
17.7	26.04	217.6	14.13	417.7	9.21	617.5	[illegible]		
22.4	26.25	222.5	14.01	422.4	9.13	622.6	6.50		
27.5	26.22	227.5	13.79	427.5	9.04	627.5	6.46		
32.8	25.5[illegible]	232.5	13.56	432.5	8.94	632.6	6.44		
37.6	25.49	237.5	13.38	437.6	8.83	637.8	6.38		
42.5	25.36	242.4	13.18	442.6	8.69	642.6	6.32		
47.7	25.12	247.4	13.08	447.4	8.60	647.4	6.28		
52.6	25.17	252.7	12.90	452.5	8.59	652.6	6.22		
57.5	25.14	257.7	12.71	457.5	8.56	657.8	6.21		
62.7	24.95	262.7	12.57	462.6	8.42	662.6	6.19		
67.5	24.43	267.7	12.40	467.7	8.35	667.4	6.15		
72.4	22.99	272.6	12.24	472.4	8.32	672.6	6.10		
77.7	22.03	277.6	12.07	477.5	8.19	677.8	6.05		
82.5	21.34	282.6	11.91	482.6	8.06	682.6	6.02		
87.4	20.84	287.6	11.85	487.4	7.95	687.5	5.99		
92.7	20.34	292.6	11.67	492.5	7.87	692.3	5.96		
97.6	20.03	297.6	11.51	497.5	7.83	697.5	5.94		
102.5	19.76	302.6	11.41	502.6	7.77	702.7	5.91		
107.7	19.30	307.6	11.26	507.7	7.73	707.5	5.88		
112.6	18.87	312.6	11.14	512.5	7.68	712.4	5.83		
117.5	18.50	317.6	11.02	517.6	7.58	717.6	5.80		
122.4	18.16	322.6	10.89	522.7	7.52	722.8	5.79		
127.4	18.06	327.7	10.83	527.5	7.46	727.7	5.79		
132.6	17.87	332.7	10.69	532.6	7.40	732.5	5.75		
137.5	17.55	337.7	10.57	537.7	7.36	737.4	5.71		
142.4	17.41	342.4	10.45	542.5	7.31	742.6	5.67		
147.7	17.26	347.4	10.39	547.6	7.27	747.8	5.64		
152.6	17.08	352.4	10.25	552.7	7.19	752.7	5.62		
157.6	16.85	357.5	10.13	557.5	7.16	757.5	5.60		
162.5	16.63	362.5	10.00	562.7	7.12	762.4	5.58		
167.4	16.47	367.5	9.88	567.8	7.08	767.3	5.55		
172.7	16.13	372.6	9.81	572.6	7.03	772.6	5.53		
177.6	15.92	377.6	9.79	577.4	6.96	777.7	5.49		
182.6	15.68	382.6	9.74	582.5	6.88	782.6	5.47		
187.5	15.43	387.7	9.64	587.6	6.85	787.5	5.45		
192.5	15.16	392.7	9.58	592.4	6.82	792.4	5.43		
197.4	14.95	397.4	9.52	597.6	6.72	797.3	5.41		

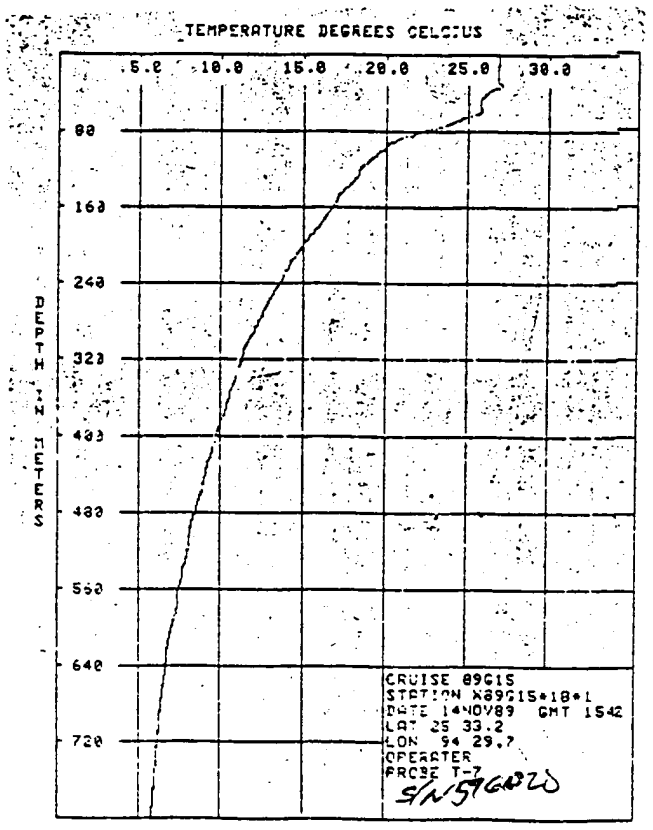


LAT 25 33.2 LON 94 29.7

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15•18•1 DATE 14NOV89 GMT 1542

Z	T	Z	T	Z	T	Z	T	Z	T
2.5	26.11	[illegible]	14.25	[illegible]	9.20	[illegible]	6.01	[illegible]	5.29
[illegible]	26.12	[illegible]	14.12	[illegible]	9.13	[illegible]	6.00		
12.6	26.12	212.6	13.95	412.6	9.07	612.7	6.40		
17.5	26.11	217.5	13.73	417.5	8.96	617.5	6.34		
22.4	26.10	222.5	13.59	422.4	8.90	622.6	6.30		
27.5	26.08	227.5	13.46	427.5	8.79	627.5	6.27		
32.5	26.27	232.5	13.32	432.5	8.67	632.6	6.25		
37.6	25.69	237.5	13.14	437.6	8.61	637.8	6.21		
42.5	25.54	242.4	12.99	442.6	8.56	642.6	6.16		
47.7	25.07	247.4	12.78	447.4	8.51	647.4	6.14		
52.6	25.00	252.7	12.62	452.5	8.46	652.6	6.08		
57.5	25.07	257.7	12.47	457.5	8.41	657.8	6.06		
62.7	24.77	262.7	12.30	462.6	8.31	662.6	6.01		
67.5	23.87	267.7	12.16	467.7	8.19	667.4	5.98		
72.4	23.16	272.6	12.04	472.4	8.12	672.6	5.94		
77.7	22.15	277.6	11.88	477.5	8.07	677.8	5.90		
82.5	21.10	282.6	11.74	482.6	7.96	682.6	5.86		
87.4	20.33	287.6	11.59	487.4	7.94	687.5	5.84		
92.7	19.66	292.6	11.48	492.5	7.77	692.3	5.80		
97.6	19.33	297.6	11.29	497.5	7.71	697.5	5.78		
102.5	18.99	302.6	11.17	502.6	7.65	702.7	5.77		
107.7	18.65	307.6	10.98	507.7	7.61	707.5	5.75		
112.6	18.30	312.6	10.88	512.5	7.59	712.4	5.71		
117.5	17.94	317.6	10.82	517.6	7.55	717.6	5.69		
122.4	17.73	322.6	10.75	522.7	7.51	722.8	5.66		
127.4	17.66	327.7	10.64	527.5	7.46	727.7	5.67		
132.6	17.39	332.7	10.57	532.6	7.32	732.5	5.65		
137.5	17.14	337.7	10.48	537.7	7.26	737.4	5.60		
142.4	16.85	342.4	10.39	542.5	7.19	742.6	5.57		
147.7	16.58	347.4	10.29	547.6	7.16	747.8	5.55		
152.6	16.43	352.4	10.13	552.7	7.13	752.7	5.53		
157.6	16.25	357.5	10.03	557.5	7.04	757.5	5.51		
162.5	16.09	362.5	9.98	562.7	6.98	762.4	5.48		
167.4	15.95	367.5	9.88	567.3	6.95	767.3	5.46		
172.7	15.67	372.6	9.83	572.6	6.94	772.6	5.43		
177.6	15.47	377.6	9.76	577.4	6.91	777.7	5.40		
182.6	15.26	382.6	9.61	582.5	6.85	782.6	5.38		
187.5	15.01	387.7	9.46	587.6	6.79	787.5	5.35		
192.5	14.78	392.7	9.36	592.4	6.71	792.4	5.32		
197.4	14.52	397.4	9.27	597.6	6.61	797.3	5.30		

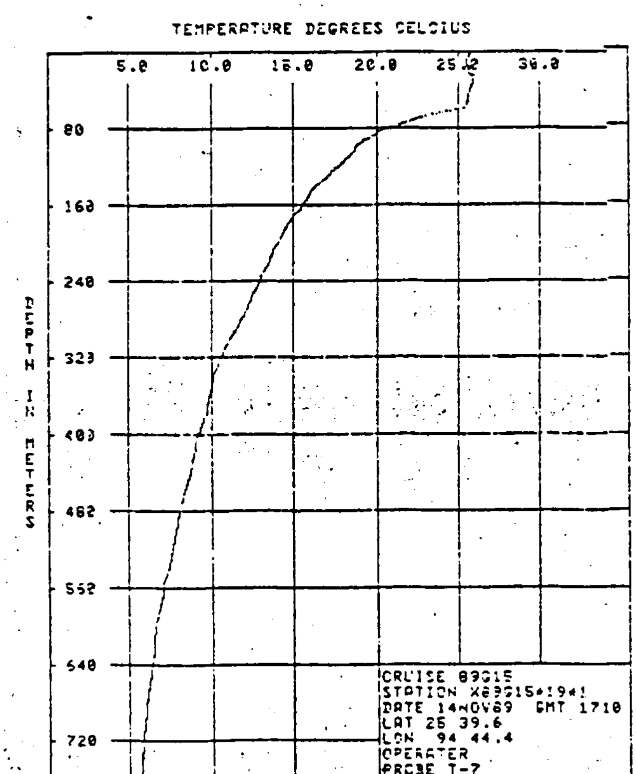


LAT 25 39.6 LON 94 44.4

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15+19+1 DATE 14NOV89 GMT 1710

D	T	D	T	D	T	D	T	D	T
[illegible]	24.9[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	602.7	6.1[illegible]	[illegible]	5.21
[illegible]	[illegible]	[illegible]	13.27	407.8	[illegible]	607.5	[illegible]		
12.6	24.74	212.6	13.13	412.6	8.55	612.7	6.09		
17.5	24.75	217.6	13.01	417.7	8.51	[illegible]	[illegible]		
22.4	24.91	222.5	12.97	422.4	[illegible]	622.6	6.05		
27.5	25.19	227.5	12.76	427.5	8.38	627.5	6.02		
32.8	25.12	232.5	12.61	432.5	8.33	632.6	6.00		
37.6	25.20	237.5	12.43	437.6	8.23	637.3	5.97		
42.5	24.90	242.4	12.36	442.6	8.21	642.6	5.95		
47.7	24.86	247.4	12.23	447.4	8.12	647.4	5.89		
52.6	24.80	252.7	12.05	452.5	8.02	652.6	5.86		
57.5	24.72	257.7	11.86	457.5	7.91	657.8	5.80		
62.7	23.90	262.7	11.76	462.6	7.82	662.6	5.77		
67.5	22.47	267.7	11.64	467.7	7.76	667.4	5.72		
72.4	21.56	272.6	11.51	472.4	7.70	672.6	5.67		
77.7	20.70	277.6	11.36	477.5	7.66	677.3	5.64		
82.5	19.70	282.6	11.21	482.6	7.60	682.6	5.61		
87.4	19.26	287.6	11.18	487.4	7.54	687.5	5.58		
92.7	18.67	292.6	10.93	492.5	7.50	692.7	5.57		
97.6	18.24	297.6	10.74	497.5	7.45	697.5	5.54		
102.5	18.00	302.6	10.55	502.6	7.38	702.7	5.49		
107.7	17.94	307.6	10.38	507.7	7.32	707.5	5.46		
112.6	17.51	312.6	10.24	512.5	7.27	712.4	5.42		
117.5	17.25	317.6	10.12	517.6	7.20	717.6	5.40		
122.4	16.92	322.6	10.00	522.7	7.19	722.8	5.39		
127.4	16.63	327.7	9.90	527.5	7.12	727.7	5.37		
132.6	16.36	332.7	9.76	532.6	7.06	732.5	5.35		
137.5	16.02	337.7	9.63	537.7	7.03	737.4	5.34		
142.4	15.69	342.4	9.56	542.5	6.92	742.6	5.33		
147.7	15.45	347.4	9.53	547.6	6.82	747.8	5.32		
152.6	15.32	352.4	9.48	552.7	6.72	752.7	5.31		
157.6	15.10	357.5	9.38	557.5	6.65	757.5	5.30		
162.5	14.95	362.5	9.32	562.7	6.62	762.4	5.29		
167.4	14.73	367.5	9.27	567.3	6.60	767.3	5.28		
172.7	14.41	372.6	9.20	572.6	6.56	772.6	5.27		
177.6	14.24	377.6	9.17	577.4	6.48	777.7	5.27		
182.6	14.04	382.6	9.10	582.5	6.41	782.6	5.25		
187.5	13.89	387.7	8.97	587.6	6.36	787.5	5.25		
192.5	13.75	392.7	8.85	592.4	6.27	792.4	5.23		
197.4	13.63	397.4	8.78	597.6	6.19	797.3	5.22		



623236

STATION SBE019.AVG:: CRUISE 99g15 DATE & TIME Tue Nov 14 17:19:55 1999, Julian day = 318
LAT 25 39.9 LON 94 44.9 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	KSM
8.5	24.982	34.596	23.073	4.466
13.5	24.[illegible]	34.677	23.178	4.473
[illegible]	[illegible]	35.745	23.928	4.472
[illegible]	24.[illegible]	36.396	24.140	4.475
[illegible]	[illegible]	[illegible]	24.324	4.487
[illegible]	[illegible]	36.348	24.362	4.466
[illegible]	[illegible]	36.407	24.391	4.491
[illegible]	[illegible]	[illegible]	24.414	[illegible]
48.5	24.917	36.426	24.447	4.500
53.5	24.954	36.431	24.467	4.501
58.5	24.844	36.440	24.480	4.500
63.5	23.912	36.459	24.774	4.489
68.5	22.420	36.541	25.271	4.493
73.5	21.378	36.519	25.548	4.490
78.5	20.499	36.517	25.787	4.493
83.5	19.678	36.523	26.011	4.495
88.5	19.162	36.481	26.113	4.506
93.5	18.699	36.441	26.201	4.520
98.5	18.357	36.428	26.278	4.524
103.5	18.080	36.403	26.328	4.527
108.5	17.778	36.376	26.383	4.531
113.5	17.598	36.356	26.412	4.533
118.5	17.393	36.331	26.443	4.531
123.5	17.053	36.284	26.489	4.533
128.5	16.819	36.250	26.518	4.535
133.5	16.603	36.219	26.546	4.536
138.5	16.378	36.189	26.576	4.537
143.5	16.167	36.156	26.599	4.539
148.5	15.841	36.108	26.638	4.537
153.5	15.660	36.080	26.657	4.534
158.5	15.501	36.056	26.675	4.539
163.5	15.267	36.022	26.701	4.538
168.5	15.066	35.992	26.723	4.544
173.5	14.844	35.956	26.744	4.538
178.5	14.618	35.919	26.765	4.545
183.5	14.473	35.894	26.778	4.545
188.5	14.315	35.869	26.792	4.544
193.5	14.157	35.844	26.806	4.544
198.5	13.932	35.809	26.828	4.545
203.5	13.720	35.773	26.845	4.548
208.5	13.548	35.746	26.859	4.547
213.5	13.332	35.711	26.877	4.546
218.5	13.165	35.686	26.892	4.548
223.5	13.027	35.663	26.902	4.546
228.5	12.838	35.642	26.914	4.548
233.5	12.772	35.623	26.922	4.547
238.5	12.656	35.604	26.931	4.547
243.5	12.551	35.588	26.939	4.548
248.5	12.435	35.571	26.948	4.549
253.5	12.252	35.543	26.963	4.549

DEPTH	TEMP	SALT	SIGMA-T	KSM
258.5	12.107	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	35.496	26.[illegible]	[illegible]
268.5	11.37[illegible]	35.48[illegible]	26.94[illegible]	4.55[illegible]
273.5	11.[illegible]	35.[illegible]	27.[illegible]	4.5[illegible]
278.5	11.[illegible]	[illegible]	27.[illegible]	[illegible]
283.5	11.[illegible]	35.[illegible]	27.[illegible]	4.5[illegible]
288.5	11.[illegible]	35.[illegible]	27.[illegible]	[illegible]
293.5	11.252	35.390	27.034	[illegible]
298.5	11.120	35.371	27.047	4.551
303.5	10.985	35.351	27.052	4.550
308.5	10.740	35.319	27.072	4.552
313.5	10.603	35.296	27.078	4.550
318.5	10.438	35.274	27.090	4.550
323.5	10.319	35.257	27.098	4.551
328.5	10.205	35.242	27.106	4.552
333.5	10.129	35.231	27.111	4.552
338.5	10.046	35.220	27.116	4.554
343.5	9.963	35.209	27.122	4.554
348.5	9.873	35.198	27.128	4.551
353.5	9.841	35.196	27.133	4.553
358.5	9.747	35.188	27.142	4.551
363.5	9.657	35.177	27.149	4.553
368.5	9.562	35.166	27.156	4.554
373.5	9.501	35.158	27.160	4.553
378.5	9.377	35.145	27.170	4.554
383.5	9.285	35.133	27.177	4.553
388.5	9.172	35.119	27.184	4.552
393.5	9.077	35.108	27.191	4.557
398.5	8.996	35.098	27.196	4.555
403.5	8.896	35.086	27.203	4.554
408.5	8.820	35.077	27.208	4.555
413.5	8.775	35.072	27.210	4.551
418.5	8.722	35.066	27.214	4.552
423.5	8.674	35.060	27.217	4.555
428.5	8.658	35.057	27.218	4.552
433.5	8.617	35.053	27.221	4.551
438.5	8.581	35.049	27.224	4.552
443.5	8.494	35.042	27.231	4.551
448.5	8.406	35.033	27.239	4.549
453.5	8.310	35.024	27.246	4.542
458.5	8.225	35.016	27.252	4.545
463.5	8.142	35.007	27.259	4.550
468.5	8.067	35.000	27.264	4.546
473.5	7.944	34.989	27.274	4.549
478.5	7.8[illegible]	34.982	27.278	4.551
483.5	7.844	34.979	27.281	4.551
488.5	7.766	34.972	27.287	4.552
493.5	7.738	34.971	27.291	4.552
498.5	7.688	34.967	27.295	4.551
503.5	7.646	34.963	27.297	4.548

DEPTH	TEMP	SALT	SIGMA-T	KSM
508.5	7.614	34.959	27.300	4.554
[illegible]	7.[illegible]	34.[illegible]	27.[illegible]	[illegible]
518.5	7.[illegible]	34.94[illegible]	27.315	4.5[illegible]
523.5	7.[illegible]	34.947	27.319	[illegible]
528.5	7.[illegible]	[illegible]	27.32[illegible]	[illegible]
533.5	7.267	34.934	27.330	4.557
538.5	7.142	34.924	27.339	4.542
543.5	7.066	34.917	27.344	4.542
548.5	7.038	34.916	27.347	4.555
553.5	6.998	34.915	27.353	4.542
558.5	6.950	34.918	27.362	4.547
563.5	6.875	34.916	27.370	4.549
568.5	6.825	34.914	27.375	4.553
573.5	6.734	34.913	27.381	4.556
578.5	6.699	34.911	27.390	4.553
583.5	6.675	34.909	27.397	4.552
588.5	6.574	34.906	27.404	4.549
593.5	6.520	34.905	27.409	4.549
598.5	6.487	34.903	27.413	4.547
603.5	6.448	34.903	27.418	4.554
608.5	6.418	34.902	27.421	4.552
613.5	6.381	34.902	27.426	4.551
618.5	6.309	34.901	27.435	4.557
623.5	6.273	34.901	27.439	4.558
628.5	6.228	34.901	27.445	4.557
633.5	6.193	34.900	27.450	4.557
638.5	6.148	34.900	27.455	4.558
643.5	6.101	34.901	27.461	4.559
648.5	6.076	34.900	27.464	4.560
653.5	6.059	34.899	27.466	4.561
658.5	6.033	34.900	27.470	4.560
663.5	5.992	34.901	27.476	4.559
668.5	5.964	34.902	27.480	4.561
673.5	5.936	34.903	27.484	4.560
678.5	5.907	34.903	27.488	4.557
683.5	5.869	34.904	27.494	4.557
688.5	5.849	34.904	27.496	4.560
693.5	5.843	34.904	27.497	4.557
698.5	5.826	34.904	27.500	4.558
703.5	5.797	34.905	27.503	4.559
708.5	5.783	34.905	27.505	4.557
713.5	5.778	34.905	27.506	4.560
718.5	5.762	34.905	27.508	4.557
723.5	5.756	34.905	27.509	4.556
728.5	5.748	34.905	27.510	4.559
733.5	5.736	34.906	27.512	4.556
738.5	5.722	34.906	27.514	4.558
743.5	5.707	34.907	27.516	4.557
748.5	5.698	34.907	27.518	4.560
753.5	5.683	34.907	27.520	4.558

STATION SBS019.AVG:: CRUISE 89g15 DATE & TIME Tue Nov 14 17:19:55 1989, Julian day = 318
LAT 25 39.8 LON 94 44.9 DEPTH OFFSET 0.0

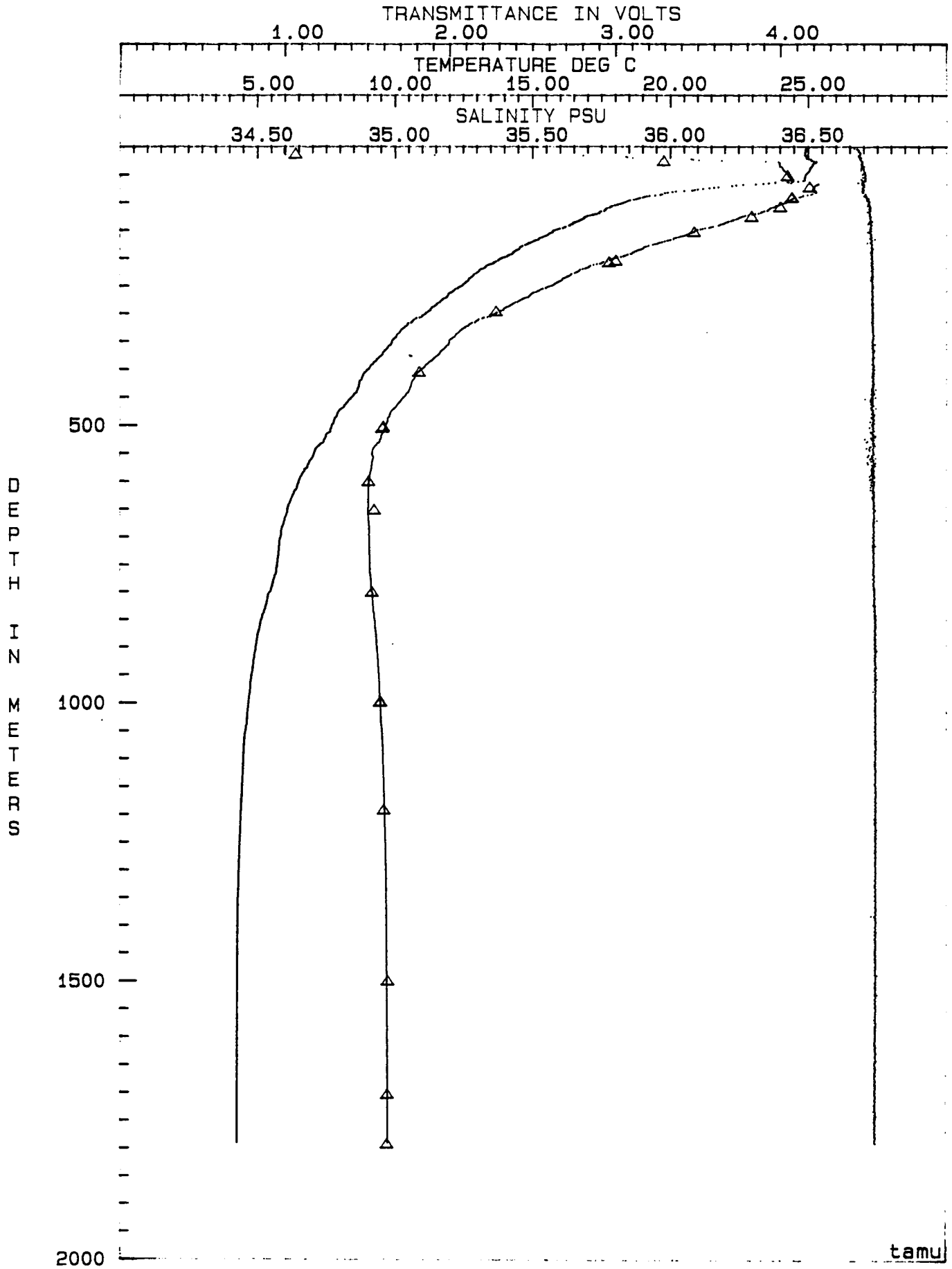
DEPTH	TEMP	SALT	SIGMA-T	VSM	DEPTH	TEMP	SALT	SIGMA-T	VSM	DEPTH	TEMP	SALT	SIGMA-T	VSM
758.5	5.667	34.907	27.522	4.556	1008.5	4.653	34.947	27.673	4.567	1258.5	4.341	34.964	27.721	4.568
763.5	5.660	34.907	27.522	4.557	1013.5	4.640	34.948	27.675	4.568	1263.5	4.339	34.964	27.722	4.568
768.5	5.614	34.909	27.530	4.559	1018.5	4.631	34.948	27.676	4.567	1268.5	4.334	34.965	27.723	4.567
773.5	5.587	34.910	27.534	4.558	1023.5	4.623	34.948	27.678	4.566	1273.5	4.330	34.965	27.723	4.567
778.5	5.555	34.911	27.538	4.559	1028.5	4.614	34.949	27.679	4.567	1278.5	4.328	34.965	27.724	4.568
783.5	5.538	34.911	27.541	4.556	1033.5	4.611	34.949	27.680	4.569	1283.5	4.325	34.965	27.724	4.567
788.5	5.516	34.912	27.544	4.558	1038.5	4.601	34.950	27.681	4.567	1288.5	4.321	34.965	27.724	4.568
793.5	5.489	34.913	27.548	4.559	1043.5	4.598	34.951	27.685	4.567	1293.5	4.318	34.966	27.725	4.567
798.5	5.456	34.914	27.553	4.561	1048.5	4.585	34.951	27.687	4.567	1298.5	4.316	34.966	27.725	4.569
803.5	5.395	34.916	27.563	4.561	1053.5	4.546	34.952	27.690	4.566	1303.5	4.311	34.966	27.726	4.568
808.5	5.358	34.916	27.567	4.562	1058.5	4.535	34.953	27.691	4.569	1308.5	4.309	34.966	27.727	4.567
813.5	5.340	34.917	27.569	4.560	1063.5	4.527	34.953	27.692	4.567	1313.5	4.307	34.966	27.727	4.568
818.5	5.322	34.918	27.572	4.560	1068.5	4.516	34.954	27.694	4.568	1318.5	4.305	34.967	27.728	4.566
823.5	5.296	34.919	27.576	4.564	1073.5	4.509	34.954	27.695	4.568	1323.5	4.304	34.967	27.728	4.566
828.5	5.268	34.919	27.580	4.562	1078.5	4.505	34.955	27.696	4.569	1328.5	4.302	34.967	27.728	4.566
833.5	5.238	34.920	27.584	4.564	1083.5	4.497	34.955	27.697	4.569	1333.5	4.299	34.967	27.729	4.568
838.5	5.199	34.922	27.590	4.563	1088.5	4.495	34.955	27.697	4.569	1338.5	4.297	34.967	27.729	4.567
843.5	5.160	34.924	27.596	4.565	1093.5	4.488	34.956	27.699	4.567	1343.5	4.294	34.968	27.729	4.567
848.5	5.135	34.924	27.600	4.566	1098.5	4.485	34.956	27.699	4.567	1348.5	4.292	34.968	27.729	4.568
853.5	5.101	34.926	27.605	4.564	1103.5	4.481	34.956	27.699	4.566	1353.5	4.290	34.968	27.730	4.567
858.5	5.080	34.927	27.608	4.566	1108.5	4.477	34.956	27.700	4.567	1358.5	4.288	34.968	27.730	4.567
863.5	5.069	34.927	27.610	4.566	1113.5	4.475	34.956	27.700	4.565	1363.5	4.287	34.969	27.730	4.568
868.5	5.045	34.929	27.613	4.562	1118.5	4.469	34.957	27.701	4.568	1368.5	4.286	34.968	27.730	4.569
873.5	5.014	34.930	27.618	4.566	1123.5	4.464	34.957	27.702	4.568	1373.5	4.285	34.968	27.731	4.567
878.5	4.992	34.930	27.621	4.564	1128.5	4.459	34.957	27.703	4.567	1378.5	4.283	34.968	27.731	4.569
883.5	4.977	34.931	27.624	4.563	1133.5	4.453	34.958	27.704	4.568	1383.5	4.282	34.968	27.731	4.562
888.5	4.959	34.932	27.626	4.564	1138.5	4.447	34.958	27.705	4.569	1388.5	4.281	34.969	27.731	4.566
893.5	4.951	34.932	27.627	4.565	1143.5	4.443	34.958	27.705	4.565	1393.5	4.280	34.969	27.732	4.569
898.5	4.934	34.933	27.630	4.564	1148.5	4.436	34.959	27.707	4.567	1398.5	4.280	34.968	27.731	4.567
903.5	4.921	34.934	27.632	4.566	1153.5	4.430	34.959	27.707	4.568	1403.5	4.277	34.969	27.732	4.566
908.5	4.901	34.934	27.635	4.567	1158.5	4.427	34.959	27.708	4.569	1408.5	4.277	34.969	27.732	4.566
913.5	4.888	34.935	27.637	4.566	1163.5	4.424	34.959	27.709	4.570	1413.5	4.276	34.969	27.732	4.568
918.5	4.872	34.936	27.639	4.566	1168.5	4.419	34.960	27.709	4.568	1418.5	4.276	34.969	27.732	4.569
923.5	4.849	34.937	27.643	4.564	1173.5	4.409	34.960	27.711	4.569	1423.5	4.275	34.969	27.732	4.565
928.5	4.841	34.937	27.644	4.566	1178.5	4.405	34.960	27.711	4.568	1428.5	4.274	34.969	27.733	4.566
933.5	4.830	34.938	27.646	4.568	1183.5	4.402	34.960	27.712	4.569	1433.5	4.274	34.969	27.733	4.568
938.5	4.814	34.939	27.649	4.565	1188.5	4.398	34.961	27.712	4.569	1438.5	4.274	34.969	27.732	4.567
943.5	4.804	34.939	27.650	4.565	1193.5	4.391	34.961	27.714	4.568	1443.5	4.273	34.969	27.733	4.566
948.5	4.783	34.941	27.654	4.567	1198.5	4.384	34.962	27.715	4.566	1448.5	4.272	34.969	27.733	4.566
953.5	4.772	34.941	27.655	4.565	1203.5	4.379	34.962	27.716	4.568	1453.5	4.271	34.969	27.733	4.568
958.5	4.757	34.941	27.657	4.568	1208.5	4.377	34.962	27.716	4.567	1458.5	4.270	34.969	27.733	4.565
963.5	4.740	34.942	27.660	4.567	1213.5	4.374	34.962	27.716	4.568	1463.5	4.269	34.969	27.733	4.567
968.5	4.737	34.942	27.660	4.569	1218.5	4.370	34.962	27.717	4.567	1468.5	4.268	34.970	27.734	4.569
973.5	4.734	34.942	27.660	4.566	1223.5	4.364	34.963	27.718	4.568	1473.5	4.267	34.969	27.734	4.567
978.5	4.724	34.943	27.662	4.568	1228.5	4.361	34.963	27.718	4.569	1478.5	4.264	34.970	27.734	4.567
983.5	4.712	34.944	27.664	4.567	1233.5	4.358	34.963	27.719	4.567	1483.5	4.265	34.970	27.734	4.566
988.5	4.698	34.945	27.667	4.567	1238.5	4.354	34.964	27.719	4.567	1488.5	4.264	34.970	27.734	4.568
993.5	4.684	34.945	27.668	4.566	1243.5	4.350	34.964	27.720	4.568	1493.5	4.265	34.970	27.734	4.568
998.5	4.672	34.946	27.670	4.566	1248.5	4.347	34.964	27.720	4.569	1498.5	4.265	34.970	27.734	4.567
1003.5	4.662	34.946	27.672	4.567	1253.5	4.345	34.964	27.721	4.567	1503.5	4.264	34.970	27.734	4.567

STATION SBE019.AUG:: CRUISE 89g15 DATE & TIME Tue Nov 14 17:19:55 1989, Julian day = 318
LAT 25 29.9 LON 94 44.9 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	VSM
1508.5	4.264	34.970	27.734	4.567
1513.5	4.264	34.970	27.735	4.566
1518.5	4.264	34.970	27.734	4.568
1523.5	4.264	34.970	27.734	4.567
1528.5	4.263	34.970	27.735	4.568
1533.5	4.262	34.970	27.735	4.567
1538.5	4.261	34.970	27.735	4.566
1543.5	4.260	34.970	27.735	4.567
1548.5	4.260	34.970	27.735	4.567
1553.5	4.259	34.971	27.735	4.568
1558.5	4.259	34.971	27.735	4.567
1563.5	4.259	34.971	27.736	4.566
1568.5	4.258	34.971	27.735	4.566
1573.5	4.258	34.971	27.736	4.567
1578.5	4.257	34.971	27.736	4.568
1583.5	4.257	34.971	27.736	4.567
1588.5	4.257	34.971	27.736	4.568
1593.5	4.256	34.971	27.736	4.566
1598.5	4.256	34.971	27.736	4.566
1603.5	4.255	34.971	27.736	4.568
1608.5	4.254	34.971	27.737	4.565
1613.5	4.253	34.971	27.737	4.565
1618.5	4.253	34.971	27.737	4.567
1623.5	4.253	34.971	27.737	4.566
1628.5	4.253	34.971	27.737	4.567
1633.5	4.253	34.971	27.737	4.568
1638.5	4.253	34.972	27.737	4.569
1643.5	4.253	34.972	27.737	4.567
1648.5	4.253	34.971	27.737	4.565
1653.5	4.252	34.972	27.737	4.567
1658.5	4.253	34.972	27.737	4.567
1663.5	4.252	34.972	27.737	4.566
1668.5	4.252	34.972	27.737	4.566
1673.5	4.251	34.972	27.737	4.565
1678.5	4.251	34.972	27.737	4.568
1683.5	4.250	34.972	27.737	4.566
1688.5	4.249	34.972	27.737	4.567
1693.5	4.249	34.972	27.737	4.566
1698.5	4.249	34.972	27.738	4.565
1703.5	4.249	34.972	27.738	4.567
1708.5	4.248	34.972	27.738	4.566
1713.5	4.248	34.972	27.739	4.566
1718.5	4.248	34.972	27.739	4.566
1723.5	4.248	34.972	27.738	4.566
1728.5	4.248	34.972	27.738	4.565
1733.5	4.248	34.972	27.739	4.568
1738.5	4.248	34.972	27.738	4.567
1743.5	4.247	34.972	27.739	4.568
1748.5	4.247	34.972	27.739	4.565
1753.5	4.247	34.973	27.738	4.566

DEPTH	TEMP	SALT	SIGMA-T	VSM
1758.5	4.247	34.972	27.738	4.567
1763.5	4.247	34.972	27.738	4.567
1768.5	4.247	34.973	27.738	4.565
1773.5	4.247	34.973	27.738	4.567
1778.5	4.247	34.972	27.738	4.567
1783.5	4.247	34.972	27.738	4.566

DEPTH	TEMP	SALT	SIGMA-T	VSM



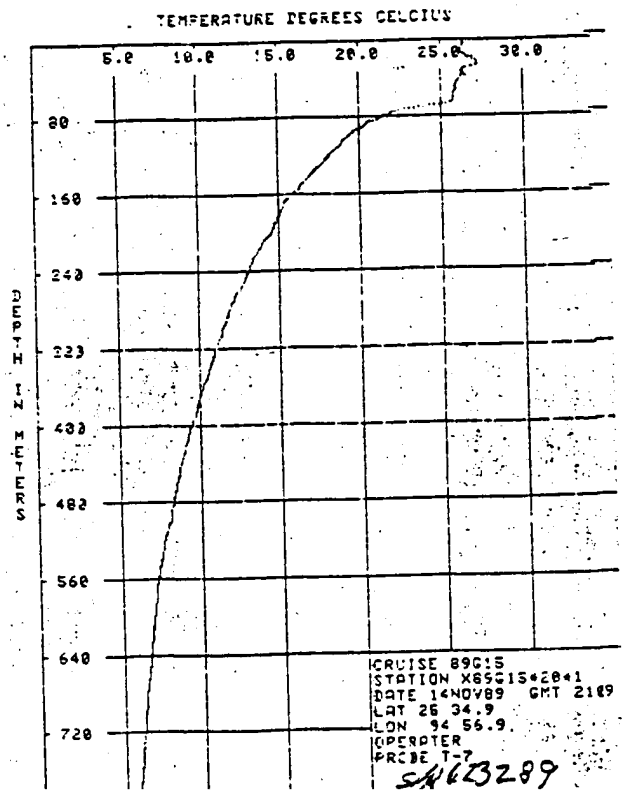
CRUISE: 89g15 STATION: SBE019.A DATE: Nov 14 17:19:55 1989
LATITUDE: 25 39.8 LONGITUDE: 94 44.9
TRIANGLES DENOTE DISCRETE SAMPLES

LAT 26 34.9 LON 94 56.9 W

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*2041 DATE 14NOV89 GMT 2109

Z	T	Z	T	Z	T	Z	T	Z	T
2.5	25.85	202.4	13.95	402.5	8.00	602.5	6.42	802.6	5.17
7.5	25.62	207.5	13.64	407.5	8.00	607.5	6.40		
12.6	25.51	212.6	13.42	412.6	8.05	612.5	6.39		
17.5	25.55	217.6	13.24	417.5	8.05	617.5	6.35		
22.4	26.32	222.5	13.07	422.4	8.06	622.6	6.30		
27.5	26.23	227.5	12.87	427.5	8.01	627.5	6.28		
32.5	25.56	232.5	12.74	432.5	8.05	632.6	6.20		
37.6	25.62	237.5	12.62	437.6	8.01	637.5	6.21		
42.5	25.36	242.4	12.50	442.6	8.24	642.6	6.16		
47.7	25.17	247.4	12.37	447.4	8.16	647.4	6.13		
52.6	25.16	252.7	12.23	452.5	8.14	652.6	6.10		
57.5	25.06	257.7	12.08	457.5	8.06	657.5	6.06		
62.7	25.02	262.7	11.87	462.6	7.98	662.6	6.04		
67.5	24.83	267.7	11.69	467.7	7.92	667.4	5.99		
72.4	22.57	272.6	11.56	472.4	7.87	672.6	5.96		
77.7	21.15	277.6	11.46	477.5	7.80	677.5	5.92		
82.5	20.59	282.6	11.33	482.6	7.74	682.6	5.89		
87.4	19.38	287.6	11.25	487.4	7.66	687.5	5.85		
92.7	19.39	292.6	11.13	492.5	7.59	692.7	5.82		
97.6	18.97	297.6	11.00	497.5	7.57	697.5	5.82		
102.5	18.55	302.6	10.90	502.6	7.48	702.7	5.80		
107.7	18.26	307.6	10.83	507.7	7.36	707.5	5.77		
112.6	18.02	312.6	10.68	512.5	7.30	712.4	5.71		
117.5	17.66	317.6	10.57	517.6	7.20	717.6	5.75		
122.4	17.48	322.6	10.46	522.7	7.13	722.5	5.72		
127.4	17.17	327.7	10.39	527.5	7.09	727.5	5.67		
132.6	16.95	332.7	10.31	532.6	7.05	732.5	5.67		
137.5	16.56	337.7	10.17	537.7	7.01	737.4	5.63		
142.4	16.32	342.4	10.09	542.5	6.94	742.6	5.61		
147.5	16.09	347.4	9.99	547.5	6.87	747.6	5.60		
152.6	15.75	352.4	9.91	552.7	6.81	752.4	5.58		
157.6	15.50	357.5	9.78	557.5	6.77	757.5	5.56		
162.5	15.14	362.5	9.64	562.5	6.73	762.4	5.57		
167.4	14.92	367.5	9.57	567.6	6.66	767.7	5.53		
172.7	14.76	372.6	9.46	572.6	6.67	772.6	5.48		
177.6	14.60	377.6	9.33	577.4	6.61	777.5	5.41		
182.6	14.44	382.6	9.29	582.5	6.60	782.6	5.37		
187.5	14.30	387.7	9.18	587.6	6.57	787.5	5.31		
192.5	14.15	392.7	9.10	592.4	6.54	792.4	5.26		
197.4	14.06	397.4	9.00	597.6	6.50	797.3	5.22		



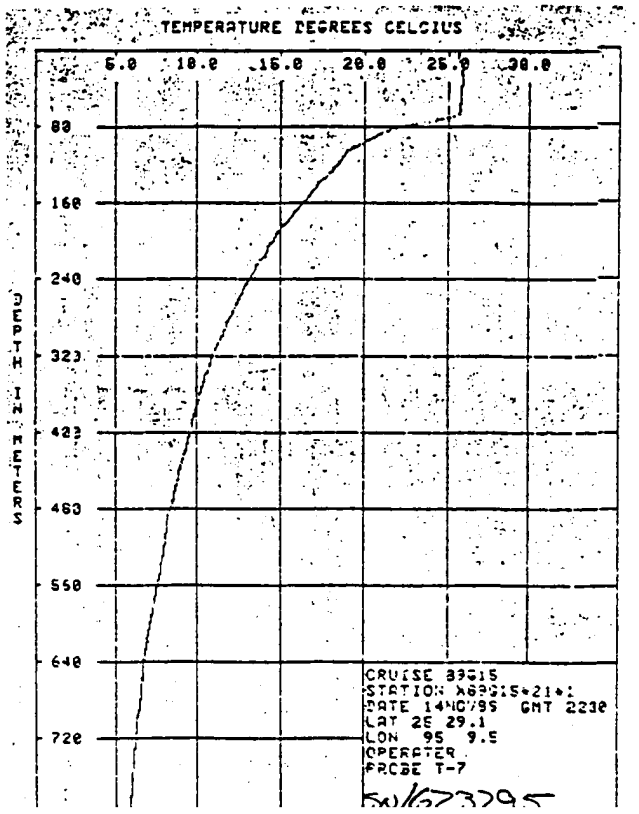
SN623289

LAT 25 29.1 LON 95 9.5

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*21*1 DATE 14NOV89 GMT 2230

Z	T	Z	T	Z	T	Z	T	Z	T
2.5	24.77	202.4	13.90	402.5	8.02	602.7	6.58	802.6	5.75
7.5	24.57	207.7	13.83	407.5	7.92	607.7	6.46		
12.6	24.35	212.6	13.60	412.6	7.85	612.3	6.42		
17.6	25.17	217.6	13.48	417.7	7.79	617.6	6.39		
22.4	25.09	222.5	13.20	422.4	7.70	622.6	6.36		
27.5	25.11	227.5	13.02	427.5	7.57	627.5	6.30		
32.8	25.10	232.5	12.92	432.5	7.48	632.6	6.24		
37.6	25.13	237.5	12.74	437.6	7.41	637.9	6.21		
42.5	25.07	242.4	12.58	442.6	7.34	642.6	6.18		
47.7	25.02	247.4	12.37	447.4	7.31	647.4	6.18		
52.6	25.00	252.7	12.24	452.5	7.26	652.6	6.14		
57.5	24.97	257.7	12.11	457.5	7.19	657.8	6.11		
62.7	24.93	262.7	11.96	462.6	7.11	662.6	6.09		
67.6	24.85	267.7	11.83	467.7	7.07	667.4	6.06		
72.4	23.92	272.6	11.69	472.4	7.00	672.6	6.05		
77.7	22.37	277.6	11.58	477.5	7.08	677.9	6.03		
82.5	21.17	282.6	11.41	482.6	7.78	682.6	5.98		
87.4	20.38	287.6	11.28	487.4	7.67	687.5	5.97		
92.7	19.82	292.6	11.20	492.5	7.64	692.5	5.90		
97.6	19.30	297.6	11.06	497.5	7.59	697.5	5.92		
102.5	18.76	302.6	10.93	502.6	7.56	702.7	5.80		
107.7	18.28	307.6	10.78	507.7	7.51	707.5	5.78		
112.6	18.06	312.6	10.63	512.5	7.48	712.4	5.75		
117.5	17.90	317.6	10.49	517.6	7.45	717.6	5.72		
122.4	17.67	322.6	10.38	522.7	7.40	722.8	5.70		
127.4	17.40	327.7	10.30	527.5	7.38	727.7	5.67		
132.6	17.17	332.7	10.24	532.6	7.30	732.5	5.64		
137.5	16.90	337.7	10.11	537.7	7.24	737.4	5.62		
142.4	16.53	342.4	9.97	542.5	7.20	742.6	5.60		
147.7	16.32	347.4	9.91	547.6	7.15	747.8	5.57		
152.6	16.08	352.4	9.82	552.7	7.10	752.5	5.56		
157.6	15.89	357.5	9.77	557.5	7.03	757.5	5.53		
162.5	15.64	362.5	9.67	562.7	6.97	762.4	5.52		
167.4	15.38	367.5	9.63	567.8	6.92	767.7	5.48		
172.7	15.14	372.6	9.51	572.6	6.86	772.6	5.47		
177.6	14.9[illegible]	377.6	9.43	577.4	6.83	777.7	5.46		
182.5	14.70	382.6	9.31	582.5	6.77	782.6	5.42		
187.5	14.45	387.7	9.23	587.6	6.72	787.5	5.41		
192.5	14.21	392.7	9.16	592.4	6.67	792.4	5.39		
197.4	14.06	397.4	9.09	597.6	6.59	797.5	5.36		

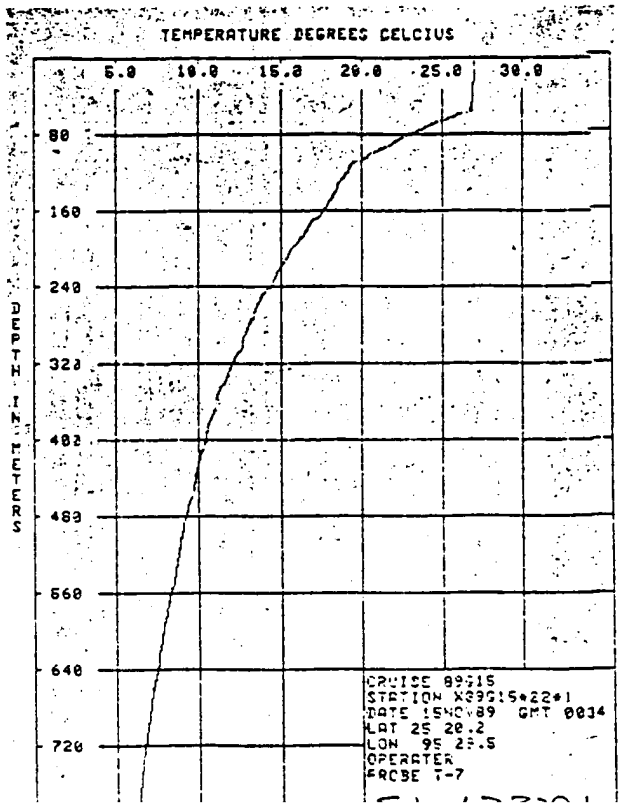


LAT 25 20.2 LON 95 29.5

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*22*1 DATE 15NOV89 GMT 0034

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	26.09	[illegible]	[illegible]	402.6	9.90	602.7	7.24	802.6	5.67
7.5	26.07	207.7	14.82	407.6	9.66	607.6	7.20		
12.6	26.07	212.6	14.69	412.6	9.42	612.7	7.17		
17.5	26.07	[illegible]	[illegible]	417.5	9.19	617.5	7.13		
22.4	26.07	222.6	14.31	422.4	8.98	622.6	7.10		
27.5	26.03	227.5	14.13	427.5	8.77	627.5	7.05		
32.6	26.15	232.5	14.01	432.7	8.58	632.6	6.99		
37.5	26.15	237.6	13.88	437.6	8.41	637.5	6.95		
42.5	26.15	242.4	13.65	442.6	8.24	642.6	6.90		
47.7	26.09	247.4	13.59	447.4	8.07	647.4	6.84		
52.6	26.05	252.7	13.21	452.5	8.17	652.6	6.78		
57.5	25.80	257.7	13.07	457.5	8.10	657.3	6.73		
62.7	24.94	262.6	12.93	462.6	8.00	662.6	6.68		
67.5	24.14	267.7	12.85	467.7	8.07	667.4	6.61		
72.4	23.30	272.6	12.74	472.4	8.01	672.6	6.57		
77.1	22.77	277.5	12.69	477.5	8.77	677.3	6.54		
82.5	22.05	282.4	12.46	482.6	8.65	682.6	6.51		
87.4	21.51	287.6	12.36	487.4	8.57	687.3	6.47		
92.7	21.02	292.6	12.20	492.7	8.54	692.3	6.45		
97.6	20.78	297.6	12.13	497.5	8.46	697.5	6.39		
102.5	19.80	302.6	12.12	502.6	8.40	702.7	6.32		
107.7	19.71	307.6	11.98	507.7	8.74	707.5	6.30		
112.6	18.66	312.6	11.75	512.5	8.71	712.4	6.28		
117.5	18.53	317.6	11.62	517.6	8.26	717.6	6.23		
122.4	18.35	322.6	11.50	522.7	8.21	722.8	6.19		
127.4	18.11	327.7	11.38	527.5	8.16	727.7	6.14		
132.6	17.99	332.7	11.26	532.6	8.11	732.5	6.10		
137.5	17.79	337.7	11.16	537.5	8.06	737.4	6.08		
142.4	17.62	342.4	11.01	542.5	8.01	742.6	6.06		
147.7	17.41	347.4	10.80	547.6	7.94	747.3	6.01		
152.6	17.24	352.4	10.67	552.7	7.90	752.7	5.97		
157.6	17.08	357.5	10.57	557.5	7.80	757.5	5.94		
162.5	16.90	362.5	10.50	562.7	7.73	762.4	5.92		
167.4	16.67	367.5	10.48	567.9	7.64	767.3	5.90		
172.7	16.23	372.6	10.40	572.6	7.58	772.6	5.88		
177.6	15.99	377.4	10.26	577.4	7.53	777.7	5.86		
182.6	15.95	382.6	10.13	582.5	7.49	782.6	5.83		
187.5	15.69	387.7	10.03	587.6	7.40	787.5	5.79		
192.5	15.42	392.7	9.99	592.4	7.32	792.4	5.74		
197.4	15.21	397.4	9.93	597.6	7.29	797.3	5.71		

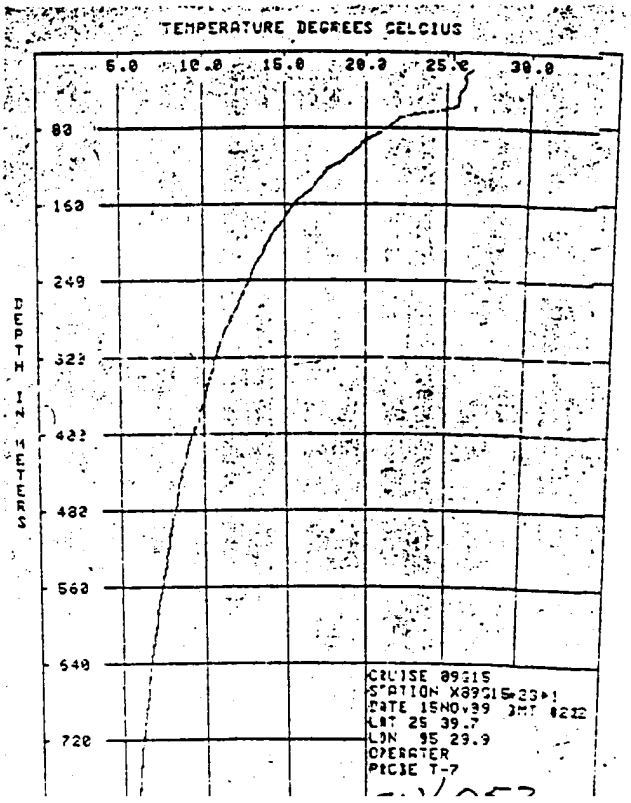


LAT 25 39.7 LON 95 29.9

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89315 STATION X89315-23+1 DATE 15NOV89 GMT 0232

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	24.64	202.4	17.72	402.5	8.78	602.7	6.87	802.6	5.81
7.5	24.69	207.4	17.51	407.5	8.68	607.5	6.77		
12.6	24.87	212.6	17.06	412.6	8.56	612.7	6.42		
17.5	25.76	217.6	12.87	417.7	8.51	617.5	6.41		
22.4	26.60	222.5	12.67	422.4	8.46	622.6	6.39		
27.5	25.76	227.5	12.50	427.5	8.41	627.5	6.31		
32.8	25.37	232.5	12.39	432.5	8.33	632.6	6.29		
37.6	25.27	237.5	12.29	437.6	8.21	637.8	6.26		
42.5	25.07	242.4	12.16	442.6	8.16	642.6	6.22		
47.7	24.99	247.4	12.02	447.4	8.09	647.4	6.17		
52.6	24.97	252.7	11.89	452.5	8.00	652.6	6.12		
57.5	24.78	257.7	11.72	457.5	7.93	657.8	6.11		
62.7	23.56	262.7	11.58	462.6	7.91	662.6	6.10		
67.5	22.04	267.7	11.47	467.7	7.89	667.4	6.09		
72.4	21.27	272.6	11.33	472.4	7.85	672.6	6.04		
77.7	20.89	277.6	11.16	477.5	7.79	677.8	6.00		
82.5	20.51	282.6	11.05	482.6	7.72	682.6	5.94		
87.4	20.02	287.6	10.92	487.4	7.65	687.5	5.90		
92.7	19.41	292.6	10.74	492.5	7.60	692.5	5.89		
97.6	19.01	297.6	10.64	497.5	7.55	697.5	5.85		
102.5	18.72	302.6	10.52	502.6	7.46	702.7	5.82		
107.7	18.37	307.6	10.41	507.7	7.42	707.5	5.78		
112.6	18.01	312.6	10.32	512.5	7.40	712.4	5.75		
117.5	17.65	317.6	10.21	517.6	7.36	717.6	5.72		
122.4	17.13	322.6	10.10	522.7	7.30	722.8	5.69		
127.4	16.88	327.7	10.07	527.5	7.24	727.7	5.66		
132.6	16.58	332.7	10.00	532.6	7.20	732.5	5.61		
137.5	16.33	337.7	9.89	537.7	7.18	737.4	5.60		
142.4	16.14	342.4	9.81	542.5	7.17	742.6	5.57		
147.7	15.82	347.4	9.73	547.5	7.07	747.3	5.55		
152.6	15.42	352.4	9.64	552.7	7.01	752.7	5.53		
157.6	15.13	357.5	9.60	557.5	6.97	757.5	5.51		
162.5	14.90	362.5	9.54	562.7	6.90	762.4	5.48		
167.4	14.70	367.5	9.46	567.5	6.87	767.5	5.46		
172.7	14.46	372.6	9.39	572.6	6.82	772.6	5.43		
177.6	14.30	377.6	9.23	577.4	6.77	777.7	5.41		
182.6	14.09	382.6	9.17	582.5	6.69	782.6	5.39		
187.5	13.85	387.7	9.12	587.6	6.67	787.5	5.36		
192.5	13.69	392.7	9.01	592.4	6.65	792.4	5.34		
197.4	13.48	397.4	8.99	597.6	6.61	797.5	5.32		

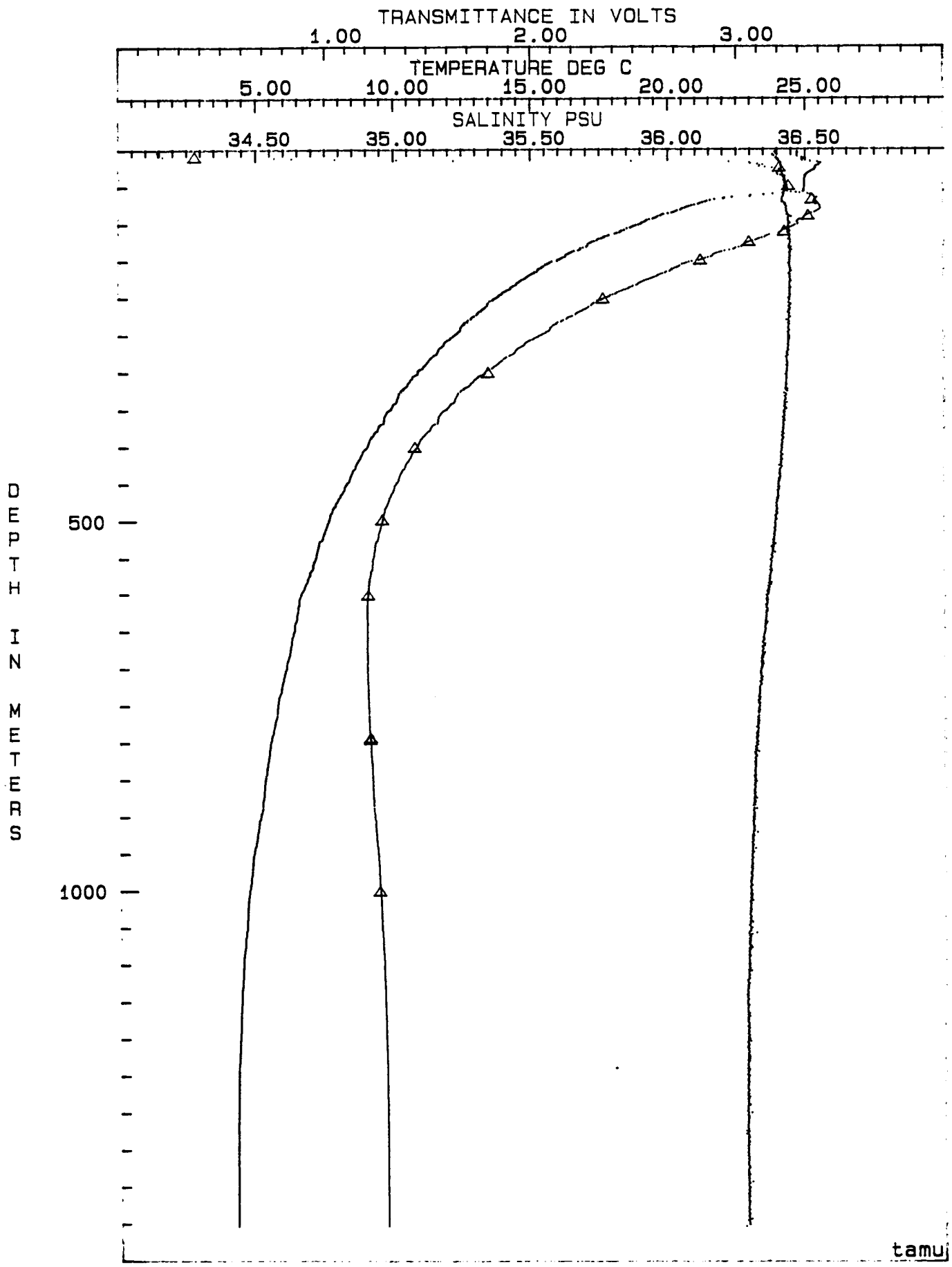


STATION SBE023.AVG:: CRUISE 89g15 DATE & TIME Wed Nov 15 02:48:25 1989, Julian day = 319
LAT 25 40.28 LON 95 29.60 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	VSM	DEPTH	TEMP	SALT	SIGMA-T	VSM	DEPTH	TEMP	SALT	SIGMA-T	VSM
3.5	24.710	34.154	22.791	3.181	258.5	11.931	35.494	26.987	3.249	508.5	7.529	34.951	27.305	3.181
13.5	24.885	34.928	23.248	3.200	263.5	11.823	35.477	26.994	3.248	513.5	7.474	34.947	27.310	3.180
18.5	25.337	36.087	24.046	3.212	268.5	11.679	35.456	27.005	3.247	518.5	7.425	34.943	27.314	3.179
23.5	25.393	36.350	24.243	3.217	273.5	11.605	35.444	27.010	3.245	523.5	7.385	34.941	27.318	3.177
28.5	25.367	36.402	24.325	3.217	278.5	11.473	35.425	27.020	3.243	528.5	7.284	34.935	27.329	3.174
33.5	25.045	36.400	24.387	3.224	283.5	11.313	35.401	27.031	3.241	533.5	7.239	34.930	27.331	3.175
38.5	24.936	36.431	24.429	3.229	288.5	11.202	35.385	27.039	3.243	538.5	7.205	34.929	27.334	3.172
43.5	24.966	36.430	24.434	3.232	293.5	11.084	35.367	27.047	3.244	543.5	7.171	34.927	27.337	3.168
48.5	24.958	36.434	24.440	3.236	298.5	10.992	35.340	27.059	3.242	548.5	7.142	34.925	27.340	3.165
53.5	24.951	36.436	24.444	3.236	303.5	10.811	35.326	27.064	3.240	553.5	7.087	34.921	27.345	3.162
58.5	24.512	36.462	24.592	3.230	308.5	10.653	35.303	27.074	3.240	558.5	7.047	34.920	27.350	3.162
63.5	22.769	36.533	25.165	3.226	313.5	10.559	35.289	27.080	3.238	563.5	7.019	34.919	27.353	3.162
68.5	21.640	36.534	25.486	3.221	318.5	10.467	35.276	27.086	3.239	568.5	6.939	34.915	27.361	3.161
73.5	21.079	36.540	25.647	3.231	323.5	10.308	35.254	27.097	3.237	573.5	6.901	34.913	27.364	3.160
78.5	20.625	36.554	25.781	3.239	328.5	10.212	35.239	27.103	3.236	578.5	6.839	34.910	27.370	3.159
83.5	20.291	36.543	25.863	3.242	333.5	10.148	35.230	27.107	3.236	583.5	6.793	34.909	27.375	3.159
88.5	19.779	36.510	25.974	3.248	338.5	10.106	35.224	27.109	3.235	588.5	6.743	34.907	27.381	3.158
93.5	19.416	36.488	26.052	3.250	343.5	9.979	35.209	27.119	3.232	593.5	6.695	34.906	27.386	3.157
98.5	19.088	36.472	26.125	3.252	348.5	9.893	35.197	27.125	3.232	598.5	6.620	34.904	27.396	3.157
103.5	18.792	36.458	26.201	3.251	353.5	9.791	35.179	27.134	3.229	603.5	6.571	34.903	27.401	3.153
108.5	18.391	36.425	26.267	3.254	358.5	9.669	35.168	27.139	3.227	608.5	6.524	34.901	27.406	3.152
113.5	18.030	36.393	26.333	3.254	363.5	9.634	35.165	27.142	3.226	613.5	6.512	34.901	27.407	3.152
118.5	17.626	36.351	26.401	3.256	368.5	9.584	35.158	27.146	3.223	618.5	6.488	34.900	27.410	3.151
123.5	17.297	36.310	26.450	3.258	373.5	9.436	35.139	27.156	3.223	623.5	6.470	34.900	27.413	3.139
128.5	17.071	36.280	26.481	3.257	378.5	9.362	35.130	27.161	3.222	628.5	6.448	34.900	27.416	3.137
133.5	16.864	36.252	26.510	3.259	383.5	9.256	35.116	27.168	3.220	633.5	6.434	34.900	27.417	3.136
138.5	16.514	36.200	26.552	3.259	388.5	9.149	35.103	27.175	3.220	638.5	6.393	34.901	27.424	3.136
143.5	16.274	36.165	26.582	3.258	393.5	9.087	35.095	27.179	3.218	643.5	6.359	34.901	27.428	3.132
148.5	16.044	36.130	26.608	3.256	398.5	9.035	35.089	27.183	3.218	648.5	6.353	34.901	27.429	3.132
153.5	15.641	36.068	26.653	3.255	403.5	8.927	35.079	27.192	3.215	653.5	6.315	34.901	27.434	3.128
158.5	15.425	36.037	26.678	3.255	408.5	8.834	35.069	27.199	3.212	658.5	6.269	34.901	27.440	3.124
163.5	15.233	36.008	26.698	3.260	413.5	8.768	35.063	27.205	3.212	663.5	6.251	34.901	27.442	3.121
168.5	15.013	35.975	26.722	3.256	418.5	8.696	35.054	27.209	3.213	668.5	6.234	34.901	27.444	3.125
173.5	14.804	35.943	26.743	3.257	423.5	8.620	35.045	27.214	3.209	673.5	6.207	34.900	27.448	3.121
178.5	14.582	35.908	26.765	3.259	428.5	8.567	35.039	27.218	3.211	678.5	6.189	34.900	27.449	3.121
183.5	14.427	35.882	26.779	3.255	433.5	8.480	35.029	27.224	3.207	683.5	6.158	34.901	27.454	3.119
188.5	14.225	35.850	26.797	3.258	438.5	8.417	35.022	27.229	3.206	688.5	6.114	34.901	27.460	3.116
193.5	14.014	35.818	26.817	3.255	443.5	8.372	35.017	27.231	3.204	693.5	6.074	34.901	27.465	3.118
198.5	13.819	35.786	26.834	3.256	448.5	8.294	35.011	27.239	3.200	698.5	6.061	34.900	27.466	3.114
203.5	13.592	35.751	26.854	3.253	453.5	8.202	35.003	27.246	3.199	703.5	6.022	34.901	27.471	3.110
208.5	13.442	35.726	26.866	3.254	458.5	8.156	34.998	27.249	3.198	708.5	5.989	34.901	27.476	3.111
213.5	13.323	35.706	26.875	3.255	463.5	8.081	34.992	27.256	3.196	713.5	5.959	34.901	27.480	3.113
218.5	13.151	35.680	26.890	3.252	468.5	8.000	34.985	27.263	3.197	718.5	5.925	34.902	27.485	3.110
223.5	12.991	35.656	26.904	3.253	473.5	7.923	34.980	27.270	3.193	723.5	5.896	34.903	27.490	3.109
228.5	12.808	35.629	26.920	3.252	478.5	7.853	34.975	27.277	3.189	728.5	5.869	34.903	27.493	3.105
233.5	12.626	35.601	26.934	3.251	483.5	7.763	34.968	27.284	3.191	733.5	5.837	34.903	27.497	3.104
238.5	12.494	35.579	26.944	3.251	488.5	7.712	34.965	27.289	3.189	738.5	5.784	34.904	27.504	3.103
243.5	12.436	35.569	26.947	3.252	493.5	7.654	34.961	27.295	3.186	743.5	5.761	34.904	27.507	3.101
248.5	12.289	35.548	26.959	3.248	498.5	7.628	34.958	27.296	3.186	748.5	5.742	34.905	27.510	3.102
253.5	12.109	35.521	26.973	3.251	503.5	7.569	34.955	27.302	3.183	753.5	5.728	34.905	27.512	3.101

STATION SBE023.AUG:: CRUISE 89g15 DATE & TIME Wed Nov 15 02:48:25 1989, Julian day = 319
LAT 25 40.28 LON 95 29.60 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
798.5	5.718	34.905	27.514	3.102
803.5	5.707	34.906	27.516	3.099
808.5	5.674	34.906	27.520	3.097
813.5	5.631	34.907	27.526	3.096
818.5	5.611	34.908	27.529	3.095
823.5	5.584	34.908	27.533	3.095
828.5	5.554	34.909	27.537	3.092
833.5	5.513	34.911	27.543	3.091
838.5	5.487	34.912	27.547	3.091
843.5	5.461	34.912	27.551	3.088
848.5	5.445	34.913	27.553	3.086
853.5	5.428	34.913	27.555	3.088
858.5	5.415	34.914	27.558	3.085
863.5	5.391	34.915	27.562	3.084
868.5	5.366	34.916	27.565	3.082
873.5	5.346	34.917	27.569	3.083
878.5	5.333	34.917	27.570	3.080
883.5	5.307	34.918	27.574	3.082
888.5	5.286	34.919	27.577	3.082
893.5	5.260	34.919	27.581	3.082
898.5	5.249	34.920	27.582	3.080
903.5	5.241	34.919	27.583	3.078
908.5	5.228	34.920	27.585	3.078
913.5	5.217	34.921	27.587	3.080
918.5	5.191	34.922	27.591	3.077
923.5	5.181	34.922	27.592	3.076
928.5	5.172	34.923	27.594	3.077
933.5	5.140	34.924	27.599	3.074
938.5	5.111	34.926	27.604	3.075
943.5	5.078	34.927	27.609	3.073
948.5	5.042	34.929	27.614	3.071
953.5	5.028	34.930	27.616	3.073
958.5	5.011	34.930	27.619	3.073
963.5	4.984	34.931	27.623	3.071
968.5	4.970	34.932	27.625	3.069
973.5	4.951	34.933	27.628	3.067
978.5	4.930	34.934	27.631	3.068
983.5	4.885	34.937	27.638	3.068
988.5	4.869	34.937	27.641	3.066
993.5	4.832	34.939	27.646	3.064
998.5	4.819	34.939	27.648	3.065
1003.5	4.809	34.940	27.650	3.064
1008.5	4.798	34.940	27.652	3.063
1013.5	4.790	34.941	27.653	3.063
1018.5	4.783	34.941	27.654	3.061
1023.5	4.757	34.943	27.658	3.062
1028.5	4.752	34.943	27.658	3.058
1033.5	4.730	34.944	27.662	3.060
1038.5	4.706	34.945	27.666	3.059
1043.5	4.687	34.946	27.669	3.058
1048.5	4.667	34.947	27.672	3.060
1053.5	4.651	34.948	27.674	3.059
1058.5	4.644	34.948	27.675	3.055
1063.5	4.633	34.949	27.677	3.055
1068.5	4.629	34.949	27.677	3.055
1073.5	4.620	34.950	27.679	3.054
1078.5	4.610	34.950	27.680	3.056
1083.5	4.599	34.950	27.682	3.054
1088.5	4.597	34.951	27.682	3.056
1093.5	4.590	34.951	27.683	3.055
1098.5	4.568	34.952	27.687	3.056
1103.5	4.551	34.953	27.690	3.053
1108.5	4.537	34.954	27.692	3.052
1113.5	4.532	34.954	27.692	3.053
1118.5	4.522	34.955	27.694	3.055
1123.5	4.500	34.956	27.698	3.048
1128.5	4.483	34.957	27.700	3.051
1133.5	4.471	34.958	27.702	3.049
1138.5	4.466	34.958	27.702	3.049
1143.5	4.465	34.958	27.703	3.050
1148.5	4.459	34.958	27.704	3.049
1153.5	4.453	34.959	27.705	3.049
1158.5	4.446	34.959	27.706	3.047
1163.5	4.428	34.960	27.708	3.044
1168.5	4.423	34.960	27.709	3.044
1173.5	4.412	34.961	27.711	3.042
1178.5	4.404	34.961	27.712	3.041
1183.5	4.400	34.961	27.713	3.041
1188.5	4.398	34.962	27.713	3.042
1193.5	4.391	34.962	27.714	3.041
1198.5	4.379	34.963	27.716	3.041
1203.5	4.373	34.963	27.717	3.043
1208.5	4.367	34.964	27.718	3.045
1213.5	4.362	34.964	27.719	3.043
1218.5	4.356	34.964	27.720	3.043
1223.5	4.355	34.964	27.720	3.046
1228.5	4.354	34.964	27.720	3.045
1233.5	4.352	34.964	27.720	3.045
1238.5	4.349	34.965	27.721	3.047
1243.5	4.338	34.965	27.722	3.045
1248.5	4.332	34.965	27.723	3.045
1253.5	4.325	34.966	27.724	3.044
1258.5	4.317	34.966	27.726	3.045
1263.5	4.311	34.967	27.727	3.045
1268.5	4.306	34.967	27.728	3.046
1273.5	4.296	34.968	27.729	3.043
1278.5	4.289	34.968	27.730	3.042
1283.5	4.287	34.968	27.730	3.045
1288.5	4.285	34.968	27.731	3.043
1293.5	4.285	34.968	27.730	3.043
1298.5	4.285	34.969	27.731	3.041
1303.5	4.282	34.969	27.731	3.043
1308.5	4.282	34.969	27.731	3.041
1313.5	4.282	34.968	27.731	3.041
1318.5	4.280	34.969	27.732	3.042
1323.5	4.269	34.969	27.733	3.041
1328.5	4.268	34.970	27.734	3.043
1333.5	4.267	34.970	27.734	3.040
1338.5	4.267	34.969	27.734	3.041
1343.5	4.267	34.969	27.734	3.043
1348.5	4.265	34.969	27.734	3.042
1353.5	4.262	34.970	27.734	3.041
1358.5	4.261	34.970	27.734	3.040
1363.5	4.261	34.970	27.735	3.042
1368.5	4.261	34.970	27.735	3.041
1373.5	4.262	34.970	27.735	3.043
1378.5	4.260	34.970	27.735	3.043
1383.5	4.260	34.970	27.735	3.041
1388.5	4.259	34.970	27.735	3.041
1393.5	4.259	34.970	27.735	3.043
1398.5	4.260	34.970	27.735	3.043
1403.5	4.260	34.970	27.735	3.041
1408.5	4.261	34.970	27.735	3.045
1413.5	4.261	34.970	27.735	3.041
1418.5	4.262	34.970	27.735	3.044
1423.5	4.262	34.970	27.735	3.043
1428.5	4.263	34.970	27.735	3.044
1433.5	4.262	34.970	27.735	3.042
1438.5	4.259	34.971	27.735	3.046
1443.5	4.257	34.971	27.736	3.043
1448.5	4.259	34.971	27.736	3.044
1453.5	4.255	34.971	27.736	3.044
	4.256	34.971	27.736	3.042
	4.255	34.971	27.736	3.044
	4.255	34.971	27.736	3.044
	4.255	34.971	27.736	3.045
	4.254	34.971	27.736	3.046
	4.254	34.971	27.736	3.047



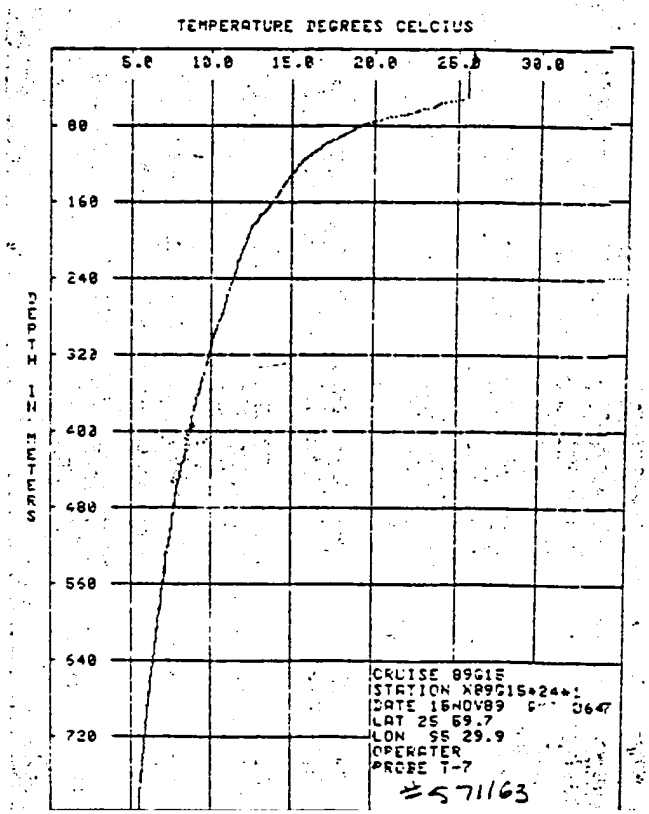
CRUISE: 89g15 STATION: SBE023.A DATE: Nov 15 02:48:25 1989
LATITUDE: 25 40.28 LONGITUDE: 95 29.60
TRIANGLES DENOTE DISCRETE SAMPLES

LAT 25 59.7 LON 85 29.9

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G1S STATION XB9G1S*24*1 DATE 15NOV89 GMT 0647

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	25.09	202.4	11.64	402.5	8.03	602.7	6.13	802.8	4.97
7.5	25.16	207.5	11.50	407.5	7.99	607.5	6.11		
12.6	25.13	212.6	11.37	412.6	7.97	612.3	6.09		
17.5	25.00	217.6	11.29	417.7	7.96	617.5	6.06		
22.4	24.87	222.5	11.16	422.4	7.91	622.6	6.09		
27.5	24.84	227.5	11.09	427.5	7.75	627.5	5.98		
32.8	24.85	232.5	11.03	432.5	7.50	632.6	5.93		
37.6	24.84	237.5	10.91	437.6	7.93	637.8	5.89		
42.5	24.84	242.4	10.81	442.6	7.47	642.6	5.86		
47.7	24.83	247.4	10.73	447.4	7.54	647.4	5.82		
52.6	24.54	252.7	10.59	452.5	7.27	652.6	5.78		
57.5	23.24	257.7	10.49	457.5	7.33	657.8	5.73		
62.7	22.42	262.7	10.43	462.6	7.27	662.6	5.69		
67.5	21.50	267.7	10.35	467.7	7.27	667.4	5.66		
72.4	20.17	272.6	10.27	472.4	7.19	672.6	5.64		
77.7	19.10	277.6	10.19	477.5	7.15	677.9	5.60		
82.5	18.40	282.6	10.08	482.6	7.12	682.6	5.57		
87.4	17.87	287.6	9.94	487.4	7.07	687.5	5.55		
92.7	17.28	292.6	9.83	492.5	7.05	692.3	5.50		
97.6	16.72	297.6	9.75	497.5	6.99	697.5	5.46		
102.5	16.25	302.6	9.64	502.6	6.97	702.7	5.44		
107.7	15.83	307.6	9.56	507.7	6.92	707.5	5.41		
112.6	15.42	312.6	9.48	512.5	6.97	712.4	5.39		
117.5	15.03	317.6	9.42	517.6	6.91	717.6	5.36		
122.4	14.83	322.6	9.31	522.7	6.75	722.8	5.33		
127.4	14.64	327.7	9.24	527.5	6.69	727.7	5.29		
132.6	14.34	332.7	9.17	532.5	6.63	732.5	5.27		
137.5	14.16	337.7	9.08	537.7	6.60	737.4	5.25		
142.4	13.98	342.4	9.00	542.5	6.59	742.6	5.23		
147.7	13.75	347.4	8.91	547.6	6.57	747.8	5.19		
152.6	13.59	352.4	8.83	552.7	6.52	752.7	5.18		
157.6	13.76	357.5	8.75	557.5	6.49	757.5	5.16		
162.5	13.14	362.5	8.65	562.7	6.45	762.4	5.14		
167.4	12.94	367.5	8.54	567.8	6.39	767.3	5.12		
172.7	12.66	372.6	8.48	572.6	6.36	772.6	5.09		
177.6	12.39	377.6	8.41	577.4	6.33	777.7	5.05		
182.6	12.20	382.6	8.35	582.5	6.31	782.6	5.03		
187.5	11.95	387.7	8.25	587.6	6.27	787.5	5.01		
192.5	11.84	392.7	8.31	592.4	6.23	792.4	4.99		
197.4	11.72	397.4	8.25	597.6	6.17	797.3	4.99		



LAT 25 59.7 LON 95 7.0

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15+25+1 DATE 15NOV89 GMT 0847

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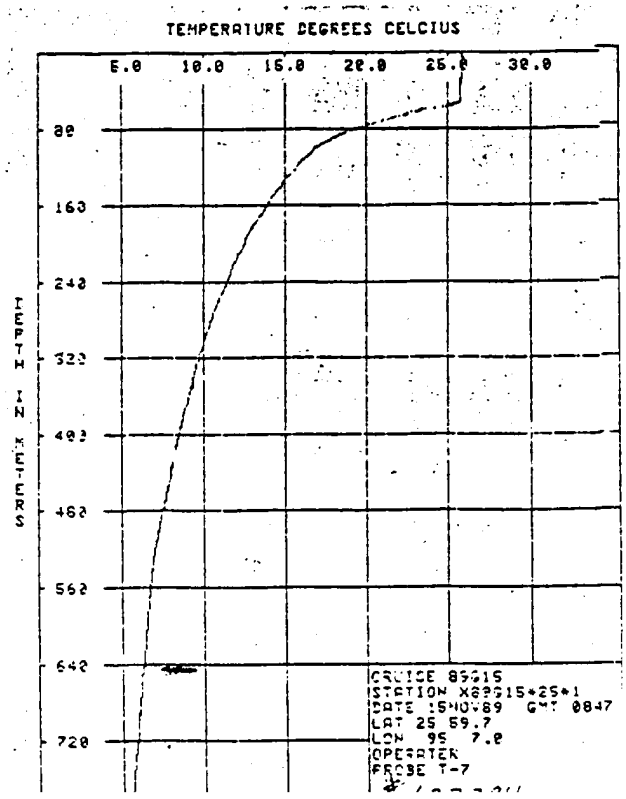
2.5	25.05	202.4	11.87	402.5	7.96	602.7	5.01	802.6	5.06
7.5	25.17	207.5	11.72	407.5	7.87	607.5	4.99		
12.6	25.17	212.6	11.51	412.6	7.80	612.7	4.97		
17.5	25.17	217.6	11.38	417.7	7.73	617.5	4.95		
22.4	25.10	222.5	11.23	422.4	7.69	622.6	4.93		
27.5	25.08	227.5	11.12	427.5	7.65	627.6	4.90		
32.6	25.07	232.6	11.06	432.5	7.58	632.6	4.89		
37.6	25.06	237.5	10.94	437.6	7.52	637.3	4.86		
42.5	25.05	242.4	10.80	442.6	7.49	642.6	4.82		
47.7	25.04	247.4	10.70	447.4	7.44	647.4	4.76		
52.6	24.95	252.7	10.54	452.5	7.36	652.6	4.72		
57.5	24.83	257.7	10.43	457.5	7.30	657.3	4.68		
62.7	22.32	262.7	10.32	462.6	7.23	662.6	4.67		
67.5	21.39	267.7	10.20	467.7	7.16	667.4	4.66		
72.4	20.28	272.6	10.10	472.4	7.13	672.6	4.65		
77.7	19.25	277.6	10.02	477.5	7.07	677.3	4.62		
82.5	18.76	282.6	9.89	482.6	7.01	682.6	4.60		
87.4	17.63	287.5	9.82	487.4	6.92	687.5	4.57		
92.7	17.06	292.6	9.70	492.5	6.86	692.3	4.54		
97.6	16.55	297.6	9.60	497.5	6.83	697.5	4.52		
102.5	16.19	302.6	9.52	502.6	6.77	702.7	4.52		
107.7	15.92	307.6	9.46	507.7	6.72	707.5	4.49		
112.6	15.58	312.6	9.34	512.5	6.67	712.4	4.47		
117.5	15.30	317.6	9.23	517.6	6.59	717.6	4.44		
122.4	15.17	322.6	9.15	522.7	6.53	722.8	4.42		
127.4	14.83	327.7	9.05	527.5	6.50	727.7	4.40		
132.6	14.44	332.7	8.99	532.6	6.44	732.5	4.38		
137.5	14.20	337.7	8.89	537.7	6.41	737.4	4.33		
142.4	14.09	342.4	8.84	542.5	6.39	742.6	4.29		
147.7	13.92	347.4	8.79	547.6	6.36	747.8	4.27		
152.6	13.79	352.4	8.74	552.7	6.34	752.7	4.25		
157.6	13.42	357.5	8.63	557.5	6.28	757.5	4.23		
162.5	17.25	362.5	8.54	562.7	6.25	762.4	4.22		
167.4	13.05	367.5	8.48	567.2	6.24	767.3	4.19		
172.7	12.85	372.6	8.40	572.6	6.19	772.6	4.16		
177.6	12.61	377.6	8.29	577.4	6.15	777.7	4.14		
182.6	12.39	382.6	8.23	582.5	6.11	782.6	4.12		
187.5	12.23	387.7	8.16	587.6	6.08	787.5	4.11		
192.5	12.07	392.7	8.08	592.4	6.06	792.4	4.09		
197.4	11.94	397.4	8.01	597.6	6.03	797.3	4.07		



LAT 26 9.0 LON 94 57.2

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89S15 STATION X89S15*26*1 DATE 15NOV89 GMT 1014

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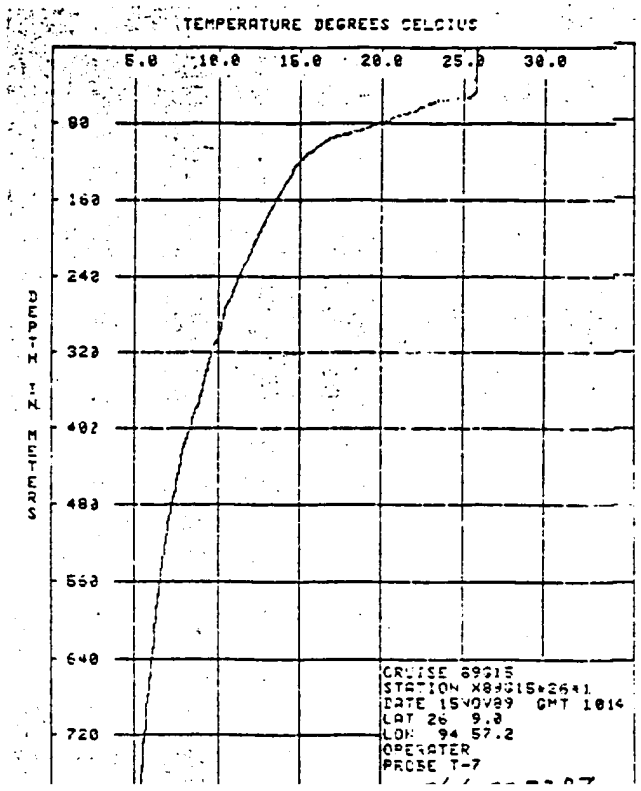
7.5	25.07	217.3	11.67	407.5	7.60	607.5	5.70		
12.6	25.06	222.6	11.49	412.6	7.50	612.7	5.67		
17.5	25.1[illegible]	227.6	11.74	417.[illegible]	7.39	617.5	5.[illegible]		
22.4	25.05	232.5	11.24	422.4	7.33	622.6	5.65		
27.5	25.01	237.5	11.05	427.5	7.26	627.5	5.64		
32.8	24.99	242.5	10.94	432.5	7.21	632.6	5.62		
37.6	25.01	247.5	10.79	437.5	7.15	637.8	5.56		
42.5	25.02	252.4	10.67	442.6	7.10	642.6	5.52		
47.7	24.95	257.4	10.55	447.4	7.05	647.4	5.50		
52.6	24.61	262.7	10.46	452.5	6.99	652.6	5.48		
57.5	22.33	267.7	10.35	457.5	6.94	657.8	5.45		
62.7	21.87	262.7	10.24	462.6	6.90	662.6	5.43		
67.5	21.37	267.7	10.10	467.7	6.85	667.4	5.42		
72.4	20.46	272.6	9.92	472.4	6.77	672.6	5.36		
77.7	19.66	277.6	9.85	477.5	6.71	677.6	5.33		
82.5	18.86	282.6	9.80	482.6	6.65	682.6	5.31		
87.4	18.15	287.6	9.72	487.4	6.60	687.5	5.28		
92.7	17.08	292.6	9.66	492.5	6.55	692.7	5.24		
97.6	16.12	297.6	9.60	497.5	6.49	697.6	5.22		
102.5	15.68	302.6	9.51	502.6	6.44	702.7	5.19		
107.7	15.30	307.6	9.38	507.7	6.41	707.5	5.17		
112.6	14.91	312.6	9.21	512.5	6.38	712.4	5.17		
117.5	14.58	317.6	9.09	517.6	6.33	717.6	5.16		
122.4	14.29	322.6	9.01	522.7	6.29	722.8	5.09		
127.4	14.06	327.7	8.94	527.5	6.25	727.5	5.07		
132.6	13.91	332.7	8.88	532.6	6.27	732.5	5.05		
137.5	13.77	337.7	8.79	537.7	6.15	737.4	5.04		
142.4	13.56	342.4	8.72	542.5	6.17	742.6	5.01		
147.7	13.41	347.4	8.64	547.6	6.10	747.2	5.00		
152.6	13.20	352.4	8.58	552.7	6.07	752.7	4.98		
157.5	13.02	357.5	8.51	557.5	6.04	757.5	4.97		
162.5	12.91	362.5	8.45	562.7	6.00	762.4	4.95		
167.4	12.75	367.5	8.38	567.6	5.96	767.3	4.93		
172.7	12.61	372.6	8.31	572.6	5.93	772.6	4.92		
177.6	12.43	377.6	8.20	577.4	5.89	777.5	4.90		
182.6	12.28	382.6	8.04	582.5	5.84	782.6	4.88		
187.5	12.14	387.7	7.93	587.6	5.82	787.5	4.84		
192.5	12.00	392.7	7.87	592.4	5.79	792.4	4.82		
197.4	11.89	397.4	7.82	597.6	5.76	797.3	4.80		

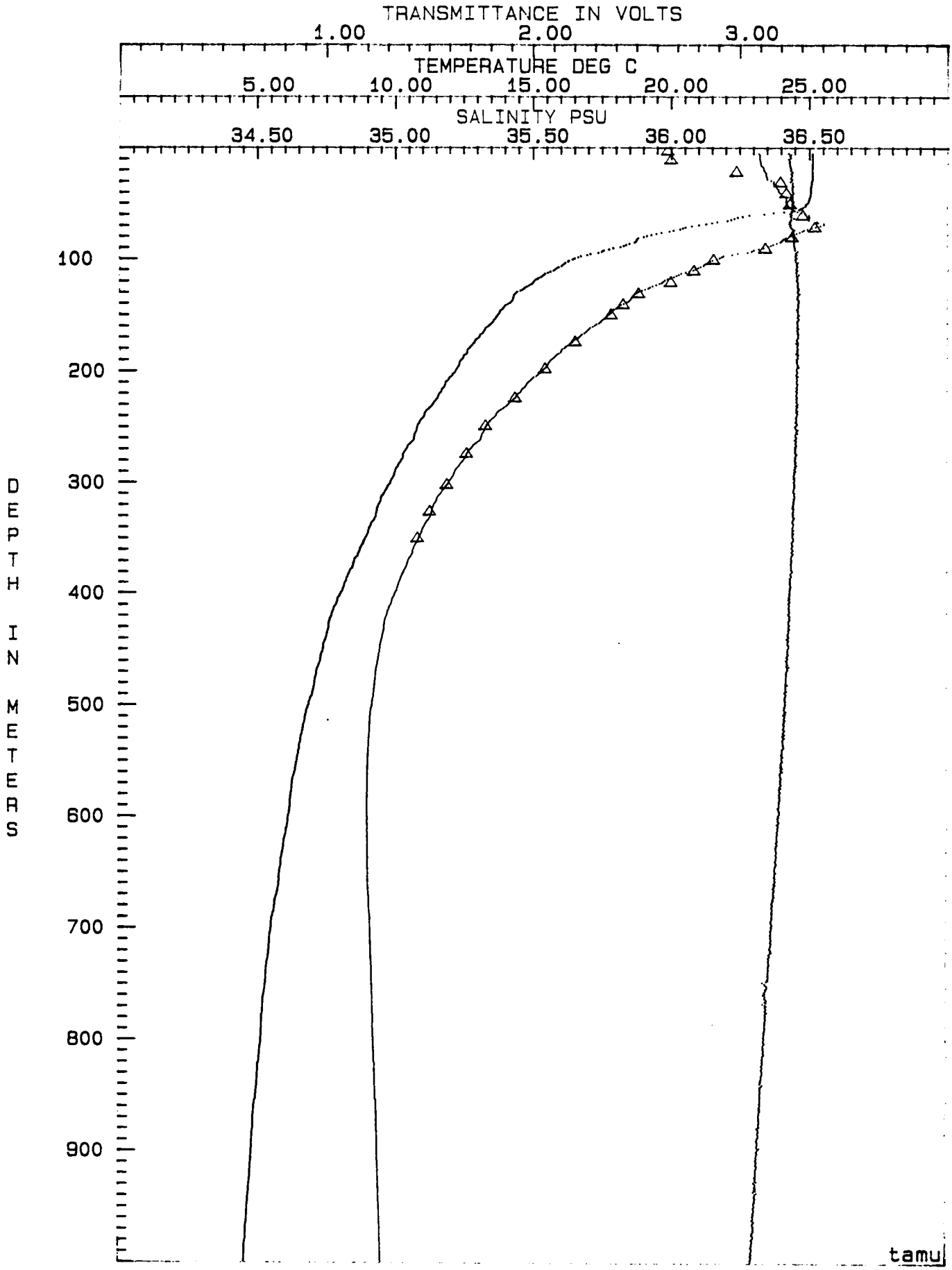


STATION SBE026.AVG:: CRUISE 89g15 DATE & TIME Wed Nov 15 12:09:56 1989, Julian day = 319
LAT 26 9.6 LON 94 56.95 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
8.5	25.111	36.321	24.309	3.240
13.5	25.109	36.324	24.311	3.237
18.5	25.100	36.333	24.320	3.242
23.5	25.102	36.343	24.327	3.247
28.5	25.096	36.354	24.337	3.245
33.5	25.056	36.377	24.367	3.252
38.5	25.039	36.389	24.382	3.251
43.5	25.011	36.407	24.404	3.251
48.5	24.941	36.416	24.432	3.252
53.5	24.741	36.429	24.502	3.250
58.5	23.629	36.472	24.868	3.247
63.5	22.336	36.497	25.262	3.245
68.5	21.216	36.536	25.606	3.239
73.5	20.239	36.495	25.841	3.250
78.5	19.273	36.444	26.056	3.252
83.5	18.696	36.403	26.173	3.257
88.5	18.201	36.359	26.265	3.259
93.5	17.417	36.285	26.401	3.267
98.5	16.613	36.184	26.516	3.268
103.5	16.155	36.133	26.585	3.271
108.5	15.846	36.098	26.629	3.272
113.5	15.442	36.039	26.676	3.272
118.5	15.110	35.988	26.711	3.274
123.5	14.844	35.944	26.736	3.276
128.5	14.517	35.894	26.768	3.278
133.5	14.294	35.860	26.790	3.278
138.5	14.181	35.841	26.800	3.280
143.5	13.931	35.805	26.825	3.277
148.5	13.762	35.779	26.840	3.278
153.5	13.617	35.755	26.852	3.278
158.5	13.438	35.729	26.869	3.276
163.5	13.237	35.697	26.885	3.277
168.5	13.079	35.672	26.898	3.279
173.5	12.901	35.645	26.913	3.275
178.5	12.729	35.619	26.927	3.276
183.5	12.592	35.597	26.937	3.275
188.5	12.441	35.573	26.949	3.276
193.5	12.328	35.555	26.958	3.275
198.5	12.219	35.539	26.966	3.274
203.5	12.059	35.515	26.979	3.274
208.5	11.887	35.489	26.991	3.273
213.5	11.773	35.472	27.000	3.274
218.5	11.653	35.454	27.009	3.272
223.5	11.537	35.437	27.017	3.272
228.5	11.390	35.415	27.028	3.273
233.5	11.210	35.390	27.042	3.274
238.5	11.068	35.369	27.051	3.273
243.5	10.935	35.351	27.061	3.269
248.5	10.820	35.334	27.069	3.269
253.5	10.753	35.324	27.073	3.272
258.5	10.686	35.314	27.077	3.268
263.5	10.585	35.301	27.085	3.268
268.5	10.420	35.279	27.097	3.268
273.5	10.306	35.264	27.105	3.269
278.5	10.239	35.253	27.109	3.266
283.5	10.123	35.238	27.117	3.268
288.5	10.002	35.222	27.126	3.265
293.5	9.937	35.213	27.130	3.262
298.5	9.840	35.200	27.136	3.262
303.5	9.724	35.186	27.145	3.262
308.5	9.604	35.171	27.153	3.261
313.5	9.488	35.156	27.161	3.262
318.5	9.411	35.146	27.165	3.259
323.5	9.333	35.136	27.171	3.258
328.5	9.295	35.131	27.173	3.256
333.5	9.209	35.121	27.179	3.257
338.5	9.089	35.107	27.188	3.257
343.5	9.016	35.098	27.193	3.256
348.5	8.934	35.089	27.199	3.255
353.5	8.838	35.079	27.207	3.254
358.5	8.736	35.069	27.215	3.254
363.5	8.653	35.062	27.222	3.252
368.5	8.530	35.051	27.232	3.250
373.5	8.464	35.043	27.237	3.249
378.5	8.373	35.034	27.244	3.250
383.5	8.270	35.024	27.252	3.247
388.5	8.198	35.017	27.258	3.243
393.5	8.135	35.011	27.262	3.244
398.5	8.060	35.004	27.268	3.242
403.5	7.946	34.994	27.278	3.239
408.5	7.865	34.987	27.284	3.240
413.5	7.761	34.977	27.292	3.239
418.5	7.701	34.971	27.296	3.239
423.5	7.624	34.964	27.302	3.239
428.5	7.579	34.960	27.305	3.237
433.5	7.540	34.958	27.309	3.236
438.5	7.494	34.954	27.312	3.233
443.5	7.426	34.949	27.319	3.234
448.5	7.380	34.945	27.323	3.235
453.5	7.329	34.943	27.327	3.231
458.5	7.282	34.938	27.331	3.229
463.5	7.219	34.935	27.337	3.230
468.5	7.149	34.931	27.344	3.228
473.5	7.114	34.929	27.347	3.224
478.5	7.070	34.927	27.352	3.222
483.5	7.042	34.925	27.354	3.223
488.5	7.001	34.923	27.358	3.221
493.5	6.931	34.920	27.365	3.219
498.5	6.963	34.917	27.372	3.220
503.5	6.798	34.913	27.379	3.217
508.5	6.748	34.910	27.383	3.217
513.5	6.714	34.909	27.387	3.216
518.5	6.671	34.908	27.392	3.214
523.5	6.627	34.907	27.397	3.213
528.5	6.579	34.906	27.403	3.213
533.5	6.548	34.905	27.406	3.210
538.5	6.519	34.904	27.409	3.211
543.5	6.485	34.907	27.417	3.204
548.5	6.446	34.902	27.417	3.206
553.5	6.406	34.901	27.422	3.202
558.5	6.372	34.901	27.426	3.203
563.5	6.319	34.901	27.433	3.199
568.5	6.276	34.901	27.439	3.199
573.5	6.259	34.900	27.440	3.197
578.5	6.232	34.900	27.444	3.195
583.5	6.209	34.899	27.446	3.195
588.5	6.197	34.899	27.447	3.192
593.5	6.182	34.899	27.449	3.190
598.5	6.149	34.900	27.454	3.191
603.5	6.121	34.899	27.458	3.189
608.5	6.095	34.900	27.461	3.187
613.5	6.056	34.900	27.467	3.184
618.5	6.014	34.901	27.472	3.182
623.5	5.976	34.901	27.478	3.182
628.5	5.955	34.901	27.481	3.178
633.5	5.917	34.901	27.486	3.178
638.5	5.883	34.902	27.490	3.177
643.5	5.867	34.902	27.492	3.176
648.5	5.829	34.902	27.497	3.172
653.5	5.806	34.902	27.500	3.172
658.5	5.801	34.902	27.501	3.172
663.5	5.782	34.903	27.504	3.168
668.5	5.741	34.904	27.510	3.167
673.5	5.686	34.906	27.518	3.165
678.5	5.649	34.907	27.523	3.161
683.5	5.627	34.907	27.527	3.159
688.5	5.572	34.909	27.535	3.159
693.5	5.538	34.910	27.540	3.157
698.5	5.521	34.910	27.542	3.158
703.5	5.496	34.911	27.545	3.154
708.5	5.469	34.911	27.549	3.154
713.5	5.452	34.912	27.552	3.154
718.5	5.437	34.913	27.554	3.151
723.5	5.421	34.914	27.557	3.150
728.5	5.387	34.915	27.562	3.144
733.5	5.355	34.916	27.567	3.144
738.5	5.336	34.916	27.570	3.142
743.5	5.331	34.916	27.570	3.141
748.5	5.317	34.917	27.572	3.142
753.5	5.298	34.918	27.575	3.134

STATION SBE026.AUG:: CRUISE 89g15 DATE & TIME Wed Nov 15 12:09:56 1989; Julian day = 319
LAT 26 9.6 LON 94 56.95 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	VSN
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
788.5	5.179	34.921	27.592	3.127
793.5	5.172	34.922	27.594	3.124
798.5	5.161	34.922	27.596	3.121
803.5	5.146	34.923	27.598	3.121
808.5	5.119	34.924	27.602	3.120
813.5	5.099	34.925	27.605	3.119
818.5	5.086	34.926	27.607	3.115
823.5	5.045	34.928	27.613	3.114
828.5	5.040	34.928	27.614	3.112
833.5	5.025	34.929	27.616	3.111
838.5	5.017	34.929	27.617	3.109
843.5	4.999	34.930	27.620	3.106
848.5	4.983	34.931	27.623	3.105
853.5	4.958	34.932	27.626	3.105
858.5	4.917	34.934	27.633	3.103
863.5	4.901	34.935	27.635	3.102
868.5	4.887	34.935	27.637	3.098
873.5	4.883	34.935	27.638	3.099
878.5	4.876	34.936	27.639	3.097
883.5	4.856	34.937	27.642	3.095
888.5	4.840	34.937	27.645	3.093
893.5	4.834	34.938	27.645	3.091
898.5	4.828	34.938	27.646	3.092
903.5	4.818	34.938	27.648	3.088
908.5	4.807	34.939	27.649	3.087
913.5	4.790	34.940	27.652	3.087
918.5	4.778	34.940	27.654	3.084
923.5	4.770	34.941	27.655	3.083
928.5	4.753	34.942	27.658	3.082
933.5	4.738	34.942	27.660	3.081
938.5	4.719	34.943	27.663	3.081
943.5	4.705	34.944	27.665	3.080
948.5	4.686	34.945	27.668	3.077
953.5	4.670	34.946	27.670	3.075
958.5	4.662	34.946	27.672	3.073
963.5	4.650	34.947	27.673	3.073
968.5	4.627	34.948	27.677	3.073
973.5	4.620	34.948	27.678	3.070
978.5	4.614	34.949	27.679	3.070
983.5	4.584	34.950	27.683	3.066
988.5	4.578	34.951	27.684	3.064
993.5	4.569	34.951	27.686	3.063



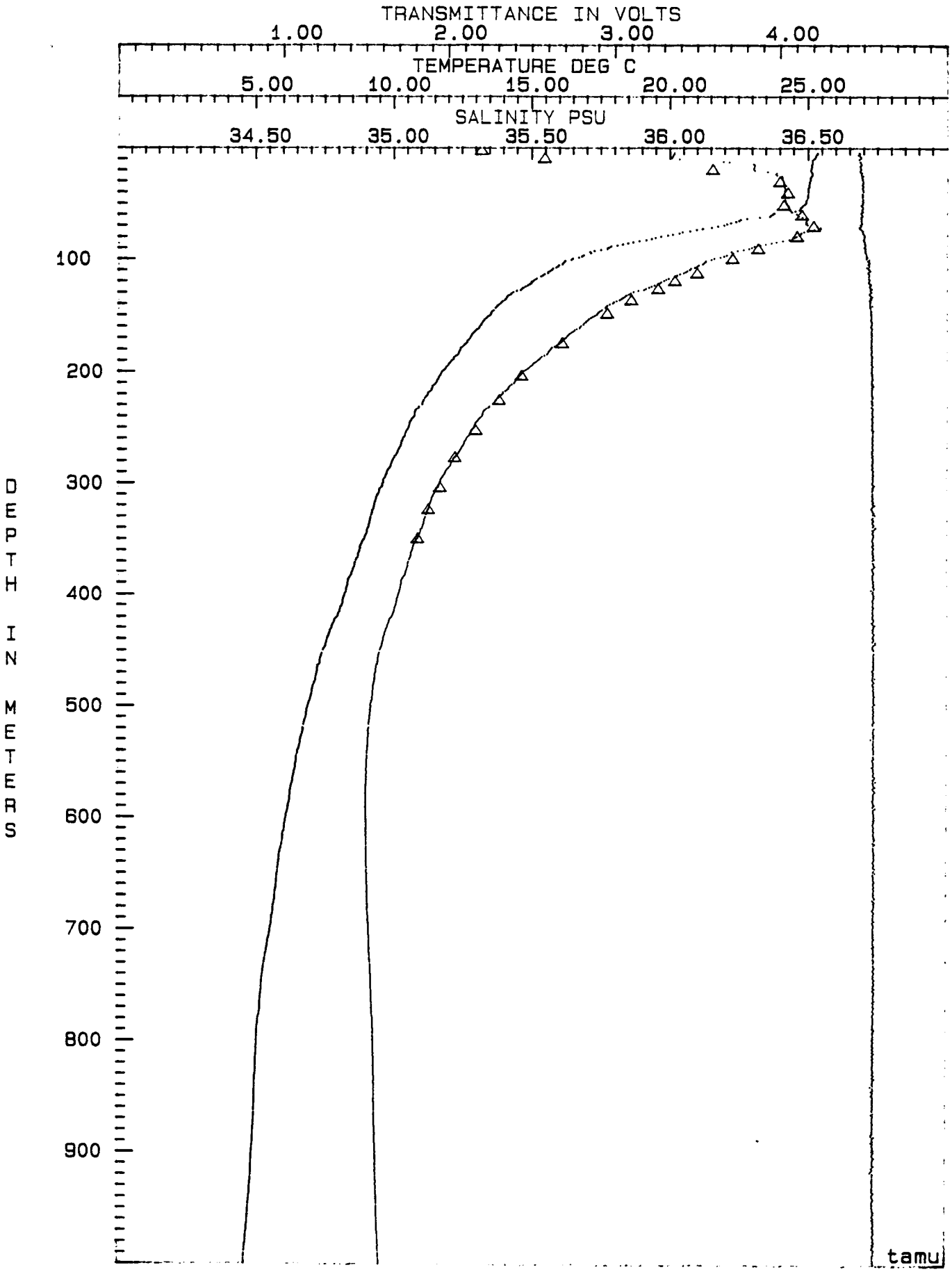
CRUISE: 89g15 STATION: SBE026.A DATE: Nov 15 12:09:56 1989
LATITUDE: 26 9.6 LONGITUDE: 94 56.95
TRIANGLES DENOTE DISCRETE SAMPLES

STATION SBE027.AUG:: CRUISE 8PG15 DATE & TIME Wed Nov 15 18:23:51 1989. Julian day = 319
LAT 26 12.74 LON 94 56.19 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM	DEPTH	TEMP	SALT	SIGMA-T	XSM	DEPTH	TEMP	SALT	SIGMA-T	XSM
8.5	25.226	36.015	24.041	4.472	258.5	[illegible]	35.270	27.101	4.551	508.5	6.210	34.914	27.378	4.558
13.5	25.140	36.243	24.240	4.479	263.5	[illegible]	35.258	27.107	4.550	513.5	6.159	34.912	27.382	4.560
18.5	25.102	36.306	24.300	4.475	268.5	[illegible]	35.247	27.112	4.551	518.5	6.118	34.910	27.387	4.559
23.5	25.124	36.384	24.352	4.482	273.5	[illegible]	35.234	27.120	4.549	523.5	6.088	34.909	27.390	4.560
28.5	25.067	36.408	24.387	4.489	278.5	9.942	35.218	27.129	4.553	528.5	6.039	34.908	27.398	4.559
33.5	25.024	36.413	24.404	4.490	283.5	9.882	35.207	27.134	4.550	533.5	6.004	34.907	27.402	4.560
38.5	24.990	36.416	24.417	4.491	288.5	9.765	35.192	27.143	4.553	538.5	6.043	34.906	27.407	4.560
43.5	24.975	36.416	24.421	4.488	293.5	9.683	35.181	27.147	4.552	543.5	6.498	34.904	27.412	4.560
48.5	24.904	36.420	24.446	4.490	298.5	9.597	35.170	27.154	4.552	548.5	6.465	34.903	27.416	4.559
53.5	24.736	36.431	24.505	4.487	303.5	9.527	35.161	27.158	4.555	553.5	6.443	34.903	27.419	4.559
58.5	24.022	36.454	24.738	4.485	308.5	9.433	35.149	27.165	4.551	558.5	6.491	34.903	27.424	4.561
63.5	22.903	36.487	25.092	4.483	313.5	9.346	35.139	27.172	4.552	563.5	6.362	34.903	27.429	4.564
68.5	22.067	36.500	25.340	4.483	318.5	9.288	35.133	27.176	4.554	568.5	6.324	34.902	27.433	4.561
73.5	20.961	36.519	25.663	4.481	323.5	9.236	35.127	27.179	4.549	573.5	6.278	34.900	27.439	4.563
78.5	19.888	36.465	25.911	4.498	328.5	9.173	35.118	27.183	4.552	578.5	6.253	34.900	27.441	4.563
83.5	18.895	36.411	26.128	4.499	333.5	9.120	35.111	27.187	4.553	583.5	6.234	34.900	27.444	4.558
88.5	17.897	36.311	26.303	4.504	338.5	9.074	35.106	27.190	4.553	588.5	6.196	34.900	27.449	4.560
93.5	17.189	36.237	26.420	4.507	343.5	9.007	35.097	27.194	4.555	593.5	6.160	34.900	27.453	4.561
98.5	16.653	36.181	26.505	4.517	348.5	8.932	35.088	27.199	4.555	598.5	6.106	34.900	27.461	4.563
103.5	16.133	36.124	26.583	4.527	353.5	8.824	35.077	27.207	4.554	603.5	6.076	34.901	27.465	4.561
108.5	15.787	36.081	26.629	4.526	358.5	8.759	35.069	27.211	4.554	608.5	6.049	34.901	27.469	4.560
113.5	15.455	36.036	26.670	4.528	363.5	8.701	35.063	27.216	4.555	613.5	6.003	34.901	27.474	4.561
118.5	15.107	35.987	26.710	4.528	368.5	8.627	35.057	27.222	4.557	618.5	5.982	34.901	27.477	4.564
123.5	14.834	35.943	26.737	4.535	373.5	8.557	35.051	27.229	4.559	623.5	5.961	34.902	27.480	4.564
128.5	14.467	35.887	26.774	4.539	378.5	8.499	35.046	27.234	4.554	628.5	5.912	34.902	27.487	4.561
133.5	14.126	35.835	26.807	4.539	383.5	8.426	35.039	27.240	4.554	633.5	5.886	34.902	27.493	4.564
138.5	13.904	35.798	26.825	4.535	388.5	8.332	35.030	27.247	4.556	638.5	5.850	34.902	27.495	4.562
143.5	13.688	35.764	26.844	4.540	393.5	8.290	35.025	27.250	4.557	643.5	5.825	34.903	27.499	4.564
148.5	13.515	35.737	26.859	4.542	398.5	8.230	35.020	27.255	4.555	648.5	5.801	34.903	27.502	4.563
153.5	13.309	35.707	26.878	4.543	403.5	8.166	35.014	27.260	4.556	653.5	5.777	34.904	27.505	4.560
158.5	13.154	35.683	26.892	4.544	408.5	8.128	35.010	27.263	4.554	658.5	5.759	34.904	27.508	4.563
163.5	12.972	35.655	26.907	4.545	413.5	8.044	35.003	27.270	4.554	663.5	5.738	34.905	27.511	4.563
168.5	12.797	35.627	26.921	4.545	418.5	7.958	34.996	27.277	4.554	668.5	5.712	34.905	27.514	4.562
173.5	12.648	35.606	26.934	4.544	423.5	7.835	34.984	27.286	4.556	673.5	5.694	34.905	27.517	4.564
178.5	12.455	35.576	26.948	4.544	428.5	7.755	34.978	27.293	4.559	678.5	5.656	34.906	27.522	4.562
183.5	12.329	35.555	26.957	4.545	433.5	7.673	34.971	27.300	4.559	683.5	5.638	34.907	27.525	4.562
188.5	12.135	35.527	26.973	4.547	438.5	7.599	34.964	27.305	4.556	688.5	5.599	34.908	27.531	4.561
193.5	11.976	35.503	26.985	4.547	443.5	7.533	34.959	27.311	4.561	693.5	5.579	34.909	27.534	4.561
198.5	11.808	35.478	26.998	4.545	448.5	7.455	34.953	27.317	4.556	698.5	5.549	34.910	27.539	4.561
203.5	11.667	35.457	27.008	4.548	453.5	7.376	34.946	27.324	4.558	703.5	5.514	34.911	27.544	4.562
208.5	11.559	35.441	27.016	4.548	458.5	7.323	34.943	27.328	4.559	708.5	5.462	34.913	27.551	4.560
213.5	11.405	35.420	27.029	4.547	463.5	7.264	34.939	27.334	4.558	713.5	5.436	34.913	27.555	4.562
218.5	11.269	35.400	27.038	4.545	468.5	7.213	34.935	27.337	4.557	718.5	5.403	34.914	27.559	4.563
223.5	11.127	35.380	27.049	4.550	473.5	7.172	34.932	27.341	4.557	723.5	5.361	34.915	27.565	4.565
228.5	11.031	35.364	27.054	4.548	478.5	7.122	34.930	27.346	4.556	728.5	5.329	34.916	27.570	4.565
233.5	10.834	35.332	27.069	4.550	483.5	7.048	34.926	27.354	4.553	733.5	5.302	34.917	27.574	4.566
238.5	10.741	35.322	27.074	4.549	488.5	7.017	34.924	27.357	4.560	738.5	5.274	34.918	27.578	4.564
243.5	10.621	35.306	27.083	4.549	493.5	6.965	34.922	27.363	4.560	743.5	5.243	34.919	27.583	4.565
248.5	10.539	35.293	27.087	4.549	498.5	6.900	34.918	27.368	4.560	748.5	5.228	34.920	27.585	4.565
253.5	10.448	35.282	27.094	4.551	503.5	6.840	34.916	27.375	4.559	753.5	5.214	34.920	27.587	4.564

STATION SBE027.AVG:: CRUISE 89G15 DATE & TIME Wed Nov 15 18:23:51 1989, Julian day = 319
LAT 2: 12.74 LON 94 56.19 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM	DEPTH	TEMP	SALT	SIGMA-T	XSM	DEPTH	TEMP	SALT	SIGMA-T	XSM
758.5	5.193	34.921	27.590	4.565										
763.5	5.181	34.922	27.592	4.564										
768.5	5.172	34.922	27.594	4.564										
773.5	5.156	34.923	27.596	4.564										
778.5	5.117	34.926	27.603	4.562										
783.5	5.093	34.926	27.606	4.562										
788.5	5.069	34.927	27.610	4.563										
793.5	5.061	34.927	27.611	4.562										
798.5	5.056	34.928	27.611	4.561										
803.5	5.048	34.928	27.613	4.560										
808.5	5.039	34.929	27.614	4.561										
813.5	5.029	34.929	27.616	4.561										
818.5	5.019	34.930	27.618	4.562										
823.5	5.019	34.929	27.618	4.560										
828.5	5.010	34.930	27.619	4.562										
833.5	4.998	34.931	27.622	4.562										
838.5	4.986	34.931	27.622	4.561										
843.5	4.980	34.931	27.623	4.562										
848.5	4.978	34.931	27.624	4.559										
853.5	4.976	34.931	27.624	4.561										
858.5	4.968	34.932	27.625	4.561										
863.5	4.959	34.932	27.626	4.560										
868.5	4.956	34.932	27.627	4.560										
873.5	4.949	34.933	27.628	4.559										
878.5	4.936	34.934	27.630	4.560										
883.5	4.925	34.934	27.632	4.560										
888.5	4.919	34.934	27.632	4.561										
893.5	4.908	34.936	27.635	4.561										
898.5	4.887	34.936	27.637	4.564										
903.5	4.877	34.936	27.639	4.561										
908.5	4.868	34.937	27.641	4.560										
913.5	4.862	34.937	27.641	4.561										
918.5	4.858	34.937	27.643	4.560										
923.5	4.842	34.938	27.645	4.560										
928.5	4.823	34.939	27.647	4.561										
933.5	4.811	34.939	27.649	4.562										
938.5	4.799	34.940	27.651	4.562										
943.5	4.781	34.941	27.654	4.562										
948.5	4.764	34.942	27.656	4.561										
953.5	4.752	34.942	27.658	4.565										
958.5	4.740	34.943	27.660	4.564										
963.5	4.721	34.944	27.663	4.567										
968.5	4.710	34.944	27.664	4.567										
973.5	4.685	34.946	27.669	4.566										
978.5	4.668	34.946	27.671	4.568										
983.5	4.642	34.948	27.675	4.565										
988.5	4.626	34.948	27.677	4.568										
993.5	4.610	34.949	27.680	4.562										
998.5	4.592	34.950	27.682	4.566										



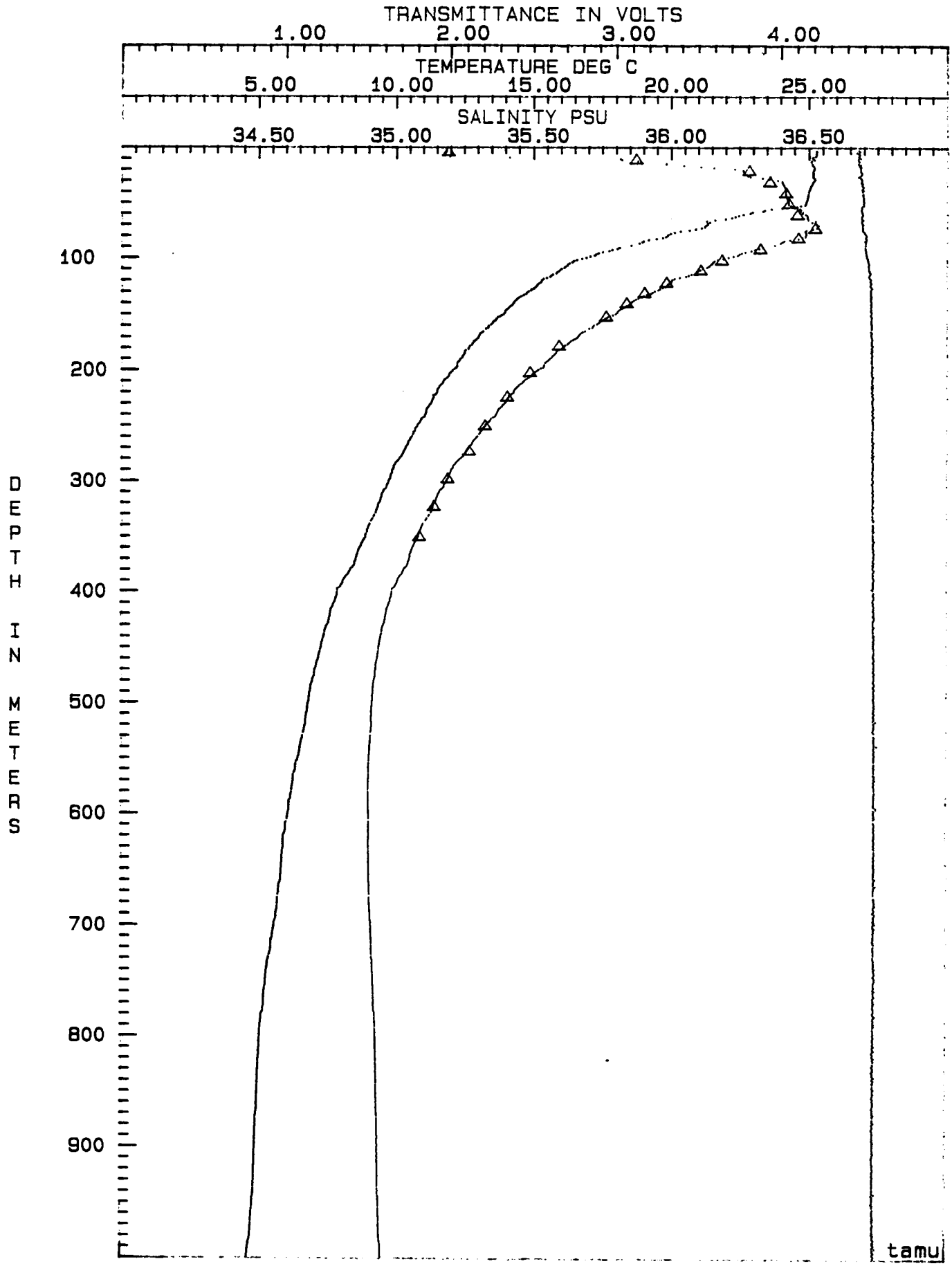
CRUISE: 89G15 STATION: SBE027.A DATE: Nov 15 18:23:51 1989
LATITUDE: 26 12.74 LONGITUDE: 94 56.19
TRIANGLES DENOTE DISCRETE SAMPLES

STATION SBE028.AVG:: CRUISE 89g15 DATE & TIME Thu Nov 16 00:21:22 1989. Julian day = 320
LAT 26 14.48 LON 94 55.98 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
8.5	25.178	35.451	23.629	4.465
13.5	25.088	35.935	24.023	4.464
18.5	25.153	36.156	24.170	4.471
23.5	25.140	36.261	24.253	4.476
28.5	25.167	36.352	24.315	4.476
33.5	25.079	36.407	24.383	4.485
38.5	24.992	36.415	24.416	4.488
43.5	24.951	36.417	24.429	4.489
48.5	24.903	36.424	24.449	4.492
53.5	24.381	36.443	24.622	4.488
58.5	23.021	36.476	25.049	4.482
63.5	22.109	36.495	25.325	4.484
68.5	21.337	36.523	25.561	[illegible]
[illegible]	20.800	[illegible]	25.698	4.482
78.5	[illegible]	36.489	25.918	[illegible]
83.5	19.225	36.435	26.061	4.506
88.5	18.493	36.370	26.199	4.503
93.5	17.679	36.288	26.339	4.506
98.5	17.525	36.252	26.440	[illegible]
103.5	16.379	36.155	26.549	4.522
108.5	16.069	36.123	26.597	4.524
113.5	15.768	36.082	26.634	4.530
118.5	15.386	36.019	26.673	4.531
123.5	15.152	35.987	26.701	4.537
128.5	14.876	35.949	26.732	4.540
133.5	14.565	35.900	26.762	4.537
138.5	14.306	35.859	26.787	4.538
143.5	14.108	35.828	26.805	4.539
148.5	13.924	35.798	26.821	4.539
153.5	13.659	35.759	26.847	4.542
158.5	13.438	35.726	26.867	4.543
163.5	13.217	35.692	26.886	4.542
168.5	13.022	35.663	26.903	4.543
173.5	12.852	35.635	26.916	4.544
178.5	12.681	35.610	26.930	4.545
183.5	12.497	35.581	26.945	4.545
188.5	12.383	35.564	26.953	4.545
193.5	12.236	35.542	26.965	4.543
198.5	12.124	35.524	26.973	4.546
203.5	11.925	35.495	26.989	4.546
208.5	11.767	35.471	27.000	4.546
213.5	11.613	35.447	27.011	4.548
218.5	11.490	35.429	27.020	4.547
223.5	11.363	35.411	27.029	4.549
228.5	11.280	35.398	27.035	4.547
233.5	11.145	35.380	27.045	4.550
238.5	11.022	35.367	27.049	4.549
243.5	10.938	35.349	27.059	4.549
248.5	10.799	35.330	27.069	4.551
253.5	10.678	35.313	27.078	4.550
258.5	10.583	35.299	27.084	4.549
263.5	10.462	35.283	27.093	4.552
268.5	10.364	35.269	27.100	4.550
273.5	10.264	35.256	27.106	4.550
278.5	10.142	35.239	27.115	4.552
283.5	9.983	35.219	27.127	4.553
288.5	9.875	35.205	27.134	4.552
293.5	9.812	35.196	27.137	4.551
298.5	9.744	35.187	27.142	4.552
303.5	9.660	35.176	27.147	4.551
308.5	9.539	35.166	27.157	[illegible]
[illegible]	[illegible]	[illegible]	27.163	[illegible]
318.5	[illegible]	35.142	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	27.172	[illegible]
328.5	9.237	35.126	27.179	[illegible]
333.5	9.129	35.117	27.186	[illegible]
338.5	9.027	35.109	27.192	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
348.5	8.879	35.081	27.202	[illegible]
353.5	8.786	35.072	27.209	4.556
358.5	8.681	35.062	27.218	4.556
363.5	8.593	35.053	27.225	4.558
368.5	8.533	35.048	27.230	4.556
373.5	8.475	35.043	27.235	4.555
378.5	8.357	35.032	27.245	4.554
383.5	8.225	35.019	27.255	4.553
388.5	8.089	35.007	27.266	4.556
393.5	8.001	34.999	27.273	4.554
398.5	7.871	34.987	27.283	4.555
403.5	7.823	34.982	27.286	4.556
408.5	7.745	34.975	27.293	4.553
413.5	7.658	34.968	27.300	4.556
418.5	7.594	34.963	27.305	4.556
423.5	7.556	34.959	27.308	4.557
428.5	7.500	34.955	27.313	4.555
433.5	7.416	34.948	27.319	4.554
438.5	7.364	34.944	27.324	4.557
443.5	7.310	34.940	27.328	4.557
448.5	7.261	34.937	27.332	4.557
453.5	7.214	34.934	27.337	4.557
458.5	7.166	34.931	27.342	4.557
463.5	7.105	34.927	27.347	4.558
468.5	7.056	34.925	27.352	4.558
473.5	7.016	34.923	27.356	4.557
478.5	6.960	34.920	27.361	4.558
483.5	6.904	34.916	27.366	4.559
488.5	6.873	34.915	27.369	4.559
493.5	6.836	34.914	27.374	4.559
498.5	6.812	34.913	27.376	4.559
503.5	6.775	34.911	27.380	4.558
508.5	6.750	34.910	27.383	4.560
513.5	6.719	34.909	27.386	4.558
518.5	6.698	34.910	27.390	4.559
523.5	6.658	34.909	27.396	4.556
528.5	6.608	34.907	27.400	4.560
533.5	6.559	34.905	27.405	4.560
538.5	6.521	34.904	27.409	4.563
543.5	6.490	34.904	27.413	4.561
548.5	6.447	34.902	27.417	[illegible]
553.5	6.382	34.901	[illegible]	[illegible]
558.5	[illegible]	34.900	[illegible]	[illegible]
563.5	6.293	34.900	[illegible]	[illegible]
[illegible]	6.266	34.899	[illegible]	[illegible]
573.5	6.243	34.899	[illegible]	[illegible]
578.5	6.211	34.899	[illegible]	[illegible]
583.5	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	6.130	34.900	27.457	[illegible]
593.5	6.116	34.899	27.459	[illegible]
598.5	6.094	34.900	27.462	4.560
603.5	6.051	34.901	27.468	4.561
608.5	5.998	34.901	27.475	4.562
613.5	5.983	34.900	27.476	4.561
618.5	5.937	34.900	27.482	4.563
623.5	5.906	34.900	27.486	4.561
628.5	5.906	34.900	27.486	4.562
633.5	5.893	34.900	27.489	4.563
638.5	5.866	34.901	27.491	4.563
643.5	5.855	34.901	27.493	4.562
648.5	5.842	34.901	27.495	4.561
653.5	5.826	34.901	27.497	4.561
658.5	5.811	34.901	27.499	4.562
663.5	5.766	34.903	27.506	4.563
668.5	5.741	34.902	27.509	4.560
673.5	5.719	34.903	27.512	4.561
678.5	5.706	34.904	27.514	4.564
683.5	5.693	34.904	27.516	4.563
688.5	5.658	34.906	27.522	4.565
693.5	5.633	34.907	27.525	4.562
698.5	5.580	34.908	27.533	4.562
703.5	5.552	34.909	27.537	4.562
708.5	5.523	34.910	27.542	4.561
713.5	5.481	34.911	27.548	4.560
718.5	5.461	34.911	27.550	4.561
723.5	5.438	34.912	27.553	4.561
728.5	5.384	34.913	27.561	4.560
733.5	5.339	34.914	27.567	4.564
738.5	5.321	34.915	27.570	4.563
743.5	5.293	34.916	27.574	4.566
748.5	5.277	34.917	27.577	4.567
753.5	5.262	34.918	27.579	4.564

STATION SBE028.AVG:: CRUISE 89g15 DATE & TIME Thu Nov 16 00:21:22 1989, Julian day = 320
LAT 26 14.48 LON 94 55.98 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM	DEPTH	TEMP	SALT	SIGMA-T	XSM	DEPTH	TEMP	SALT	SIGMA-T	XSM
758.5	5.227	34.919	27.584	4.563										
763.5	5.211	34.919	27.587	4.563										
768.5	5.204	34.920	27.588	4.563										
773.5	5.190	34.920	27.590	4.562										
778.5	5.150	34.923	27.597	4.562										
783.5	5.111	34.924	27.603	4.563										
788.5	5.089	34.925	27.606	4.563										
793.5	5.072	34.926	27.608	4.562										
798.5	5.061	34.926	27.610	4.563										
803.5	5.049	34.927	27.612	4.561										
808.5	5.046	34.927	27.612	4.560										
813.5	5.033	34.928	27.615	4.559										
818.5	5.021	34.928	27.616	4.561										
823.5	5.010	34.929	27.618	4.562										
828.5	5.005	34.929	27.618	4.560										
833.5	4.995	34.929	27.620	4.559										
838.5	4.989	34.930	27.621	4.561										
843.5	4.983	34.930	27.622	4.559										
848.5	4.976	34.930	27.623	4.560										
853.5	4.972	34.930	27.624	4.559										
858.5	4.961	34.931	27.625	4.561										
863.5	4.958	34.931	27.626	4.559										
868.5	4.944	34.932	27.628	4.560										
873.5	4.923	34.933	27.632	4.560										
878.5	4.918	34.933	27.632	4.560										
883.5	4.914	34.933	27.633	4.558										
888.5	4.907	34.934	27.634	4.559										
893.5	4.900	34.934	27.635	4.560										
898.5	4.896	34.934	27.635	4.560										
903.5	4.891	34.934	27.636	4.562										
908.5	4.888	34.935	27.636	4.558										
913.5	4.884	34.935	27.637	4.558										
918.5	4.873	34.936	27.639	4.561										
923.5	4.867	34.936	27.640	4.558										
928.5	4.862	34.936	27.641	4.559										
933.5	4.857	34.936	27.641	4.560										
938.5	4.848	34.937	27.643	4.559										
943.5	4.832	34.938	27.646	4.561										
948.5	4.807	34.939	27.649	4.559										
953.5	4.800	34.939	27.650	4.561										
958.5	4.781	34.940	27.653	4.560										
963.5	4.767	34.940	27.655	4.562										
968.5	4.757	34.941	27.656	4.562										
973.5	4.745	34.942	27.658	4.562										
978.5	4.727	34.942	27.661	4.564										
983.5	4.702	34.944	27.665	4.567										
988.5	4.663	34.946	27.671	4.567										
993.5	4.639	34.947	27.674	4.565										
998.5	4.619	34.948	27.677	4.566										



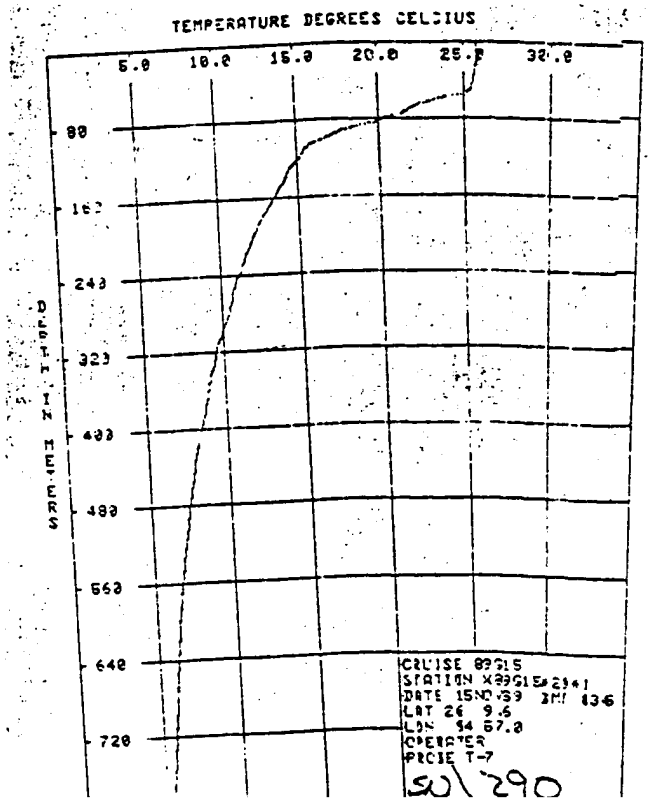
CRUISE: 89g15 STATION: SBE028.A DATE: Nov 16 00:21:22 1989
LATITUDE: 26 14.48 LONGITUDE: 94 55.98
TRIANGLES DENOTE DISCRETE SAMPLES

LAT 26 9.6 LON 94 57.0

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 99G15 STATION X99G15*29*1 DATE 16NOV99 GMT 0345

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	24.90	202.4	11.55	402.5	7.80	602.7	5.89	802.6	4.94
7.5	25.07	207.7	11.44	407.5	7.71	607.5	5.87		
12.6	25.07	212.6	11.32	412.6	7.65	612.3	5.85		
17.5	25.08	217.6	11.16	417.7	7.57	617.5	5.83		
22.4	25.06	222.5	11.04	422.4	7.51	622.6	5.80		
27.5	24.94	227.5	10.92	427.5	7.42	627.5	5.79		
32.8	24.90	232.5	10.82	432.5	7.35	632.6	5.73		
37.6	24.84	237.5	10.74	437.6	7.30	637.8	5.70		
42.6	24.81	242.4	10.53	442.6	7.25	642.6	5.66		
47.7	24.73	247.4	10.41	447.4	7.23	647.4	5.65		
52.6	24.53	252.7	10.29	452.5	7.17	652.6	5.62		
57.5	23.50	257.7	10.18	457.5	7.13	657.8	5.59		
62.7	22.24	262.7	10.14	462.6	7.06	662.6	5.57		
67.5	21.42	267.7	10.10	467.7	7.01	667.4	5.55		
72.4	20.90	272.6	9.99	472.4	6.96	672.6	5.54		
77.7	20.17	277.6	9.93	477.5	6.91	677.8	5.52		
82.5	19.41	282.6	9.84	482.6	6.84	682.6	5.49		
87.4	18.44	287.6	9.74	487.4	6.83	687.5	5.48		
92.7	17.28	292.6	9.61	492.5	6.78	692.3	5.46		
97.6	16.47	297.6	9.47	497.5	6.74	697.5	5.44		
102.5	15.74	302.6	9.38	502.6	6.70	702.7	5.40		
107.5	15.04	307.6	9.26	507.7	6.65	707.5	5.37		
112.6	14.79	312.6	9.12	512.5	6.61	712.4	5.34		
117.5	14.65	317.6	9.02	517.6	6.54	717.6	5.33		
122.4	14.39	322.6	8.95	522.7	6.50	722.8	5.31		
127.4	14.13	327.7	8.87	527.5	6.47	727.7	5.31		
132.6	13.87	332.7	8.80	532.6	6.41	732.5	5.28		
137.5	13.74	337.7	8.72	537.7	6.36	737.4	5.23		
142.4	13.60	342.4	8.61	542.5	6.32	742.6	5.22		
147.7	13.40	347.4	8.50	547.6	6.30	747.3	5.19		
152.6	13.20	352.4	8.47	552.7	6.25	752.7	5.17		
157.6	13.05	357.5	8.43	557.5	6.21	757.5	5.12		
162.5	12.88	362.5	8.37	562.7	6.18	762.4	5.10		
167.4	12.73	367.5	8.31	567.8	6.14	767.3	5.09		
172.7	12.62	372.6	8.23	572.6	6.10	772.6	5.05		
177.6	12.31	377.6	8.17	577.4	6.06	777.7	5.01		
182.6	12.12	382.6	8.13	582.5	6.02	782.6	5.01		
187.5	11.97	387.7	8.04	587.6	5.99	787.5	4.99		
192.5	11.84	392.7	7.96	592.4	5.95	792.4	4.96		
197.4	11.69	397.4	7.88	597.6	5.93	797.5	4.96		



150\290

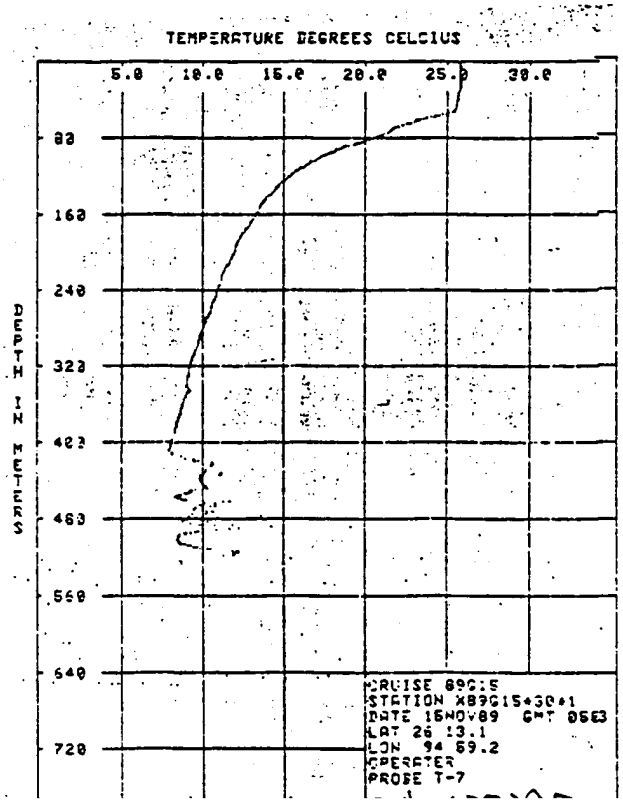
LAT 26 13.1 LON 94 59.2 EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15+30+1 DATE 15NOV89 GMT 0553

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	24.87	202.4	11.35	402.5	7.53	[illegible]	[illegible]	[illegible]	[illegible]
7.5	25.06	207.7	11.18	407.5	7.42	[illegible]	[illegible]		
12.6	25.06	212.6	11.03	[illegible]	[illegible]	[illegible]	[illegible]		
17.5	25.06	217.6	10.92	[illegible]	[illegible]	[illegible]	[illegible]		
22.4	25.07	222.5	10.70	[illegible]	[illegible]	[illegible]	[illegible]		
27.5	25.07	227.5	10.59	[illegible]	[illegible]	[illegible]	[illegible]		
32.8	24.94	232.5	10.54	[illegible]	[illegible]	[illegible]	[illegible]		
37.6	24.92	237.5	10.45	[illegible]	[illegible]	[illegible]	[illegible]		
42.5	24.89	242.4	10.35	[illegible]	[illegible]	[illegible]	[illegible]		
47.7	24.82	247.4	10.27	[illegible]	[illegible]	[illegible]	[illegible]		
52.6	24.69	252.7	10.14	[illegible]	[illegible]	[illegible]	[illegible]		
57.5	23.90	257.7	10.02	[illegible]	[illegible]	[illegible]	[illegible]		
62.7	22.57	262.7	9.93	[illegible]	[illegible]	[illegible]	[illegible]		
67.5	21.64	267.7	9.84	[illegible]	[illegible]	[illegible]	[illegible]		
72.4	20.94	272.6	9.66	[illegible]	[illegible]	[illegible]	[illegible]		
77.7	20.31	277.6	9.56	[illegible]	[illegible]	[illegible]	[illegible]		
82.5	19.47	282.6	9.46	[illegible]	[illegible]	[illegible]	[illegible]		
87.4	18.61	287.6	9.33	[illegible]	[illegible]	[illegible]	[illegible]		
92.7	17.68	292.6	9.25	[illegible]	[illegible]	[illegible]	[illegible]		
97.6	17.06	297.6	9.15	[illegible]	[illegible]	[illegible]	[illegible]		
102.5	16.52	302.6	9.08	[illegible]	[illegible]	[illegible]	[illegible]		
107.7	15.96	307.6	8.95	[illegible]	[illegible]	[illegible]	[illegible]		
112.6	15.49	312.6	8.82	[illegible]	[illegible]	[illegible]	[illegible]		
117.5	15.02	317.6	8.73	[illegible]	[illegible]	[illegible]	[illegible]		
122.4	14.70	322.6	8.65	[illegible]	[illegible]	[illegible]	[illegible]		
127.4	14.27	327.7	8.62	[illegible]	[illegible]	[illegible]	[illegible]		
132.6	14.03	332.7	8.55	[illegible]	[illegible]	[illegible]	[illegible]		
137.5	13.76	337.7	8.53	[illegible]	[illegible]	[illegible]	[illegible]		
142.4	13.42	342.4	8.47	[illegible]	[illegible]	[illegible]	[illegible]		
147.7	13.13	347.4	8.60	[illegible]	[illegible]	[illegible]	[illegible]		
152.6	12.94	352.4	8.44	[illegible]	[illegible]	[illegible]	[illegible]		
157.6	12.81	357.5	8.32	[illegible]	[illegible]	[illegible]	[illegible]		
162.5	12.62	362.5	8.23	[illegible]	[illegible]	[illegible]	[illegible]		
167.4	12.44	367.5	8.16	[illegible]	[illegible]	[illegible]	[illegible]		
172.7	12.26	372.6	8.07	[illegible]	[illegible]	[illegible]	[illegible]		
177.6	12.04	377.6	7.93	[illegible]	[illegible]	[illegible]	[illegible]		
182.6	11.80	382.6	7.84	[illegible]	[illegible]	[illegible]	[illegible]		
187.5	11.63	387.7	7.78	[illegible]	[illegible]	[illegible]	[illegible]		
192.5	11.52	392.7	7.69	[illegible]	[illegible]	[illegible]	[illegible]		
197.4	11.45	397.4	7.60	[illegible]	[illegible]	[illegible]	[illegible]		

XBT data are artifact below 407m;

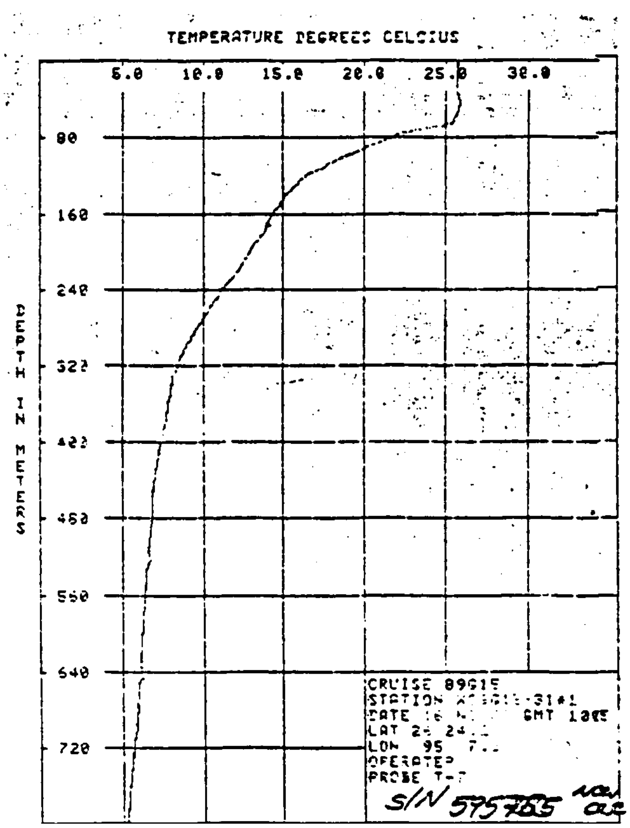
weather was very rough, and grounding problems are suspected



LAT 26 24.2 LON 95 7.5 **EXPENDABLE BATHYTHERMOGRAPH**

PROBE T-7 CRUISE 89G15 STATION X89G15+31+1 DATE 16 NOV89 GMT 1005

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	24.90	202.4	12.28	402.5	6.87	602.7	5.71	802.6	4.79
7.5	24.97	207.7	12.10	407.5	6.79	607.5	5.69		
12.6	24.96	212.6	11.89	412.6	6.75	612.3	5.67		
17.5	24.97	217.6	11.72	417.7	6.70	617.5	5.65		
22.4	24.96	222.5	11.54	422.4	6.65	622.6	5.64		
27.5	24.96	227.5	11.32	427.5	6.60	627.5	5.64		
32.8	24.97	232.5	11.05	432.5	6.56	632.6	5.62		
37.6	25.04	237.5	10.78	437.6	[illegible]	637.3	[illegible]		
42.5	25.09	242.4	10.58	442.6	6.47	642.6	5.60		
47.7	25.07	247.4	10.42	447.4	6.42	647.4	[illegible]		
52.6	25.01	252.7	10.15	452.5	6.40	652.6	5.55		
57.7	24.90	257.7	9.94	457.3	6.37	657.3	[illegible]		
62.7	24.77	262.7	9.80	462.6	6.35	662.6	5.47		
67.5	24.16	267.7	9.60	467.7	6.35	667.4	[illegible]		
72.4	22.79	272.6	9.42	472.4	6.32	672.6	5.44		
77.7	21.73	277.6	9.20	477.5	6.31	677.[illegible]	5.42		
82.8	21.87	282.6	8.99	482.6	[illegible]	682.6	5.42		
87.4	[illegible]	287.6	8.84	487.4	[illegible]	687.8	[illegible]		
[illegible]	[illegible]	292.6	8.69	492.7	6.21	692.7	[illegible]		
97.6	[illegible]	297.6	8.49	497.5	6.27	697.5	5.36		
102.5	17.96	302.6	8.37	502.6	6.18	702.7	5.35		
107.7	17.27	307.6	8.20	507.7	6.12	707.3	5.28		
112.6	16.80	312.6	8.06	512.5	6.11	712.4	5.25		
117.5	16.10	317.6	7.92	517.6	6.13	717.6	5.22		
122.4	15.69	322.6	7.93	522.7	6.21	722.8	5.18		
127.4	15.38	327.7	7.73	527.5	6.14	727.7	5.15		
132.6	15.08	332.7	7.64	532.6	6.02	732.5	5.14		
137.5	14.89	337.7	7.56	537.7	5.96	737.4	5.09		
142.4	14.55	342.4	7.52	542.5	5.95	742.6	5.07		
147.7	14.34	347.4	7.51	547.6	5.93	747.3	5.05		
152.6	14.15	352.4	7.44	552.7	5.91	752.7	5.03		
157.6	13.87	357.5	7.36	557.8	5.90	757.5	5.01		
162.5	13.69	362.5	7.30	562.7	5.87	762.4	4.97		
167.4	13.51	367.5	7.27	567.8	5.84	767.7	4.96		
172.7	13.46	372.6	7.21	572.6	5.84	772.6	4.93		
177.6	13.31	377.6	7.18	577.4	5.82	777.7	4.92		
182.6	13.11	382.6	7.11	582.5	5.78	782.6	4.90		
187.5	12.91	387.7	7.06	587.6	5.76	787.5	4.86		
192.5	12.63	392.7	7.00	592.4	5.74	792.4	4.85		
197.4	12.44	397.4	6.93	597.6	5.73	797.3	4.82		



LAT 26 29.3 LON 95 11.7

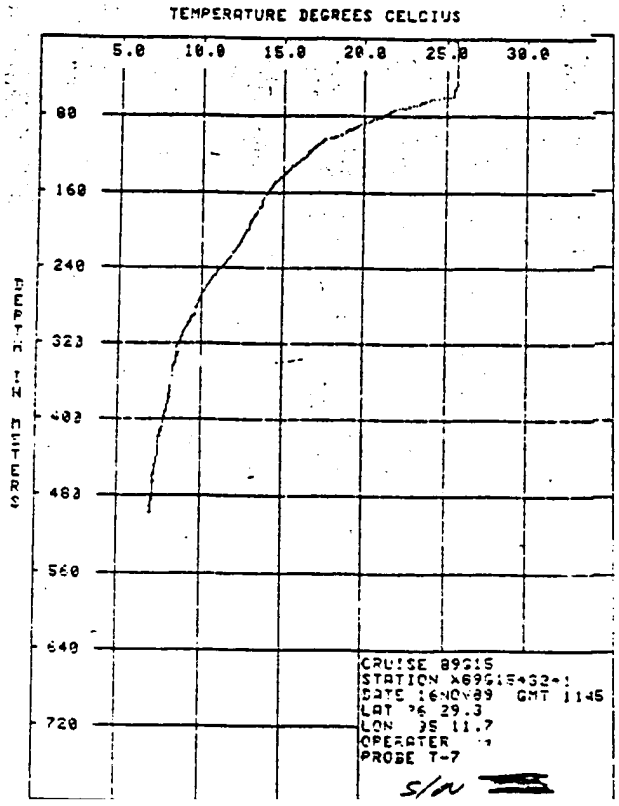
EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15+32+1 DATE 16NOV89 GMT 1145

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	24.72	202.4	12.22	402.5	7.20	[illegible]		[illegible]	
7.5	24.90	207.7	12.04	407.5	7.16				
12.6	24.90	212.6	11.90	412.6	7.06				
17.5	24.92	217.6	11.73	417.7	6.99				
22.4	24.92	222.5	11.51	422.4	6.93				
27.5	24.93	227.5	11.30	427.5	6.93				
32.8	24.94	232.5	11.06	432.5	6.93				
37.6	24.93	237.5	10.83	437.6	6.91				
42.5	24.93	242.4	10.55	442.6	6.82				
47.7	24.90	247.4	10.35	447.4	6.77				
52.6	24.79	252.7	10.08	452.5	6.72				
57.5	24.73	257.7	9.89	457.5	6.67				
62.7	23.76	262.7	9.71	462.6	6.63				
67.5	22.72	267.7	9.52	467.7	6.64				
72.4	21.71	272.6	9.38	472.4	6.63				
77.7	20.80	277.6	9.27	477.5	6.62				
82.5	20.27	282.6	9.15	482.6	6.58				
87.4	19.50	287.6	9.07	487.4	6.55				
92.7	18.87	292.6	8.99	492.5	6.51				
97.6	18.28	297.6	8.74	497.5	6.50				
102.5	17.56	302.6	8.56	[illegible]					
107.7	16.77	307.6	8.43						
112.6	16.39	312.6	8.33						
117.5	16.03	317.6	8.21						
122.4	15.79	322.6	8.06						
127.4	15.40	327.7	7.94						
132.6	15.03	332.7	8.01						
137.5	14.75	337.7	7.95						
142.4	14.43	342.4	7.91						
147.7	14.10	347.4	7.78						
152.6	13.79	352.4	7.72						
157.6	13.60	357.5	7.71						
162.5	13.43	362.5	7.68						
167.4	13.25	367.5	7.61						
172.7	13.16	372.6	7.59						
177.6	13.02	377.6	7.51						
182.6	12.86	382.6	7.47						
187.5	12.67	387.7	7.39						
192.5	12.50	392.7	7.33						
197.4	12.41	397.4	7.26						

XBT data are artifact below 497m;

weather was very rough, and grounding problems are suspected



LAT 26 34.3 LON 95 15.6

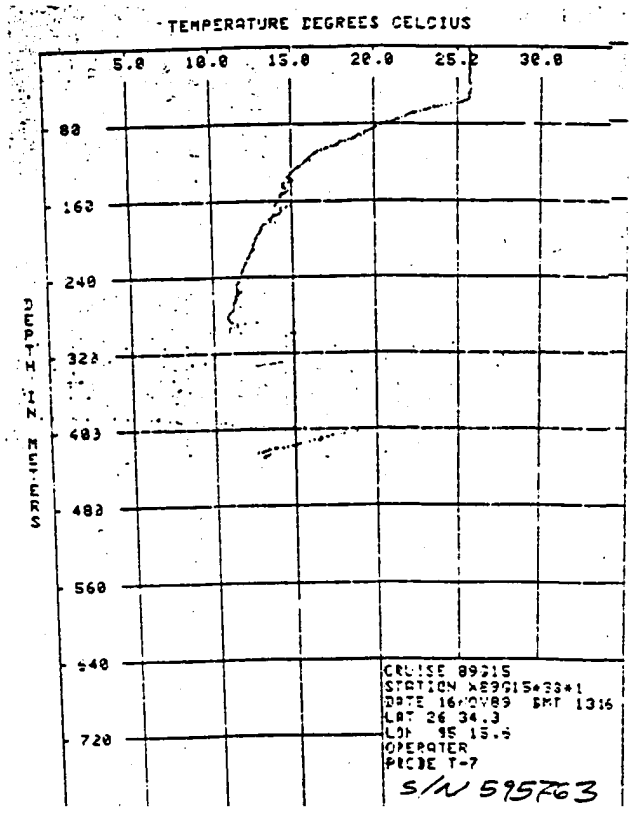
EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION XB9G15+33+1 DATE 16NOV89 GMT 1316

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	24.66	202.4	12.17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7.5	24.98	207.2	12.04	[illegible]	[illegible]	[illegible]	[illegible]		
12.6	24.98	212.6	11.94	[illegible]	[illegible]	[illegible]	[illegible]		
17.5	24.98	217.6	11.70	[illegible]	[illegible]	[illegible]	[illegible]		
22.4	24.98	222.5	11.57	[illegible]	[illegible]	[illegible]	[illegible]		
27.5	24.98	227.5	11.44	[illegible]	[illegible]	[illegible]	[illegible]		
32.8	24.98	232.5	11.32	[illegible]	[illegible]	[illegible]	[illegible]		
37.6	24.99	237.5	11.20	[illegible]	[illegible]	[illegible]	[illegible]		
42.5	24.99	242.4	11.10	[illegible]	[illegible]	[illegible]	[illegible]		
47.7	24.98	247.4	10.98	[illegible]	[illegible]	[illegible]	[illegible]		
52.6	24.93	252.7	10.91	[illegible]	[illegible]	[illegible]	[illegible]		
57.5	24.60	257.7	10.99	[illegible]	[illegible]	[illegible]	[illegible]		
62.7	23.12	262.7	10.81	[illegible]	[illegible]	[illegible]	[illegible]		
67.5	22.09	267.7	10.74	[illegible]	[illegible]	[illegible]	[illegible]		
72.4	21.34	272.6	10.74	[illegible]	[illegible]	[illegible]	[illegible]		
77.7	20.52	277.6	10.50	[illegible]	[illegible]	[illegible]	[illegible]		
82.5	19.73	282.6	10.35	[illegible]	[illegible]	[illegible]	[illegible]		
87.4	19.09	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
92.7	18.53	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
97.6	17.78	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
102.5	17.00	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
107.7	16.20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
112.6	15.71	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
117.5	15.41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
122.4	15.07	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
127.5	14.87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
132.5	14.39	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
137.5	14.26	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
142.4	14.05	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
147.7	14.01	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
152.6	13.84	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
157.6	13.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
162.5	13.44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
167.4	13.32	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
172.7	13.06	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
177.6	13.18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
182.6	13.06	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
187.5	12.58	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
192.5	12.47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
197.4	12.24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		

XBT data are artifact below 282m;

weather was very rough, and grounding problems are suspected

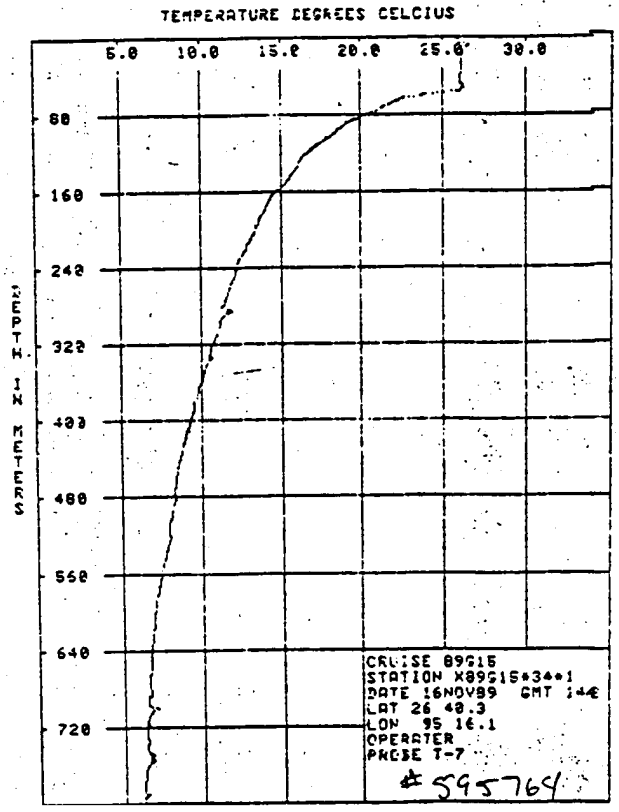


LAT 26 40.3 LON 95 16.1 .

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*34*1 DATE 16NOV'89 GMT 1442

Z	T	Z	T	Z	T	Z	T	Z	T
0.0	28.04	202.4	12.75	402.5	8.78	602.7	6.47	802.6	5.66
7.5	25.50	207.7	12.60	407.5	8.70	607.5	6.45		
12.6	25.64	212.6	12.42	412.6	8.58	612.3	6.47		
17.5	25.49	217.6	12.23	417.7	8.45	617.5	6.40		
22.4	25.42	222.5	12.16	422.4	8.40	622.6	6.37		
27.5	25.40	227.5	11.99	427.5	8.27	627.5	6.34		
32.8	25.39	232.5	11.82	432.5	8.28	632.6	6.30		
37.5	25.37	237.5	11.67	437.6	8.19	637.9	6.27		
42.5	25.33	242.4	11.62	442.6	8.11	642.6	6.21		
47.7	25.34	247.4	11.56	447.4	8.03	647.4	6.19		
52.6	25.50	252.7	11.45	452.5	7.97	652.6	6.16		
57.5	24.51	257.7	11.32	457.5	7.92	657.3	6.14		
62.7	22.45	262.7	11.22	462.6	7.87	662.6	6.12		
67.5	21.36	267.7	11.09	467.7	7.84	667.4	6.09		
72.4	20.79	272.6	11.00	472.4	7.80	672.6	6.05		
77.7	20.20	277.6	10.90	477.5	7.74	677.9	6.04		
82.5	19.44	282.6	10.85	482.6	7.78	682.6	6.13		
87.4	18.82	287.6	11.14	487.4	7.75	687.5	6.09		
92.7	18.34	292.6	10.79	492.5	7.66	692.3	5.96		
97.6	17.98	297.6	10.60	497.5	7.59	697.5	6.05		
102.5	17.64	302.6	10.56	502.6	7.54	702.7	6.39		
107.7	17.16	307.6	10.50	507.7	7.44	707.6	6.12		
112.6	16.71	312.6	10.40	512.5	7.32	712.4	5.97		
117.5	16.51	317.6	10.25	517.6	7.21	717.5	5.90		
122.4	16.01	322.5	10.12	522.4	7.42	722.6	5.98		
127.4	15.65	327.5	10.06	527.5	7.40	727.4	5.16		
132.6	15.52	332.7	10.00	532.6	7.31	732.6	5.37		
137.5	15.33	337.7	9.96	537.4	7.25	737.4	5.36		
142.4	15.11	342.4	9.91	542.5	7.16	742.6	5.86		
147.7	14.87	347.4	9.72	547.6	7.03	747.2	5.15		
152.6	14.59	352.4	9.62	552.4	7.00	752.5	5.11		
157.4	14.38	357.5	9.57	557.5	6.93	757.5	6.12		
162.5	14.04	362.5	9.44	562.5	6.90	762.4	5.85		
167.4	13.74	367.5	9.30	567.5	6.78	767.5	5.78		
172.7	13.60	372.4	9.17	572.4	6.71	772.6	5.76		
177.6	13.47	377.6	9.17	577.5	6.73	777.7	5.72		
182.6	13.31	382.4	9.04	582.5	6.67	782.6	5.69		
187.5	13.11	387.7	9.01	587.5	6.58	787.5	5.69		
192.5	12.99	392.7	8.95	592.4	6.54	792.4	5.83		
197.4	12.87	397.4	8.85	597.6	6.51	797.3	5.67		



LAT 26 44.8 LON 95 17.7

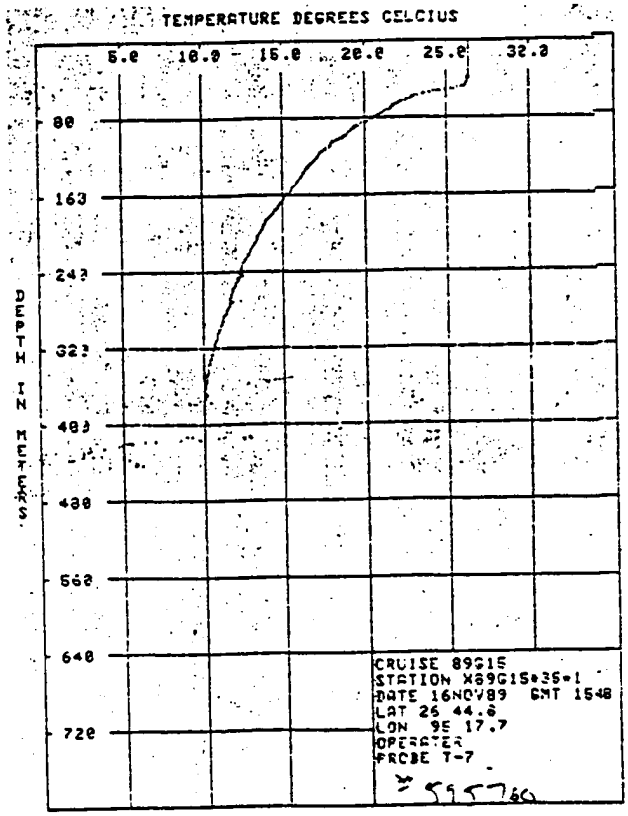
EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15+35+1 DATE 16NOV89 GMT 1548

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	25.45	202.4	12.89						
7.5	25.61	207.7	12.76						
12.6	25.61	212.6	12.61						
17.5	25.59	217.6	12.44						
22.4	25.58	222.5	12.28						
27.5	25.58	227.5	12.12						
32.8	25.57	232.5	11.95						
37.6	25.56	237.5	11.78						
42.5	25.51	242.4	11.72						
47.7	25.29	247.4	11.66						
52.6	23.99	252.7	11.48						
57.5	22.63	257.7	11.34						
62.7	21.74	262.7	11.23						
67.5	21.16	267.7	11.13						
72.4	20.75	272.6	11.21						
77.7	20.14	277.6	11.02						
82.5	19.68	282.6	10.89						
87.4	19.08	287.6	10.74						
92.7	18.59	292.6	10.63						
97.6	18.26	297.6	10.52						
102.5	17.84	302.6	10.43						
107.7	17.36	307.6	10.36						
112.6	17.11	312.6	10.26						
117.5	16.71	317.6	10.13						
122.4	16.50	322.6	10.07						
127.4	16.20	327.7	9.97						
132.6	15.91	332.7	9.88						
137.5	15.70	337.7	9.79						
142.4	15.53	342.4	9.74						
147.7	15.31	347.4	9.74						
152.6	15.08	352.4	9.66						
157.6	14.84	357.5	9.62						
162.5	14.58	362.5	9.51						
167.4	14.34								
172.7	14.16								
177.6	13.91								
182.6	13.66								
187.5	13.41								
192.5	13.22								
197.4	13.09								

XBT data are artifact below 462m;

weather was very rough, and grounding problems are suspected

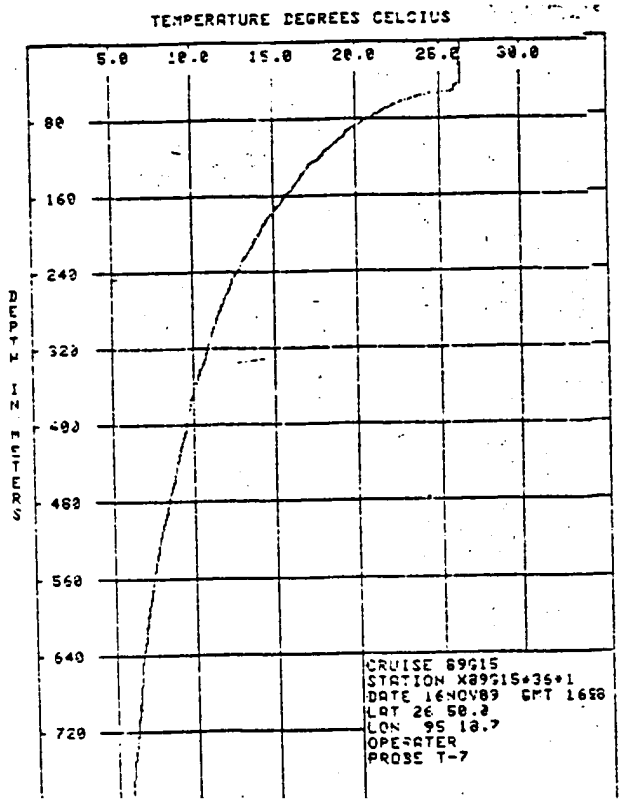


LAT 26 50.0 LON 95 18.7

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15+36+1 DATE 16NOV89 GMT 1658

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	25.35	212.6	13.48	402.5	9.00	602.7	6.47		
7.5	25.46	217.7	13.29	407.5	8.96	607.5	6.47		
12.6	25.45	222.6	13.14	412.6	8.87	612.3	6.39		
17.5	25.46	227.6	12.98	417.7	8.79	617.5	6.35		
22.4	25.45	232.5	12.80	422.4	8.69	622.6	6.31		
27.5	25.46	237.5	12.61	427.5	8.62	627.5	6.29		
32.8	25.47	242.5	12.49	432.5	8.55	632.6	6.25		
37.6	25.47	247.5	12.32	437.6	8.49	637.3	6.20		
42.5	25.47	252.4	12.13	442.6	8.42	642.6	6.16		
47.7	25.15	257.4	11.95	447.4	8.34	647.4	6.12		
52.6	24.79	262.7	11.82	452.5	8.28	652.6	6.09		
57.5	23.04	267.7	11.71	457.5	8.21	657.3	6.07		
62.7	22.15	272.7	11.60	462.6	8.17	662.6	6.04		
67.5	21.48	277.7	11.45	467.7	8.07	667.4	6.02		
72.4	20.92	282.6	11.35	472.4	7.99	672.6	6.01		
77.7	20.42	287.6	11.20	477.5	7.90	677.8	5.97		
82.5	19.94	292.6	11.10	482.6	7.84	682.6	5.96		
87.4	19.42	297.6	11.01	487.4	7.77	687.8	5.93		
92.7	18.90	302.6	10.90	492.5	7.74	692.3	5.91		
97.6	18.66	307.6	10.83	497.5	7.65	697.5	5.91		
102.5	18.35	312.6	10.71	502.6	7.58	702.7	5.88		
107.7	17.97	317.6	10.60	507.7	7.47	707.5	5.83		
112.6	17.69	322.6	10.51	512.5	7.40	712.4	5.80		
117.5	17.33	327.6	10.41	517.6	7.34	717.6	5.77		
122.4	17.04	332.6	10.33	522.7	7.29	722.8	5.73		
127.4	16.63	337.7	10.23	527.5	7.21	727.7	5.71		
132.6	16.39	342.7	10.17	532.6	7.15	732.5	5.68		
137.5	16.17	347.7	10.08	537.7	7.11	737.4	5.65		
142.4	15.97	352.4	9.94	542.5	7.05	742.6	5.63		
147.7	15.76	357.4	9.83	547.6	7.01	747.8	5.63		
152.6	15.59	362.4	9.75	552.7	6.96	752.7	5.64		
157.6	15.37	367.5	9.69	557.5	6.91	757.5	5.63		
162.5	15.02	372.5	9.59	562.7	6.85	762.4	5.49		
167.4	14.87	377.5	9.46	567.9	6.82	767.3	5.46		
172.7	14.64	382.6	9.40	572.6	6.76	772.6	5.43		
177.6	14.42	387.6	9.29	577.4	6.71	777.7	5.40		
182.6	14.16	392.6	9.26	582.5	6.67	782.6	5.37		
187.5	13.97	397.7	9.19	587.6	6.60				
192.5	13.77	392.7	9.15	592.4	6.55				
197.4	13.62	397.4	9.08	597.6	6.49				

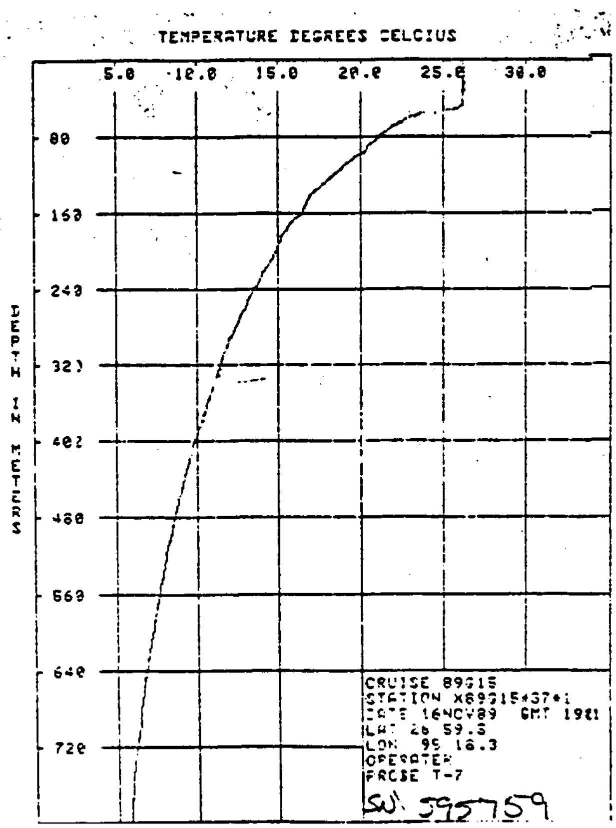


LAT 26 59.5 LON 95 19.7

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7   CRUISE 89G15   STATION X89G15*37*1   DATE 16NOV89   GMT 1901

D	T	D	T	D	T	D	T	D	T
2.6	25.26	202.4	14.24	402.5	9.14	602.7	6.71	802.6	5.35
7.5	25.44	207.7	14.09	407.5	[illegible]	607.5	6.57		
12.6	25.45	212.6	13.97	412.5	9.11	612.5	6.54		
17.5	25.44	217.4	13.77	417.4	8.97	617.5	6.53		
22.4	25.47	222.5	13.51	422.4	8.89	622.6	6.51		
27.5	25.45	227.5	13.40	427.5	8.77	627.5	6.48		
32.8	25.45	232.5	13.27	432.5	8.61	632.6	6.46		
37.6	25.43	237.5	13.09	437.6	8.74	637.3	6.41		
42.5	25.47	242.4	12.87	442.6	8.65	642.6	6.34		
47.7	25.34	247.4	12.70	447.4	8.59	647.4	6.31		
52.6	24.77	252.7	12.55	452.5	8.55	652.6	6.25		
57.5	23.10	257.7	12.46	457.5	8.47	657.1	6.21		
62.7	22.11	262.7	12.32	462.6	8.36	662.6	6.16		
67.5	21.56	267.7	12.16	467.5	8.27	667.4	6.11		
72.4	21.10	272.6	12.07	472.4	8.27	672.6	6.06		
77.7	20.66	277.6	11.89	477.5	8.16	677.3	6.01		
82.5	20.37	282.6	11.76	482.6	8.11	682.6	6.00		
87.4	19.98	287.6	11.63	487.4	8.02	687.5	5.99		
92.7	19.72	292.5	11.47	492.5	7.97	692.7	5.96		
97.6	19.51	297.6	11.34	497.5	7.92	697.5	5.95		
102.5	19.03	302.6	11.22	502.6	7.87	702.7	5.92		
107.7	18.63	307.6	11.11	507.7	7.74	707.5	5.87		
112.6	18.23	312.6	10.99	512.5	7.66	712.4	5.82		
117.5	17.95	317.6	10.91	517.5	7.61	717.6	5.79		
122.4	17.62	322.6	10.83	522.7	7.55	722.5	5.77		
127.4	17.31	327.7	10.77	527.5	7.52	727.7	5.71		
132.6	16.97	332.7	10.66	532.6	7.47	732.5	5.67		
137.5	16.67	337.7	10.59	537.7	7.41	737.4	5.61		
142.4	16.36	342.4	10.50	542.5	7.35	742.6	5.58		
147.7	16.21	347.4	10.37	547.6	7.27	747.3	5.57		
152.6	16.06	352.4	10.28	552.7	7.21	752.7	5.51		
157.6	15.95	357.5	10.17	557.5	7.21	757.5	5.49		
162.5	15.79	362.5	10.07	562.7	7.17	762.4	5.47		
167.4	15.39	367.5	10.01	567.3	7.19	767.7	5.44		
172.7	15.13	372.6	9.90	572.6	7.04	772.6	5.44		
177.6	14.94	377.6	9.83	577.4	7.01	777.9	5.43		
182.5	14.73	382.6	9.77	582.5	6.94	782.6	5.42		
187.5	14.61	387.7	9.61	587.6	6.88	787.5	5.41		
192.5	14.47	392.7	9.51	592.4	6.83	792.4	5.40		
197.4	14.34	397.4	9.37	597.6	6.80	797.5	5.37		

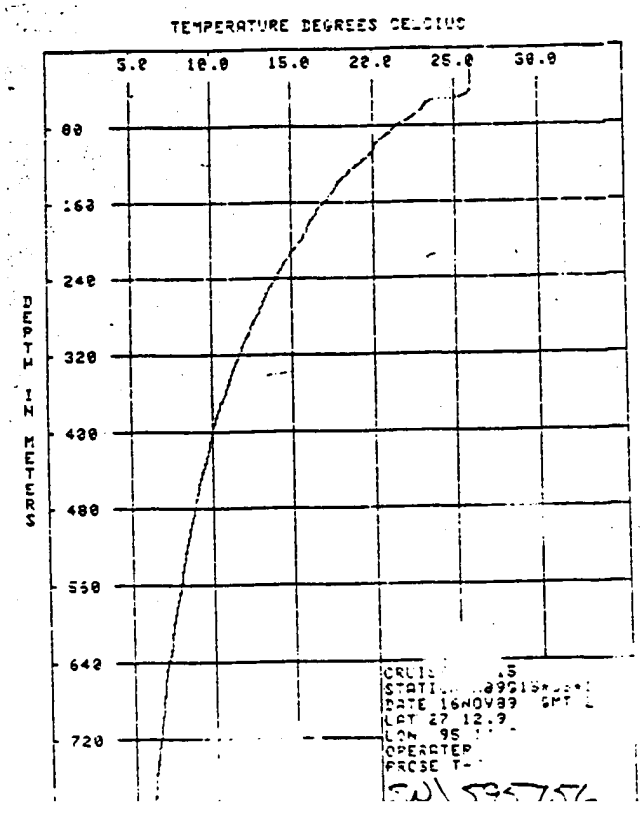


LAT 27 12.9 LON 95 14.7

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15+38+1 DATE 16NOV89 GMT 2147

Z	T	Z	T	Z	T	Z	T	Z	T
1.0	26.07	[illegible]	[illegible]	402.5	9.45	802.1	7.01	802.6	6.67
5.9	26.03	[illegible]	[illegible]	407.5	9.37	807.5	6.98		
10.9	25.94	212.6	14.45	412.6	9.30	812.5	6.96		
15.9	25.87	217.6	14.26	417.7	9.05	817.7	6.94		
20.4	25.84	222.6	14.07	422.4	9.20	822.6	6.90		
25.9	25.83	227.6	13.89	427.5	9.10	827.5	6.87		
31.0	25.87	232.6	13.73	432.5	9.06	832.6	6.79		
35.9	25.82	237.6	13.53	437.6	8.98	837.1	6.72		
42.5	25.20	242.4	13.39	442.6	8.87	842.6	6.67		
47.7	24.98	247.4	13.18	447.4	8.81	847.4	6.58		
52.6	27.96	252.7	12.98	452.5	8.71	852.6	6.53		
57.5	22.60	257.7	12.83	457.5	8.65	857.3	6.49		
62.7	22.35	262.7	12.70	462.5	8.60	862.6	6.45		
67.5	22.08	267.7	12.60	467.7	8.57	867.4	6.45		
72.4	21.64	272.6	12.45	472.4	8.46	872.6	6.43		
77.7	21.07	277.6	12.34	477.5	8.40	877.3	6.33		
82.5	20.72	282.6	12.17	482.6	8.35	882.6	6.34		
87.4	20.42	287.6	11.99	487.4	8.31	887.5	6.33		
92.7	20.09	292.6	11.86	492.5	8.24	892.7	6.32		
97.6	19.63	297.6	11.75	497.5	8.16	897.5	6.27		
102.5	19.45	302.6	11.60	502.6	8.09	902.7	6.24		
107.7	19.30	307.6	11.48	507.7	8.03	907.5	6.19		
112.6	19.03	312.6	11.32	512.5	7.97	912.4	6.14		
117.5	18.71	317.6	11.24	517.6	7.92	917.6	6.13		
122.4	18.37	322.6	11.09	522.7	7.85	922.9	6.04		
127.4	17.96	327.6	10.93	527.5	7.81	927.5	6.02		
132.6	17.71	332.7	10.87	532.6	7.79	932.6	5.99		
137.5	17.49	337.7	10.74	537.7	7.71	937.4	5.96		
142.4	17.21	342.4	10.65	542.5	7.66	942.6	5.92		
147.7	17.01	347.4	10.56	547.6	7.61	947.3	5.89		
152.6	16.79	352.4	10.46	552.7	7.57	952.7	5.87		
157.5	16.61	357.5	10.38	557.5	7.55	957.5	5.83		
162.5	16.36	362.5	10.27	562.7	7.50	962.4	5.80		
167.4	16.07	367.5	10.14	567.5	7.44	967.5	5.78		
172.7	15.91	372.6	9.98	572.4	7.37	972.4	5.74		
177.6	15.77	377.6	9.90	577.4	7.31	977.4	5.77		
182.6	15.62	382.6	9.80	582.5	7.27	982.6	5.72		
187.5	15.40	387.7	9.69	587.6	7.21	987.5	5.69		
192.5	15.30	392.7	9.63	592.4	7.14	992.4	5.67		
[illegible]	15.14	397.4	9.40	597.6	7.10	997.7	5.[illegible]		

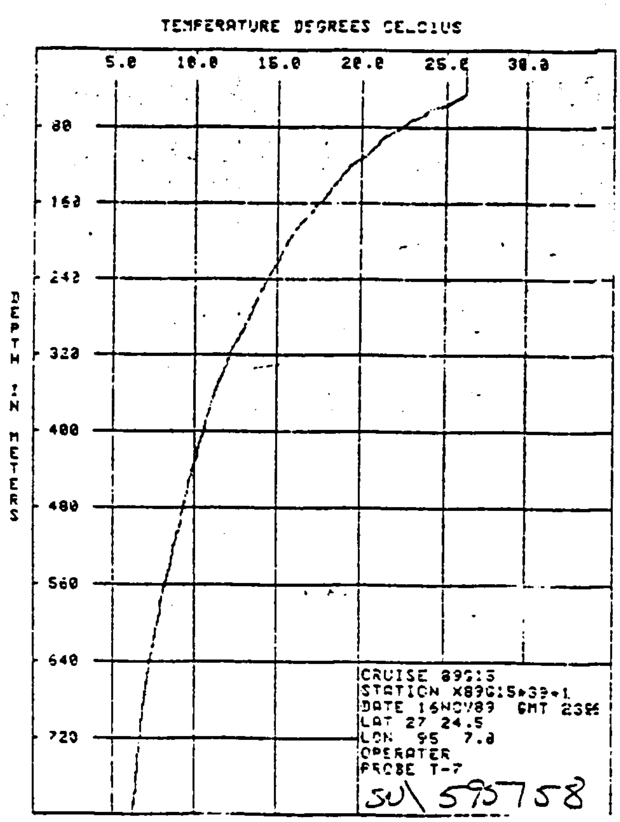


LAT 27 24.5 LON 95 7.8

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89G15 STATION X89G15*39*1 DATE 16NOV89 GMT 2356

D	T	D	T	D	T	D	T	D	T
2.5	25.19	[illegible]	[illegible]	402.5	10.01	[illegible]	[illegible]	[illegible]	[illegible]
7.5	25.40	[illegible]	[illegible]	407.5	9.90	[illegible]	7.13		
12.6	25.40	211.6	14.77	412.6	9.80	612.7	7.07		
17.5	25.40	217.6	14.62	417.7	9.71	[illegible]	[illegible]		
22.4	25.41	221.5	14.53	422.4	9.65	622.6	[illegible]		
27.5	25.40	227.5	14.28	427.7	9.62	627.5	[illegible]		
32.8	25.40	231.5	14.10	432.5	9.53	632.6	[illegible]		
37.6	25.40	237.5	13.98	437.6	9.41	[illegible]	[illegible]		
42.5	25.40	242.4	13.85	442.6	9.31	642.5	[illegible]		
47.7	25.22	247.4	13.66	[illegible]	[illegible]	647.4	6.77		
52.6	24.76	252.7	13.52	452.5	9.16	652.6	6.67		
57.5	24.20	257.7	13.36	457.5	9.09	657.8	6.63		
62.7	23.31	262.7	13.25	462.6	9.02	662.6	6.57		
67.5	22.98	267.7	13.11	467.7	8.95	667.4	6.53		
72.4	22.41	272.6	13.00	472.4	8.88	672.6	6.49		
77.7	21.93	277.6	12.88	477.5	8.79	[illegible]	[illegible]		
82.5	21.58	282.6	12.76	482.6	8.71	[illegible]	[illegible]		
87.4	21.04	287.6	12.58	[illegible]	[illegible]	[illegible]	[illegible]		
92.7	20.60	291.6	12.41	[illegible]	[illegible]	692.7	[illegible]		
97.6	[illegible]	[illegible]	[illegible]	497.5	[illegible]	[illegible]	[illegible]		
102.5	20.17	302.6	12.15	502.6	8.51	702.7	[illegible]		
107.7	19.72	307.6	11.99	507.7	[illegible]	707.5	6.25		
112.6	19.46	312.6	11.80	511.5	8.34	712.4	6.23		
117.5	[illegible]	317.6	11.68	517.6	8.25	717.6	6.21		
122.4	18.61	322.6	11.61	522.7	8.19	722.6	6.19		
127.4	18.39	327.7	11.50	527.5	8.13	727.7	6.16		
132.6	[illegible]	332.7	11.39	532.6	8.07	732.5	6.13		
137.5	17.94	337.7	11.27	537.7	8.01	737.4	6.10		
142.4	17.69	342.4	11.14	542.5	7.99	742.6	6.06		
147.7	17.46	347.4	11.03	547.6	7.89	747.3	[illegible]		
152.6	17.24	352.4	10.90	552.7	7.82	752.7	6.03		
157.6	17.03	357.5	10.80	557.5	7.74	757.5	6.00		
162.5	16.74	361.5	10.70	562.7	7.65	762.4	5.97		
167.4	16.52	367.5	10.58	567.8	7.58	767.3	5.94		
172.7	16.25	372.6	10.46	572.6	7.53	772.6	[illegible]		
177.6	16.00	377.6	10.38	577.4	7.47	777.7	5.92		
182.6	15.74	382.6	10.28	582.5	7.40	782.6	5.88		
187.5	15.54	387.7	10.21	587.6	7.39	787.5	[illegible]		
192.5	15.40	392.7	10.14	592.4	7.35	792.4	5.81		
197.4	15.19	397.4	10.10	597.6	7.27	797.3	5.79		



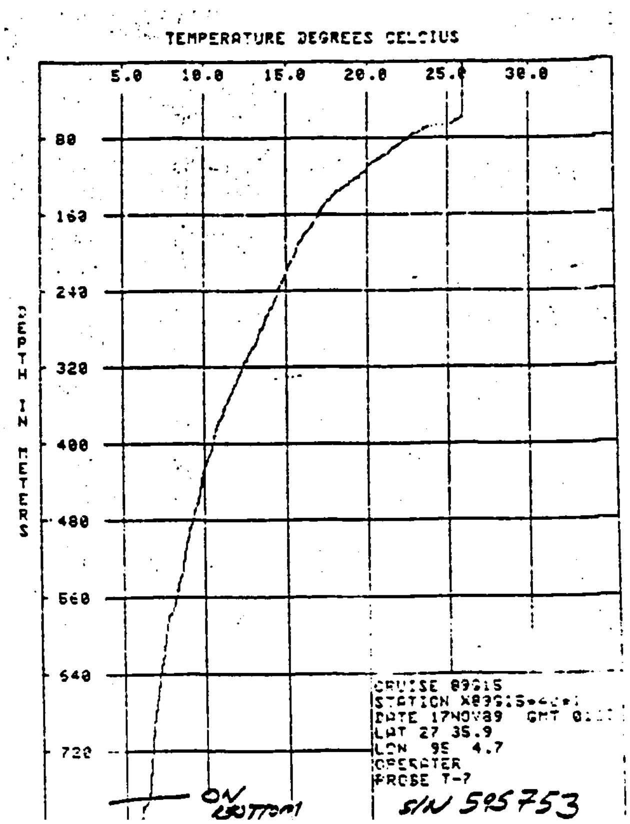
LAT 27 35.9 LON 95 4.7

EXPENDABLE BATHYTHERMOGRAPH

PROBE T-7 CRUISE 89915 STATION X89915*40*1 DATE 17NOV89 GMT 0135

Z	T	Z	T	Z	T	Z	T	Z	T
2.6	24.84	[illegible]	[illegible]	402.5	9.97	602.7	7.03	~~[illegible]~~	~~[illegible]~~
7.5	25.21	[illegible]	14.92	407.5	9.89	607.5	7.01		
12.6	25.22	211.6	14.62	412.6	9.79	612.3	6.96		
17.5	25.12	217.6	14.46	417.7	9.65	617.5	6.92		
22.4	25.22	222.5	14.39	422.4	9.55	622.6	6.89		
27.5	25.22	227.5	14.27	427.5	9.47	627.5	6.81		
32.8	25.21	232.5	14.14	432.5	9.39	632.6	6.75		
37.6	25.21	237.5	13.99	437.6	9.32	637.3	6.71		
42.5	25.21	242.4	13.87	442.6	9.29	642.6	6.67		
47.7	25.21	247.4	13.80	447.4	9.22	647.4	6.62		
52.6	25.20	252.7	13.66	452.5	9.16	652.6	6.59		
57.5	25.17	257.7	13.54	457.5	9.12	657.3	6.55		
62.7	24.87	262.7	13.36	462.6	9.05	662.6	6.52		
67.5	23.89	267.7	13.19	467.7	8.97	667.4	6.43		
72.4	22.69	272.6	13.10	472.4	8.84	672.6	6.44		
77.7	22.05	277.6	13.00	477.5	8.79	677.3	6.39		
82.5	21.70	282.6	12.93	482.6	8.72	682.6	6.35		
87.4	21.29	287.6	12.72	487.4	8.60	687.5	6.31		
92.7	20.86	292.6	12.62	492.5	8.57	692.7	6.29		
97.6	20.53	297.6	12.51	497.5	8.50	697.5	6.27		
102.5	20.06	302.6	12.32	502.6	8.40	702.7	6.23		
107.7	19.56	307.6	12.14	507.7	8.37	707.5	6.19		
112.6	19.31	312.6	12.01	512.5	8.31	712.4	6.17		
117.5	19.07	317.6	11.86	517.6	8.25	717.6	6.14		
122.4	18.70	322.6	11.76	522.7	8.21	722.8	[illegible]		
127.4	18.35	327.7	11.65	527.7	8.16	[illegible]	[illegible]		
132.6	17.93	332.7	11.52	532.6	8.11	732.5	6.07		
137.5	17.54	337.7	11.41	537.7	8.04	737.4	6.03		
142.4	17.27	342.4	11.28	542.5	7.97	742.6	6.01		
147.7	16.96	347.4	11.15	547.6	7.87	747.3	6.00		
152.6	16.71	352.4	10.99	552.7	7.80	752.7	5.97		
157.6	16.55	357.5	10.90	557.5	7.77	757.5	5.95		
162.5	16.44	362.5	10.72	562.7	7.70	762.4	5.97		
167.4	16.21	367.5	10.60	567.3	7.61	767.7	5.91		
172.7	16.01	372.6	10.52	572.6	7.51	772.6	5.85		
177.6	15.90	377.6	10.37	577.4	7.37	777.7	5.67		
182.6	15.55	382.6	10.24	582.5	7.20	782.6	5.50		
187.5	15.39	387.7	10.16	587.6	7.15	787.5	5.46		
192.5	15.18	392.7	10.11	592.4	7.11	~~[illegible]~~	~~[illegible]~~		
197.4	15.09	397.4	10.05	597.6	7.07	~~[illegible]~~	~~[illegible]~~		

probe hit bottom at ~ 790



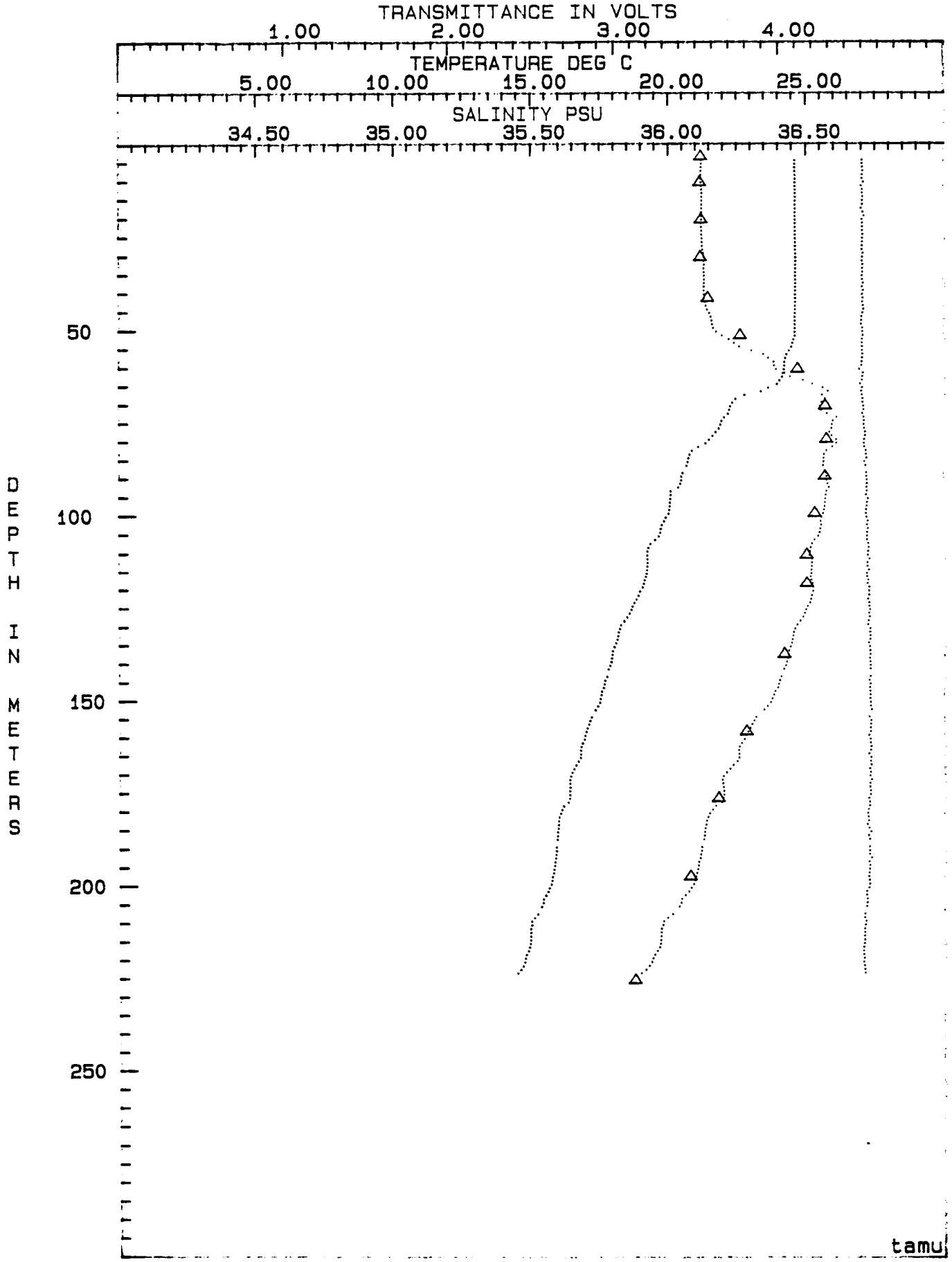
STATION SBE041.AVG:: CRUISE 89g15 DATE & TIME Fri Nov 17 03:37:03 1989, Julian day = 321
LAT 27 48.54 LON 95 04.44 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
4.5	24.600	36.122	24.313	4.503
5.5	24.603	36.122	24.312	4.503
6.5	24.601	36.121	24.312	4.505
7.5	24.604	36.121	24.311	4.507
8.5	24.611	36.120	24.308	4.504
9.5	24.613	36.120	24.307	4.502
10.5	24.611	36.121	24.308	4.511
11.5	24.608	36.122	24.310	4.499
12.5	24.612	36.123	[illegible]	4.504
13.5	24.613	36.124	24.310	4.504
14.5	24.612	36.124	24.310	4.506
15.5	24.617	36.124	[illegible]	[illegible]
16.5	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	24.311	4.507
19.5	24.607	36.122	24.311	4.515
20.5	24.608	36.122	24.311	4.501
21.5	24.608	36.121	24.310	4.504
22.5	24.609	36.122	24.310	4.505
23.5	24.611	36.123	24.310	4.505
24.5	24.612	36.123	24.310	4.506
25.5	24.616	36.125	24.310	4.504
26.5	24.618	36.125	24.309	4.504
27.5	24.615	[illegible]	24.310	4.503
28.5	24.620	36.127	24.311	4.501
29.5	24.621	36.130	24.313	4.507
30.5	24.622	36.132	24.313	4.504
31.5	[illegible]	[illegible]	[illegible]	4.502
[illegible]	[illegible]	[illegible]	24.314	4.506
33.5	24.619	36.131	24.314	4.505
34.5	24.617	36.131	24.314	4.505
35.5	24.619	36.132	24.315	4.501
36.5	24.622	36.132	24.314	4.503
37.5	24.621	36.132	24.314	4.508
38.5	24.612	36.131	24.316	4.502
39.5	24.610	36.131	24.317	4.508
40.5	24.611	36.131	24.316	4.503
41.5	24.616	36.133	24.316	4.506
42.5	24.615	36.135	24.319	4.504
43.5	24.613	36.139	24.322	4.507
44.5	24.608	36.144	24.327	4.510
45.5	24.602	36.150	24.334	4.505
46.5	24.600	36.156	24.339	4.499
47.5	24.599	36.159	24.341	4.498
48.5	24.599	36.161	24.343	4.496
49.5	24.599	36.165	24.345	4.504
50.5	24.599	36.176	24.354	4.505
51.5	24.596	36.197	24.371	4.506
52.5	24.553	36.222	24.402	4.501
53.5	24.513	36.241	24.429	4.500
54.5	24.475	36.260	24.455	4.501
55.5	24.391	36.303	24.513	4.501
56.5	24.295	36.347	24.575	4.504
57.5	24.251	36.365	24.601	4.502
58.5	24.218	36.385	24.627	4.499
59.5	24.214	36.386	24.628	4.498
60.5	24.201	36.393	[illegible]	4.495
61.5	24.163	36.424	24.673	4.507
62.5	24.139	36.444	24.695	4.503
63.5	24.140	36.490	24.769	4.500
64.5	23.954	[illegible]	[illegible]	[illegible]
65.5	23.677	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	4.496
67.5	22.772	36.558	25.184	4.500
68.5	22.449	36.569	25.284	4.505
69.5	22.332	36.556	25.309	4.505
70.5	22.249	36.550	25.327	4.509
71.5	22.215	36.554	25.340	4.510
72.5	22.167	36.575	25.369	4.502
73.5	22.022	36.610	25.437	[illegible]
74.5	21.932	36.596	25.451	4.512
75.5	21.891	36.593	25.461	4.512
76.5	21.839	36.591	25.475	4.514
77.5	21.721	36.584	25.502	4.519
78.5	21.599	36.592	25.542	4.519
79.5	21.477	36.609	[illegible]	[illegible]
80.5	[illegible]	[illegible]	25.624	4.512
81.5	21.084	36.594	[illegible]	4.515
82.5	20.951	36.574	25.735	4.523
83.5	20.751	36.564	25.755	4.525
84.5	20.725	36.563	25.761	4.527
85.5	20.693	36.562	25.769	4.515
86.5	20.643	36.561	25.782	4.522
88.5	20.498	36.572	25.829	4.526
89.5	20.455	36.574	25.843	4.527
90.5	20.447	36.574	25.844	4.530
91.5	20.416	36.578	25.856	4.530
92.5	20.344	36.582	25.879	4.527
93.5	20.065	36.574	25.947	4.530
94.5	20.062	36.571	25.946	4.525
95.5	20.049	36.570	25.948	4.536
96.5	20.035	36.568	25.951	4.531
97.5	20.024	36.567	25.952	4.528
98.5	20.007	36.564	25.955	4.525
99.5	19.979	36.560	25.960	4.525
100.5	19.889	36.555	25.979	4.527
101.5	19.814	36.553	25.998	4.534
102.5	19.735	36.554	26.019	4.529
103.5	19.699	36.551	26.026	4.535
104.5	19.681	36.549	26.029	4.531
105.5	19.616	36.543	26.042	4.530
106.5	19.496	36.530	26.066	4.530
107.5	19.321	36.521	26.102	4.537
108.5	19.241	36.516	26.120	4.540
109.5	19.209	[illegible]	[illegible]	4.536
110.5	19.195	36.512	26.128	4.535
111.5	19.208	36.521	26.132	4.545
112.5	19.210	36.521	26.131	[illegible]
113.5	19.205	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	4.530
117.5	19.100	36.518	26.157	4.536
118.5	19.069	36.522	26.168	4.532
119.5	19.032	36.524	26.190	4.542
120.5	18.933	36.524	26.205	4.540
121.5	18.975	36.519	26.216	4.541
122.5	18.808	36.516	26.231	4.534
123.5	[illegible]	36.513	26.249	4.541
124.5	18.658	36.504	26.260	4.541
125.5	[illegible]	36.499	26.263	4.545
126.5	18.551	36.494	26.290	4.539
127.5	18.463	36.488	26.299	4.544
128.5	18.355	36.478	26.316	4.536
129.5	[illegible]	[illegible]	[illegible]	4.533
[illegible]	[illegible]	36.459	26.340	4.547
131.5	18.149	[illegible]	26.350	4.545
132.5	18.132	36.451	26.353	4.548
133.5	18.104	36.450	26.358	4.547
134.5	18.051	36.446	26.369	4.538
135.5	17.991	36.442	26.380	4.544
136.5	17.930	36.437	26.392	4.545
137.5	17.918	36.434	26.392	4.547
138.5	17.903	36.432	26.394	4.544
139.5	17.878	36.428	26.398	4.545
140.5	17.830	36.425	26.407	4.548
141.5	17.779	36.418	26.415	4.547
143.5	17.723	36.408	26.421	4.546
144.5	17.652	36.403	26.434	4.540
145.5	17.623	36.399	26.439	4.546
146.5	17.601	36.396	26.441	4.544
147.5	17.534	36.386	26.450	4.545
148.5	17.508	36.381	26.453	4.546
149.5	17.487	36.376	26.454	4.545
150.5	17.451	36.370	26.458	4.548
151.5	17.389	36.359	26.465	4.548
152.5	17.299	36.346	26.476	4.554
154.5	17.153	36.317	26.490	4.539
155.5	17.110	36.310	26.495	4.550
156.5	17.066	36.302	26.499	4.549

STATION SBE041.AVG:: CRUISE 89g15 DATE & TIME Fri Nov 17 03:37:03 1989, Julian day = 321
LAT 27 48.54 LON 95 04.44 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
157.5	17.007	36.296	26.509	4.547
158.5	16.965	36.288	26.513	4.549
159.5	16.930	36.281	26.516	4.538
160.5	16.899	36.274	26.518	4.546
161.5	16.828	36.265	26.528	4.547
162.5	16.781	36.256	26.532	4.550
163.5	16.765	36.254	26.534	4.549
164.5	16.772	36.255	26.533	4.539
165.5	16.763	36.255	26.536	4.550
166.5	16.692	36.248	26.547	4.548
167.5	16.594	36.234	26.560	4.551
168.5	16.529	36.222	26.566	4.542
169.5	16.459	36.210	26.573	4.547
170.5	16.400	36.198	26.577	4.544
171.5	16.378	36.193	26.579	4.553
172.5	16.376	36.195	26.581	4.544
173.5	16.375	36.199	26.583	4.543
174.5	16.371	36.200	26.585	4.547
175.5	16.364	36.200	26.587	4.546
176.5	16.362	36.198	26.586	4.536
177.5	16.308	36.191	26.594	4.541
178.5	16.141	36.170	26.616	4.541
179.5	16.084	36.158	26.620	4.534
180.5	16.036	36.148	26.624	4.530
181.5	15.993	36.141	26.630	4.533
182.5	15.965	36.136	26.631	4.535
183.5	15.958	36.134	26.631	4.526
184.5	15.942	36.131	26.632	4.536
185.5	15.930	36.129	26.633	4.549
186.5	15.922	36.128	26.634	4.534
187.5	15.915	36.126	26.635	4.541
189.5	15.876	36.118	26.637	4.539
190.5	15.877	36.117	26.636	4.540
191.5	15.867	36.115	26.637	4.540
192.5	15.845	36.113	26.641	4.552
193.5	15.821	36.108	26.642	4.536
194.5	15.809	36.106	26.647	4.542
195.5	15.791	36.103	26.646	4.539
196.5	15.766	36.100	26.649	4.536
197.5	15.737	36.096	26.652	4.535
198.5	15.717	36.093	26.655	4.538
199.5	15.687	36.089	26.658	4.539
200.5	15.616	36.080	26.667	4.535
201.5	15.570	36.071	26.671	4.522
202.5	15.487	36.057	26.679	4.522
203.5	15.402	36.044	26.688	4.525
204.5	15.396	36.042	26.688	4.525
205.5	15.338	36.035	26.696	4.522
207.5	15.202	36.011	26.709	4.511
208.5	15.091	35.993	26.719	4.508
209.5	14.975	35.978	26.732	4.517
210.5	14.887	35.976	26.739	4.515
211.5	14.944	35.970	26.733	4.509
212.5	14.945	35.969	26.733	4.510
213.5	14.947	35.968	26.732	4.508
214.5	14.939	35.968	26.733	4.510
215.5	14.930	35.966	26.734	4.507
216.5	14.907	35.963	26.736	4.505
217.5	14.858	35.954	26.740	4.502
218.5	14.799	35.945	26.749	4.504
219.5	14.751	35.938	26.752	4.507
220.5	14.729	35.934	26.753	4.503
221.5	14.673	35.925	26.758	4.508
222.5	14.536	35.913	26.768	4.510
223.5	14.473	35.896	26.780	4.512

DEPTH	TEMP	SALT	SIGMA-T	XSM



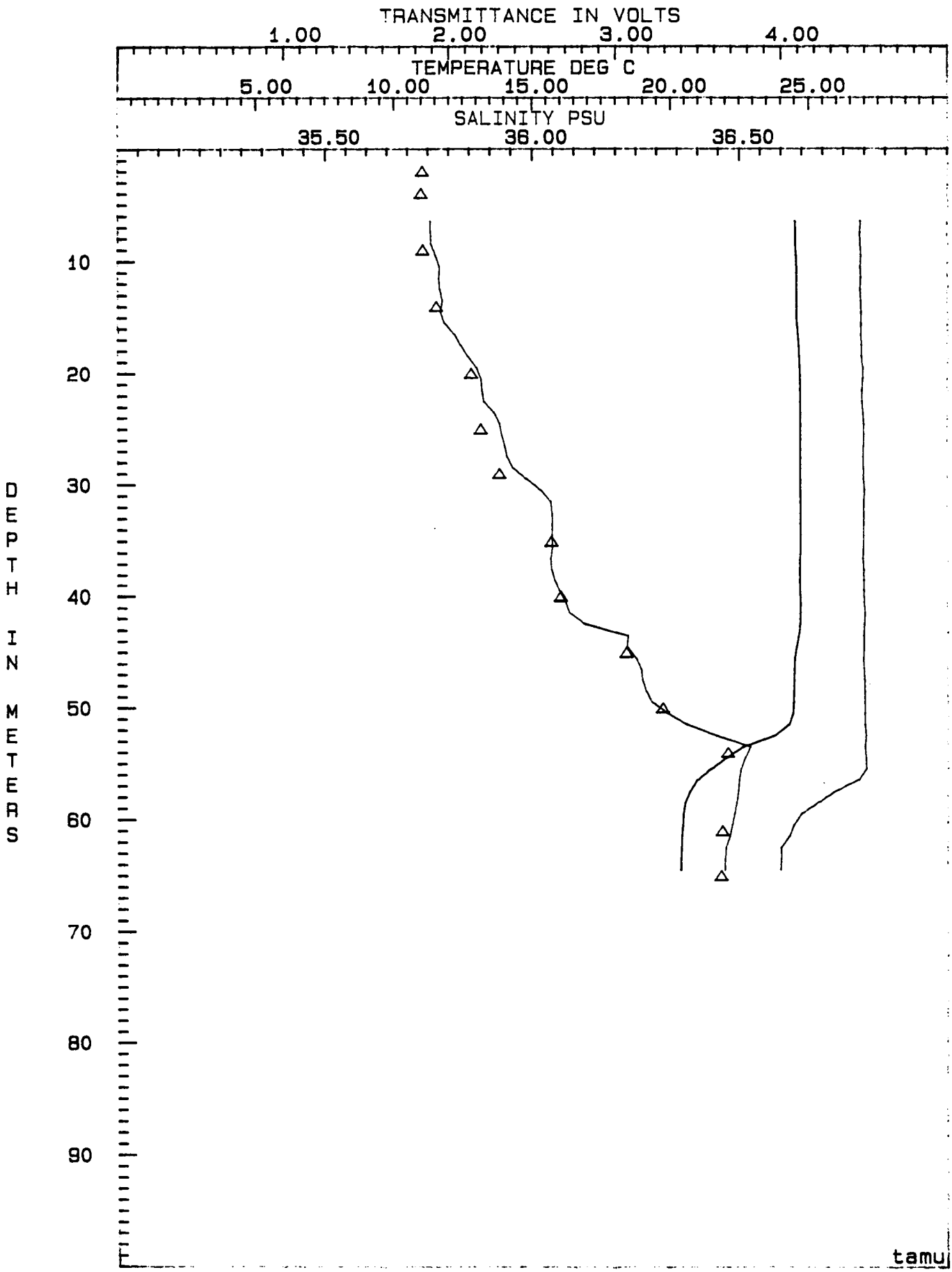
CRUISE: 89g15 STATION: SBE041.A DATE: Nov 17 03:37:03 1989
LATITUDE: 27 48.54 LONGITUDE: 95 04.44
TRIANGLES DENOTE DISCRETE SAMPLES

CTD cast over continental shelf to collect water for primary production expt
(cast to 65m; water depth = 70m)

STATION SBE042.AVG:: CRUISE 89g15 DATE & TIME Fri Nov 17 12:02:40 1989, Julian day = 321
LAT 27 40.97 LON 96 19.0 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
6.5	24.502	35.754	24.064	4.471
7.5	24.503	35.756	24.065	4.467
8.5	24.504	35.756	24.065	4.469
9.5	24.528	35.767	24.066	4.475
10.5	24.549	35.777	24.067	4.470
11.5	24.545	35.775	24.067	4.473
12.5	24.544	35.777	24.069	4.470
13.5	24.555	35.784	24.071	4.474
14.5	24.547	35.779	24.070	4.476
15.5	24.560	35.788	24.073	4.476
16.5	24.601	35.813	24.079	4.475
17.5	24.622	35.827	24.083	4.478
18.5	24.642	35.845	24.091	4.478
19.5	24.664	35.866	24.100	4.487
20.5	24.675	35.877	24.105	4.486
21.5	24.678	35.879	24.106	4.481
22.5	24.680	35.883	24.108	4.481
23.5	24.682	35.908	24.126	4.487
24.5	24.682	35.921	24.136	4.491
25.5	24.682	35.926	24.140	4.492
26.5	24.682	35.934	24.146	4.489
27.5	24.682	35.939	24.150	4.488
28.5	24.685	35.954	24.160	4.490
29.5	24.690	35.986	24.183	4.491
30.5	24.690	36.019	24.208	4.496
31.5	24.694	36.044	24.226	4.492
32.5	24.696	36.047	24.227	4.494
33.5	24.696	36.048	24.227	4.493
34.5	24.696	36.048	24.227	4.491
35.5	24.696	36.048	24.228	4.492
36.5	24.680	36.044	24.230	4.488
37.5	24.668	36.046	24.235	4.493
38.5	24.668	36.054	24.240	4.493
39.5	24.674	36.064	24.247	4.492
40.5	24.688	36.079	24.254	4.494
41.5	24.685	36.090	24.263	4.498
42.5	24.667	36.125	24.295	4.494
43.5	24.614	36.230	24.390	4.490
44.5	24.542	36.227	24.410	4.492
45.5	24.469	36.249	24.449	4.488
46.5	24.455	36.262	24.462	4.492
47.5	24.449	36.265	24.466	4.495
48.5	24.439	36.274	24.476	4.496
49.5	24.432	36.288	24.489	4.496
50.5	24.402	36.326	24.527	4.496
51.5	24.271	36.372	24.601	4.497
52.5	23.746	36.444	24.812	4.504
53.5	22.615	36.526	25.205	4.497
54.5	22.000	36.514	25.370	4.504
55.5	21.440	36.503	25.519	4.506

DEPTH	TEMP	SALT	SIGMA-T	XSM
56.5	20.942	36.498	25.653	4.461
57.5	20.675	36.497	25.724	4.323
58.5	20.501	36.493	25.768	4.221
59.5	20.437	36.487	25.781	4.119
60.5	20.414	36.482	25.783	4.073
61.5	20.379	36.476	25.788	4.047
62.5	20.374	36.466	25.782	3.996
63.5	20.355	36.465	25.786	3.996
64.5	20.358	36.464	25.785	3.993

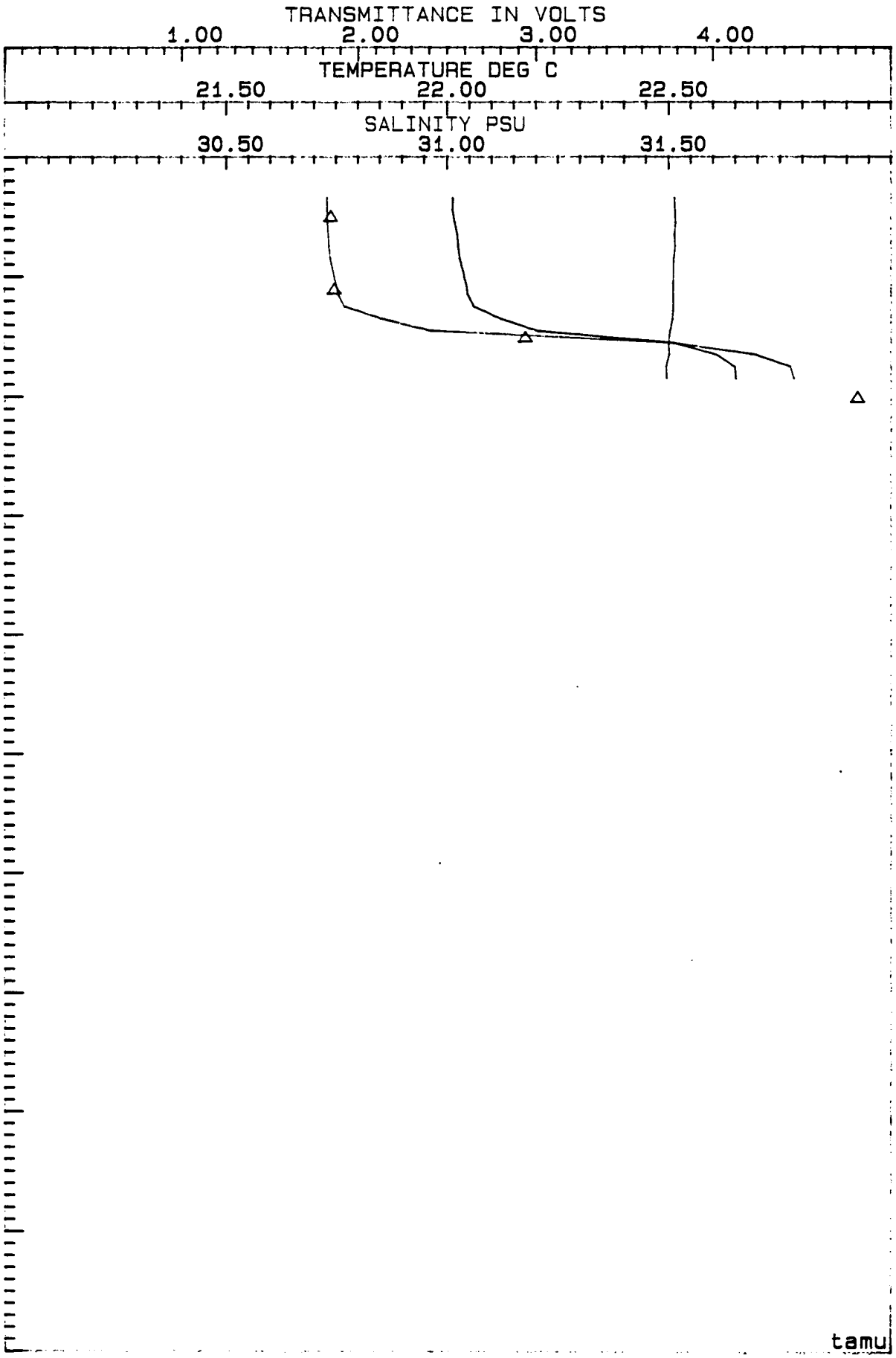


CRUISE: 89g15 STATION: SBE042.A DATE: Nov 17 12: 02: 40 1989
LATITUDE: 27 40.97 LONGITUDE: 96 19.0
TRIANGLES DENOTE DISCRETE SAMPLES

TRANSECT OF CONTINENTAL SHELF OFF CORPUS CHRISTI BAY: 20m STATION

STATION SBE043.AVG:: CRUISE 89g15 DATE & TIME Fri Nov 17 21:03:34 1989, Julian day = 321
LAT 27 39.42 LON 97 01.65 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
3.5	22.012	30.729	20.974	3.782
4.5	22.011	30.729	20.974	3.785
5.5	22.016	30.730	20.974	3.787
6.5	22.022	30.731	20.974	3.781
7.5	22.024	30.733	20.974	3.785
8.5	22.027	30.736	20.975	3.777
10.5	22.041	30.748	20.980	3.773
11.5	22.046	30.754	20.984	3.775
12.5	22.060	30.768	20.991	3.775
13.5	22.120	30.851	21.037	3.771
14.5	22.203	30.962	21.099	3.756
15.5	22.511	31.500	21.421	3.748
16.5	22.607	31.691	21.539	3.752
17.5	22.649	31.772	21.588	3.735
18.5	22.650	31.781	21.594	3.738

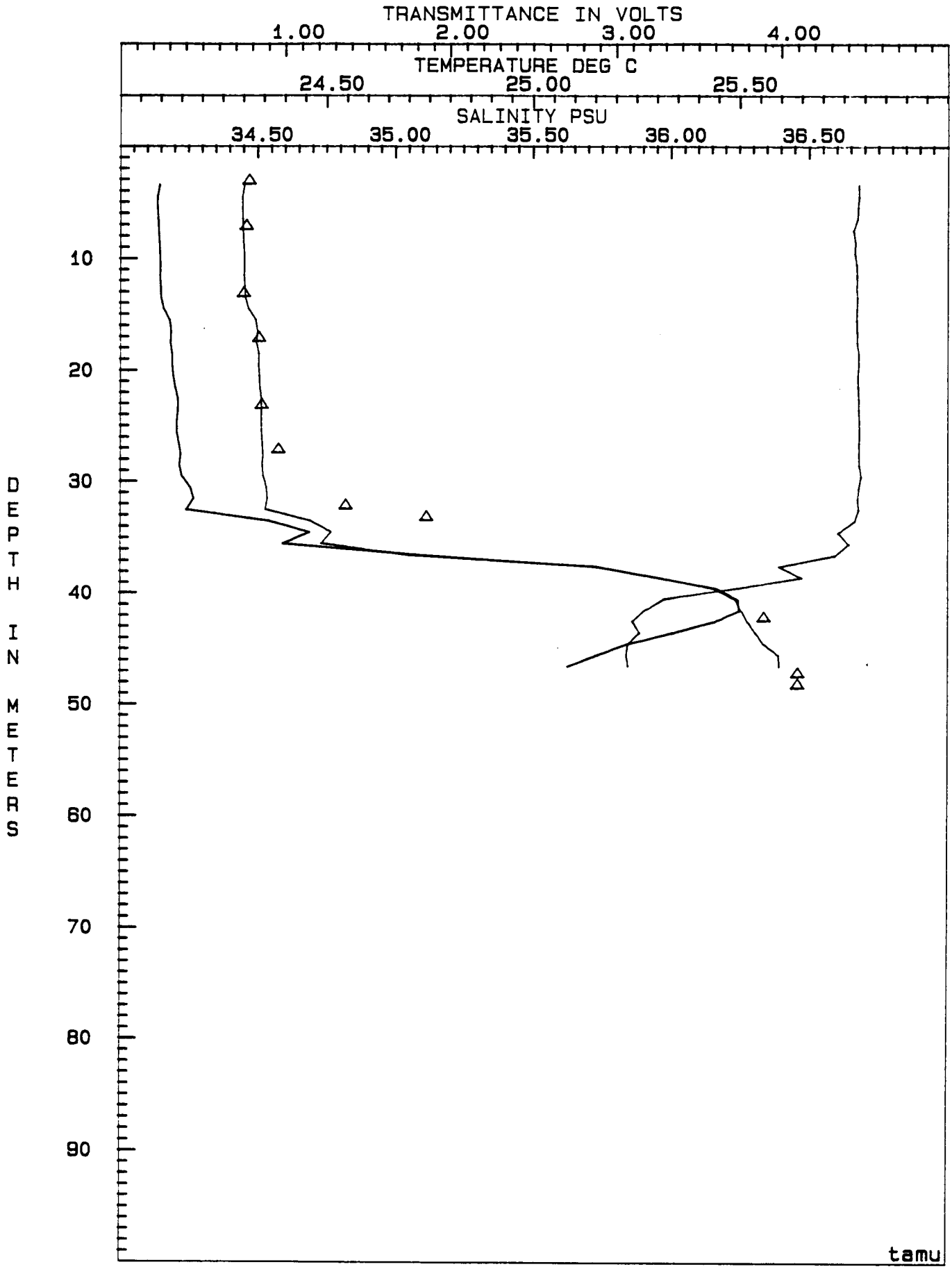


CRUISE: 89g15 STATION: SBE043.A DATE: Nov 17 21:03:34 1989
LATITUDE: 27 39.42 LONGITUDE: 97 01.65
TRIANGLES DENOTE DISCRETE SAMPLES

TRANSECT OF CONTINENTAL SHELF OFF CORPUS CHRISTI BAY: 50m STATION

STATION SBE044.AVG:: CRUISE 89g15 DATE & TIME Sat Nov 18 04:36:04 1989. Julian day = 322
LAT 27 30.42 LON 96 42.45 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
3.5	24.096	34.452	23.200	4.462
4.5	24.090	34.446	23.197	4.462
5.5	24.091	34.446	23.197	4.457
6.5	24.093	34.447	23.197	4.454
7.5	24.094	34.448	23.197	4.429
8.5	24.095	34.449	23.198	4.441
9.5	24.097	34.452	23.200	4.439
10.5	24.098	34.453	23.200	4.449
11.5	24.097	34.451	23.199	4.452
12.5	24.098	34.455	23.201	4.450
13.5	24.100	34.456	23.202	4.455
14.5	24.106	34.467	23.208	4.451
15.5	24.121	34.493	23.224	4.450
16.5	24.124	34.501	23.228	4.453
17.5	24.122	34.496	23.225	4.454
18.5	24.127	34.505	23.231	4.462
19.5	24.127	34.504	23.230	4.462
20.5	24.130	34.507	23.232	4.456
21.5	24.134	34.508	23.231	4.469
22.5	24.141	34.514	23.234	4.462
23.5	24.141	34.514	23.234	4.462
24.5	24.138	34.514	23.234	4.466
25.5	24.138	34.514	23.235	4.466
26.5	24.143	34.517	23.235	4.465
27.5	24.147	34.519	23.236	4.465
28.5	24.144	34.517	23.235	4.466
29.5	24.150	34.521	23.236	4.477
30.5	24.171	34.532	23.239	4.464
31.5	24.179	34.536	23.239	4.456
32.5	24.162	34.528	23.238	4.462
33.5	24.360	34.689	23.301	4.439
34.5	24.458	34.766	23.330	4.341
35.5	24.394	34.730	23.322	4.405
36.5	24.733	35.042	23.456	4.322
37.5	25.153	35.721	23.842	3.988
38.5	25.306	35.953	23.970	4.123
39.5	25.444	36.150	24.077	3.748
40.5	25.496	36.234	24.124	3.290
41.5	25.499	36.257	24.140	3.171
42.5	25.439	36.278	24.175	3.096
43.5	25.335	36.308	24.229	3.141
44.5	25.227	36.337	24.284	3.069
45.5	25.154	36.390	24.347	3.060
46.5	25.083	36.393	24.371	3.071

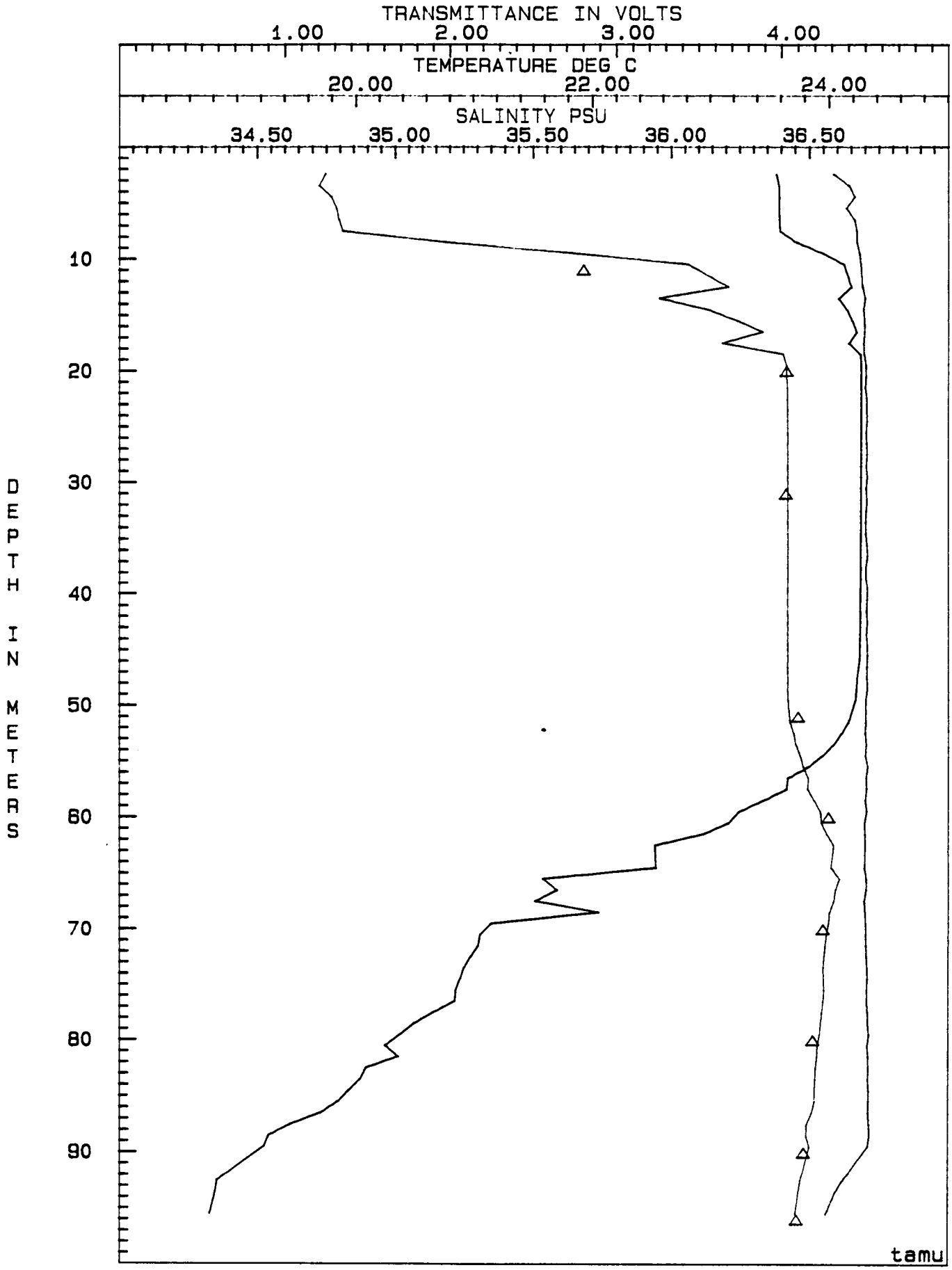


CRUISE: 89g15 STATION: SBE044.A DATE: Nov 18 04:36:04 1989
LATITUDE: 27 30.42 LONGITUDE: 96 42.45
TRIANGLES DENOTE DISCRETE SAMPLES

TRANSECT OF CONTINENTAL SHELF OFF CORPUS CHRISTI BAY: 100m STATION

STATION SBE045.AVG:: CRUISE 89G15 DATE & TIME Sat Nov 18 09:15:53 1989, Julian day = 322
LAT 27 21.8 LON 96 26.4 DEPTH OFFSET 0.0

DEPTH	TEMP	SALT	SIGMA-T	XSM
2.5	23.554	34.747	23.583	4.307
3.5	23.576	34.724	23.558	4.400
4.5	23.579	34.768	23.591	4.435
5.5	23.579	34.786	23.605	4.384
6.5	23.580	34.795	23.612	4.433
7.5	23.585	34.808	23.620	4.447
8.5	23.724	35.179	23.860	4.446
9.5	23.944	35.637	24.142	4.463
10.5	24.120	36.061	24.411	4.471
12.5	24.192	36.210	24.505	4.481
13.5	24.075	35.956	24.344	4.497
14.5	24.146	36.134	24.458	4.487
15.5	24.190	36.241	24.526	4.494
16.5	24.226	36.333	24.585	4.494
17.5	24.160	36.186	24.494	4.488
18.5	24.258	36.405	24.630	4.491
19.5	24.264	36.418	24.638	4.502
20.5	24.263	36.419	24.639	4.503
21.5	24.264	36.421	24.640	4.498
22.5	24.264	36.421	24.641	4.506
23.5	24.264	36.422	24.641	4.506
24.5	24.264	36.422	24.641	4.509
25.5	24.263	36.422	24.641	4.503
26.5	24.264	36.422	24.641	4.506
27.5	24.264	36.422	24.641	4.509
28.5	24.263	36.422	24.642	4.505
29.5	24.263	36.422	24.641	4.511
30.5	24.263	36.422	24.642	4.504
31.5	24.263	36.423	24.642	4.509
32.5	24.263	36.423	24.642	4.505
33.5	24.262	36.423	24.642	4.501
34.5	24.261	36.423	24.643	4.502
35.5	24.260	36.423	24.643	4.509
36.5	24.260	36.423	24.643	4.513
37.5	24.260	36.423	24.643	4.503
38.5	24.260	36.423	24.643	4.502
39.5	24.257	36.423	24.644	4.511
40.5	24.255	36.422	24.644	4.508
41.5	24.254	36.422	24.644	4.505
42.5	24.254	36.422	24.644	4.509
43.5	24.252	36.422	24.645	4.505
44.5	24.251	36.422	24.645	4.508
45.5	24.250	36.422	24.645	4.510
46.5	24.242	36.421	24.647	4.507
47.5	24.228	36.422	24.652	4.506
48.5	24.223	36.422	24.653	4.510
49.5	24.215	36.423	24.656	4.500
51.5	24.155	36.430	24.680	4.500
52.5	24.100	36.444	24.707	4.497
53.5	24.032	36.451	24.733	4.505
54.5	23.942	36.467	24.772	4.499
55.5	23.823	36.478	24.815	4.513
56.5	23.651	36.497	24.881	4.504
57.5	23.640	36.494	24.882	4.506
58.5	23.448	36.518	24.956	4.498
59.5	23.243	36.541	25.034	4.507
60.5	23.150	36.544	25.063	4.495
61.5	22.935	36.563	25.140	4.496
62.5	22.527	36.587	25.276	4.497
64.5	22.536	36.578	25.266	4.494
65.5	21.583	36.608	25.559	4.505
66.5	21.701	36.593	25.515	4.504
67.5	21.516	36.589	25.562	4.492
68.5	22.048	36.572	25.401	4.496
69.5	21.147	36.568	25.649	4.501
70.5	21.053	36.561	25.670	4.501
71.5	21.037	36.557	25.671	4.503
72.5	20.973	36.553	25.685	4.505
73.5	20.916	36.549	25.698	4.509
74.5	20.882	36.551	25.709	4.511
75.5	20.846	36.553	25.720	4.504
76.5	20.839	36.549	25.719	4.506
77.5	20.657	36.544	25.765	4.512
78.5	20.493	36.541	25.807	4.513
79.5	20.373	36.537	25.836	4.520
80.5	20.246	36.529	25.864	4.511
81.5	20.356	36.527	25.833	4.515
82.5	20.081	36.522	25.903	4.516
83.5	20.033	36.520	25.914	4.514
84.5	19.934	36.518	25.939	4.517
85.5	19.843	36.518	25.963	4.517
86.5	19.698	36.508	25.994	4.516
87.5	19.446	36.490	26.046	4.522
88.5	19.261	36.489	26.093	4.524
89.5	19.222	36.500	26.112	4.514
92.5	18.827	36.469	26.190	4.364
93.5	18.814	36.462	26.188	4.322
95.5	18.766	36.451	26.192	4.265



CRUISE: 89G15 STATION: SBE045.A DATE: Nov 18 09: 15: 53 1989
LATITUDE: 27 21.8 LONGITUDE: 96 26.4
TRIANGLES DENOTE DISCRETE SAMPLES

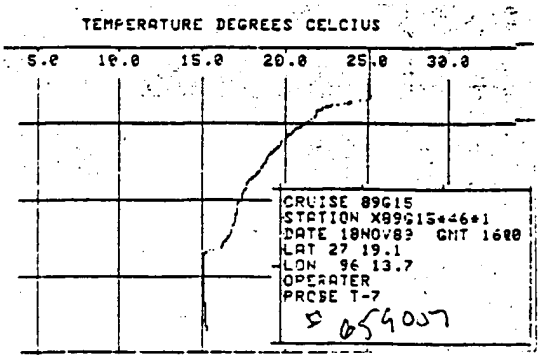
EXPENDABLE BATHYTHERMOGRAPH

DATE 18NOV89 GMT 1600 LAT 27 19.1 LON 96 13.7

PROBE T-7 CRUISE 89G15 STATION X89G15*46*1

Z	T
2.6	24.27
7.5	24.35
12.6	24.73
17.5	24.33
22.4	24.34
27.5	24.36
32.9	24.34
37.6	24.34
42.5	24.36
47.7	24.37
52.6	24.42
57.5	23.84
62.7	21.99
67.5	21.27
72.4	21.09
77.7	20.72
82.5	21.78
87.4	19.38
92.7	18.91
97.6	19.34
102.5	19.07
107.7	18.69
112.6	18.81
117.5	18.26
122.4	18.11
127.4	17.93
132.6	17.71
137.5	17.47
142.4	17.17
147.7	17.02
152.6	16.85
157.6	16.77
162.5	16.62
167.4	16.50
172.7	16.46
177.6	16.42
182.6	16.37
187.5	16.25
192.5	16.14
197.4	16.01

probe on bottom



EXPENDABLE BATHYTHERMOGRAPH

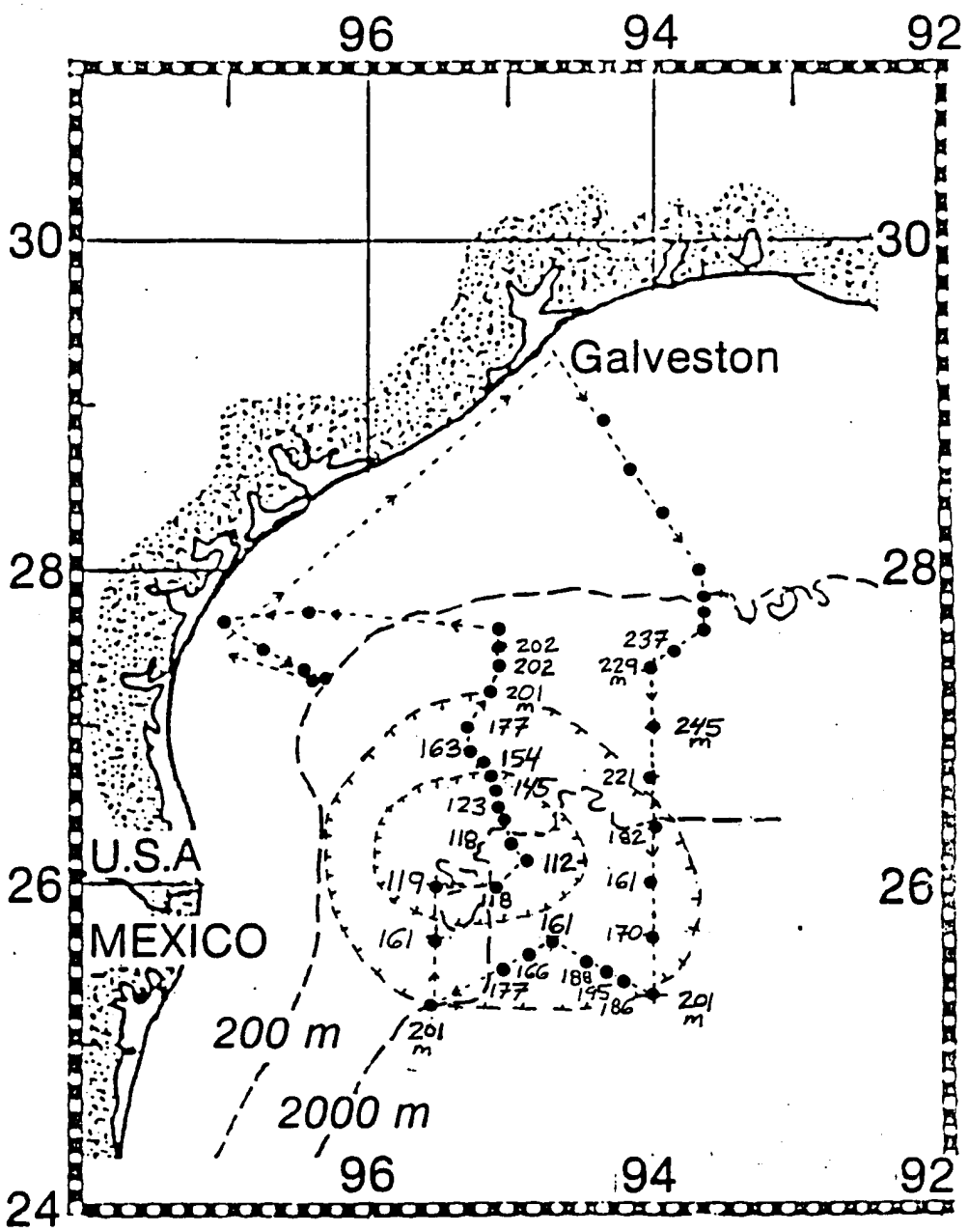
DATE 18NOV89 GMT 1679 LAT 27 15.2 LON 96 16.9

PROBE T-7 CRUISE 89G15 STATION X89G15*47*1

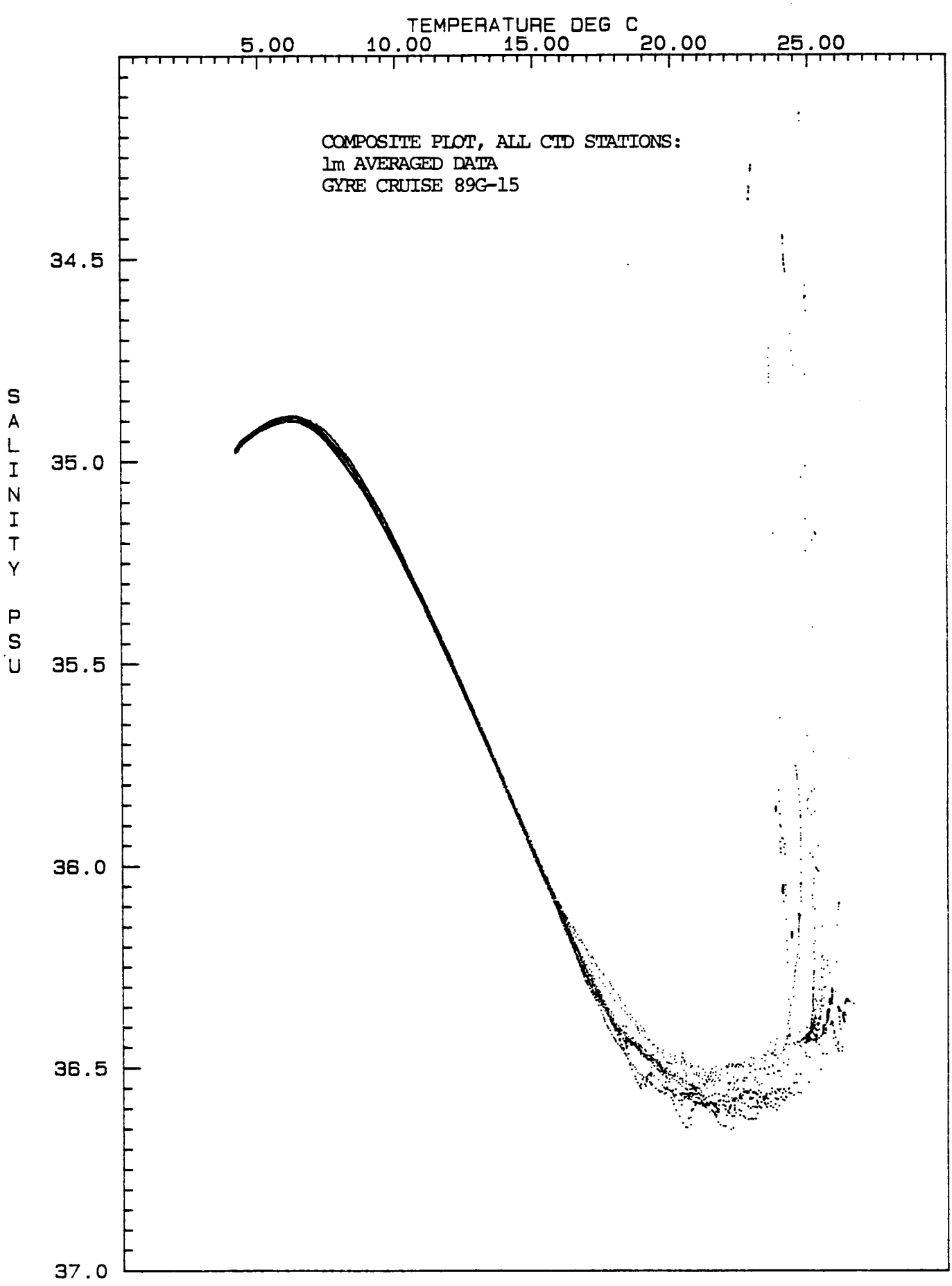
Z	T
2.6	24.24
7.5	24.32
12.6	24.32
17.5	24.30
22.4	24.31
27.5	24.31
32.9	24.31
37.6	24.31
42.5	24.31
47.7	24.31
52.6	24.23
57.5	23.67
62.7	22.69
67.5	21.47
72.4	20.38
77.7	20.85
82.5	20.37
87.4	20.19
92.7	19.80
97.6	19.32
102.5	19.00
107.7	18.69
112.6	18.61
117.5	18.51
122.4	18.59
127.4	18.35
132.6	18.18
137.5	17.98
142.4	17.75
147.7	17.72
152.6	17.62
157.6	17.21
162.5	16.52
167.4	16.47

probe on bottom

WE FINISHED THE TRANSECT OF CONTINENTAL SHELF OFF CORPUS CHRISTI BAY WITH XBTs, WHEN WEATHER/SEA WAS TOO ROUGH TO DEPLOY CTD/ROSETTE PACKAGE



MAP OF THE DEPTH IN METERS TO THE 15C ISOTHERM, FROM XBT DATA WHICH HAVE BEEN TEMPERATURE-CORRECTED BY -0.44C TO CONFORM WITH CTD TEMPERATURE DATA (see Table 1).


TEMPERATURE DEG C
5.00
10.00
15.00
20.00
25.00
COMPOSITE PLOT, ALL CTD STATIONS:
1m AVERAGED DATA
GYRE CRUISE 89G-15
SALINITY PSU
34.5
35.0
35.5
36.0
36.5
37.0

BOTTLE DATA

At each CTD station, up to twenty-four 10-liter Niskin bottles were tripped on the upcast for analysis of nutrients, dissolved oxygen, and chlorophyll + acid degradation products. Nutrient analyses for nitrate + nitrite, silicate and phosphate were carried out on board, with our Technicon TrAAcs-800 autoanalyzer. Dissolved oxygen was determined by a modified Winkler titration method, and pigments were estimated by the "Turner" fluorometric method (see Parsons et al, 1985).

The following tables and plots summarize chlorophyll, dissolved oxygen, and nutrient analyses run at sea on these samples. In the tables, T = CTD temp; S = bottle salinity; and DO = dissolved oxygen (ml/liter). Concentrations of nutrients are reported as µmoles/liter, where NO3 + NO2 = nitrate + nitrite; SiO3 = silicate; and PO4 = phosphate. Concentrations of chlorophyll (CHL) and total phaeopigments (PHAEO) are reported after sequential fractionation through 20um mesh and GF/F filters; for each depth, the upper number of each pair presents net CHL or net PHAEO (ug/liter retained by a 20um mesh filter); the lower number is nano (ug/liter that passed through a 20um mesh filter but was retained by the GF/F filter).

Cumulative property-property plots for all CTD stations illustrating nitrate-temperature, phosphate-temperature, and silicate-temperature relationships are included at the end of this section.

GMT 2038
11 NOV 89

28 53.7
94 20.8

B89GIS
STATION 1

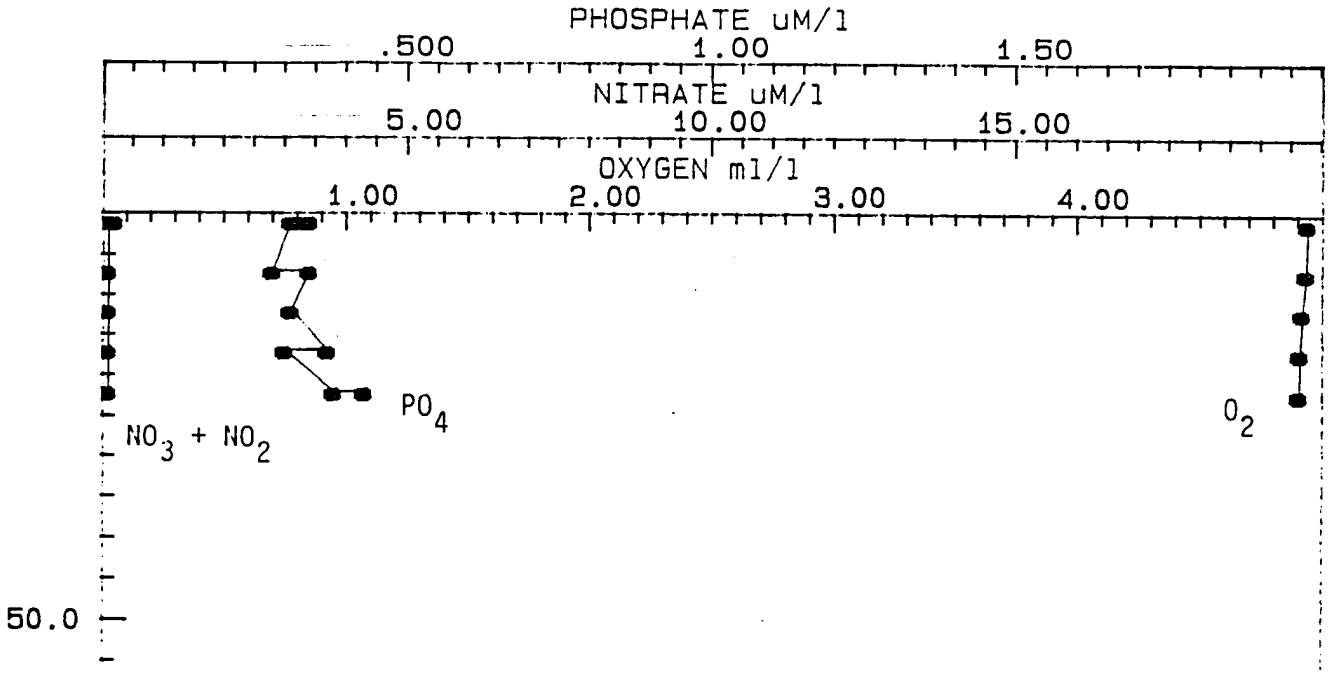
BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
15	1	22.93	34.255	4.94	0.2	0.6	0.32	0.03 / 0.20	0.01 / 0.03
14	1	22.93	34.257	4.94	0.1	0.5	0.34	0.04 / 0.29	0.004 / 0.02
13	1	22.93	34.258	4.94	0.2	0.5	0.34	(NA) / (NA)	(NA) / (NA)
12	1	22.93	34.257	4.94	0.1	1.3	0.31	(NA) / (NA)	(NA) / (NA)
11	7	22.93	34.278	4.94	0.1	1.0	0.28	0.04 / 0.21	<0.01 / 0.03
10	7	22.93	34.286	4.92	0.1	1.0	0.34	0.04 / 0.22	0.01 / 0.04
9	12	22.87	34.324	4.92	0.1	1.2	0.31	0.07 / 0.20	0.01 / 0.045
8	12	22.87	34.323	4.92	0.1	1.2	0.31	0.07 / 0.21	<0.01 / 0.02
7	17	22.84	34.346	4.91	0.1	1.2	0.37	0.16 / 0.1	0.01 / 0.03
6	17	22.84	34.346	4.91	0.1	1.4	0.30	0.11 / 0.26	(NA) / 0.04
5	22	22.84	34.353	4.91	0.1	1.7	0.38	0.14 / 0.28	<0.01 / 0.06
4	22	22.84	34.353	4.91	0.1	1.5	0.43	(NA) / 0.26	<0.01 / 0.05
								22 M ∫ CHL = ∫ i=0	about 6

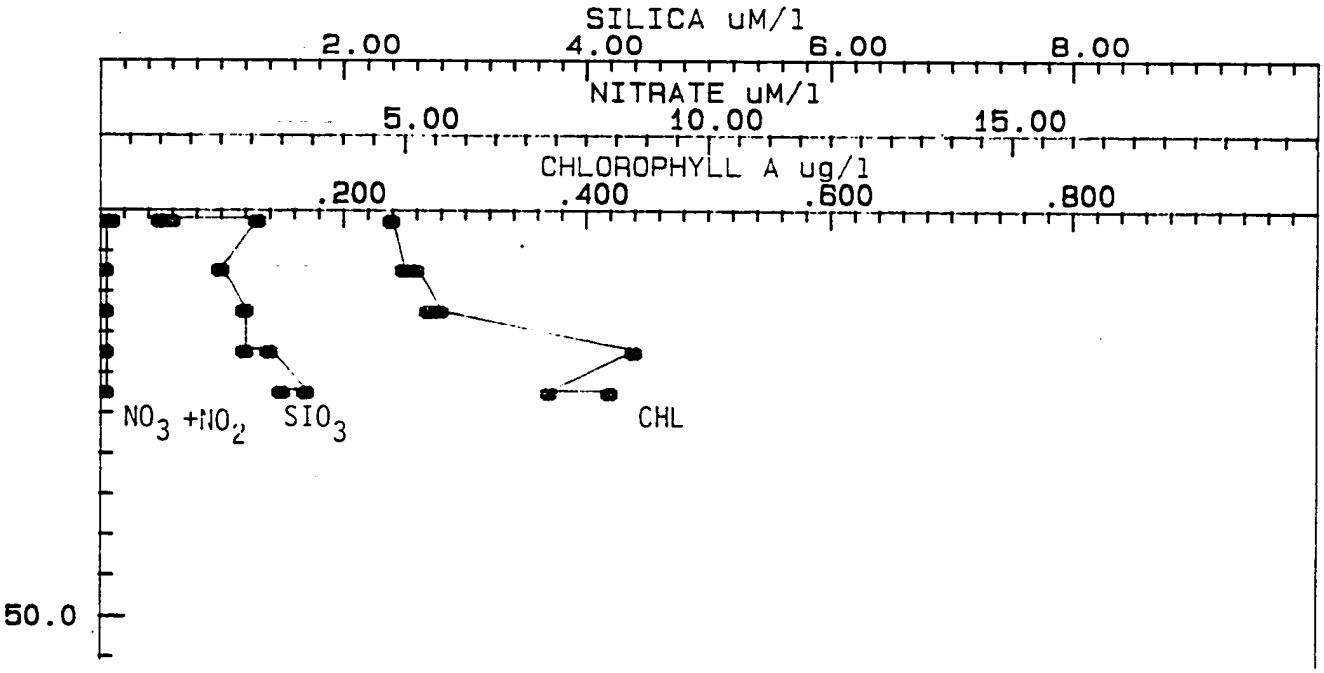
GMT 0555
12 NOV 89

28 23.3
93 56.2

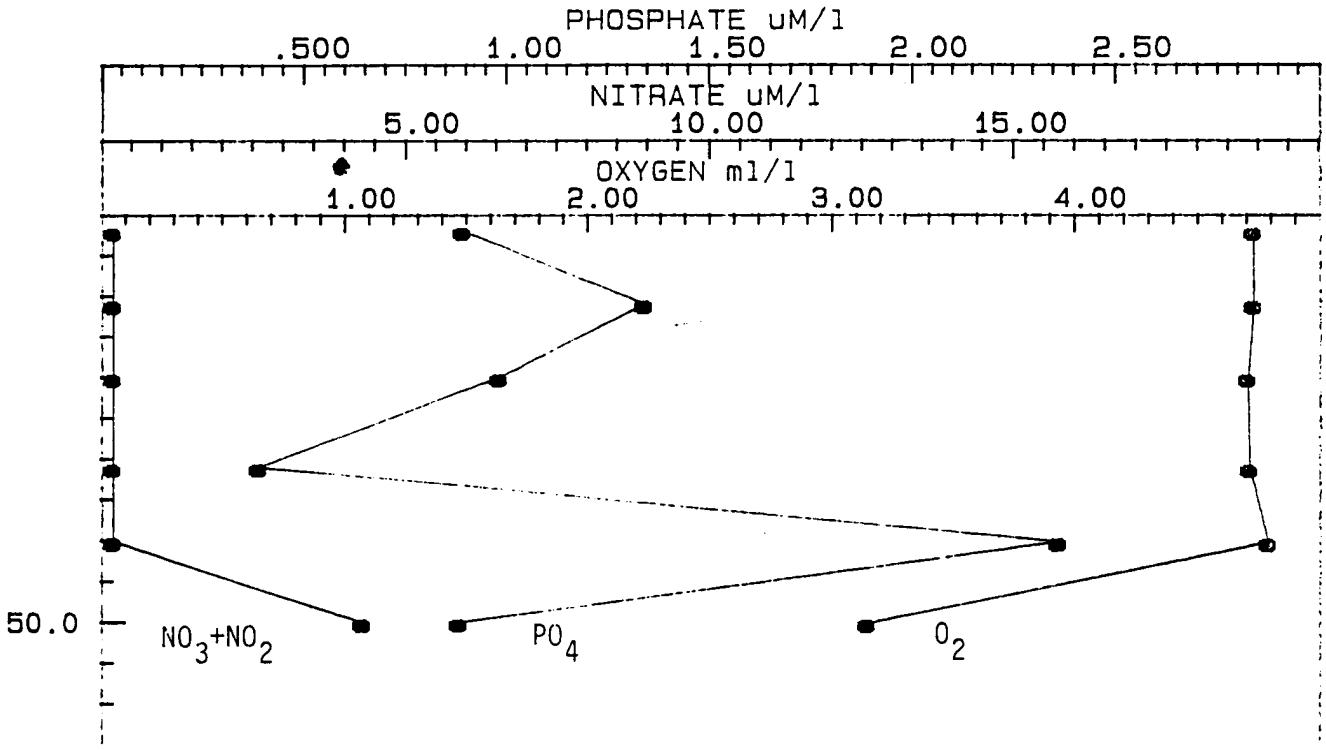
B89GIS
STATION 3

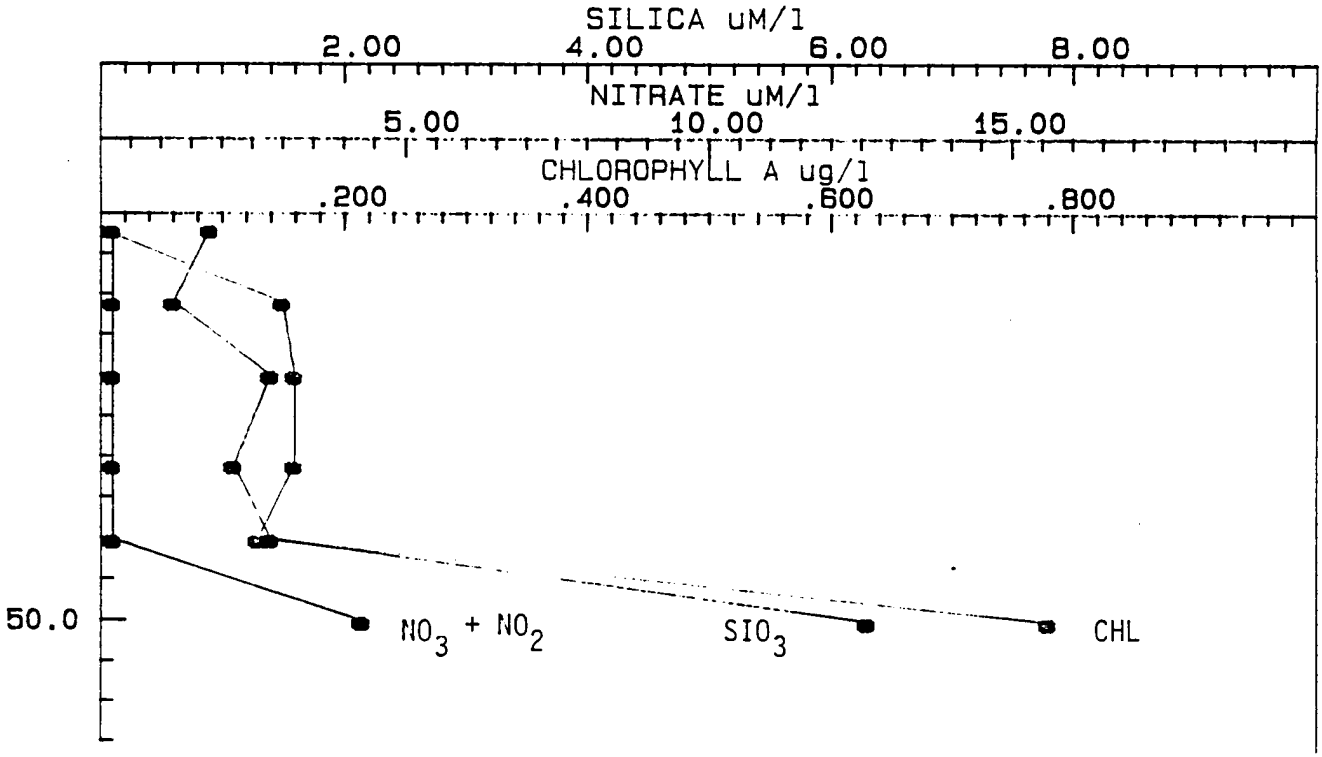
BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
22	2	24.34	36.171	4.73	0.2	0.9	0.89	<0.01 / (NA)	(NA) / (NA)
21	11	24.34	36.170	4.73	0.2	0.6	1.34	<0.01 / 0.15	(NA) / 0.04
20	20	24.35	36.171	4.71	0.2	1.4	0.98	<0.01 / 0.16	(NA) / 0.04
19	31	24.35	36.169	4.72	0.2	1.1	0.39	<0.01 / 0.16	(Na) / 0.04
18	40	24.34	36.168	4.79	0.2	1.4	2.36	<0.01 / 0.13	(Na) / 0.04
17	50	22.47	36.424	3.15	4.3	6.3	0.88	0.09 / 0.77	0.05 / 0.05
								50 m ∫ CHL = ∫ i=0	about 10





CRUISE: 89G15 STATION: 889G15*01*1 DATE: 11 NOV 8
LATITUDE: 28 53.7 LONGITUDE: 94 20.8

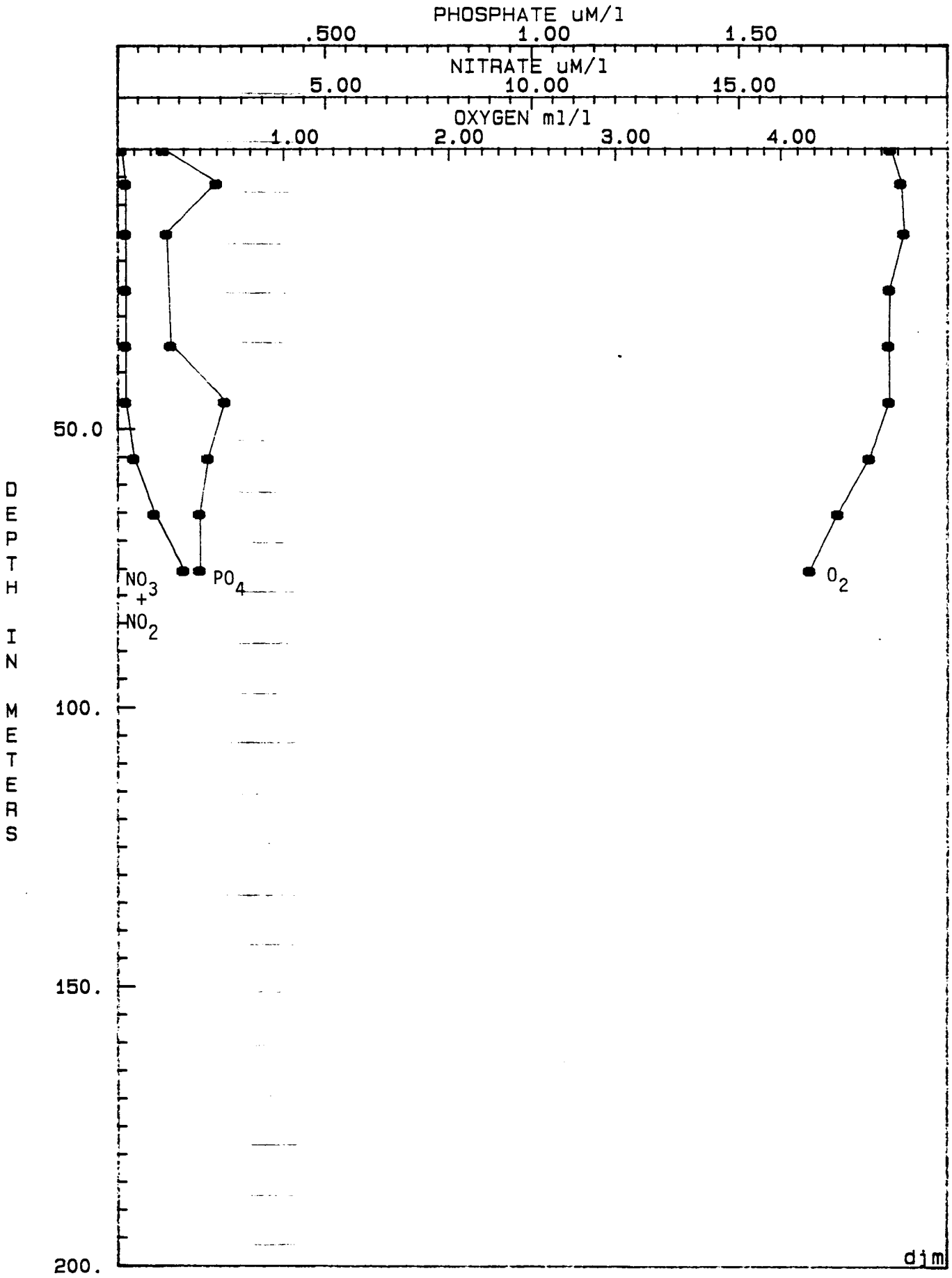




CRUISE: 89G15 STATION: B89G15*03*1 DATE: 12NOV89
LATITUDE: 28 23.3 LONGITUDE: 93 56.2

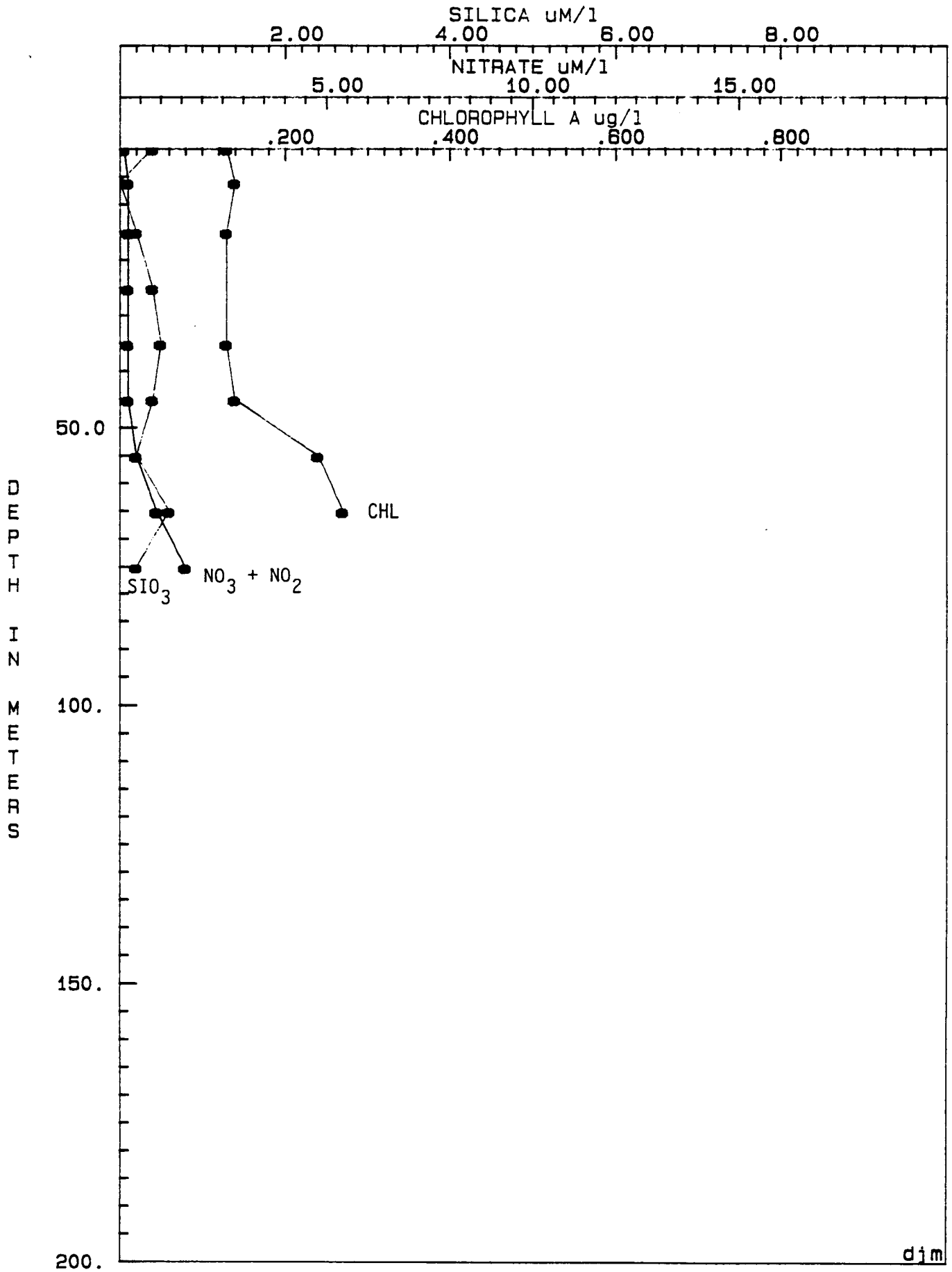
GMT 1340 27 59.3 B89G15
12 NOV 89 93 36.7 STATION 4

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
11	0	25.60	36.372	4.66	0.1	0.4	0.11	0.01 / 0.13	<0.01 / 0.03
10	6	25.60	36.373	4.72	0.2	<0.1	0.24	0.01 / 0.13	0.01 / 0.03
9	15	25.60	36.372	4.74	0.2	0.2	0.12	<0.01 / 0.13	<0.01 / 0.03
8	25	25.60	36.375	4.65	0.2	0.4	—	<0.01 / 0.10	<0.01 / 0.02
7	35	25.61	36.376	4.65	0.2	0.5	0.13	0.01 / 0.12	<0.01 / 0.03
6	45	25.60	36.383	4.65	0.2	0.4	0.26	0.02 / 0.12	<0.01 / 0.04
5	55	25.25	36.468	4.53	0.4	0.2	0.22	0.01 / 0.23	<0.01 / 0.06
4	65	23.34	36.489	4.35	0.9	0.6	0.20	<0.01 / 0.27	0.01 / 0.15
3	75	22.84	36.499	4.18	1.6	0.2	0.20	(NA) / (NA)	(NA) / (NA)
								65 M $\sum_{i=0}^{CHL}$ =	about 10



CRUISE: 89G15 STATION: B89G15*04*1 DATE: 12NOV89

LATITUDE: 27 59.3 LONGITUDE: 93 36.7



CRUISE: 89G15 STATION: 889G15*04*1 DATE: 12NOV89

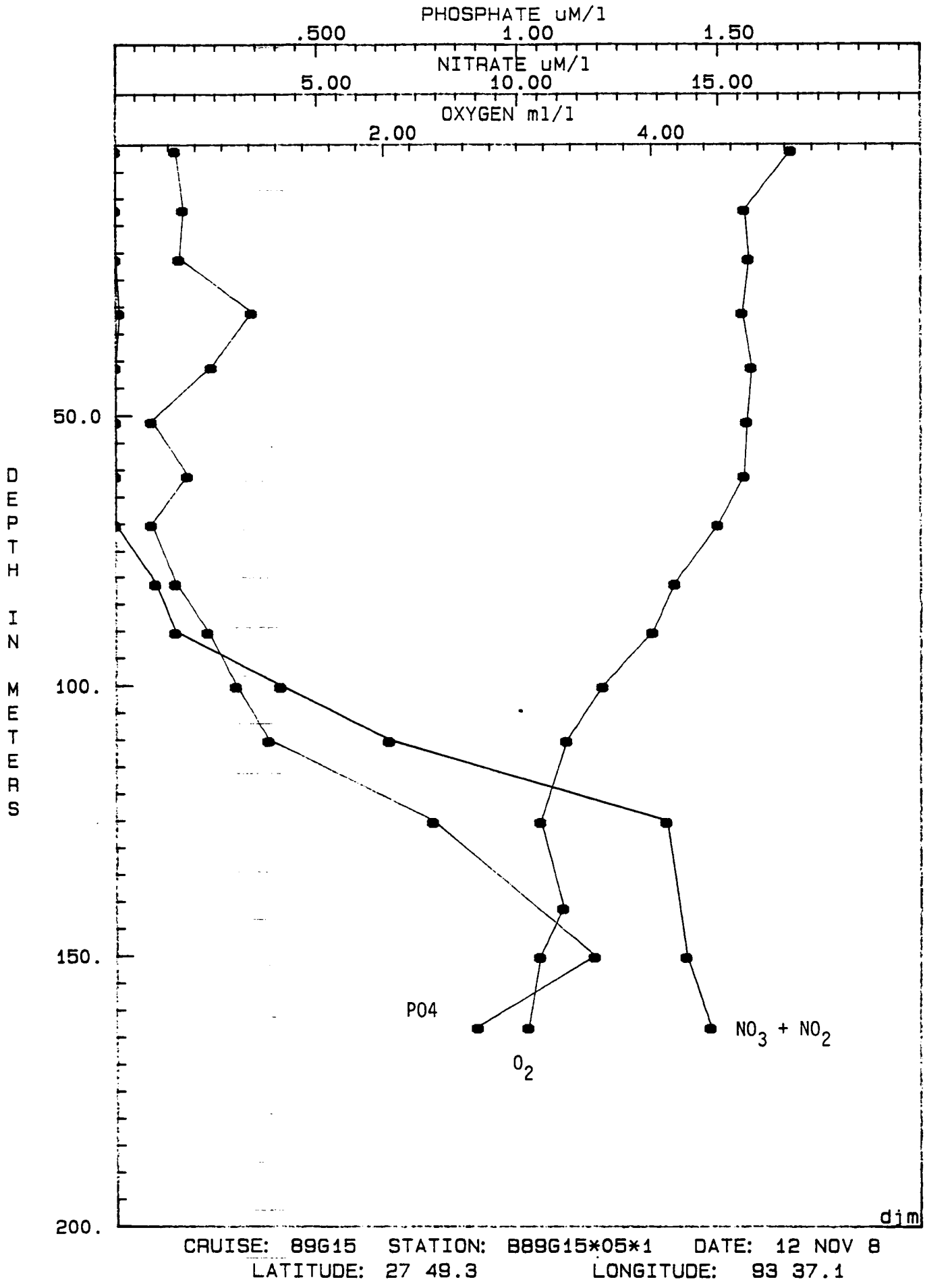
LATITUDE: 27 59.3 LONGITUDE: 93 36.7

GMT 2351
12 NOV 89

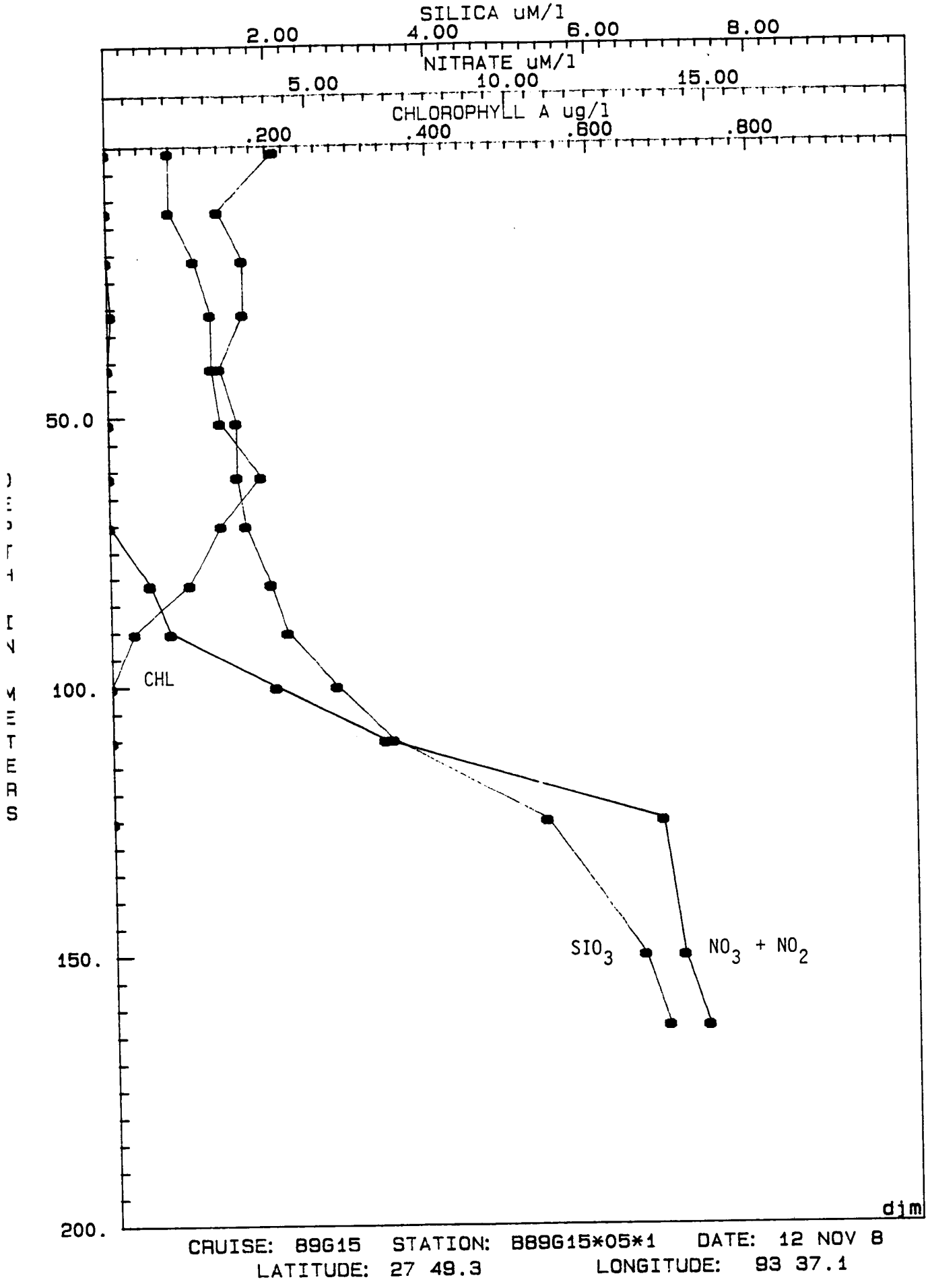
27 49.3
93 37.1

BB9615
STATION 5

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
5	1	25.78	36.342	5.04	<0.1	2.1	0.15	<0.01 / 0.08	<0.01 / 0.02
4	12	25.77	36.343	4.70	<0.1	1.4	0.17	<0.01 / 0.08	<0.01 / 0.02
3	21	25.77	36.340	4.73	<0.1	1.7	0.16	0.01 / 0.10	<0.01 / 0.02
2	31	25.72	36.331	4.68	0.1	1.7	0.34	<0.01 / 0.13	<0.01 / 0.02
1	41	25.71	36.333	4.75	<0.1	1.4	0.24	<0.01 / 0.13	<0.01 / 0.27
24	51	25.71	36.333	4.72	<0.1	1.6	0.09	<0.01 / 0.14	0.01 / 0.01
23	61	25.71	36.333	4.70	<0.1	1.6	0.18	<0.01 / 0.19	0.01 / 0.17
22	70	23.90	36.566	4.50	<0.1	1.7	0.09	<0.01 / 0.14	0.01 / 0.15
21	81	22.70	36.590	4.18	1.0	2.0	0.15	<0.01 / 0.10	<0.01 / 0.10
20	90	22.07	36.593	4.01	1.5	2.2	0.23	<0.01 / <0.01	<0.01 / 0.03
19	100	21.25	36.553	3.63	4.1	2.8	0.30	<0.01 / 0.01	<0.01 / 0.01
18	110	20.35	36.510	3.37	6.8	3.5	0.38	<0.01 / <0.01	<0.01 / 0.01
17	125	17.70	36.326	3.17	13.7	5.4	0.79	<0.01 / <0.01	<0.01 / 0.01
16	141	16.55	36.235	3.34	—	—	—	(NA) / (NA)	(NA) / (NA)
15	150	15.95	36.132	3.17	14.2	6.6	1.19	(NA) / (NA)	(NA) / (NA)
14	163	15.67	36.075	3.08	14.8	6.9	0.90	(NA) / (NA)	(NA) / (NA)
								100M {CHL = i=0	about 11



CRUISE: 89G15 STATION: B89G15*05*1 DATE: 12 NOV 8
LATITUDE: 27 49.3 LONGITUDE: 93 37.1

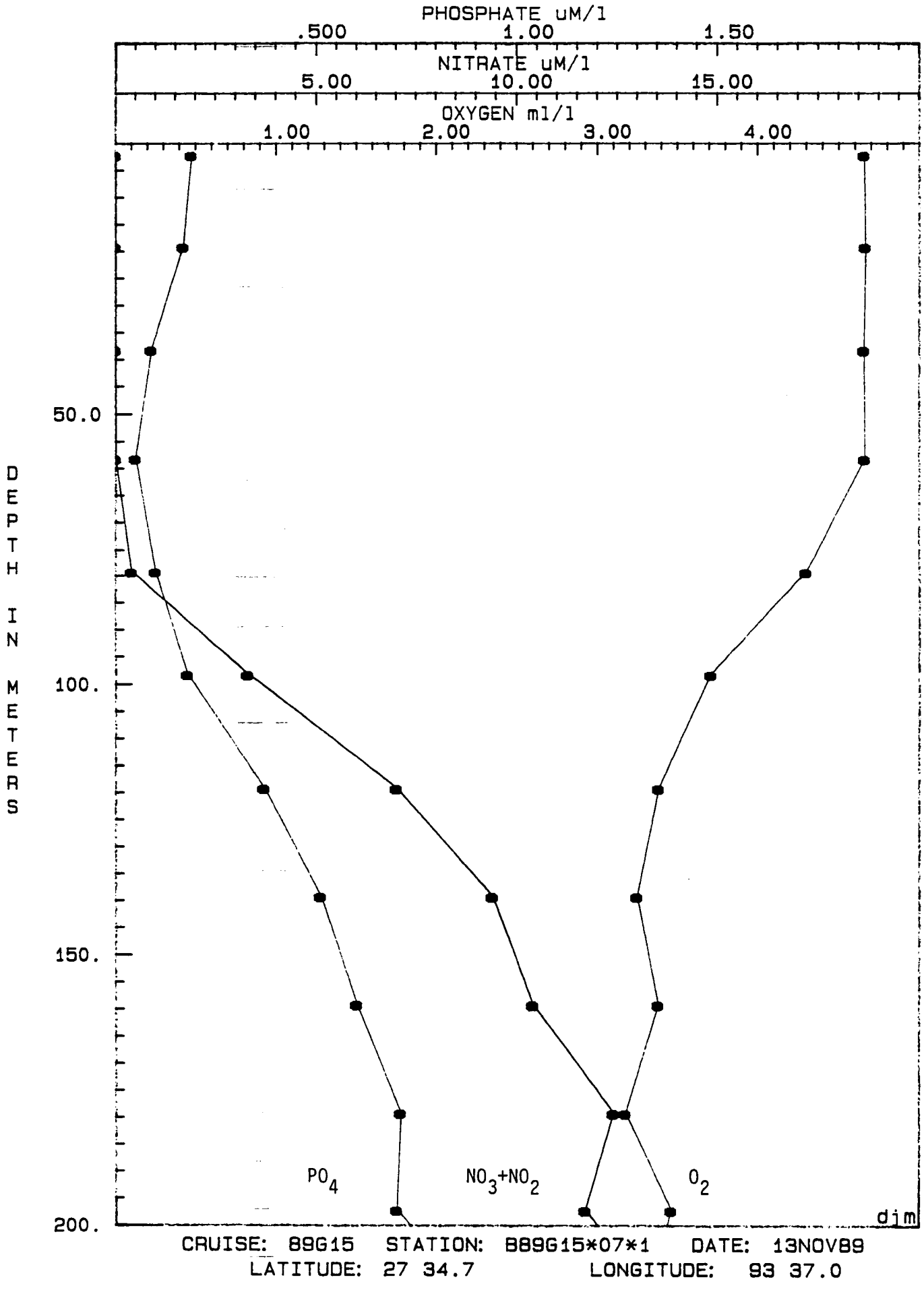


CRUISE: 89G15 STATION: B89G15*05*1 DATE: 12 NOV 8
LATITUDE: 27 49.3 LONGITUDE: 93 37.1

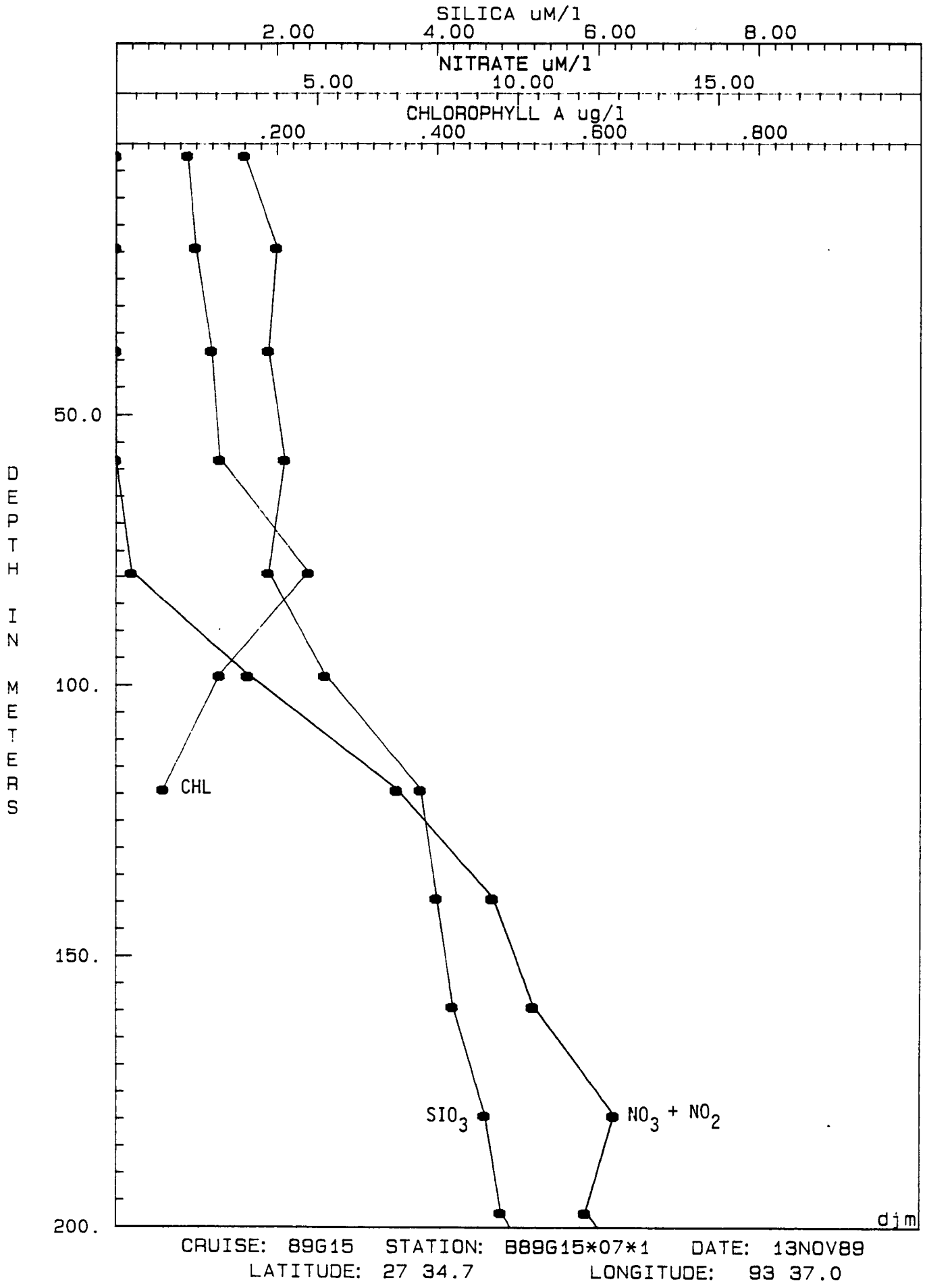
GMT 0918 27 34.7 B89G15

13 NOV 89 93 37.0 STATION 7

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAED
24	2	25.76	36.392	4.66	<0.1	1.6	0.19	<0.01 / 0.09	<0.01 / 0.02
23	19	25.77	36.392	4.67	<0.1	2.0	0.17	0.01 / 0.09	<0.01 / 0.02
22	38	25.78	36.391	4.66	<0.1	1.9	0.09	0.01 / 0.11	<0.01 / 0.02
20	58	25.74	36.410	4.66	<0.1	2.1	0.05	<0.01 / 0.13	<0.01 / 0.03
19	79	22.62	36.565	4.30	0.4	1.9	0.10	<0.01 / 0.24	0.01 / 0.17
17	98	21.54	36.607	3.71	3.3	2.6	0.18	(NA) / 0.13	0.01 / 0.11
16	119	20.50	36.630	3.39	7.0	3.8	0.37	(NA) / 0.06	<0.01 / 0.04
14	139	19.04	36.529	3.25	9.4	4.0	0.51	(NA) / (NA)	(NA) / (NA)
13	159	18.28	36.454	3.38	10.4	4.2	0.60	(NA) / (NA)	(NA) / (NA)
12	179	17.29	36.322	3.18	12.4	4.6	0.71	(NA) / (NA)	(NA) / (NA)
11	197	16.70	36.258	3.47	11.7	4.8	0.70	(NA) / (NA)	(NA) / (NA)
8	248	15.04	35.966	2.97	17.1	6.9	1.30	(NA) / (NA)	(NA) / (NA)
7	298	13.25	35.691	2.79	20.8	9.2	1.33	(NA) / (NA)	(NA) / (NA)
6	349	12.03	35.498	2.81	23.0	10.4	1.48	(NA) / (NA)	(NA) / (NA)
5	398	10.96	35.335	2.72	25.2	12.1	1.58	(NA) / (NA)	(NA) / (NA)
4	447	10.05	35.193	2.67	27.3	14.2	1.73	(NA) / (NA)	(NA) / (NA)
1	495	8.94	35.062	2.71	28.7	15.4	2.09	(NA) / (NA)	(NA) / (NA)
								100M { CHL = 1 = 0	about 14



CRUISE: 89G15 STATION: 889G15*07*1 DATE: 13NOV89
LATITUDE: 27 34.7 LONGITUDE: 93 37.0

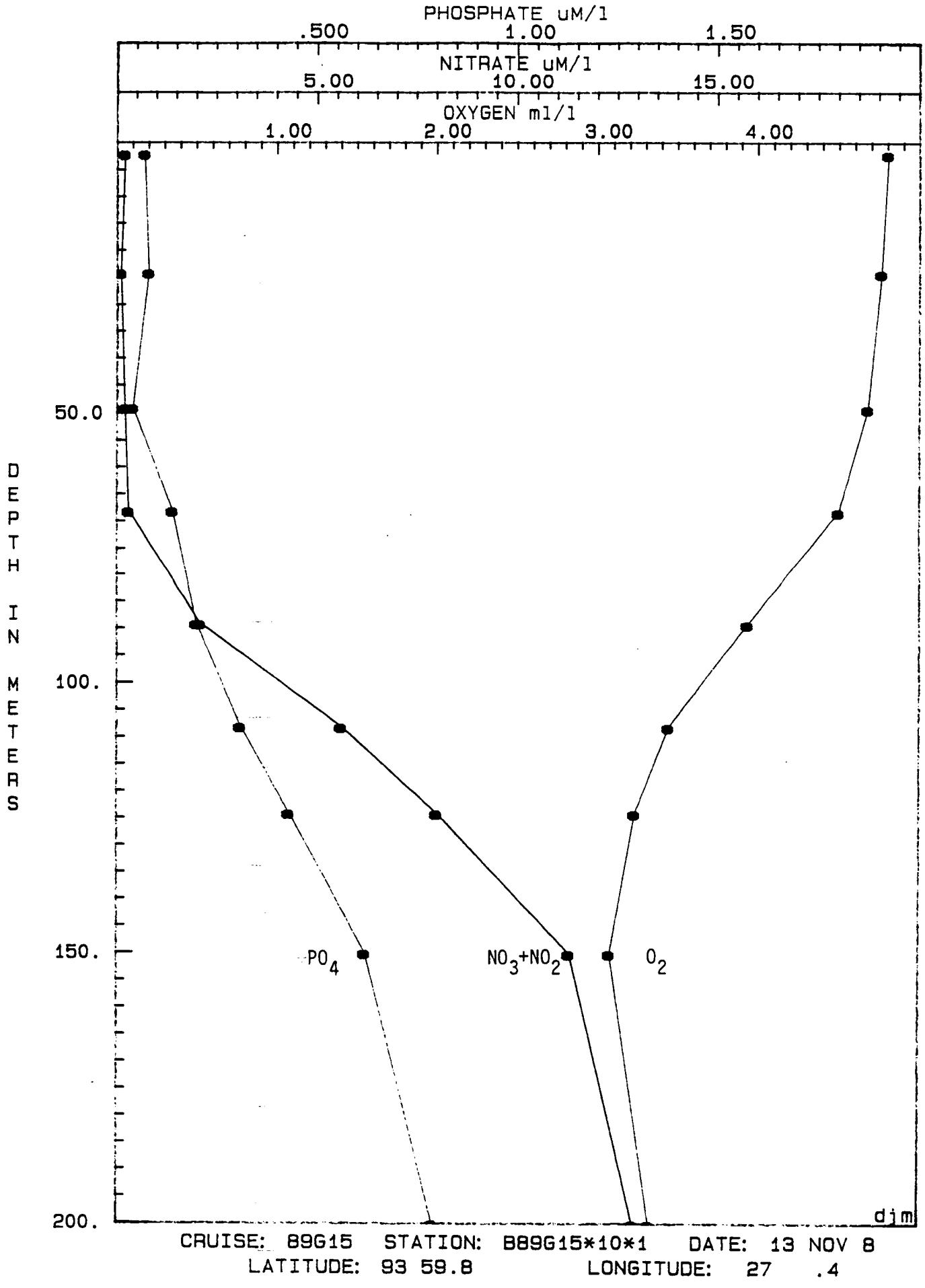


CRUISE: 89G15 STATION: B89G15*07*1 DATE: 13NOV89
LATITUDE: 27 34.7 LONGITUDE: 93 37.0

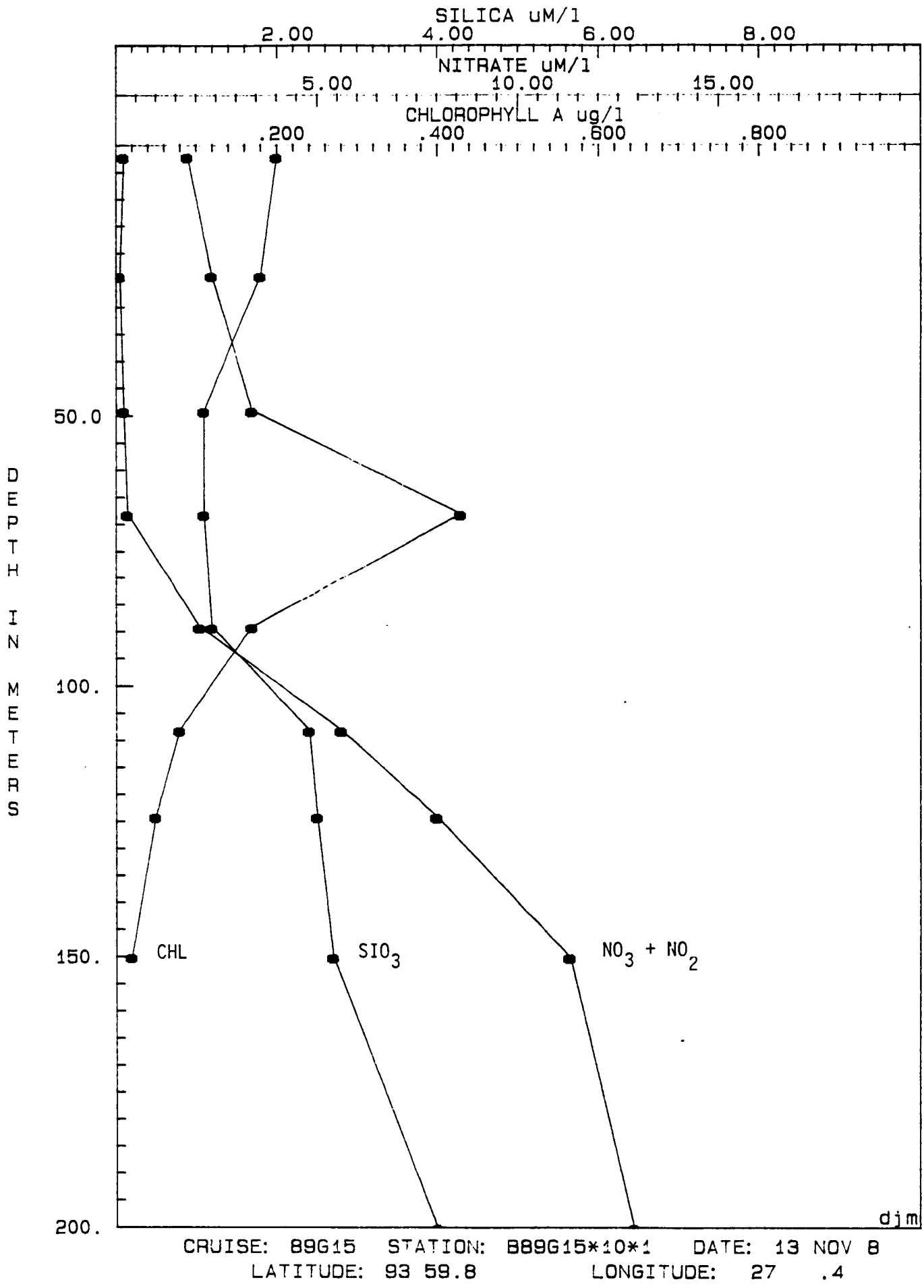
GMT 1950 27 00.4 B89G15

13 NOV 89 93 59.8 STATION 10

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
24	2	26.56	36.335	4.81	0.2	2.0	0.07	<0.01 / 0.05	<0.01 / <0.01
23	24	26.30	36.332	4.77	0.1	1.8	0.08	0.01 / 0.07	<0.01 / 0.01
22	49	26.19	36.387	4.68	0.2	1.1	0.04	<0.01 / 0.17	<0.01 / 0.03
21	68	23.90	36.574	4.50	0.3	1.1	0.14	<0.01 / 0.43	<0.01 / 0.21
18	89	22.30	36.626	3.94	2.1	1.2	0.20	<0.01 / 0.10	<0.01 / 0.02
17	108	20.86	36.562	3.45	5.6	2.4	0.31	<0.01 / 0.05	0.01 / 0.06
16	124	20.11	36.554	3.24	8.0	2.5	0.43	<0.01 / 0.03	<0.01 / 0.05
15	150	18.58	36.430	3.08	11.3	2.7	0.62	<0.01 / 0.01	<0.01 / 0.02
12	200	16.70	36.246	3.33	12.9	4.0	0.79	(NA) / (NA)	(NA) / (NA)
11	300	13.20	36.678	2.92	20.8	7.5	1.29	(NA) / (NA)	(NA) / (NA)
10	400	10.78	35.308	2.53	27.4	11.6	1.74	(NA) / (NA)	(NA) / (NA)
7	498	8.72	35.039	2.71	30.5	15.1	1.93	(NA) / (NA)	(NA) / (NA)
6	598	7.71	34.952	2.75	32.0	17.8	2.11	(NA) / (NA)	(NA) / (NA)
5	798	5.90	34.892	3.41	30.8	21.6	2.03	(NA) / (NA)	(NA) / (NA)
4	898	5.47	34.903	3.72	29.5	22.1	2.04	(NA) / (NA)	(NA) / (NA)
1	999	5.06	34.918	4.05	28.0	21.8	1.92	(NA) / (NA)	(NA) / (NA)
								89 { CHL = 1=0	about 16



CRUISE: 89G15 STATION: B89G15*10*1 DATE: 13 NOV 8
LATITUDE: 93 59.8 LONGITUDE: 27 .4

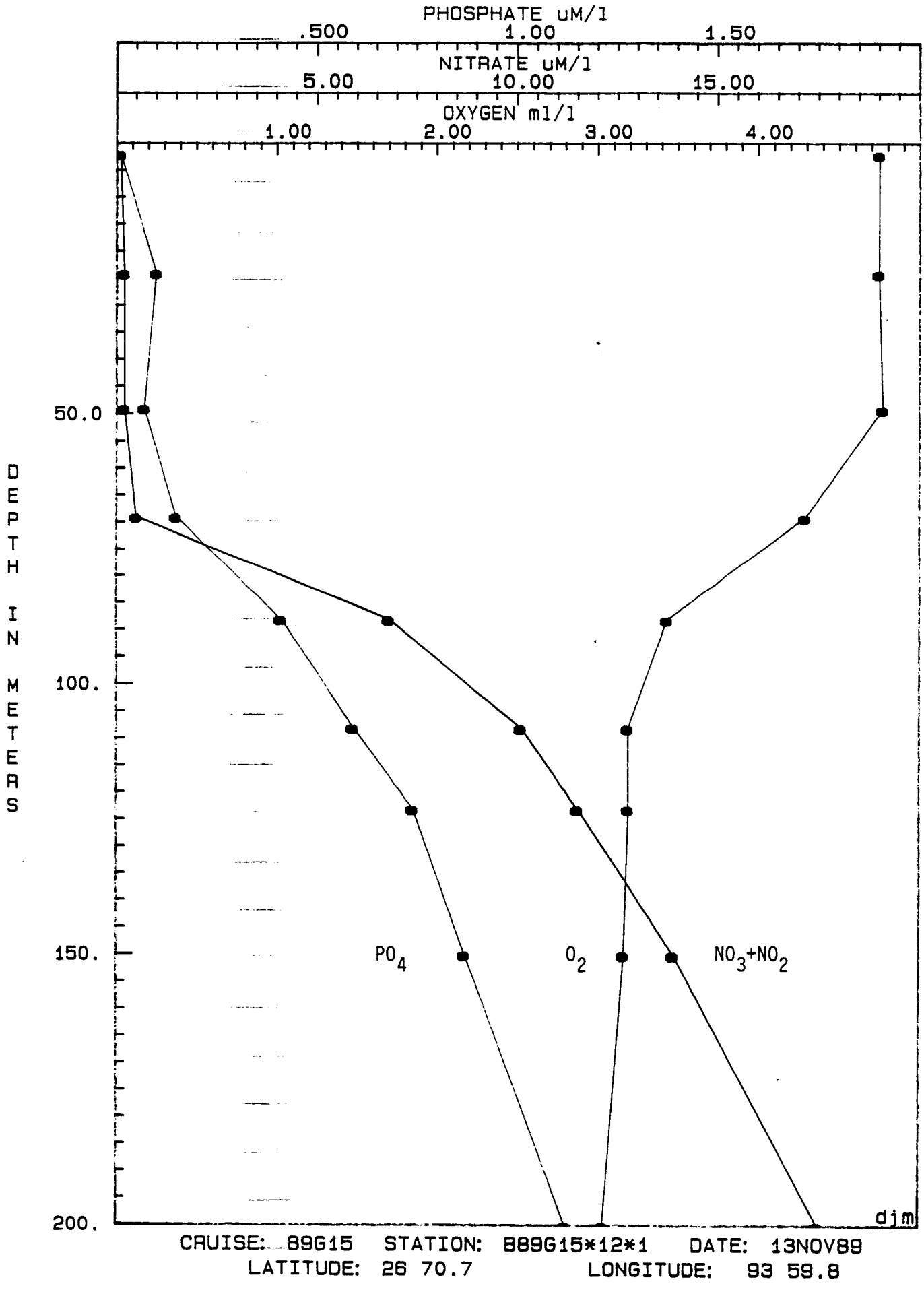


CRUISE: 89G15 STATION: B89G15*10*1 DATE: 13 NOV 8
LATITUDE: 93 59.8 LONGITUDE: 27 .4

GMT 0121 26 20.7 B89615

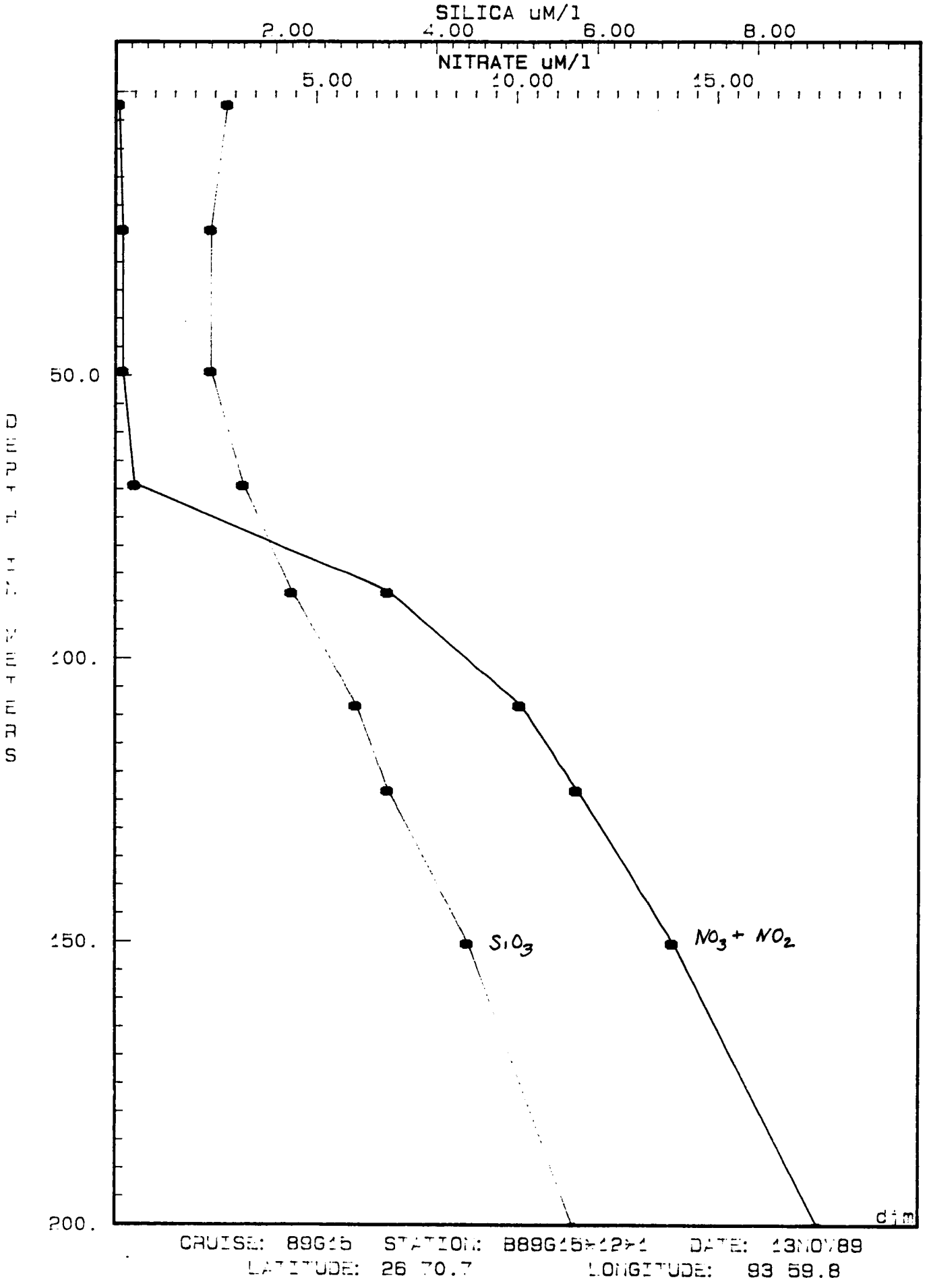
14 NOV 89 93 59.8 STATION 12

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4					
24	2	26.21	36.373	4.75	0.1	1.4	0.01					
22	24	26.06	36.381	4.75	0.2	1.2	0.10					
20	49	25.86	36.434	4.77	0.2	1.2	0.07					
18	69	22.70	36.518	4.29	0.5	1.6	0.15					
16	88	20.59	36.561	3.44	6.8	2.2	0.41					
14	108	18.77	36.472	3.19	10.1	3.0	0.59					
12	123	17.88	36.392	3.19	11.5	3.4	0.74					
10	150	16.50	36.221	3.16	13.9	4.4	0.87					
8	200	14.67	35.943	3.04	17.5	5.7	1.12					
7	300	11.39	35.429	2.73	25.1	10.3	1.69					
6	398	9.30	35.111	2.69	29.7	14.0	1.88					
5	498	7.78	34.959	2.78	31.9	17.2	2.04					
4	598	6.65	34.898	3.04	32.0	19.5	2.08					
3	673	6.13	34.890	3.29	31.2	21.3	2.00					
2	798	5.52	34.899	3.68	29.6	22.7	1.99					
1	1000	4.76	34.929	4.28	27.0	23.0	1.88					



CRUISE: 89G15 STATION: 889G15*12*1 DATE: 13NOV89

LATITUDE: 26 70.7 LONGITUDE: 93 59.8

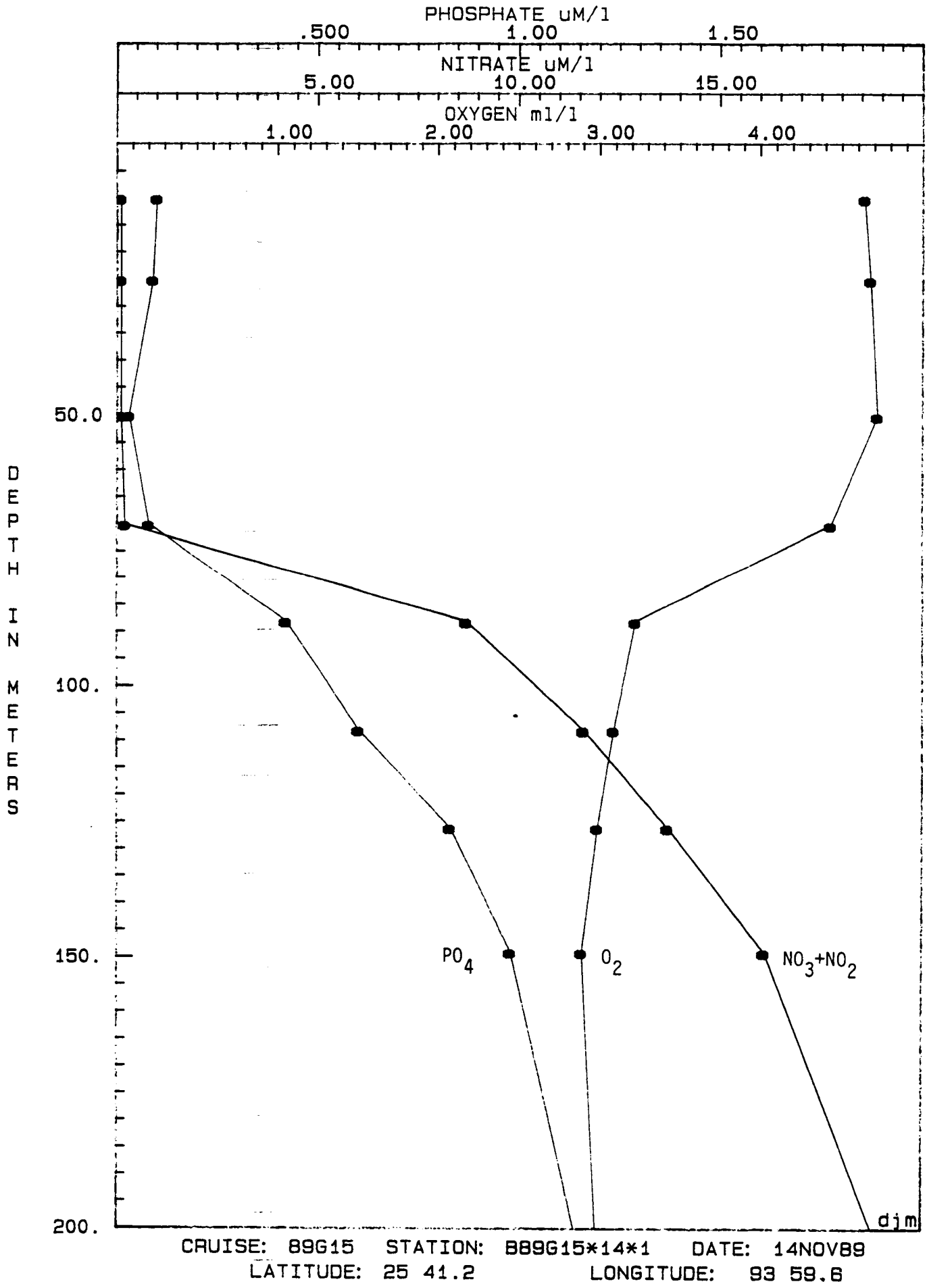

SILICA uM/l
2.00
4.00
6.00
8.00
NITRATE uM/l
5.00
10.00
15.00
50.0
100.
150.
200.
SiO_3
$NO_3 + NO_2$
dim
CRUISE: 89G15 STATION: B89G15>12>1 DATE: 13NOV89
LATITUDE: 26 70.7 LONGITUDE: 93 59.8

GMT 0940
14 NOV 89

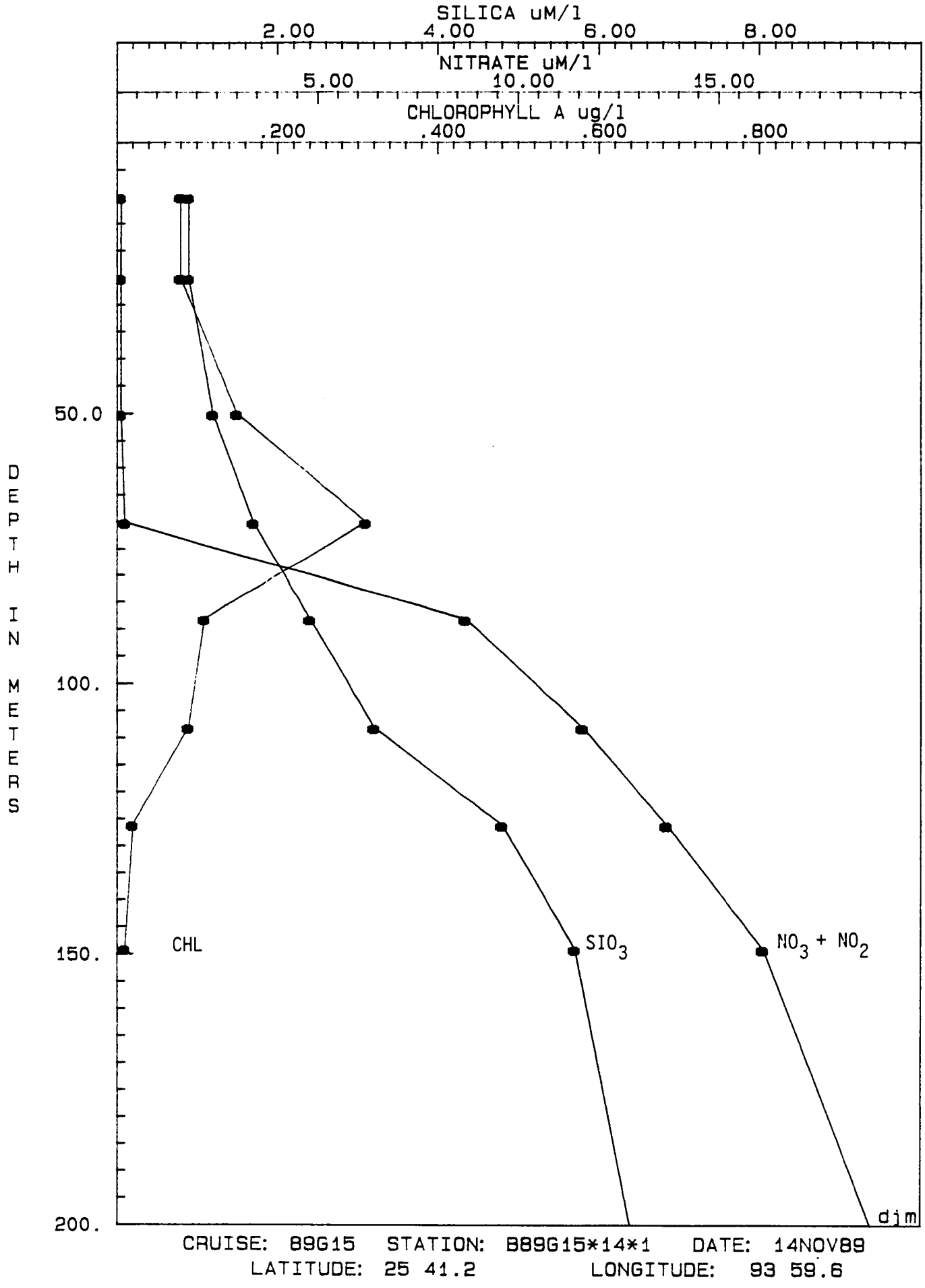
25 41.2
93 59.6

B89GIS
STATION 14

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO			
24	10	26.05	36.101	4.64	0.1	0.9	0.10	<0.01 / 0.08	<0.01 / 0.03			
23	25	25.52	36.257	4.68	0.1	0.9	0.09	<0.01 / 0.08	<0.01 / 0.03			
22	50	25.25	36.423	4.72	0.1	1.2	0.03	<0.01 / 0.15	<0.01 / 0.06			
21	70	22.86	36.499	4.44	0.2	1.7	0.08	<0.01 / 0.31	0.01 / 0.23			
20	88	19.72	36.508	3.22	8.7	2.4	0.42	<0.01 / 0.11	0.012 / 0.145			
19	108	18.26	36.433	3.09	11.6	3.2	0.60	<0.01 / 0.09	<0.01 / 0.11			
18	126	17.12	36.303	2.99	13.7	4.8	0.83	<0.01 / 0.03	<0.01 / 0.05			
17	149	15.96	36.122	2.89	16.1	5.7	0.98	<0.01 / 0.01	<0.01 / 0.02			
16	201	14.12	35.852	2.98	18.8	6.4	1.14	(NA) / (NA)	(NA) / (NA)			
15	397	9.32	35.141	—	30.0	14.1	1.90	(NA) / (NA)	(NA) / (NA)			
14	598	6.65	34.903	—	31.7	20.6	2.06	(NA) / (NA)	(NA) / (NA)			
13	798	5.46	34.917	—	29.6	23.1	1.97	(NA) / (NA)	(NA) / (NA)			
12	998	4.78	34.942	—	26.8	23.5	1.77	(NA) / (NA)	(NA) / (NA)			
11	1198	4.40	34.958	—	24.9	22.3	1.68	(NA) / (NA)	(NA) / (NA)			
10	1399	4.29	34.966	—	24.1	22.0	1.64	(NA) / (NA)	(NA) / (NA)			
9	1598	4.26	34.967	—	23.9	21.0	1.78	(NA) / (NA)	(NA) / (NA)			
8	1799	4.25	34.971	—	23.6	21.5	1.71	(NA) / (NA)	(NA) / (NA)			
7	1898	4.25	34.979	—	23.7	21.3	1.72	(NA) / (NA)	(NA) / (NA)			
6	1999	4.25	34.977	—	23.5	20.9	1.68	(NA) / (NA)	(NA) / (NA)			
5	2099	4.26	34.976	—	23.3	21.0	1.74	(NA) / (NA)	(NA) / (NA)			
4	2299	4.27	34.975	—	23.3	21.5	1.69	(NA) / (NA)	(NA) / (NA)			
3	2499	4.29	34.976	—	23.3	21.4	1.65	(NA) / (NA)	(NA) / (NA)			
2	2698	4.31	34.975	—	23.3	21.4	1.58	(NA) / (NA)	(NA) / (NA)			
1	2998	4.34	34.970	—	23.5	21.2	1.56	(NA) / (NA)	(NA) / (NA)			
								88M { CHL = i=0	about 13			



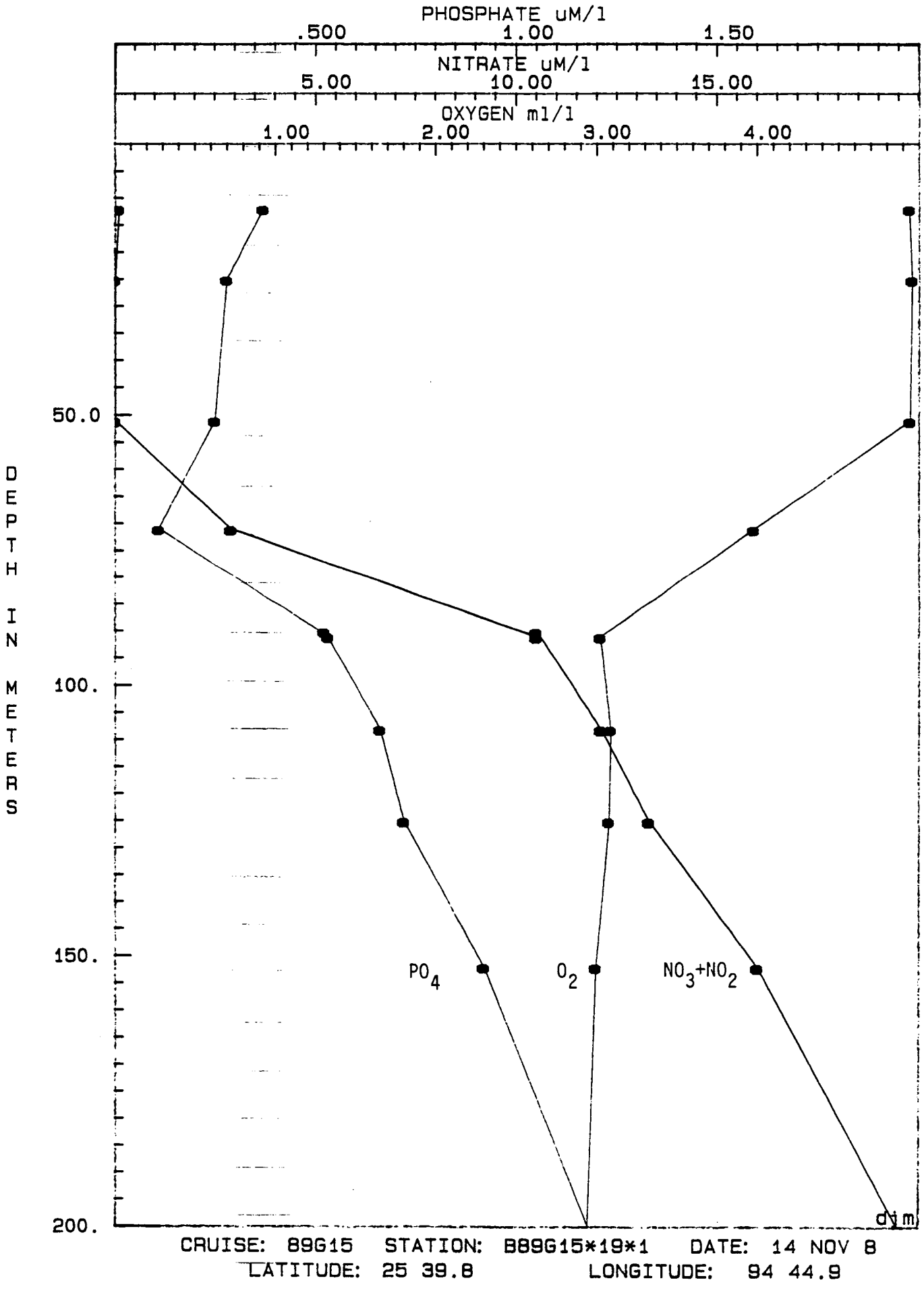
CRUISE: 89G15 STATION: B89G15*14*1 DATE: 14NOV89
LATITUDE: 25 41.2 LONGITUDE: 93 59.6



CRUISE: 89G15 STATION: B89G15*14*1 DATE: 14NOV89
LATITUDE: 25 41.2 LONGITUDE: 93 59.6

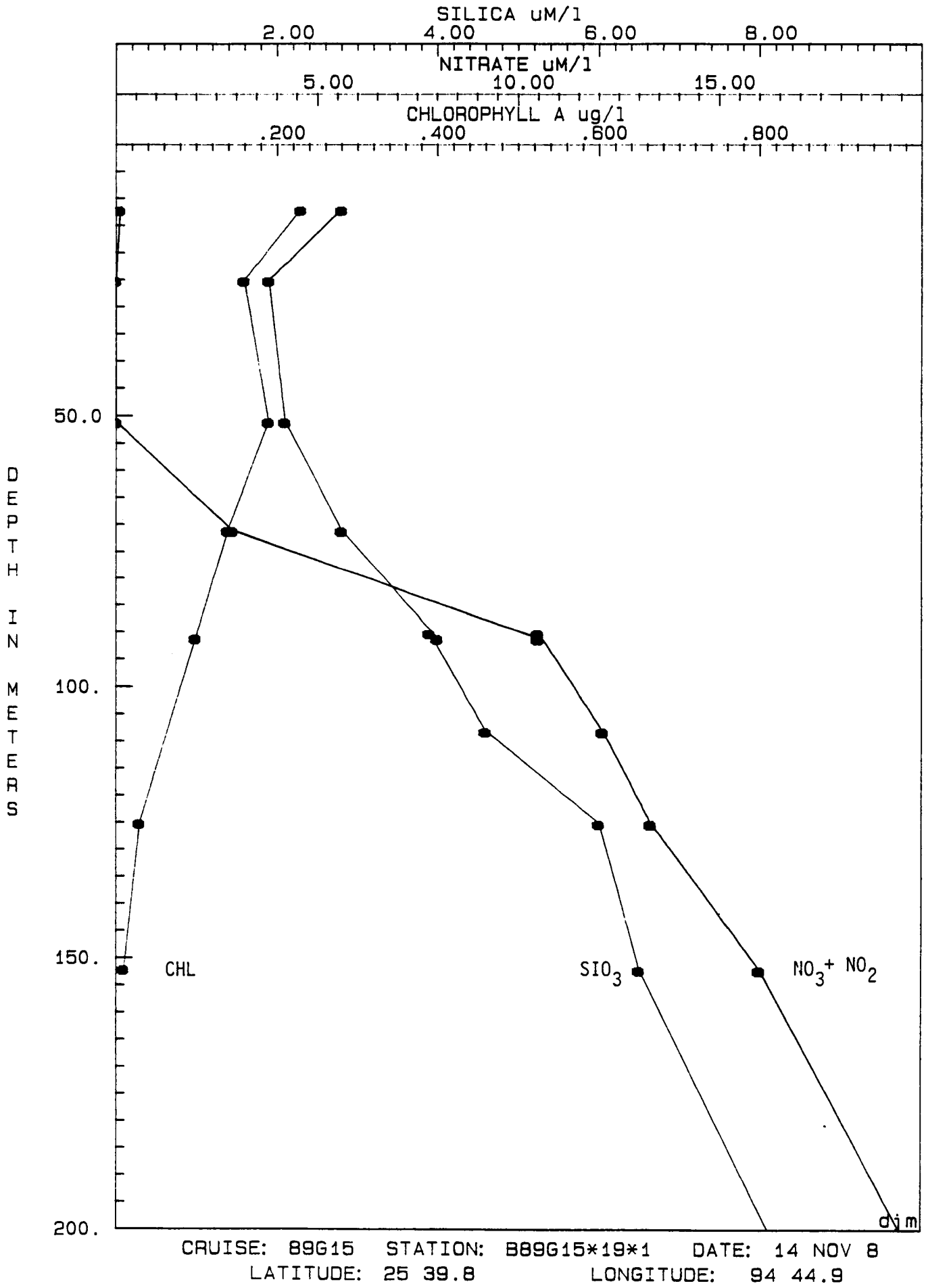
GMT 1756 25 39.8 B89G15
14 NOV 89 94 44.9 STATION 19

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
24	12	24.87	34.637	4.94	0.1	2.8	0.37	0.04 / 0.19	<0.01 / <0.01
23	25	25.11	35.974	4.96	<0.1	1.9	0.28	0.02 / 0.14	<0.01 / 0.01
22	51	24.89	36.425	4.95	<0.1	2.1	0.25	<0.01 / 0.19	<0.01 / 0.05
21	71	21.73	36.504	3.98	2.9	2.8	0.11	<0.01 / 0.14	0.01 / 0.12
20	91	18.98	36.439	3.02	10.5	4.0	0.53	0.01 / 0.09	<0.01 / 0.09
19	90	19.00	36.441	—	10.5	3.9	0.52	(NA) / (NA)	(NA) / (NA)
18	108	17.80	36.398	3.09	12.1	4.6	0.66	(NA) / (NA)	(NA) / (NA)
17	125	16.93	36.295	3.08	13.3	6.0	0.72	<0.01 / 0.03	<0.01 / 0.04
16	152	15.72	36.086	3.00	16.0	6.5	0.92	<0.01 / 0.05	<0.01 / 0.01
15	206	13.64	35.775	2.94	19.9	8.3	1.21	91 M { CHL = i = 0	about 16
14	203	13.75	35.799	—	19.3	8.2	1.24		
13	295	11.21	35.367	2.74	25.7	12.2	1.68		
12	403	8.90	35.087	2.61	30.6	16.8	2.05		
11	504	7.65	34.952	2.79	32.1	19.5	2.13		
10	502	7.65	34.955	—	32.1	19.2	2.20		
9	599	6.49	34.902	3.16	31.9	21.9	2.17		
8	650	6.07	34.922	3.38	30.4	22.3	2.15		
7	799	5.46	34.915	—	28.9	23.5	2.08		
6	997	4.68	34.945	—	26.3	23.9	1.93		
5	997	4.68	34.946	—	26.3	23.5	1.91		
4	1190	4.40	34.958	—	24.8	23.1	1.83		
3	1498	4.27	34.973	—	23.8	22.8	1.75		
2	1701	4.25	34.971	—	23.8	22.4	1.83		
1	1790	4.25	34.970	—	23.6	22.3	1.71		



CRUISE: 89G15 STATION: B89G15*19*1 DATE: 14 NOV 8

LATITUDE: 25 39.8 LONGITUDE: 94 44.9



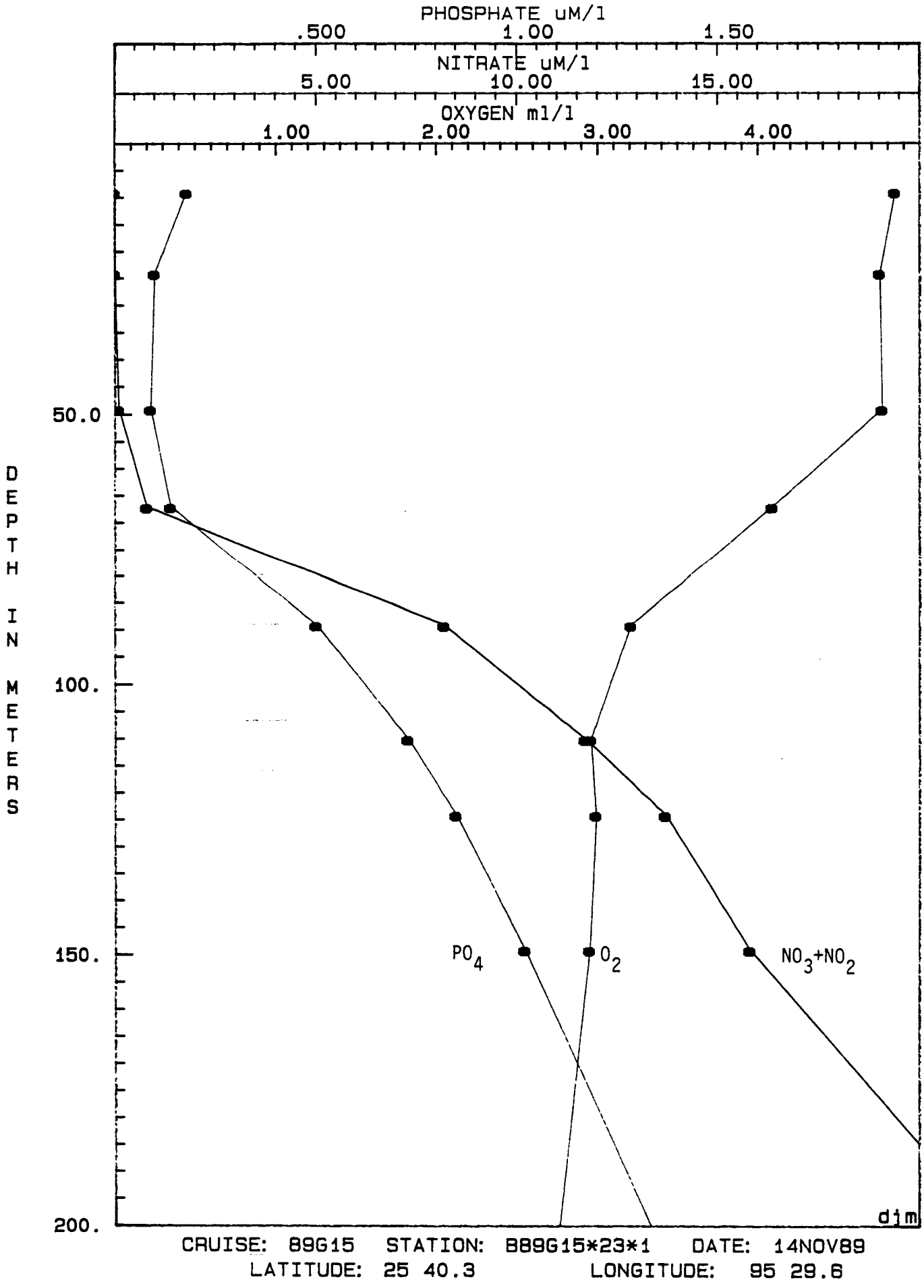
CRUISE: 89G15 STATION: B89G15*19*1 DATE: 14 NOV 8
LATITUDE: 25 39.8 LONGITUDE: 94 44.9

GMT 0407
14 NOV 89

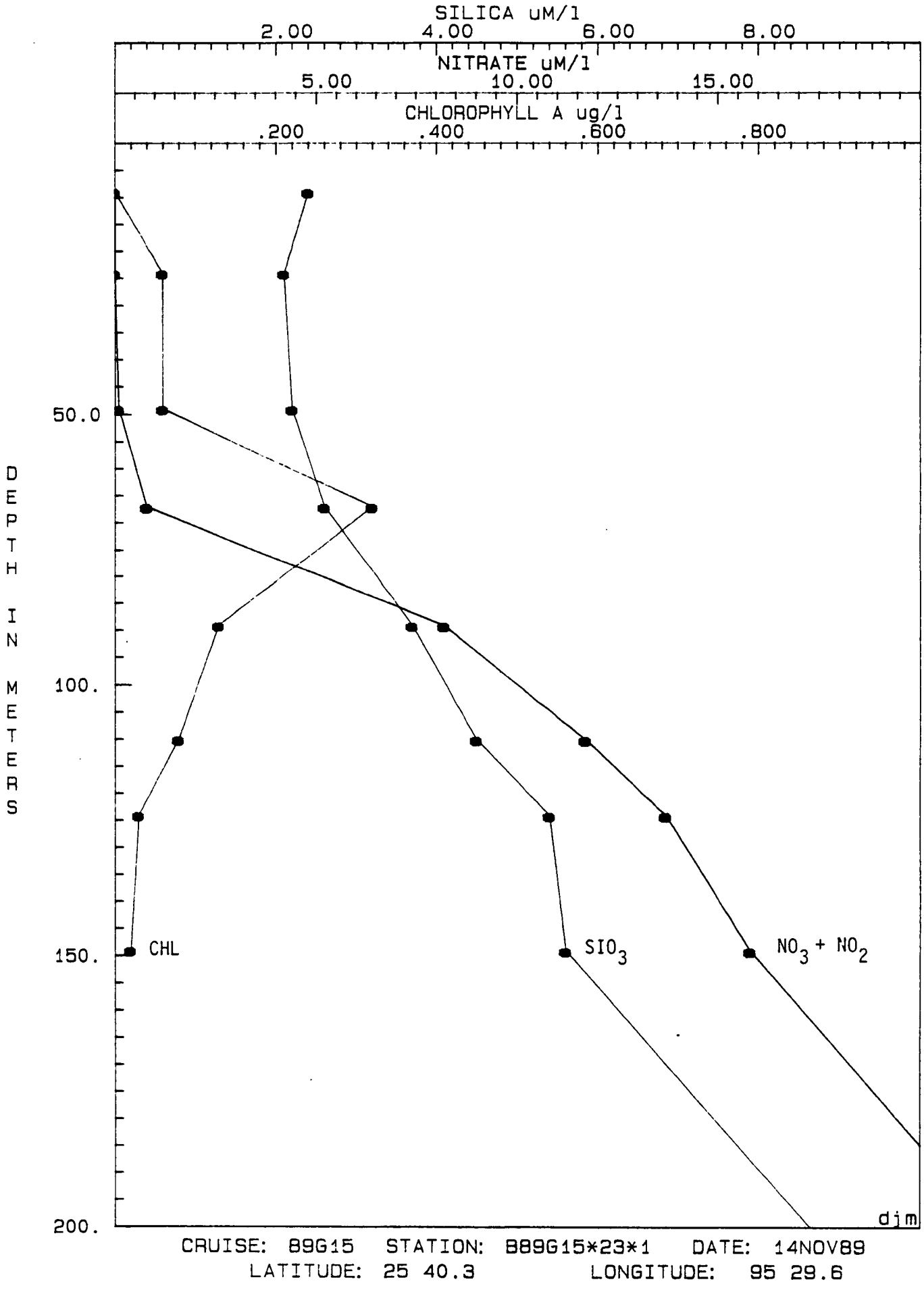
25 40.3
95 29.6

B89GIS
STATION 23

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
24	9	24.71	34.280	4.85	<0.1	2.4	0.18	<0.01 / <0.01	<0.01 / 0.01
22	24	25.35	36.408	4.75	<0.1	2.1	0.10	<0.01 / 0.06	<0.01 / 0.02
20	49	24.96	36.440	4.77	0.1	2.2	0.09	0.01 / 0.05	<0.01 / 0.01
18	67	21.90	36.524	4.09	0.8	2.6	0.14	0.01 / 0.31	0.01 / 0.41
16	89	19.74	36.510	3.21	8.2	3.7	0.50	0.01 / 0.12	0.01 / 0.17
14	110	18.31	36.424	2.96	11.7	4.5	0.73	<0.01 / 0.08	<0.01 / 0.08
13	124	17.26	36.296	2.99	13.7	5.4	0.85	<0.01 / 0.03	<0.01 / 0.03
10	149	16.01	36.119	2.95	15.8	5.6	1.02	<0.01 / 0.02	<0.01 / 0.02
8	201	13.72	35.762	2.76	21.9	8.7	1.34	89 M { CHL = 1=0	about 12
7	300	10.89	35.345	2.70	26.3	12.3	1.70		
6	400	9.02	35.077	2.66	30.6	16.3	2.05		
5	498	7.63	34.956	2.77	32.4	18.9	2.16		
4	601	6.60	34.904	3.10	32.1	20.3	2.19		
3	795	5.51	34.910	3.69	29.7	22.3	2.03		
2	793	5.52	34.911	3.69	29.7	22.5	2.01		
1	1000	4.70	34.943	4.31	27.0	23.1	1.90		



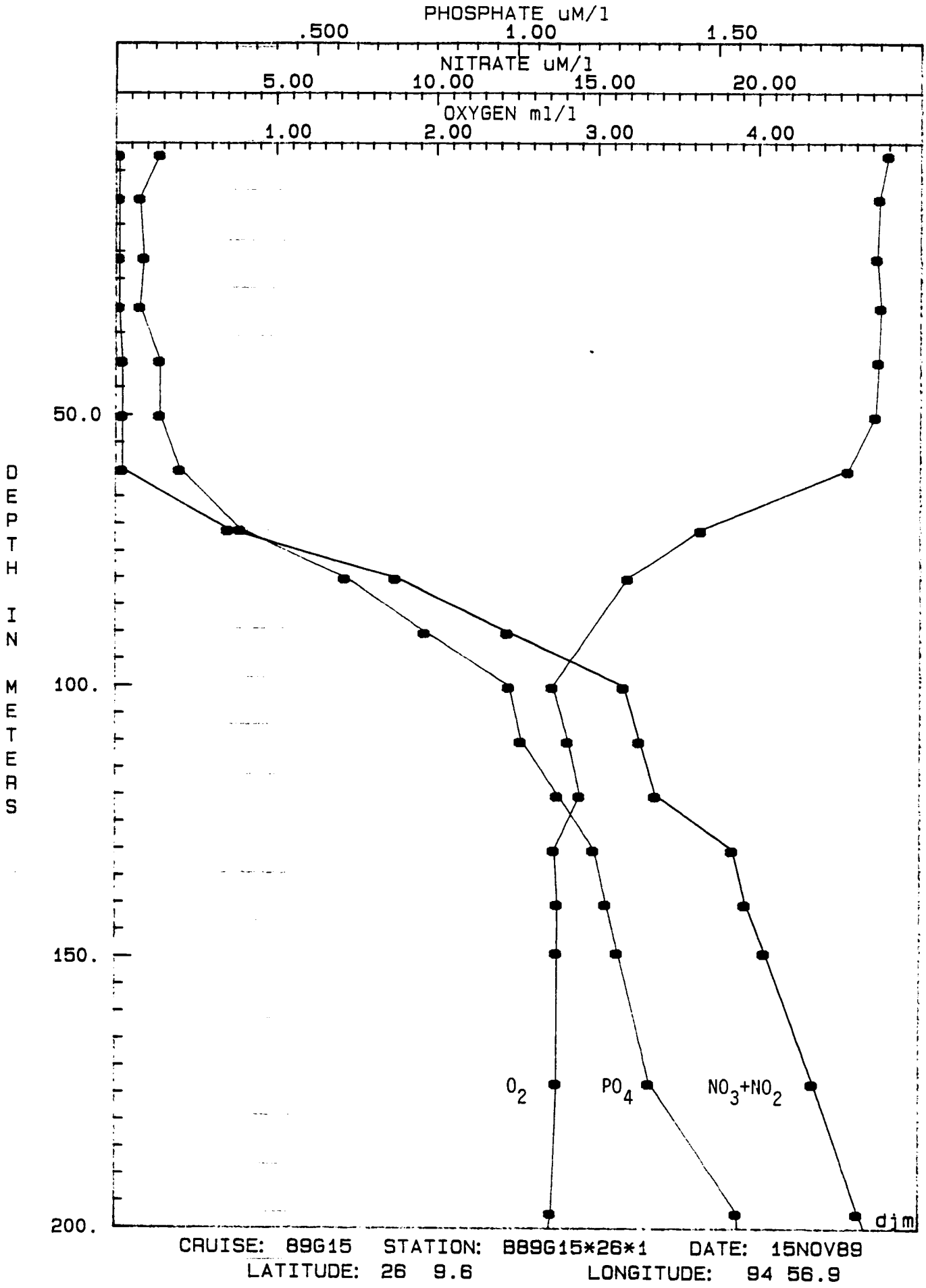
CRUISE: 89G15 STATION: 889G15*23*1 DATE: 14NOV89
LATITUDE: 25 40.3 LONGITUDE: 95 29.6



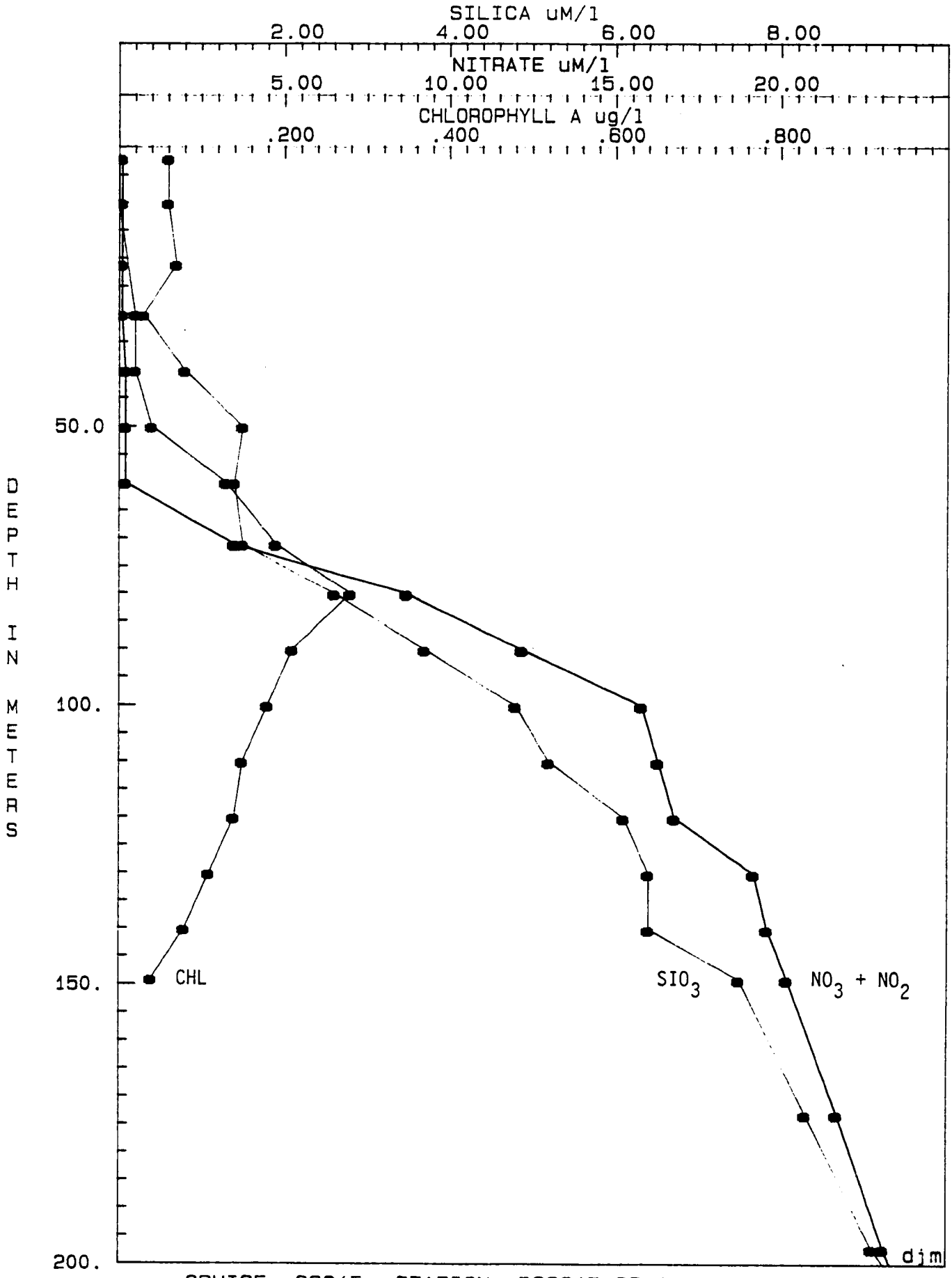
CRUISE: 89G15 STATION: 889G15*23*1 DATE: 14NOV89
LATITUDE: 25 40.3 LONGITUDE: 95 29.6

GMT 1300 | 26 9.6 | B89G15
15 NOV 89 | 94 56.9 | STATION 26

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
24	2	25.11	35.986	4.80	0.1	0.6	0.11	<0.01 / <0.01	0.03 / 0.01
23	10	25.11	35.998	4.74	0.1	0.6	0.06	(NA) / <0.01	(NA) / 0.01
22	21	25.10	36.236	4.73	0.1	0.7	0.07	<0.01 / (NA)	<0.01 / (NA)
21	30	25.09	36.395	4.75	0.1	0.3	0.06	<0.01 / 0.02	<0.01 / 0.01
20	40	25.04	36.416	4.74	0.2	0.8	0.11	<0.01 / 0.02	<0.01 / 0.03
19	50	24.91	36.429	4.72	0.2	1.5	0.11	<0.01 / 0.04	<0.01 / 0.04
18	60	23.10	36.475	4.55	0.2	1.4	0.16	<0.01 / 0.13	0.01 / 0.13
17	71	20.62	36.518	3.64	3.5	1.5	0.31	<0.01 / 0.19	0.01 / 0.18
16	80	19.05	36.437	3.19	8.7	2.6	0.57	<0.01 / 0.28	0.01 / 0.24
15	90	18.00	36.341	——	12.2	3.7	0.77	<0.01 / 0.21	<0.01 / 0.12
14	100	16.44	36.153	2.72	15.8	4.8	0.98	<0.01 / 0.18	<0.01 / 0.06
13	110	15.75	36.082	2.82	16.3	5.2	1.01	<0.01 / 0.15	<0.01 / 0.04
12	120	15.01	35.998	2.89	16.8	6.1	1.10	<0.01 / 0.14	<0.01 / 0.25
11	130	14.39	35.880	2.73	19.2	6.4	1.19	<0.01 / 0.11	<0.01 / 0.02
10	140	14.12	35.824	2.75	19.6	6.4	1.22	<0.01 / 0.08	<0.01 / 0.02
9	149	13.75	35.780	2.75	20.2	7.5	1.25	<0.01 / 0.04	<0.01 / 0.11
8	173	12.91	35.650	2.75	21.7	8.3	1.33	room / $\Sigma CHL_{t=0}$	About / 10
7	197	12.26	35.543	2.72	23.1	9.1	1.55		
6	223	11.56	35.435	2.60	25.0	10.4	1.57		
5	248	10.82	35.329	2.59	26.7	11.8	1.70		
4	273	10.31	35.260	2.56	27.5	13.3	1.76		
3	301	9.80	35.198	2.57	28.6	13.7	1.83		
2	325	9.32	35.126	2.58	29.6	14.9	1.89		
1	349	8.92	35.082	2.63	29.8	15.2	1.88		



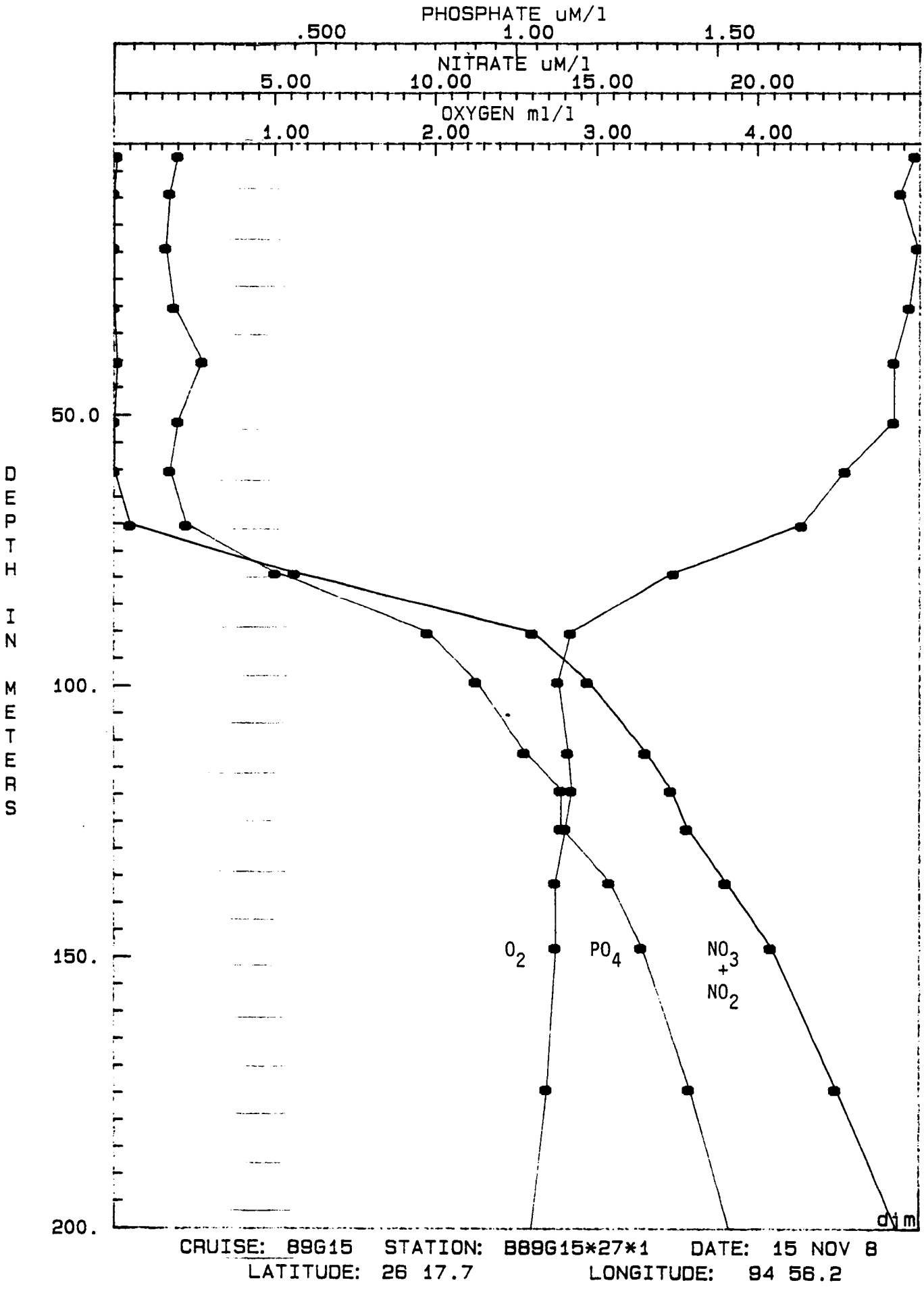
CRUISE: 89G15 STATION: B89G15*26*1 DATE: 15NOV89
LATITUDE: 26 9.6 LONGITUDE: 94 56.9



CRUISE: 89G15 STATION: B89G15*26*1 DATE: 15NOV89
LATITUDE: 26 9.6 LONGITUDE: 94 56.9

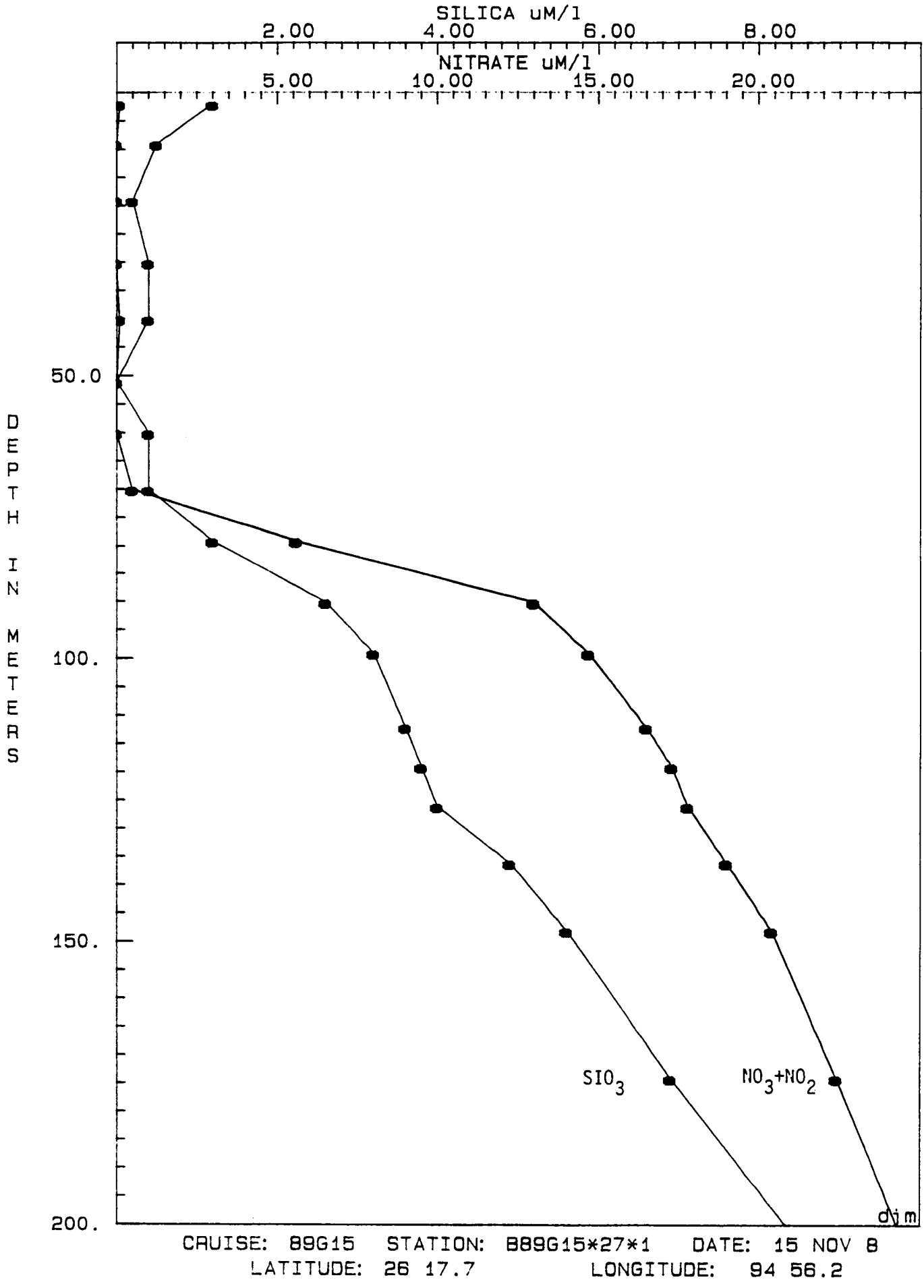
GMT 1850 26 17.7 B89GIS
15 NOV 89 94 56.2 STATION 27

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4					
24	2	25.33	35.319	4.97	0.1	1.2	0.16					
23	9	25.22	35.546	4.88	<0.1	0.5	0.14					
22	19	25.10	36.155	4.99	<0.1	0.2	0.13					
21	30	25.06	36.398	4.94	<0.1	0.4	0.15					
20	40	24.98	36.427	4.84	0.1	0.4	0.22					
19	51	24.83	36.412	4.84	<0.1	<0.1	0.16					
18	60	23.68	36.477	4.54	<0.1	0.4	0.14					
17	70	21.86	36.519	4.27	0.5	0.4	0.18					
16	79	19.82	36.459	3.48	5.6	1.2	0.40					
15	90	17.74	36.320	2.84	13.0	2.6	0.78					
14	99	16.57	36.228	2.76	14.7	3.2	0.90					
13	112	15.58	36.099	2.82	16.5	3.6	1.02					
12	119	15.08	36.018	2.84	17.3	3.8	1.11					
11	126	14.66	35.957	2.81	17.8	4.0	1.11					
10	136	14.04	35.859	2.74	19.0	4.9	1.23					
9	148	13.53	35.772	2.74	20.4	5.6	1.31					
8	174	12.64	35.609	2.69	22.4	6.9	1.43					
7	203	11.69	35.463	2.58	24.5	8.5	1.54					
6	225	11.08	35.383	2.60	25.5	9.2	1.63					
5	252	10.48	35.299	2.61	26.6	10.8	1.70					
4	276	10.02	35.223	2.58	27.8	11.7	1.76					
3	303	9.55	35.169	2.54	28.6	12.8	1.80					
2	323	9.21	35.127	2.57	29.0	13.5	1.83					
1	349	8.93	35.088	2.59	29.3	14.2	1.79					



CRUISE: 89G15 STATION: B89G15*27*1 DATE: 15 NOV 8

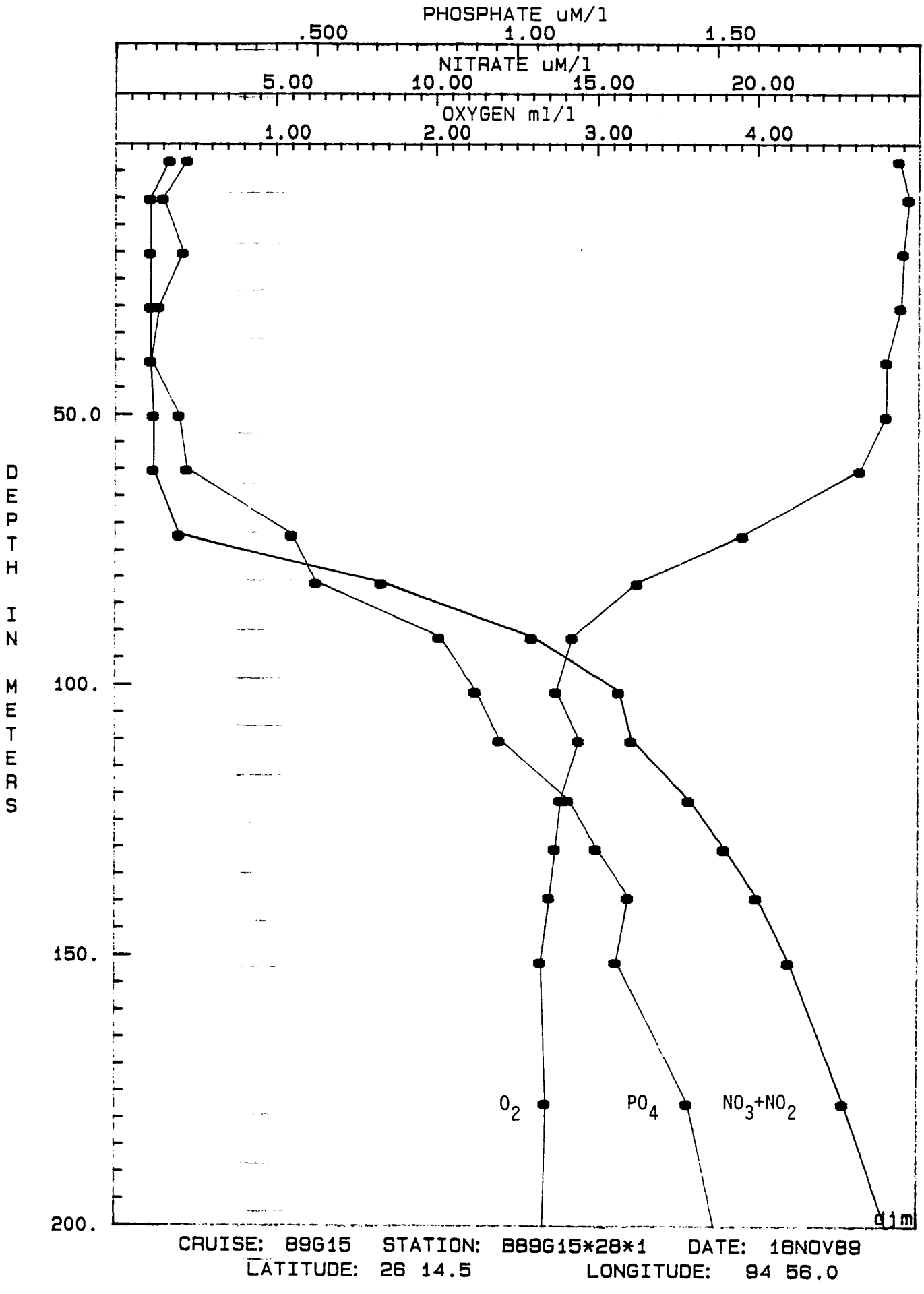
LATITUDE: 26 17.7 LONGITUDE: 94 56.2



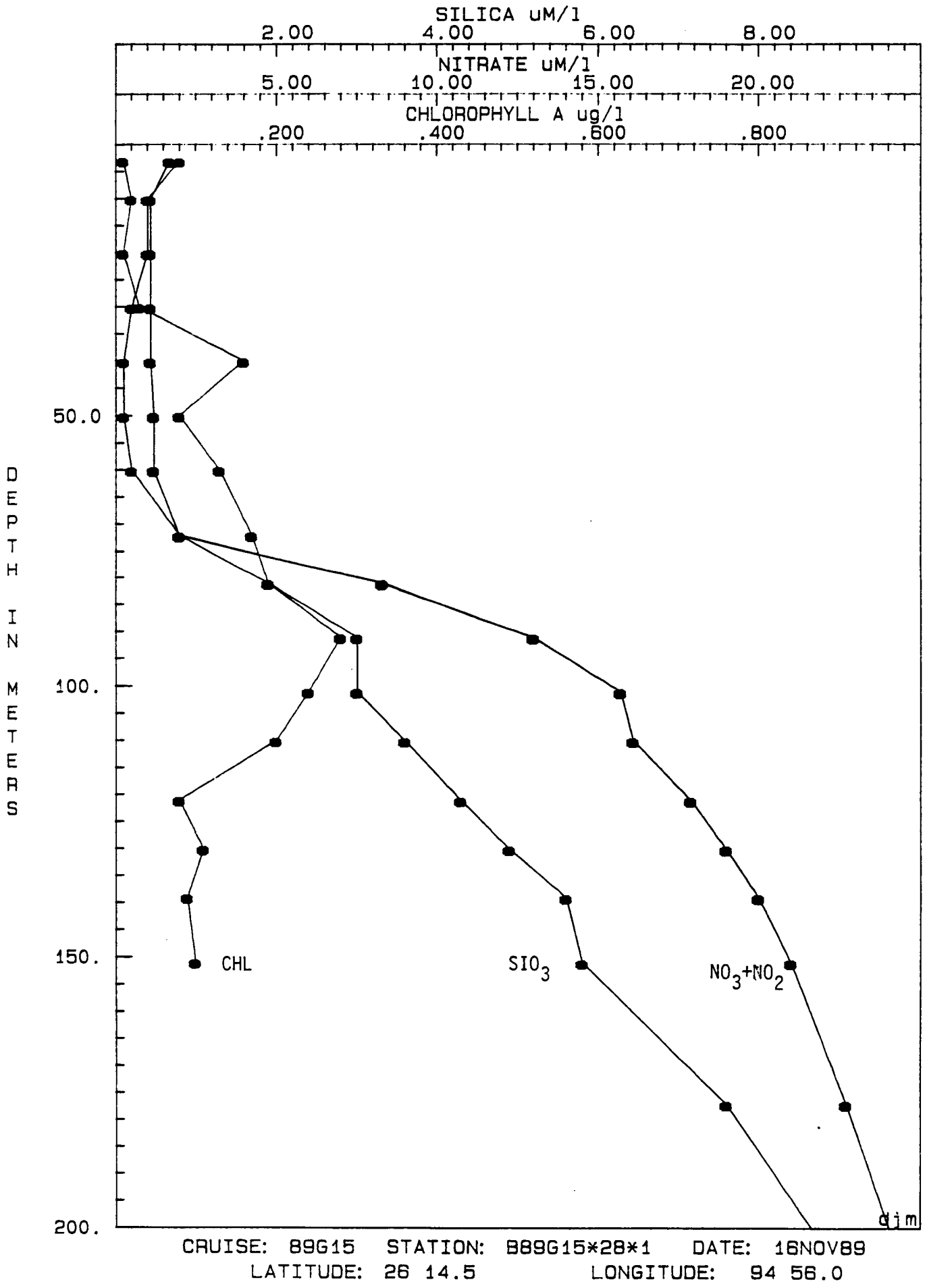
CRUISE: 89G15 STATION: B89G15*27*1 DATE: 15 NOV 8
LATITUDE: 26 17.7 LONGITUDE: 94 56.2

GMT 0046 26 14.5 B 89615
16 NOV 89 94 56.0 STATION 28

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
24	3	25.26	35.191	4.88	1.7	0.8	0.18	<0.01 / 0.01	<0.01 / <0.01
23	10	25.16	35.871	4.94	1.1	0.4	0.12	<0.01 / 0.02	<0.01 / <0.01
22	20	25.16	36.284	4.91	1.1	0.4	0.17	<0.01 / 0.01	<0.01 / <0.01
21	30	25.15	36.359	4.89	1.1	0.2	0.11	<0.01 / 0.02	<0.01 / 0.03
20	40	24.98	36.417	4.80	1.1	0.1	0.09	<0.01 / 0.16	<0.01 / 0.19
19	50	24.89	36.428	4.80	1.2	0.1	0.16	<0.01 / 0.08	<0.01 / 0.08
18	60	22.75	36.458	4.64	1.2	0.2	0.18	<0.01 / 0.13	<0.01 / 0.14
17	72	21.15	36.523	3.92	2.0	0.8	0.44	<0.01 / 0.17	<0.01 / 0.18
16	81	19.72	36.462	3.26	8.3	1.9	0.50	0.01 / 0.18	<0.01 / 0.15
15	91	18.06	36.325	2.85	13.0	3.0	0.81	0.01 / 0.27	<0.01 / 0.03
14	101	16.65	36.185	2.75	15.7	3.0	0.90	<0.01 / 0.24	<0.01 / 0.10
13	110	15.92	36.108	2.89	16.1	3.6	0.96	0.01 / 0.19	<0.01 / 0.04
12	121	15.26	35.983	2.78	17.9	4.3	1.13	<0.01 / 0.08	<0.01 / 0.03
11	130	14.78	35.902	2.75	19.0	4.9	1.20	0.01 / 0.11	<0.01 / 0.02
10	139	14.28	35.837	2.71	20.0	5.6	1.28	0.01 / 0.08	<0.01 / 0.06
9	151	13.80	35.762	2.66	21.0	5.8	1.25	<0.01 / 0.10	<0.01 / 0.02
8	177	12.72	35.592	2.69	22.7	7.6	1.43	100 M { CHL = 1 = 0	about 12
7	201	12.02	35.487	2.68	24.1	8.7	1.50		
6	223	11.36	35.405	2.63	25.4	9.4	1.82		
5	249	10.78	35.325	2.57	26.4	10.8	1.73		
4	272	10.29	35.268	2.52	27.6	11.7	1.74		
3	297	9.78	35.190	2.52	28.4	12.1	1.80		
2	322	9.33	35.139	2.58	29.0	13.1	1.85		
1	349	8.87	35.086	2.59	29.9	14.0	1.93		



CRUISE: 89G15 STATION: B89G15*28*1 DATE: 16NOV89
LATITUDE: 26 14.5 LONGITUDE: 94 56.0

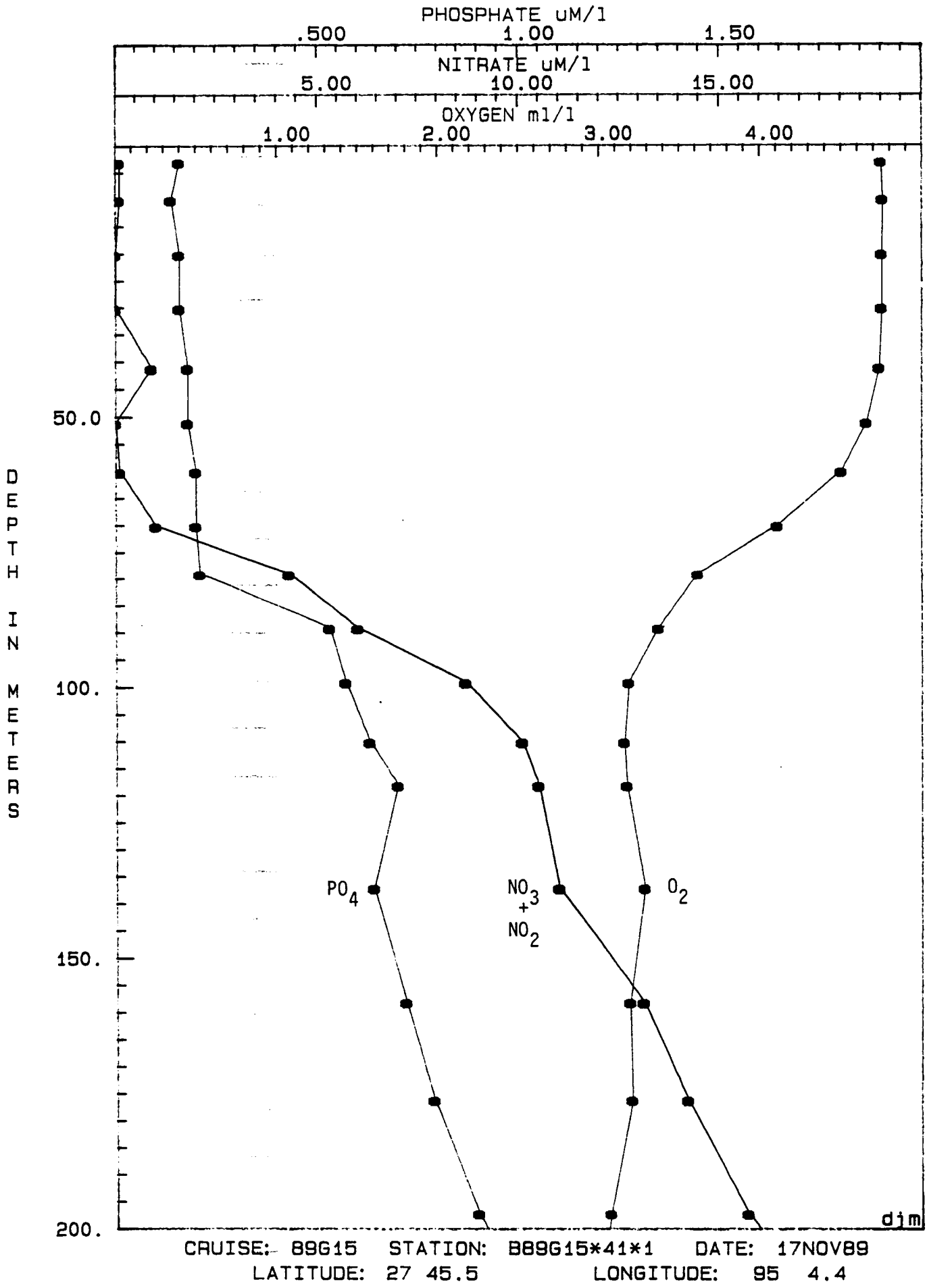


CRUISE: 89G15 STATION: B89G15*28*1 DATE: 16NOV89
LATITUDE: 26 14.5 LONGITUDE: 94 56.0

GMT 0359 27 45.5 B89615

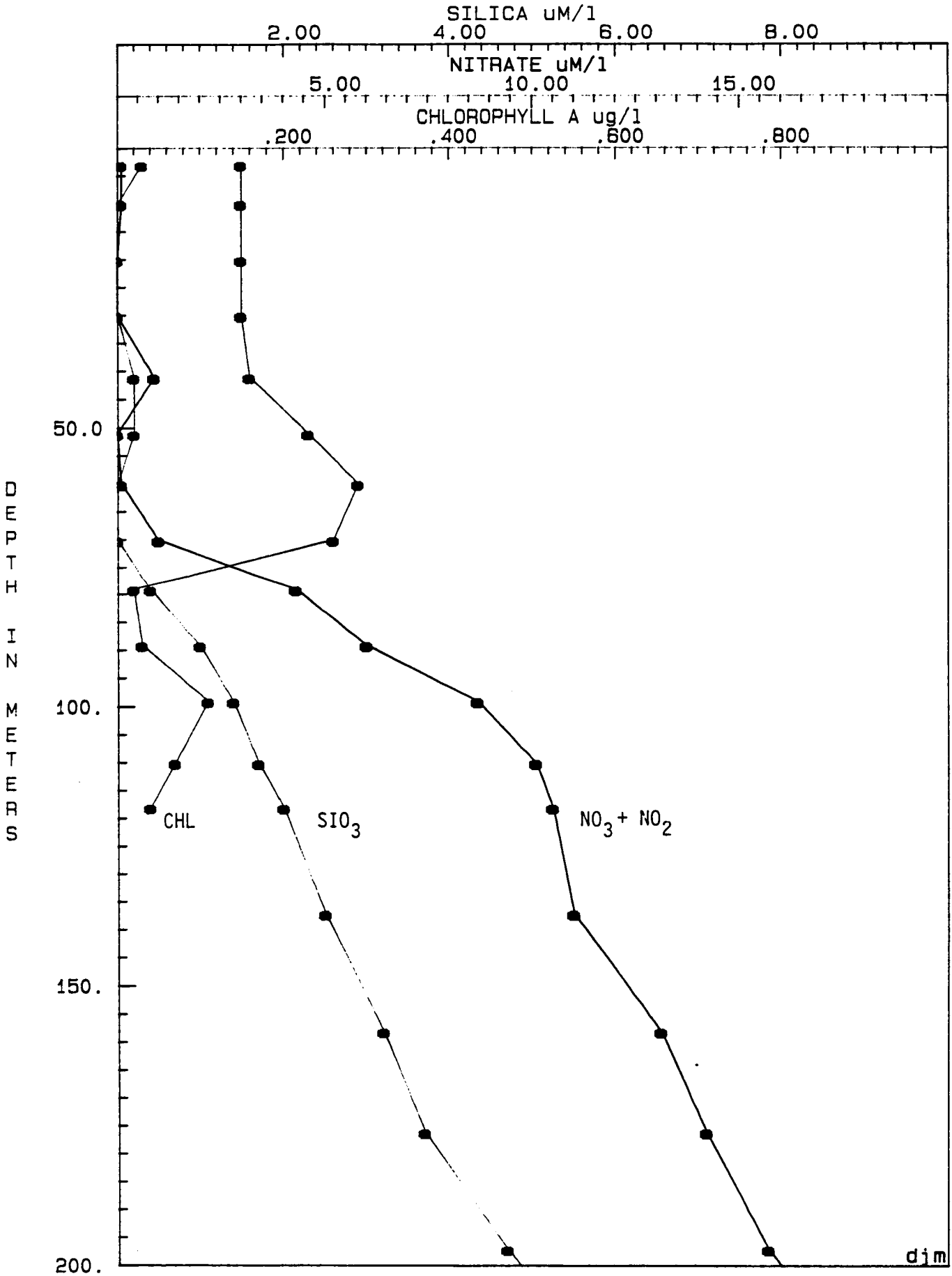
17 NOV 89 95 4.4 STATION 41

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
24	3	24.60	36.120	4.75	0.1	0.3	0.16	<0.01 / 0.15	0.01 / 0.04
23	10	24.61	36.116	4.76	0.1	<0.1	0.14	<0.01 / 0.14	0.01 / 0.04
22	20	24.61	36.121	4.75	<0.1	<0.1	0.16	<0.01 / 0.15	0.01 / 0.04
21	30	24.62	36.118	4.75	<0.1	<0.1	0.16	<0.01 / 0.15	<001 / 0.04
20	41	24.62	36.145	4.74	0.9	0.2	0.18	<0.01 / 0.16	0.01 / 0.05
19	51	24.60	36.263	4.66	<0.1	0.2	0.18	0.01 / 0.23	0.01 / 0.10
16	60	24.21	36.470	4.50	0.1	<0.1	0.20	<0.01 / 0.29	0.01 / 0.15
15	70	22.28	36.569	4.11	1.0	<0.1	0.20	0.01 / 0.26	0.02 / 0.17
14	79	21.55	36.573	3.62	4.3	0.4	0.21	<0.01 / 0.02	0.02 / 0.02
13	89	20.48	36.568	3.37	6.0	1.0	0.53	0.01 / 0.01	<0.01 / 0.02
10	99	19.99	36.531	3.19	8.7	1.4	0.57	<001 / 0.11	0.01 / 0.10
9	110	19.20	36.502	3.16	10.1	1.7	0.63	100 M { CHL = i = 0	about 15
8	118	19.05	36.502	3.17	10.5	2.0	0.70		
7	137	17.93	36.420	3.28	11.0	2.5	0.64		
6	158	16.98	36.283	3.19	13.1	3.2	0.72		
5	176	16.36	36.180	3.21	14.2	3.7	0.79		
2	197	15.75	36.077	3.07	15.7	4.7	0.90		
1	225	14.47	35.874	2.95	18.6	6.2	1.11		



CRUISE: 89G15 STATION: B89G15*41*1 DATE: 17NOV89

LATITUDE: 27 45.5 LONGITUDE: 95 4.4



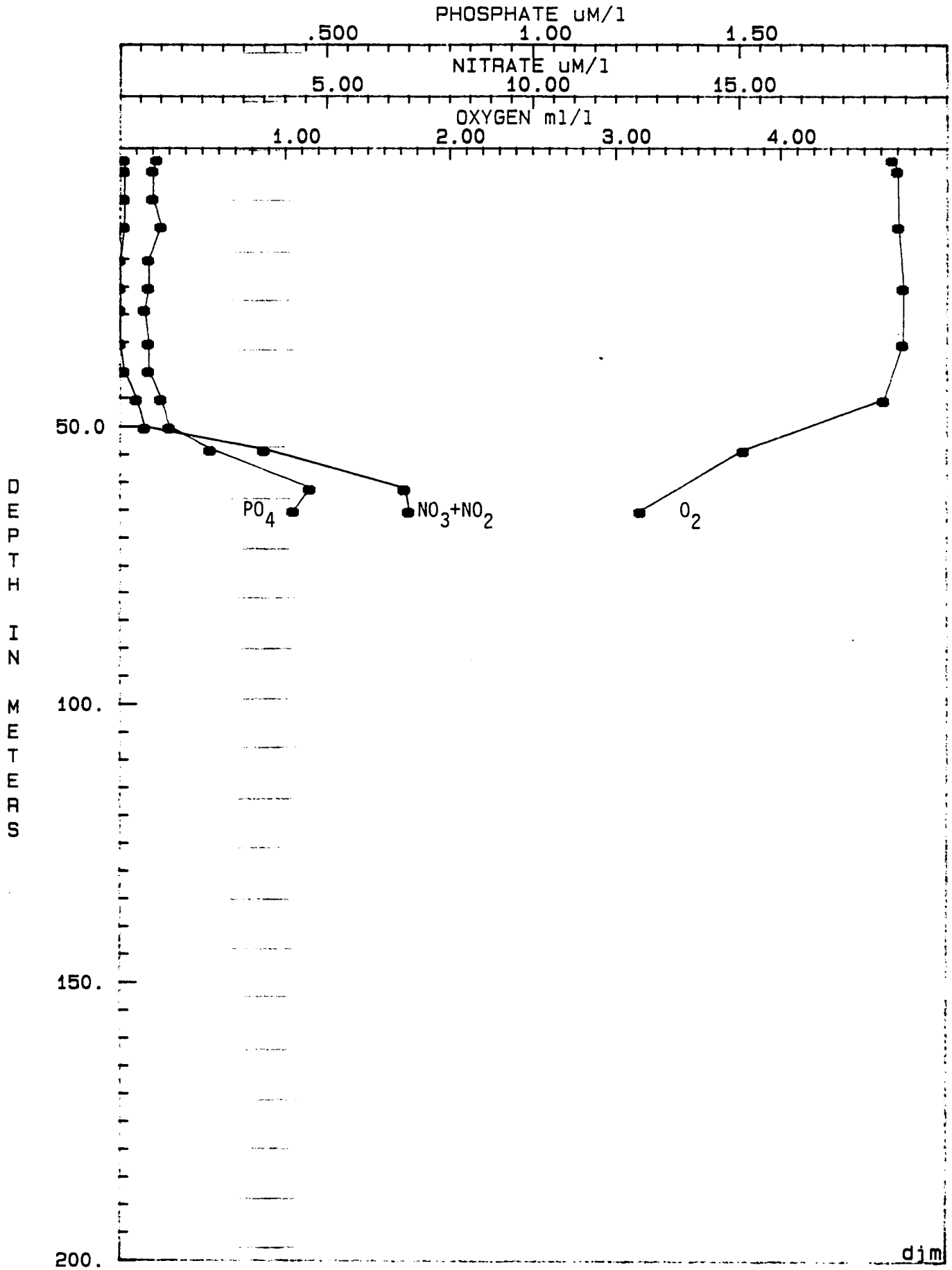
CRUISE: 89G15 STATION: B89G15*41*1 DATE: 17NOV89
LATITUDE: 27 45.5 LONGITUDE: 95 4.4

GMT 1215
17 NOV 89

27 41.0
96 19.0

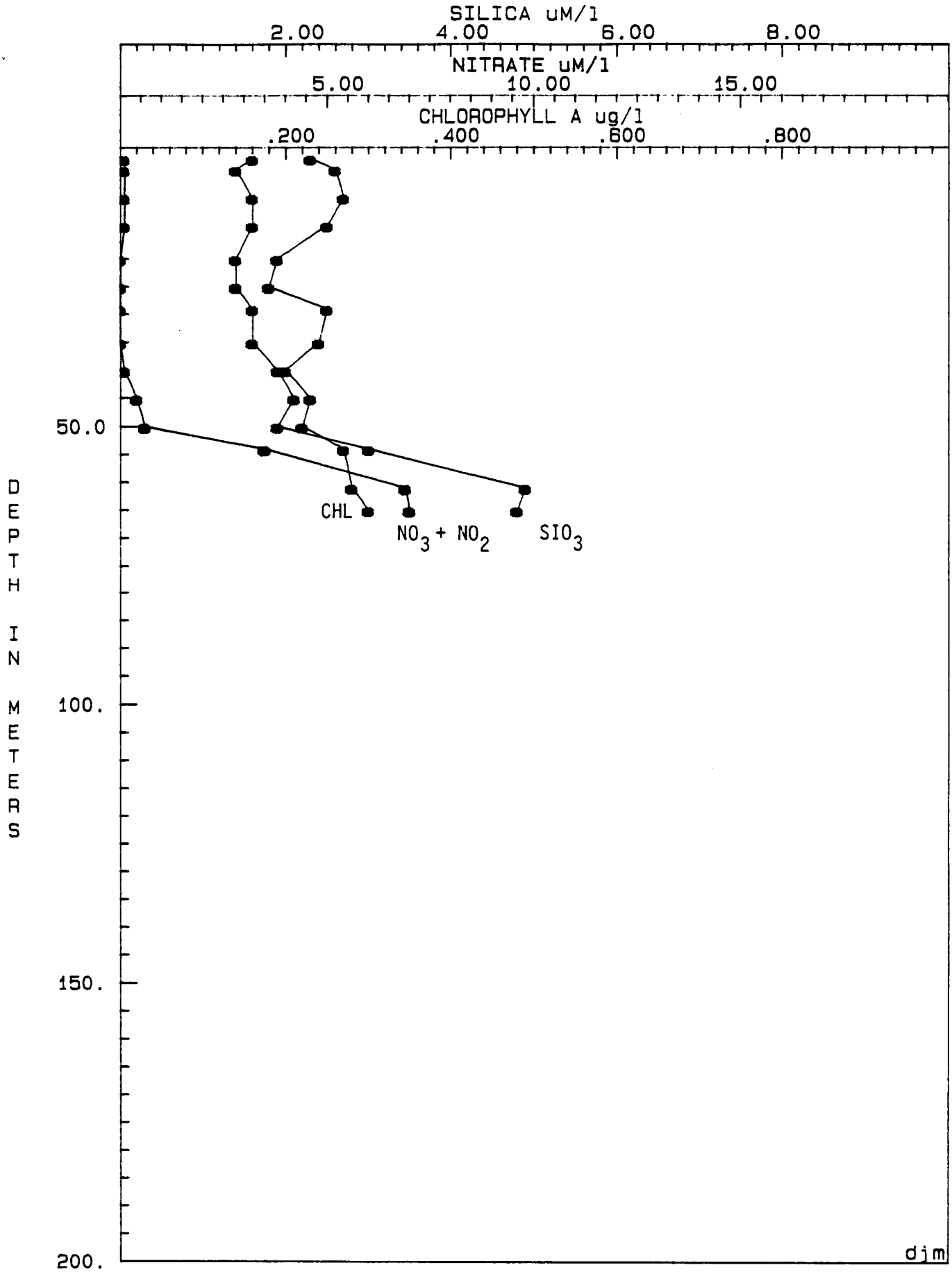
B89G15
STATION 42

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
14	2	24.50	35.735	4.67	0.1	1.6	0.09	<0.01 / 0.23	0.01 / 0.06
13	4	24.50	35.732	4.70	0.1	1.4	0.08	0.01 / 0.25	0.01 / 0.06
12	9	24.57	35.736	—	0.1	1.6	0.08	0.01 / 0.26	0.01 / 0.05
11	14	24.56	35.769	4.71	0.1	1.6	0.10	0.01 / 0.24	0.01 / 0.05
10	20	24.67	35.853	—	<0.1	1.4	0.07	0.01 / 0.18	<0.01 / 0.05
9	25	24.68	35.876	4.74	<0.1	1.4	0.07	<0.01 / 0.18	0.01 / 0.04
8	29	24.68	35.921	—	<0.1	1.6	0.06	0.01 / 0.24	0.01 / 0.05
7	35	24.70	36.046	4.73	<0.1	1.6	0.07	0.02 / 0.22	<0.01 / 0.04
6	40	24.68	36.068	—	0.1	1.9	0.07	0.02 / 0.18	0.01 / 0.05
5	45	24.50	36.226	4.62	0.4	2.1	0.10	0.01 / 0.22	0.01 / 0.06
4	50	24.42	36.314	—	0.6	1.9	0.12	0.01 / 0.21	0.01 / 0.08
3	54	22.30	36.472	3.78	3.5	3.0	0.22	0.05 / 0.22	0.01 / 0.10
2	61	20.40	36.458	—	6.9	4.9	0.46	0.04 / 0.24	0.01 / 0.16
1	65	20.36	36.455	3.15	7.0	4.8	0.42	0.04 / 0.26	<0.01 / 0.14
								65 M $\int$ CHL = $i=0$	about 15



CRUISE: 89G15 STATION: B89G15*42*1 DATE: 17NOV89

LATITUDE: 27 41.0 LONGITUDE: 96 19.0



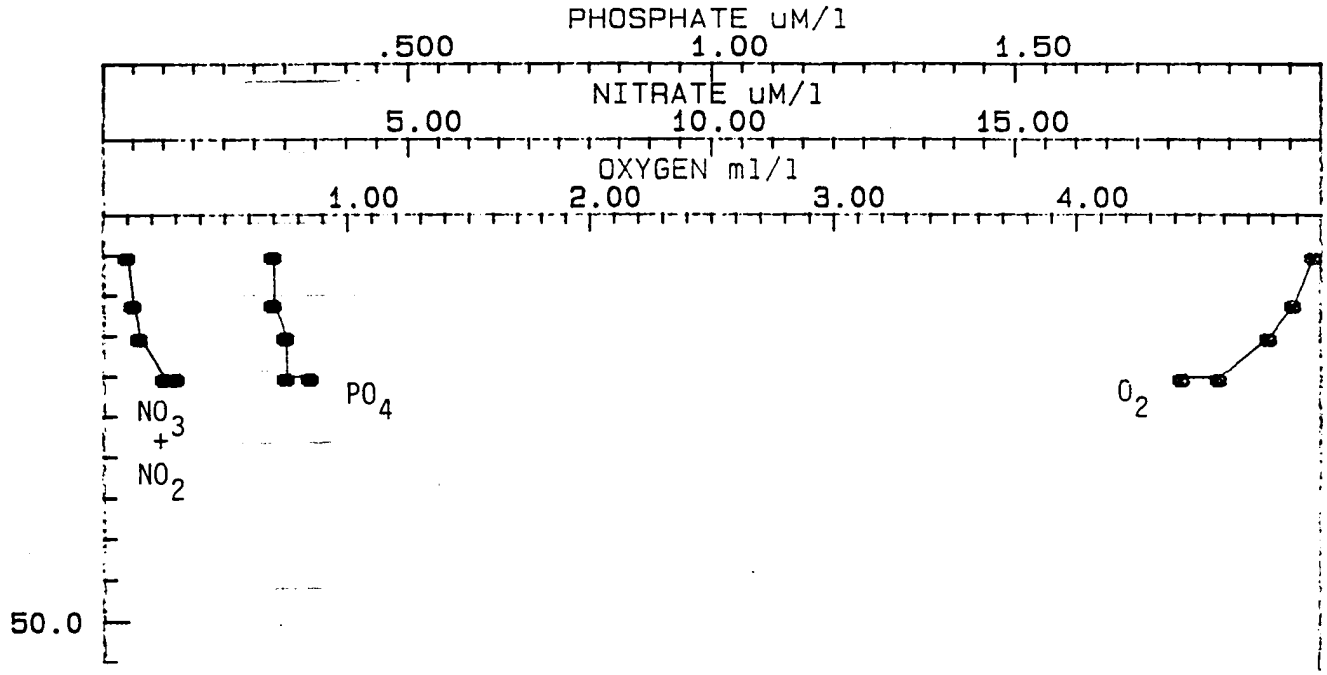
CRUISE: 89G15 STATION: B89G15*42*1 DATE: 17NOV89
LATITUDE: 27 41.0 LONGITUDE: 96 19.0

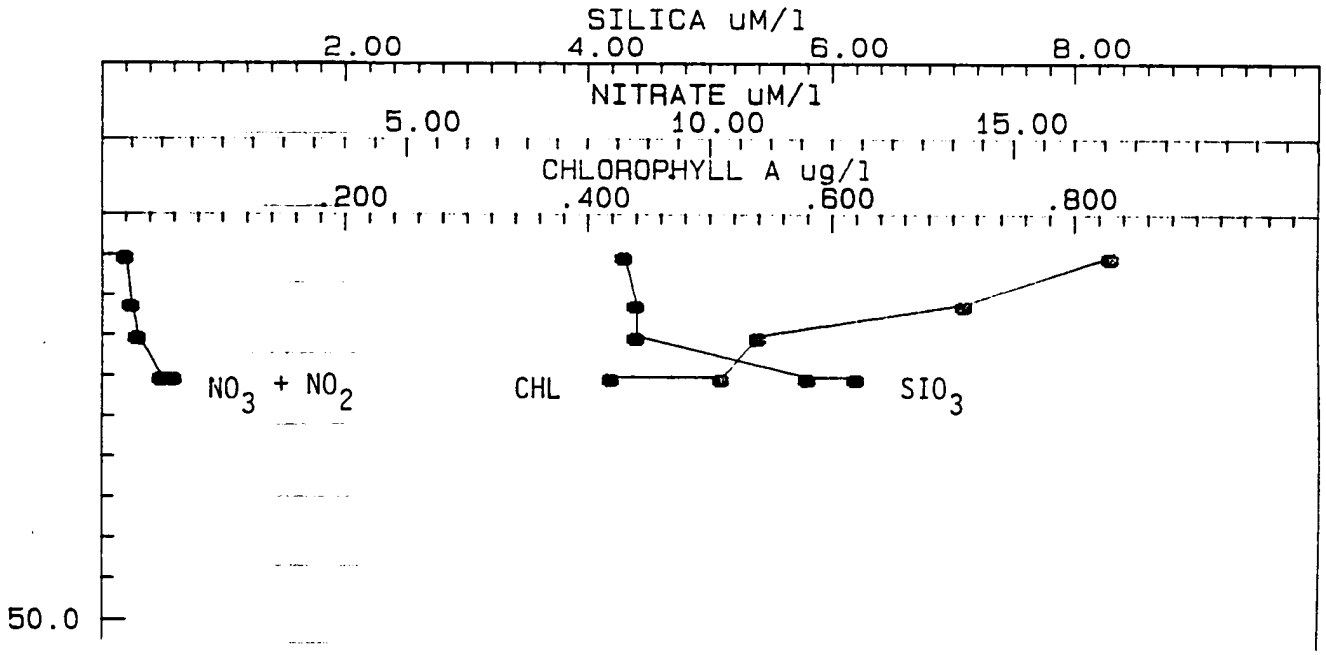
GMT 2112 — 27 39.4 — B89G15
17 NOV 89 — 97 1.7 — STATION 43

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
19	5	22.02	30.737	4.97	0.4	4.3	0.28	0.17 / 0.56	<0.01 / 0.10
18	11	22.04	30.745	4.89	0.5	4.4	0.28	0.15 / 0.56	<0.01 / 0.13
17	15	22.35	31.175	4.79	0.6	4.4	0.30	0.06 / 0.48	<0.01 / 0.05
16	20	22.65	31.924	4.59	1.0	5.8	0.30	0.14 / 0.37	<0.01 / 0.05
15	20	22.65	31.924	4.43	1.2	6.2	0.34	0.17 / 0.25	<0.01 / 0.08
								20 M { CHL = 1=0	about 13

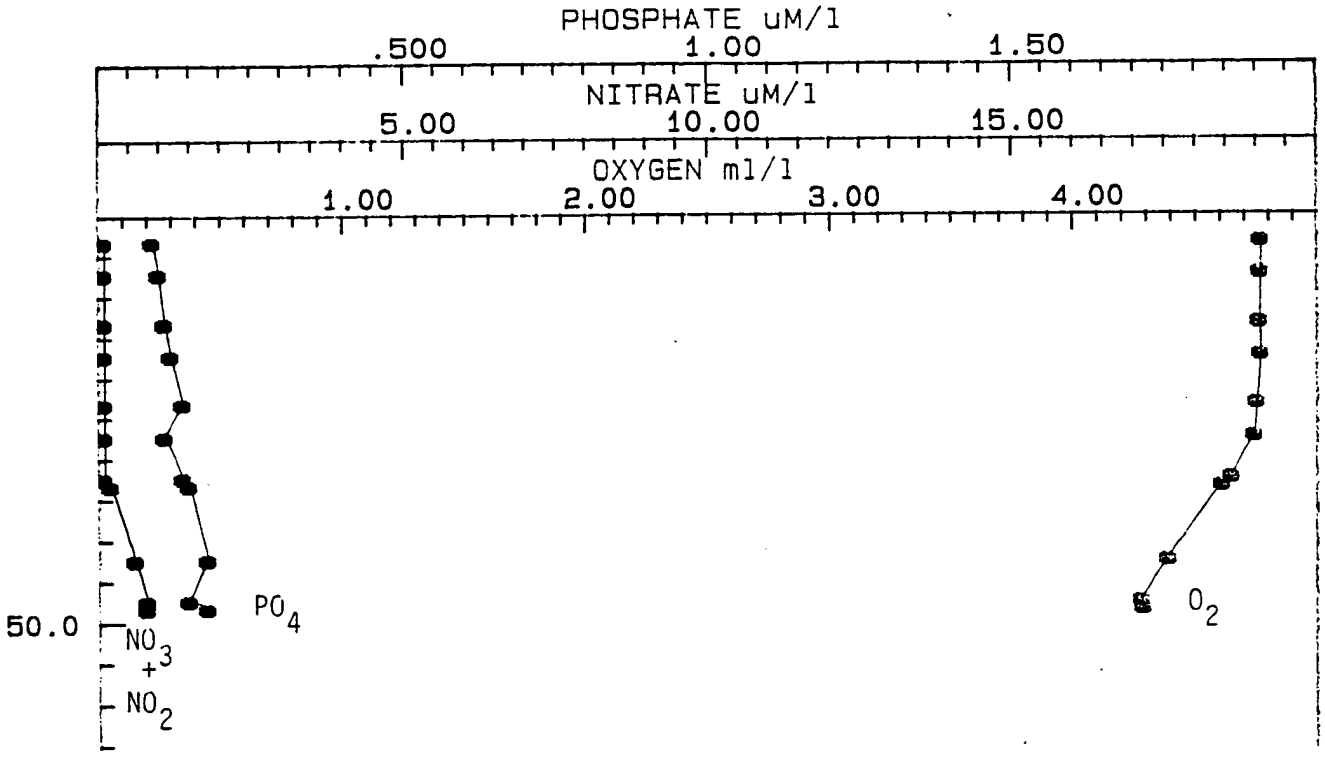
GMT 0447 — 27 30.4 — B89G15
18 NOV 89 — 97 1.7 — STATION 44

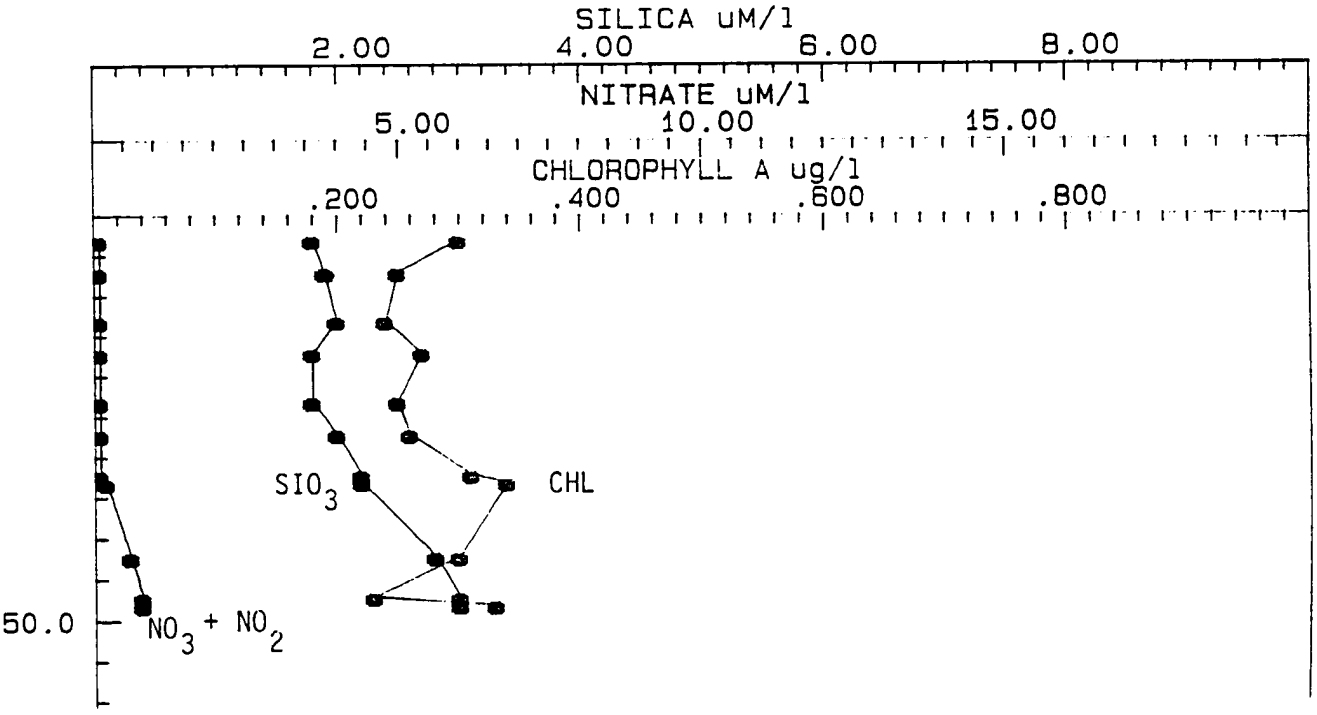
BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
6	3	24.10	34.470	4.77	0.1	1.8	0.09	0.01 / 0.29	<0.01 / 0.02
5	7	24.09	34.460	4.77	0.1	1.9	0.10	0.01 / 0.24	<0.01 / 0.05
4	13	24.10	34.451	4.77	0.1	2.0	0.11	<0.01 / 0.24	<0.01 / 0.07
3	17	24.12	34.506	4.77	0.1	1.8	0.12	0.01 / 0.26	<0.01 / 0.05
2	23	24.14	34.516	4.75	0.1	1.8	0.14	0.01 / 0.24	<0.01 / 0.05
1	27	24.15	34.576	4.74	0.1	2.0	0.11	0.02 / 0.24	<0.01 / 0.07
24	32	24.17	34.819	4.65	0.1	2.2	0.14	<0.01 / 0.31	<0.01 / 0.07
23	33	24.26	35.114	4.61	0.2	2.2	0.15	0.02 / 0.32	<0.01 / 0.08
22	42	25.48	36.338	4.39	0.6	2.8	0.18	0.03 / 0.27	<0.01 / 0.10
21	47	25.08	36.460	4.28	0.8	3.0	0.15	0.02 / 0.22	<0.01 / 0.11
20	48	25.08	36.459	4.29	0.8	3.0	0.18	0.02 / 0.31	<0.01 / 0.09
								48 M { CHL = 1=0	about 13





CRUISE: 89G15 STATION: B89G15*43*1 DATE: 17NOV89
LATITUDE: 27 39.4 LONGITUDE: 97 1.7

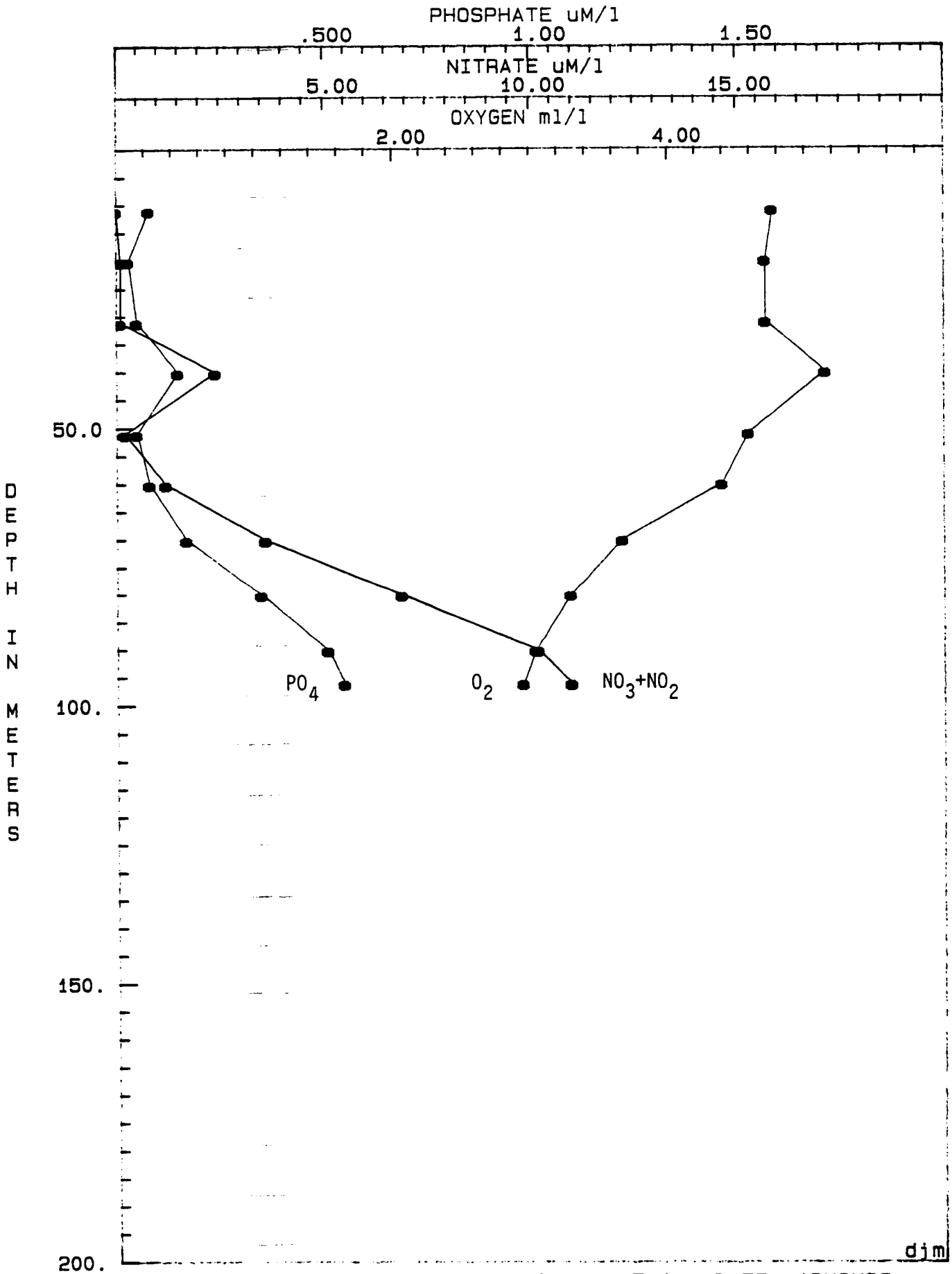




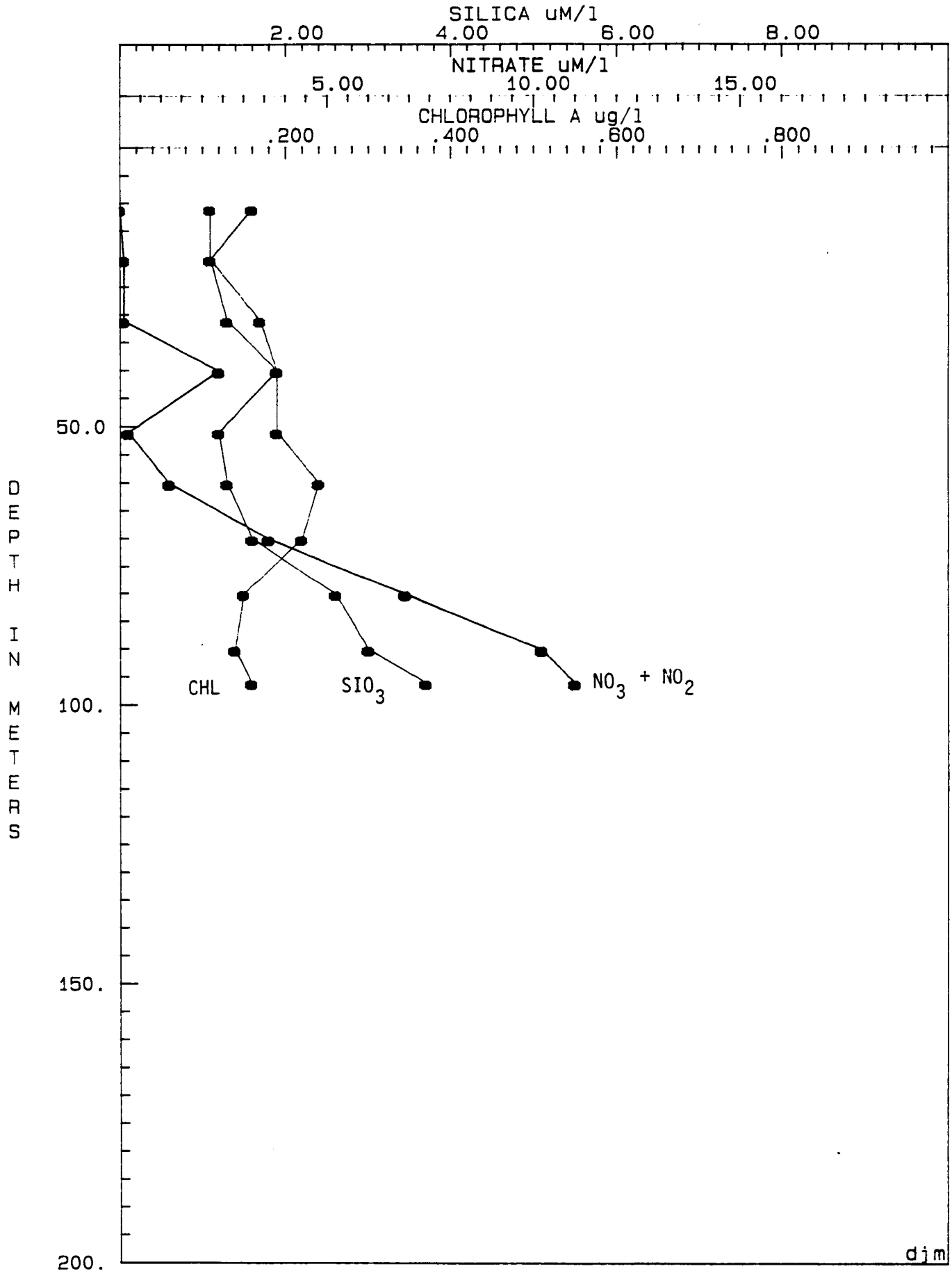
CRUISE: 89G15 STATION: 889G15*44*1 DATE: 18NOV89
LATITUDE: 27 30.4 LONGITUDE: 97 1.7

GMT 0928 27 21.8 B89GIS
18 NOV 89 96 26.4 STATION 45

BOTTLE #	DEPTH	T	S	DO	NO_3 + NO_2	SiO_3	PO_4	CHL	PHAEO
9	11	24.16	35.682	4.77	<0.1	1.6	0.08	<0.01 / 0.11	<0.01 / 0.04
8	20	24.26	36.418	4.71	0.1	1.1	0.03	<0.01 / 0.11	<0.01 / 0.03
7	31	24.26	36.446	4.72	0.1	1.3	0.05	0.01 / 0.16	0.01 / 0.06
6	40	24.26	——	5.15	2.4	1.9	0.15	<0.01 / 0.19	0.01 / 0.07
5	51	24.18	36.459	4.59	0.2	1.2	0.05	<0.01 / 0.19	<0.01 / 0.11
4	60	23.18	36.569	4.40	1.2	1.3	0.08	0.01 / 0.23	0.01 / 0.15
3	70	21.10	36.548	3.67	3.6	1.6	0.17	0.01 / 0.21	0.03 / 0.16
2	80	20.32	36.572	3.30	6.9	2.6	0.35	0.01 / 0.15	0.02 / 0.14
1	90	19.00	36.480	3.04	10.2	3.0	0.51	0.01 / 0.13	0.02 / 0.09
24	96	18.77	36.455	2.96	11.0	3.7	0.55	0.02 / 0.14	0.01 / 0.02
								96M $\sum_{i=0}^{CHL=}$	about 16

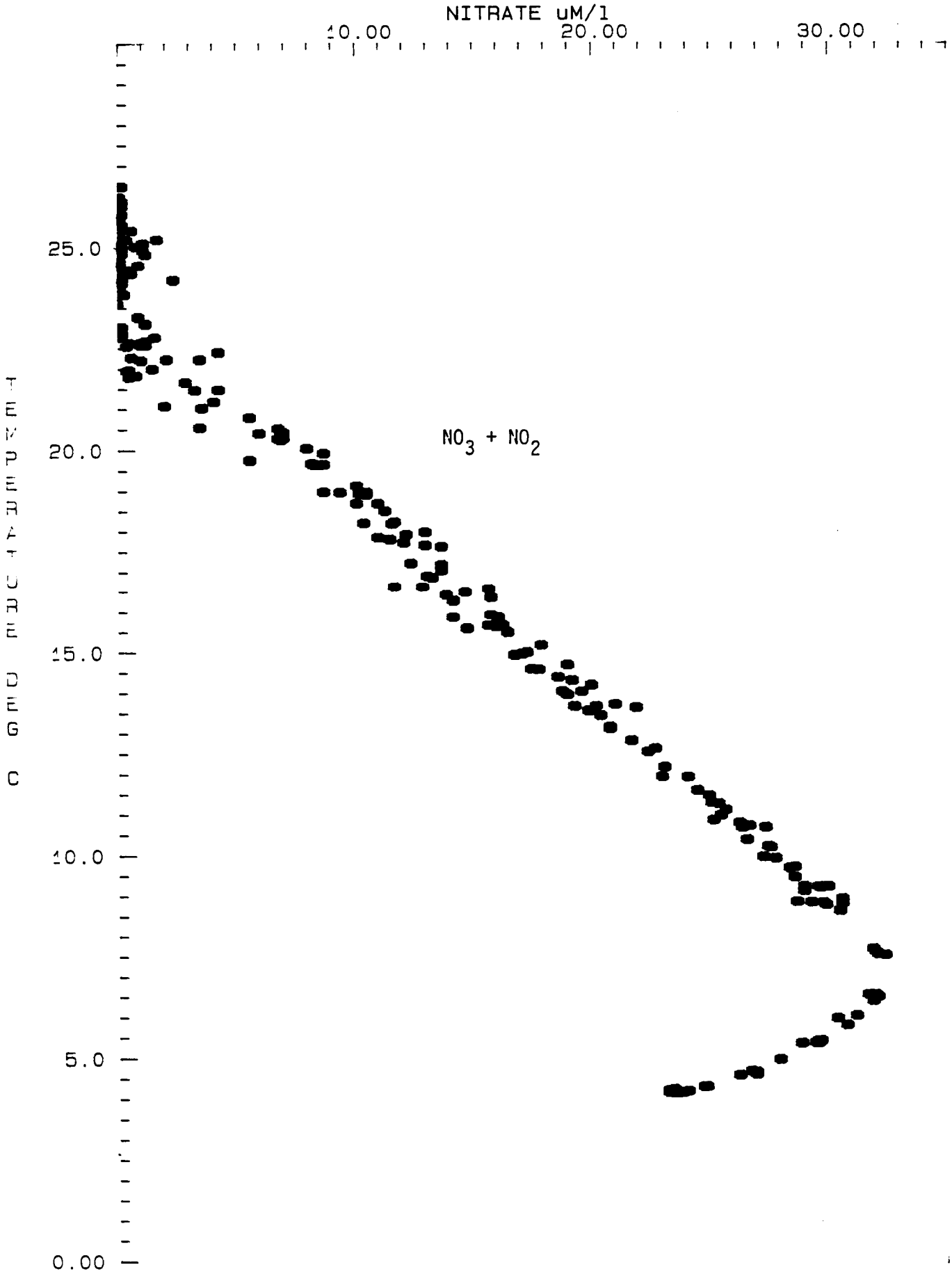


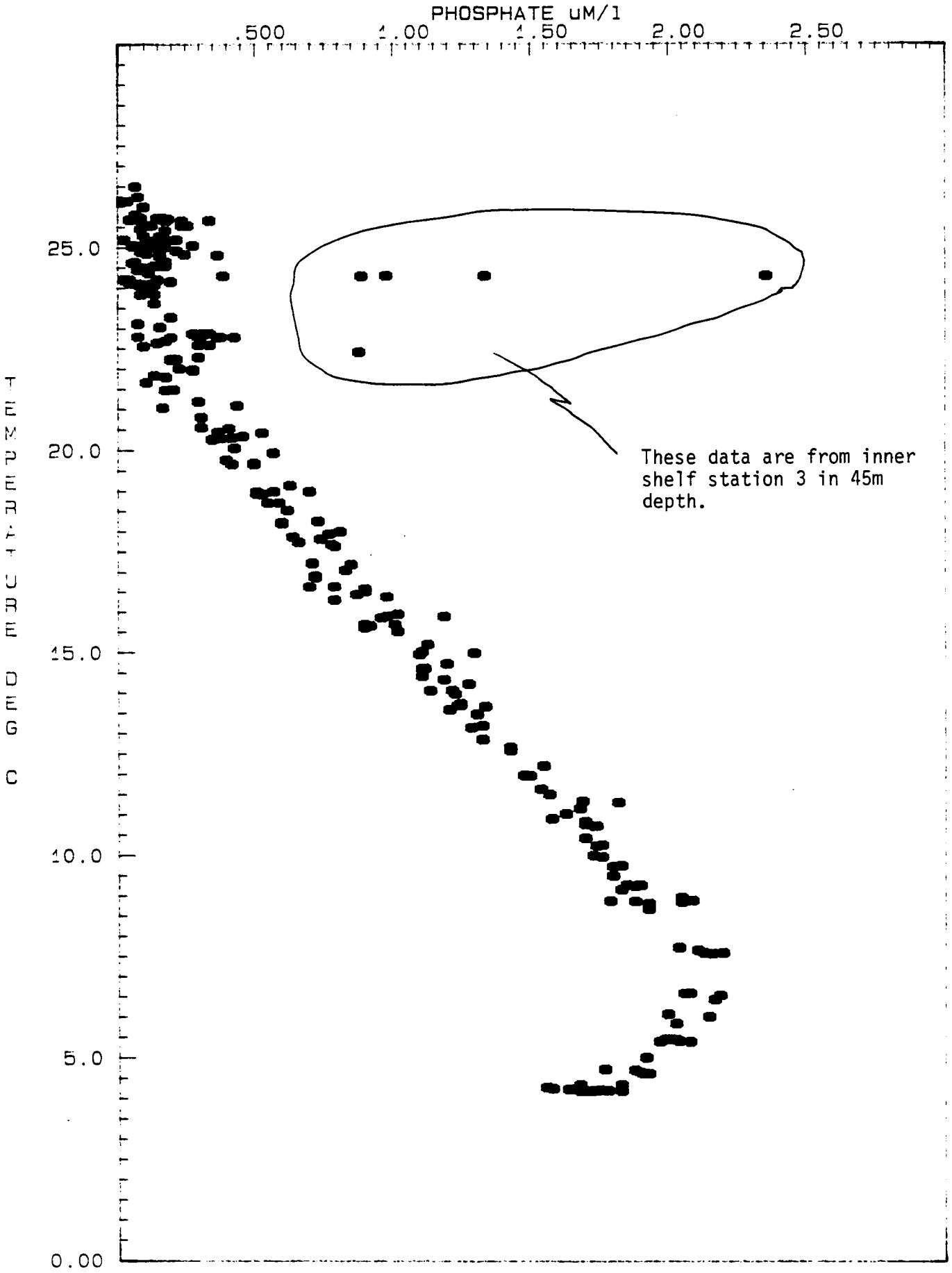
CRUISE: 89G15 STATION: 889G15*45*1 DATE: 18NOV89
LATITUDE: 27 21.8 LONGITUDE: 96 26.4

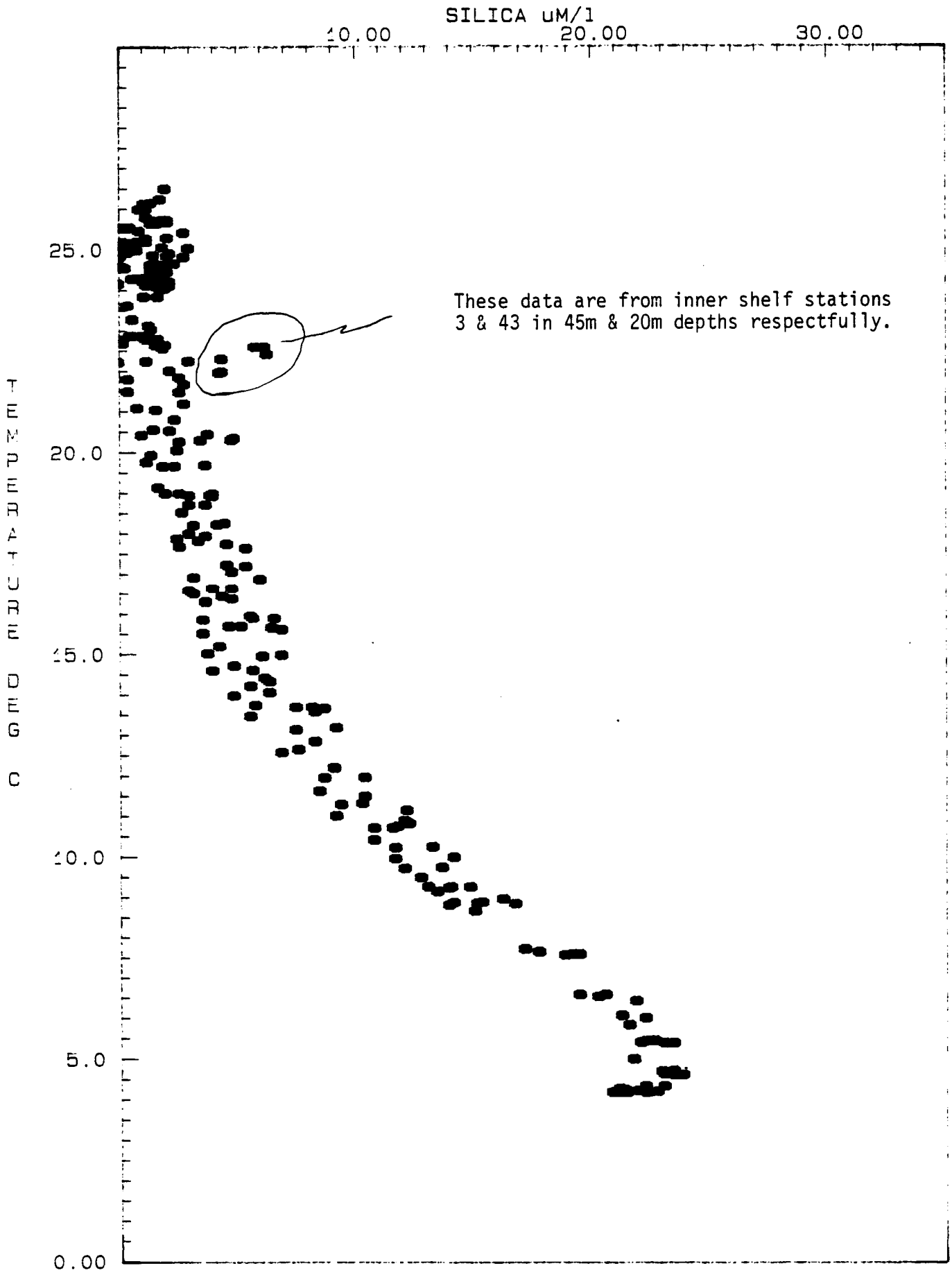


CRUISE: 89G15 STATION: 889G15*45*1 DATE: 18NOV89

LATITUDE: 27 21.8 LONGITUDE: 96 26.4


NITRATE uM/l
10.00
20.00
30.00
25.0
20.0
15.0
10.0
5.0
0.00
$NO_3 + NO_2$


PHOSPHATE uM/l
.500
1.00
1.50
2.00
2.50
25.0
20.0
15.0
10.0
5.0
0.00
These data are from inner shelf station 3 in 45m depth.

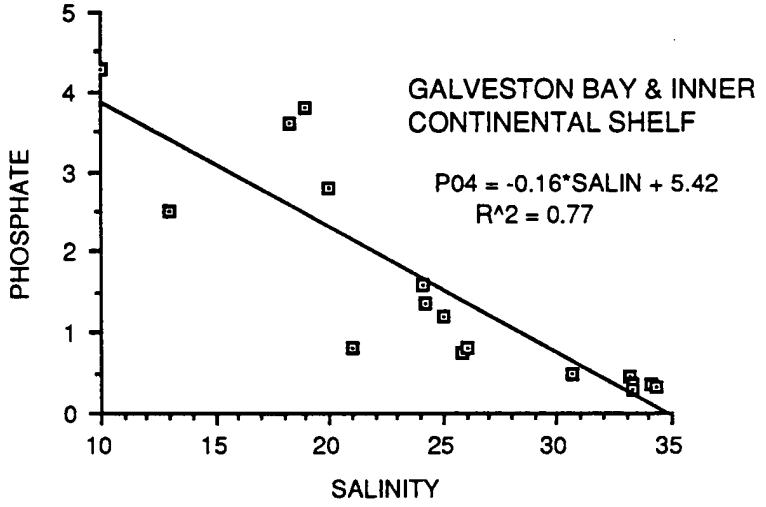

SILICA uM/l
10.00
20.00
30.00
25.0
20.0
15.0
10.0
5.0
0.00
TEMPERATURE DEG C
These data are from inner shelf stations
3 & 43 in 45m & 20m depths respectfully.

GALVESTON BAY SAMPLING

Nutrient samples were collected from small boats by our colleagues from Texas A&M University at Galveston from various locations in the southern part of Galveston Bay both pre-cruise and post-cruise, to supplement the surface bucket sampling that we did from GYRE at half hour intervals while cruise 89G-15 was underway from Pelican Island to the first inner shelf station in 20m water depth. Gabriel Benoit and Peter Santschi sampled nine locations in Galveston Bay on 21 & 23 October, and L.L. Griffin and A.M. Landry sampled an additional twelve locations in the estuary and its tributaries on 21 November.

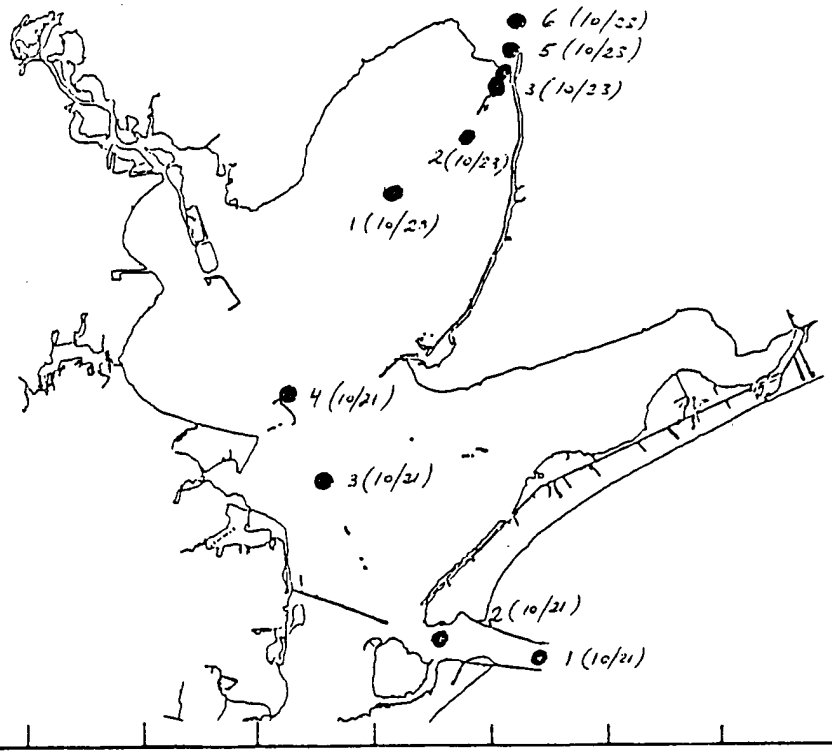
These estuarine samples from Galveston Bay were filtered through GF/F filters and frozen for later analysis at College Station with an Alpkem IWA-6 six-channel autoanalyzer, while the surface bucket samples taken during cruise 89G-15 were analyzed fresh aboard ship with TrAAcs-800 four-channel autoanalyzer.

As in previous seasons (October 88; March 89; May 89), the estuarine water of Galveston Bay and its tributaries had markedly higher silicate and phosphate levels than did the inner shelf water just offshore. At sites with salinities less than 30 PSU, phosphate concentrations exceeded 0.7 ug-at/liter, and silicate exceeded 1.2 ug-at/liter. A composite PO_4:salinity plot of samples bucketed underway on 11 November, supplemented with surface samples collected pre-cruise and post-cruise from Galveston Bay and West Bay, shows a mixing curve that can be described by a linear fit:



Galveston Bay samples, taken by Dr. P. Santschi pre cruise (21 & 23 October 1989)

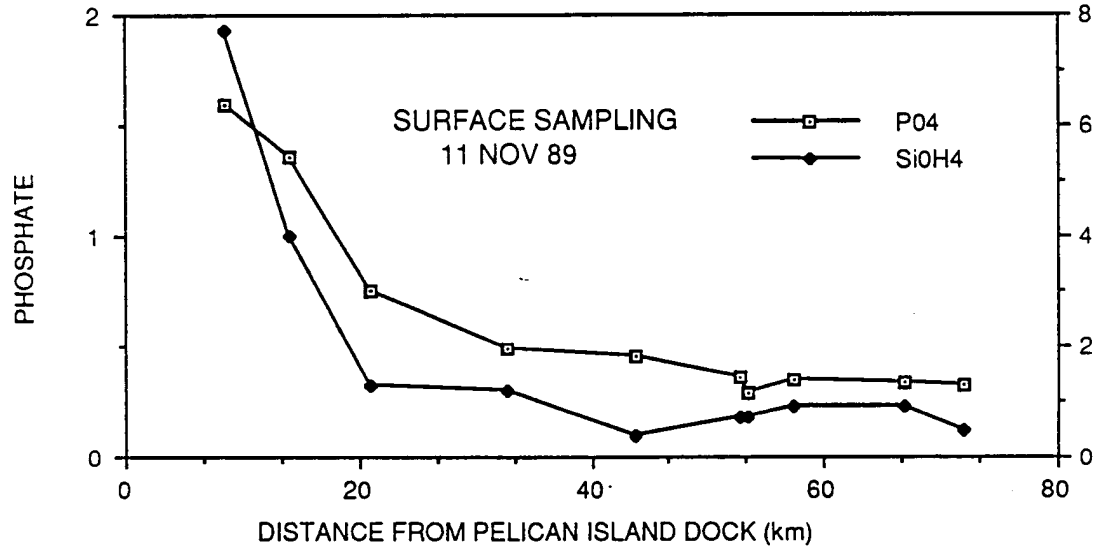
DATE	STA	Field Salin	Salin when analyzed	NH_4	Urea *	NO_2	NO_3 *	PO_4	$SiOH_4$	Comments
21 Oct	1	26	27	0.5	0.4	0.22	1.3	0.8	15.7	
	2	21	17	1.0	1.6	0.26	2.0	0.8	17.1	
	3	20	19	0.7	0.6	0.38	2.2	2.8	43.1	
	4	19	19	0.8	0.7	0.56	2.6	3.8	51.4	
23 Oct	1	13	10	0.4	0.3	–	0.3	2.5	32.9	
	2a	10	8	2.3	0.6	0.33	3.0	4.4	41.9	samples from the same location
	2b	10	8	3.0	2.8	0.36	4.5	4.2	42.2	
	3	6	6	3.4	0.8	0.26	2.4	2.7	28.4	
	5	3	3	4.7	2.8	0.14	2.7	1.4	15.8	
	6	1	1	3.5	0.8	0.10	1.7	1.0	40.4	



* Frozen samples were analyzed five weeks after collection (27 Nov in College Station); variations in urea and nitrate concentrations especially evident by comparing the analyses of a pair of samples taken at same location (Sta 2, 10/23) are not uncommon when samples have been frozen for several weeks prior to nutrient analysis.

Surface sampling, 11 Nov 1989, while GYRE was enroute from dock to Sta 01

GMT	Lat	Lon	$NO_2 + NO_3$	PO_4	$SiOH_4$	cum * distance (km)	SAIL Temp	Bucket Salin		comments
1433	29 20.8	94 44.0	2.3	1.60	7.7	8.6	20.8	24.06		in Pelican Island ship channel
1500	29 20.0	94 40.5	0.6	1.36	4.0	14.1	20.9	24.25		still inside ship channel jetties
1530	29 15.7	94 39.7	0.2	0.75	1.3	21.0	20.9	25.83		outside ship channel SE of sea buoy
1600	29 13.2	94 33.8	0.1	0.49	1.2	32.7	22.2	30.69		
1630	29 08.0	94 30.0	<.05	0.45	0.4	43.8	22.3	33.17		
1700	29 03.2	94 27.0	<.05	0.29	0.7	53.4	22.4	33.26		
1710	29 03.4	94 27.0	<.05	0.36	0.7	52.9	22.3	33.32		stopped for quick CTD for ^{14}C work
1739	29 01.2	94 25.6	<.05	0.35	0.9	57.3	22.4	34.10		
1800	28 56.7	94 22.2	<.05	0.33	0.9	66.8	22.7	34.27		
2045	28 53.9	94 20.8	0.1	0.32	0.5	71.9	22.9	34.29		stopped for CTD at Station 01



* cum distance from dock (29 18.8N, 94 49.0W); GYRE departed 1410 GMT

Galveston Bay samples, taken by Dr. L.L. Griffin & Dr. A.N. Landry post cruise
(21 November 1989)

STA	Field Salin	Field Temp	NH_4	Urea	NO_2	NO_3	PO_4	$SiOH_4$	Sample Depth	comments
A	18.3	17.2	0.1	0.2	<0.1	0.3	3.6	33	1 ft	Dickinson Bay region of Galveston Bay
	20.6	16.3	0.1	0.3	<0.1	0.2	3.3	29	4 ft	
B	18.5	17.3	1.2	0.4	0.2	1.5	3.6	20	1 ft	Transect upstream in Dickinson Bayous
	17.9	17.5	1.8	0.3	0.2	1.2	3.3	21	4 ft	B= channel marker #29
C	17.1	17.7	2.4	0.4	1.4	21.7	3.9	28	1 ft	
	19.2	16.7	1.8	0.3	0.5	3.7	5.2	24	2½ ft	C= creek mouth about 3 km upstream
D	approx 13	17.8	0.5	0.7	1.1	24.6	13.6	29	1 ft	
	16.2	17.1	1.4	0.7	1.1	24.7	14.4	32	4 ft	D= fork about 5 km upstream
E	12.9	19.6	0.1	0.6	0.9	40.4	18.8	50	1 ft	E= about 1 km downstream of Dickinson sewage treatment
	14.3	16.2	7.7	0.6	0.5	2.1	7.1	30	13½ ft	
F	13.2	20.0	<0.1	0.3	0.6	17.9	12.6	56	1 ft	F= Dickinson sewage treatment plant
	18.0	15.8	7.4	0.6	0.5	3.3	7.5	31	9 ft	
G	12.6	19.7	<0.1	0.6	0.3	1.8	6.8	62	1 ft	G= Dickinson Park
	13.0	18.5	2.6	0.4	0.3	3.8	8.4	67	15 ft	
H	10.7	19.5	10.6	1.2	0.2	2.0	8.6	98	1 ft	H= park about 1 km upstream of Interstate 45 overpass over Dickinson Bayou
	12.8	18.3	8.0	0.6	0.2	1.5	7.2	79	16 ft	
I	25.0	18.7	0.6	0.5	0.13	0.7	1.2	17	1 ft	I= Jones Bay region of West Bay
	25.0	18.7	0.6	0.3	0.17	0.8	1.2	17	1½ ft	
J	23.0	19.7	<0.1	0.3	<0.1	<0.1	2.2	7	1 ft	J= mouth of Highland Bayou Diversionary Canal
	25.0	18.1	0.5	0.2	0.2	0.8	1.2	17	6½ ft	
K	20.7	20.0	0.2	1.0	0.1	<0.1	6.6	6	1 ft	K= pipeline, about 5 km upstream in HBDC
	24.7	16.1	0.2	0.3	0.1	0.3	1.4	19	7 ft	
L	18.0	20.3	0.1	0.6	0.1	29.8	16.4	40	1 ft	L= Hitchcock Sewage Treatment, about 8 km upstream in HBDC
	23.8	17.2	3.0	0.5	<0.1	0.2	3.2	16	4½ ft	

Frozen samples were analyzed two weeks after collection (5 Dec 89 in College Station);
∴ analytical precision was very good (see Sta I, where replicate samples were available for analysis)

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.