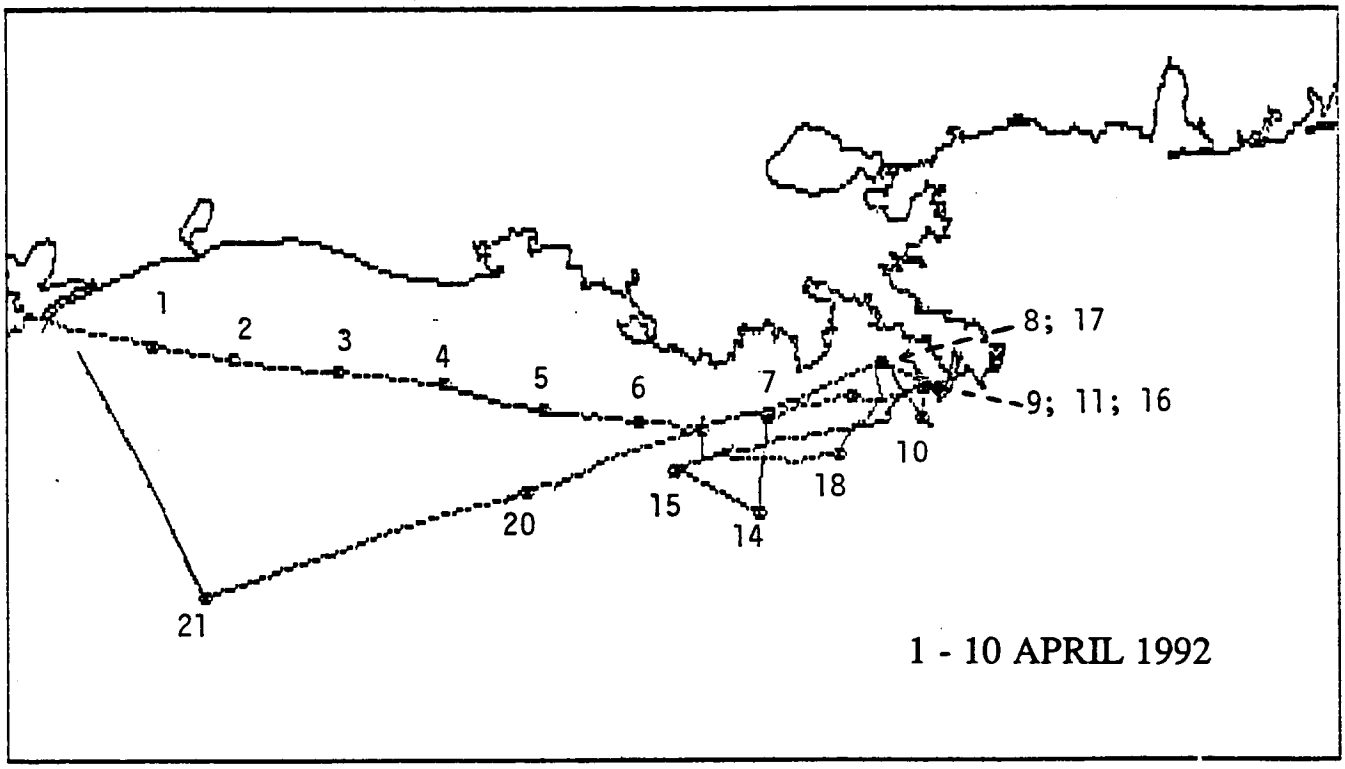
HYDROGRAPHIC DATA FROM THE LOUISIANA-TEXAS CONTINENTAL SHELF OF THE GULF OF MEXICO:

TEXAS INSTITUTIONS GULF ECOSYSTEM RESEARCH (TIGER) CRUISE 92G-04 IN COOPERATION WITH NOAA-NECOP



Technical Report 92-03-T of the Department of Oceanography
of Texas A&M University, College Station, TX 77843

10 July 1992

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CONTENTS

BRIEF DESCRIPTION OF CRUISE AND SCIENTIFIC GOALS

GYRE cruise 92G-04 was supported by the Department of Oceanography at Texas A&M University for the purpose of Research and Training. The research was a part of the continuing NOAA initiative for Nutrient Enhanced Coastal Ocean Productivity (NECOP) that is coordinated by NOAA's Coastal Ocean Program. The principal focus was on the areas of the continental shelf which are seasonally hypoxic or which are subjected to intense accumulation of material from the Mississippi River. The specific studies included a comparison of sediment oxygen demand (Rowe and Boland) with sulfate reduction (Morse), estimates of benthic photosynthesis using light and dark chambers (Rowe and Boland), and dissolved organic matter distribution and turnover rates in relation to water column microbial activities (Cifuentes and Coffin). Samples were also taken for photosynthetic pigments (Hyde for Rabalais) and for benthic standing stocks of macrofauna (Harper) and bacteria (for Liz Cruz-Kaegi).

Anchor stations were occupied during the daylight hours, during which experiments were conducted in situ on the sea floor, with extensive coring and water sampling conducted adjacent to these sites. During the night, CTD stations were made to characterize the water column.

ROSTER OF SCIENTIFIC PARTICIPANTS

01	ROWE, G.	Chief Scientist and Prof & Head (OCNG)	TAMU
02	MORSE, J.	Prof (OCNG)	TAMU
03	HARPER, D.	Prof (MARB)	TAMU
04	CIFUENTES, L.	Asst Prof (OCNG)	TAMU
05	COFFIN, R.	Research Affiliate	EPA
06	HENDEE, J.	Data Manager	NOAA
07	BOLAND, G.	Sr. Research Assoc. and Dive Master	TAMU
08	HYDE, L.	Research Assistant	LUMCON
09	OVARD, J.	Prof. Diving Instructor	
10	CHEESEMAN, P.	Research Assistant	TAMU
11	BOTTOM, K.	Research Assistant/Marine Tech	TAMU
12	GUFFY, D.	Marine Tech/autoanalyzer specialist	TAMU
13	SPEARS, M.	Marine Tech/autoanalyzer specialist	TAMU
14	VOEGELE, D.	Research Assistant/Electronics Tech	TAMU
15	PITTMAN, RV	Electronics Tech	TAMU
16	LETZRING, D.	Marine Operations Supt/Deck Engineer	TAMU
17	ROLF, D.	Port Engineer/Deck Engineer	TAMU
18	NEWTON, A.	Graduate Student (OCNG)	TAMU
19	WANG, Q.	Graduate Student (OCNG)	TAMU
20	ELLIS, M.	Graduate Student (OCNG)	TAMU
21	SCOTT, E.	Undergraduate Student (MARB)	TAMU
22	FITZGERALD, P.	Undergraduate Student (MARB)	TAMU

RECORD OF POSITIONS AND CTD STATIONS

R/V GYRE cruise 92G-04:

Date	GMT	Start Station Work	Finish Station Work	Station	Cast Depth
04-01	1900-1910	29 12.3 94 07.2	29 12.3 94 07.3	CTD 01	12 m
	2203-2214	29 07.4 93 37.4	29 07.3 93 37.5	CTD 02	15 m
04-02	0209-0215	29 03.8 92 59.8	29 03.9 92 59.8	CTD 03	20 m
	0602-0610	29 00.4 92 22.1	28 59.8 92 22.9	CTD 04	20 m
	1005-1014	28 52.0 91 47.3	28 52.0 91 47.7	CTD 05	17 m
	1407-1416	28 48.3 91 13.0	28 48.3 91 12.8	CTD 06	16 m
	1929-1939	28 50.5 90 26.1	28 50.9 90 26.1	CTD 07	17 m
04-03	0006-0021	29 07.2 89 44.7	29 07.3 89 44.6	CTD 08	19 m
	0235-0242	29 00.0 89 29.9	29 00.0 89 29.9	CTD 09	11 m
	0440-0451	28 50.0 89 30.1	28 49.9 89 30.4	CTD 10	53 m
	2043-2053	28 59.9 89 30.1	28 59.9 89 30.2	CTD 11	13 m
04-04	0406-0414	28 56.1 89 55.2	28 56.1 89 55.3	CTD 12	32 m
	1530-1553	28 50.3 90 25.9	28 50.4 89 25.9	CTD 13	15 m
04-05	0421-0432	28 18.9 90 29.0	28 18.9 90 29.0	CTD 14	52 m
	1527-1533	28 32.5 91 00.1	28 32.5 91 00.1	CTD 15	25 m
04-06	1707-1719	28 59.8 89 29.9	28 59.8 89 29.9	CTD 16	13 m
04-07	1513-1521	29 07.2 89 44.5	29 07.2 89 44.5	CTD 17	18 m
04-08	0449-0512	28 38.0 90 00.1	28 37.8 90 00.5	CTD 18	209 m
	1837-1846	28 46.4 90 50.0	28 46.5 90 50.0	CTD 19	15 m
04-09	0410-0417	28 26.2 91 53.3	28 26.2 91 53.4	CTD 20	52 m
	1846-1914	27 52.9 93 49.1	27 52.7 93 49.1	CTD 21	17 m

WEATHER LOG: 1 - 6 APRIL 92

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: KUCL

DATE (month and year): APRIL 1, 1992

(1) DATE APRIL	(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	(11) REMARKS (listing, etc.)
1	1800	29°14'N, 94°17'W	CLEAR	10	NNW	4	1	—	—		68°	1018	
1	2200	29°09'N, 94°07'W	CLEAR	8	N	4	1	—	—	67	68	1014	
2	0130	29°04'N, 93°05'W	CLEAR	10	SE	4	1	—	—	67	66	1015	
2	0600	29°00'N, 92°22'W	CLEAR	10	NE	20	1	N	3	67	60	1016	
2	0930	28°52'N. 91°52'W	CLEAR	10	NE	16	1	N	2	67	59	1016	
2	1330	28°48'N 91°17'W	CLOUDY	8	NE	20	2-3	NE	3		55	1019	
2	1730	28°48.69N, 90°42.7W	CLOUDY	6	NE	20	2-3	NE	2	67	55	1018	
2	2130	28°56'N, 90°13'W	CLOUDY	6	NE	16	1-2	NE	2	67	55	1015	
3	0130	29°05'N, 89°39'W	CLOUDY	10	ENE	5	1	NE	1	65	56	1016	
3	0530	28°49'N, 89°30'W	CLEAR	10	N	2	0	N	0	65	57	1016	
3	0930	29°03'N, 89°30'W	CLEAR	10	N	10	1	N	1	65	57	1013	
3	1330	28°59.9N 89°30'W	CLOUDY	8	NNE	16	1	N	1-2	62	57	1015	
4	0145	29°00'N, 89°30W	CLEAR	10	NNE	5	1	N	1	—	57	1015	
4	0545	28°54N, 90°08W	CLEAR	10	LT AIRS		1	—	—	65	59	1015	ON ANCHOR
4	0930	28°50'N, 90°25'W	CLEAR	10	NNW	4	1	—	—	65	59	1014	ON ANCHOR
4	1330	28°50'N 90°26'W	CLEAR	10	LT AIR		1/2	—	—	63.5	60	1015	ON ANCHOR
4	1730	28°50'N, 90°26'W	LT HAZE	7	LT AIRS		FLAT	CALM		65	61	1017	ON ANCHOR
5	0145	28°45'N, 90°26'W	CLEAR	10	S	6	1	——			63	1014.5	
5	0530	28°21'N, 90°35'W	CLEAR	10	NE	4	1	——			63	1015.0	
5	0930	28°32'N 91°00'W	CLEAR	10	NE	4	—	——			64	1015	
5	1230	28°32'N, 91°00'W	PTLY CLOUDY	10	E	10	1	——			64	1016	
5	1630	28°32'N, 91°00'	PT. CLOUDY	10	E	18	1-2	——			65	1017	
6	0030	28°42'N, 90°19'W	CLOUDY	10	E	15	1	E	1-2		68	1016	
6	0830	29°00 N, 89°30W	CLOUDY RAIN	8	NE	12	1-2	E	1-2	63	66	1015	
6	1235	29°00'N 89°30'W	RAIN	1/4	NNE	15	1-2	NE	1-2		61	1017	
6	1630	29°28'N 89°30'W	OVERCAST	4	E	20	2-	ESE	1		62	1017	ON ANCHOR
6	2030	28°49'N, 89°30'W	CLOUDY	4	S	18	2	SE	2-3	64	70	1015	

NOAA FORM 72-5b (4-74)

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

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

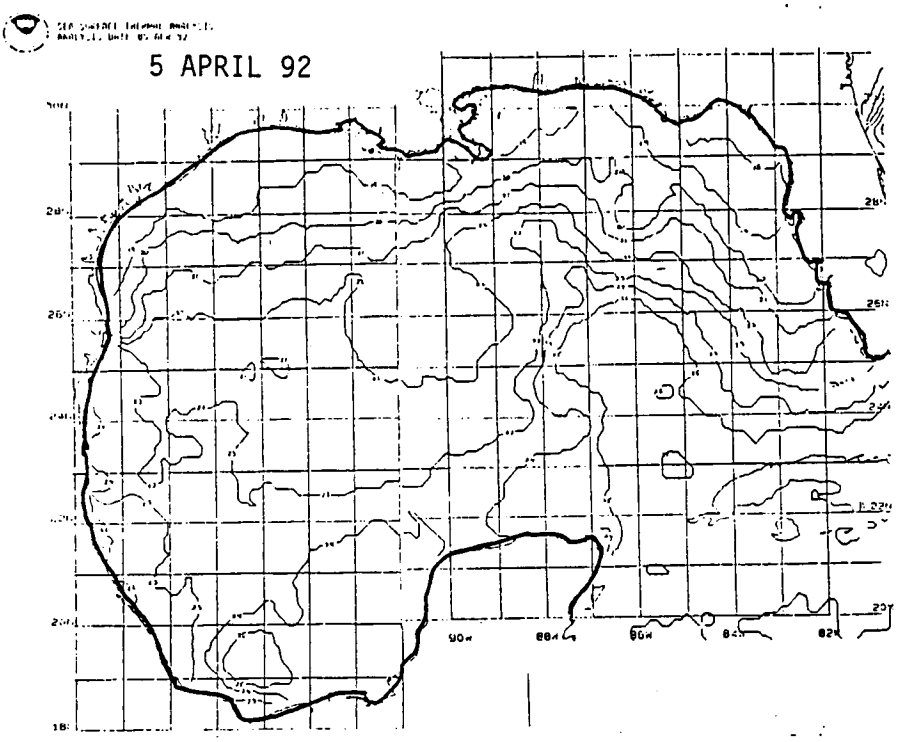
MARINE COASTAL WEATHER LOG——SHIP STATION

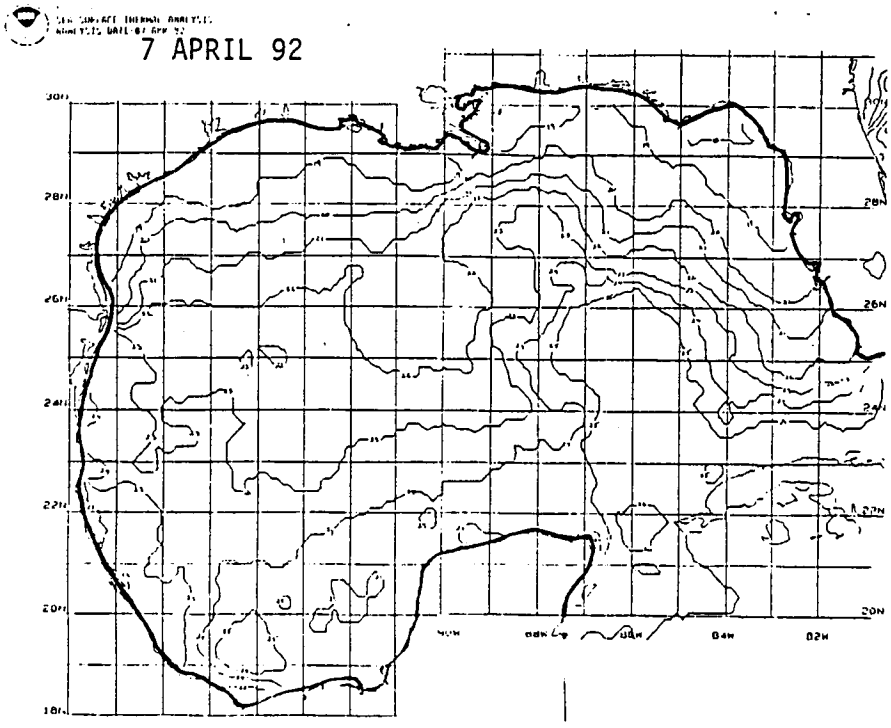
SHIP NAME: R/V GYRE | RADIO CALL SIGN: KVCL | DATE (month and year): APRIL 8 1992

(1) DATE APRIL	(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	(11) REMARKS (listing, etc.)
7	0030	29°02'N 89°40'W	CLOUDY	4	SSE	8	0	S	1-2		68	1015	
7	0430	29°07'N, 89°45W	PT. CLOUDY	8	SSE	16	1	S	1		66	1016	ON ANCHOR
7	0830	29°07'N, 89°44 W	PT. CLOUDY	8	SW	16	1	SW	1		64	1015	
7	1230	29°07'N, 89°44'W	LT HAZE	8	S	12	1	S	1		66	1017	ANCHORED
7	1630	29°07'N, 89°45.'W	LT HAZE	4	NW	14	1	S	1-2		68	1017	ON ANCHOR
7	2030	29°07'N, 89°44'W	HAZE	2	NW	12	1	SE	1	64	68	1016	
8	0030	29°07'N, 89°44'W	LT HAZE	10	N	12	1	CESD	1		68	1016	ANCHORED
8	0430	28°42'N, 89°58'W	CLEAR		NNW	5	1	SE	1			1018	
8	0830	28°36'N 90°36'W	CLEAR	8	NW	11	1		1				
8	1230	28°46'N, 90°05'W	PTLY CLDY	8	NE	8	1	NE	1		62	1019	
8	1630	28°46'N 90°05W	HAZE	4	NE	11	1	NE	1			1019	
8	2030	28°46'N 90°50W	HAZE	4	NE	10	1	NE	1	67	69	1019	
9	0030	28°38'N, 91°16'W	CLOUDY	4	SE	4	0	NE	1		66	1018	
9	0830	28°14'N, 92°36'W	PTLY CLOUDY	10	S	11	1	SE	1		67	1017	
9	1235	28°00'N, 93°22'W	PTLY CLOUDY	6	SE	10	1	SE	1		68	1017	
9	1635	27°52'N, 93°49'W	PTLY CLOUDY	10	SE	14	1	SE	1-2		70	1017	
9	2030	27°53'N, 93°49'W	PTLY CLOUDY	7	SE	12	1	SE	1-2		72	1016	
10	0030	28°06'N, 93°57'W	PTLY CLOUDY	6	ESE	12	1	SE	1-2		70	1016	
10	0330	28°35N, 94°12W	PTLY CLOUDY	6	E	10	1	SE	1-2		68	1016	
10	0830	29°07'N, 94°31'W	PTLY CLOUDY	6	E	6	1	SE	0		67	1015	

REMOTE SENSING DATA: SEA SURFACE TEMPERATURE MAPS

Sea Surface Thermal Analysis maps prepared by NOAA-NESDIS personnel are included below. Note that temperatures over the continental shelf ranges from 18-21°C on 5 April as well as 7 April.



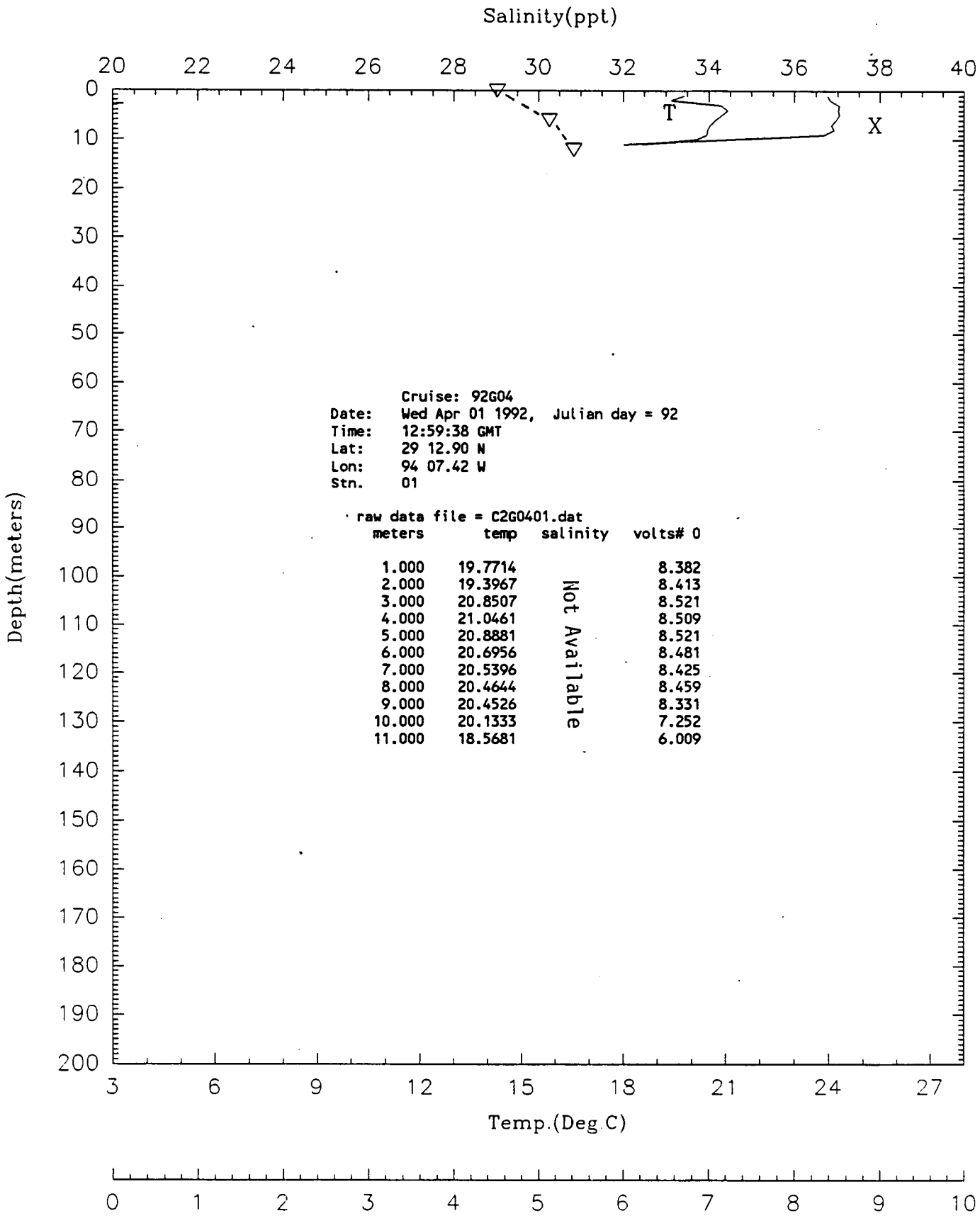


CTD DATA

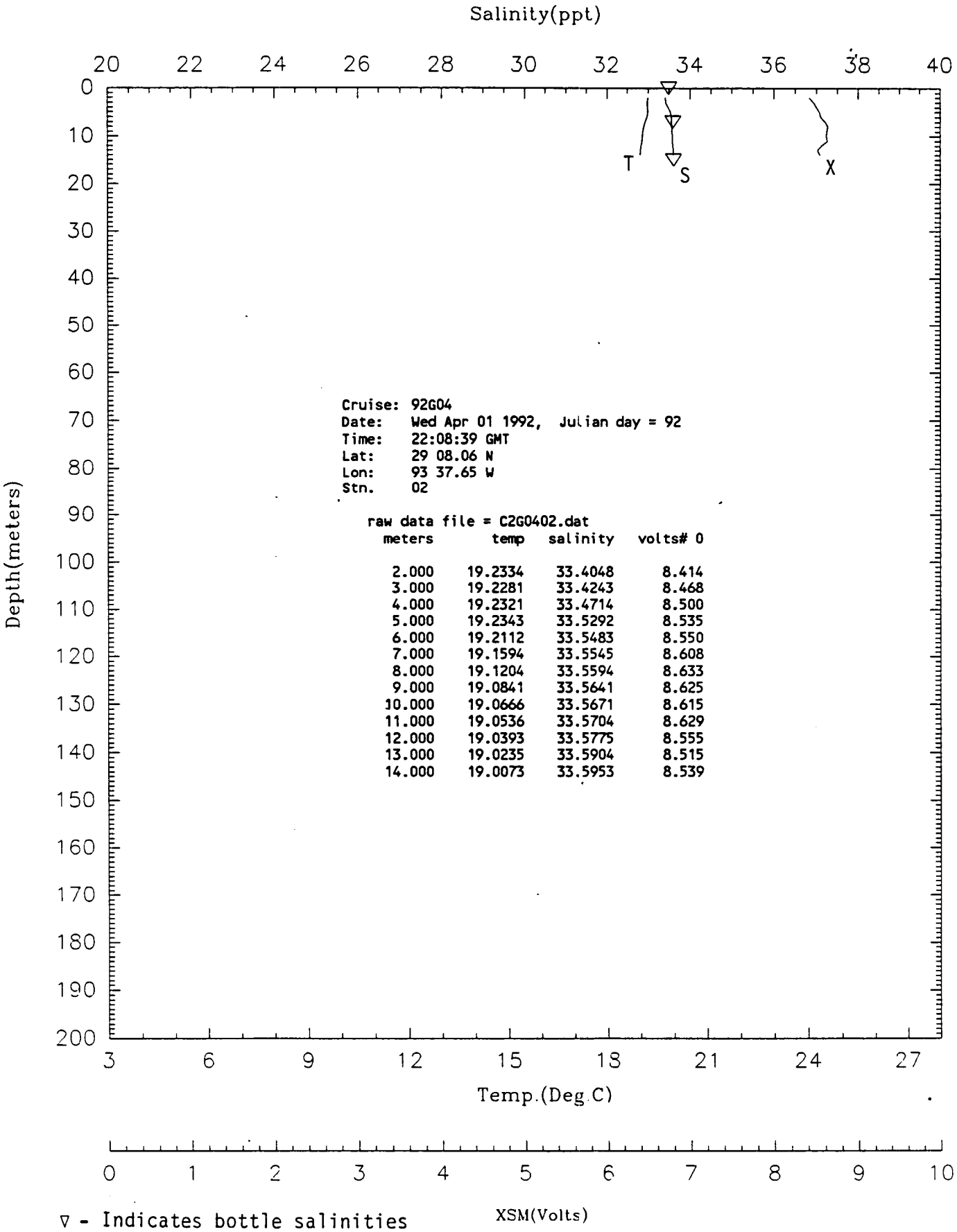
Temperature and salinity were profiled with a Seabird SBE-09 CTD to which a SeaTech model 025D 25-cm pathlength transmissometer was attached to profile transmissivity.

The following pages present plots of 1 m averaged downcast temperature and salinity (and transmissometer) data, along with tables of downcast CTD and transmissometer data. No correction was made to the raw data CTD salinities, because these generally agreed to within $\pm$ 0.005 PSU with bottle salinities determined using our Guildline model 8400A conductive salinometer. Triangles superimposed on the (downcast) CTD salinity profiles present the (upcast) bottle salinity data.

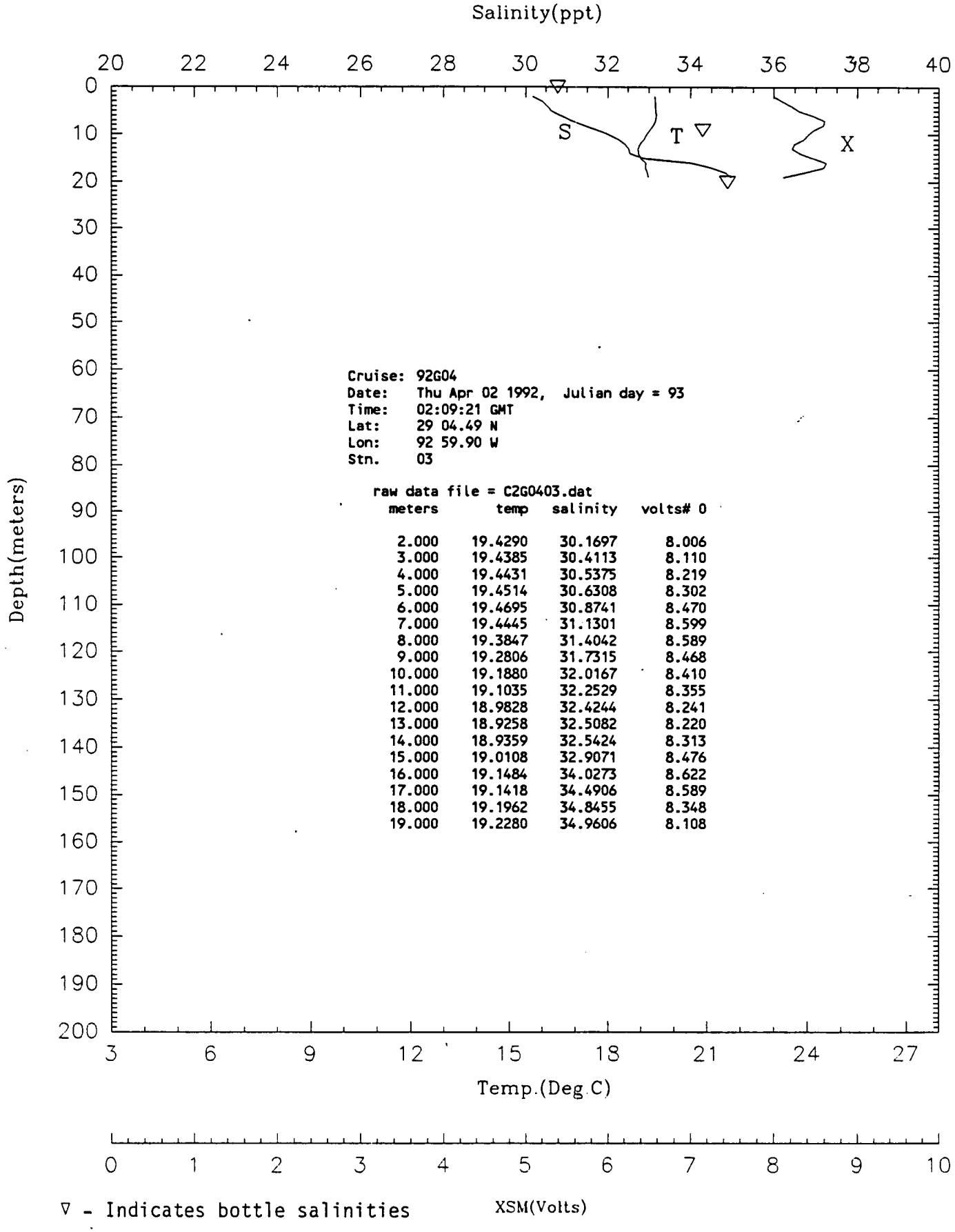
Stn.No: 01



▽ - Indicates bottle salinities

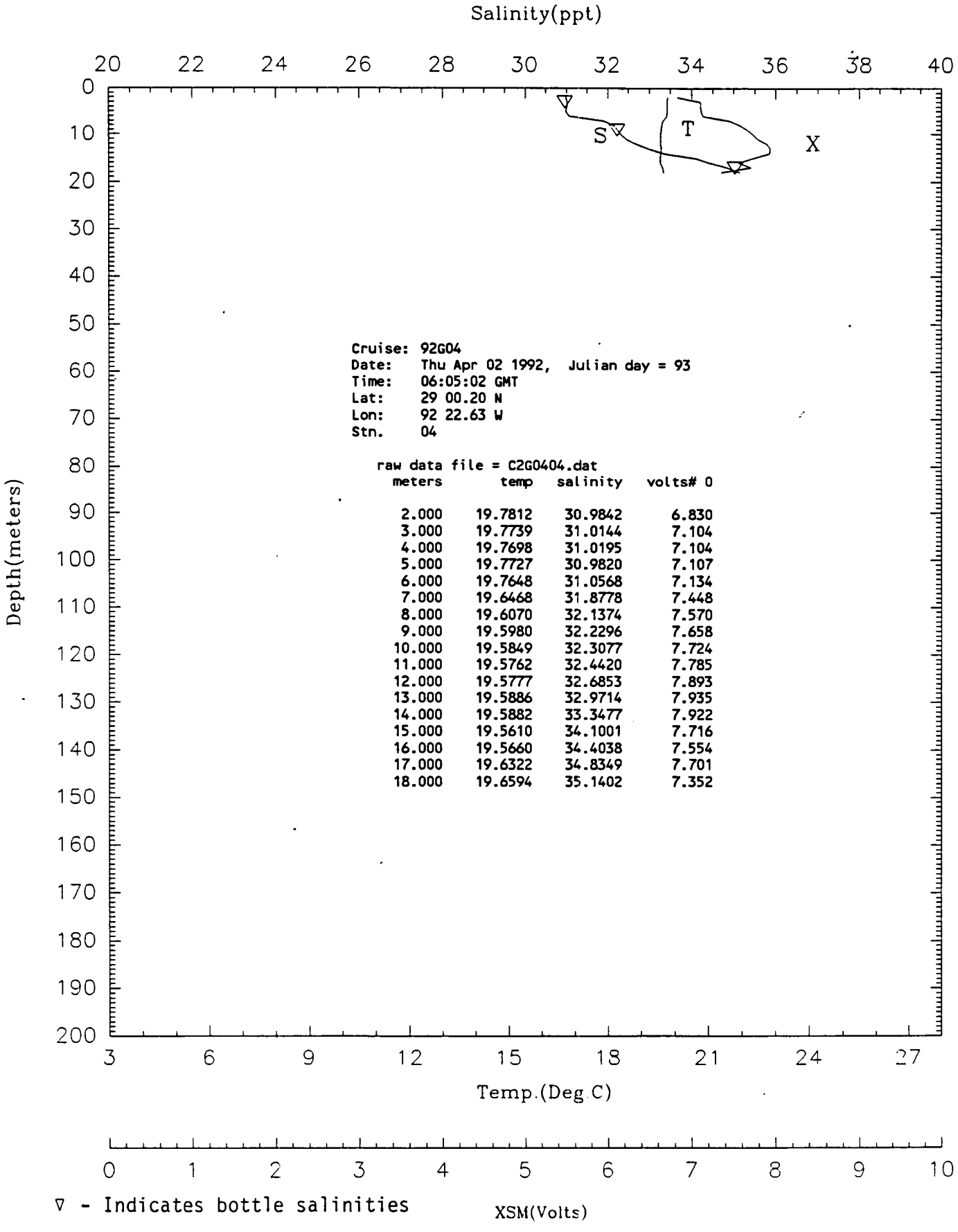


▽ - Indicates bottle salinities

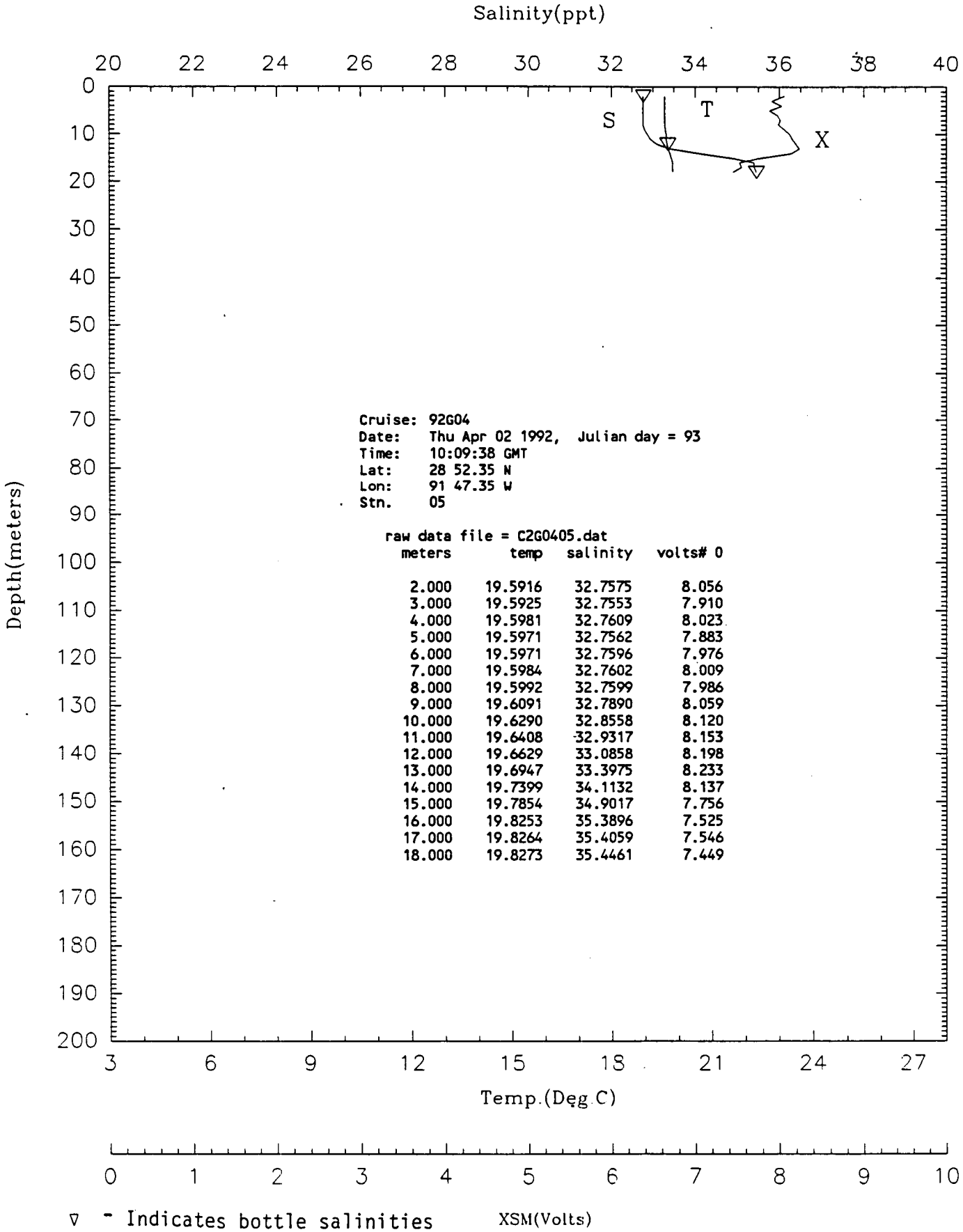


meters	temp	salinity	volts# 0
2.000	19.4290	30.1697	8.006
3.000	19.4385	30.4113	8.110
4.000	19.4431	30.5375	8.219
5.000	19.4514	30.6308	8.302
6.000	19.4695	30.8741	8.470
7.000	19.4445	31.1301	8.599
8.000	19.3847	31.4042	8.589
9.000	19.2806	31.7315	8.468
10.000	19.1880	32.0167	8.410
11.000	19.1035	32.2529	8.355
12.000	18.9828	32.4244	8.241
13.000	18.9258	32.5082	8.220
14.000	18.9359	32.5424	8.313
15.000	19.0108	32.9071	8.476
16.000	19.1484	34.0273	8.622
17.000	19.1418	34.4906	8.589
18.000	19.1962	34.8455	8.348
19.000	19.2280	34.9606	8.108

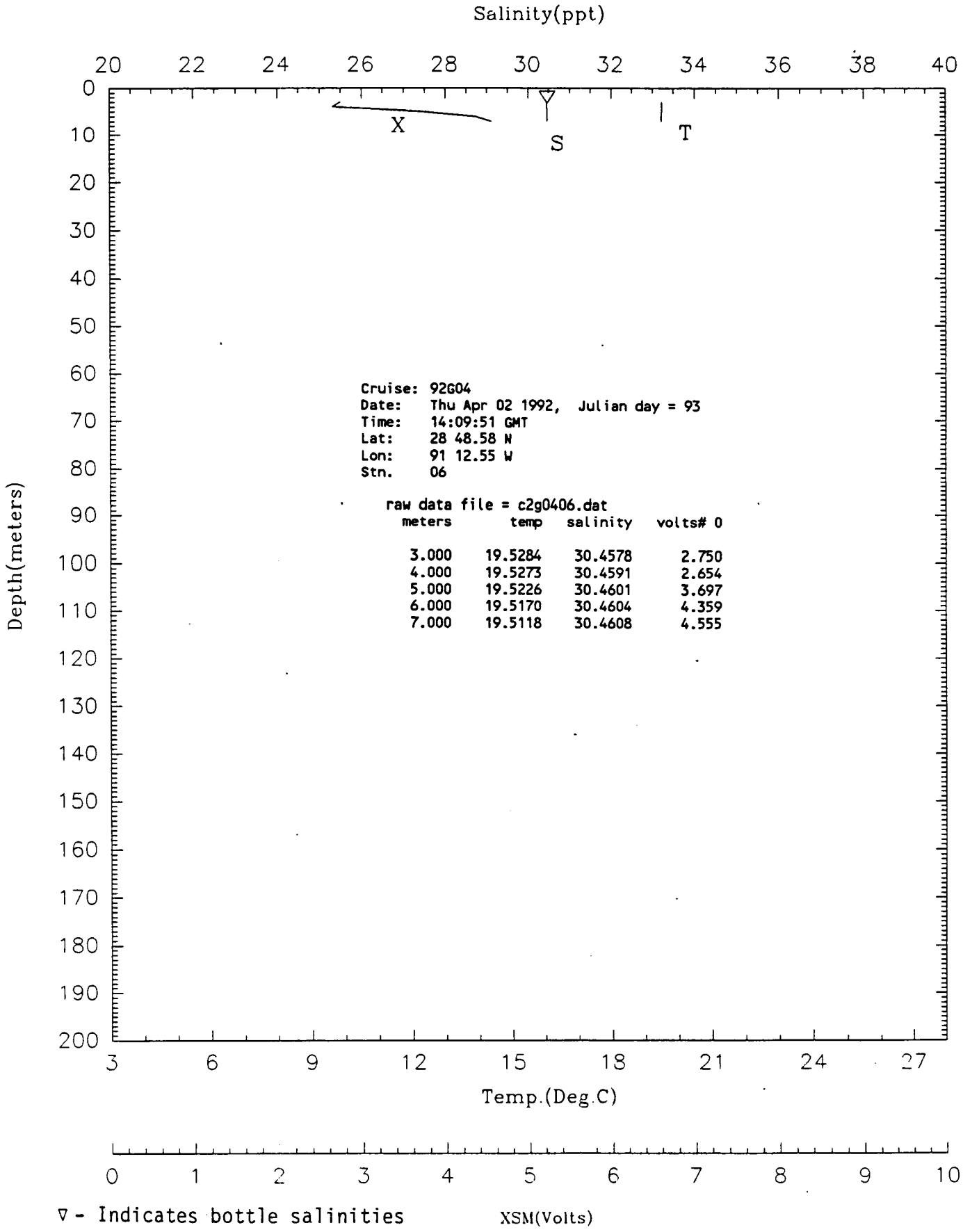
▽ - Indicates bottle salinities



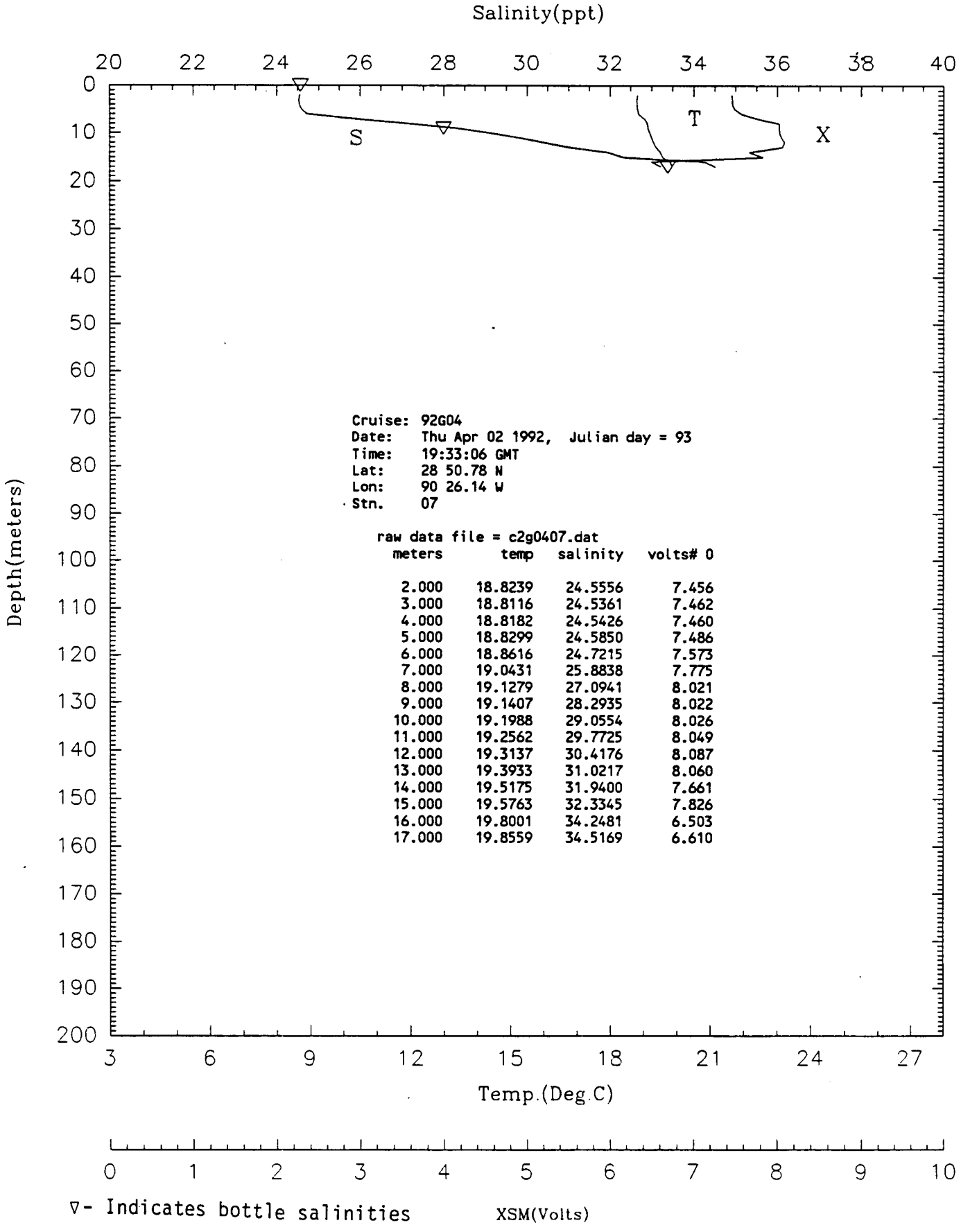
▽ - Indicates bottle salinities

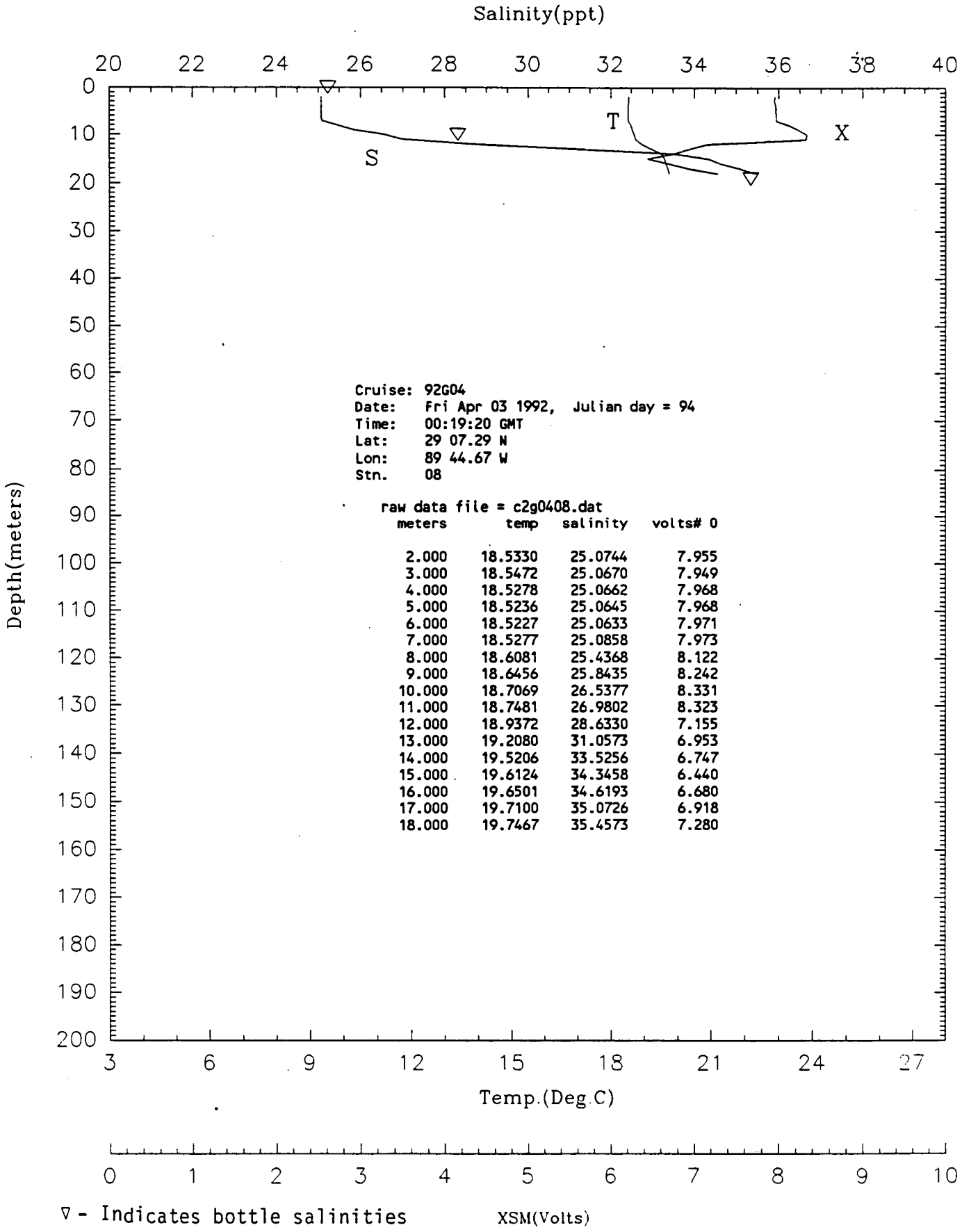


▽ - Indicates bottle salinities

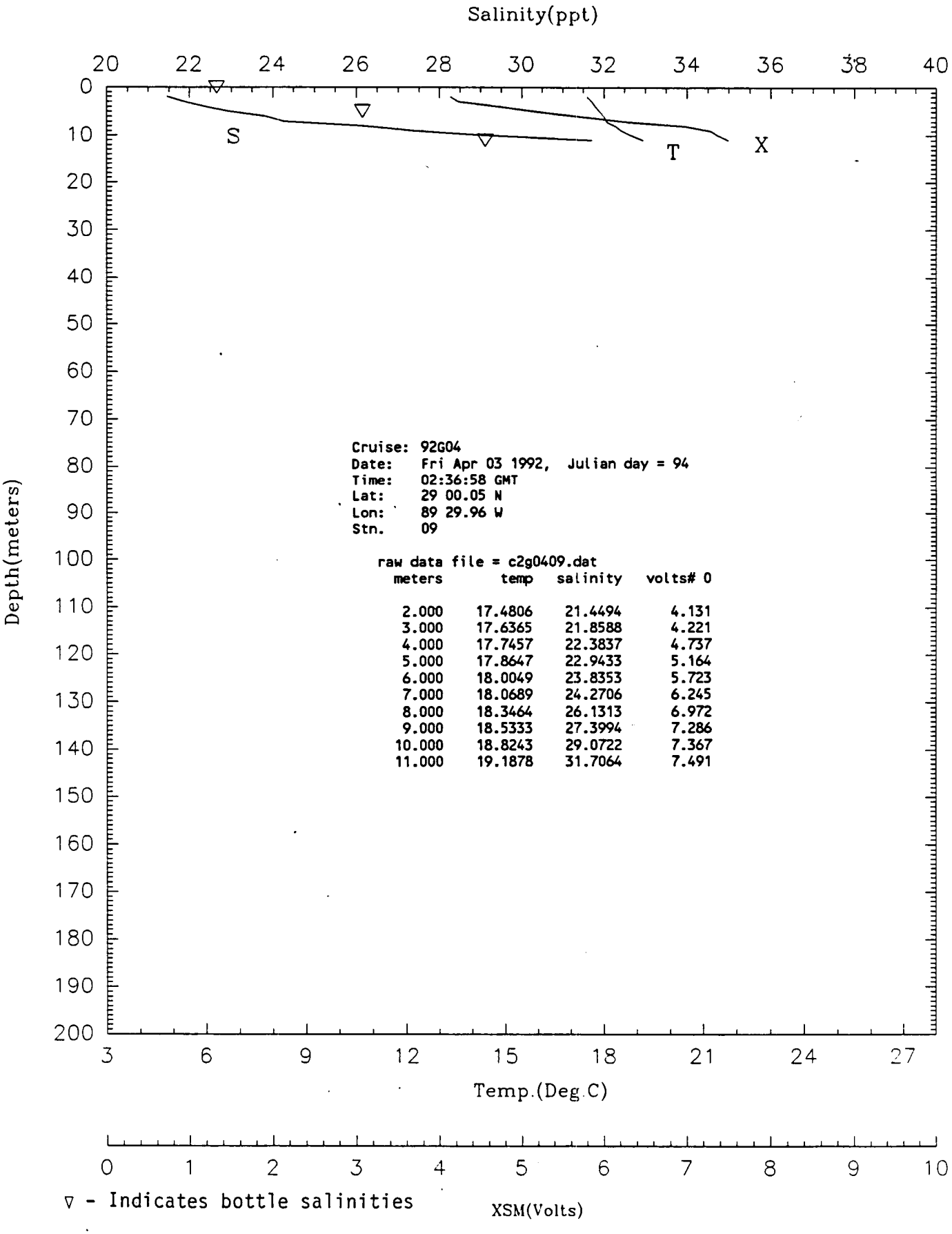


▽ - Indicates bottle salinities

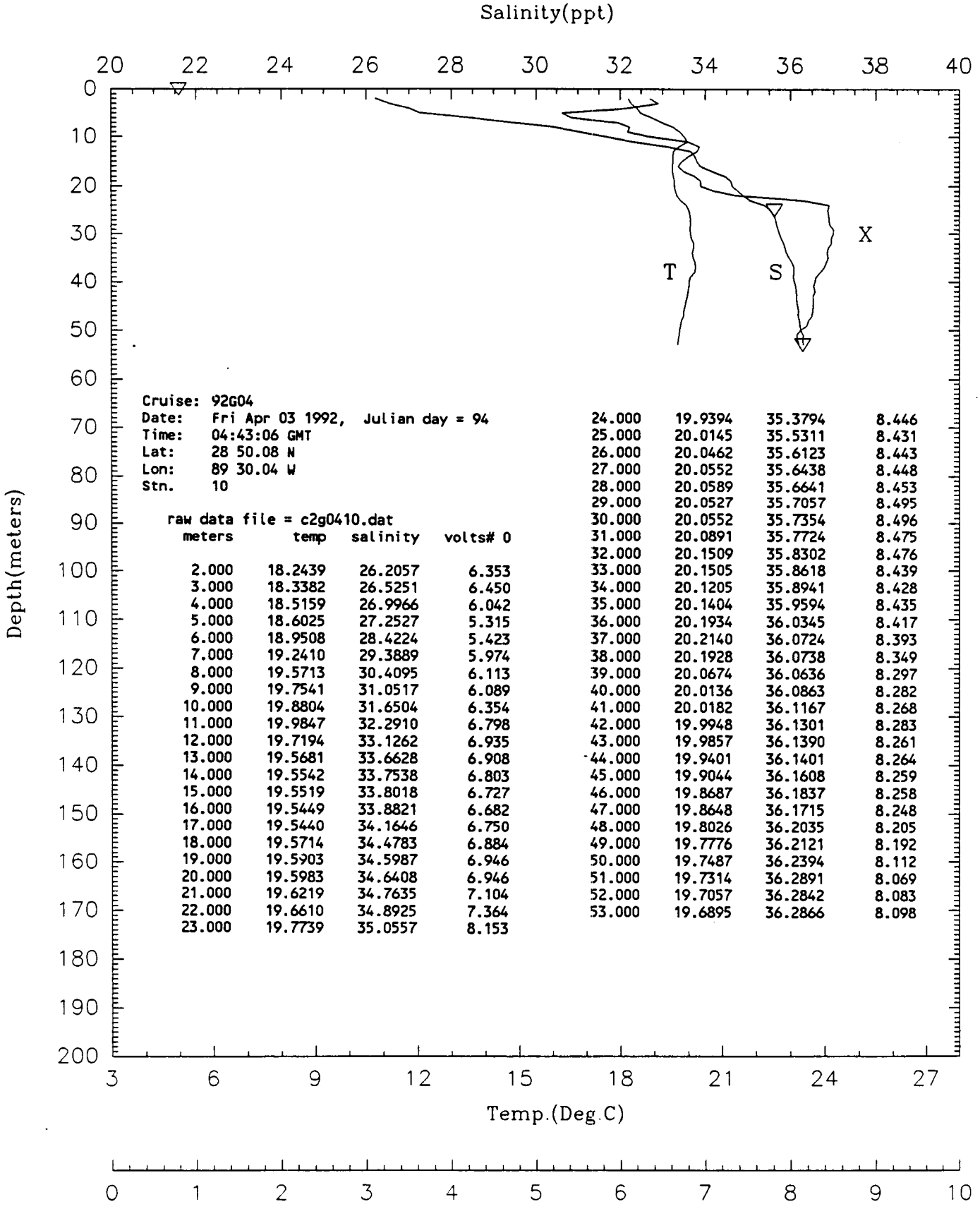

Salinity(ppt)
20 22 24 26 28 30 32 34 36 38 40
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200
Depth(meters)
S
T
X
Cruise: 92G04
Date: Thu Apr 02 1992, Julian day = 93
Time: 19:33:06 GMT
Lat: 28 50.78 N
Lon: 90 26.14 W
Stn. 07
raw data file = c2g0407.dat
meters temp salinity volts# 0
2.000 18.8239 24.5556 7.456
3.000 18.8116 24.5361 7.462
4.000 18.8182 24.5426 7.460
5.000 18.8299 24.5850 7.486
6.000 18.8616 24.7215 7.573
7.000 19.0431 25.8838 7.775
8.000 19.1279 27.0941 8.021
9.000 19.1407 28.2935 8.022
10.000 19.1988 29.0554 8.026
11.000 19.2562 29.7725 8.049
12.000 19.3137 30.4176 8.087
13.000 19.3933 31.0217 8.060
14.000 19.5175 31.9400 7.661
15.000 19.5763 32.3345 7.826
16.000 19.8001 34.2481 6.503
17.000 19.8559 34.5169 6.610
3 6 9 12 15 18 21 24 27
Temp.(Deg.C)
0 1 2 3 4 5 6 7 8 9 10
▽- Indicates bottle salinities
XSM(Volts)



▽ - Indicates bottle salinities



▽ - Indicates bottle salinities

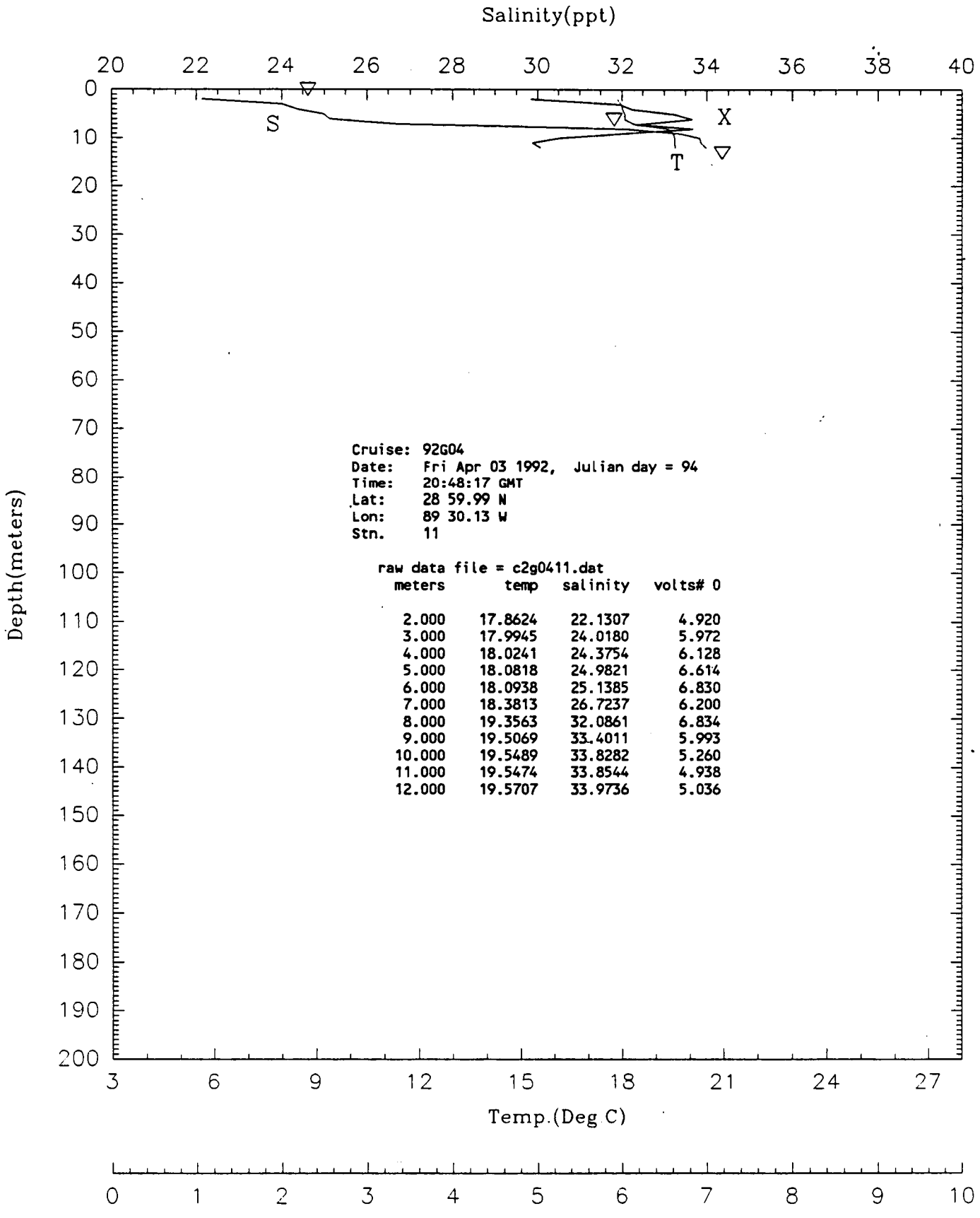


Cruise: 92G04
Date: Fri Apr 03 1992, Julian day = 94
Time: 04:43:06 GMT
Lat: 28 50.08 N
Lon: 89 30.04 W
Stn. 10

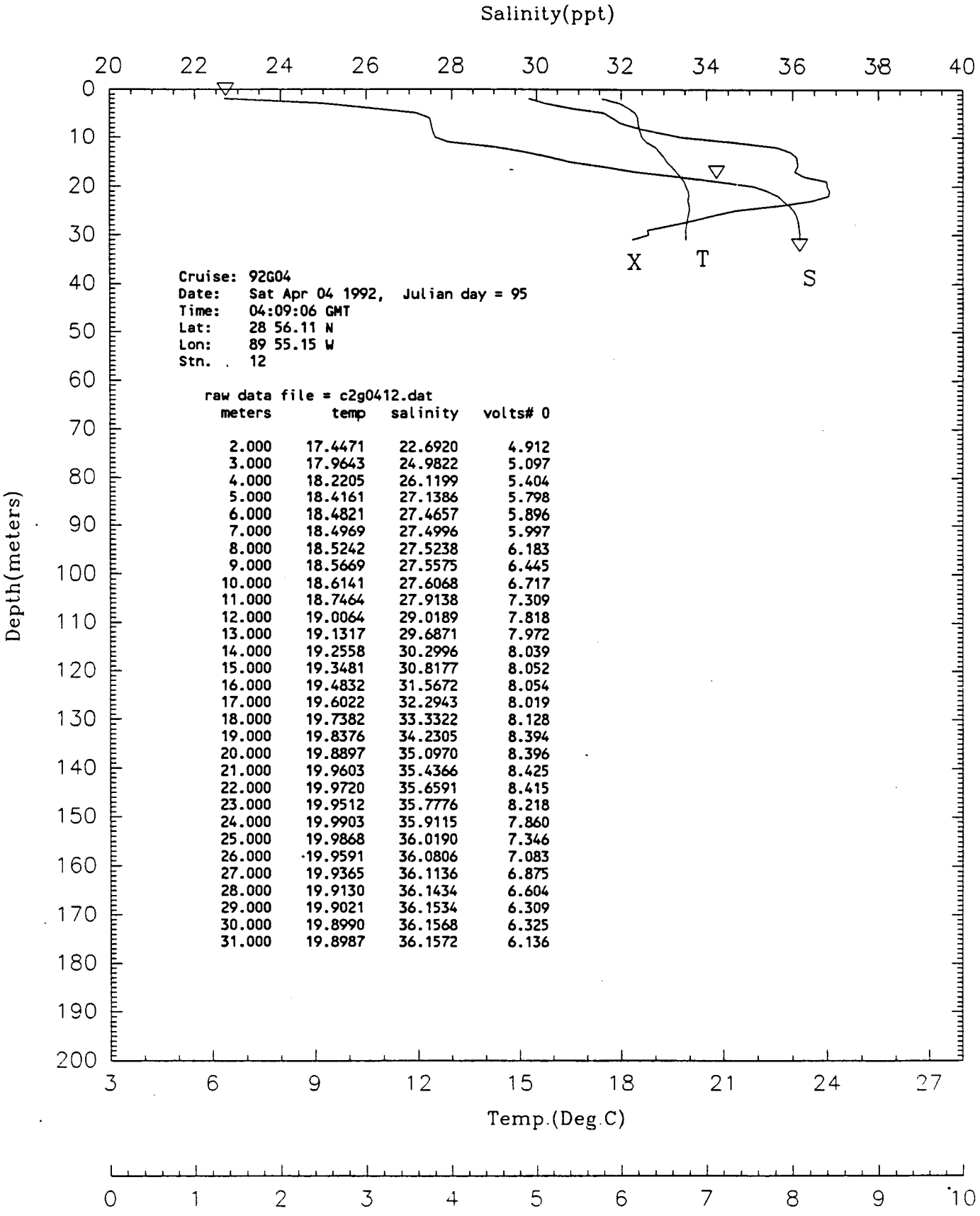
raw data file = c2g0410.dat

meters	temp	salinity	volts# 0
2.000	18.2439	26.2057	6.353
3.000	18.3382	26.5251	6.450
4.000	18.5159	26.9966	6.042
5.000	18.6025	27.2527	5.315
6.000	18.9508	28.4224	5.423
7.000	19.2410	29.3889	5.974
8.000	19.5713	30.4095	6.113
9.000	19.7541	31.0517	6.089
10.000	19.8804	31.6504	6.354
11.000	19.9847	32.2910	6.798
12.000	19.7194	33.1262	6.935
13.000	19.5681	33.6628	6.908
14.000	19.5542	33.7538	6.803
15.000	19.5519	33.8018	6.727
16.000	19.5449	33.8821	6.682
17.000	19.5440	34.1646	6.750
18.000	19.5714	34.4783	6.884
19.000	19.5903	34.5987	6.946
20.000	19.5983	34.6408	6.946
21.000	19.6219	34.7635	7.104
22.000	19.6610	34.8925	7.364
23.000	19.7739	35.0557	8.153
24.000	19.9394	35.3794	8.446
25.000	20.0145	35.5311	8.431
26.000	20.0462	35.6123	8.443
27.000	20.0552	35.6438	8.448
28.000	20.0589	35.6641	8.453
29.000	20.0527	35.7057	8.495
30.000	20.0552	35.7354	8.496
31.000	20.0891	35.7724	8.475
32.000	20.1509	35.8302	8.476
33.000	20.1505	35.8618	8.439
34.000	20.1205	35.8941	8.428
35.000	20.1404	35.9594	8.435
36.000	20.1934	36.0345	8.417
37.000	20.2140	36.0724	8.393
38.000	20.1928	36.0738	8.349
39.000	20.0674	36.0636	8.297
40.000	20.0136	36.0863	8.282
41.000	20.0182	36.1167	8.268
42.000	19.9948	36.1301	8.283
43.000	19.9857	36.1390	8.261
44.000	19.9401	36.1401	8.264
45.000	19.9044	36.1608	8.259
46.000	19.8687	36.1837	8.258
47.000	19.8648	36.1715	8.248
48.000	19.8026	36.2035	8.205
49.000	19.7776	36.2121	8.192
50.000	19.7487	36.2394	8.112
51.000	19.7314	36.2891	8.069
52.000	19.7057	36.2842	8.083
53.000	19.6895	36.2866	8.098

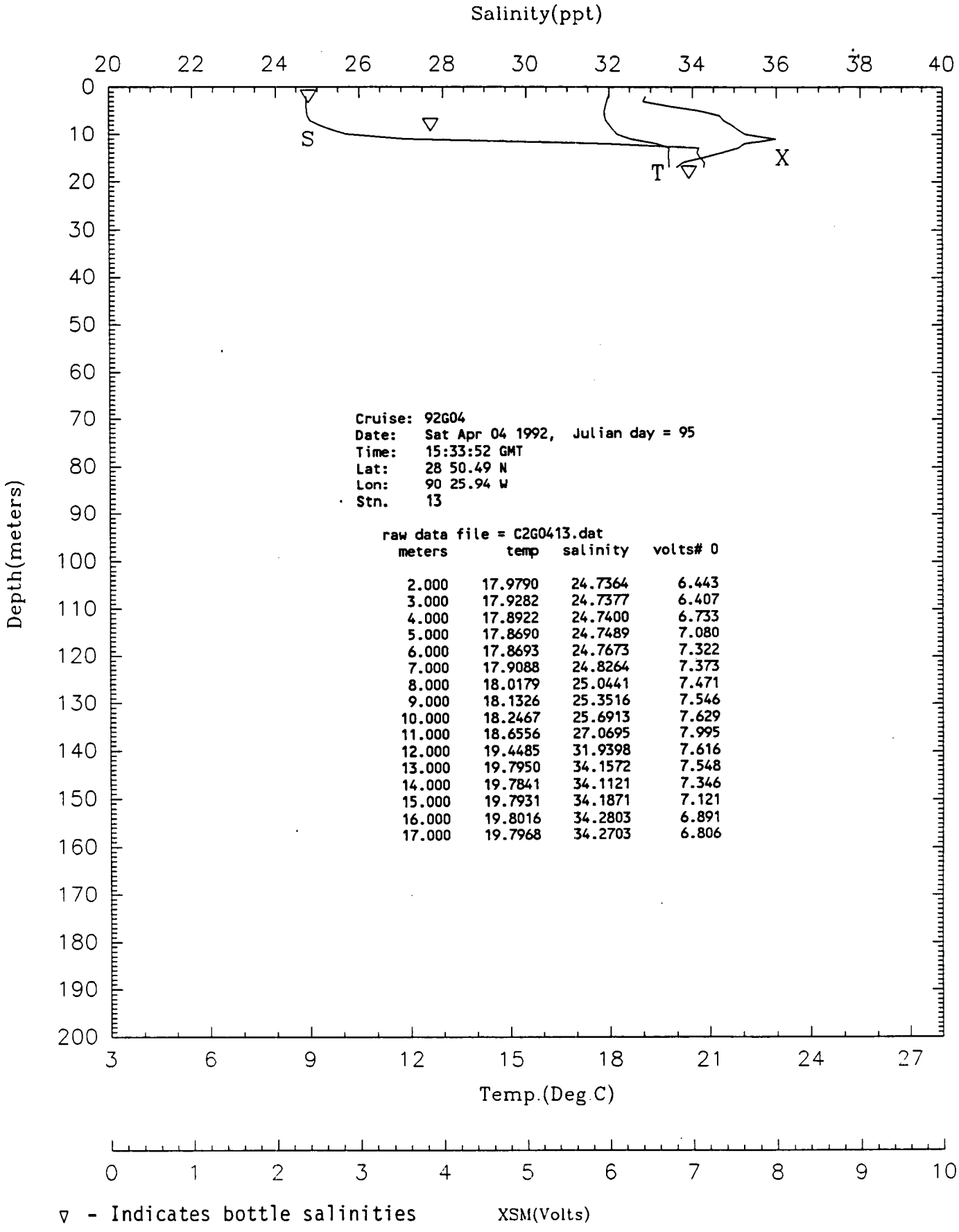
▽ - Indicates bottle salinities



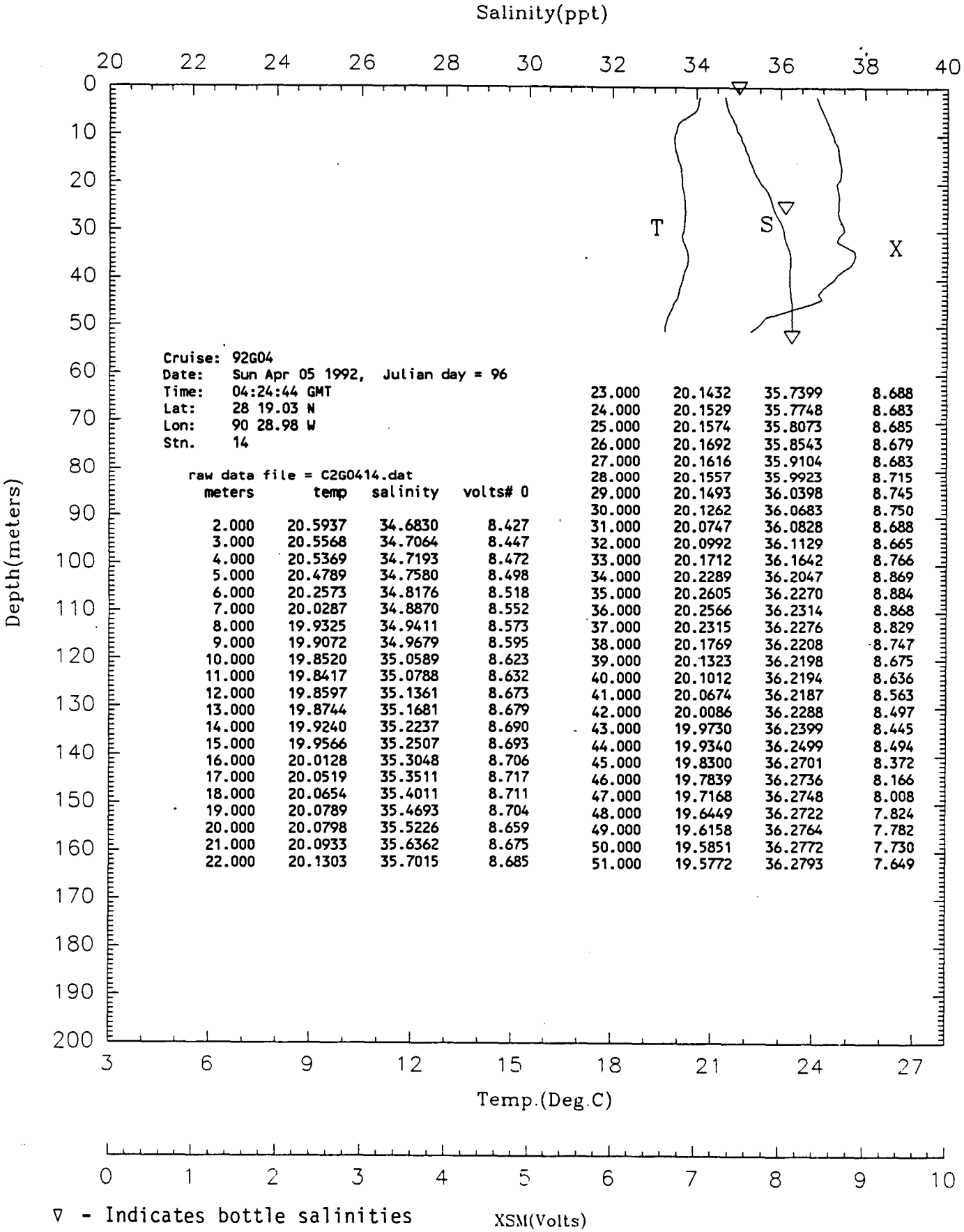
▽ - Indicates bottle salinities



▽ - Indicates bottle salinities



▽ - Indicates bottle salinities



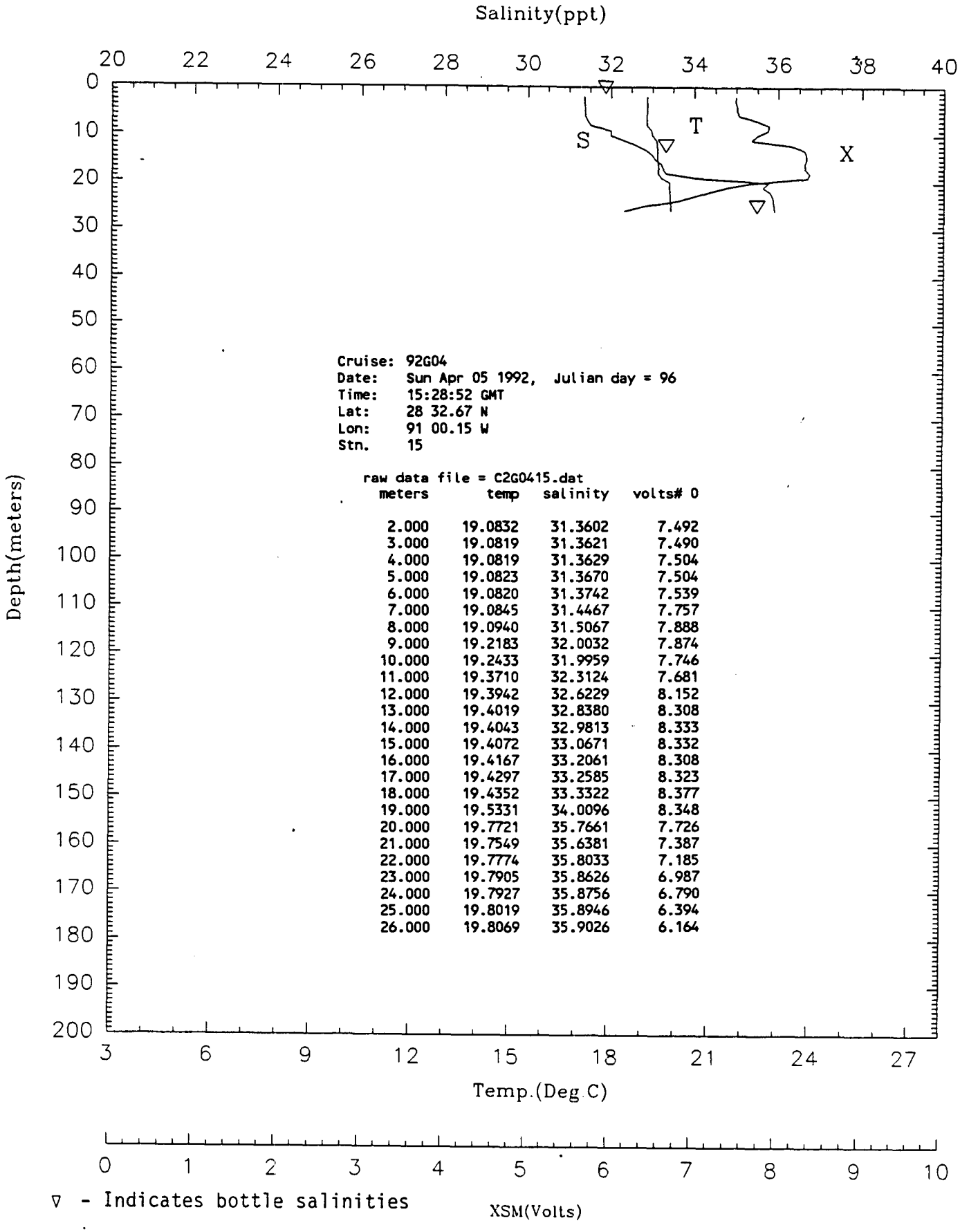
Cruise: 92G04
Date: Sun Apr 05 1992, Julian day = 96
Time: 04:24:44 GMT
Lat: 28 19.03 N
Lon: 90 28.98 W
Stn. 14

raw data file = C2G0414.dat

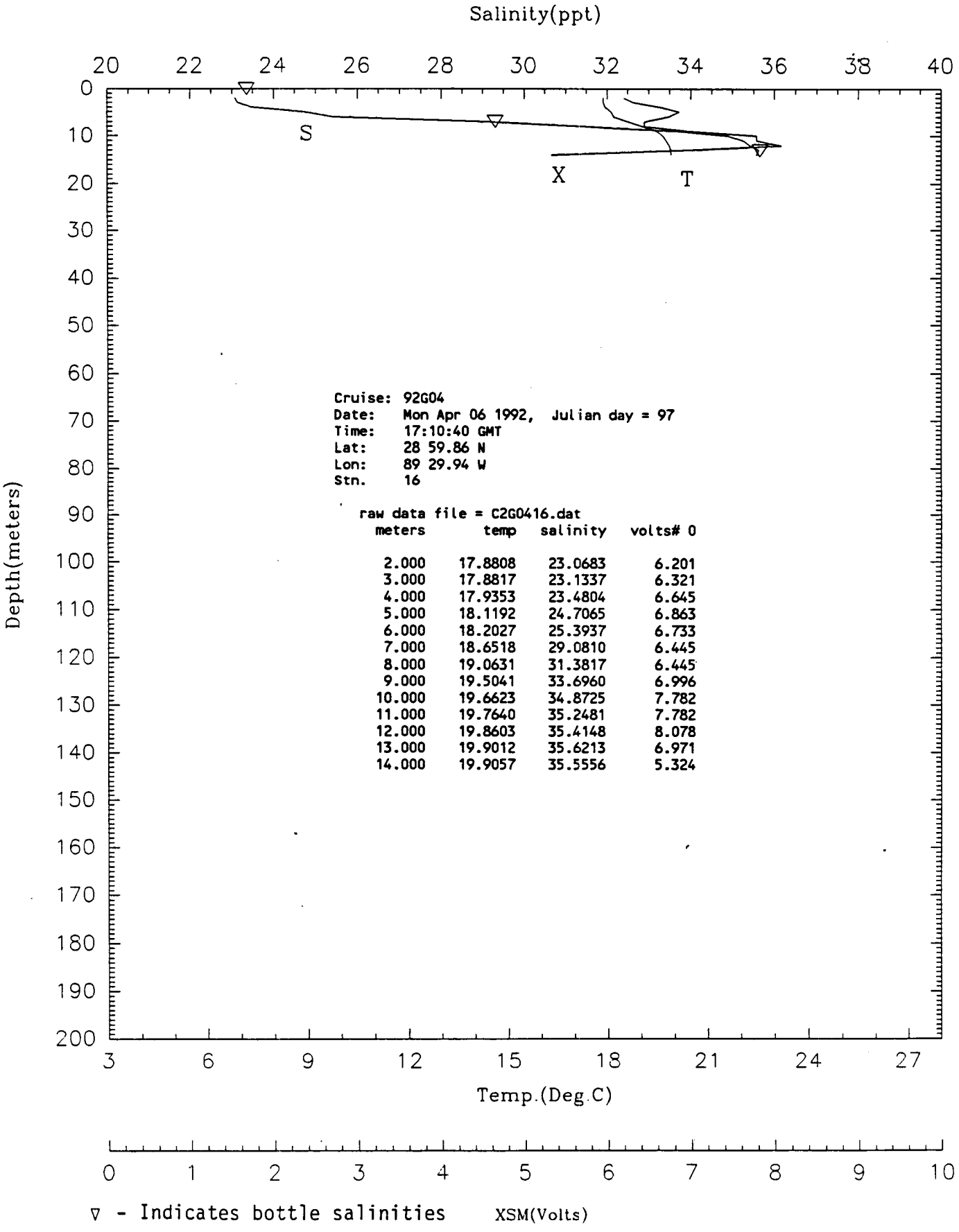
meters	temp	salinity	volts# 0
2.000	20.5937	34.6830	8.427
3.000	20.5568	34.7064	8.447
4.000	20.5369	34.7193	8.472
5.000	20.4789	34.7580	8.498
6.000	20.2573	34.8176	8.518
7.000	20.0287	34.8870	8.552
8.000	19.9325	34.9411	8.573
9.000	19.9072	34.9679	8.595
10.000	19.8520	35.0589	8.623
11.000	19.8417	35.0788	8.632
12.000	19.8597	35.1361	8.673
13.000	19.8744	35.1681	8.679
14.000	19.9240	35.2237	8.690
15.000	19.9566	35.2507	8.693
16.000	20.0128	35.3048	8.706
17.000	20.0519	35.3511	8.717
18.000	20.0654	35.4011	8.711
19.000	20.0789	35.4693	8.704
20.000	20.0798	35.5226	8.659
21.000	20.0933	35.6362	8.675
22.000	20.1303	35.7015	8.685
23.000	20.1432	35.7399	8.688
24.000	20.1529	35.7748	8.683
25.000	20.1574	35.8073	8.685
26.000	20.1692	35.8543	8.679
27.000	20.1616	35.9104	8.683
28.000	20.1557	35.9923	8.715
29.000	20.1493	36.0398	8.745
30.000	20.1262	36.0683	8.750
31.000	20.0747	36.0828	8.688
32.000	20.0992	36.1129	8.665
33.000	20.1712	36.1642	8.766
34.000	20.2289	36.2047	8.869
35.000	20.2605	36.2270	8.884
36.000	20.2566	36.2314	8.868
37.000	20.2315	36.2276	8.829
38.000	20.1769	36.2208	8.747
39.000	20.1323	36.2198	8.675
40.000	20.1012	36.2194	8.636
41.000	20.0674	36.2187	8.563
42.000	20.0086	36.2288	8.497
43.000	19.9730	36.2399	8.445
44.000	19.9340	36.2499	8.494
45.000	19.8300	36.2701	8.372
46.000	19.7839	36.2736	8.166
47.000	19.7168	36.2748	8.008
48.000	19.6449	36.2722	7.824
49.000	19.6158	36.2764	7.782
50.000	19.5851	36.2772	7.730
51.000	19.5772	36.2793	7.649

▽ - Indicates bottle salinities

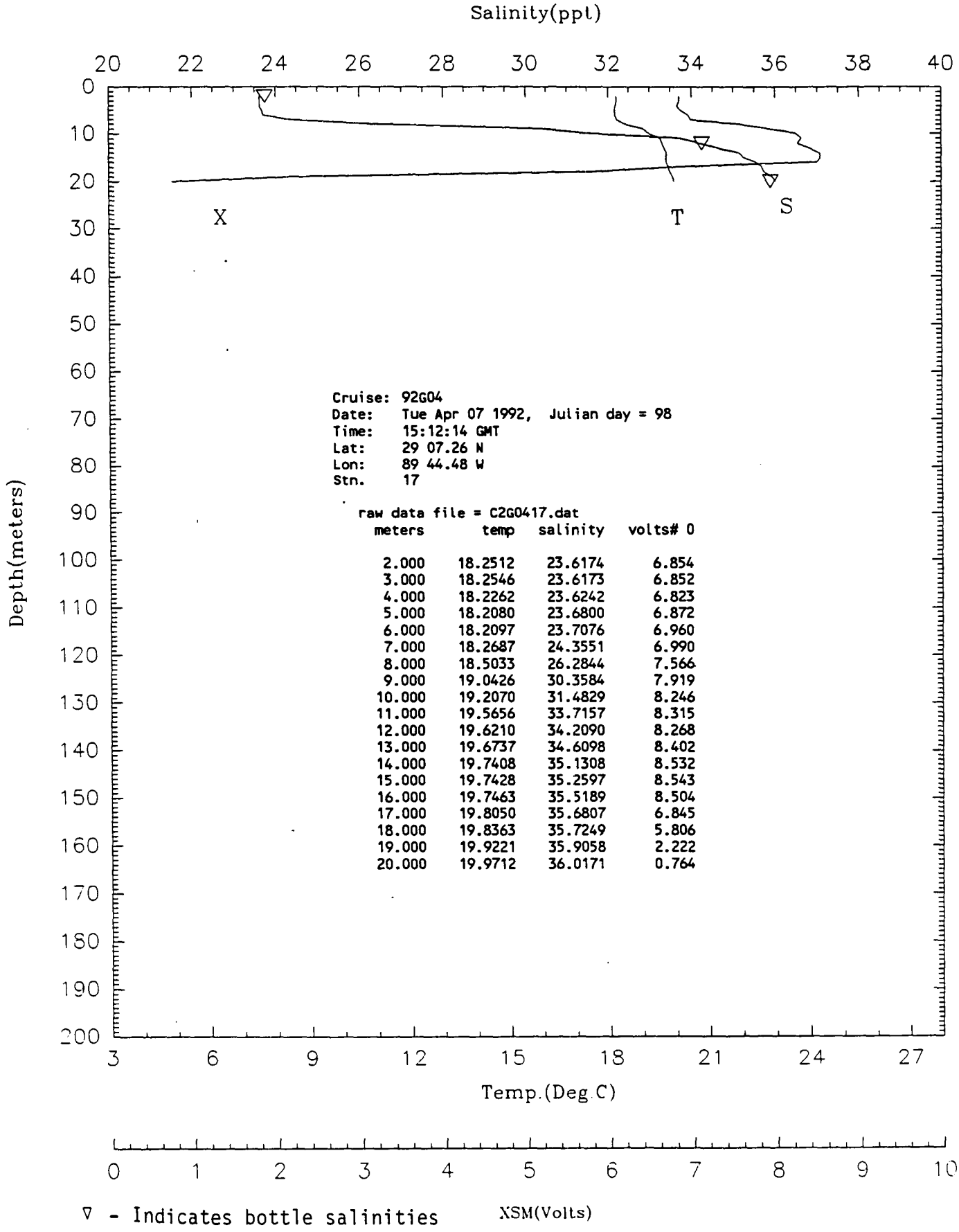
Stn.No: 15



▽ - Indicates bottle salinities



▽ - Indicates bottle salinities



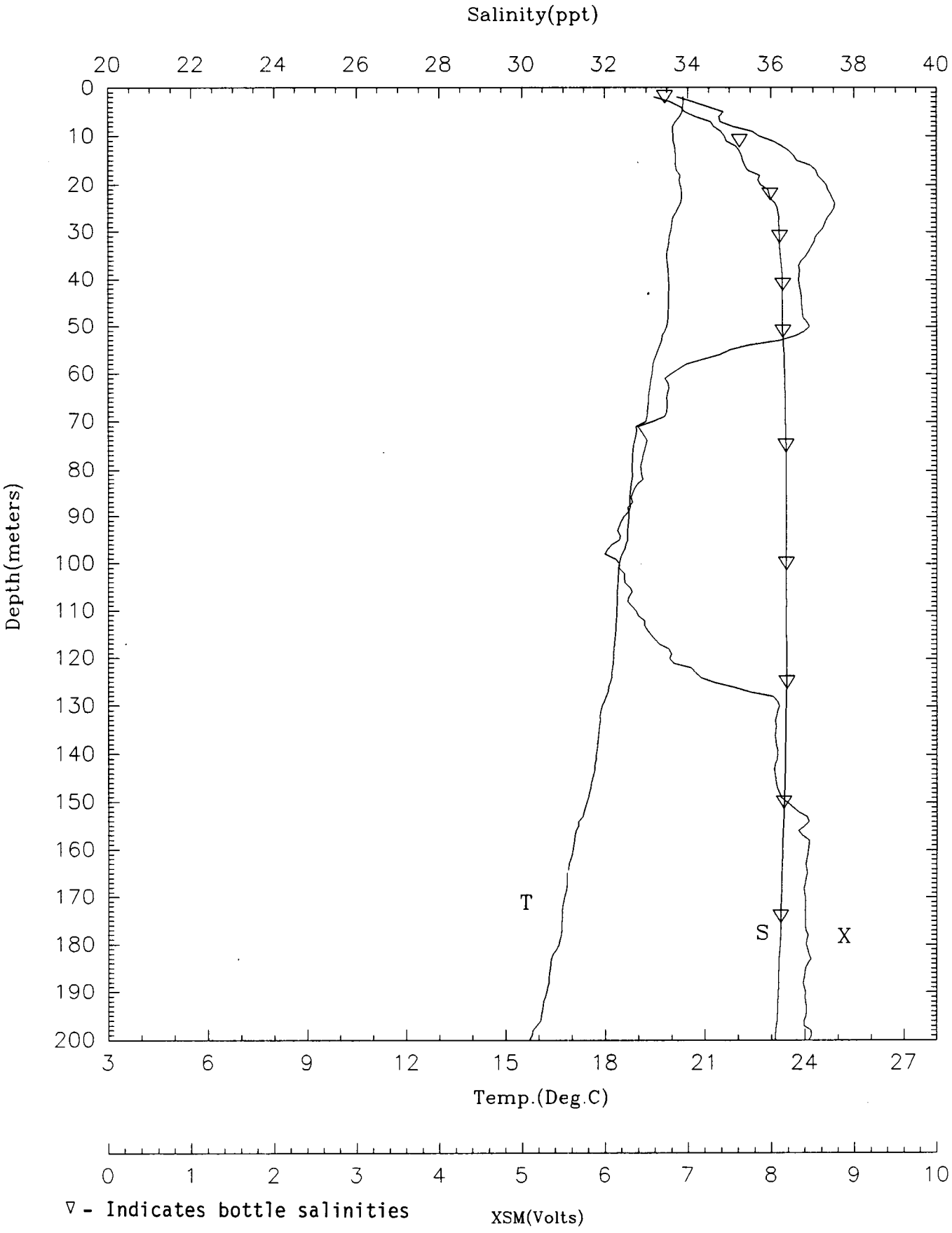
▽ - Indicates bottle salinities

Cruise: 92G04
Date: Wed Apr 08 1992, Julian day = 99
Time: 04:53:19 GMT
Lat: 28 38.07 N
Lon: 90 00.05 W
Stn. 18

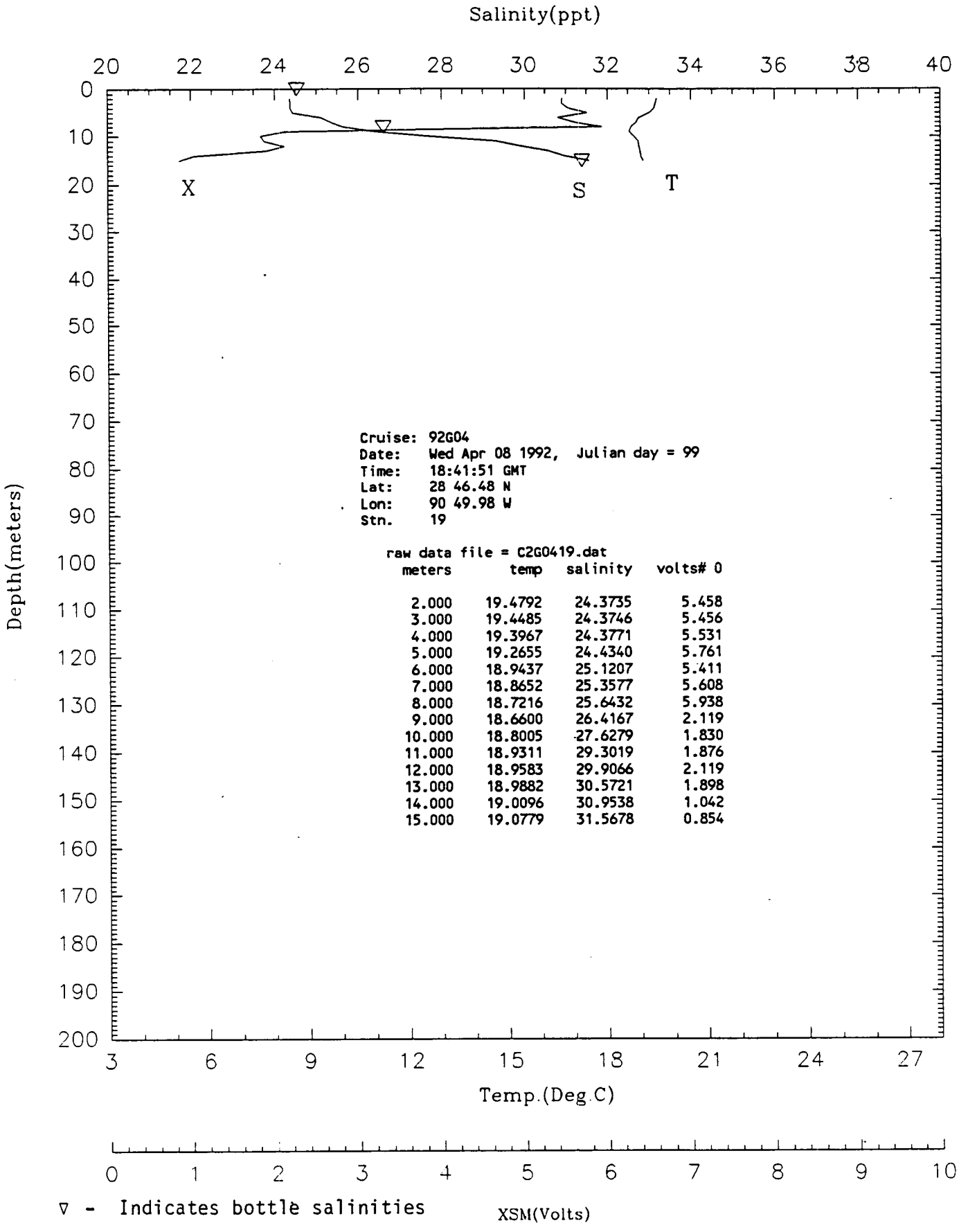
raw data file = C2G0418.dat

meters	temp	salinity	volts# 0
2.000	20.3615	33.1828	6.871
3.000	20.3605	33.5809	7.065
4.000	20.3461	33.8335	7.251
5.000	20.3373	33.9227	7.429
6.000	20.2551	34.1865	7.373
7.000	20.1309	34.5476	7.388
8.000	20.0481	34.6177	7.531
9.000	20.0450	34.7878	7.775
10.000	20.0625	34.8749	7.853
11.000	20.0679	34.9199	8.020
12.000	20.1069	35.1445	8.123
13.000	20.1228	35.2257	8.208
14.000	20.1312	35.2826	8.267
15.000	20.1304	35.3163	8.307
16.000	20.1360	35.3589	8.472
17.000	20.1525	35.4378	8.533
18.000	20.2639	35.7250	8.558
19.000	20.2422	35.6797	8.612
20.000	20.2625	35.7467	8.661
21.000	20.3118	35.9192	8.680
22.000	20.3048	35.9419	8.711
23.000	20.3031	35.9787	8.732
24.000	20.2863	36.0800	8.763
25.000	20.2126	36.1450	8.758
26.000	20.1303	36.1651	8.718
27.000	20.0425	36.1771	8.671
28.000	20.0259	36.1758	8.644
29.000	20.0024	36.1776	8.625
30.000	19.9729	36.1820	8.578
31.000	19.9337	36.1896	8.531
32.000	19.9262	36.1917	8.515
33.000	19.9162	36.1937	8.483
34.000	19.8707	36.2083	8.447
35.000	19.8584	36.2127	8.409
36.000	19.8730	36.2298	8.354
37.000	19.8865	36.2400	8.327
38.000	19.9021	36.2524	8.336
39.000	19.9079	36.2555	8.335
40.000	19.9154	36.2604	8.328
41.000	19.9184	36.2622	8.332
42.000	19.9185	36.2630	8.346
43.000	19.9138	36.2628	8.357
44.000	19.9071	36.2624	8.359
45.000	19.9028	36.2616	8.359
46.000	19.9046	36.2618	8.364
47.000	19.9016	36.2610	8.368
48.000	19.8956	36.2606	8.379
49.000	19.8831	36.2592	8.423
50.000	19.8596	36.2575	8.453
51.000	19.7953	36.2625	8.394
52.000	19.7241	36.2761	8.294
53.000	19.7020	36.2804	8.104
54.000	19.6526	36.2852	7.718
55.000	19.6013	36.2906	7.505
56.000	19.5424	36.2975	7.372
57.000	19.4804	36.3049	7.163
58.000	19.4493	36.3088	6.975
60.000	19.4182	36.3115	6.797
61.000	19.3906	36.3150	6.722
62.000	19.3590	36.3190	6.756
63.000	19.3463	36.3194	6.768
64.000	19.3182	36.3224	6.752
65.000	19.3104	36.3221	6.743
66.000	19.3028	36.3226	6.747
67.000	19.2930	36.3230	6.747
68.000	19.2827	36.3233	6.742
69.000	19.2642	36.3243	6.722
70.000	19.2200	36.3228	6.572
71.000	18.9395	36.3384	6.397
72.000	18.9473	36.3393	6.434
73.000	18.9238	36.3410	6.475
74.000	18.8963	36.3411	6.506
75.000	18.8554	36.3428	6.493
76.000	18.8360	36.3431	6.472
77.000	18.8308	36.3435	6.457
78.000	18.8251	36.3433	6.446
79.000	18.8203	36.3431	6.430
80.000	18.8179	36.3430	6.438
81.000	18.8244	36.3424	6.439
82.000	18.8130	36.3423	6.459
83.000	18.7830	36.3422	6.397
84.000	18.7728	36.3429	6.359
86.000	18.7432	36.3431	6.312
87.000	18.7382	36.3435	6.333
88.000	18.7531	36.3430	6.277
89.000	18.7193	36.3427	6.283
90.000	18.7144	36.3429	6.228
91.000	18.7029	36.3431	6.193
93.000	18.6824	36.3429	6.148
94.000	18.6781	36.3432	6.182
95.000	18.6739	36.3424	6.171
96.000	18.6267	36.3439	6.081
97.000	18.5870	36.3439	6.036
98.000	18.5145	36.3509	5.994
99.000	18.4597	36.3492	6.123
100.000	18.4245	36.3514	6.171
101.000	18.4082	36.3516	6.171
102.000	18.4022	36.3511	6.231
103.000	18.3903	36.3516	6.234
104.000	18.3869	36.3515	6.238
105.000	18.3748	36.3511	6.301
106.000	18.3633	36.3511	6.326
107.000	18.3629	36.3512	6.286
108.000	18.3587	36.3533	6.268
110.000	18.3476	36.3510	6.375
111.000	18.3442	36.3508	6.397
112.000	18.3336	36.3506	6.473
113.000	18.3238	36.3512	6.472
114.000	18.3168	36.3513	6.505
115.000	18.3064	36.3517	6.551
116.000	18.2941	36.3522	6.598
117.000	18.2833	36.3530	6.646
118.000	18.2653	36.3550	6.764
119.000	18.2517	36.3566	6.795
120.000	18.2482	36.3560	6.774
121.000	18.2414	36.3567	6.827
122.000	18.2264	36.3564	7.036
123.000	18.2043	36.3574	7.087
124.000	18.1930	36.3567	7.147
125.000	18.1569	36.3544	7.307
126.000	18.0945	36.3536	7.546
127.000	18.0913	36.3510	7.739
128.000	18.0271	36.3505	8.016
129.000	17.9753	36.3486	8.067
130.000	17.9082	36.3437	8.089
131.000	17.8677	36.3403	8.070
132.000	17.8442	36.3388	8.059
133.000	17.8471	36.3389	8.044
134.000	17.8279	36.3354	8.053
135.000	17.8149	36.3345	8.047
136.000	17.8004	36.3331	8.043
137.000	17.7801	36.3314	8.048
138.000	17.7675	36.3302	8.051
139.000	17.7544	36.3288	8.070

140.000	17.7307	36.3276	8.069
141.000	17.7223	36.3255	8.063
142.000	17.6919	36.3232	8.043
143.000	17.6886	36.3221	8.031
145.000	17.6212	36.3169	8.050
146.000	17.5830	36.3126	8.053
147.000	17.5654	36.3105	8.071
148.000	17.5243	36.3076	8.090
149.000	17.4973	36.3054	8.112
152.000	17.3614	36.2960	8.326
153.000	17.3268	36.2917	8.424
154.000	17.1953	36.2801	8.450
155.000	17.2010	36.2820	8.385
156.000	17.1314	36.2724	8.323
157.000	17.0799	36.2678	8.372
158.000	17.0663	36.2632	8.451
161.000	17.0015	36.2562	8.432
163.000	16.9134	36.2460	8.409
164.000	16.8900	36.2427	8.422
165.000	16.8592	36.2392	8.427
166.000	16.8549	36.2380	8.408
167.000	16.8475	36.2367	8.403
168.000	16.8388	36.2352	8.387
169.000	16.8170	36.2321	8.394
170.000	16.7767	36.2271	8.403
171.000	16.7398	36.2214	8.403
172.000	16.7136	36.2198	8.403
173.000	16.7085	36.2182	8.405
174.000	16.6982	36.2162	8.403
176.000	16.6823	36.2152	8.406
177.000	16.6816	36.2139	8.408
178.000	16.6688	36.2122	8.435
179.000	16.6337	36.2073	8.419
180.000	16.6065	36.2043	8.415
181.000	16.5348	36.1926	8.432
182.000	16.4260	36.1795	8.449
183.000	16.3653	36.1738	8.467
184.000	16.3560	36.1709	8.429
185.000	16.3427	36.1683	8.404
186.000	16.3192	36.1648	8.399
187.000	16.3065	36.1632	8.385
188.000	16.2964	36.1608	8.379
189.000	16.2658	36.1578	8.389
190.000	16.2390	36.1527	8.405
191.000	16.1910	36.1464	8.396
192.000	16.1430	36.1405	8.403
193.000	16.1202	36.1357	8.415
194.000	16.0924	36.1327	8.413
195.000	16.0735	36.1296	8.408
196.000	16.0518	36.1263	8.389
197.000	15.9374	36.1090	8.388
198.000	15.8216	36.0953	8.469
199.000	15.7910	36.0891	8.476
200.000	15.7068	36.0781	8.445
201.000	15.6181	36.0668	8.347
202.000	15.5964	36.0633	8.308
203.000	15.5710	36.0594	8.243
204.000	15.5521	36.0565	8.145
205.000	15.4942	36.0469	8.131
206.000	15.3507	36.0292	8.058
207.000	15.3131	36.0213	8.098
208.000	15.3018	36.0182	8.133
209.000	15.2887	36.0151	8.148
210.000	15.2398	36.0069	8.174

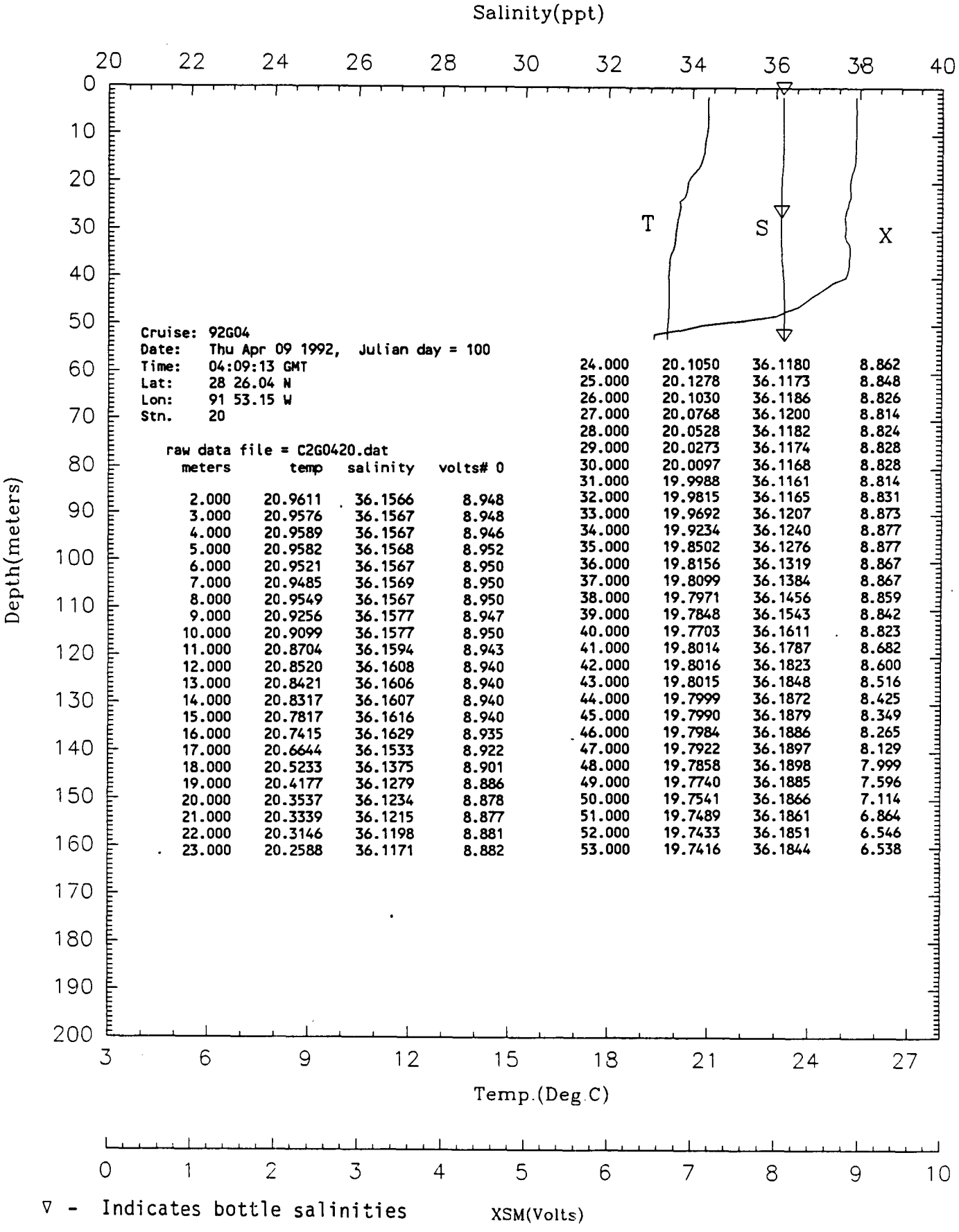


▽ - Indicates bottle salinities



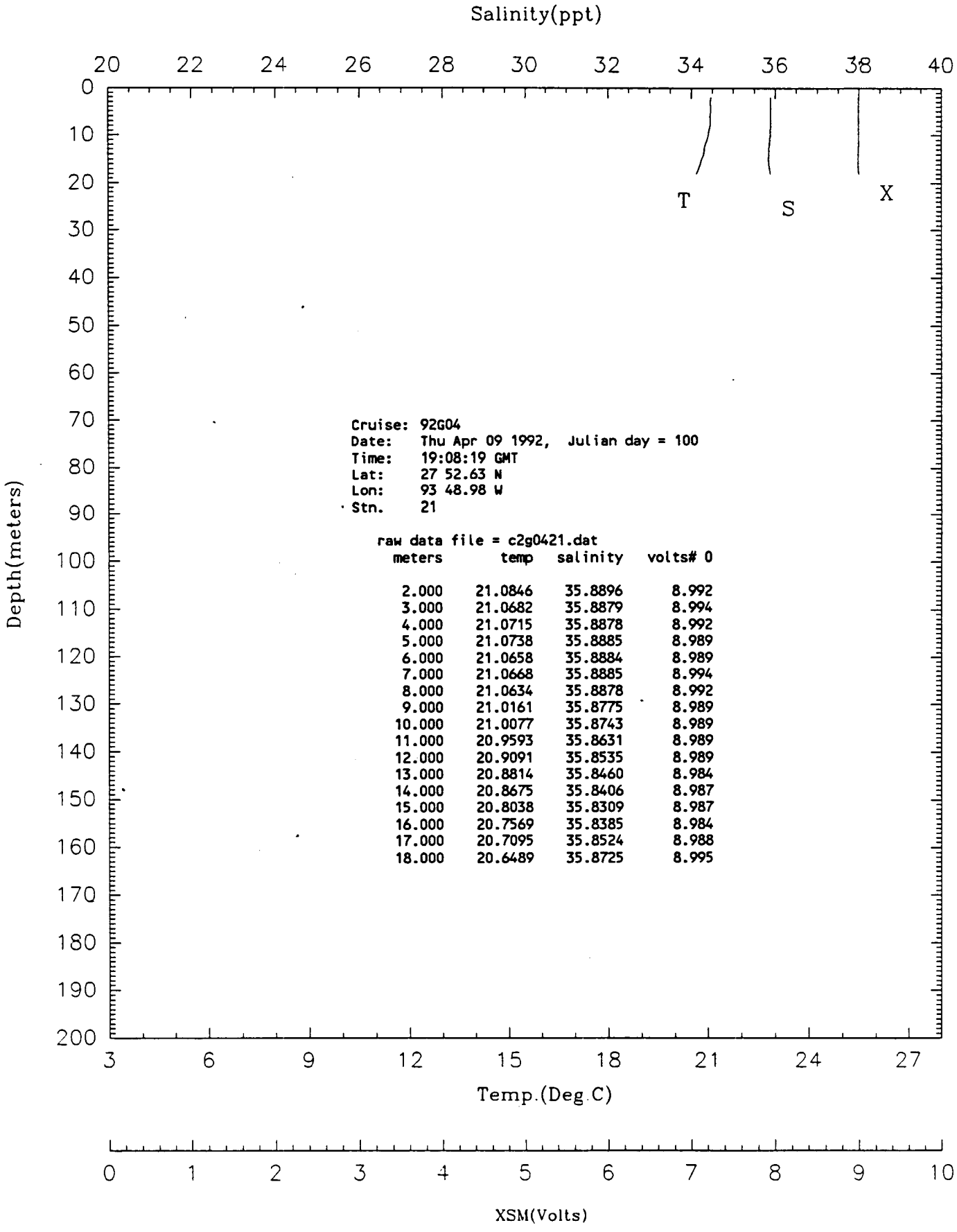
▽ - Indicates bottle salinities

Stn.No: 20



meters	temp	salinity	volts# 0
2.000	20.9611	36.1566	8.948
3.000	20.9576	36.1567	8.948
4.000	20.9589	36.1567	8.946
5.000	20.9582	36.1568	8.952
6.000	20.9521	36.1567	8.950
7.000	20.9485	36.1569	8.950
8.000	20.9549	36.1567	8.950
9.000	20.9256	36.1577	8.947
10.000	20.9099	36.1577	8.950
11.000	20.8704	36.1594	8.943
12.000	20.8520	36.1608	8.940
13.000	20.8421	36.1606	8.940
14.000	20.8317	36.1607	8.940
15.000	20.7817	36.1616	8.940
16.000	20.7415	36.1629	8.935
17.000	20.6644	36.1533	8.922
18.000	20.5233	36.1375	8.901
19.000	20.4177	36.1279	8.886
20.000	20.3537	36.1234	8.878
21.000	20.3339	36.1215	8.877
22.000	20.3146	36.1198	8.881
23.000	20.2588	36.1171	8.882
24.000	20.1050	36.1180	8.862
25.000	20.1278	36.1173	8.848
26.000	20.1030	36.1186	8.826
27.000	20.0768	36.1200	8.814
28.000	20.0528	36.1182	8.824
29.000	20.0273	36.1174	8.828
30.000	20.0097	36.1168	8.828
31.000	19.9988	36.1161	8.814
32.000	19.9815	36.1165	8.831
33.000	19.9692	36.1207	8.873
34.000	19.9234	36.1240	8.877
35.000	19.8502	36.1276	8.877
36.000	19.8156	36.1319	8.867
37.000	19.8099	36.1384	8.867
38.000	19.7971	36.1456	8.859
39.000	19.7848	36.1543	8.842
40.000	19.7703	36.1611	8.823
41.000	19.8014	36.1787	8.682
42.000	19.8016	36.1823	8.600
43.000	19.8015	36.1848	8.516
44.000	19.7999	36.1872	8.425
45.000	19.7990	36.1879	8.349
46.000	19.7984	36.1886	8.265
47.000	19.7922	36.1897	8.129
48.000	19.7858	36.1898	7.999
49.000	19.7740	36.1885	7.596
50.000	19.7541	36.1866	7.114
51.000	19.7489	36.1861	6.864
52.000	19.7433	36.1851	6.546
53.000	19.7416	36.1844	6.538

▽ - Indicates bottle salinities


Salinity(ppt)
20 22 24 26 28 30 32 34 36 38 40
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200
T
S
X
Cruise: 92G04
Date: Thu Apr 09 1992, Julian day = 100
Time: 19:08:19 GMT
Lat: 27 52.63 N
Lon: 93 48.98 W
Stn. 21
raw data file = c2g0421.dat
meters temp salinity volts# 0
2.000 21.0846 35.8896 8.992
3.000 21.0682 35.8879 8.994
4.000 21.0715 35.8878 8.992
5.000 21.0738 35.8885 8.989
6.000 21.0658 35.8884 8.989
7.000 21.0668 35.8885 8.994
8.000 21.0634 35.8878 8.992
9.000 21.0161 35.8775 8.989
10.000 21.0077 35.8743 8.989
11.000 20.9593 35.8631 8.989
12.000 20.9091 35.8535 8.989
13.000 20.8814 35.8460 8.984
14.000 20.8675 35.8406 8.987
15.000 20.8038 35.8309 8.987
16.000 20.7569 35.8385 8.984
17.000 20.7095 35.8524 8.988
18.000 20.6489 35.8725 8.995
Depth(meters)
3 6 9 12 15 18 21 24 27
Temp.(Deg.C)
0 1 2 3 4 5 6 7 8 9 10
XSM(Volts)

BOTTLE DATA

At each CTD station on cruise 92G-04, 30-liter Niskin bottles mounted on a General Oceanics 12-place rosette multisampler were tripped on the upcast for analysis of nutrients, dissolved oxygen, and chlorophyll + acid degradation products as well as bottle salinity. Autoanalyzer nutrient analyses were done at sea using a 6-channel Technicon AA-II analyzer, and salinity was checked at each bottle trip depth in the shipboard laboratory with Guildline Autosal model 8400A. Dissolved oxygen was measured by a modified Winkler titration method. Chlorophyll versus phaeopigment composition was estimated at sea by measuring the fluorescence of suspended material extracted in 90% acetone before and after the addition of acid (the "Turner" fluorometric method), following the protocols of Parsons et al, 1985.

The following tables summarize temperature, salinity, nutrient, dissolved oxygen, and chlorophyll + phaeopigment concentrations. In the tables, Temp = CTD temp, and Salinity is bottle salinity (90G-15). Concentrations of nutrients are reported as μmoles/liter, of dissolved oxygen as mls/liter, and of chlorophyll (CHL) and phaeopigments (PHAEO) as g/liter.

Reference:

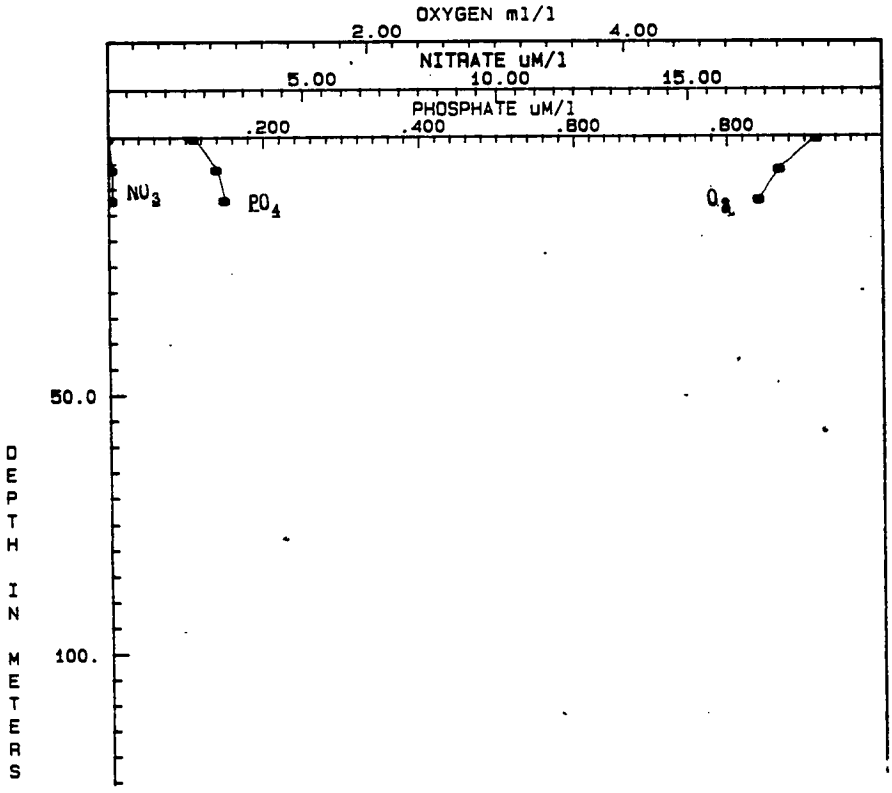
Parsons TR, Maita Y, and Lalli CM (1985) A Manual of Chemical and Biological Methods for Seawater Analysis. Oxford (Pergamon Press).

100mls of seawater was filtered onto 25 mm glass fiber GF/F filters. These were extracted in 10 ml of 90% acetone for 12h at 0°C, then centrifuged the extract for 5 min to clarify the supernatant before measuring fluorescence on a Turner Designs model 10 fluorometer.

TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	001	Date	1APR	
LAT	29 12.90N	LON	94 07.42W	Time	1900	GMT
Samples	3					

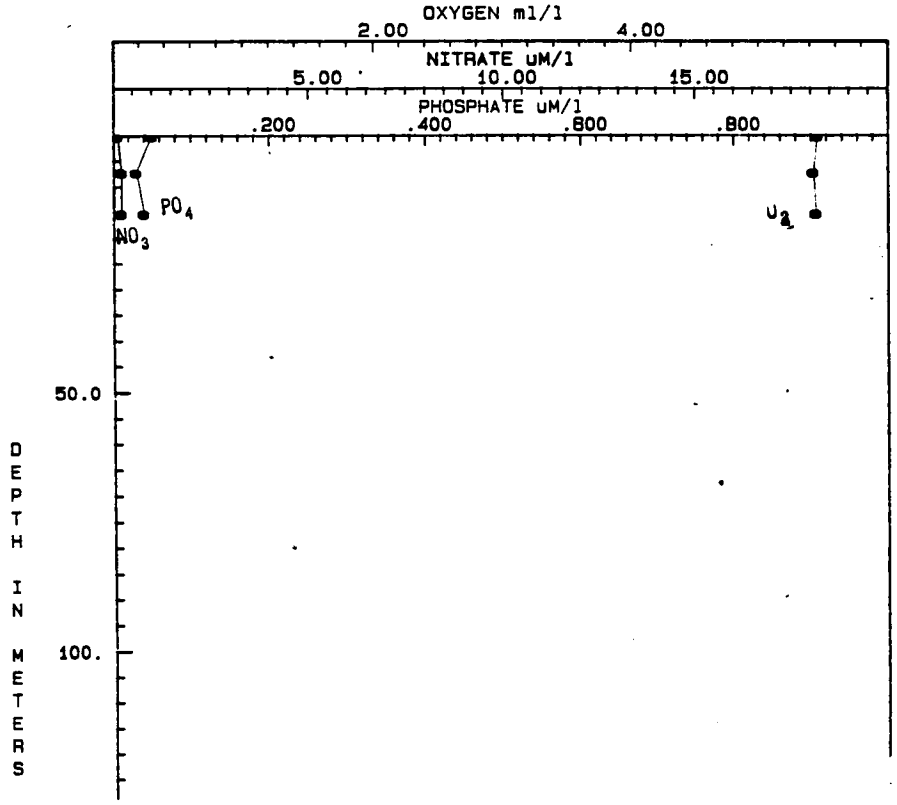
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3	NO2	NH4	Urea	PO4	SiO3	Chl	Pha
					(umol/l)						(mg/l)	
3	0	29.022	19.77	5.50	0.0	0.05	0.2	0.2	0.11	14.0	0.44	0.03
2	6	30.258	20.70	5.21	0.1	0.10	0.7	0.4	0.14	12.5	0.54	0.13
1	12	30.835	18.57	5.05	0.1	0.13	0.9	0.5	0.15	11.7	0.78	0.19



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	002	Date	1APR
LAT	29 08.06N	LON	93 37.65W	Time	2200 GMT
Samples	3				

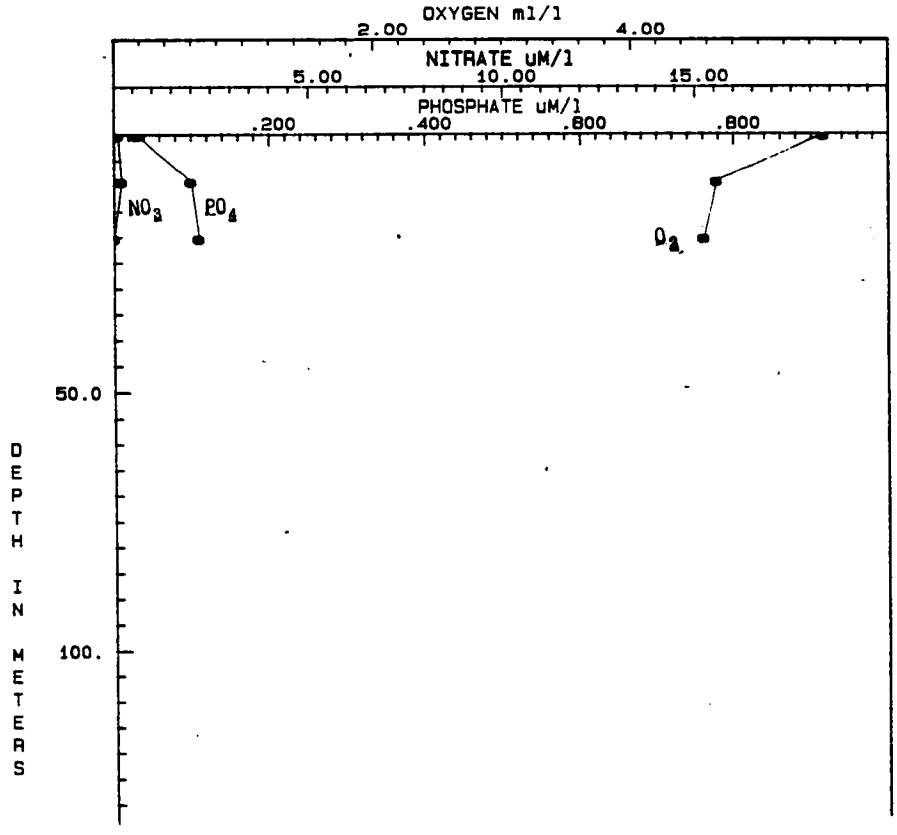
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3	NO2	NH4	Urea	PO4	SiO3	Chl	Pha
					(umol/l)						(mg/l)	
10	0	33.490	19.23	5.45	0.1	0.02	0.0	0.3	0.05	1.5		
9	7	33.586	19.16	5.42	0.2	0.01	0.0	0.3	0.03	1.4	0.24	0.09
8	15	33.601	19.01	5.44	0.2	0.01	0.0	0.1	0.04	1.4		



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	003	Date	2APR
LAT	29 04.49N	LON	92 59.90W	Time	0200 GMT
Samples	3				

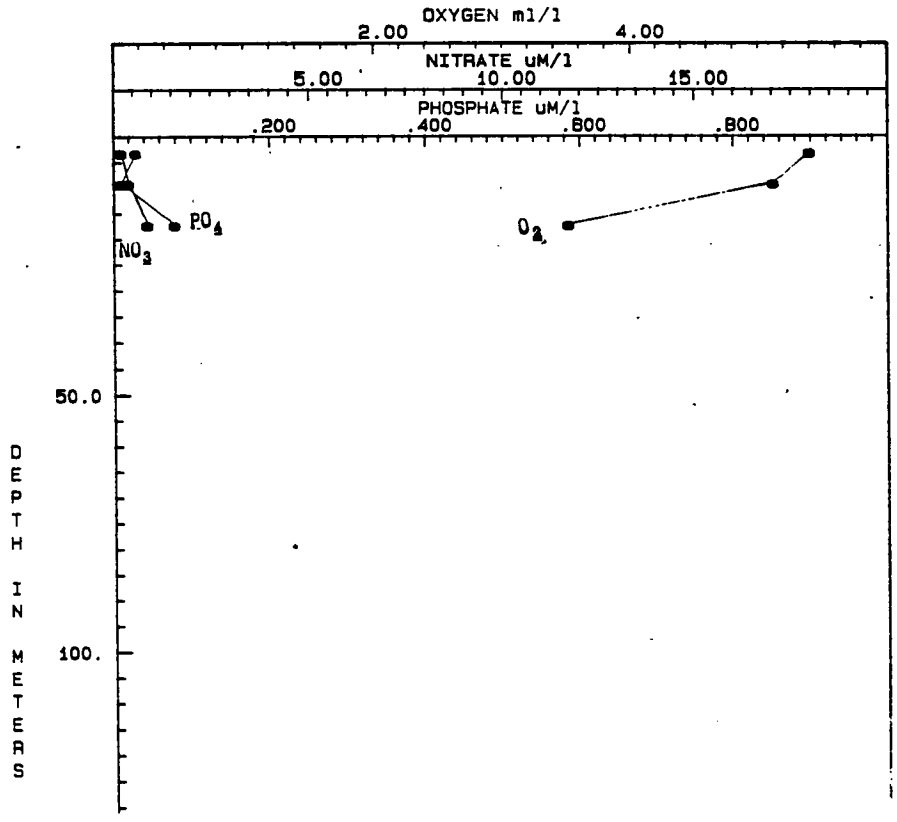
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea)	PO4	SiO3	Chl (mg/l	Pha)
3	0	30.784	19.43	5.50	0.1	0.02	0.1	0.2	0.03	13.9	0.48	0.17
2	9	34.291	19.28	4.67	0.2	0.24	0.5	0.3	0.10	7.0	0.60	0.08
1	20	34.882	19.23	4.57	0.0	0.20	0.7	0.4	0.11	6.1	0.68	0.07



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	004	Date	2APR
LAT	29 00.20N	LON	92 22.63W	Time	0601 GMT
Samples	3				

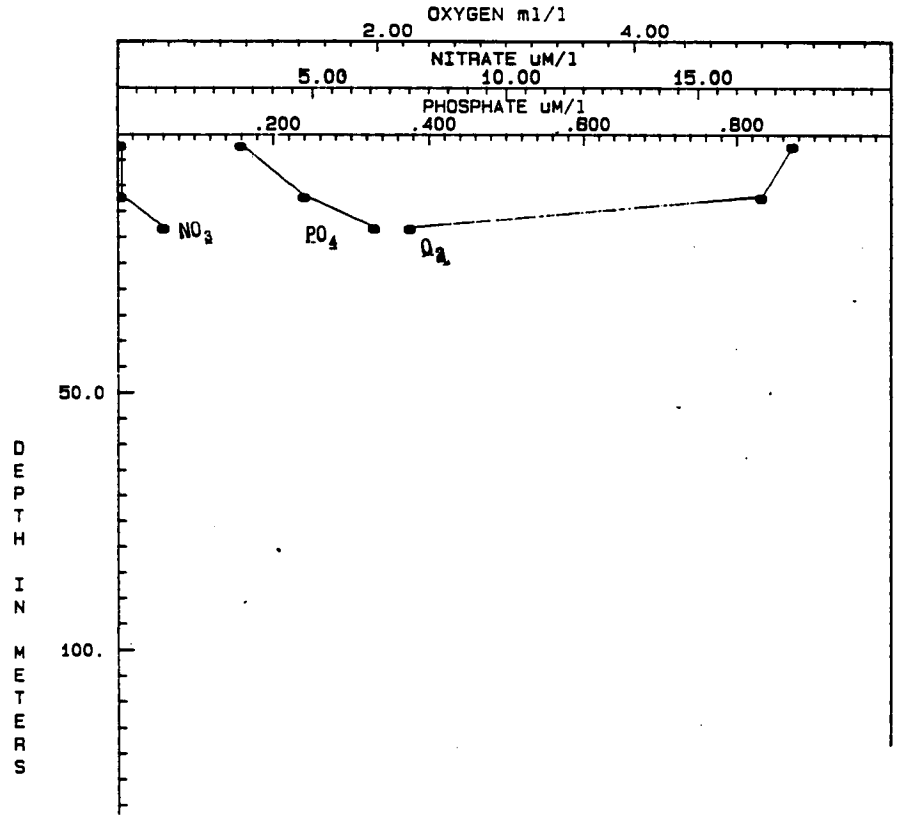
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3	NO2	NH4	Urea	PO4	SiO3	Chl	Pha
					(umol/l)						(mg/l)	
6	3	30.961	19.77	5.40	0.2	0.01	0.0	0.4	0.03	14.6	0.46	0.14
5	9	32.220	19.60	5.12	0.4	0.02	0.0	0.3	0.01	11.3	0.58	0.10
4	17	35.023	19.63	3.52	0.9	0.60	0.0	0.4	0.08	12.4	0.41	0.07



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	005	Date	2APR
LAT	28 52.35N	LON	91 47.35W	Time	1000 GMT
Samples	3				

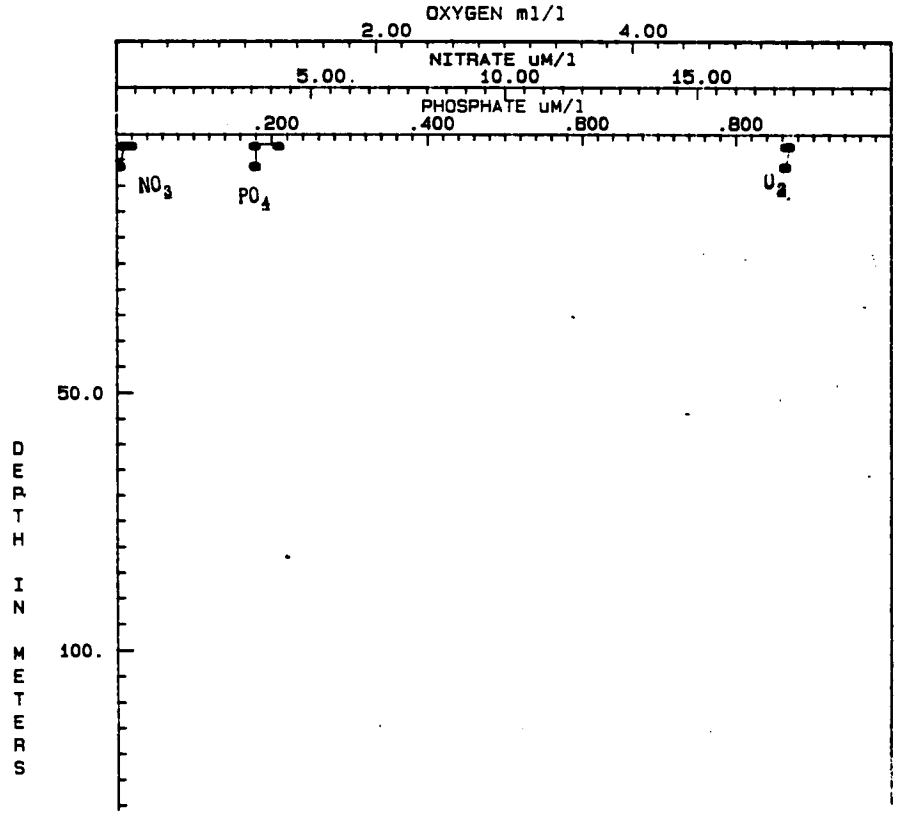
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3	NO2	NH4	Urea	PO4	SiO3	Chl	Pha
					(umol/l)						(mg/l)	
9	2	32.772	19.59	5.24	0.1	0.00	0.1	0.1	0.16	10.5	0.32	0.08
8	12	33.348	19.66	5.00	0.1	0.02	0.1	0.2	0.24	10.0	0.48	0.15
7	18	35.455	19.83	2.26	1.2	0.14	0.0	0.3	0.33	22.8	0.80	0.10



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	006	Date	2APR
LAT	28 48.58N	LON	91 12.55W	Time	1400 GMT
Samples	3				

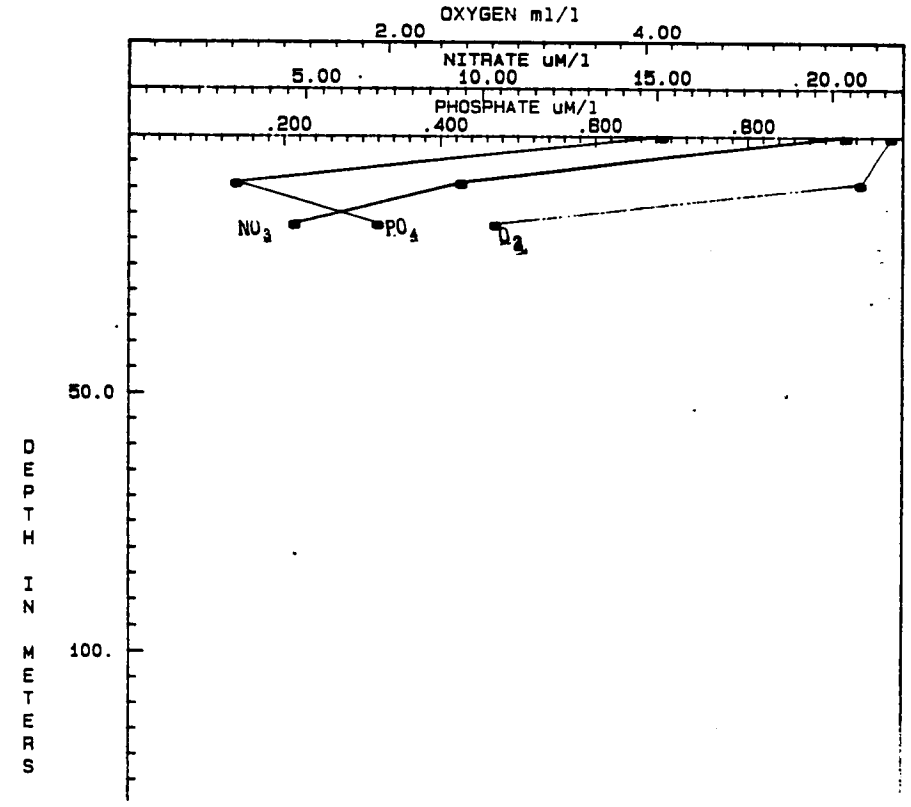
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea)	PO4	SiO3	Chl (mg/l)	Pha
12	2	30.470	19.53	5.20	0.4	0.04	0.6	0.5	0.21	16.5	0.51	0.34
11	2	30.468	19.53	5.22	0.2	0.05	0.2	0.6	0.18	16.5	0.60	0.33
10	6	30.468	19.52	5.19	0.1	0.07	0.3	0.8	0.18	16.5	0.58	0.35



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	007	Date	2APR	
LAT	28 50.78N	LON	90 26.14W	Time	1932	GMT
Samples	3					

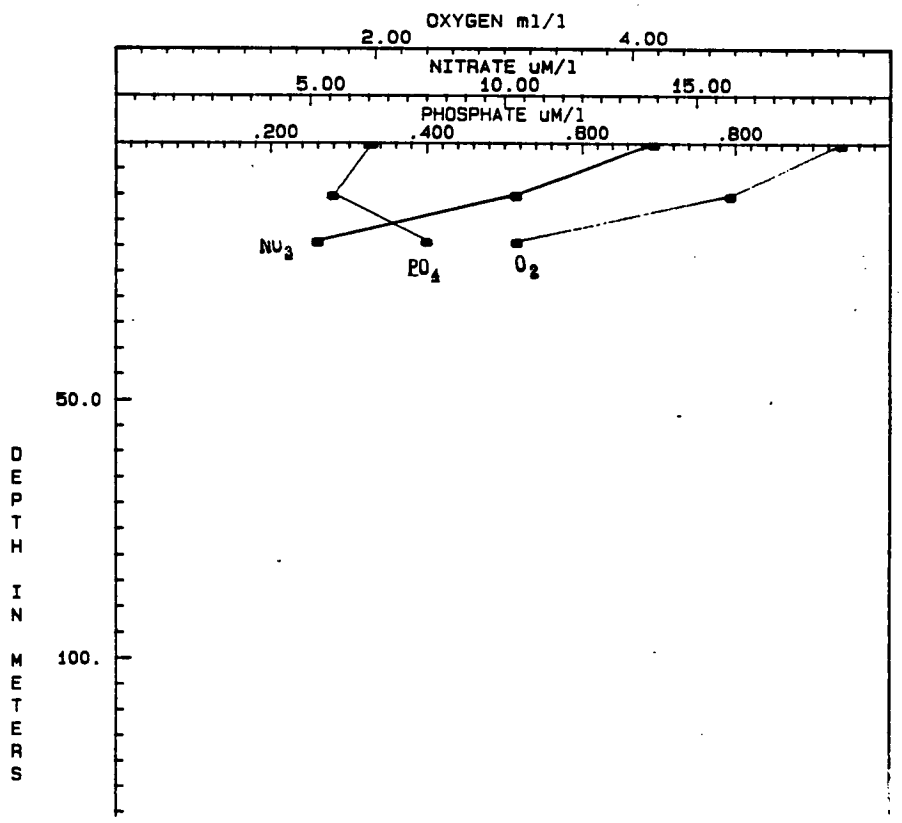
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea	PO4	SiO3	Chl (mg/l	Pha)
4	0	24.569	18.82	5.92	20.4	0.68	2.2	0.6	0.69	38.1	0.61	0.01
3	9	27.985	19.14	5.68	9.4	0.41	0.2	0.3	0.14	20.5	0.44	0.10
2	17	33.381	19.86	2.83	4.7	0.29	0.1	1.0	0.32	20.0	0.68	0.22



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	008	Date	3APR	
LAT	29 07.29N	LON	89 44.67W	Time	0005	GMT
Samples	3					

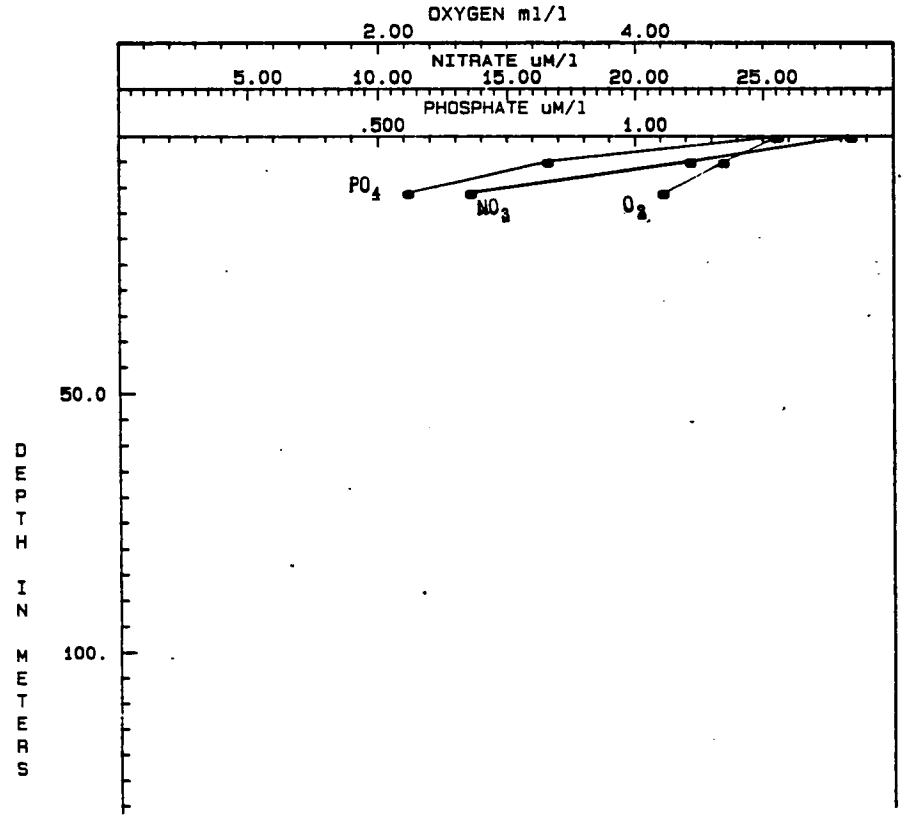
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea)	PO4	SiO3	Chl (mg/l)	Pha
12	0	25.227	18.53	5.63	13.9	0.86	1.7	0.4	0.33	32.6		
11	10	28.311	18.71	4.77	10.3	0.99	0.6	0.3	0.28	26.3	0.54	0.31
10	19	35.338	19.75	3.10	5.2	0.15	0.0	0.1	0.40	9.8		



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	009	Date	3APR
LAT	29 00.05N	LON	89 29.96W	Time	230 GMT
Samples	3				

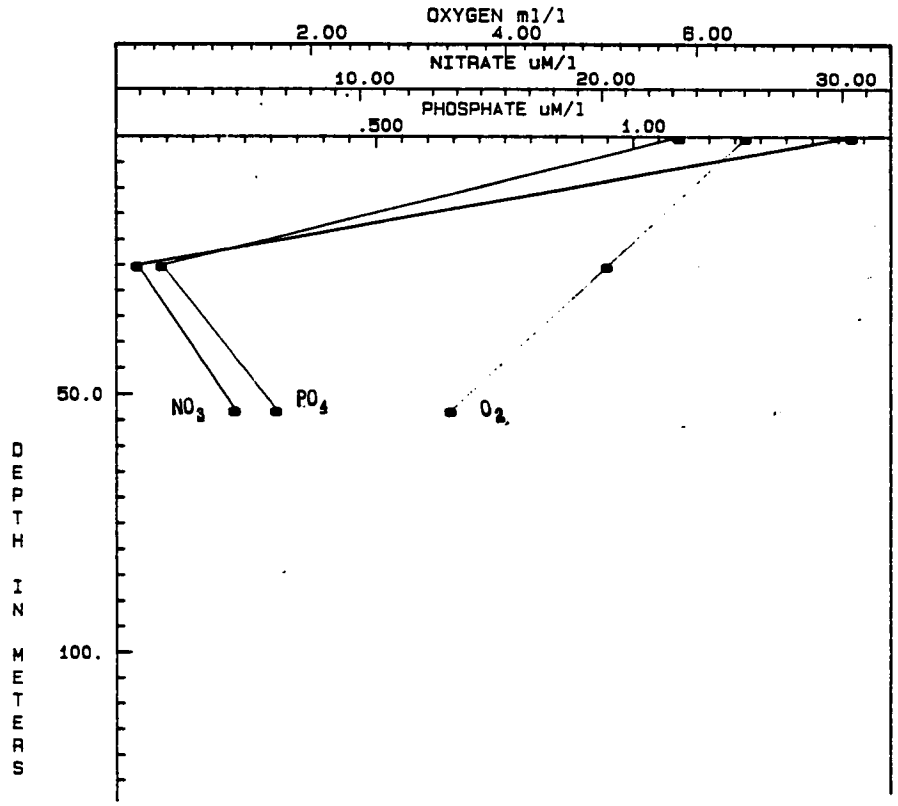
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea	PO4	SiO3	Chl (mg/l	Pha)
3	0	22.650	17.48	5.11	28.4	2.27	3.1	1.3	1.28	51.2	0.43	0.15
2	5	26.143	17.86	4.70	22.2	2.40	2.3	0.8	0.83	43.8	0.83	0.27
1	11	29.110	19.19	4.23	13.6	1.93	1.1	0.3	0.56	26.9	0.61	0.19



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	010	Date	3APR
LAT	28 50.08N	LON	89 30.04W	Time	0440 GMT
Samples	3				

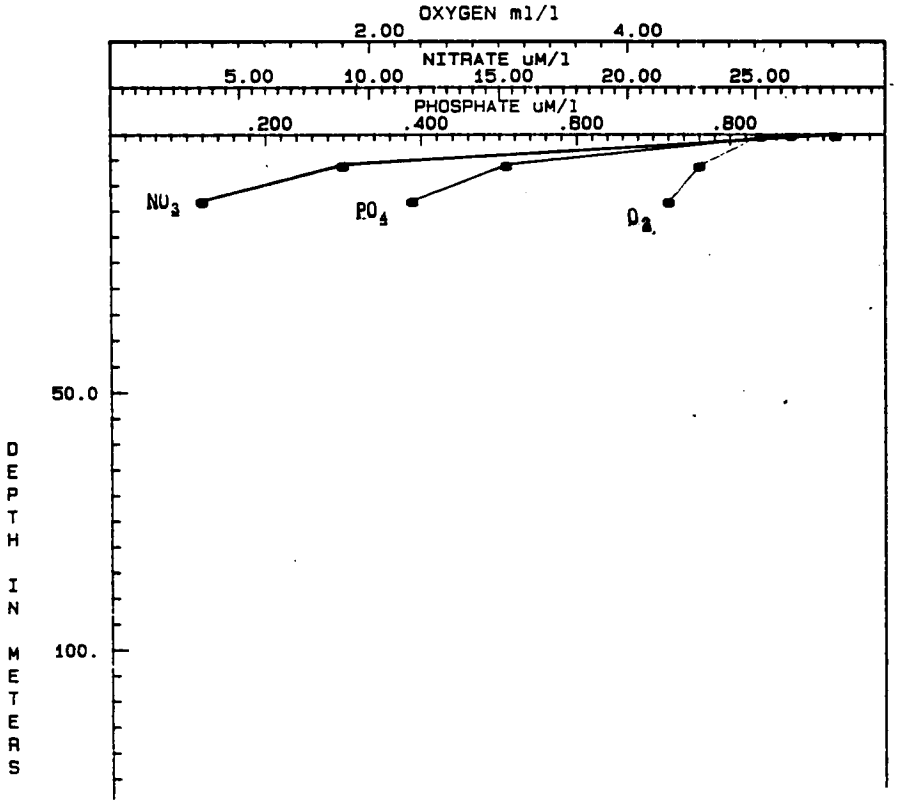
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2	NH4 umol/l	Urea	PO4	SiO3	Chl (mg/l	Pha)
6	0	21.587	18.24	6.52	30.4	0.87	1.5	1.4	1.09	45.4	1.8	0.01
5	25	35.614	20.01	5.06	0.9	0.54	0.0	0.1	0.09	2.4	0.22	0.18
4	53	36.282	19.69	3.44	4.9	0.12	0.0	0.1	0.31	7.8		



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	011	Date	3APR
LAT	28 59.99N	LON	89 30.1394 0	Time	2035 GMT
Samples	3				

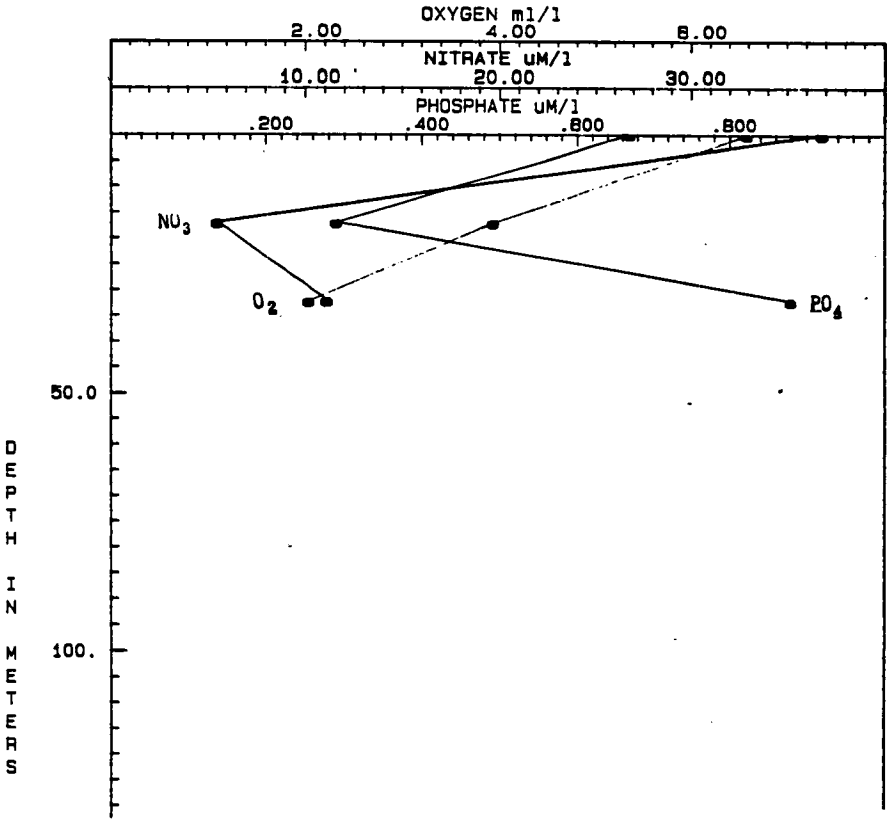
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3	NO2	NH4	Urea	PO4	SiO3	Chl	Pha
					(umol/l)						(mg/l)	
3	0	24.622	17.86	5.05	28.1	1.46	2.9	0.8	0.88	42.4	0.28	0.19
2	6	31.814	18.09	4.57	9.0	1.37	0.5	0.6	0.51	13.8	0.22	0.16
1	13	34.354	19.57	4.33	3.6	1.18	0.2	0.6	0.39	6.7	0.39	0.38



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	012	Date	4APR
LAT	28 56.11N	LON	89 55.15W	Time	400 GMT
Samples	3				

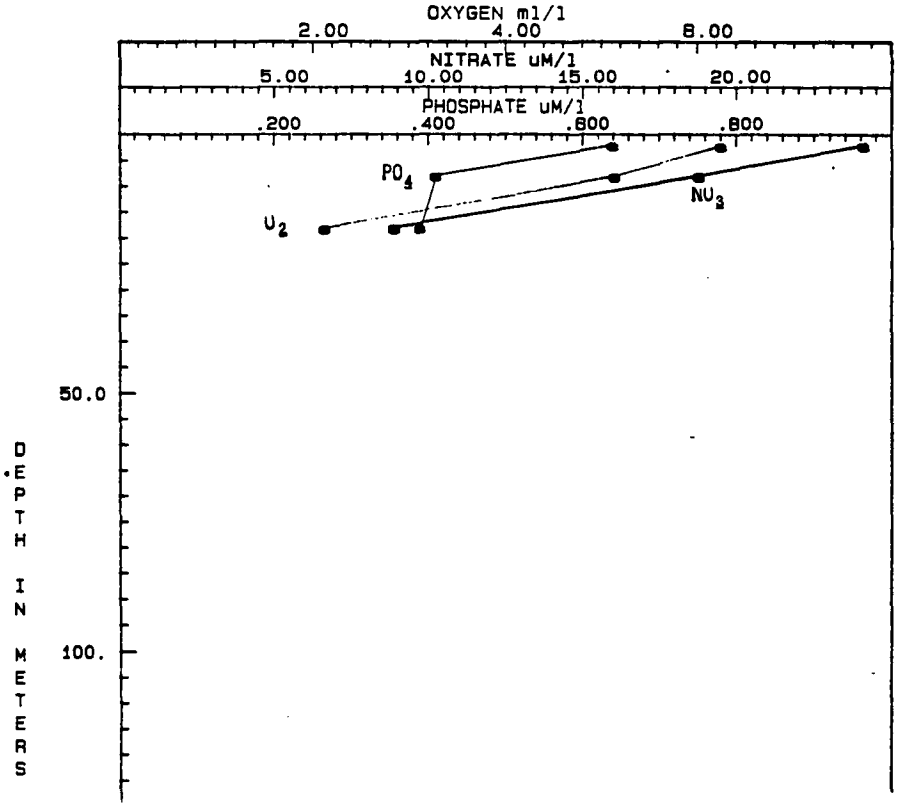
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2	NH4 umol/l	Urea	PO4	SiO3)	Chl (mg/l)	Pha
9	0	22.716	17.45	6.59	36.8	0.70	0.8	0.5	0.67	33.5	5.1	0.15
8	17	34.230	19.60	3.94	5.5	0.72	0.0	0.4	0.29	10.2	0.41	0.32
7	32	36.156	19.90	2.04	11.1	0.17	0.2	0.5	0.88	23.3		



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	013	Date	4APR
LAT	28 50.49N	LON	90 25.94W	Time	1526 GMT
Samples	3				

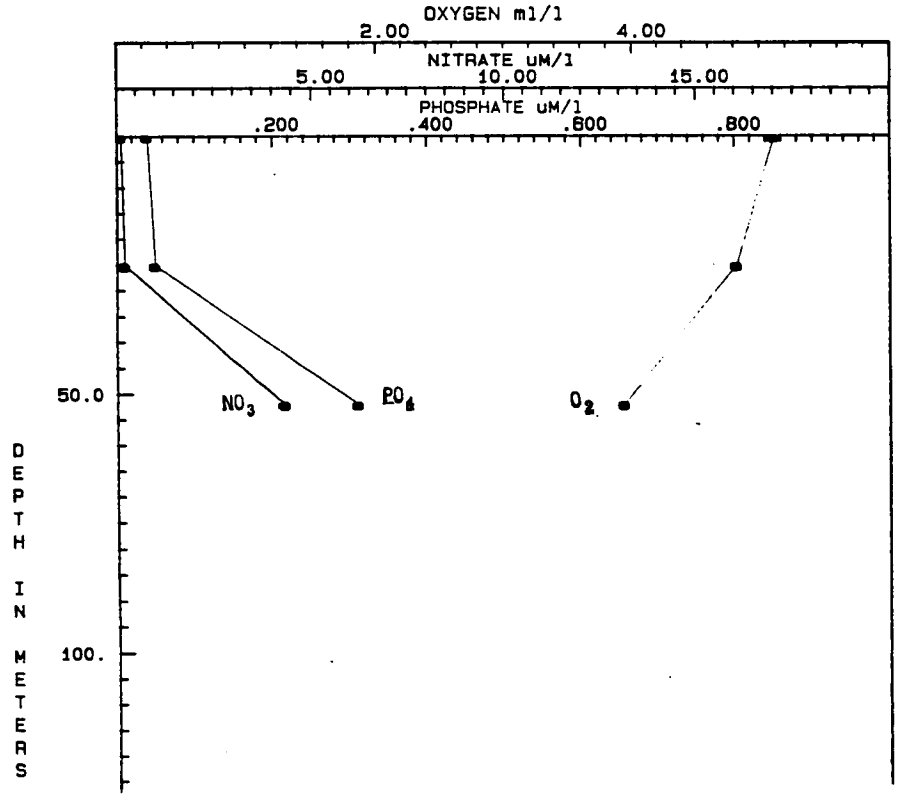
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3	NO2	NH4	Urea	PO4	SiO3	Chl	Pha
					(umol/l)						(mg/l)	
7	2	24.794	17.98	6.25	24.1	1.01	2.1	0.4	0.64	34.8		
6	8	27.703	18.02	5.14	18.8	0.82	0.6	0.7	0.41	29.1		
1	18	33.911	19.80	2.13	8.9	0.22	0.3	0.6	0.39	27.0		



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	014	Date	5APR
LAT	28 19.03N	LON	90 28.98W	Time	420 GMT
Samples	3				

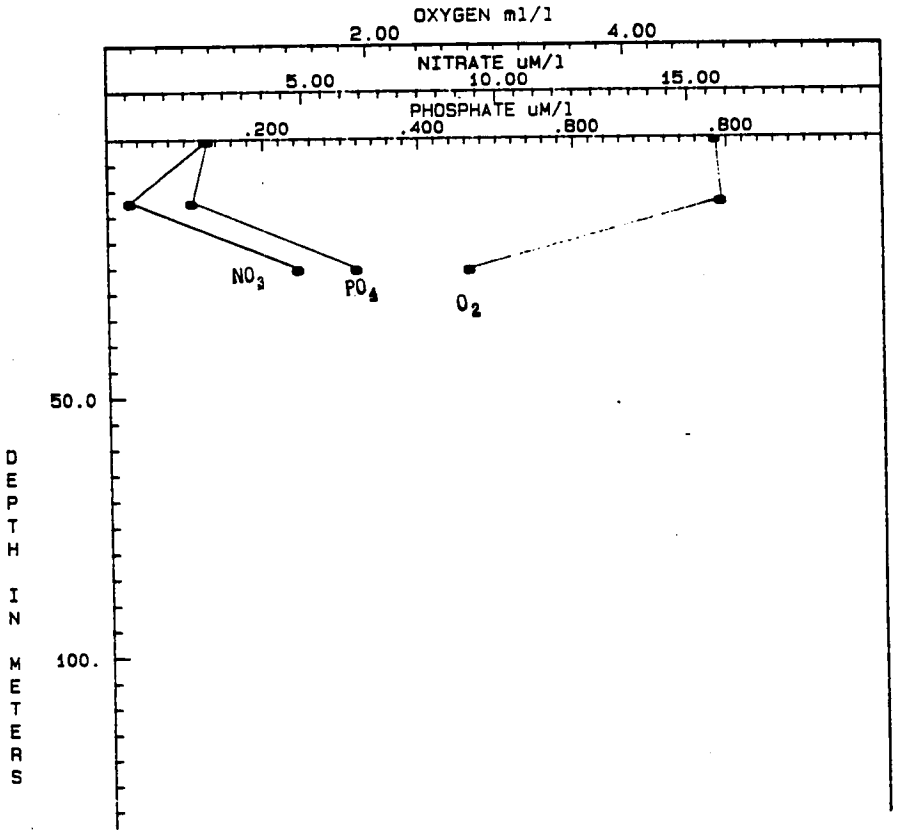
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3	NO2	NH4	Urea	PO4	SiO3	Chl	Pha
					(umol/l)						(mg/l)	
3	0	35.010	20.59	5.11	0.1	0.00	0.1	0.2	0.04	3.6		
2	25	36.108	20.16	4.82	0.2	0.15	0.1	0.1	0.05	1.7		
1	52	36.274	19.58	3.94	4.3	0.15	0.1	0.4	0.31	4.9		



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	015	Date	5APR
LAT	28 32.67N	LON	91 00.15W	Time	1522 GMT
Samples	3				

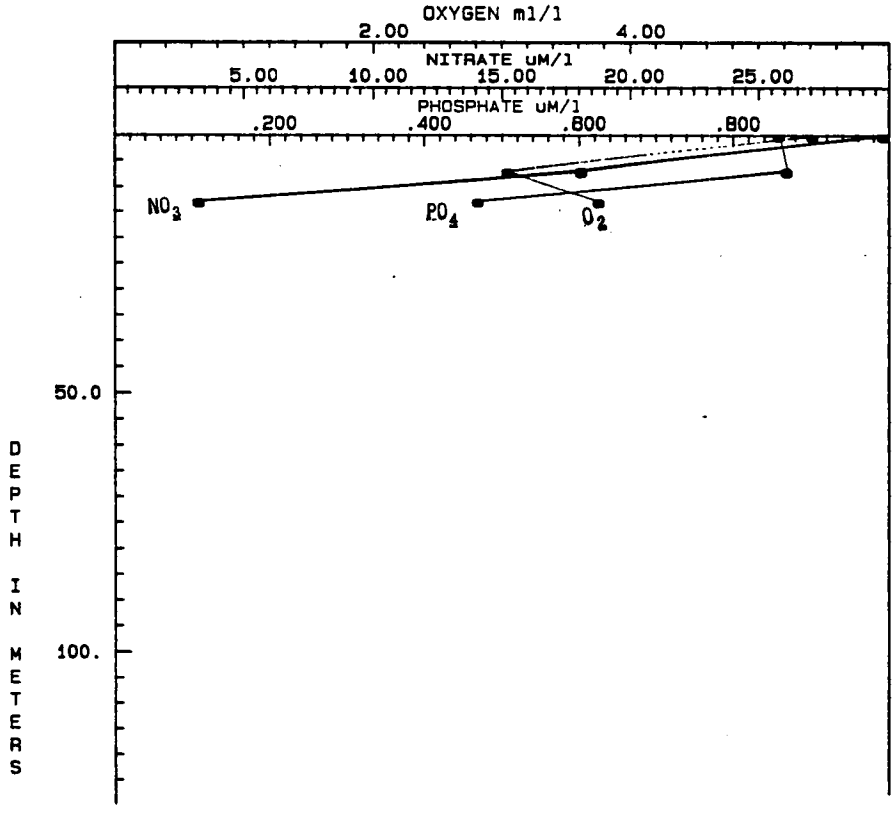
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea	PO4	SiO3)	Chl (mg/l)	Pha
6	0	31.862	19.08	4.72	2.6	0.30	0.3	0.3	0.13	15.6		
5	12	33.323	19.39	4.76	0.6	0.06	0.2	0.3	0.11	8.0		
4	25	35.493	19.80	2.80	4.9	0.10	0.0	0.4	0.32	16.5		



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	016	Date	6APR
LAT	28 59.86N	LON	89 29.94W	Time	1705 GMT
Samples	3				

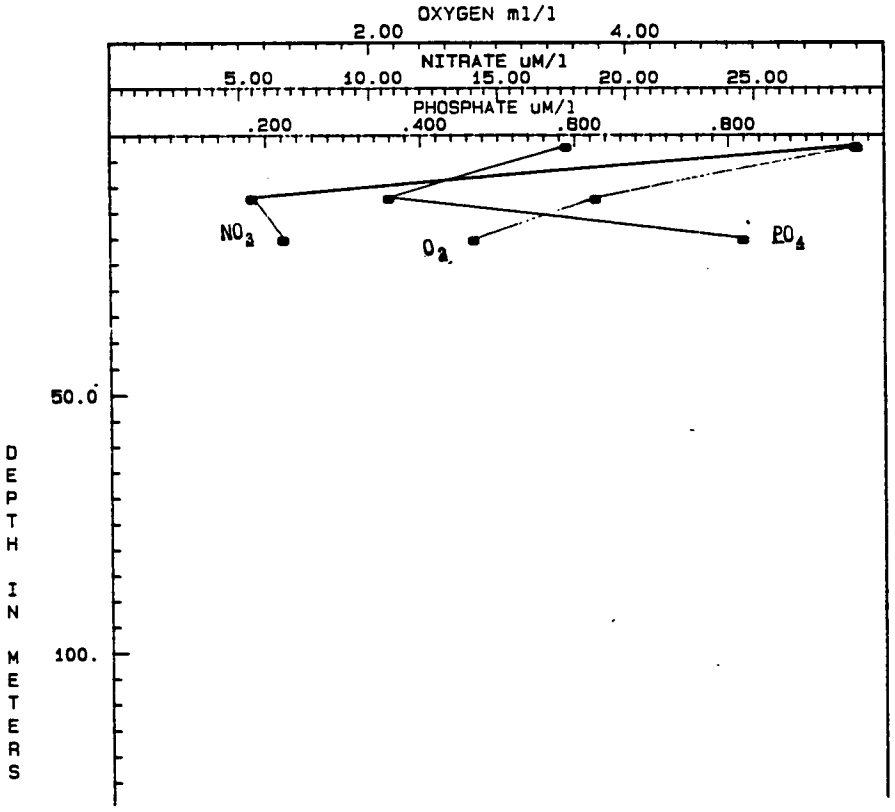
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea)	PO4	SiO3	Chl (mg/l)	Pha
3	0	23.351	17.88	5.42	29.8	1.49	3.5	0.6	0.86	43.7		
2	7	29.299	18.65	3.05	18.1	2.01	1.2	0.4	0.87	31.9		
1	13	35.650	19.90	3.76	3.3	0.71	1.0	0.2	0.47	6.4		



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	017	Date	7APR
LAT	29 07.2612.9	LON	89 44.48W	Time	1459 GMT
Samples	3				

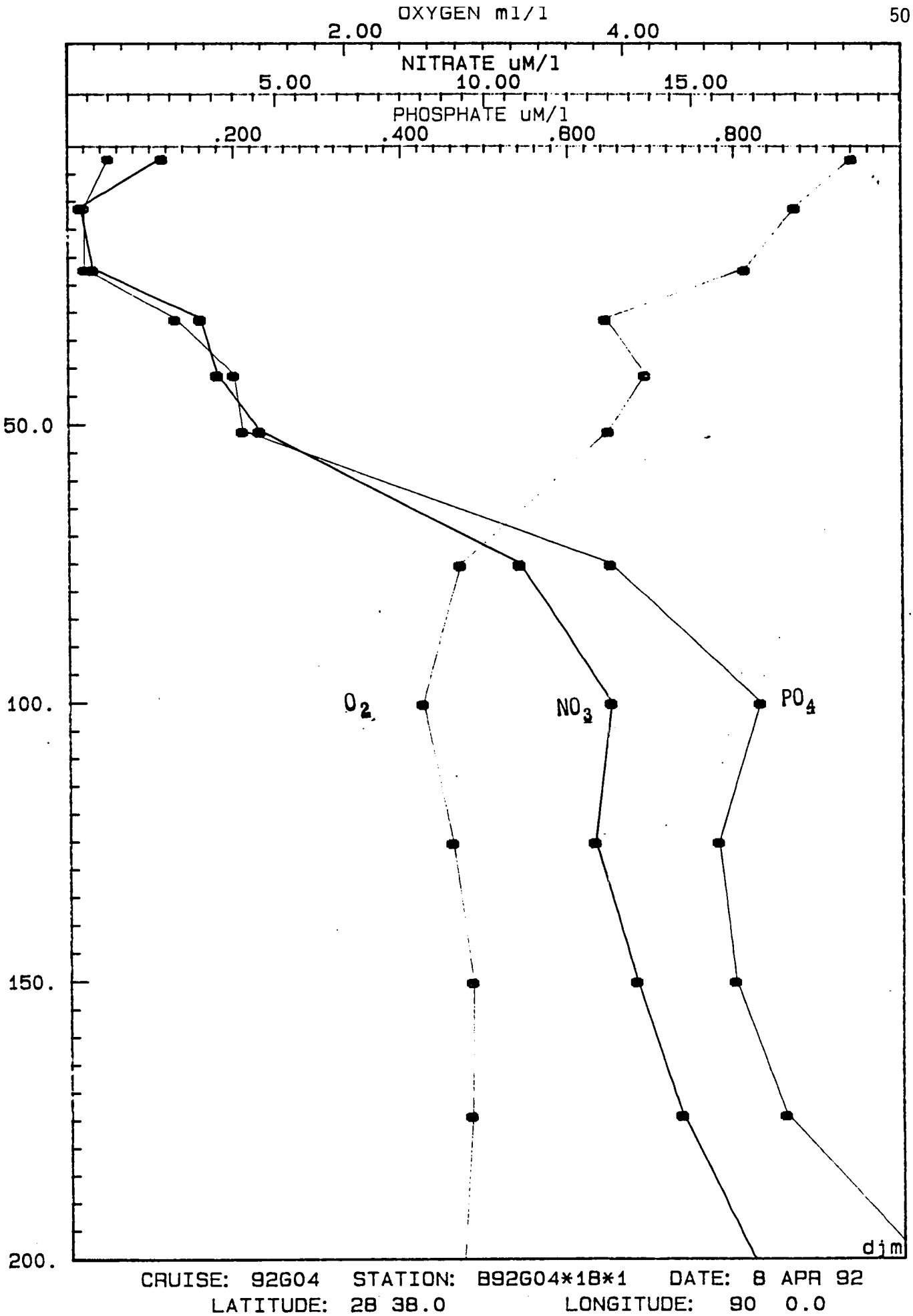
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea)	PO4	SiO3	Chl Pha (mg/l)
3	2	23.747	18.25	5.80	28.9	0.93	1.3	0.3	0.59	33.8	
2	12	34.245	19.62	3.77	5.5	0.16	0.1	0.2	0.36	6.4	
1	20	35.885	19.97	2.82	6.7	0.35	0.9	1.0	0.82	13.3	



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	018	Date	8APR
LAT	28 38.07N	LON	90 00.05W	Time	0448 GMT
Samples	12				

Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea)	PO4	SiO3	Chl (mg/l)	Pha
12	2	33.449	20.36	5.65	2.3	0.09	0.2	0.1	0.05	5.9		
11	11	35.240	20.07	5.24	0.3	0.01	0.1	0.1	0.02	4.5	(no data:	
10	22	35.970	20.30	4.88	0.6	0.06	0.1	0.1	0.02	6.3	only	
9	31	36.198	19.93	3.87	3.2	0.08	0.1	0.1	0.13	11.6	btl #	
8	41	36.272	19.92	4.16	3.6	0.06	0.1	0.2	0.20	9.4	1 - 3	
7	51	36.272	19.80	3.89	4.6	0.07	0.1	0.1	0.21	9.6	were	
6	75	36.345	18.86	2.82	10.8	0.11	0.1	0.2	0.65	14.4	sampled	
5	100	36.353	18.42	2.55	13.0	0.13	0.1	0.3	0.83	15.3	for	
4	125	36.365	18.16	2.76	12.6	0.11	0.1	0.2	0.78	12.4	CHL +	
3	150	36.294	17.50	2.90	13.6	0.07	0.0	0.1	0.80	9.9	PHAEO)	0.02
2	174	36.216	16.70	2.89	14.7	0.06	0.1	0.1	0.86	9.7	0.01	0.03
1	210	36.021	15.24	2.81	17.1	0.12	0.2	0.1	1.08	12.4	0.01	0.03

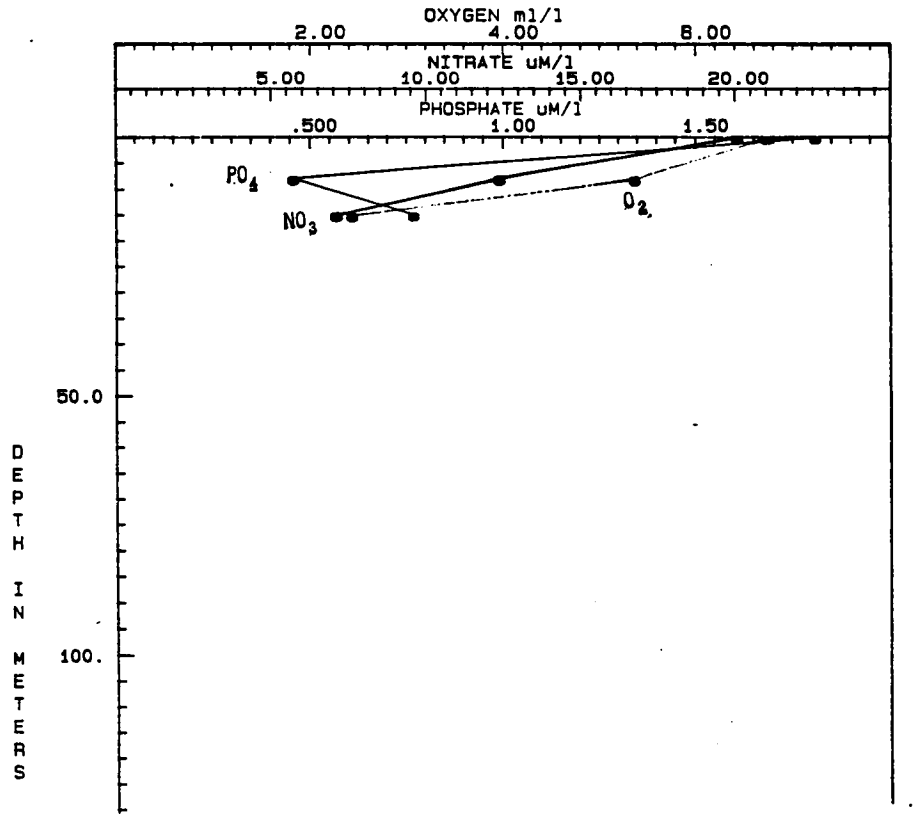


CRUISE: 92G04 STATION: B92G04*18*1 DATE: 8 APR 92
LATITUDE: 28 38.0 LONGITUDE: 90 0.0

TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	019	Date	8APR	
LAT	28 46.48N	LON	90 49.98W	Time	1830	GMT
Samples	3					

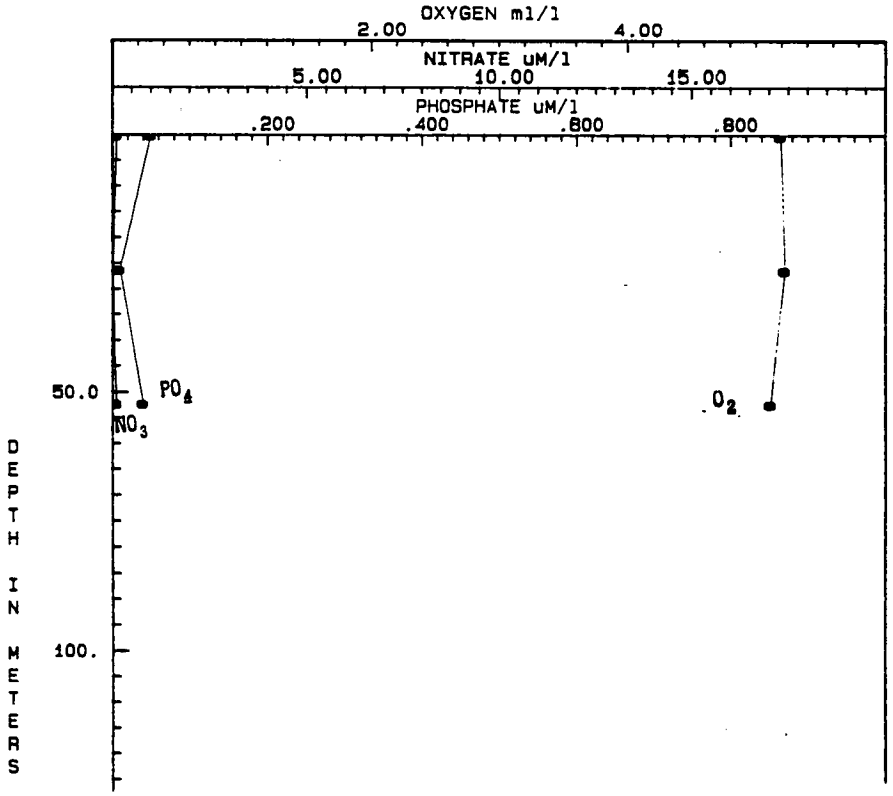
Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea)	PO4	SiO3	Chl (mg/l)	Pha
3	0	24.536	19.48	6.74	20.1	0.82	3.9	0.5	1.81	24.2		
2	8	26.600	18.72	5.38	12.4	1.12	2.4	1.3	0.46	19.8		
1	15	31.388	19.08	2.44	7.1	1.36	3.3	1.7	0.77	35.8		



TEXAS A&M UNIVERSITY DEPT. of OCEANOGRAPHY HYDROGRAPHIC DATA

CRUISE	92G04	STATION	020	Date	9APR	
LAT	28 26.04N	LON	91 53.15W	Time	0405	GMT
Samples	3					

Btl#	Z (m)	S (ppt)	T (C)	O (ml/l)	NO3 (	NO2 umol/l	NH4	Urea)	PO4	SiO3	Chl (mg/l)	Pha
6	0	36.160	20.96	5.19	0.1	0.02	0.0	0.0	0.05	0.1		
5	26	36.119	20.10	5.22	0.0	0.02	0.0	0.1	0.01	0.0		
4	52	36.188	19.74	5.11	0.1	0.02	0.2	0.1	0.04	1.5		



ACKNOWLEDGMENTS

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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.