

NOAA Data Report ERL PMEL-11



CTD/O₂ MEASUREMENTS ON THE CONRAD CRUISE
SEPTEMBER-OCTOBER 1982

L. J. Mangum
J. M. Toole
S. P. Hayes

Pacific Marine Environmental Laboratory
Seattle, Washington
February 1985

noaa

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

Environmental Research
Laboratories

NOAA Data Report ERL PMEL-11

CTD/O₂ MEASUREMENTS ON THE CONRAD CRUISE
SEPTEMBER-OCTOBER 1982

L. J. Mangum
J. M. Toole
S. P. Hayes

Pacific Marine Environmental Laboratory
Seattle, Washington
February 1985



UNITED STATES
DEPARTMENT OF COMMERCE

Malcolm Baldrige,
Secretary

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

Environmental Research
Laboratories

Vernon E. Derr,
Director

NOTICE

Mention of a commercial company or product does not constitute an endorsement by NOAA Environmental Research Laboratories. Use for publicity or advertising purposes of information from this publication concerning proprietary products or the tests of such products is not authorized.

CONTENTS

ABSTRACT.....1

1.0 INTRODUCTION.....2

2.0 NBIS CTD DATA PROCESSING.....2

3.0 DATA PRESENTATION.....3

4.0 ACKNOWLEDGMENTS.....3

REFERENCES.....4

FIGURES AND TABLES.....5

ABSTRACT

Summaries of CTD/O₂ measurements from the R/V CONRAD cruise in the equatorial Pacific during September and October 1982 are presented. This cruise occurred during the initial stages of the 1982/1983 El Niño/Southern Oscillation (ENSO) event, approximately three months after the trade winds collapsed in the western Pacific and one month after the rise in sea level was seen in the eastern Pacific. In addition to profiles of temperature, salinity, sigma-t and dissolved oxygen, station locations and T-S diagrams are included for each cast. Section plots of the vertical distribution of temperature, salinity, sigma-t and dissolved oxygen are shown for the meridional transects along 130°W and 85°W, and the zonal transect along the equator.

1.0 INTRODUCTION

The R/V ROBERT D. CONRAD departed Honolulu on 10 September 1982 and completed CTD profiling sections along 138°W from 5°N to 5°S, along the equator from 138°W to 110°W, and on the eastern trackline from 5°S, 85°W to 6.7°N, 80.3°W. Forty CTD casts were completed during the cruise which ended in Panama on 14 October 1982. The cruise track is shown in Figure 1, and the station locations are indicated in Figure 2. All CTD casts extended to a depth of at least 1000 dbars and eight casts were taken to within 100 dbars of the bottom. Table 1 lists the position, time and depth of each cast.

The timing of the cruise is of particular interest with respect to the 1982/83 ENSO event. Sadler and Kilonsky (1983) report anomalous westerly winds in the western Pacific by June 1982. Sea level started to rise in the central Pacific in July 1982 and increased in the eastern Pacific at the Galápagos in August 1982 (Lukas et al., 1984). Anomalous conditions of the ENSO event persisted throughout the equatorial Pacific until June 1983.

The hydrographic data were collected with a Neil Brown Instrument Systems (NBIS) Mark III CTD equipped with a Beckmann dissolved oxygen probe. The NBIS CTD samples pressure, temperature, conductivity and dissolved oxygen at a rate of 30 Hz (Brown, 1974). The data were recorded during the down cast on an LSI 11/03 online computer. An electronically-fired rosette sampler was used to collect discrete water samples for calibration purposes on the up cast.

2.0 NBIS CTD DATA PROCESSING

Using PMEL's NBIS CTD acquisition and processing system (Mangum et al., 1980), the CTD data were recorded in real time on a 9-track magnetic tape. A recursive filter was applied to the conductivity data using techniques described by Horne and Toole (1980) to compensate for the slower temperature response prior to computing 1 dbar averages of the data. No lag correction

was applied to the oxygen data. Pre-cruise calibrations, bottle data and historical data were used to determine the final CTD calibrations, which were applied to the averaged data. Salinity bottle samples collected from each cast were analyzed after the cruise at the University of Washington facility. Salinity measurements are reported in practical salinity units (PSU), based on the UNESCO Report (1978). Dissolved oxygen samples were analyzed during the cruise by Duke University personnel.

3.0 DATA PRESENTATION

For each cast, a summary plot, listing and T-S diagram were produced using computer programs described by Holbrook and Halpern (1974). The abbreviations that are used and the available meteorological information are described in Tables 2-7. WHOI subroutines for sigma-t and dynamic height were provided by R.C. Millard, Jr. Meridional sections of temperature, salinity, sigma-t and dissolved oxygen are shown along 138°W from 5°N to 5°S (Figures 3-6), and from 5°S, 85°W to 6.7°N, 80.3°W (Figures 11-14). Additionally, zonal section plots along the equator from 138°W to 110°W are presented in Figures 7-10. H.P. Freitag supplied the contour plotting program which was used to generate the section plots.

4.0 ACKNOWLEDGMENTS

The assistance of M. Stapp, H. Miller, A. Cantos-Figuerola, V. Kourafalou and D. Duerr with the CTD system during the cruise and the support of the officers of the R/V CONRAD is gratefully acknowledged. This research was supported in part by the Equatorial Pacific Ocean Climate Studies (EPOCS) project of NOAA and by the National Science Foundation under Grant OCE-8210520 as part of the Pacific Equatorial Ocean Dynamics Program (PEQUOD).

REFERENCES

- Brown, N.L., 1974. A precision CTD microprofiler. Ocean 74, 2, 270-278.
- Horne, E.P.W. and J.M. Toole, 1980. Sensor response mismatches and lag correction techniques for temperature-salinity profiles. J. Phys. Oceanogr., 10, 1122-1130.
- Lukas, R., S.P. Hayes, and K. Wyrski, 1984. Equatorial sea level response during the 1982-1983 El Niño, J. Geophys. Res., 89, 10425-10430.
- Mangum, L.J., N.N. Soreide, B.D. Spell, B.D. Davies, and S.P. Hayes, 1980. CTD/O₂ measurements during the Equatorial Pacific Ocean Climate Study (EPOCS) in 1979. NOAA Data Report ERL PMEL-1, 645 pp.
- Sadler, J.C. and B. Kilonsky, 1983. Meteorological events during evolution of positive SST anomalies in the equatorial Pacific in 1982. Tropical Ocean-Atmos. Newsletter, 16, 3-4.
- UNESCO, 1978. Eighth report of the Joint Panel on Oceanographic Tables and Standards, Woods Hole, March 1977. UNESCO Tech. Paper in Mar. Sci., No. 28, 32 pp.

FIGURES AND TABLES



FIGURES

- Figure 1. Cruise track of R/V CONRAD from 10 September - 14 October 1982 (Honolulu to Panama).
- Figure 2. CTD/O₂ stations occupied during the 1982 CONRAD cruise. Casts were taken to at least a depth of 1000 dbars.
- Figure 3. Temperature (°C) section along 138°W.
- Figure 4. Salinity (psu) section along 138°W.
- Figure 5. Sigma-t (kg/m³) section along 138°W.
- Figure 6. Oxygen (ml/l) section along 138°W.
- Figure 7. Temperature (°C) section along the equator.
- Figure 8. Salinity (psu) section along the equator.
- Figure 9. Sigma-t (kg/m³) section along the equator.
- Figure 10. Oxygen (ml/l) section along the equator.
- Figure 11. Temperature (°C) section from 5°S, 85°W to 6.7°N, 80.3°W.
- Figure 12. Salinity (psu) section from 5°S, 85°W to 6.7°N, 80.3°W.
- Figure 13. Sigma-t (kg/m³) section from 5°S, 85°W to 6.7°N, 80.3°W.
- Figure 14. Oxygen (ml/l) section from 5°S, 85°W to 6.7°N, 80.3°W.



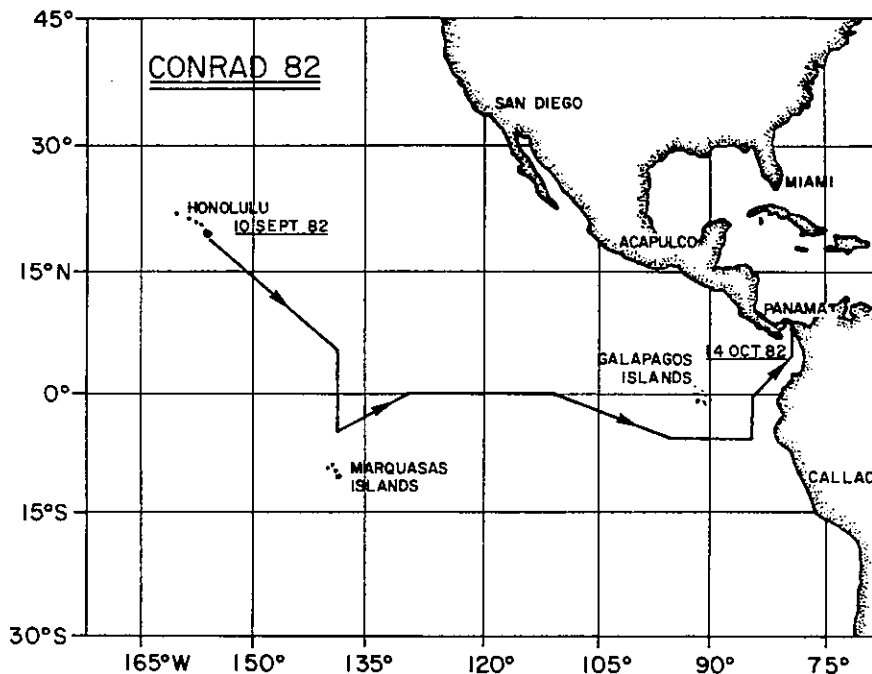


Figure 1. Cruise track of R/V CONRAD from 10 September - 14 October 1982 (Honolulu to Panama).

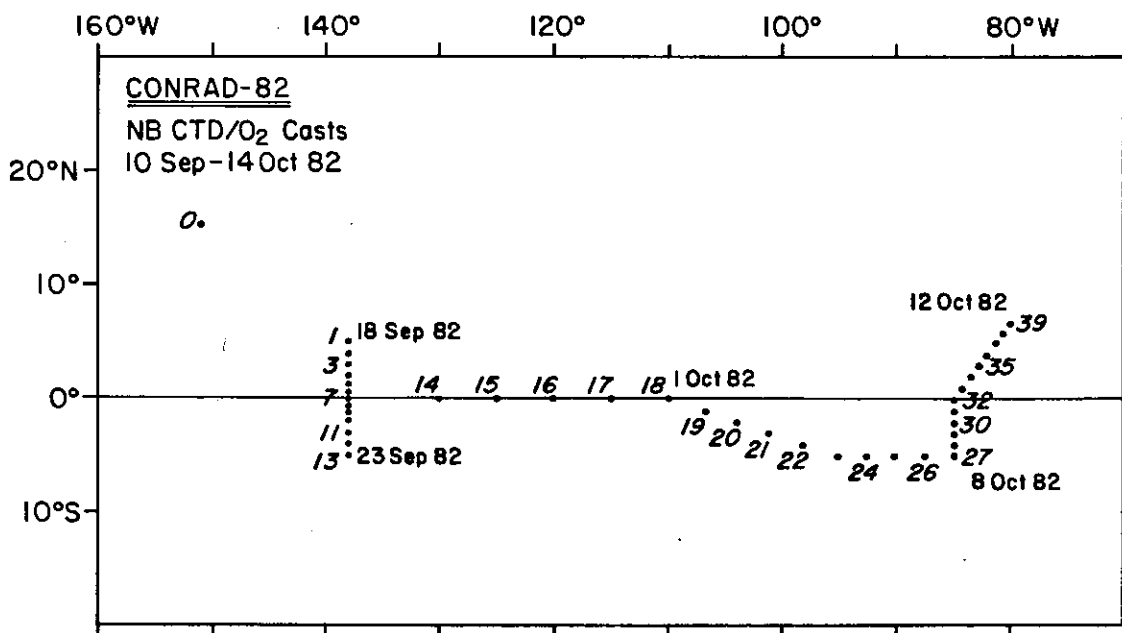


Figure 2. CTD/O₂ stations occupied during the 1982 CONRAD cruise. Casts were taken to at least a depth of 1000 dbars.



Sections Along 138°W From 5°N to 5°S

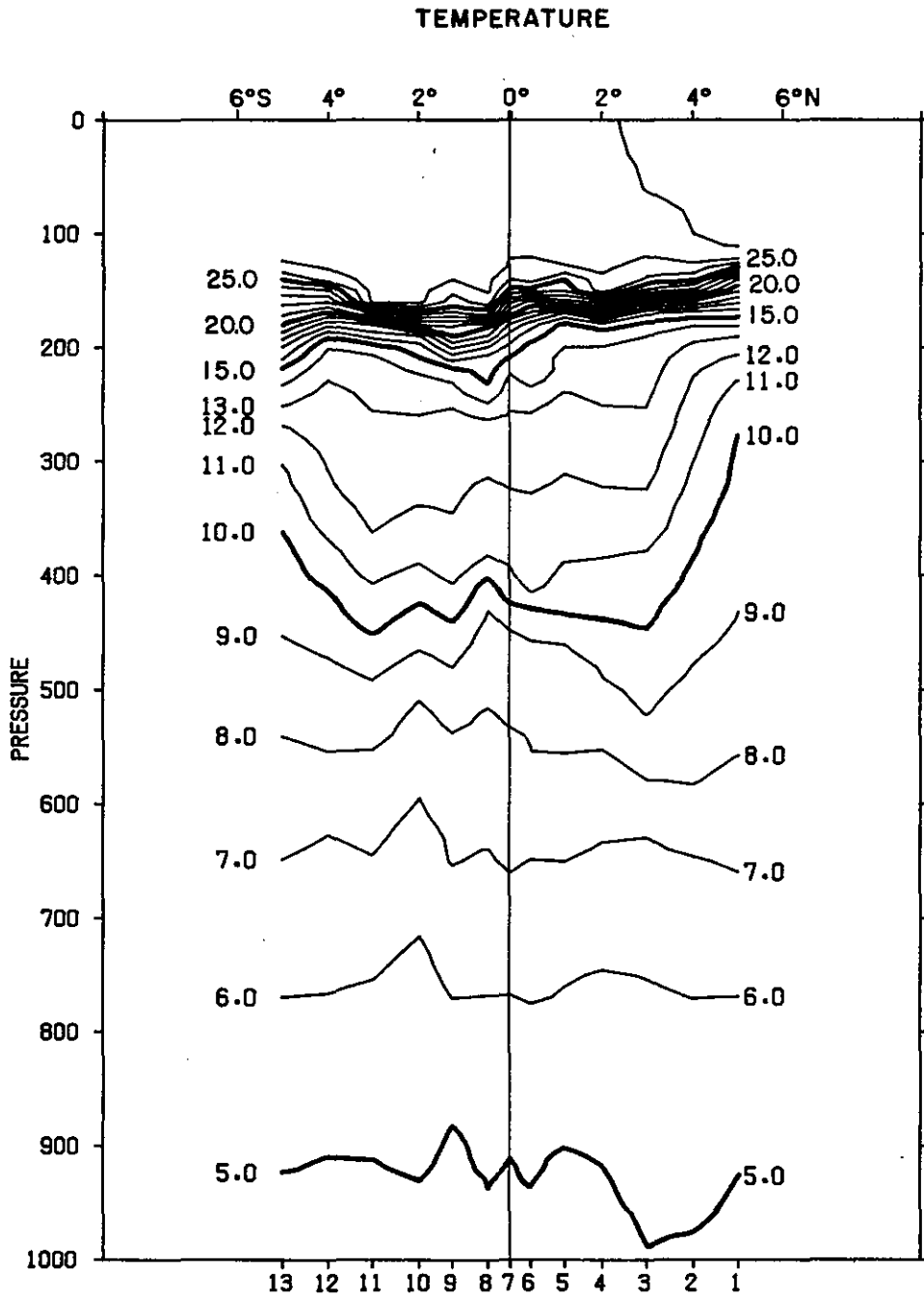


Figure 3. Temperature (°C) section along 138°W.

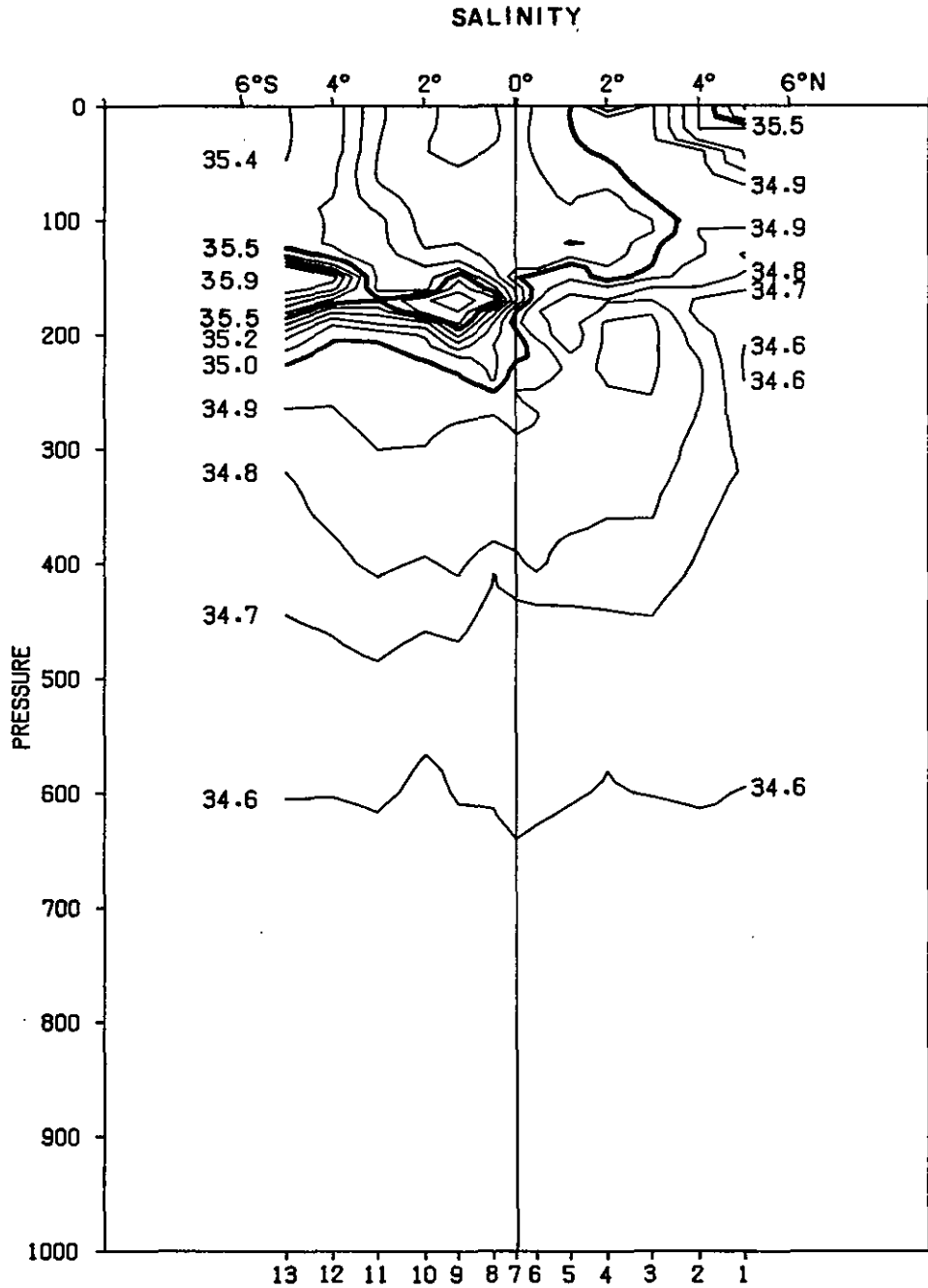


Figure 4. Salinity (psu) section along 138°W.

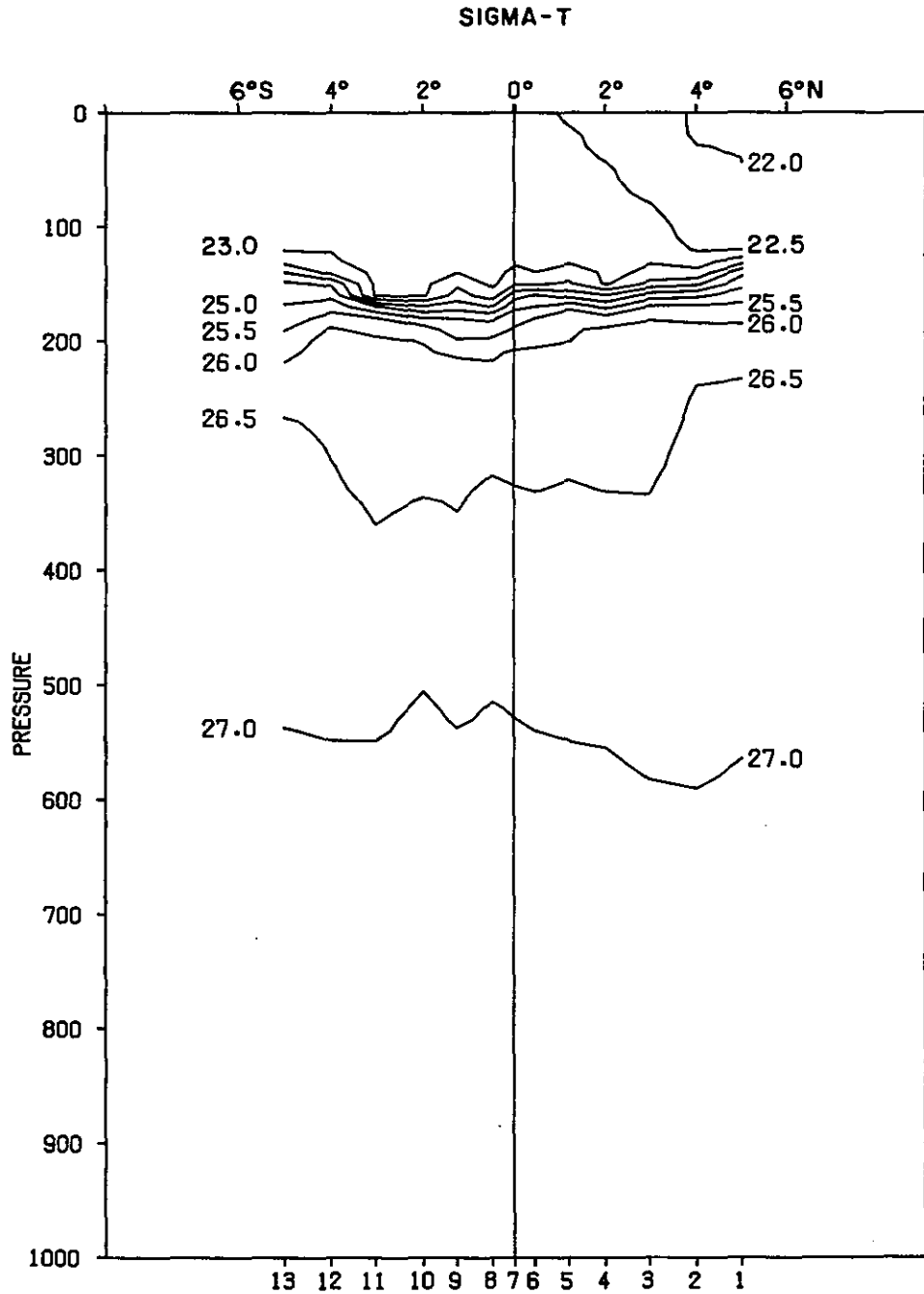


Figure 5. Sigma-t (kg/m^3) section along 138°W .

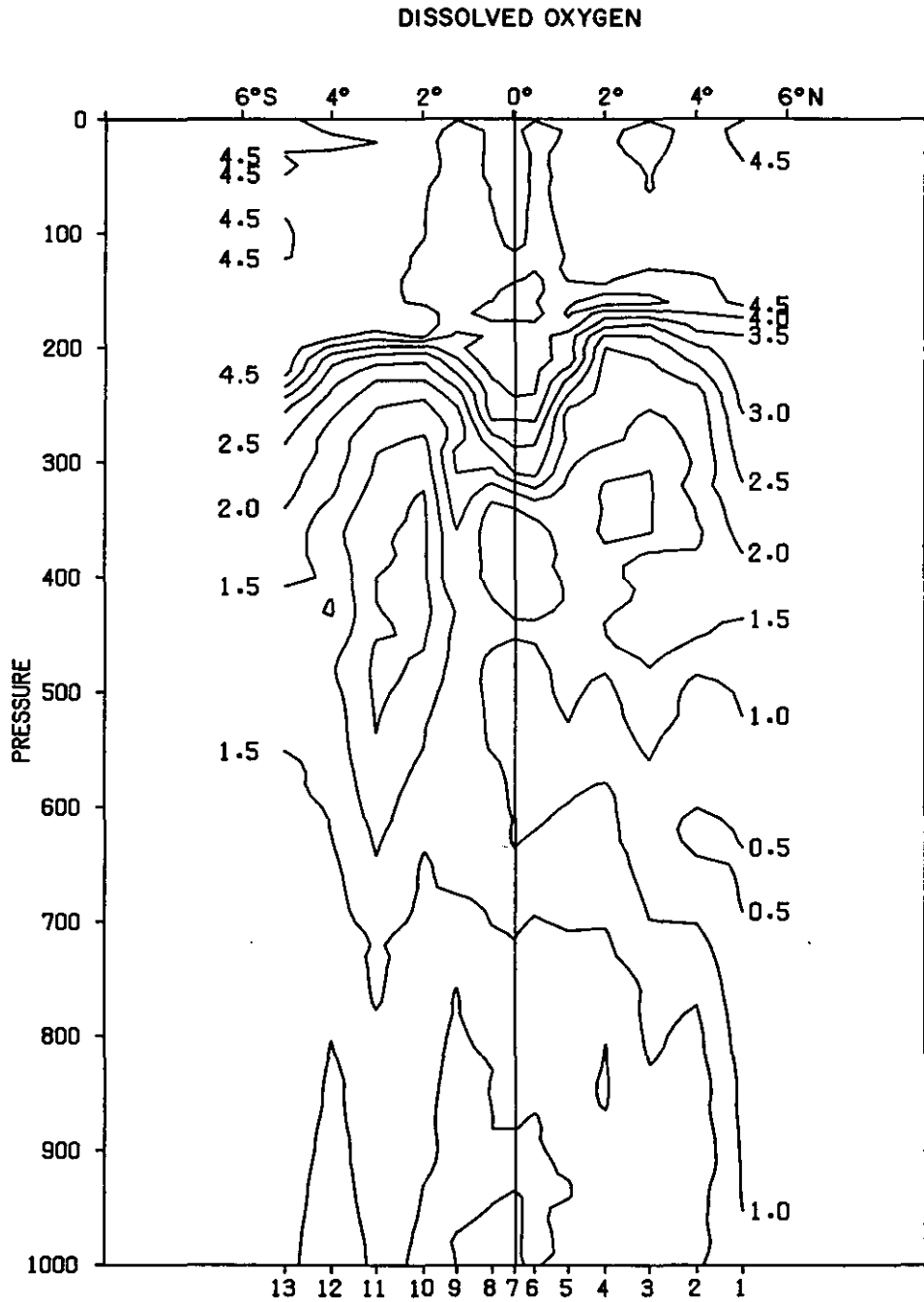


Figure 6. Oxygen (ml/l) section along 138°W.



Sections Along the Equator From 138°W to 110°W

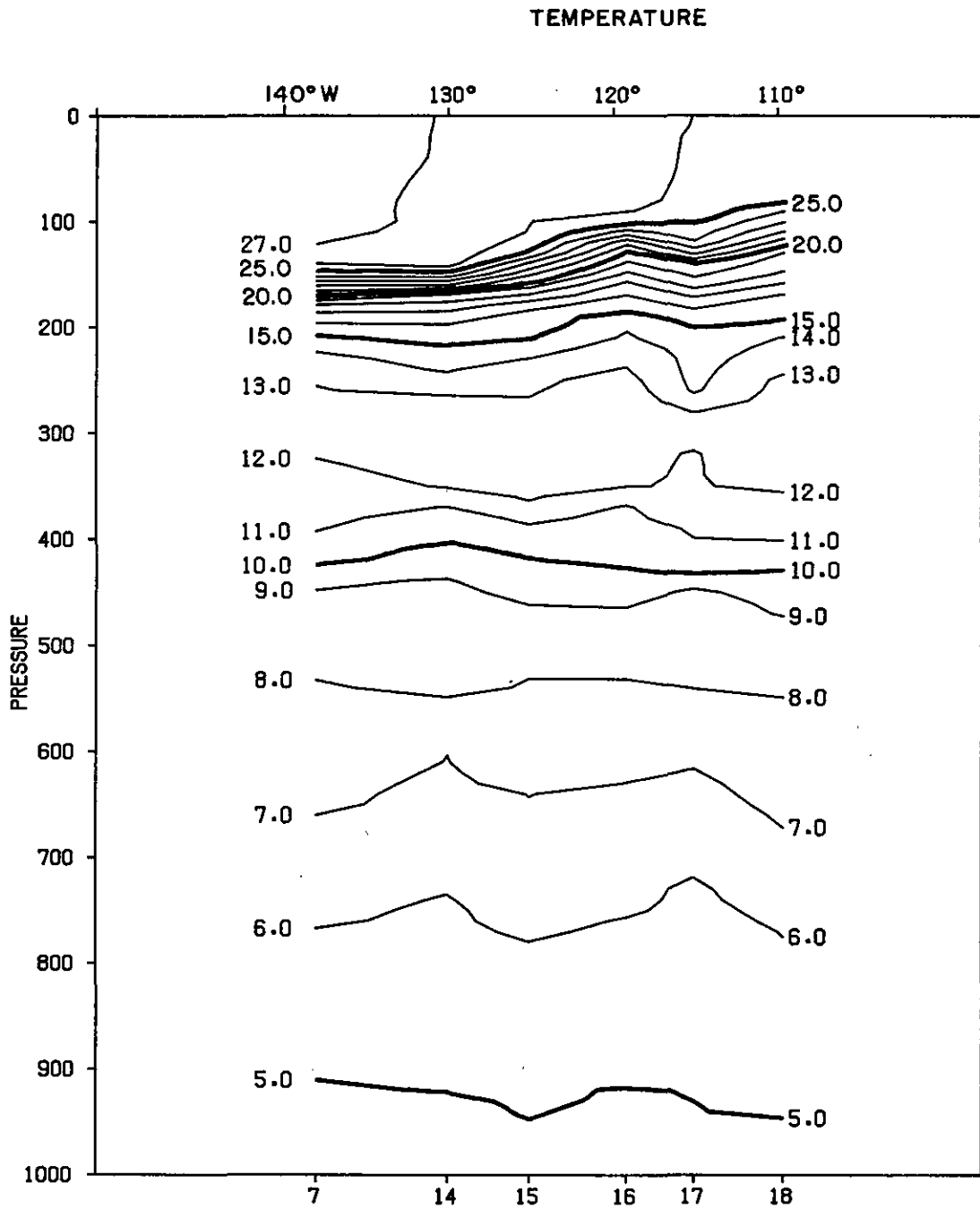


Figure 7. Temperature (°C) section along the equator.

SALINITY

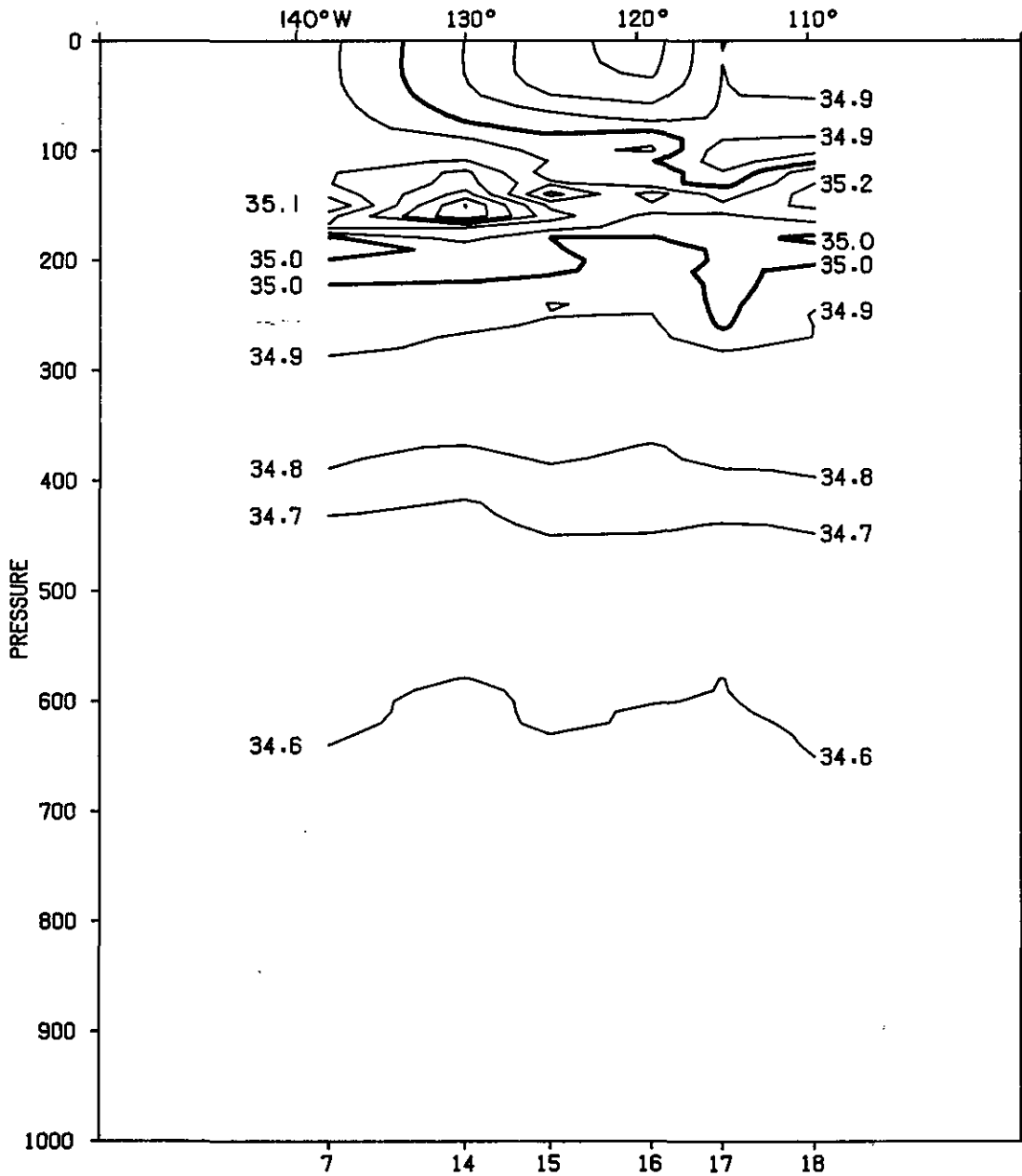


Figure 8. Salinity (psu) section along the equator.

CONRAD-82

20 SEPT - 1 OCT 82

SIGMA-T

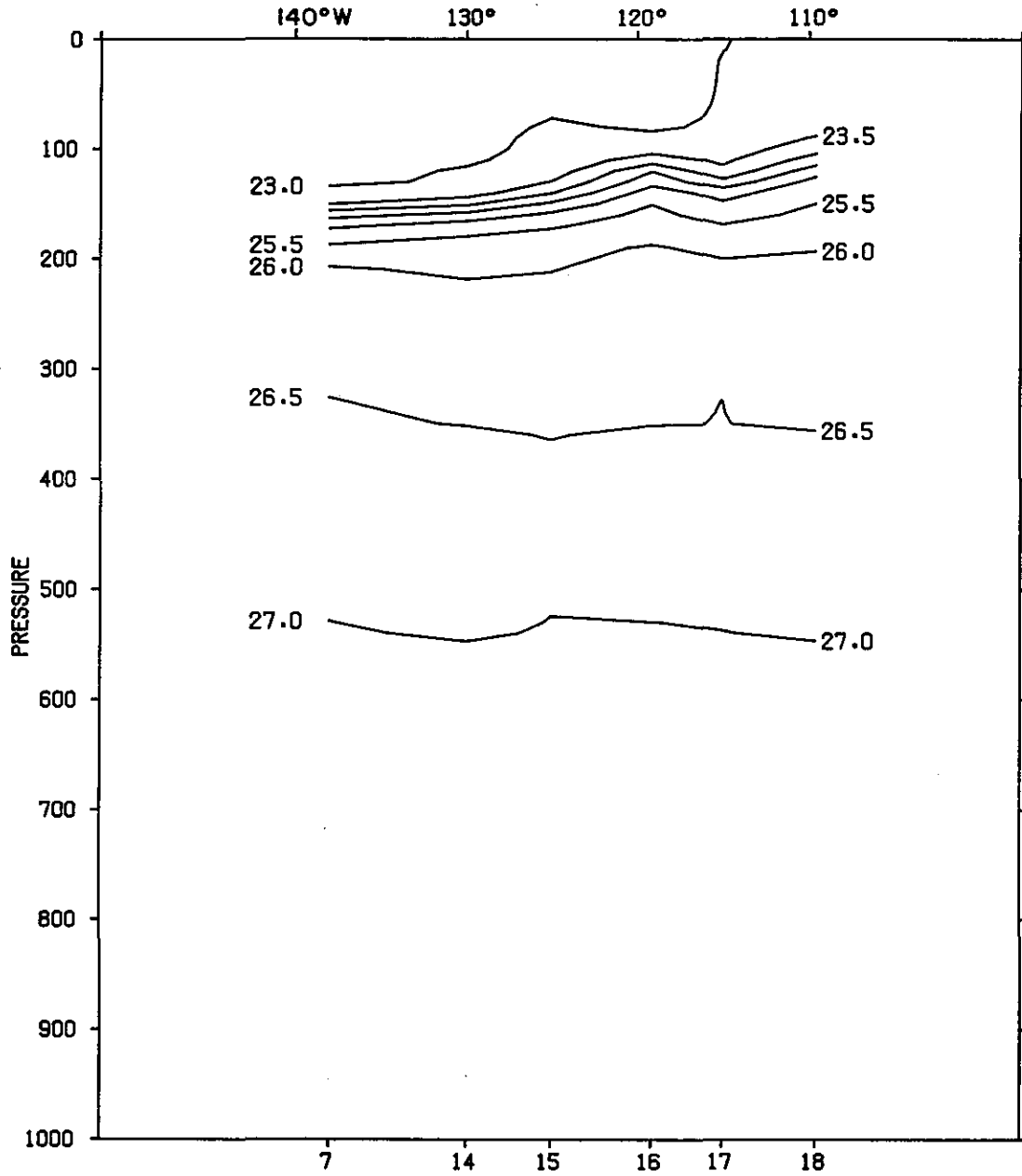


Figure 9. Sigma-t (kg/m^3) section along the equator.

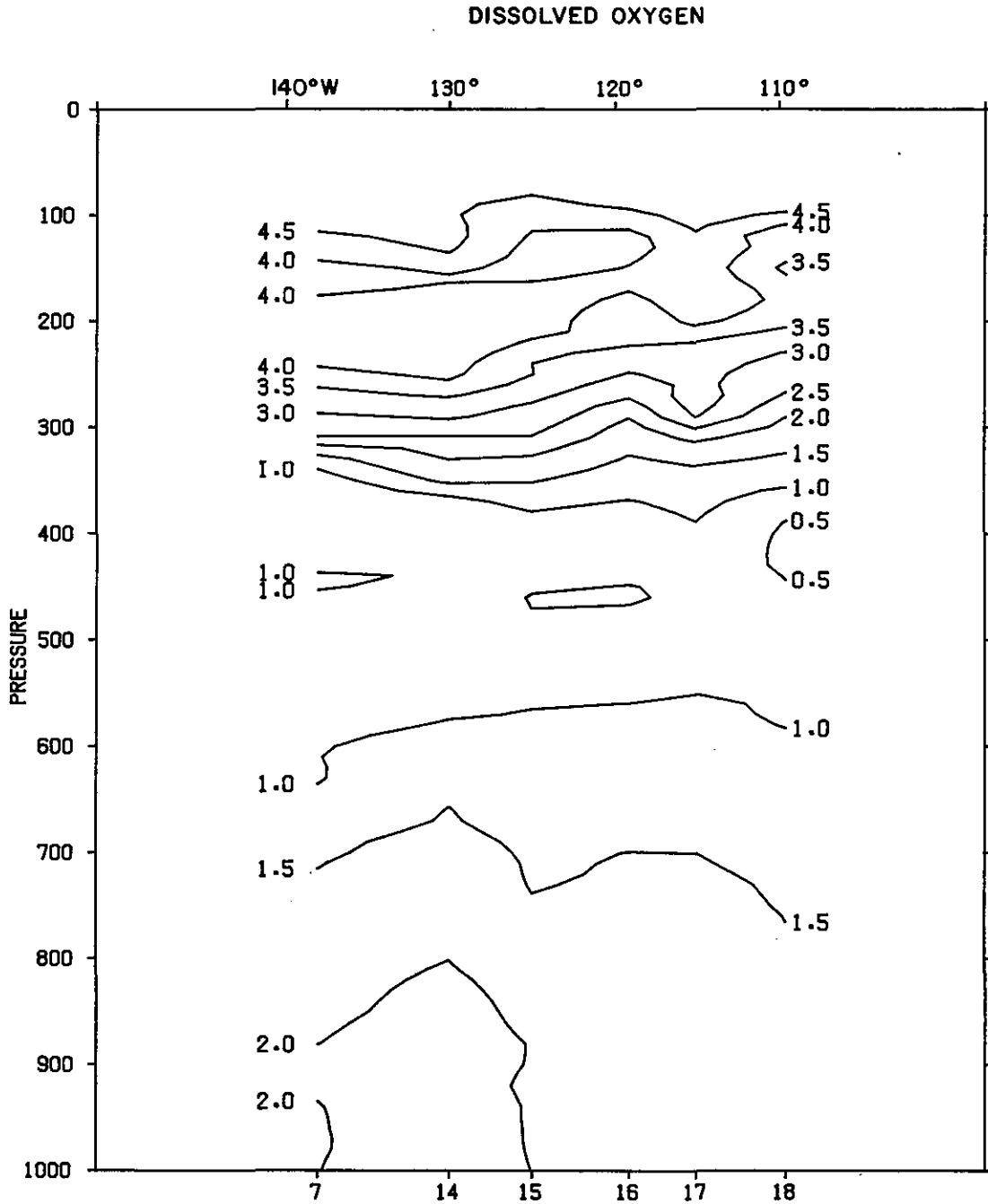


Figure 10. Oxygen (ml/l) section along the equator.



Sections Along 85°W - 80°W From 5°S to 7°N

CONRAD 8 - 12 OCT 1982 85 W - 80 W

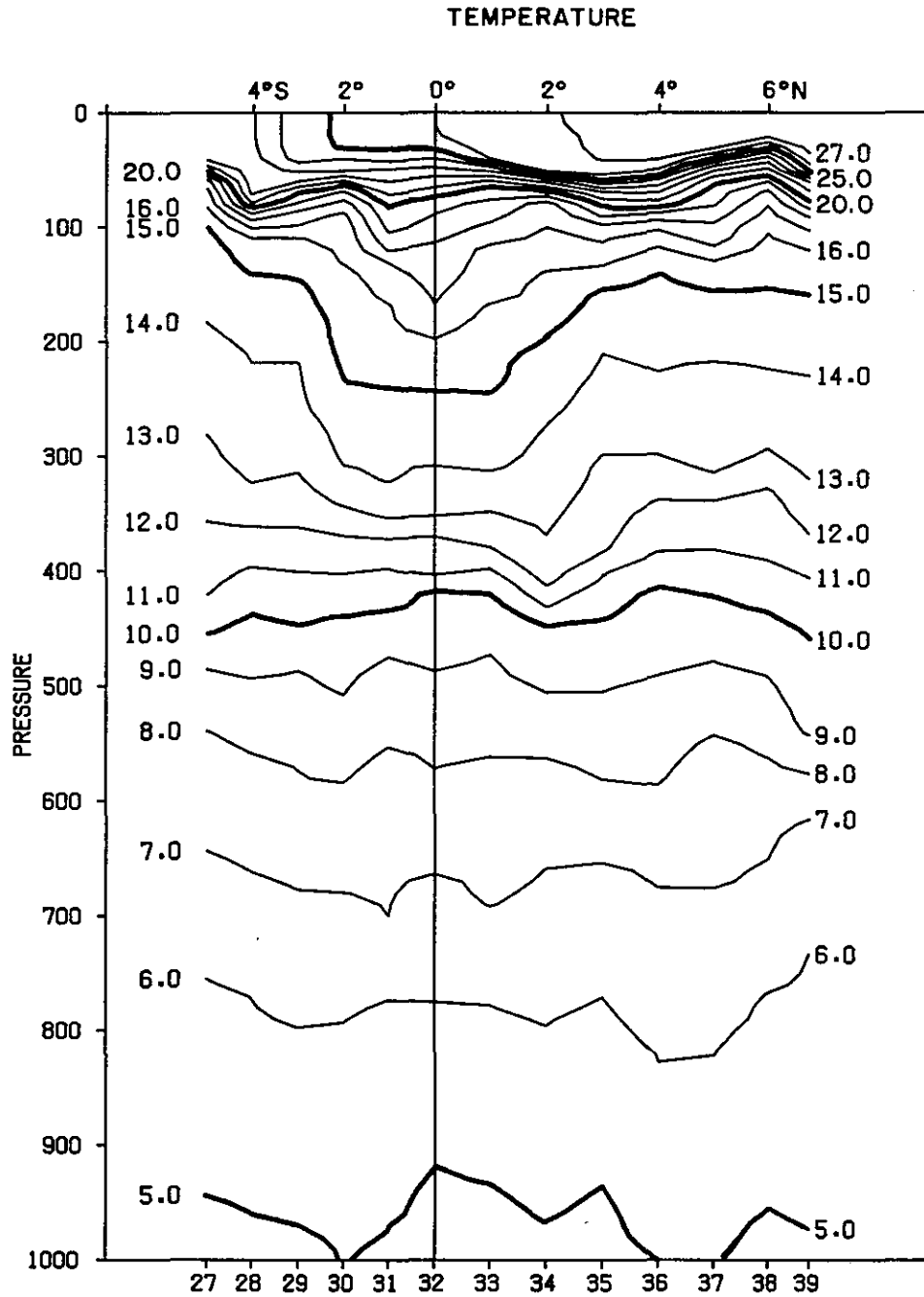


Figure 11. Temperature ($^{\circ}\text{C}$) section from 5°S , 85°W to 6.7°N , 80.3°W .

CONRAD 8 - 12 OCT 1982 85 W - 80 W

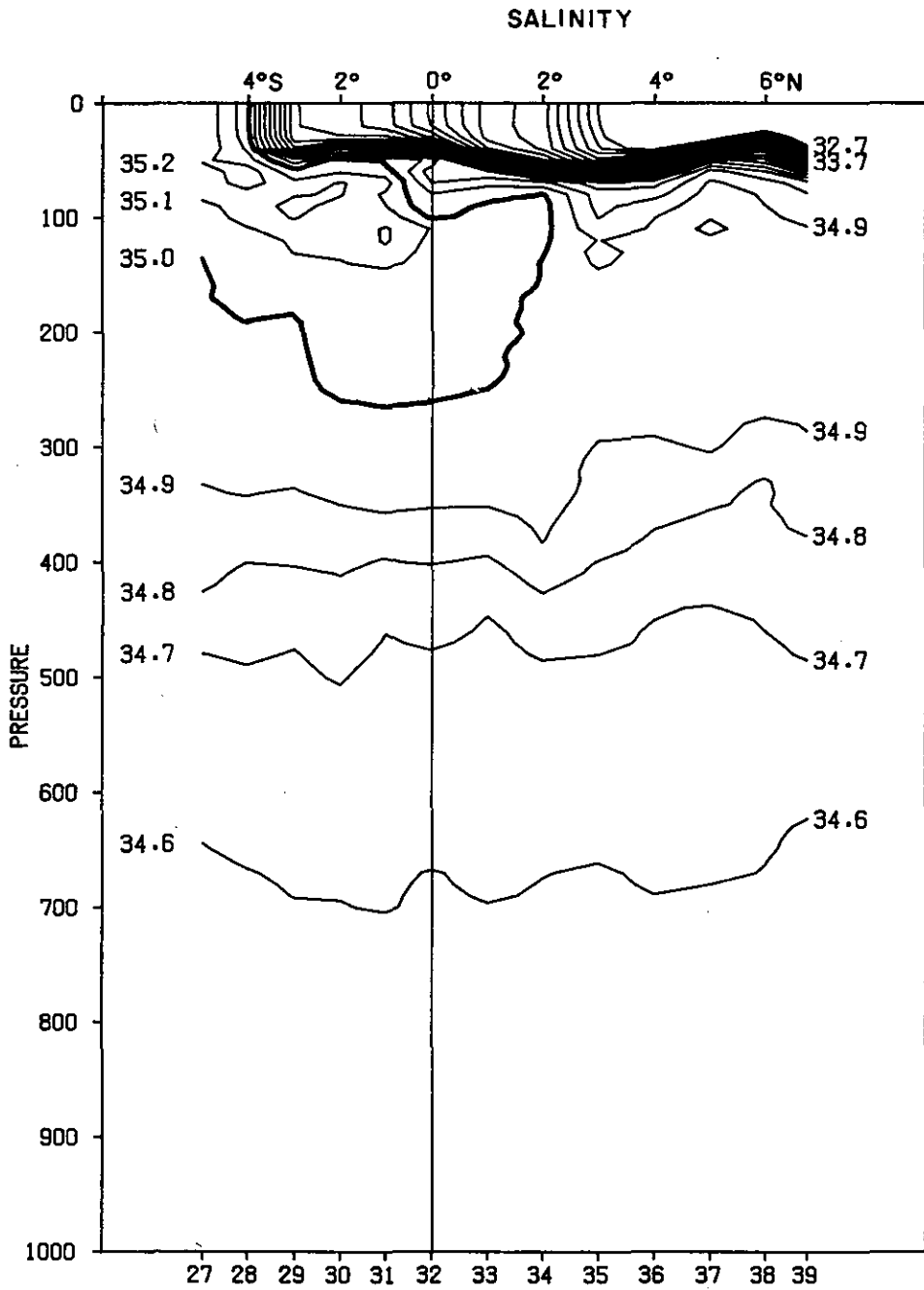


Figure 12. Salinity (psu) section from 5°S, 85°W to 6.7°N, 80.3°W.

CONRAD 8 - 12 OCT 1982 85 W - 80 W

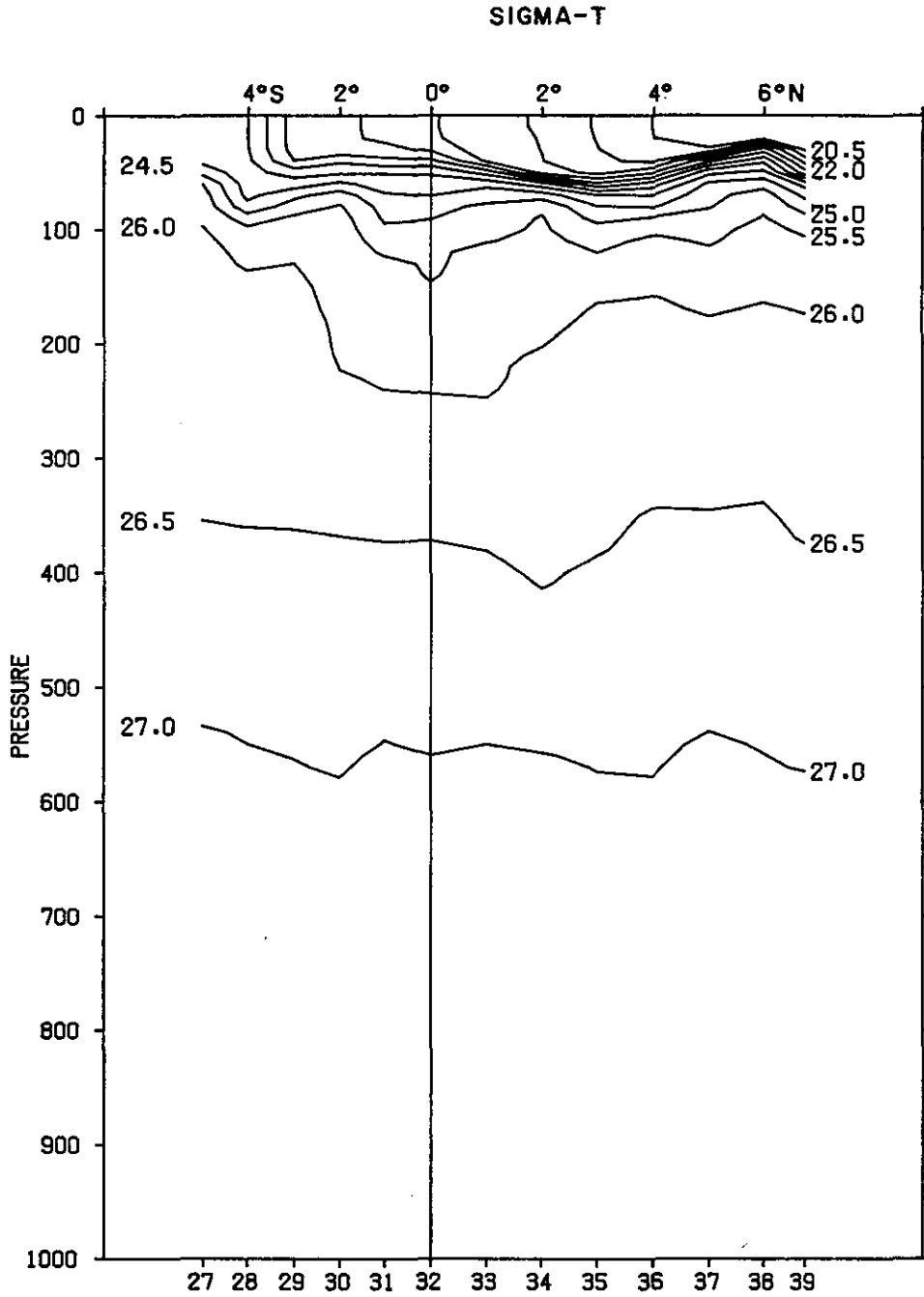


Figure 13. Sigma-t (kg/m^3) section from 5°S , 85°W to 6.7°N , 80.3°W .

CONRAD 8 - 12 OCT 1982 85 W - 80 W

DISSOLVED OXYGEN

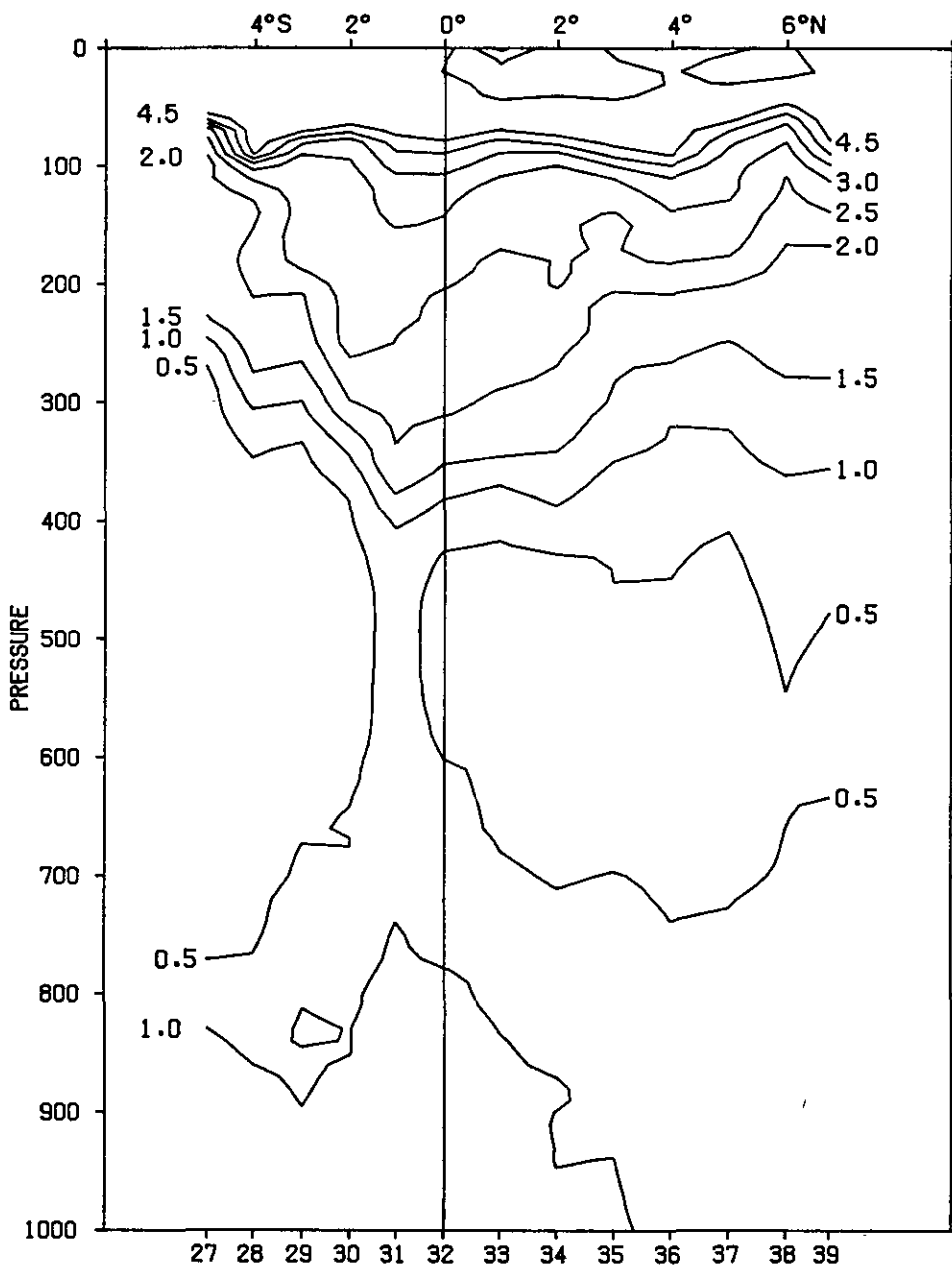


Figure 14. Oxygen (ml/l) section from 5°S, 85°W to 6.7°N, 80.3°W.



TABLE 1

Location, date, cast depth and surface temperature
for each CTD station occupied on the 1982 CONRAD cruise.

CONRAD-82 NB CTD/O₂ Casts

10 Sept. - 14 Oct. 1982

<u>Cast</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Date</u>	<u>Time</u>	<u>Depth</u>	<u>Surface Temp</u>
0	15°12.8'N	151°06.0'W	13 Sept 82		500	
1	5°01.6'N	138°00.2'W	18 Sept 82	1110	4000	28.5
2	4°02.1'N	138°02.7'W	18 Sept 82	2125	1000	28.6
3	3°00.2'N	137°59.6'W	19 Sept 82	1000	4000	28.1
4	2°02.0'N	138°01.2'W	19 Sept 82	1855	1000	27.9
5	1°13.8'N	138°00.9'W	20 Sept 82	0344	1000	27.9
6	0°29.3'N	138°00.4'W	20 Sept 82	1200	1000	27.5
7	0°02.5'N	137°59.2'W	20 Sept 82	2000	1000	27.5
8	0°26.8'S	137°56.9'W	20 Sept 82	0256	1000	27.4
9	1°13.8'S	137°59.0'W	21 Sept 82	1135	1000	27.2
10	1°57.6'S	138°00.4'W	21 Sept 82	1957	1000	27.1
11	3°00.2'S	137°58.7'W	22 Sept 82	0719	4000	27.5
12	3°58.9'S	138°00.1'W	22 Sept 82	1630	1500	27.5
13	5°00.0'S	138°00.1'W	23 Sept 82	0054	4100	27.5
14	0°00.2'S	129°59.1'W	25 Sept 82	1602	1000	26.9
15	0°00.0'	124°59.9'W	27 Sept 82	0225	1000	27.0
16	0°00.0'	119°06.6'W	28 Sept 82	1030	1000	26.7
17	0°00.0'	115°00.0'W	29 Sept 82	1915	1000	25.9
18	0°02.0'S	109°34.1'W	1 Oct 82	0807	1000	25.4
19	1°00.1'S	106°46.5'W	2 Oct 82	0432	1000	25.5
20	1°59.7'S	103°54.6'W	3 Oct 82	0026	1000	25.2
21	2°59.8'S	101°02.6'W	3 Oct 82	2359	3000	25.1
22	4°00.0'S	98°03.1'W	4 Oct 82	2027	1000	24.7
23	4°59.2'S	95°02.3'W	5 Oct 82	1849	3700	23.8
24	5°00.4'S	92°29.9'W	6 Oct 82	1433	1000	23.6
25	5°00.0'S	90°00.2'W	7 Oct 82	0741	1000	23.0
26	5°00.1'S	87°30.0'W	8 Oct 82	0030	1000	22.8
27	5°00.0'S	85°00.0'W	8 Oct 82	1641	2000	22.4
28	4°01.6'S	84°59.3'W	9 Oct 82	0044	1000	22.9
29	2°59.9'S	85°00.1'W	9 Oct 82	0817	1000	24.7
30	1°59.7'S	84°59.8'W	9 Oct 82	1517	1000	25.1
31	1°00.6'S	84°59.5'W	9 Oct 82	2209	1000	25.6
32	0°00.1'N	84°59.6'W	10 Oct 82	0442	1000	26.0
33	0°59.9'N	84°17.4'W	10 Oct 82	1445	1000	26.5
34	2°00.0'N	83°36.9'W	10 Oct 82	2111	1000	26.8
35	2°59.8'N	82°55.5'W	11 Oct 82	0600	1000	27.2
36	3°59.3'N	82°13.1'W	11 Oct 82	1340	1000	27.1
37	5°00.6'N	81°32.0'W	12 Oct 82	0046	1500	27.6
38	5°59.5'N	80°50.8'W	12 Oct 82	0811	1000	27.5
39	6°44.4'N	80°19.1'W	12 Oct 82	1531	3000	27.5

TABLE 2

Abbreviations and units used to describe each set of CTD measurements

SALINITY	Salinity, parts per thousand (‰)
TEMPERATURE	Temperature, degrees Celsius (°C)
CAST CONRAD-82-007	CTD measurement station <u>007</u> made from the research vessel CONRAD during 1982
DATE	Day, month, year
TIME	Hours and minutes, Greenwich Mean Time (GMT)
LAT	Latitude, degrees and minutes west
LONG	Longitude, degrees and minutes west
WEATHER	Present weather conditions (see Table 2)
SEA STATE	Present sea state conditions (see Table 3)
BAROMETER	Sea level atmospheric pressure, millibars (mb) over 1000 mb
WIND DIR	Wind direction, degrees True from which the wind blows
SPD	Wind speed, knots
VISIBILITY	Visibility (see Table 4)
CLOUD	Cloud type (see Table 5)
AMOUNT	Amount of cloud cover (see Table 6)
DRY	Dry air temperature, degrees Celsius
WET	Wet bulb temperature, degrees Celsius
DEPTH	Depth to the bottom, meters

TABLE 3

Weather condition code used to describe each set of CTD measurements

<u>Code</u>	<u>Weather Condition</u>
0	Clear (no cloud)
1	Partly cloudy
2	Continuous layer(s) of cloud(s)
3	Sandstorm, duststorm, or blowing snow
4	Fog, thick dust or haze
5	Drizzle
6	Rain
7	Snow, or rain and snow mixed
8	Shower(s)
9	Thunderstorms

TABLE 4

Sea state code used to describe
each set of CTD measurements

<u>Code</u>	<u>Height (meters)</u>	<u>Description</u>
0	0	Calm-glassy
1	0 - 0.1	Calm-rippled
2	0.1 - 0.5	Smooth-wavelet
3	0.5 - 1.25	Slight
4	1.25 - 2.5	Moderate
5	2.5 - 4	Rough
6	4 - 6	Very rough
7	6 - 9	High
8	9 - 14	Very high
9	> 14	Phenomenal

TABLE 5

Visibility code used to describe
each set of CTD measurements

<u>Code</u>	<u>Visibility</u>
0	< 50 meters
1	50 - 200 meters
2	200 - 500 meters
3	500 - 1,000 meters
4	1 - 2 km
5	2 - 4 km
6	4 - 10 km
7	10 - 20 km
8	20 - 50 km
9	50 km or more

TABLE 6
Cloud Type

<u>Code</u>	<u>Cloud Types</u>
0	Cirrus
1	Cirrocumulus
2	Cirrostratus
3	Alto cumulus
4	Altostratus
5	Nimbostratus
6	Stratocumulus
7	Stratus
8	Cumulus
9	Cumulonimbus
x	Clouds not visible

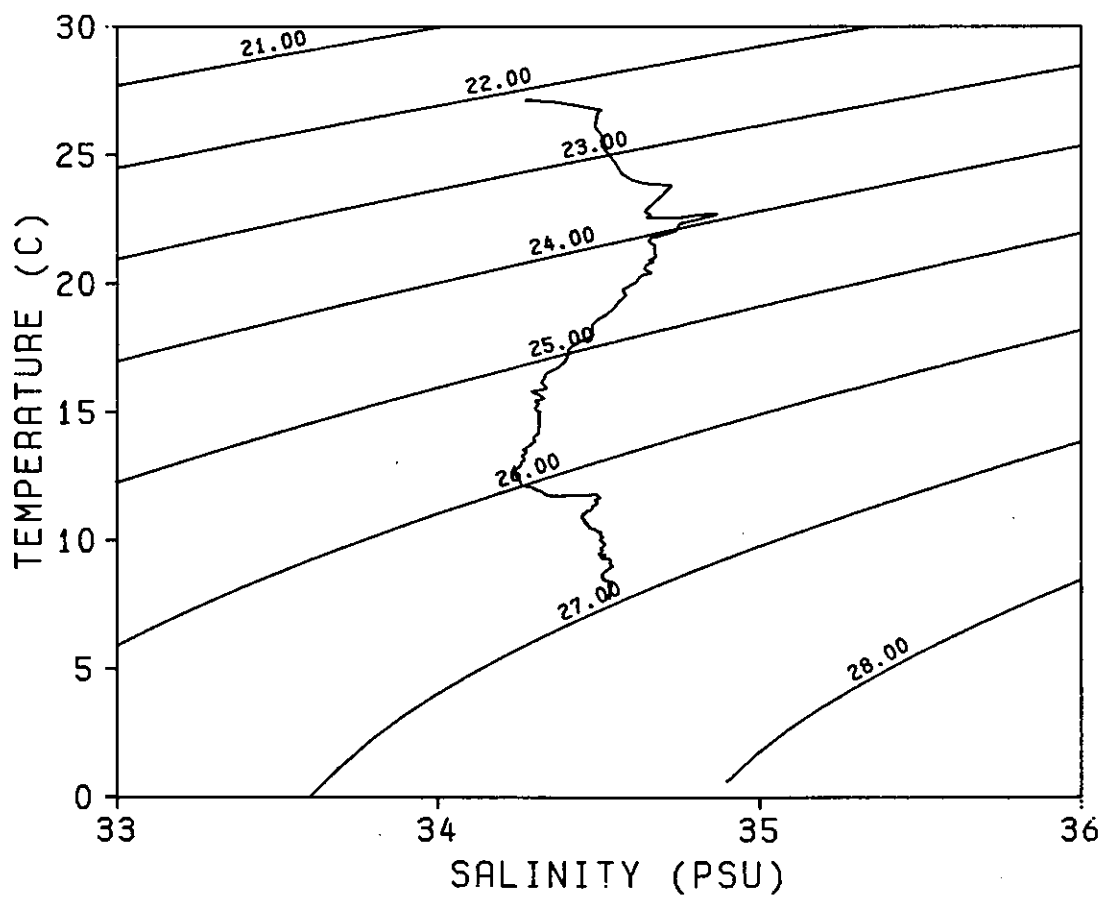
TABLE 7
Cloud Amount

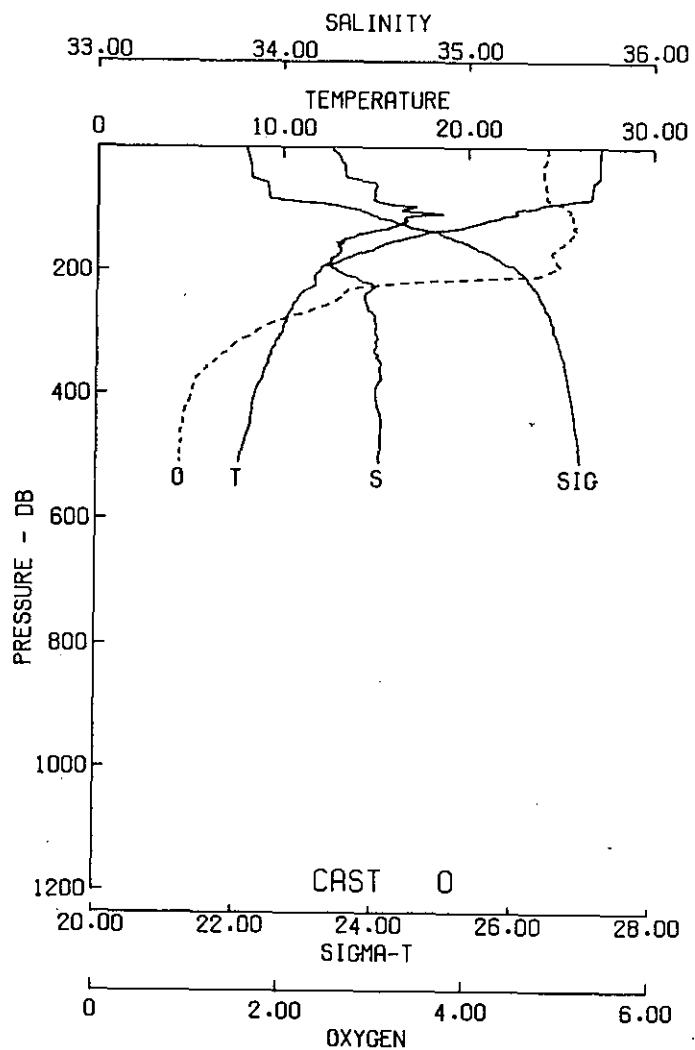
<u>Code</u>	<u>Cloud Amount</u>
0	0
1	1/10 or less but not zero
2	2/10 - 3/10
3	4/10
4	5/10
5	6/10
6	7/10 - 8/10
7	9/10
8	10/10
9	Sky obscured or not determined

DATA

CAST CONRAD-82-000 DATE 13 SEP 82 TIME
LAT 15 12.8N LONG 151 06.0W

GMT

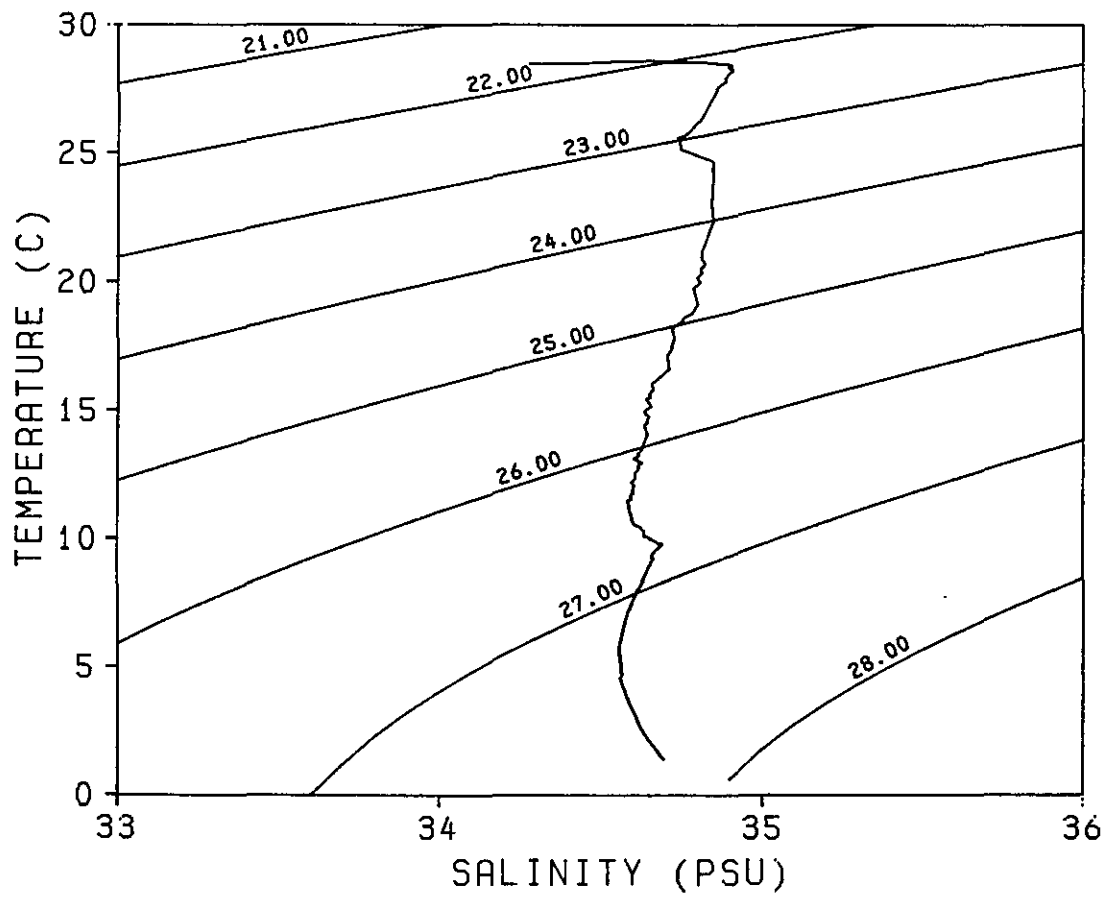


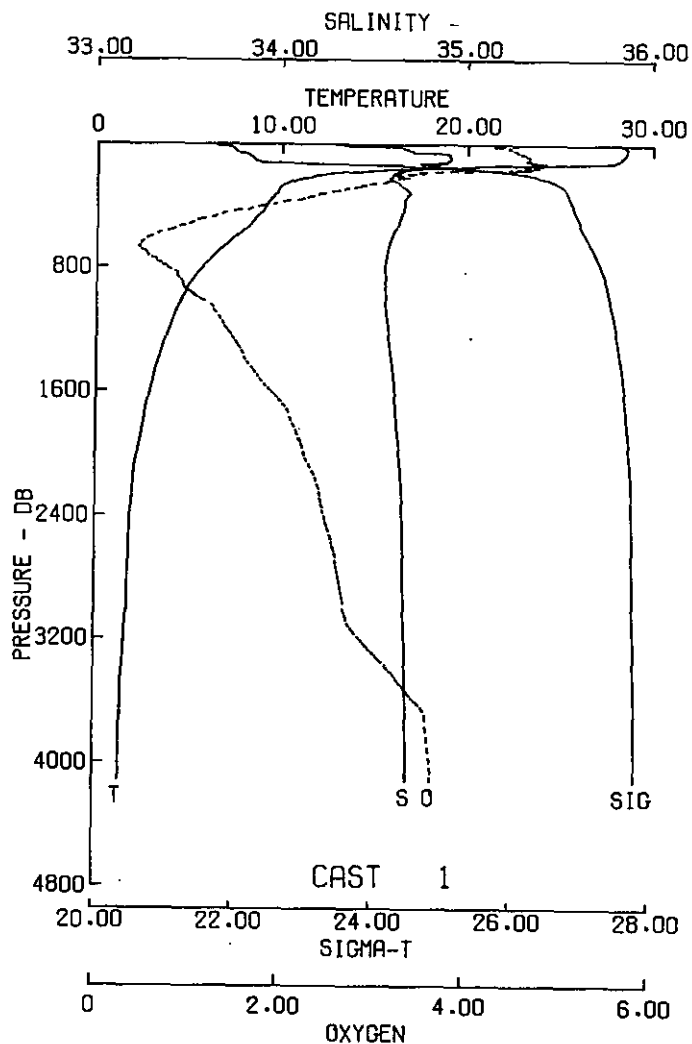


CAST CONRAD-82-000 DATE 13 SEP 82 TIME GMT
 LAT 15 12.8N LONG 151 06.0W WEATHER SEA STATE
 BAROMETER 12 WIND DIR T SPD KT VISIBILITY
 CLOUD AMOUNT DRY 27. WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	27.136	34.272	4.86	22.145	0.000
10.	27.120	34.291	4.85	22.165	.057
20.	27.090	34.315	4.84	22.192	.114
30.	27.078	34.336	4.80	22.212	.170
40.	27.078	34.337	4.81	22.213	.226
50.	27.054	34.358	4.81	22.236	.283
60.	26.730	34.506	4.83	22.451	.338
70.	26.669	34.497	4.85	22.463	.392
80.	26.623	34.495	4.85	22.476	.446
90.	24.677	34.551	4.97	23.118	.498
100.	22.962	34.656	5.10	23.702	.543
110.	22.309	34.750	5.11	23.959	.584
120.	20.895	34.655	5.16	24.278	.622
130.	19.760	34.572	5.13	24.516	.658
140.	17.638	34.428	5.14	24.940	.691
150.	16.329	34.331	5.09	25.175	.720
160.	15.276	34.310	4.98	25.397	.747
170.	14.587	34.310	4.91	25.591	.773
180.	13.488	34.274	4.94	25.750	.796
190.	12.683	34.235	4.98	25.880	.819
200.	12.030	34.296	4.88	26.055	.839
250.	10.783	34.456	2.58	26.410	.930
300.	10.026	34.503	1.72	26.579	1.009
350.	8.247	34.535	1.24	26.733	1.082
400.	8.561	34.511	1.03	26.824	1.149
450.	8.309	34.540	.92	26.886	1.213
500.	7.778	34.530	.90	26.958	1.274
510.	7.717	34.532	.92	26.968	

CAST CONRAD-82-001 DATE 18 SEP 82 TIME 1110 GMT
LAT 05 01.6N LONG 138 00.2W

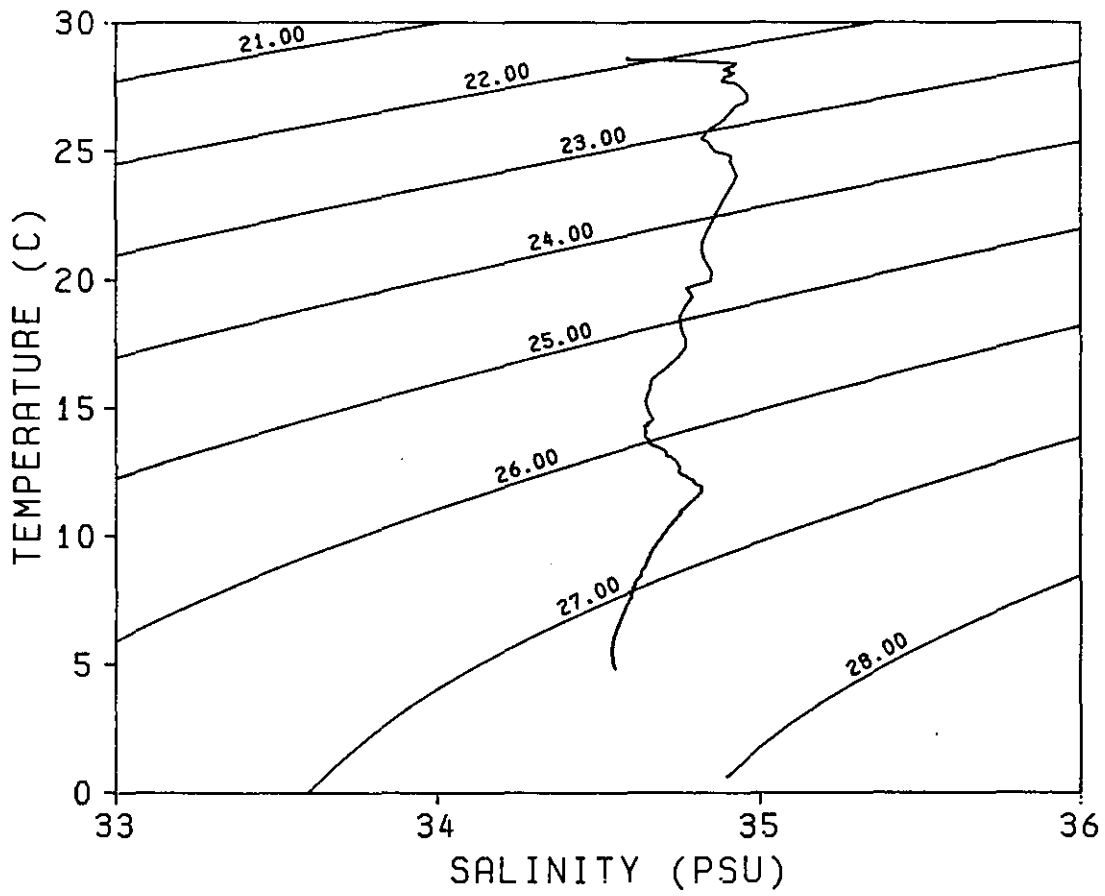


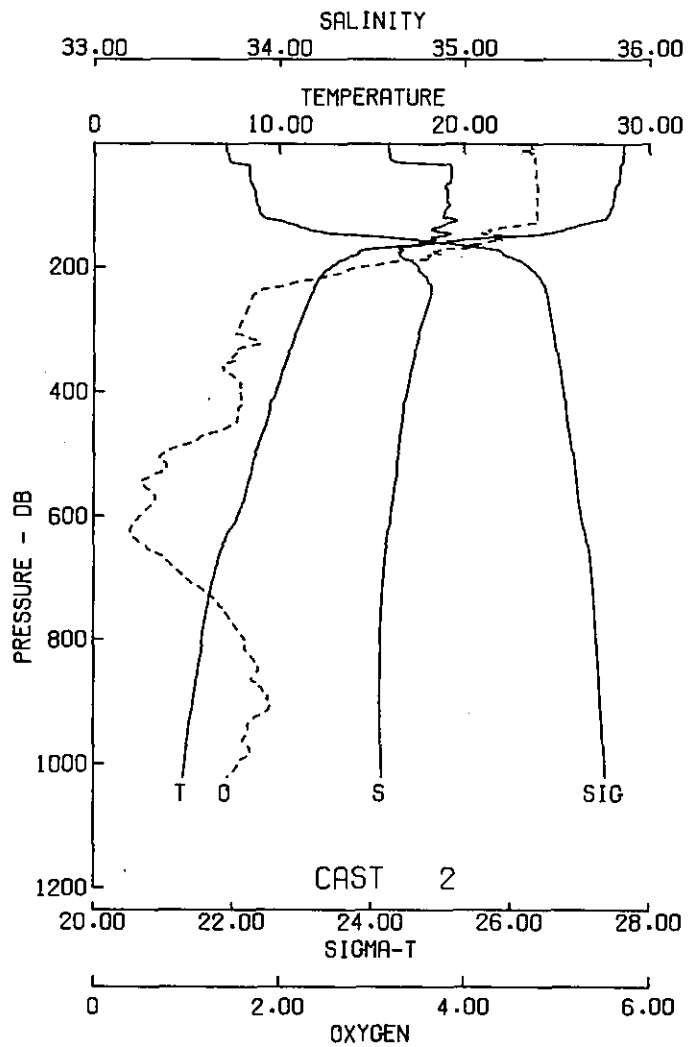


CAST CONRAD-82-001 DATE 18 SEP 82 TIME 1110 GMT
 LAT 05 01.6N LONG 138 00.2W WEATHER SEA STATE 1
 BAROMETER 12 WIND DIR T SPD VISIBILITY
 CLOUD AMOUNT DIR WET DEPTH 4612 M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	28.469	34.283	4.54	21.720	0.004
10.	28.484	34.330	4.30	21.751	.061
20.	28.596	34.638	4.40	21.945	.121
30.	28.587	34.671	4.44	21.973	.180
40.	28.560	34.687	4.53	21.993	.238
50.	28.554	34.705	4.54	22.009	.297
60.	28.482	34.861	4.57	22.150	.355
70.	28.435	34.904	4.60	22.198	.471
80.	28.312	34.898	4.66	22.234	.418
90.	28.280	34.910	4.65	22.253	.524
100.	28.215	34.907	4.66	22.272	.510
110.	28.013	34.889	4.71	22.325	.636
120.	27.832	34.888	4.71	22.384	.692
130.	24.861	34.807	4.77	23.256	.742
140.	20.693	34.822	4.78	24.459	.713
150.	18.734	34.782	4.77	24.939	.817
160.	17.372	34.718	4.55	25.227	.816
170.	15.485	34.656	4.13	25.617	.872
180.	14.393	34.634	3.47	25.839	.815
190.	13.088	34.602	3.54	26.085	.915
200.	12.371	34.605	3.23	26.229	.914
250.	10.458	34.619	3.14	26.594	1.017
300.	9.823	34.676	2.67	26.748	1.088
350.	9.507	34.673	2.26	26.796	1.156
400.	9.179	34.663	1.80	26.845	1.221
450.	8.856	34.649	1.38	26.886	1.281
500.	8.442	34.634	1.06	26.939	1.347
550.	8.094	34.620	.86	26.982	1.407
600.	7.539	34.589	.60	27.047	1.461
650.	7.092	34.583	.47	27.098	1.521
700.	6.575	34.569	.55	27.158	1.577
750.	6.168	34.565	.66	27.209	1.622
800.	5.774	34.558	.77	27.253	1.669
850.	5.412	34.559	.88	27.298	1.711
900.	5.128	34.562	.93	27.334	1.758
950.	4.908	34.563	.99	27.361	1.800
1000.	4.696	34.566	1.11	27.387	1.841
1500.	3.142	34.535	1.75	27.577	2.101
2000.	2.292	34.541	2.26	27.682	2.481
2500.	1.894	34.664	2.53	27.733	2.726
3000.	1.764	34.672	2.69	27.749	2.943
3500.	1.518	34.886	2.54	27.778	3.189
4112.	1.389	34.695	2.66	27.795	

CAST CONRAD-82-002 DATE 18 SEP 82 TIME 2125 GMT
LAT 04 02.1N LONG 138 02.7W

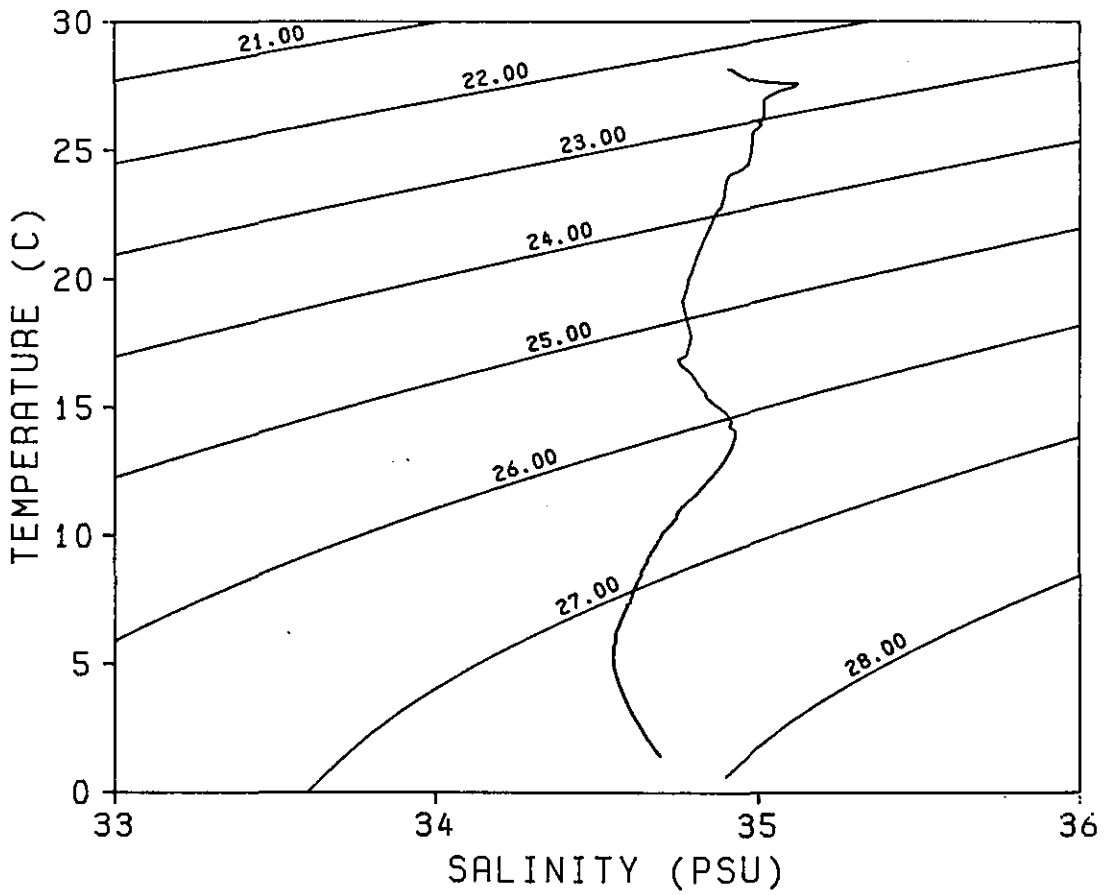


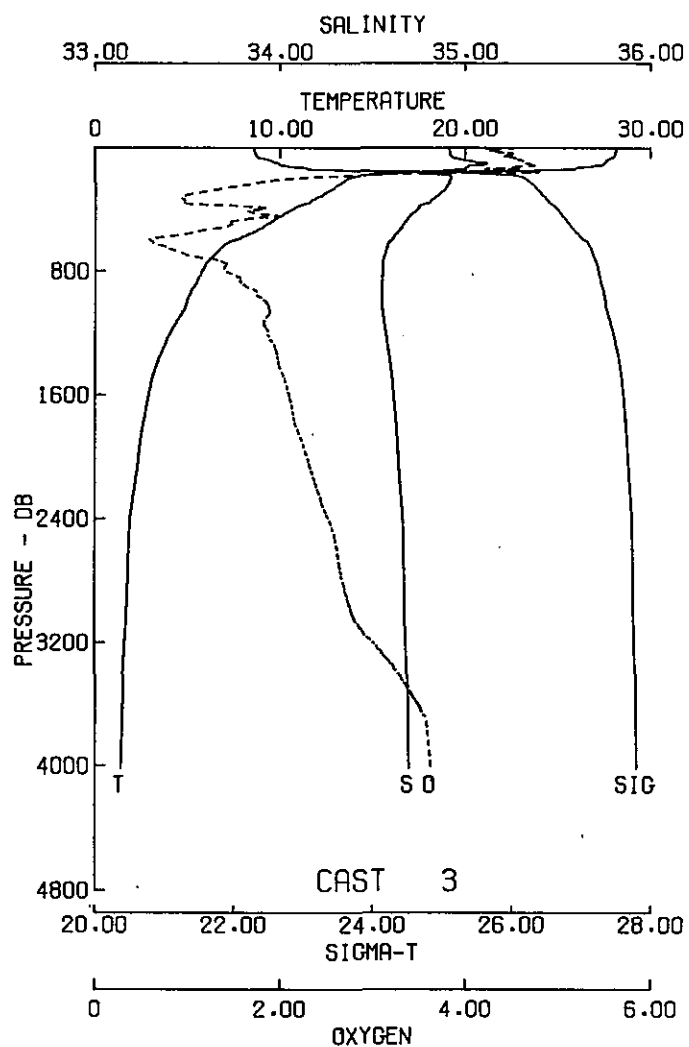


CAST CONPAD-82-002 DATE 18 SEP 82 TIME 2125 GMT
 LAT 04 02.1N LONG 138 02.7W WEATHER SEA STATE
 BAROMETP WIND DIR T SPD KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-R (DYN-M)
0.	28.611	34.591	4.72	21.905	0.000
10.	28.611	34.594	4.76	21.907	.059
20.	28.534	34.592	4.76	21.931	.118
30.	28.522	34.636	4.76	21.968	.177
40.	28.385	34.928	4.76	22.233	.234
50.	28.374	34.928	4.77	22.235	.290
60.	28.349	34.925	4.77	22.244	.347
70.	28.148	34.890	4.79	22.288	.403
80.	28.088	34.909	4.79	22.315	.458
90.	28.044	34.906	4.78	22.327	.514
100.	28.024	34.924	4.78	22.348	.570
110.	27.858	34.895	4.77	22.389	.625
120.	27.669	34.890	4.79	22.440	.680
130.	26.508	34.909	4.65	22.822	.732
140.	25.424	34.823	4.30	23.097	.782
150.	22.603	34.868	4.41	23.965	.827
160.	18.970	34.773	4.27	24.872	.862
170.	15.255	34.647	4.05	25.661	.890
180.	14.206	34.648	3.65	25.889	.912
190.	13.226	34.715	3.28	26.144	.932
200.	12.764	34.748	2.87	26.262	.951
250.	11.644	34.814	1.71	26.533	1.034
300.	10.991	34.760	1.56	26.609	1.111
350.	9.375	34.724	1.51	26.699	1.185
400.	9.834	34.692	1.53	26.759	1.255
450.	9.333	34.665	1.54	26.829	1.322
500.	8.729	34.645	1.75	26.903	1.387
550.	8.293	34.624	1.52	26.954	1.449
600.	7.780	34.604	1.50	27.016	1.508
650.	6.932	34.579	1.57	27.117	1.563
700.	6.476	34.564	1.99	27.167	1.615
750.	6.115	34.554	1.39	27.206	1.664
800.	5.866	34.544	1.64	27.234	1.712
850.	5.617	34.546	1.78	27.264	1.750
900.	5.383	34.545	1.89	27.291	1.805
950.	5.138	34.549	1.67	27.323	1.849
1000.	4.910	34.552	1.55	27.356	1.892
1022.	4.818	34.555	1.44	27.366	

CAST CONRAD-82-003 DATE 19 SEP 82 TIME 1000 GMT
LAT 03 00.2N LONG 137 59.6W

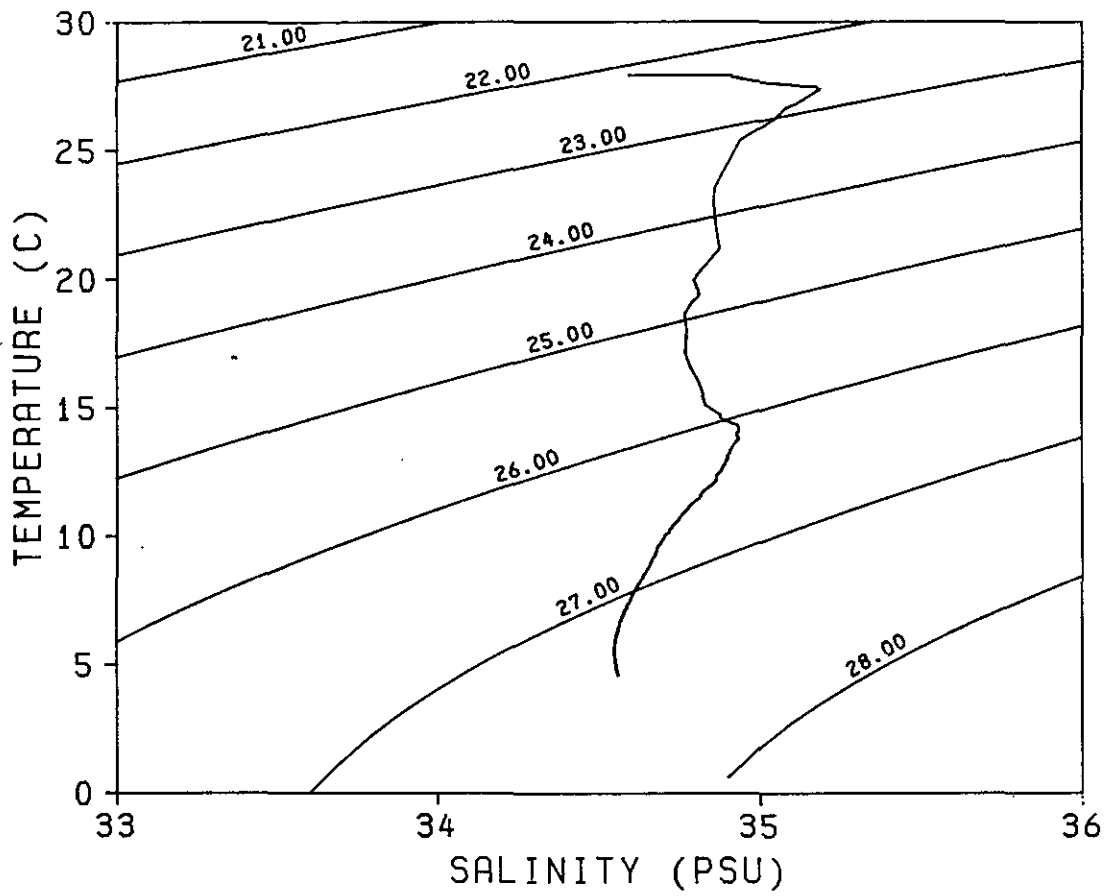


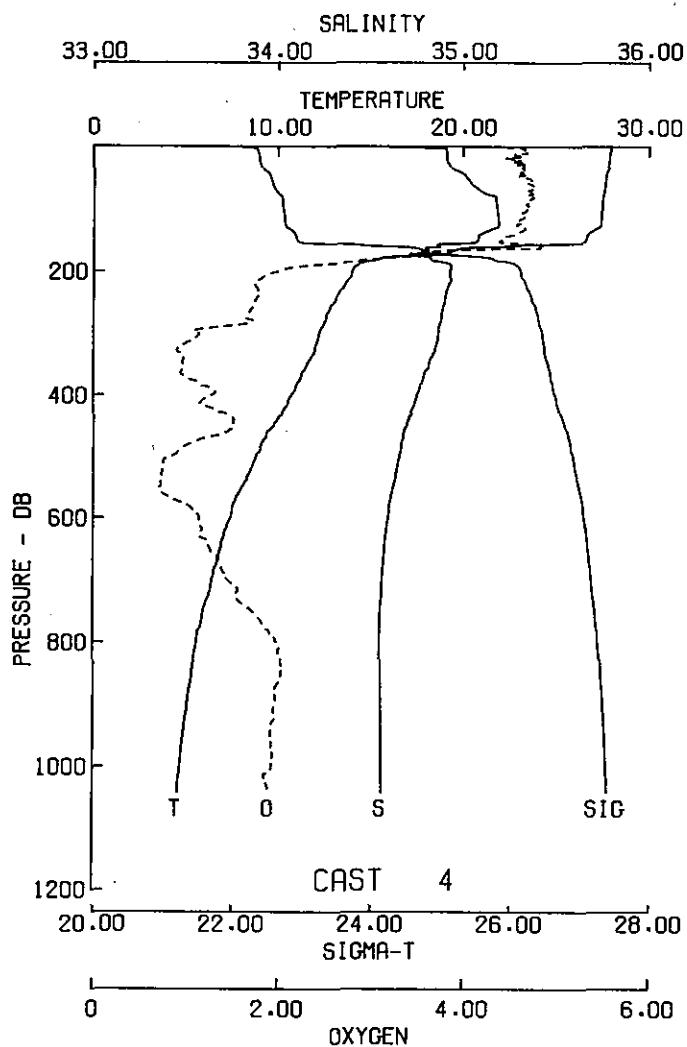


CAST CONRAD-82-003 DATE 19 SEP 82 TIME 1000 GMT
 LAT 03 00.2N LONG 137 59.6W WEATHFR SEA STATE
 BAROMETER 12 WIND DIR 110 T SPD 04 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH 4275 M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	28.129	34.916	4.54	22.309	0.009
10.	28.143	34.913	4.22	22.301	.055
20.	28.147	34.919	4.30	22.304	.111
30.	28.131	34.920	4.34	22.310	.166
40.	28.092	34.920	4.49	22.323	.222
50.	28.077	34.923	4.48	22.330	.277
60.	28.035	34.927	4.49	22.347	.332
70.	27.986	34.946	4.55	22.410	.388
80.	27.966	34.989	4.59	22.510	.444
90.	27.969	34.955	4.63	22.566	.499
100.	27.956	34.919	4.68	22.645	.548
110.	27.464	34.915	4.71	22.674	.601
120.	27.909	34.916	4.71	22.777	.653
130.	27.120	34.910	4.57	22.822	.703
140.	27.944	34.907	4.23	23.074	.752
150.	27.768	34.901	4.32	23.653	.798
160.	27.663	34.779	4.61	24.700	.836
170.	27.220	34.799	3.64	25.559	.863
180.	27.565	34.913	2.98	26.016	.886
190.	27.966	34.929	2.47	26.157	.906
200.	27.766	34.927	2.17	26.197	.925
220.	27.008	34.901	1.55	26.332	.935
240.	27.365	34.862	1.04	26.429	.936
260.	27.644	34.810	.97	26.527	.935
280.	27.716	34.748	1.81	26.649	.934
300.	27.948	34.697	1.87	26.744	.934
320.	27.858	34.665	1.48	26.833	.934
340.	27.533	34.636	1.25	26.925	.934
360.	27.533	34.622	.59	27.053	.934
380.	27.423	34.578	.78	27.134	.934
400.	27.666	34.555	1.01	27.174	.934
420.	27.955	34.555	1.41	27.220	.934
440.	27.807	34.555	1.42	27.247	.934
460.	27.588	34.555	1.29	27.273	.934
480.	27.362	34.555	1.64	27.298	.934
500.	27.159	34.555	1.75	27.322	.934
520.	27.961	34.553	1.85	27.347	.934
540.	27.885	34.607	2.05	27.585	.934
560.	27.378	34.641	2.30	27.675	.934
580.	27.877	34.667	2.53	27.736	.934
600.	27.736	34.676	2.77	27.754	.934
620.	27.511	34.689	3.37	27.782	.934
640.	27.410	34.696	3.63	27.794	.934

CAST CONRAD-82-004 DATE 19 SEP 82 TIME 1857 GMT
LAT 02 02.0N LONG 138 01.2W

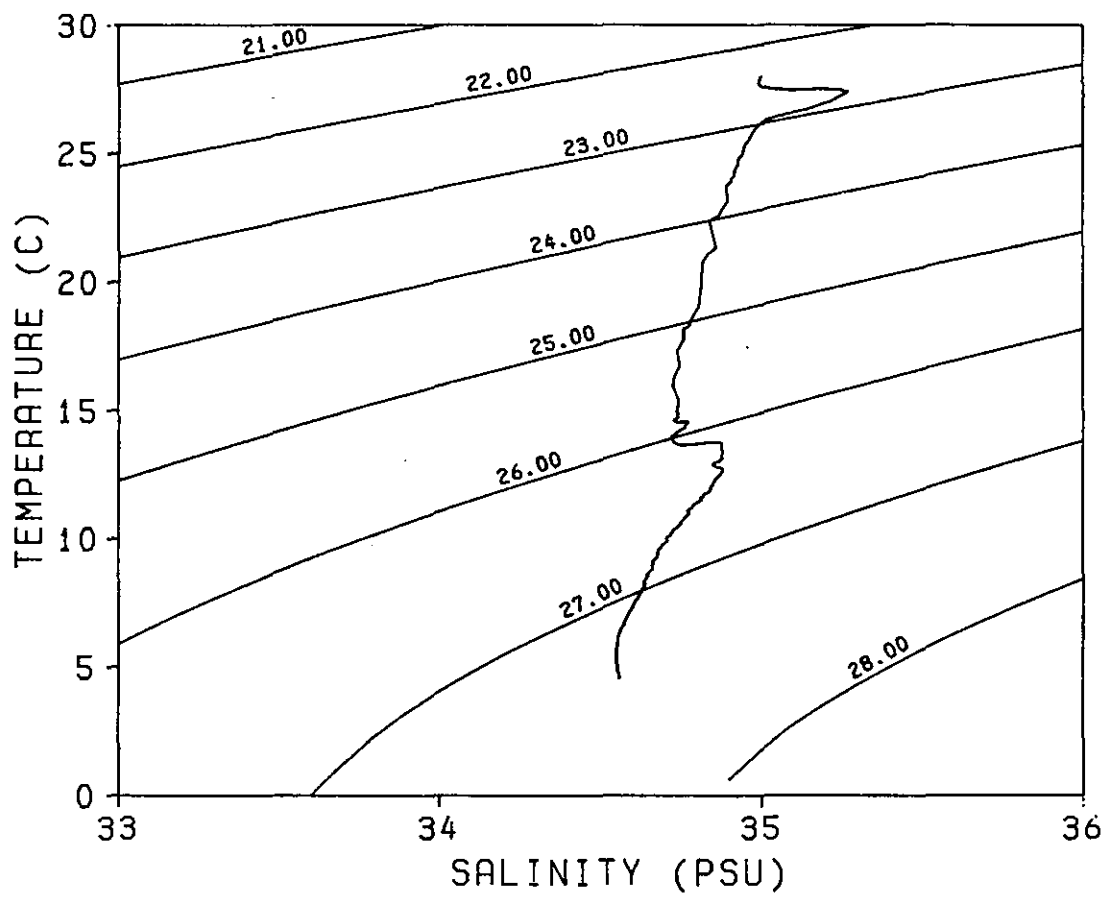


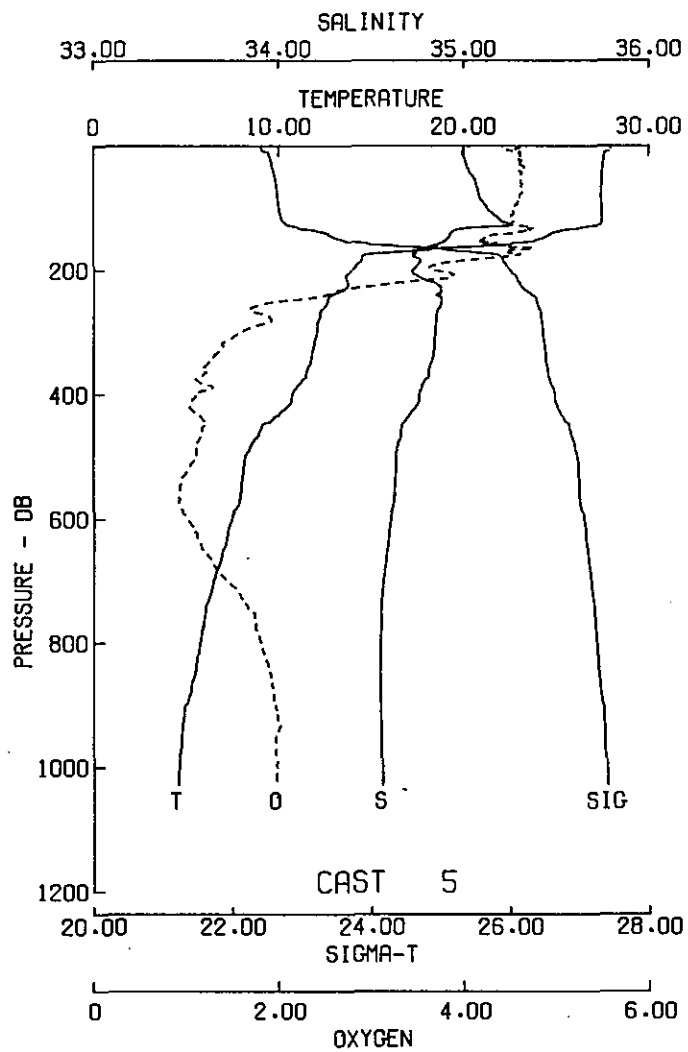


CAST CCNRAD-82-004 DATE 19 SEP 82 TIME 1857 GMT
 LAT 02 02.0N LONG 138 01.2W WEATHER SEA STATE 3
 BAROMETER 13 WIND DIR 020 T SPD 05 KT VISIBILITY 9
 CLOUD AMOUNT DRY WET DEPTH 4240 M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	27.928	34.594	4.47	22.132	0.000
10.	27.891	34.909	4.67	22.380	.055
20.	27.855	34.911	4.49	22.394	.110
30.	27.821	34.925	4.59	22.415	.165
40.	27.704	34.968	4.68	22.486	.219
50.	27.619	35.015	4.64	22.548	.272
60.	27.589	35.041	4.70	22.578	.325
70.	27.560	35.082	4.74	22.617	.378
80.	27.448	35.167	4.71	22.706	.431
90.	27.450	35.174	4.71	22.723	.483
100.	27.434	35.178	4.67	22.731	.534
110.	27.395	35.183	4.60	22.747	.586
120.	27.377	35.187	4.60	22.756	.637
130.	27.296	35.179	4.63	22.776	.689
140.	26.701	35.094	4.57	22.903	.740
150.	25.526	35.075	4.42	22.931	.791
160.	24.754	34.860	4.78	24.037	.836
170.	24.264	34.803	3.59	24.820	.879
180.	24.462	34.820	3.11	25.748	.897
190.	24.281	34.930	2.34	26.000	.919
200.	24.270	34.926	1.99	26.150	.939
250.	23.016	34.898	1.75	26.329	1.035
300.	21.195	34.863	1.14	26.463	1.116
350.	19.541	34.814	.97	26.549	1.197
400.	19.707	34.749	1.26	26.650	1.274
450.	19.593	34.691	1.49	26.779	1.346
500.	18.772	34.653	.83	26.902	1.411
550.	18.024	34.620	.72	26.992	1.479
600.	17.415	34.593	1.15	27.061	1.529
650.	16.267	34.576	1.27	27.123	1.582
700.	16.412	34.562	1.46	27.174	1.633
750.	15.248	34.554	1.73	27.228	1.683
800.	15.221	34.551	2.00	27.268	1.729
850.	15.311	34.551	2.03	27.304	1.774
900.	15.073	34.554	1.95	27.335	1.817
950.	14.866	34.557	1.92	27.361	1.859
1000.	14.743	34.560	1.93	27.382	1.890
1042.	14.580	34.561	1.91	27.397	

CAST CONRAD-82-005 DATE 20 SEP 82 TIME 0344 GMT
LAT 01 13.5N LONG 138 00.9W

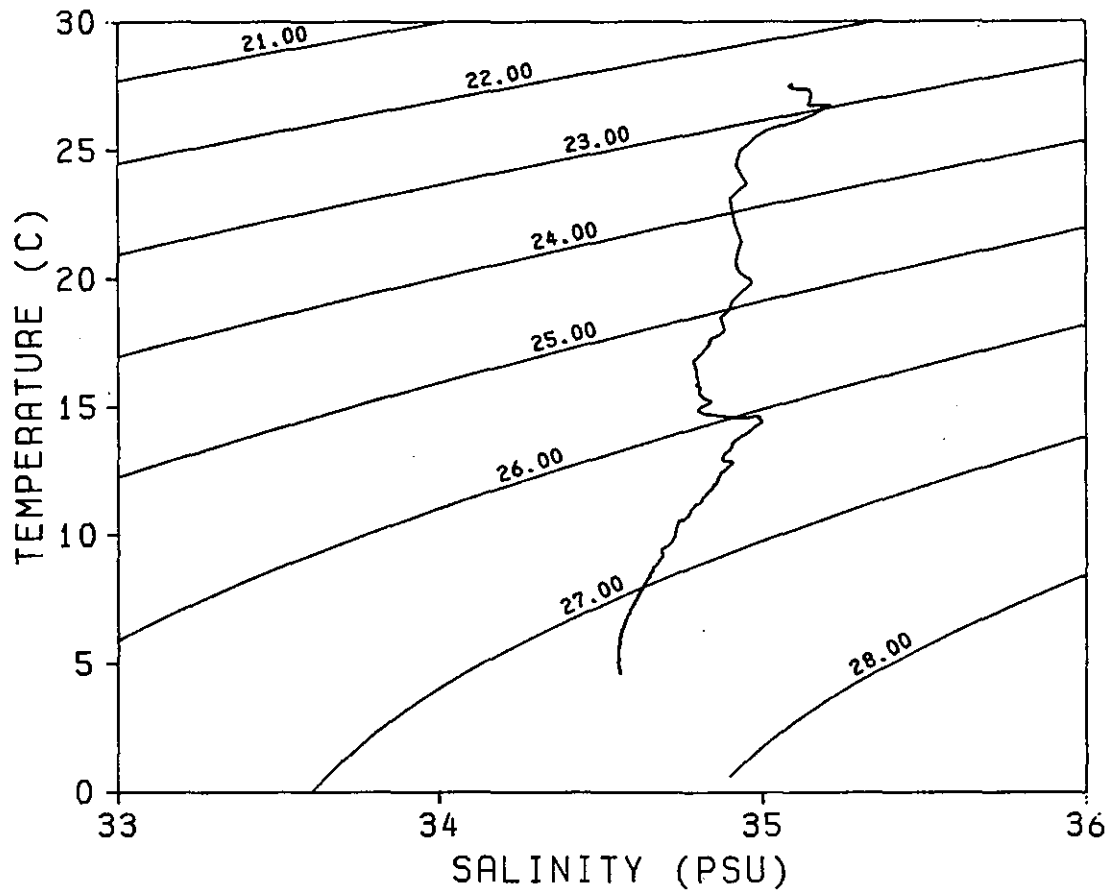


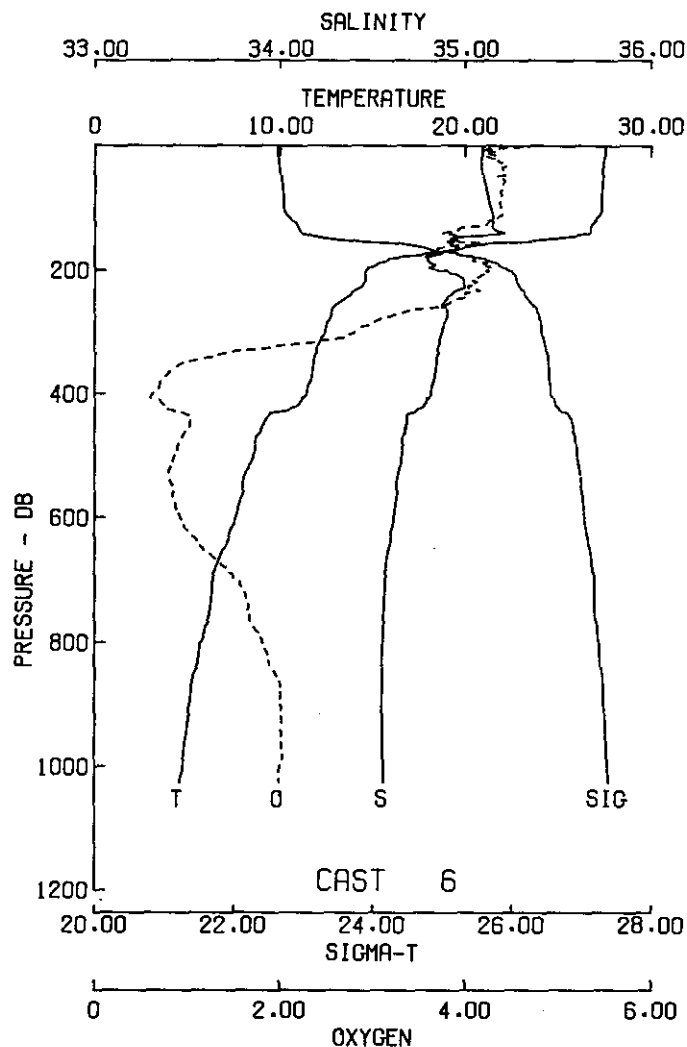


CAST CCRAD-82-005 DATE 20 SEP 82 TIME 0344 GMT
 LAT 01 13.5N LONG 138 00.9W WEATHER C
 BAROMETER WIND DIR T SPD KT VISIBILITY
 CLOUD AMOUNT WIND DIR T SPD KT VISIBILITY
 DRY DRY WET DEPTH

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-T)
0	27.974	35.001	4.61	22.00	0.000
10	27.669	35.093	4.61	22.00	0.000
20	27.573	35.006	4.62	22.00	0.000
30	27.533	35.118	4.62	22.00	0.000
40	27.497	35.133	4.62	22.00	0.000
50	27.475	35.056	4.62	22.00	0.000
60	27.460	35.069	4.63	22.00	0.000
70	27.447	35.080	4.63	22.00	0.000
80	27.443	35.087	4.61	22.00	0.000
90	27.461	35.108	4.59	22.00	0.000
100	27.482	35.131	4.56	22.00	0.000
110	27.500	35.164	4.53	22.00	0.000
120	27.508	35.207	4.53	22.00	0.000
130	26.686	35.137	4.75	22.00	0.000
140	24.812	35.030	4.55	22.00	0.000
150	24.081	35.015	4.23	22.00	0.000
160	21.327	35.061	4.09	22.00	0.000
170	16.715	35.074	4.55	22.00	0.000
180	14.533	35.074	4.53	22.00	0.000
190	14.311	35.076	3.76	22.00	0.000
200	13.942	35.072	3.66	22.00	0.000
250	12.657	35.081	2.88	22.00	1.000
300	11.872	35.047	1.61	22.00	1.000
350	11.726	35.024	1.23	22.00	1.000
400	11.758	35.060	1.14	22.00	1.000
450	11.118	35.066	1.20	22.00	1.000
500	8.221	35.037	1.11	22.00	1.000
550	8.009	35.029	0.94	22.00	1.000
600	7.462	35.055	1.02	22.00	1.000
650	6.987	35.055	1.19	22.00	1.000
700	6.485	35.064	1.44	22.00	1.000
750	6.961	35.052	1.73	22.00	1.000
800	6.772	35.051	1.81	22.00	1.000
850	4.489	35.049	1.93	22.00	1.000
900	4.083	35.054	1.97	22.00	1.000
950	4.790	35.055	1.97	22.00	1.000
1000	4.610	35.055	1.98	22.00	1.000
1028	4.548	35.059	1.98	22.00	1.000

CAST CONRAD-82-006 DATE 20 SEP 82 TIME 1200 GMT
LAT 00 29.3N LONG 138 00.4W

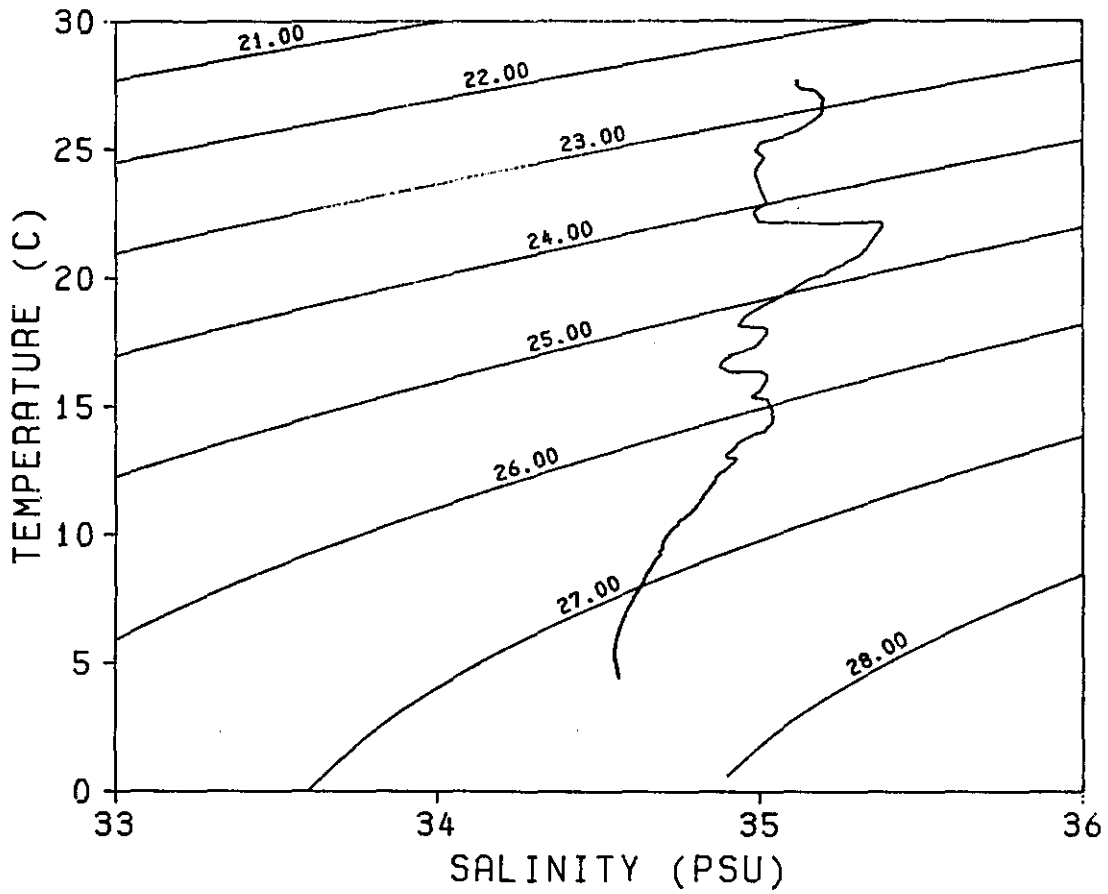


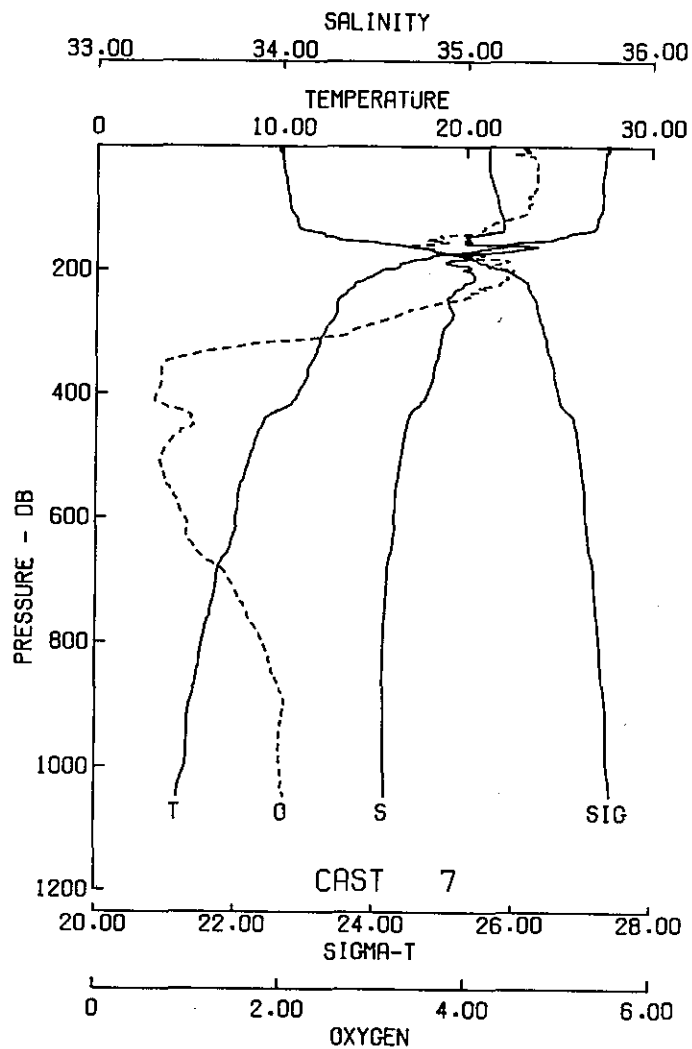


CAST CCNAD-82-006 DATE 20 SEP 82 TIME 1200 GMT
 LAT 00 29.4N LONG 138 00.4W WEATHFR SEA STATE
 BAROMETER 11 WIND DIR 120 T SPD 03 KT VISIBILITY
 CLOUD AMOUNT DRY WEY DEPTH 4380 M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	27.541	35.094	4.57	22.633	0.000
10.	27.551	35.092	4.57	22.628	0.052
20.	27.477	35.088	4.57	22.648	10.52
30.	27.449	35.087	4.57	22.658	15.7
40.	27.427	35.091	4.57	22.668	20.9
50.	27.403	35.098	4.57	22.681	26.1
60.	27.378	35.106	4.57	22.694	31.3
70.	27.365	35.115	4.57	22.706	36.5
80.	27.351	35.123	4.57	22.716	41.7
90.	27.348	35.123	4.57	22.722	46.9
100.	27.355	35.130	4.57	22.727	52.1
110.	27.266	35.150	4.57	22.764	57.3
120.	27.210	35.150	4.57	22.844	62.5
130.	26.753	35.144	4.57	22.923	67.7
140.	26.740	35.133	4.57	22.979	72.9
150.	26.357	35.120	4.57	23.492	77.0
160.	26.460	35.118	4.57	24.595	80.9
170.	26.749	35.098	4.57	25.024	84.1
180.	26.192	35.079	4.57	25.565	86.9
190.	25.233	35.035	4.57	25.810	89.2
200.	24.667	35.051	4.57	25.947	91.4
250.	23.300	35.089	3.886	26.269	1.017
300.	22.422	35.087	2.881	26.427	1.099
350.	21.785	35.043	1.95	26.526	1.181
400.	21.459	35.017	1.633	26.569	1.260
450.	21.081	35.084	1.002	26.877	1.332
500.	20.551	35.055	0.86	26.938	1.394
550.	20.007	35.031	0.85	27.003	1.453
600.	19.601	35.013	0.93	27.049	1.510
650.	19.947	35.087	1.17	27.121	1.565
700.	19.367	35.056	1.53	27.183	1.618
750.	18.232	35.060	1.66	27.196	1.662
800.	17.711	35.054	1.82	27.257	1.713
850.	17.331	35.053	1.94	27.303	1.759
900.	17.144	35.052	2.01	27.325	1.802
950.	17.948	35.054	2.00	27.349	1.845
1000.	17.759	35.057	2.00	27.374	1.886
1026.	17.580	35.050	2.00	27.396	

CAST CONRAD-82-007 DATE 20 SEP 82 TIME 2000 GMT
LAT 00 02.5N LONG 137 59.2W

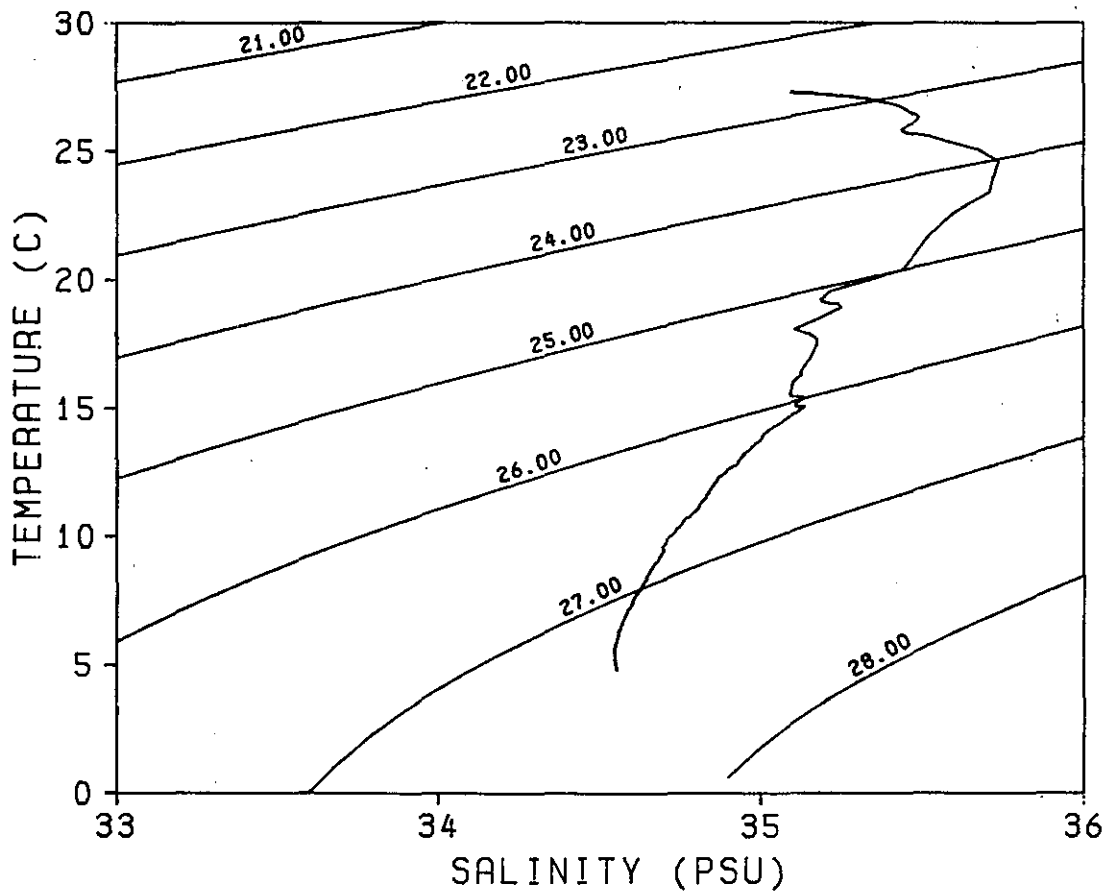


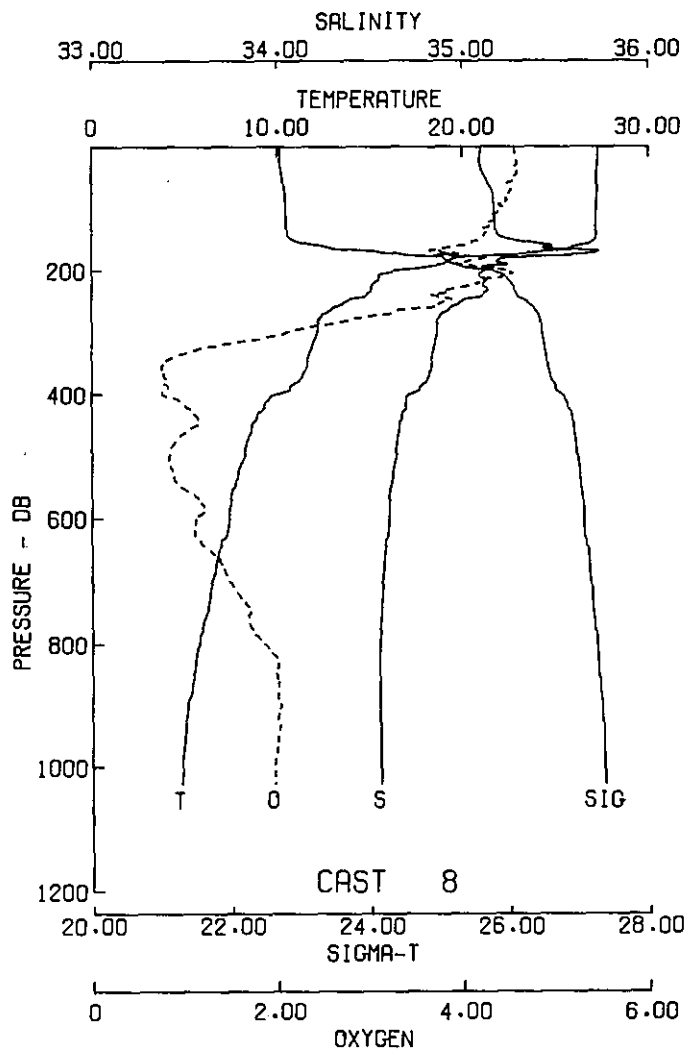


CAST CNRAD-82-007 DATE 20 SEP 82 TIME 2000 GMT
 LAT 00 02.5N LONG 137 59.2W WEATHER SEA STATE
 BAROMETER WIND DIR 040 T SPD 04 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-SI (DYN-M)
0.	27.631	35.121	4.61	22.624	0.000
10.	27.504	35.116	4.68	22.661	.050
20.	27.467	35.117	4.75	22.687	.134
30.	27.447	35.119	4.76	22.682	.152
40.	27.413	35.120	4.77	22.694	.159
50.	27.344	35.130	4.76	22.723	.250
60.	27.322	35.130	4.76	22.735	.311
70.	27.316	35.150	4.75	22.748	.363
80.	27.305	35.157	4.66	22.757	.414
90.	27.294	35.163	4.71	22.765	.466
100.	27.272	35.171	4.66	22.778	.517
110.	27.144	35.183	4.63	22.829	.568
120.	27.011	35.193	4.39	22.878	.619
130.	26.960	35.198	4.21	22.898	.669
140.	25.737	35.125	4.30	22.928	.718
150.	24.704	35.012	3.66	22.959	.768
160.	22.087	35.203	3.45	22.965	.818
170.	20.301	35.222	3.50	22.968	.868
180.	17.965	35.023	4.00	22.920	.818
190.	16.344	34.905	4.35	22.861	.868
200.	15.399	34.977	4.51	22.885	.917
210.	13.802	34.897	3.86	22.838	1.013
220.	12.334	34.871	2.75	22.844	1.099
230.	11.567	34.830	.74	22.857	1.180
240.	8.882	34.787	.64	22.850	1.257
250.	8.962	34.676	1.06	22.891	1.326
260.	8.317	34.648	.70	22.869	1.387
270.	7.765	34.621	.79	27.331	1.445
280.	7.543	34.611	.96	27.056	1.501
290.	7.193	34.597	1.07	27.095	1.555
300.	6.884	34.571	1.44	27.171	1.608
310.	5.174	34.562	1.63	27.206	1.655
320.	5.748	34.555	1.80	27.354	1.705
330.	5.499	34.552	1.91	27.282	1.751
340.	5.048	34.554	2.04	27.338	1.798
350.	4.947	34.555	1.99	27.350	1.837
360.	4.822	34.555	2.00	27.366	1.877
370.	4.432	34.563	2.04	27.414	

CAST CONRAD-82-008 DATE 20 SEP 82 TIME 0256 GMT
LAT 0 26.8S LONG 137 56.9W

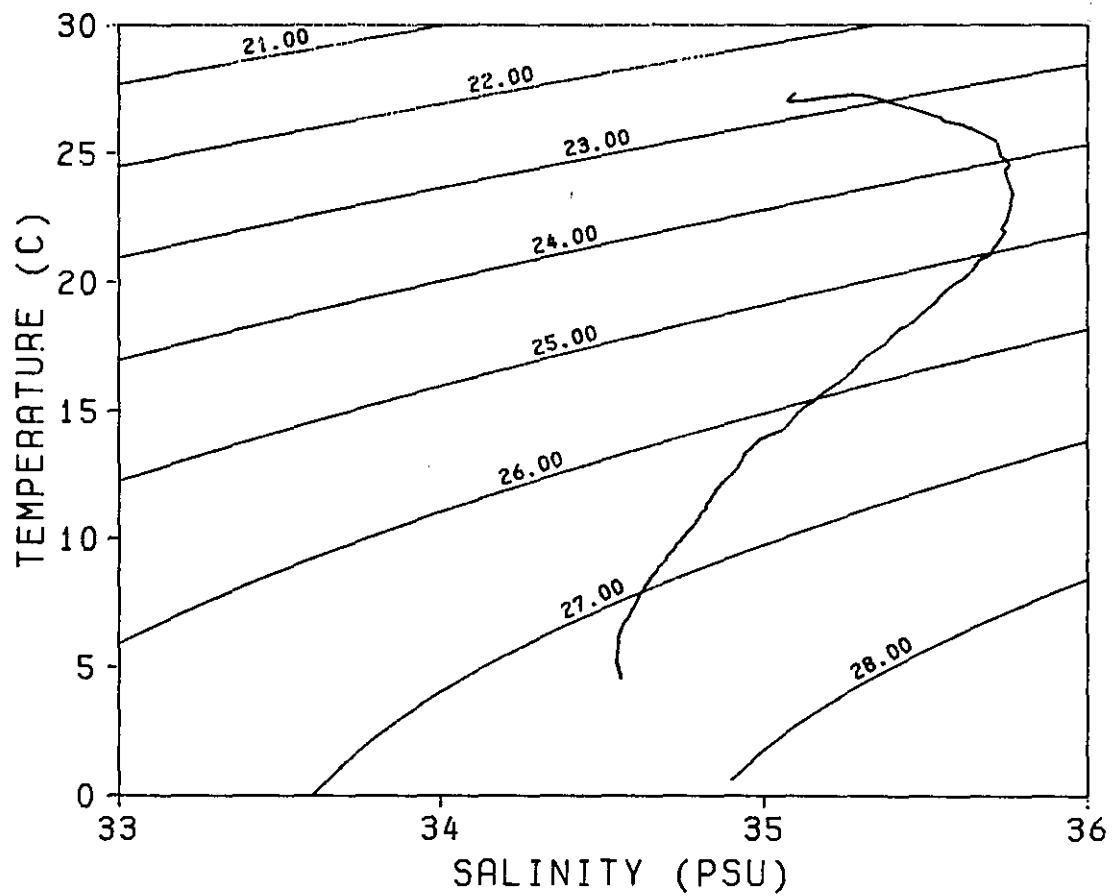




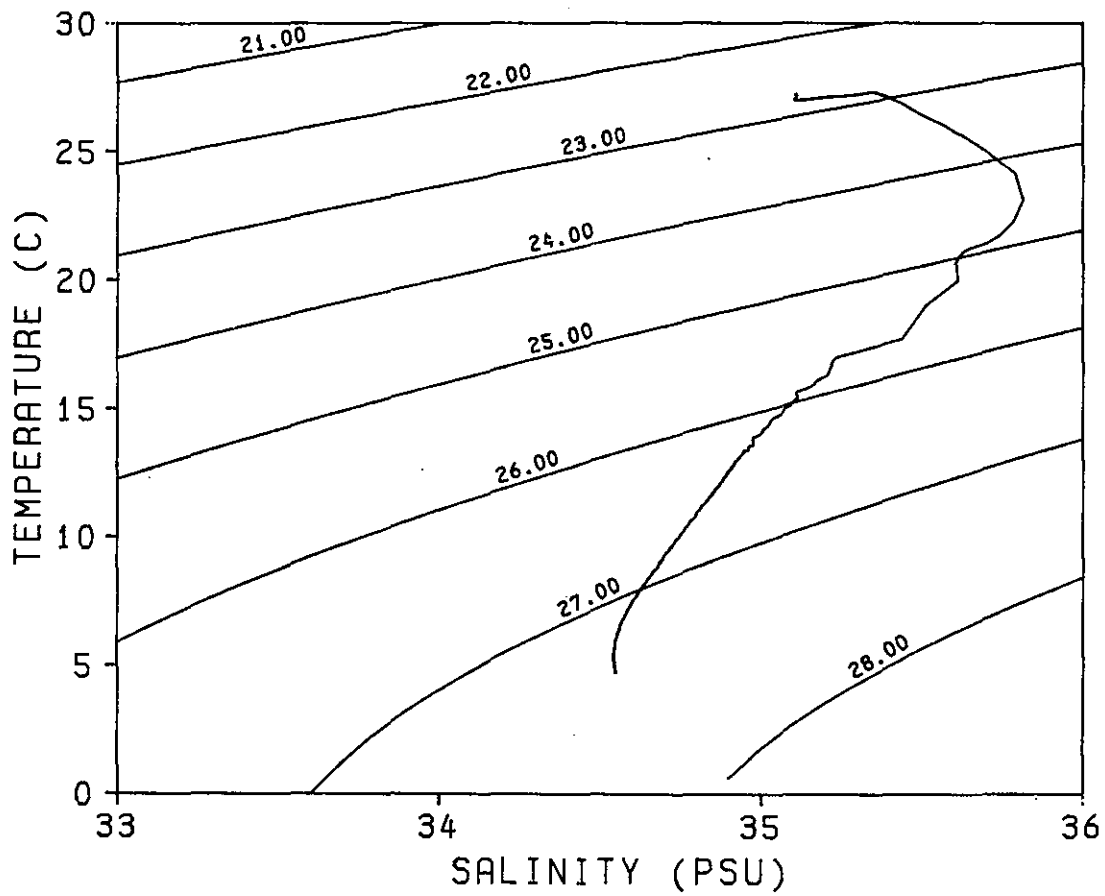
CAST CONRAD-R2-008 DATE 20 SEP 82 TIME 0256 GMT
 LAT 0 26.8S LONG 137 56.9W WEATHER CFA STATE
 BAROMETER WIND DIR SPD KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

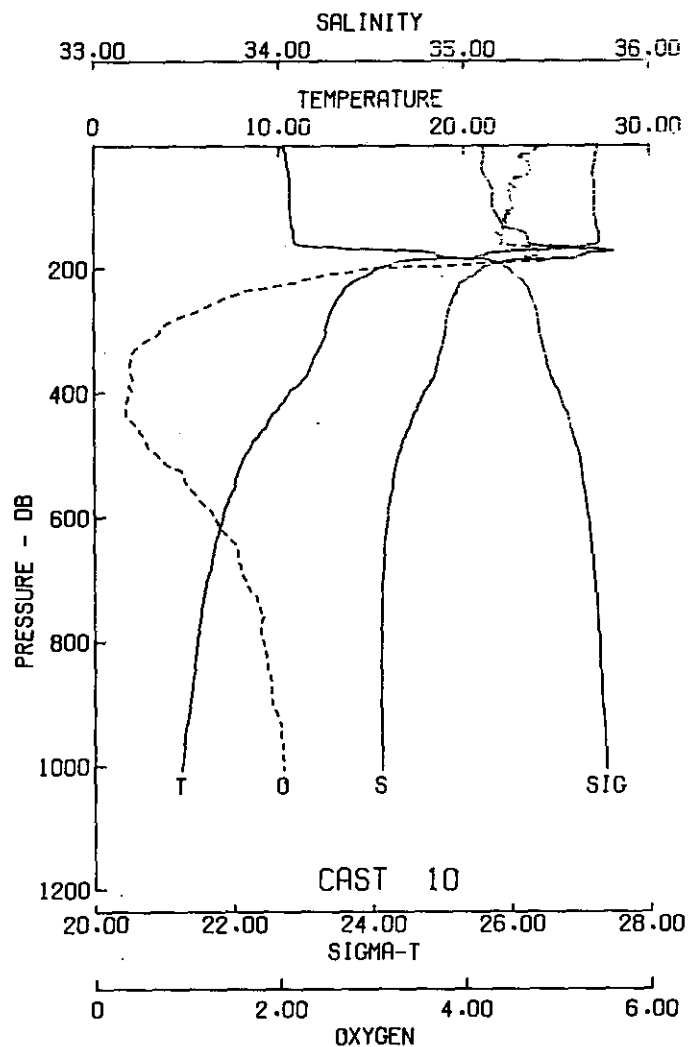
DB (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-1 (DYN-M)
0	27.303	35.009	4.656	22.714	0.000
1	27.303	35.009	4.656	22.714	0.052
2	27.303	35.009	4.656	22.714	0.104
3	27.303	35.009	4.656	22.714	0.156
4	27.303	35.009	4.656	22.714	0.208
5	27.303	35.009	4.656	22.714	0.260
6	27.303	35.009	4.656	22.714	0.312
7	27.303	35.009	4.656	22.714	0.364
8	27.303	35.009	4.656	22.714	0.416
9	27.303	35.009	4.656	22.714	0.468
10	27.303	35.009	4.656	22.714	0.520
11	27.303	35.009	4.656	22.714	0.572
12	27.303	35.009	4.656	22.714	0.624
13	27.303	35.009	4.656	22.714	0.676
14	27.303	35.009	4.656	22.714	0.728
15	27.303	35.009	4.656	22.714	0.780
16	27.303	35.009	4.656	22.714	0.832
17	27.303	35.009	4.656	22.714	0.884
18	27.303	35.009	4.656	22.714	0.936
19	27.303	35.009	4.656	22.714	0.988
20	27.303	35.009	4.656	22.714	1.040
21	27.303	35.009	4.656	22.714	1.092
22	27.303	35.009	4.656	22.714	1.144
23	27.303	35.009	4.656	22.714	1.196
24	27.303	35.009	4.656	22.714	1.248
25	27.303	35.009	4.656	22.714	1.300
26	27.303	35.009	4.656	22.714	1.352
27	27.303	35.009	4.656	22.714	1.404
28	27.303	35.009	4.656	22.714	1.456
29	27.303	35.009	4.656	22.714	1.508
30	27.303	35.009	4.656	22.714	1.560
31	27.303	35.009	4.656	22.714	1.612
32	27.303	35.009	4.656	22.714	1.664
33	27.303	35.009	4.656	22.714	1.716
34	27.303	35.009	4.656	22.714	1.768
35	27.303	35.009	4.656	22.714	1.820
36	27.303	35.009	4.656	22.714	1.872
37	27.303	35.009	4.656	22.714	1.924
38	27.303	35.009	4.656	22.714	1.976
39	27.303	35.009	4.656	22.714	2.028
40	27.303	35.009	4.656	22.714	2.080
41	27.303	35.009	4.656	22.714	2.132
42	27.303	35.009	4.656	22.714	2.184
43	27.303	35.009	4.656	22.714	2.236
44	27.303	35.009	4.656	22.714	2.288
45	27.303	35.009	4.656	22.714	2.340
46	27.303	35.009	4.656	22.714	2.392
47	27.303	35.009	4.656	22.714	2.444
48	27.303	35.009	4.656	22.714	2.496
49	27.303	35.009	4.656	22.714	2.548
50	27.303	35.009	4.656	22.714	2.600
51	27.303	35.009	4.656	22.714	2.652
52	27.303	35.009	4.656	22.714	2.704
53	27.303	35.009	4.656	22.714	2.756
54	27.303	35.009	4.656	22.714	2.808
55	27.303	35.009	4.656	22.714	2.860
56	27.303	35.009	4.656	22.714	2.912
57	27.303	35.009	4.656	22.714	2.964
58	27.303	35.009	4.656	22.714	3.016
59	27.303	35.009	4.656	22.714	3.068
60	27.303	35.009	4.656	22.714	3.120
61	27.303	35.009	4.656	22.714	3.172
62	27.303	35.009	4.656	22.714	3.224
63	27.303	35.009	4.656	22.714	3.276
64	27.303	35.009	4.656	22.714	3.328
65	27.303	35.009	4.656	22.714	3.380
66	27.303	35.009	4.656	22.714	3.432
67	27.303	35.009	4.656	22.714	3.484
68	27.303	35.009	4.656	22.714	3.536
69	27.303	35.009	4.656	22.714	3.588
70	27.303	35.009	4.656	22.714	3.640
71	27.303	35.009	4.656	22.714	3.692
72	27.303	35.009	4.656	22.714	3.744
73	27.303	35.009	4.656	22.714	3.796
74	27.303	35.009	4.656	22.714	3.848
75	27.303	35.009	4.656	22.714	3.900
76	27.303	35.009	4.656	22.714	3.952
77	27.303	35.009	4.656	22.714	4.004
78	27.303	35.009	4.656	22.714	4.056
79	27.303	35.009	4.656	22.714	4.108
80	27.303	35.009	4.656	22.714	4.160
81	27.303	35.009	4.656	22.714	4.212
82	27.303	35.009	4.656	22.714	4.264
83	27.303	35.009	4.656	22.714	4.316
84	27.303	35.009	4.656	22.714	4.368
85	27.303	35.009	4.656	22.714	4.420
86	27.303	35.009	4.656	22.714	4.472
87	27.303	35.009	4.656	22.714	4.524
88	27.303	35.009	4.656	22.714	4.576
89	27.303	35.009	4.656	22.714	4.628
90	27.303	35.009	4.656	22.714	4.680
91	27.303	35.009	4.656	22.714	4.732
92	27.303	35.009	4.656	22.714	4.784
93	27.303	35.009	4.656	22.714	4.836
94	27.303	35.009	4.656	22.714	4.888
95	27.303	35.009	4.656	22.714	4.940
96	27.303	35.009	4.656	22.714	4.992
97	27.303	35.009	4.656	22.714	5.044
98	27.303	35.009	4.656	22.714	5.096
99	27.303	35.009	4.656	22.714	5.148
100	27.303	35.009	4.656	22.714	5.200

CAST CONRAD-82-009 DATE 21 SEP 82 TIME 1135 GMT
LAT 1 13.8S LONG 137 59.0W



CAST CONRAD-82-010 DATE 21 SEP 82 TIME 1957 GMT
LAT 1 57.6S LONG 138 00.4W

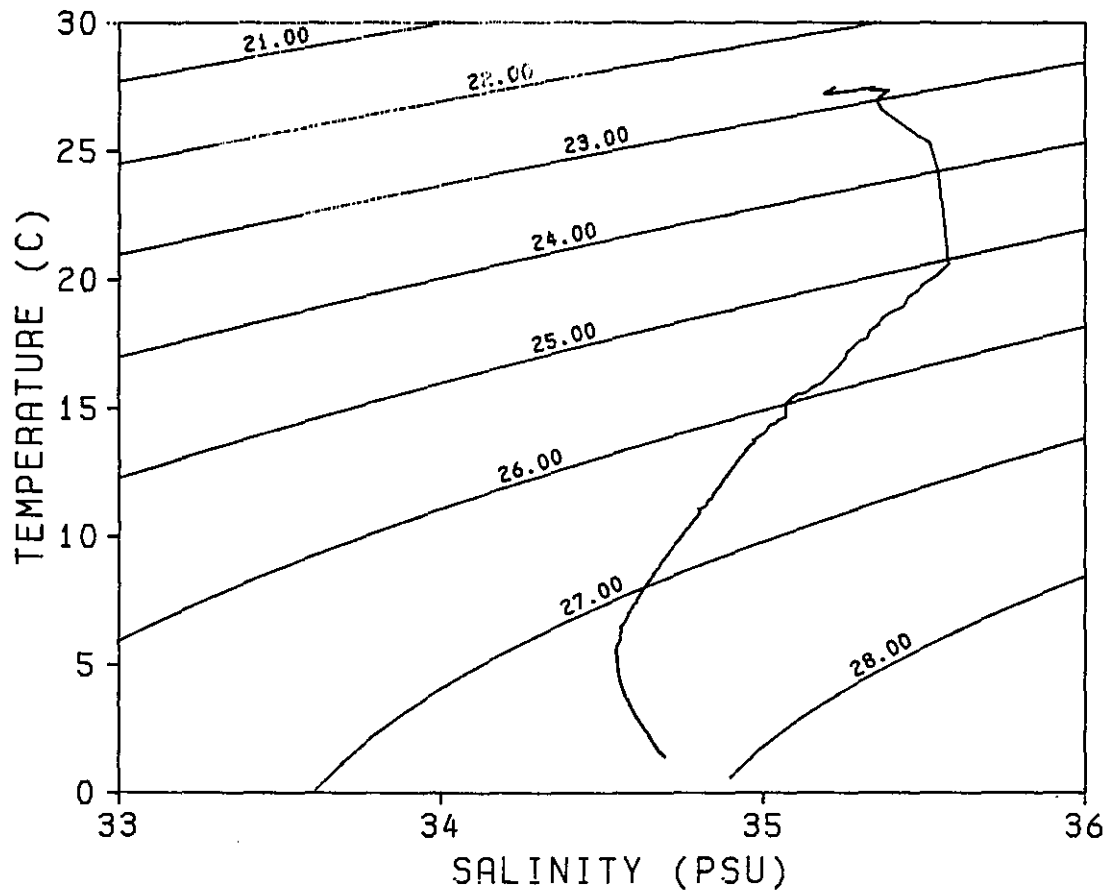


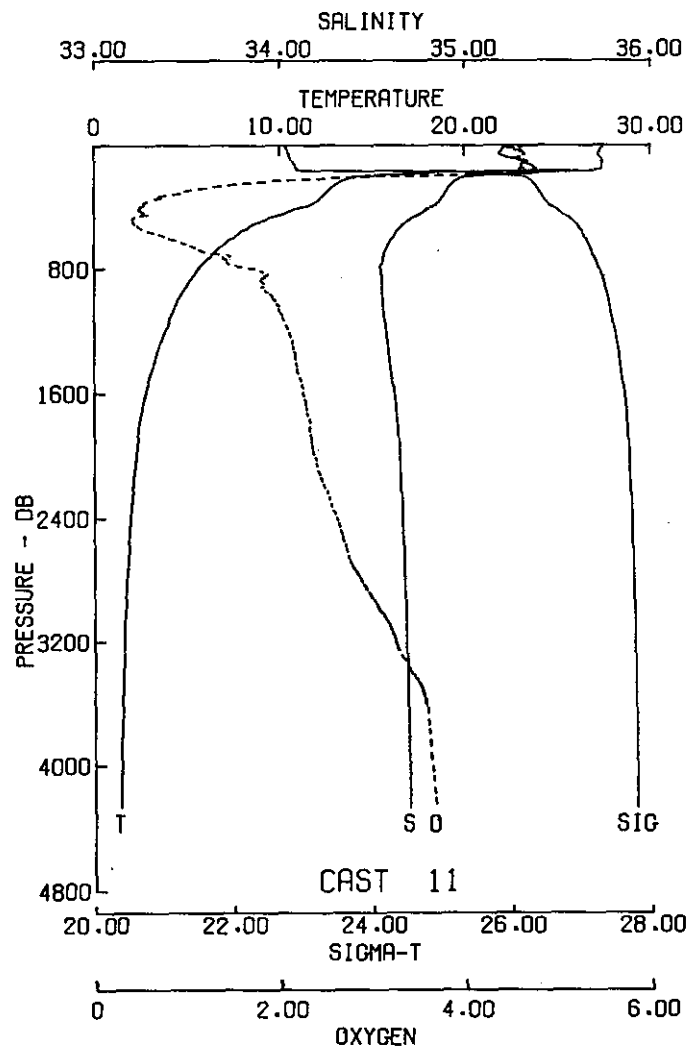


CAST CCNRAD-82-010 DATE 21 SEP 82 TIME 1957 GMT
 LAT 1 57.6S LONG 138 09.4W WEATHER SEA STATE 3
 BAROMETER 14 WIND DIR 135 T SPD 10 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-T (DYN-F)
0	27.223	35.103	4.84	22.742	0.000
10	27.209	35.103	4.75	22.751	.051
20	27.134	35.103	4.65	22.774	.102
30	27.071	35.103	4.57	22.791	.153
40	26.994	35.101	4.47	22.814	.204
50	27.800	35.111	4.55	22.825	.255
60	27.030	35.140	4.45	22.830	.306
70	27.053	35.153	4.45	22.835	.356
80	27.056	35.153	4.45	22.834	.407
90	27.054	35.157	4.45	22.837	.457
100	27.054	35.160	4.45	22.839	.508
110	27.075	35.171	4.45	22.841	.559
120	27.113	35.190	4.44	22.844	.609
130	27.151	35.210	4.44	22.847	.659
140	27.262	35.244	4.43	22.849	.710
150	27.327	35.282	4.40	22.839	.761
160	27.300	35.353	4.40	22.911	.811
170	24.145	35.783	4.41	24.210	.857
180	21.131	35.333	4.47	24.955	.890
190	16.586	35.211	4.59	25.791	.915
200	15.345	35.103	4.44	25.993	.938
250	13.157	34.938	4.44	26.331	1.033
300	12.523	34.898	4.44	26.426	1.119
350	11.841	34.861	4.43	26.520	1.202
400	10.571	34.783	4.43	26.700	1.279
450	9.354	34.711	4.43	26.853	1.346
500	8.130	34.642	4.43	26.993	1.408
550	7.582	34.512	4.43	27.125	1.465
600	6.933	34.584	4.43	27.120	1.518
650	6.509	34.563	4.43	27.166	1.570
700	6.105	34.557	4.43	27.211	1.610
750	5.788	34.551	4.43	27.244	1.656
800	5.547	34.550	4.43	27.273	1.712
850	5.390	34.549	4.43	27.293	1.757
900	5.182	34.549	4.43	27.314	1.801
950	4.885	34.551	4.43	27.334	1.844
1000	4.732	34.552	4.43	27.373	1.885
1007	4.710	34.552	4.43	27.375	

CAST CONRAD-82-011 DATE 22 SEP 82 TIME 0719 GMT
LAT 3 00.2S LONG 137 58.7W

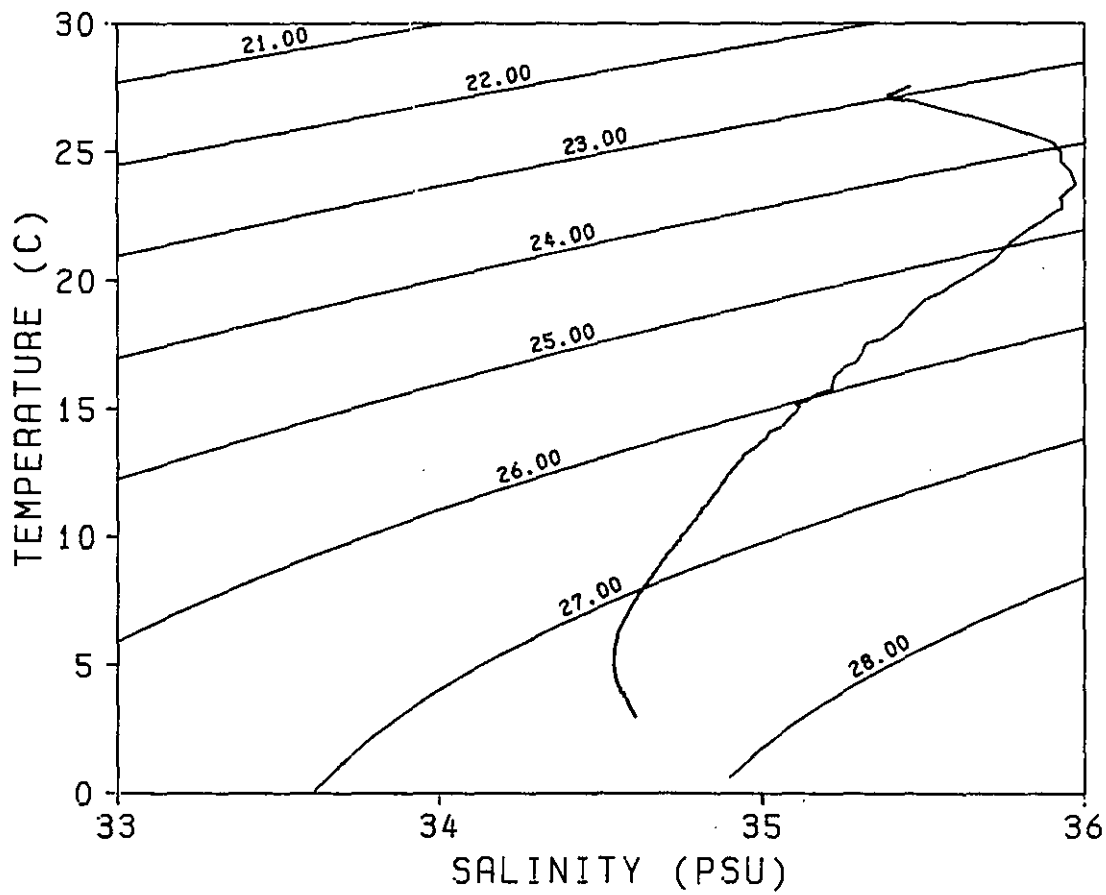


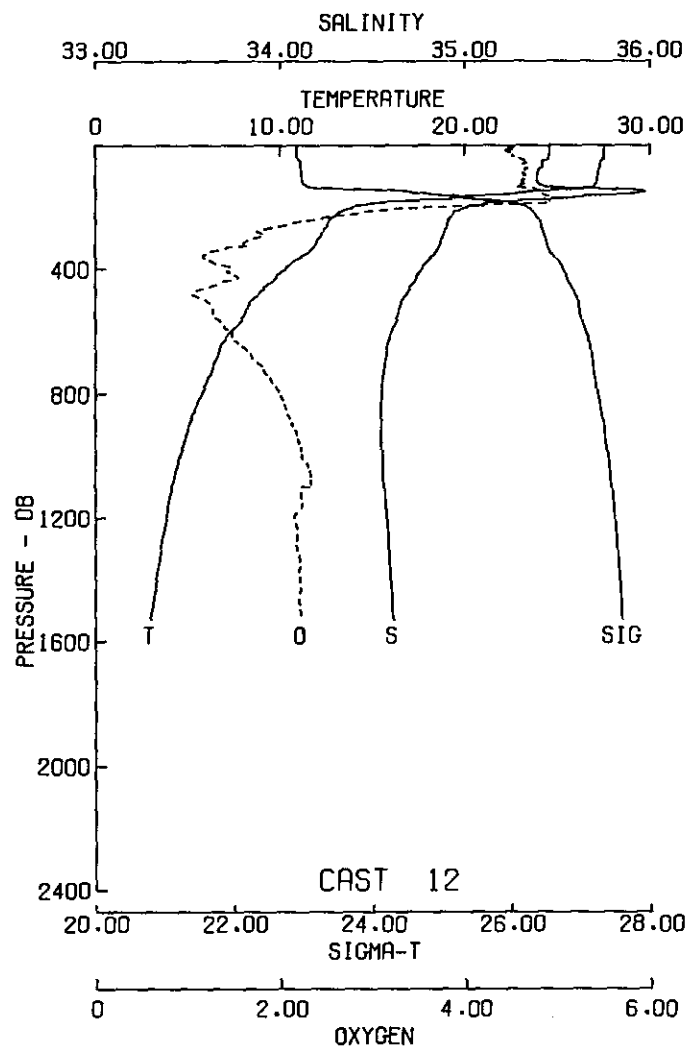


CAST CONRAD-R2-011 DATE 22 SEP 82 TIME 0719 GMT
 LAT 3 00.28 N LONG 137 58.7W WEATHER SEA STATE
 BAROMETER 13 WIND DIR 120 T SPD 07 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH 4500 M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-SI (DYN-M)
0	27.47	35.22	4.77	22.748	0.000
10	27.47	35.22	4.69	22.749	0.001
20	27.47	35.22	4.69	22.768	0.100
30	27.47	35.22	4.69	22.783	0.100
40	27.47	35.22	4.69	22.783	0.100
50	27.47	35.22	4.69	22.783	0.100
60	27.47	35.22	4.69	22.783	0.100
70	27.47	35.22	4.69	22.783	0.100
80	27.47	35.22	4.69	22.783	0.100
90	27.47	35.22	4.69	22.783	0.100
100	27.47	35.22	4.69	22.783	0.100
110	27.47	35.22	4.69	22.783	0.100
120	27.47	35.22	4.69	22.783	0.100
130	27.47	35.22	4.69	22.783	0.100
140	27.47	35.22	4.69	22.783	0.100
150	27.47	35.22	4.69	22.783	0.100
160	27.47	35.22	4.69	22.783	0.100
170	27.47	35.22	4.69	22.783	0.100
180	27.47	35.22	4.69	22.783	0.100
190	27.47	35.22	4.69	22.783	0.100
200	27.47	35.22	4.69	22.783	0.100
210	27.47	35.22	4.69	22.783	0.100
220	27.47	35.22	4.69	22.783	0.100
230	27.47	35.22	4.69	22.783	0.100
240	27.47	35.22	4.69	22.783	0.100
250	27.47	35.22	4.69	22.783	0.100
260	27.47	35.22	4.69	22.783	0.100
270	27.47	35.22	4.69	22.783	0.100
280	27.47	35.22	4.69	22.783	0.100
290	27.47	35.22	4.69	22.783	0.100
300	27.47	35.22	4.69	22.783	0.100
310	27.47	35.22	4.69	22.783	0.100
320	27.47	35.22	4.69	22.783	0.100
330	27.47	35.22	4.69	22.783	0.100
340	27.47	35.22	4.69	22.783	0.100
350	27.47	35.22	4.69	22.783	0.100
360	27.47	35.22	4.69	22.783	0.100
370	27.47	35.22	4.69	22.783	0.100
380	27.47	35.22	4.69	22.783	0.100
390	27.47	35.22	4.69	22.783	0.100
400	27.47	35.22	4.69	22.783	0.100
410	27.47	35.22	4.69	22.783	0.100
420	27.47	35.22	4.69	22.783	0.100
430	27.47	35.22	4.69	22.783	0.100
440	27.47	35.22	4.69	22.783	0.100
450	27.47	35.22	4.69	22.783	0.100
460	27.47	35.22	4.69	22.783	0.100
470	27.47	35.22	4.69	22.783	0.100
480	27.47	35.22	4.69	22.783	0.100
490	27.47	35.22	4.69	22.783	0.100
500	27.47	35.22	4.69	22.783	0.100
510	27.47	35.22	4.69	22.783	0.100
520	27.47	35.22	4.69	22.783	0.100
530	27.47	35.22	4.69	22.783	0.100
540	27.47	35.22	4.69	22.783	0.100
550	27.47	35.22	4.69	22.783	0.100
560	27.47	35.22	4.69	22.783	0.100
570	27.47	35.22	4.69	22.783	0.100
580	27.47	35.22	4.69	22.783	0.100
590	27.47	35.22	4.69	22.783	0.100
600	27.47	35.22	4.69	22.783	0.100
610	27.47	35.22	4.69	22.783	0.100
620	27.47	35.22	4.69	22.783	0.100
630	27.47	35.22	4.69	22.783	0.100
640	27.47	35.22	4.69	22.783	0.100
650	27.47	35.22	4.69	22.783	0.100
660	27.47	35.22	4.69	22.783	0.100
670	27.47	35.22	4.69	22.783	0.100
680	27.47	35.22	4.69	22.783	0.100
690	27.47	35.22	4.69	22.783	0.100
700	27.47	35.22	4.69	22.783	0.100
710	27.47	35.22	4.69	22.783	0.100
720	27.47	35.22	4.69	22.783	0.100
730	27.47	35.22	4.69	22.783	0.100
740	27.47	35.22	4.69	22.783	0.100
750	27.47	35.22	4.69	22.783	0.100
760	27.47	35.22	4.69	22.783	0.100
770	27.47	35.22	4.69	22.783	0.100
780	27.47	35.22	4.69	22.783	0.100
790	27.47	35.22	4.69	22.783	0.100
800	27.47	35.22	4.69	22.783	0.100
810	27.47	35.22	4.69	22.783	0.100
820	27.47	35.22	4.69	22.783	0.100
830	27.47	35.22	4.69	22.783	0.100
840	27.47	35.22	4.69	22.783	0.100
850	27.47	35.22	4.69	22.783	0.100
860	27.47	35.22	4.69	22.783	0.100
870	27.47	35.22	4.69	22.783	0.100
880	27.47	35.22	4.69	22.783	0.100
890	27.47	35.22	4.69	22.783	0.100
900	27.47	35.22	4.69	22.783	0.100
910	27.47	35.22	4.69	22.783	0.100
920	27.47	35.22	4.69	22.783	0.100
930	27.47	35.22	4.69	22.783	0.100
940	27.47	35.22	4.69	22.783	0.100
950	27.47	35.22	4.69	22.783	0.100
960	27.47	35.22	4.69	22.783	0.100
970	27.47	35.22	4.69	22.783	0.100
980	27.47	35.22	4.69	22.783	0.100
990	27.47	35.22	4.69	22.783	0.100
1000	27.47	35.22	4.69	22.783	0.100

CAST CONRAD-82-012 DATE 22 SEP 82 TIME 1630 GMT
LAT 3 58.9S LONG 138 00.1W

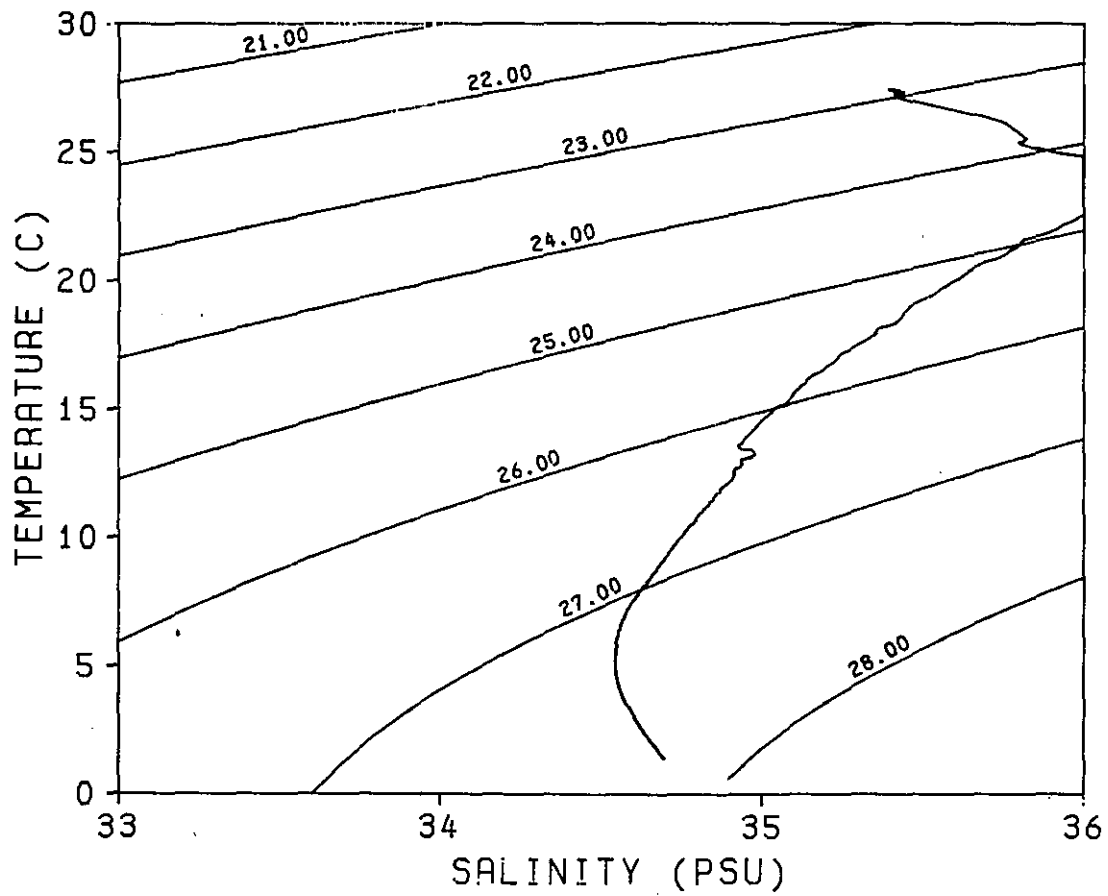


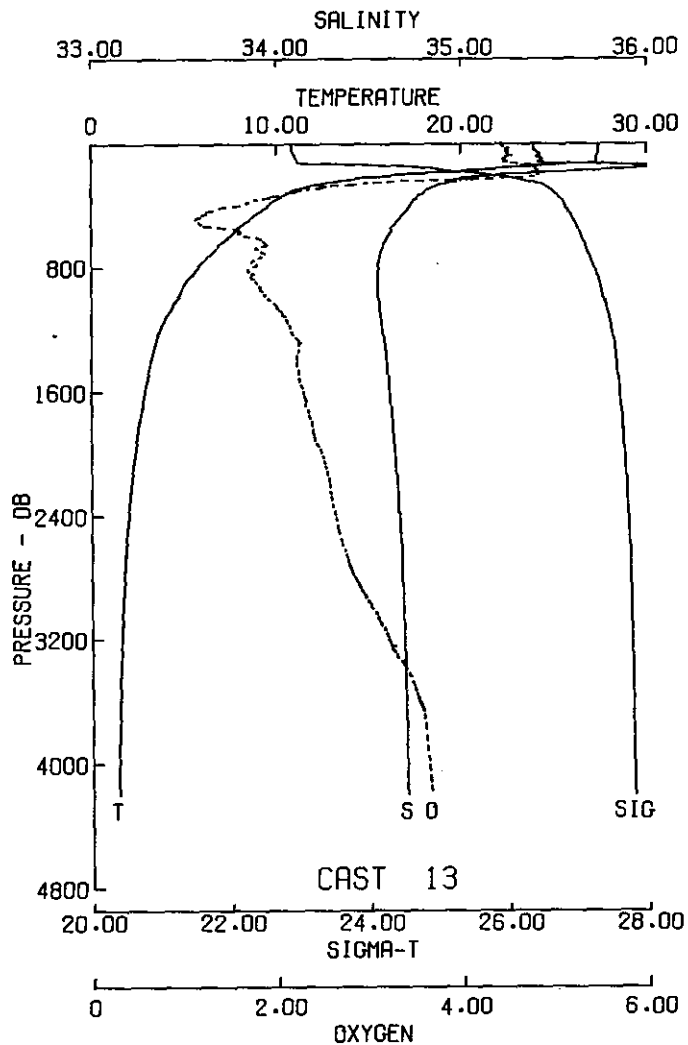


CAST CONRAD-82-012 DATE 22 SEP 82 TIME 1630 GMT
 LAT 3 49 S LONG 138 00.1 W WEATHER SEA STATE
 BAROMETER 13 WIND DIR 099 T SPD 03 KT VISIBILITY M
 CLOUD AMOUNT DRY WET DEPTH

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-SI (DYN-CM)
0.	27.528	35.461	4.668	22.915	0.900
10.	27.554	35.459	4.653	22.907	0.900
20.	27.533	35.457	4.643	22.911	0.900
30.	27.533	35.460	4.650	22.913	0.900
40.	27.474	35.451	4.650	22.913	0.900
50.	27.474	35.455	4.650	22.913	0.900
60.	27.474	35.455	4.650	22.913	0.900
70.	27.474	35.455	4.650	22.913	0.900
80.	27.474	35.455	4.650	22.913	0.900
90.	27.474	35.455	4.650	22.913	0.900
100.	27.474	35.455	4.650	22.913	0.900
110.	27.474	35.455	4.650	22.913	0.900
120.	27.474	35.455	4.650	22.913	0.900
130.	27.474	35.455	4.650	22.913	0.900
140.	27.474	35.455	4.650	22.913	0.900
150.	27.474	35.455	4.650	22.913	0.900
160.	27.474	35.455	4.650	22.913	0.900
170.	27.474	35.455	4.650	22.913	0.900
180.	27.474	35.455	4.650	22.913	0.900
190.	27.474	35.455	4.650	22.913	0.900
200.	27.474	35.455	4.650	22.913	0.900
220.	27.474	35.455	4.650	22.913	0.900
230.	27.474	35.455	4.650	22.913	0.900
240.	27.474	35.455	4.650	22.913	0.900
250.	27.474	35.455	4.650	22.913	0.900
260.	27.474	35.455	4.650	22.913	0.900
270.	27.474	35.455	4.650	22.913	0.900
280.	27.474	35.455	4.650	22.913	0.900
290.	27.474	35.455	4.650	22.913	0.900
300.	27.474	35.455	4.650	22.913	0.900
310.	27.474	35.455	4.650	22.913	0.900
320.	27.474	35.455	4.650	22.913	0.900
330.	27.474	35.455	4.650	22.913	0.900
340.	27.474	35.455	4.650	22.913	0.900
350.	27.474	35.455	4.650	22.913	0.900
360.	27.474	35.455	4.650	22.913	0.900
370.	27.474	35.455	4.650	22.913	0.900
380.	27.474	35.455	4.650	22.913	0.900
390.	27.474	35.455	4.650	22.913	0.900
400.	27.474	35.455	4.650	22.913	0.900
450.	27.474	35.455	4.650	22.913	0.900
500.	27.474	35.455	4.650	22.913	0.900
550.	27.474	35.455	4.650	22.913	0.900
600.	27.474	35.455	4.650	22.913	0.900
650.	27.474	35.455	4.650	22.913	0.900
700.	27.474	35.455	4.650	22.913	0.900
750.	27.474	35.455	4.650	22.913	0.900
800.	27.474	35.455	4.650	22.913	0.900
850.	27.474	35.455	4.650	22.913	0.900
900.	27.474	35.455	4.650	22.913	0.900
950.	27.474	35.455	4.650	22.913	0.900
1000.	27.474	35.455	4.650	22.913	0.900
1100.	27.474	35.455	4.650	22.913	0.900
1200.	27.474	35.455	4.650	22.913	0.900
1300.	27.474	35.455	4.650	22.913	0.900
1400.	27.474	35.455	4.650	22.913	0.900
1500.	27.474	35.455	4.650	22.913	0.900
1530.	27.474	35.455	4.650	22.913	0.900

CAST CONRAD-82-013 DATE 23 SEP 82 TIME 0054 GMT
LAT 5 00.0S LONG 138 00.1W

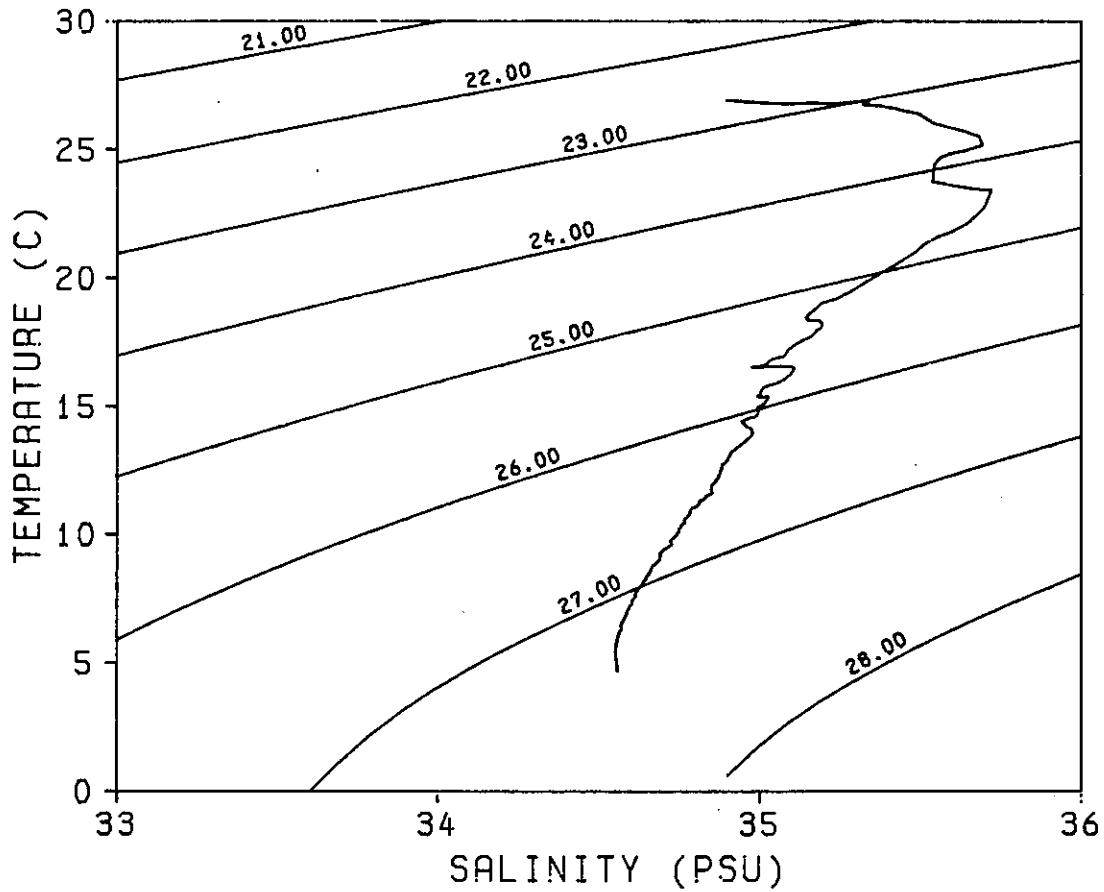


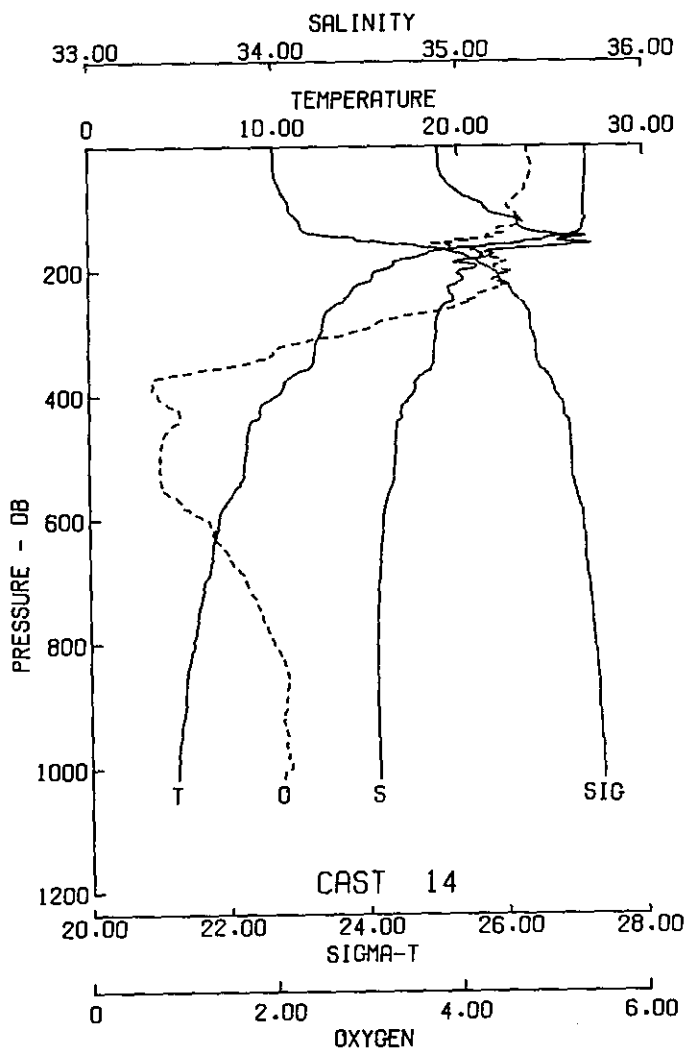


CAST CCRAD-82-013 DATE 23 SEP 82 TIME 0054 GMT
 LAT 30.05 S LONG 138 00.1 W WEATHER 1 SEA STATE 3
 BAROMETER 11 WIND DIR 101 T SPD 09 KT VISIBILITY 8
 CLOUD 8 AMOUNT 7 DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-SI (DYN-M)
0.	27.434	35.397	4.43	22.895	0.000
10.	27.434	35.394	4.44	22.893	0.050
20.	27.432	35.392	4.46	22.892	0.100
30.	27.416	35.390	4.51	22.898	0.150
40.	27.414	35.390	4.51	22.901	0.200
50.	27.414	35.390	4.52	22.905	0.250
60.	27.413	35.390	4.53	22.916	0.300
70.	27.368	35.422	4.51	22.939	0.350
80.	27.329	35.442	4.50	22.948	0.400
90.	27.287	35.442	4.48	22.951	0.450
100.	27.233	35.444	4.44	22.967	0.500
110.	27.177	35.444	4.44	22.966	0.550
120.	26.923	35.441	4.41	22.973	0.600
130.	26.690	35.432	4.40	22.944	0.650
140.	26.483	35.433	4.42	22.907	0.700
150.	26.186	35.430	4.43	22.867	0.750
160.	25.844	35.429	4.48	22.820	0.800
170.	25.478	35.428	4.55	22.771	0.850
180.	25.069	35.427	4.61	22.726	0.900
190.	24.618	35.426	4.64	22.685	0.950
200.	24.124	35.425	4.68	22.648	1.000
210.	23.597	35.424	4.72	22.615	1.050
220.	23.022	35.423	4.76	22.586	1.100
230.	22.404	35.422	4.80	22.560	1.150
240.	21.744	35.421	4.84	22.537	1.200
250.	21.044	35.420	4.88	22.517	1.250
260.	20.304	35.419	4.92	22.499	1.300
270.	19.524	35.418	4.96	22.483	1.350
280.	18.704	35.417	4.99	22.469	1.400
290.	17.844	35.416	5.02	22.457	1.450
300.	16.944	35.415	5.05	22.447	1.500
310.	16.004	35.414	5.08	22.438	1.550
320.	15.024	35.413	5.11	22.430	1.600
330.	14.004	35.412	5.14	22.423	1.650
340.	12.944	35.411	5.17	22.417	1.700
350.	11.844	35.410	5.20	22.412	1.750
360.	10.704	35.409	5.23	22.408	1.800
370.	9.524	35.408	5.26	22.405	1.850
380.	8.304	35.407	5.29	22.403	1.900
390.	7.044	35.406	5.32	22.402	1.950
400.	5.744	35.405	5.35	22.402	2.000
410.	4.404	35.404	5.38	22.403	2.050
420.	3.024	35.403	5.41	22.405	2.100
430.	1.604	35.402	5.44	22.408	2.150
440.	0.144	35.401	5.47	22.412	2.200
450.	-0.356	35.400	5.50	22.417	2.250
460.	-0.856	35.399	5.53	22.423	2.300
470.	-1.356	35.398	5.56	22.430	2.350
480.	-1.856	35.397	5.59	22.438	2.400
490.	-2.356	35.396	5.62	22.447	2.450
500.	-2.856	35.395	5.65	22.457	2.500
510.	-3.356	35.394	5.68	22.468	2.550
520.	-3.856	35.393	5.71	22.480	2.600
530.	-4.356	35.392	5.74	22.493	2.650
540.	-4.856	35.391	5.77	22.507	2.700
550.	-5.356	35.390	5.80	22.522	2.750
560.	-5.856	35.389	5.83	22.538	2.800
570.	-6.356	35.388	5.86	22.555	2.850
580.	-6.856	35.387	5.89	22.573	2.900
590.	-7.356	35.386	5.92	22.592	2.950
600.	-7.856	35.385	5.95	22.613	3.000
610.	-8.356	35.384	5.98	22.635	3.050
620.	-8.856	35.383	6.01	22.658	3.100
630.	-9.356	35.382	6.04	22.683	3.150
640.	-9.856	35.381	6.07	22.709	3.200
650.	-10.356	35.380	6.10	22.736	3.250
660.	-10.856	35.379	6.13	22.764	3.300
670.	-11.356	35.378	6.16	22.793	3.350
680.	-11.856	35.377	6.19	22.823	3.400
690.	-12.356	35.376	6.22	22.854	3.450
700.	-12.856	35.375	6.25	22.886	3.500
710.	-13.356	35.374	6.28	22.919	3.550
720.	-13.856	35.373	6.31	22.953	3.600
730.	-14.356	35.372	6.34	22.988	3.650
740.	-14.856	35.371	6.37	23.024	3.700
750.	-15.356	35.370	6.40	23.061	3.750
760.	-15.856	35.369	6.43	23.099	3.800
770.	-16.356	35.368	6.46	23.138	3.850
780.	-16.856	35.367	6.49	23.178	3.900
790.	-17.356	35.366	6.52	23.219	3.950
800.	-17.856	35.365	6.55	23.261	4.000
810.	-18.356	35.364	6.58	23.304	4.050
820.	-18.856	35.363	6.61	23.348	4.100
830.	-19.356	35.362	6.64	23.393	4.150
840.	-19.856	35.361	6.67	23.439	4.200
850.	-20.356	35.360	6.70	23.486	4.250
860.	-20.856	35.359	6.73	23.534	4.300
870.	-21.356	35.358	6.76	23.583	4.350
880.	-21.856	35.357	6.79	23.633	4.400
890.	-22.356	35.356	6.82	23.684	4.450
900.	-22.856	35.355	6.85	23.736	4.500
910.	-23.356	35.354	6.88	23.789	4.550
920.	-23.856	35.353	6.91	23.843	4.600
930.	-24.356	35.352	6.94	23.898	4.650
940.	-24.856	35.351	6.97	23.954	4.700
950.	-25.356	35.350	7.00	24.011	4.750
960.	-25.856	35.349	7.03	24.069	4.800
970.	-26.356	35.348	7.06	24.128	4.850
980.	-26.856	35.347	7.09	24.188	4.900
990.	-27.356	35.346	7.12	24.249	4.950
1000.	-27.856	35.345	7.15	24.311	5.000

CAST CONRAD-82-014 DATE 25 SEP 82 TIME 1602 GMT
LAT 0 00.2S LONG 129 59.1W

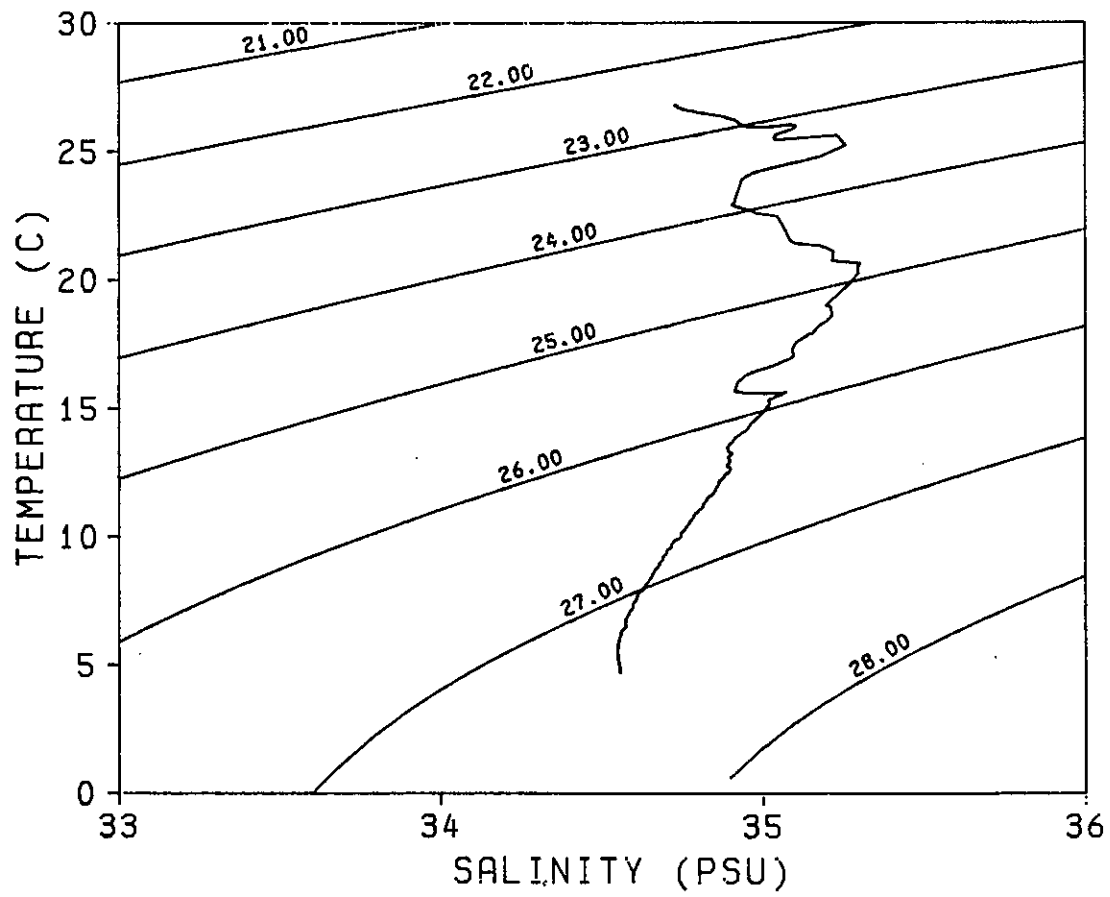


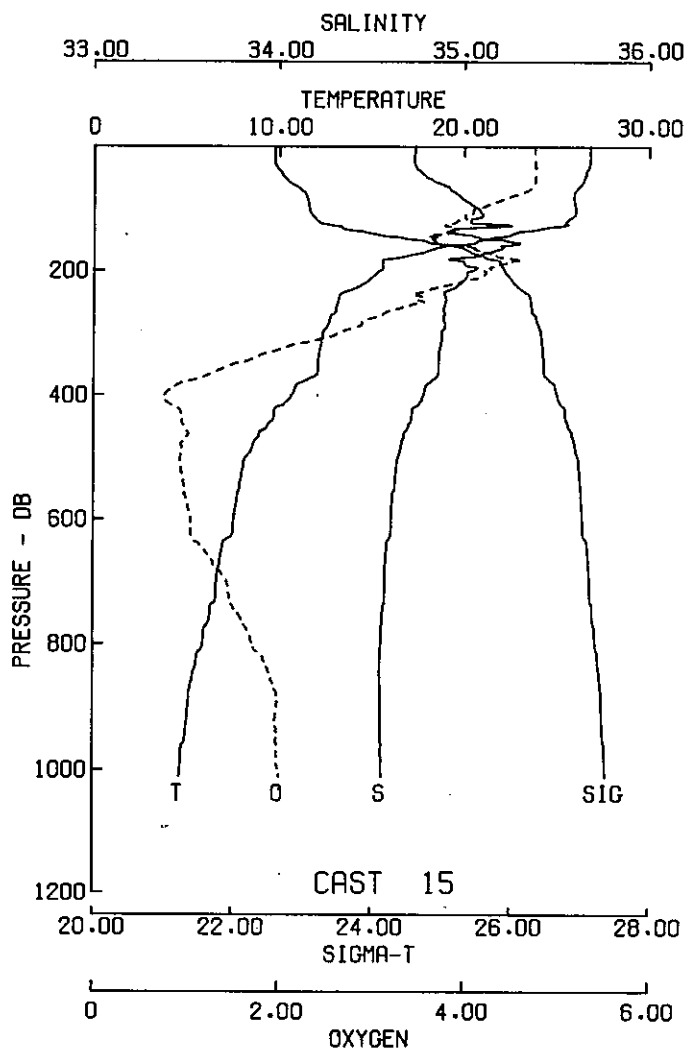


CAST CONRAD-82-014 DATE 25 SEP 82 TIME 1602 GMT
 LAT 0 00.2S LONG 129 59.1W WEATHER SEA STATE
 BAROMETER 12 WIND DIR 122 T SPD 10 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-T (DYN-M)
0	26.922	34.899	4.76	22.685	0.000
10	26.922	34.899	4.76	22.683	.052
20	26.921	34.897	4.77	22.684	.104
30	26.924	34.898	4.80	22.684	.155
40	26.921	34.906	4.79	22.690	.207
50	26.904	34.918	4.77	22.706	.259
60	26.863	34.951	4.76	22.743	.311
70	26.832	34.989	4.72	22.781	.362
80	26.889	35.025	4.63	22.820	.413
90	26.786	35.116	4.58	22.858	.463
100	26.824	35.150	4.57	22.893	.514
110	26.794	35.203	4.63	22.955	.564
120	26.893	35.335	4.65	23.050	.613
130	26.729	35.335	4.57	23.073	.661
140	26.519	35.446	4.56	23.223	.709
150	24.72	35.574	4.12	23.375	.757
160	21.77	35.598	3.91	23.500	.790
170	18.577	35.154	4.21	23.526	.821
180	17.658	35.132	4.34	23.549	.847
190	16.572	35.066	4.47	23.583	.871
200	15.775	35.021	4.49	23.622	.894
210	13.71	34.962	4.07	23.633	.926
220	12.566	34.880	2.81	23.640	1.024
230	12.079	34.862	1.63	23.684	1.167
240	10.12	34.748	.75	23.753	1.242
250	8.666	34.663	.86	23.827	1.307
260	8.447	34.653	.77	23.853	1.367
270	7.033	34.628	.75	23.911	1.427
280	7.008	34.590	1.24	23.948	1.482
290	6.664	34.574	1.48	23.950	1.533
300	6.203	34.562	1.60	23.920	1.584
310	5.880	34.556	1.85	23.923	1.632
320	5.580	34.552	1.99	23.977	1.678
330	5.290	34.551	2.12	23.987	1.722
340	5.116	34.553	2.11	23.952	1.766
350	4.840	34.556	2.13	23.963	1.808
360	4.692	34.558	2.14	23.981	1.849
370	4.680	34.558	2.08	23.960	

CAST CONRAD-82-015 DATE 27 SEP 82 TIME 0225 GMT
LAT 00 00.0N LONG 124 59.9W

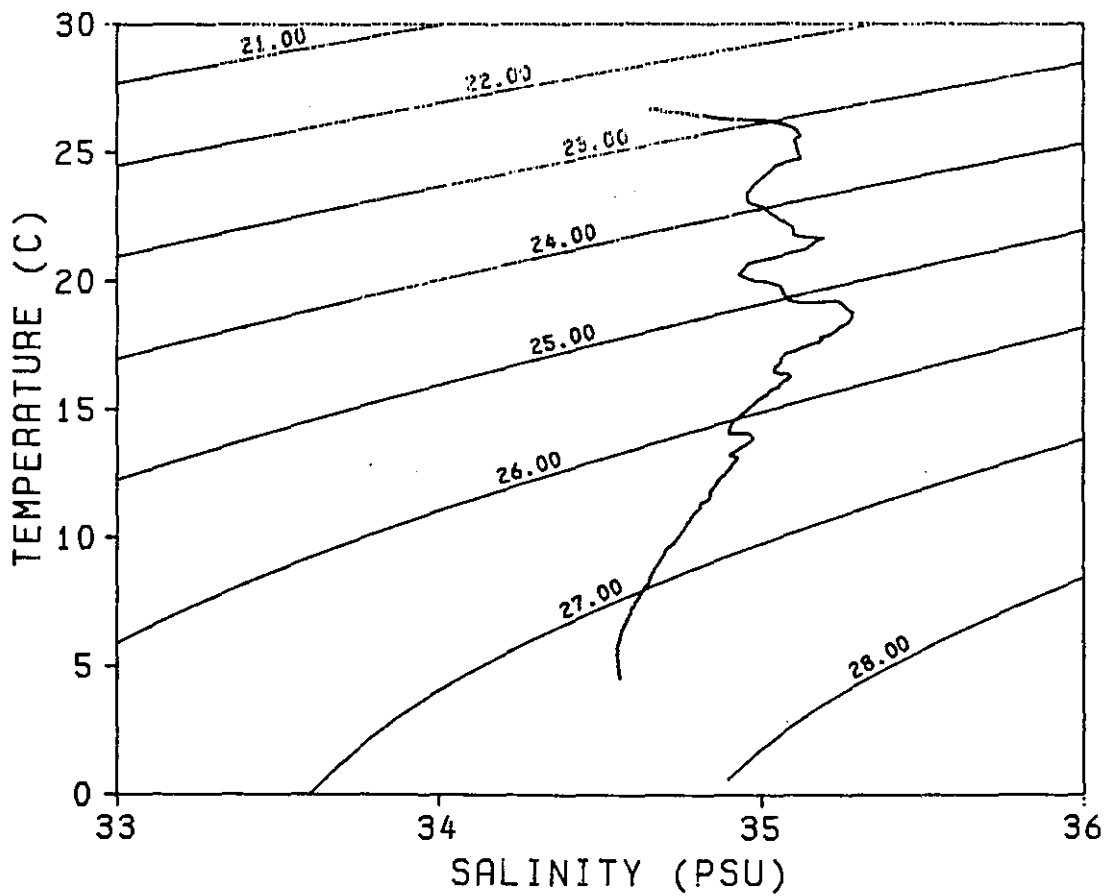


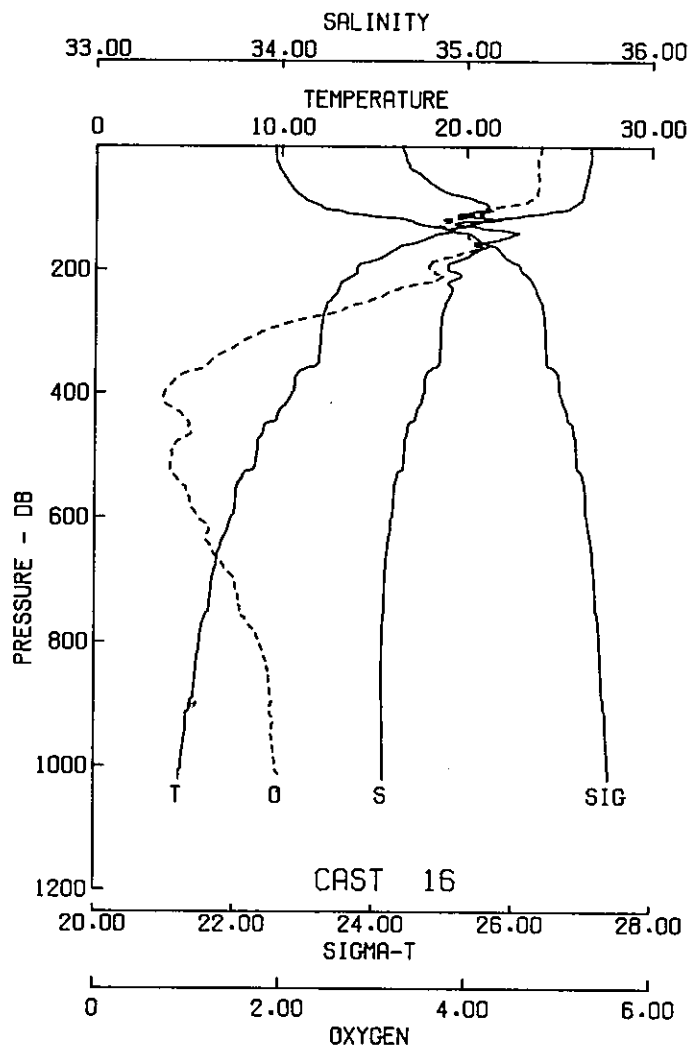


CAST CONRAD-R2-015 DATE 27 SEP 82 TIME 0225 GMT
 LAT 00 00.0N LONG 124 59.9W WEATHER SEA STATE 4
 BAROMETER 12 WIND DTR 140 T SPD DR KT VISIBILITY
 CLOUD AMOUNT DRY WEI DEPTH #

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-T (DYN-M)
0.0	26.799	34.734	4.76	22.600	0.000
10.0	26.799	34.734	4.76	22.598	0.054
20.0	26.799	34.728	4.76	22.596	0.105
30.0	26.742	34.734	4.77	22.616	0.158
40.0	26.580	34.763	4.78	22.689	0.210
50.0	26.500	34.799	4.76	22.744	0.262
60.0	26.345	34.877	4.75	22.850	0.314
70.0	26.204	34.930	4.75	22.985	0.367
80.0	26.091	34.977	4.75	23.100	0.411
90.0	26.022	35.022	4.75	23.203	0.455
100.0	25.929	35.078	4.75	23.301	0.500
110.0	25.826	35.104	4.75	23.412	0.551
120.0	25.724	35.134	4.75	23.525	0.603
130.0	25.623	35.199	4.75	23.633	0.655
140.0	25.523	35.233	4.75	23.744	0.708
150.0	25.414	35.222	4.75	23.858	0.760
160.0	25.309	35.219	4.75	23.974	0.813
170.0	25.207	35.214	4.75	24.092	0.866
180.0	25.103	35.209	4.75	24.212	0.919
190.0	25.000	35.204	4.75	24.334	0.972
200.0	24.900	35.200	4.75	24.458	1.025
210.0	24.800	35.200	4.75	24.583	1.078
220.0	24.700	35.200	4.75	24.710	1.131
230.0	24.600	35.200	4.75	24.838	1.184
240.0	24.500	35.200	4.75	24.968	1.237
250.0	24.400	35.200	4.75	25.098	1.290
260.0	24.300	35.200	4.75	25.230	1.343
270.0	24.200	35.200	4.75	25.363	1.396
280.0	24.100	35.200	4.75	25.497	1.449
290.0	24.000	35.200	4.75	25.632	1.502
300.0	23.900	35.200	4.75	25.768	1.555
310.0	23.800	35.200	4.75	25.904	1.608
320.0	23.700	35.200	4.75	26.041	1.661
330.0	23.600	35.200	4.75	26.179	1.714
340.0	23.500	35.200	4.75	26.317	1.767
350.0	23.400	35.200	4.75	26.456	1.820
360.0	23.300	35.200	4.75	26.595	1.873
370.0	23.200	35.200	4.75	26.735	1.926
380.0	23.100	35.200	4.75	26.874	1.979
390.0	23.000	35.200	4.75	27.014	2.032
400.0	22.900	35.200	4.75	27.154	2.085
410.0	22.800	35.200	4.75	27.294	2.138
420.0	22.700	35.200	4.75	27.435	2.191
430.0	22.600	35.200	4.75	27.575	2.244
440.0	22.500	35.200	4.75	27.716	2.297
450.0	22.400	35.200	4.75	27.857	2.350
460.0	22.300	35.200	4.75	27.997	2.403
470.0	22.200	35.200	4.75	28.138	2.456
480.0	22.100	35.200	4.75	28.279	2.509
490.0	22.000	35.200	4.75	28.419	2.562
500.0	21.900	35.200	4.75	28.560	2.615
510.0	21.800	35.200	4.75	28.701	2.668
520.0	21.700	35.200	4.75	28.842	2.721
530.0	21.600	35.200	4.75	28.983	2.774
540.0	21.500	35.200	4.75	29.124	2.827
550.0	21.400	35.200	4.75	29.265	2.880
560.0	21.300	35.200	4.75	29.406	2.933
570.0	21.200	35.200	4.75	29.547	2.986
580.0	21.100	35.200	4.75	29.688	3.039
590.0	21.000	35.200	4.75	29.829	3.092
600.0	20.900	35.200	4.75	29.970	3.145
610.0	20.800	35.200	4.75	30.111	3.198
620.0	20.700	35.200	4.75	30.252	3.251
630.0	20.600	35.200	4.75	30.393	3.304
640.0	20.500	35.200	4.75	30.534	3.357
650.0	20.400	35.200	4.75	30.675	3.410
660.0	20.300	35.200	4.75	30.816	3.463
670.0	20.200	35.200	4.75	30.957	3.516
680.0	20.100	35.200	4.75	31.098	3.569
690.0	20.000	35.200	4.75	31.239	3.622
700.0	19.900	35.200	4.75	31.380	3.675
710.0	19.800	35.200	4.75	31.521	3.728
720.0	19.700	35.200	4.75	31.662	3.781
730.0	19.600	35.200	4.75	31.803	3.834
740.0	19.500	35.200	4.75	31.944	3.887
750.0	19.400	35.200	4.75	32.085	3.940
760.0	19.300	35.200	4.75	32.226	3.993
770.0	19.200	35.200	4.75	32.367	4.046
780.0	19.100	35.200	4.75	32.508	4.099
790.0	19.000	35.200	4.75	32.649	4.152
800.0	18.900	35.200	4.75	32.790	4.205
810.0	18.800	35.200	4.75	32.931	4.258
820.0	18.700	35.200	4.75	33.072	4.311
830.0	18.600	35.200	4.75	33.213	4.364
840.0	18.500	35.200	4.75	33.354	4.417
850.0	18.400	35.200	4.75	33.495	4.470
860.0	18.300	35.200	4.75	33.636	4.523
870.0	18.200	35.200	4.75	33.777	4.576
880.0	18.100	35.200	4.75	33.918	4.629
890.0	18.000	35.200	4.75	34.059	4.682
900.0	17.900	35.200	4.75	34.200	4.735
910.0	17.800	35.200	4.75	34.341	4.788
920.0	17.700	35.200	4.75	34.482	4.841
930.0	17.600	35.200	4.75	34.623	4.894
940.0	17.500	35.200	4.75	34.764	4.947
950.0	17.400	35.200	4.75	34.905	5.000
960.0	17.300	35.200	4.75	35.046	5.053
970.0	17.200	35.200	4.75	35.187	5.106
980.0	17.100	35.200	4.75	35.328	5.159
990.0	17.000	35.200	4.75	35.469	5.212
1000.0	16.900	35.200	4.75	35.610	5.265
1010.0	16.800	35.200	4.75	35.751	5.318
1020.0	16.700	35.200	4.75	35.892	5.371
1030.0	16.600	35.200	4.75	36.033	5.424
1040.0	16.500	35.200	4.75	36.174	5.477
1050.0	16.400	35.200	4.75	36.315	5.530
1060.0	16.300	35.200	4.75	36.456	5.583
1070.0	16.200	35.200	4.75	36.597	5.636
1080.0	16.100	35.200	4.75	36.738	5.689
1090.0	16.000	35.200	4.75	36.879	5.742
1100.0	15.900	35.200	4.75	37.020	5.795
1110.0	15.800	35.200	4.75	37.161	5.848
1120.0	15.700	35.200	4.75	37.302	5.901
1130.0	15.600	35.200	4.75	37.443	5.954
1140.0	15.500	35.200	4.75	37.584	6.007
1150.0	15.400	35.200	4.75	37.725	6.060
1160.0	15.300	35.200	4.75	37.866	6.113
1170.0	15.200	35.200	4.75	38.007	6.166
1180.0	15.100	35.200	4.75	38.148	6.219
1190.0	15.000	35.200	4.75	38.289	6.272
1200.0	14.900	35.200	4.75	38.430	6.325

CAST CONRAD-82-016 DATE 28 SEP 82 TIME 1030 GMT
LAT 00 00.0N LONG 119 06.6W

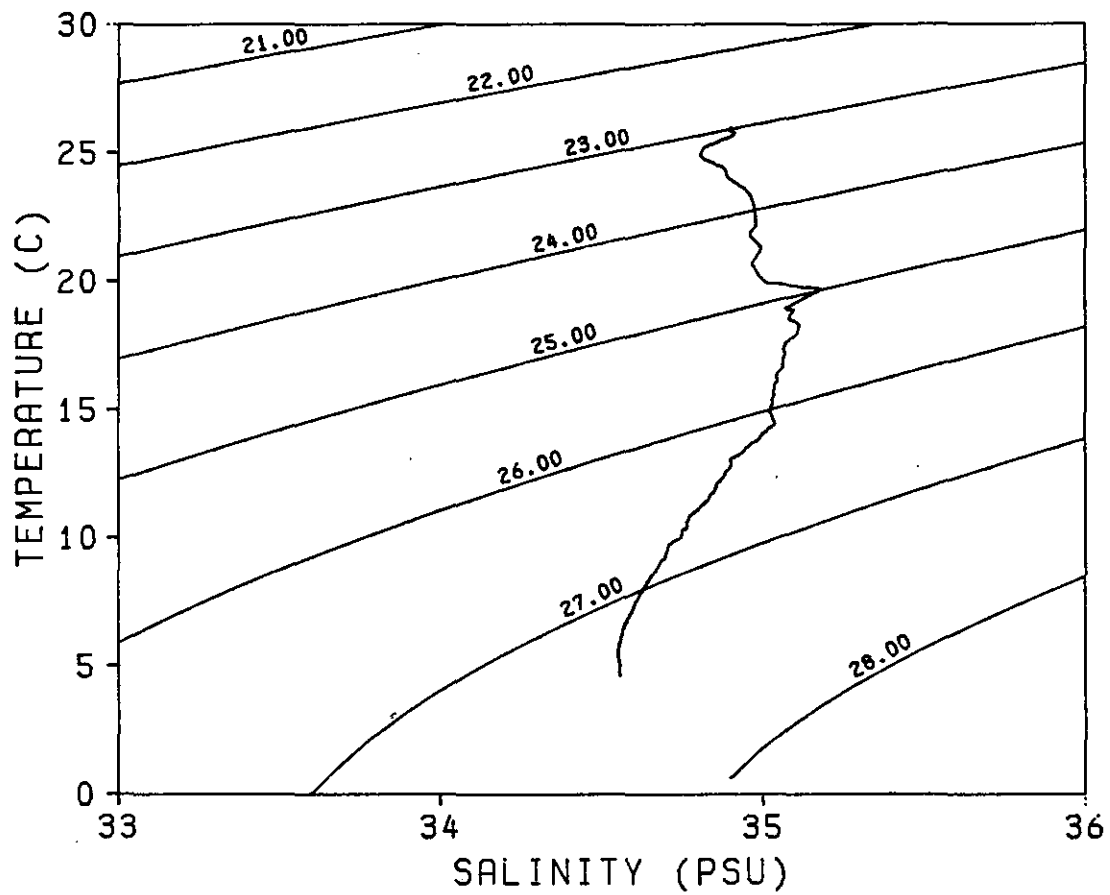


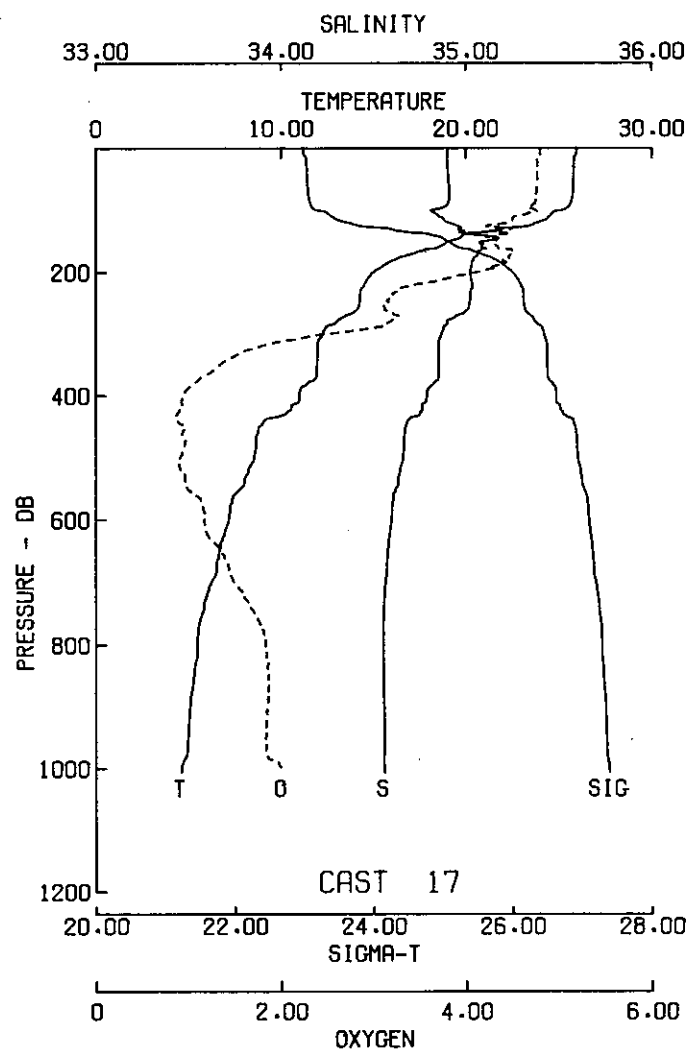


CAST CONRAD-82-016 DATE 2A SEP 82 TIME 1030 GMT
 LAT 00 00.0N LONG 119 06.6W WEATHER SEA STATE
 BAROMETER 13 WIND DIR 150 T SPD 05 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH F

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-RHO (DYN-CM)
0.	26.689	34.654	4.88	22.577	0.080
10.	26.689	34.662	4.79	22.581	0.050
20.	26.690	34.671	4.76	22.583	0.050
30.	26.627	34.688	4.77	22.590	0.150
40.	26.553	34.722	4.77	22.666	0.211
50.	26.513	34.760	4.78	22.714	0.250
60.	26.417	34.811	4.77	22.774	0.314
70.	26.325	34.851	4.77	22.846	0.360
80.	26.266	34.891	4.75	22.918	0.410
90.	26.223	34.928	4.69	23.104	0.464
100.	26.155	34.999	4.62	23.274	0.514
110.	26.137	34.955	4.61	23.300	0.560
120.	26.145	34.944	4.61	23.324	0.560
130.	26.183	34.964	4.61	23.351	0.560
140.	26.173	34.982	4.61	23.377	0.560
150.	26.173	34.982	4.61	23.377	0.560
160.	26.149	34.982	4.61	23.377	0.560
170.	26.149	34.982	4.61	23.377	0.560
180.	26.141	34.982	4.61	23.377	0.560
190.	26.141	34.982	4.61	23.377	0.560
200.	26.141	34.982	4.61	23.377	0.560
250.	26.177	34.992	4.61	23.377	0.560
300.	26.171	34.985	4.61	23.377	0.560
350.	26.053	34.958	4.61	23.377	0.560
400.	26.155	34.977	4.61	23.377	0.560
450.	26.158	34.977	4.61	23.377	0.560
500.	26.158	34.977	4.61	23.377	0.560
550.	26.170	34.977	4.61	23.377	0.560
600.	26.170	34.977	4.61	23.377	0.560
650.	26.170	34.977	4.61	23.377	0.560
700.	26.170	34.977	4.61	23.377	0.560
750.	26.151	34.961	4.61	23.377	0.560
800.	26.157	34.952	4.61	23.377	0.560
850.	26.157	34.952	4.61	23.377	0.560
900.	26.157	34.952	4.61	23.377	0.560
950.	26.157	34.952	4.61	23.377	0.560
1000.	26.157	34.952	4.61	23.377	0.560
1022.	26.157	34.952	4.61	23.377	0.560

CAST CONRAD-82-017 DATE 29 SEP 82 TIME 1915 GMT
LAT 00 00.0N LONG 115 00.0W

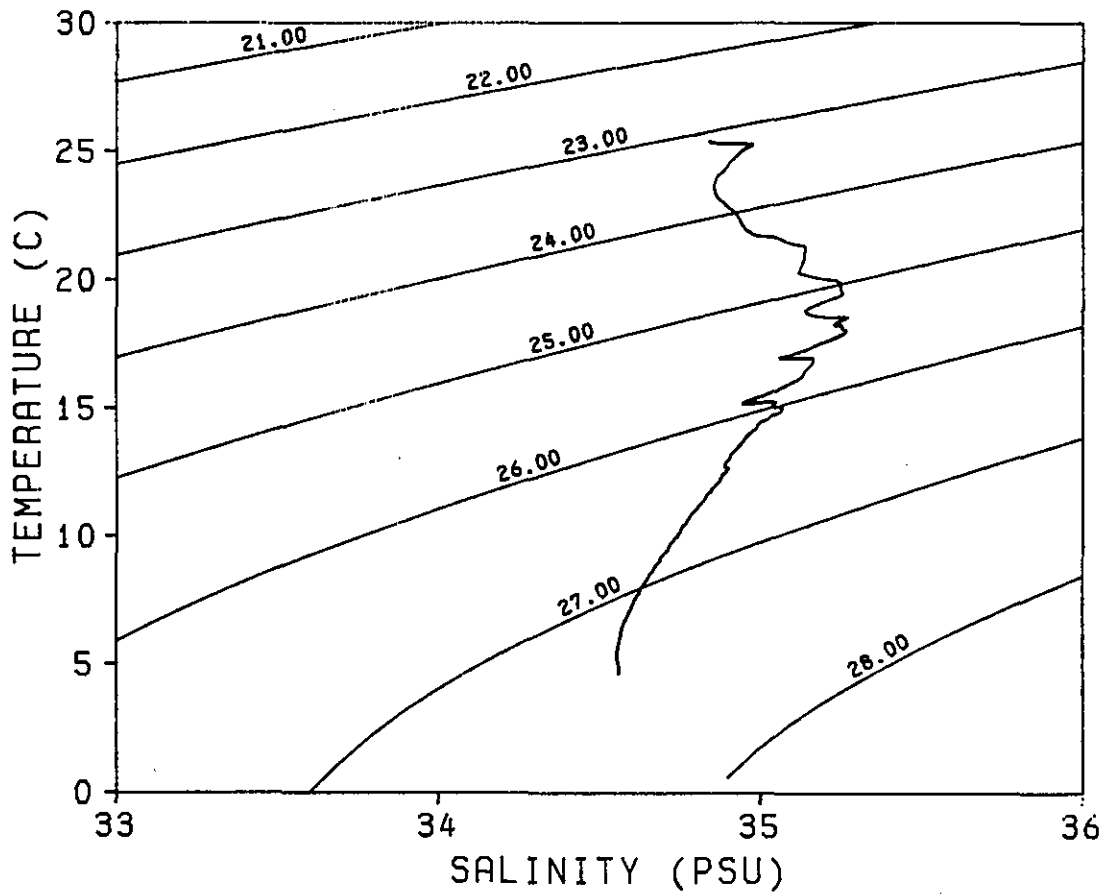


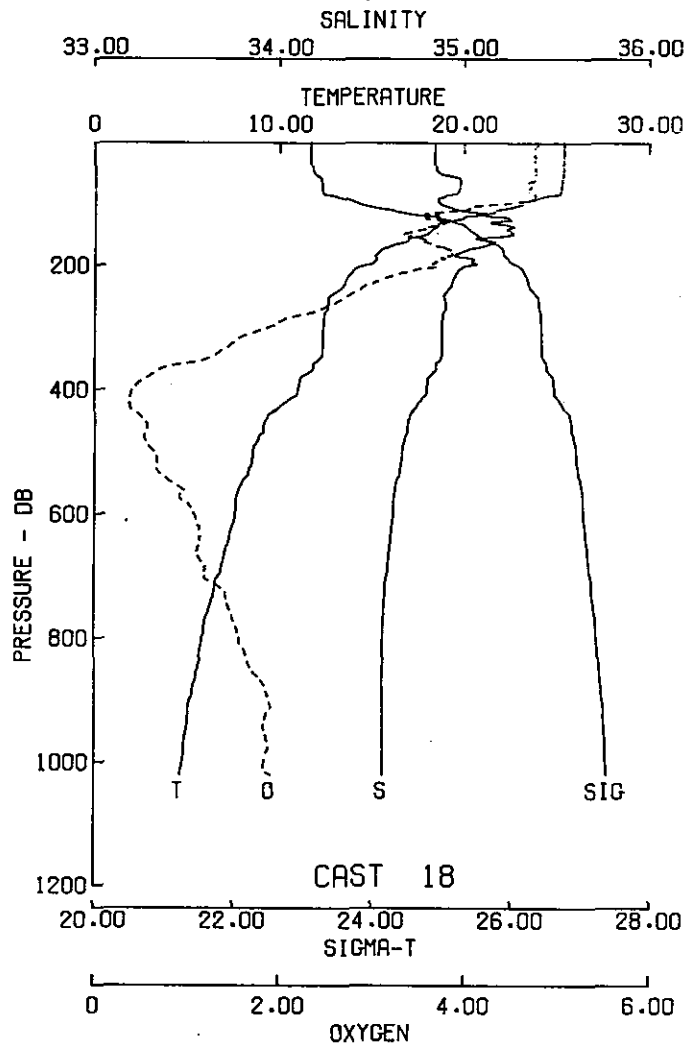


CAST CCNRAD-P2-017 DATE 29 SEP 82 TIME 1915 GMT
 LAT 00 30.0N LONG 115 00.0W WEATHER SEA STATE 3
 BAROMETER 12 WIND DIR 115 T SPD 10 KT VISIBILITY M
 CLOUD AMOUNT DRY WET DEPTH

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-T (DYN-M)
0.0	25.968	34.903	4.80	22.989	0.000
1.0	25.959	34.898	4.80	22.986	0.049
2.0	25.912	34.899	4.77	22.983	0.097
3.0	25.880	34.902	4.77	22.980	0.146
4.0	25.850	34.902	4.77	22.977	0.194
5.0	25.801	34.901	4.77	22.974	0.243
6.0	25.787	34.900	4.77	22.971	0.291
7.0	25.770	34.911	4.77	22.967	0.340
8.0	25.728	34.912	4.74	22.963	0.388
9.0	25.694	34.903	4.74	22.959	0.437
10.0	25.616	34.916	4.75	22.955	0.485
11.0	25.550	34.910	4.55	22.951	0.534
12.0	25.490	34.910	4.45	22.947	0.582
13.0	25.447	34.958	4.51	22.943	0.631
14.0	25.413	35.049	4.33	22.939	0.679
15.0	25.381	35.100	4.34	22.935	0.728
16.0	25.350	35.081	4.35	22.931	0.776
17.0	25.314	35.069	4.51	22.927	0.825
18.0	25.170	35.043	4.45	22.923	0.873
19.0	25.490	35.734	4.33	22.919	0.922
20.0	25.006	35.021	4.13	22.915	0.970
21.0	25.250	35.021	3.15	22.911	1.019
22.0	25.550	34.869	2.51	22.907	1.067
23.0	25.844	34.852	1.34	22.903	1.116
24.0	25.999	34.789	0.95	22.900	1.164
25.0	26.000	34.675	0.95	22.896	1.213
26.0	26.000	34.660	0.91	22.892	1.261
27.0	26.000	34.632	0.99	22.888	1.310
28.0	26.000	34.594	1.17	22.884	1.358
29.0	26.000	34.576	1.35	22.880	1.407
30.0	26.000	34.564	1.50	22.876	1.455
31.0	25.721	34.553	1.72	22.872	1.504
32.0	25.470	34.551	1.83	22.868	1.552
33.0	25.292	34.553	1.85	22.864	1.601
34.0	25.071	34.555	1.85	22.860	1.649
35.0	24.971	34.557	1.83	22.856	1.698
36.0	24.611	34.557	2.01	22.852	1.746
37.0	24.511	34.558	2.01	22.848	1.795

CAST CONRAD-82-018 DATE 01 OCT 82 TIME 0807 GMT
LAT 0 02.0S LONG 109 34.1W

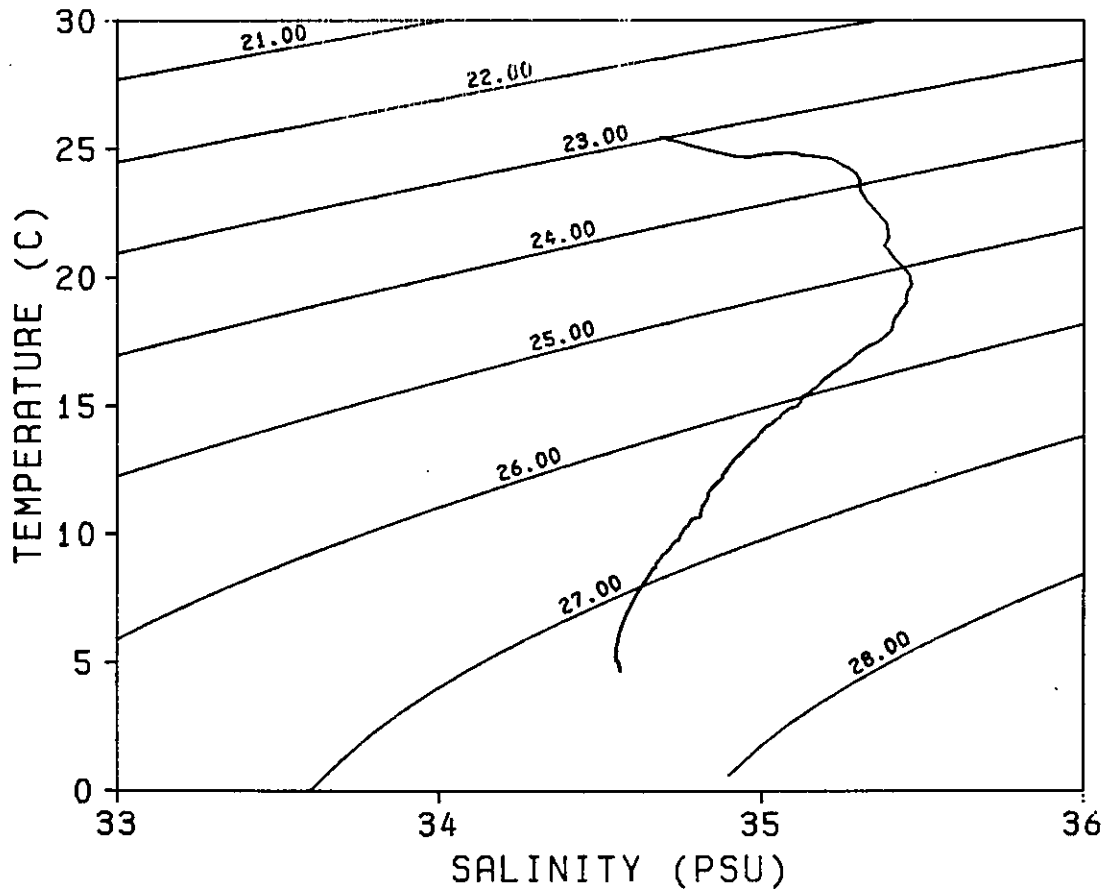




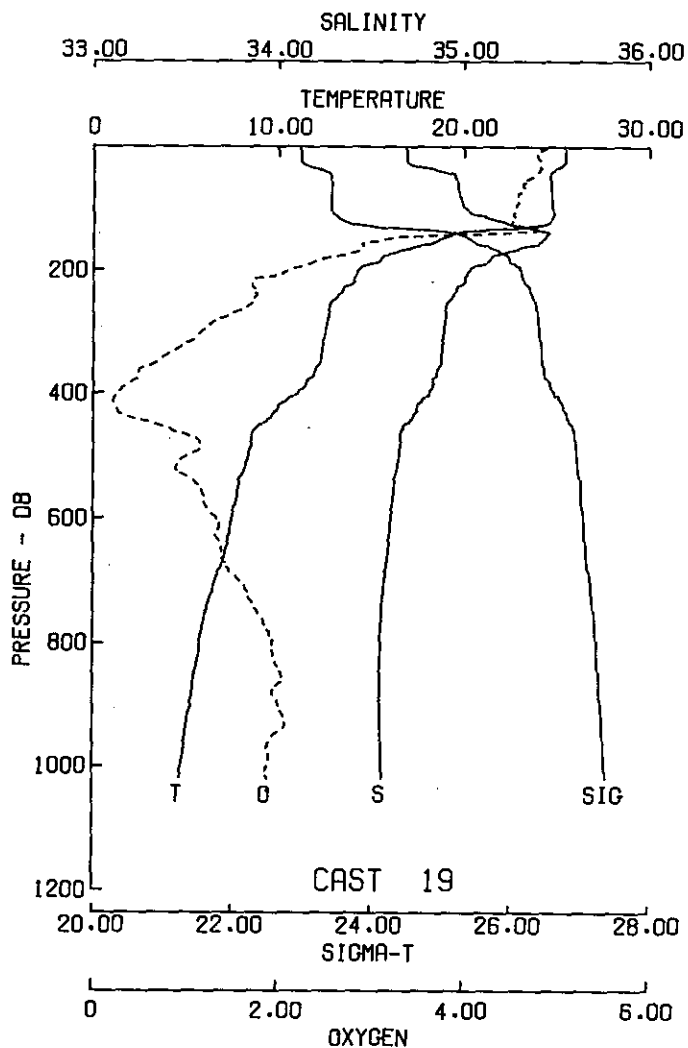
CAST CCNRAD-R2-018 DATE 01 OCT 82 TIME 0807 GMT
 LAT 0 02.05 LONG 109 34.1W WEATHER SEA STATE
 BAROMETER 13 WIND DIR 140 T SPD 15 KT VISIBILITY
 CLOUD AMOUNT DRY WET VISIBILITY DEPTH W

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	25.377	34.844	4.88	23.127	0.000
10.	25.379	34.841	4.76	23.129	.048
20.	25.388	34.844	4.76	23.122	.095
30.	25.379	34.844	4.76	23.125	.143
40.	25.329	34.845	4.77	23.142	.190
50.	25.297	34.865	4.76	23.167	.239
60.	25.246	34.976	4.75	23.266	.286
70.	25.205	34.974	4.71	23.277	.331
80.	25.161	34.964	4.69	23.284	.378
90.	25.099	34.964	4.76	23.558	.423
100.	25.094	34.975	4.77	23.828	.465
110.	24.714	34.980	3.99	24.300	.515
120.	24.113	34.961	3.66	24.871	.566
130.	23.773	35.138	3.79	24.201	.619
140.	23.317	35.233	3.66	24.388	.674
150.	22.878	35.255	3.37	24.514	.722
160.	22.954	35.161	3.53	24.665	.769
170.	22.989	35.174	3.53	24.850	.816
180.	23.310	34.976	3.85	24.897	.861
190.	23.519	35.031	3.75	24.968	.908
200.	23.519	35.016	3.71	24.106	.954
250.	23.689	34.899	3.74	24.387	1.000
300.	23.474	34.879	3.87	24.441	1.047
350.	23.188	34.872	4.22	24.471	1.093
400.	22.011	34.798	4.55	24.534	1.140
450.	22.377	34.666	4.55	24.551	1.186
500.	22.577	34.644	4.66	24.941	1.233
550.	22.988	34.633	4.86	24.007	1.279
600.	23.516	34.615	5.08	24.096	1.326
650.	23.197	34.600	5.14	24.096	1.372
700.	22.696	34.588	5.21	24.152	1.419
750.	22.235	34.588	5.46	24.202	1.465
800.	21.861	34.588	5.57	24.246	1.512
850.	21.577	34.588	5.79	24.277	1.558
900.	21.155	34.588	5.99	24.327	1.604
950.	20.971	34.588	6.23	24.351	1.650
1000.	20.782	34.588	6.44	24.376	1.696
1020.	20.655	34.588	6.91	24.388	1.701

CAST CONRAD-82-019 DATE 02 OCT 82 TIME 0432 GMT
LAT 1 00.1S LONG 106 46.5W

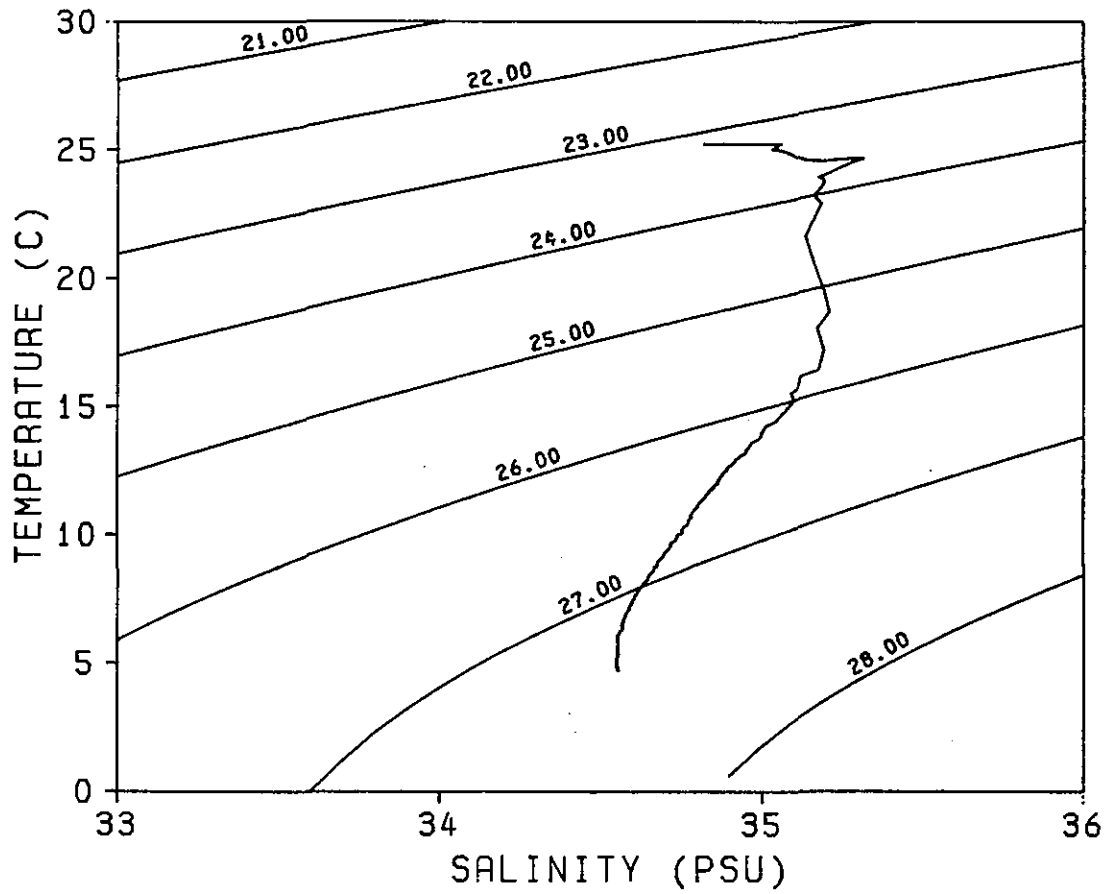


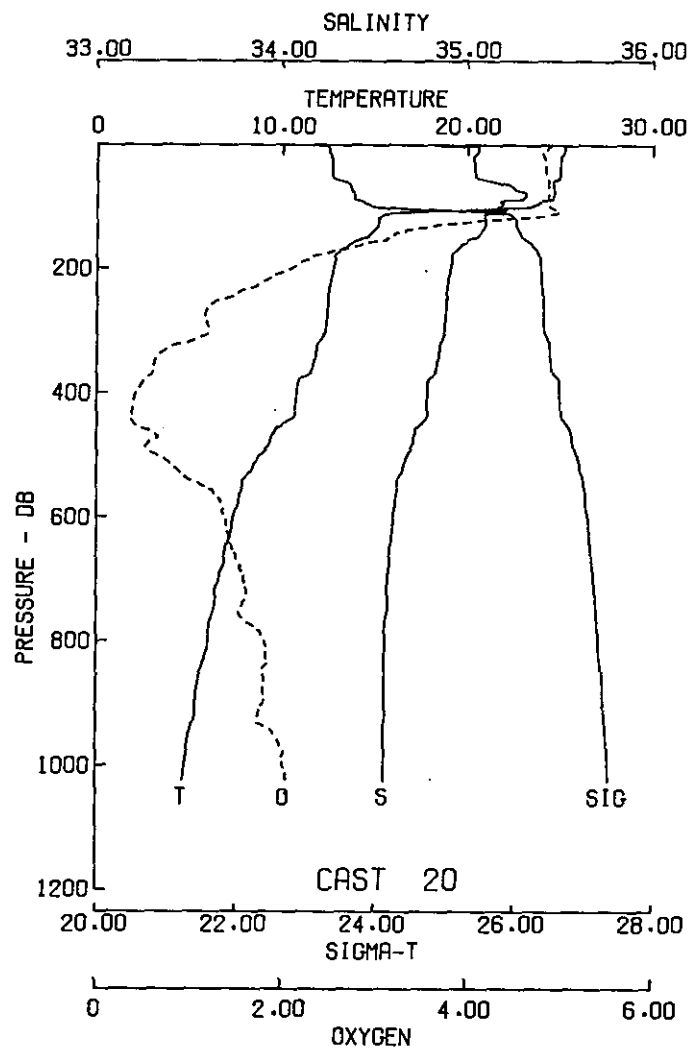
CAST CONRAD-82-019 DATE 02 OCT 82 TIME 0432 GMT
 LAT 1 09.1S LONG 106 46.5W WEATHER SEA STATE
 BAROMETER 14 WIND DIR 146 T SPD 15 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH



PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-S (DYN-M)
0.	25.448	34.687	4.88	22.987	0.000
10.	25.474	34.691	4.88	22.982	0.040
20.	25.478	34.691	4.88	22.981	0.047
30.	25.325	34.723	4.88	23.053	0.147
40.	24.804	34.888	4.88	23.334	0.194
50.	24.676	34.955	4.77	23.423	0.236
60.	24.692	34.963	4.88	23.425	0.284
70.	24.705	34.969	4.88	23.425	0.328
80.	24.719	34.974	4.88	23.425	0.374
90.	24.765	34.990	4.88	23.425	0.417
100.	24.804	34.990	4.88	23.428	0.464
110.	24.851	34.988	4.88	23.444	0.500
120.	24.679	34.979	4.88	23.592	0.553
130.	24.513	34.909	4.88	24.033	0.565
140.	19.704	34.463	4.88	25.210	0.629
150.	18.708	34.427	3.33	25.433	0.655
160.	17.719	34.427	2.22	25.643	0.688
170.	16.444	34.427	2.22	25.843	0.728
180.	15.534	34.427	2.22	25.984	0.728
190.	14.982	34.427	2.22	26.077	0.745
200.	14.340	34.427	2.22	26.153	0.770
250.	12.977	34.427	2.22	26.353	0.847
300.	12.553	34.427	1.11	26.413	0.947
350.	12.272	34.427	0.66	26.462	1.027
400.	11.059	34.427	0.66	26.639	1.106
450.	8.997	34.427	0.66	26.899	1.175
500.	8.379	34.427	1.01	26.965	1.235
550.	7.852	34.427	1.11	27.021	1.294
600.	7.591	34.427	1.11	27.059	1.351
650.	7.594	34.427	1.11	27.097	1.405
700.	6.603	34.427	1.11	27.157	1.458
750.	6.105	34.427	1.11	27.213	1.508
800.	5.761	34.427	1.11	27.253	1.555
850.	5.492	34.427	1.11	27.282	1.602
900.	5.291	34.427	1.11	27.308	1.646
950.	5.036	34.427	1.11	27.342	1.689
1000.	4.807	34.427	1.11	27.372	1.731
1021.	4.668	34.427	1.09	27.387	

CAST CONRAD-82-020 DATE 03 OCT 82 TIME 0026 GMT
LAT 1 59.7S LONG 103 54.6W

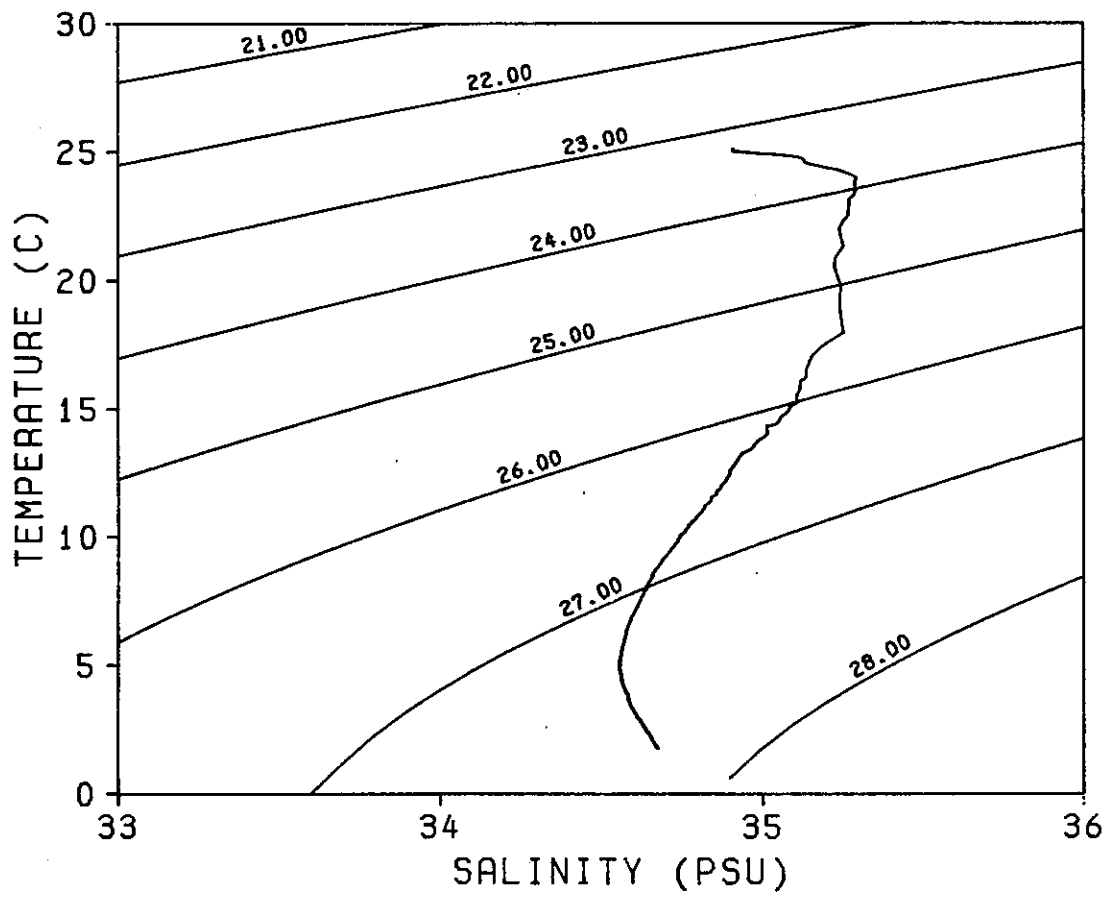


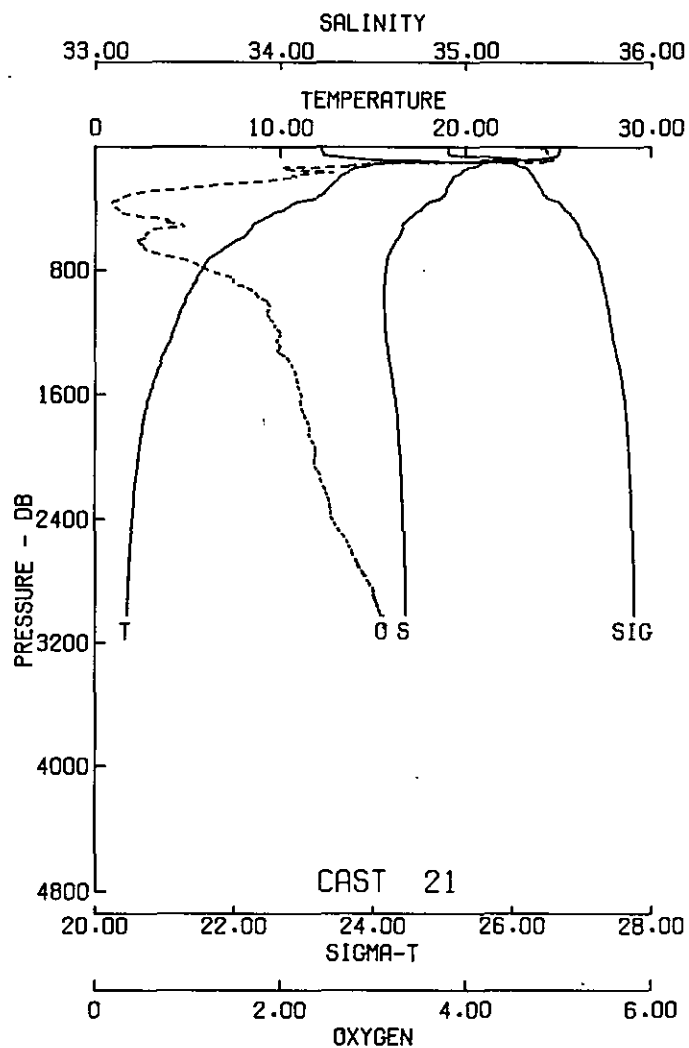


CAST CONRAD-R2-020 DATE 03 OCT 82 TIME 0026 GMT
 LAT 1 59.75 LONG 103 54.6W WEATHER SEA STATE
 BAROMETER 09 WIND DIR 165 T SPD 17 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-CM)
0	23.00	34.822	4.90	23.155	0.000
10	22.95	35.057	4.85	23.339	.046
20	22.95	35.034	4.82	23.376	.091
30	22.95	35.040	4.84	23.382	.137
40	22.95	35.038	4.85	23.387	.182
50	22.95	35.044	4.86	23.390	.227
60	22.95	35.135	4.87	23.380	.272
70	22.4	35.245	4.87	23.352	.315
80	22.4	35.315	4.88	23.370	.357
90	22.4	35.246	4.89	23.375	.400
100	22.3	35.175	4.88	23.397	.442
110	16.42	35.176	4.97	23.580	.473
120	15.1	35.095	4.45	23.725	.494
130	15.1	35.094	3.67	23.731	.514
140	14.9	35.076	3.33	23.607	.534
150	14.5	35.053	3.15	22.612	.554
160	13.6	34.977	2.88	22.622	.572
170	13.1	34.946	2.62	22.634	.592
180	12.8	34.917	2.36	22.647	.607
190	12.2	34.915	2.19	22.638	.624
200	12.2	34.909	2.11	22.639	.641
210	12.4	34.888	1.83	22.643	.672
220	12.3	34.879	1.66	22.644	.709
230	11.7	34.840	1.43	22.653	.749
240	11.6	34.786	1.23	22.664	.790
250	11.5	34.744	1.06	22.677	.833
260	7.8	34.680	.66	22.922	1.10
270	7.8	34.623	1.18	27.017	1.164
280	7.3	34.602	1.38	27.071	1.222
290	6.9	34.584	1.46	27.117	1.274
300	6.6	34.573	1.52	27.156	1.326
310	6.4	34.571	1.54	27.193	1.377
320	5.9	34.555	1.81	27.223	1.423
330	5.3	34.552	1.81	27.276	1.477
340	4.9	34.552	1.93	27.303	1.531
350	4.7	34.554	2.02	27.342	1.583
360	4.6	34.557	2.04	27.381	1.633

CAST CONRAD-82-021 DATE 03 OCT 82 TIME 2359 GMT
LAT 2 59.8S LONG 101 02.6W

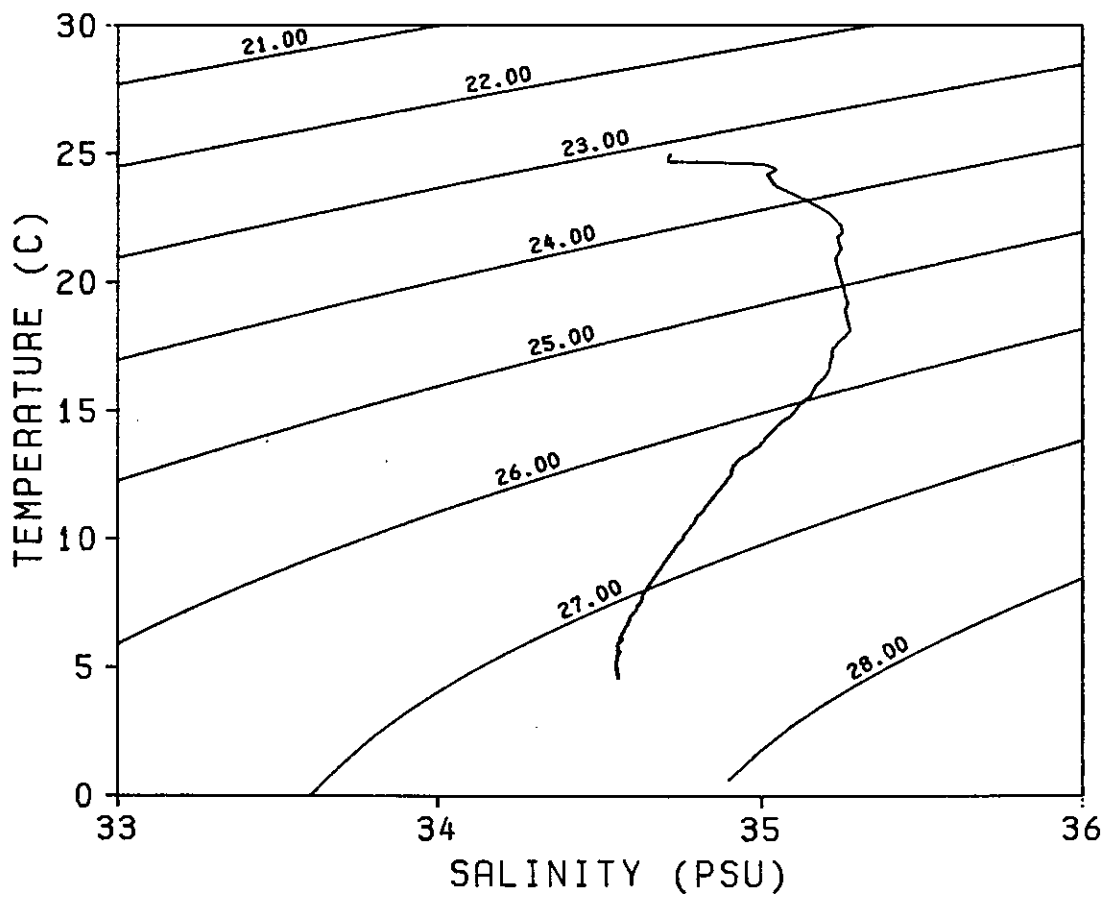


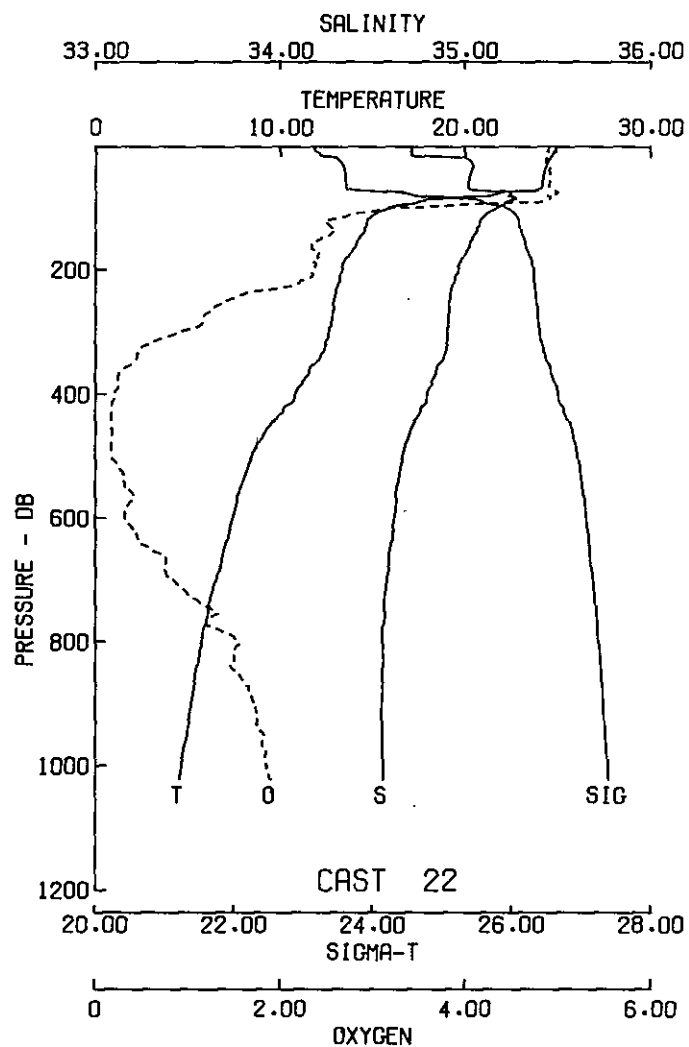


CAST CONRAD-R2-021 DATE 03 OCT 82 TIME 2359 GMT
 LAT 259.8S LONG 101 02.6W WEATHER SEA STATE 4
 BAROMETER 10 WIND DIR 120 T SPD 06 KT VISIBILITY
 CLOUD AMOUNT DRY WCT DEPTH 3330 M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	25.097	34.910	4.87	23.262	0.000
10.	25.099	34.909	4.88	23.261	.045
20.	25.099	34.910	4.88	23.262	.093
30.	25.099	34.909	4.87	23.264	.139
40.	25.099	34.910	4.88	23.286	.185
50.	25.099	34.911	4.88	23.286	.231
60.	24.944	34.973	4.90	23.355	.277
70.	24.644	34.131	4.93	23.566	.322
80.	24.055	34.279	4.95	23.852	.364
90.	23.322	34.250	4.95	24.334	.403
100.	17.475	34.189	4.96	25.561	.435
110.	15.141	34.094	4.97	26.030	.456
120.	14.899	34.078	4.97	26.073	.477
130.	14.899	34.052	4.97	26.134	.495
140.	14.899	34.014	4.98	26.215	.515
150.	14.899	34.093	4.98	26.248	.533
160.	13.703	34.066	4.98	26.255	.552
170.	13.585	34.077	4.98	26.272	.571
180.	13.457	34.067	4.98	26.292	.588
190.	13.389	34.046	4.98	26.325	.606
200.	13.195	34.034	4.98	26.320	.623
250.	12.756	34.091	4.98	26.390	.710
300.	12.410	34.095	4.98	26.447	.795
350.	11.361	34.037	4.98	26.601	.876
400.	10.306	34.065	4.98	26.735	.948
450.	9.404	34.071	4.98	26.847	1.015
500.	8.584	34.066	4.98	26.940	1.079
550.	8.261	34.065	4.98	26.981	1.139
600.	7.811	34.033	4.98	27.034	1.197
650.	7.115	34.007	4.98	27.114	1.252
700.	6.503	34.055	4.98	27.180	1.304
750.	5.897	34.055	4.98	27.238	1.353
800.	5.772	34.057	4.98	27.262	1.380
850.	5.507	34.055	4.98	27.291	1.404
900.	5.291	34.056	4.98	27.314	1.428
950.	5.114	34.056	4.98	27.333	1.453
1000.	4.881	34.055	4.98	27.361	1.474
1500.	4.215	34.002	4.98	27.570	1.944
2000.	3.445	34.049	4.98	27.684	2.225
2500.	1.928	34.057	4.98	27.733	2.477
3000.	1.749	34.058	4.98	27.755	2.716
3500.	1.739	34.067	4.98	27.756	

CAST CONRAD-82-022 DATE 04 OCT 82 TIME 2027 GMT
LAT 4 00.0S LONG 098 03.1W

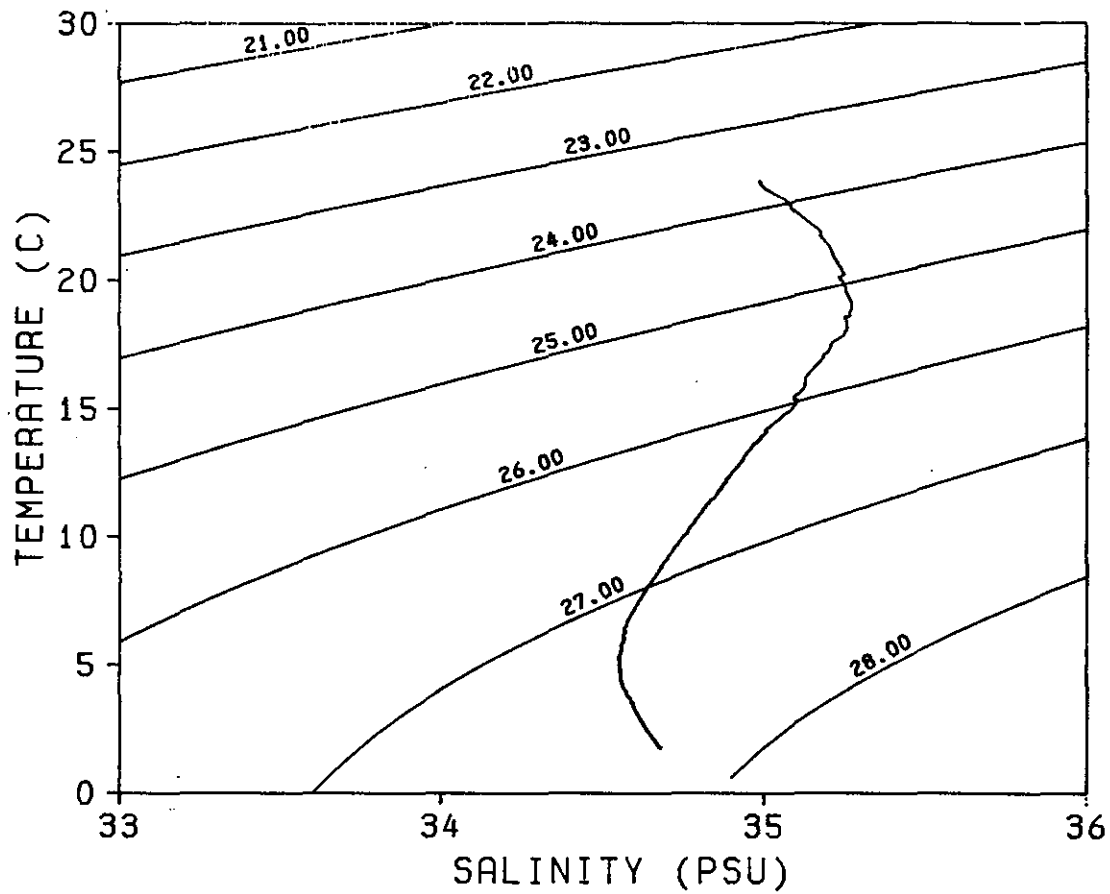


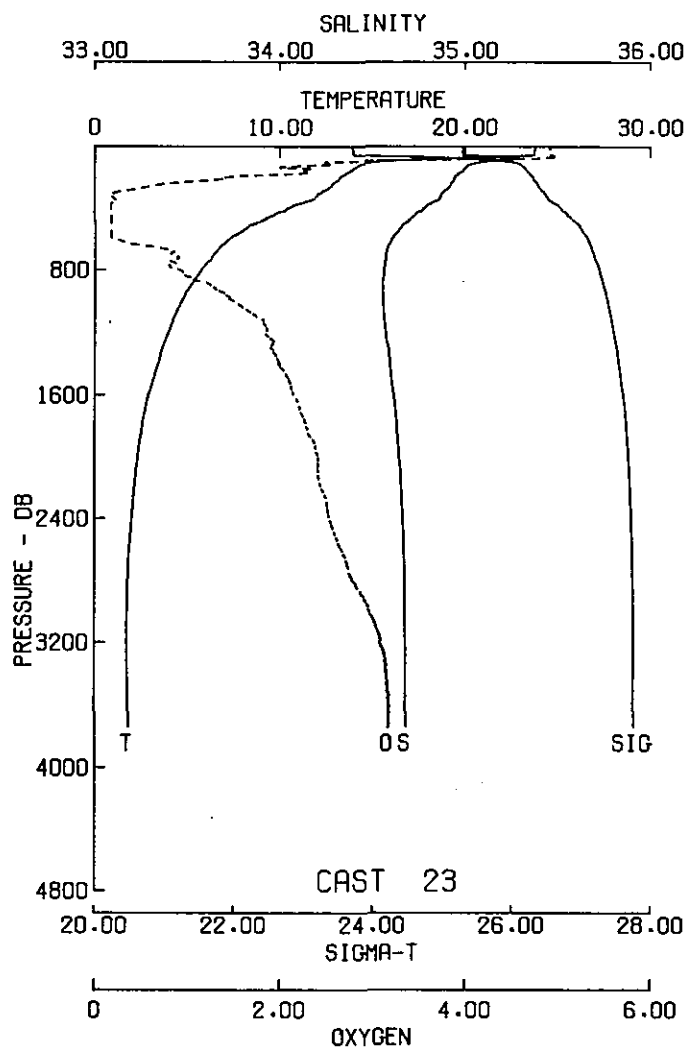


CAST CONRAD-82-022 DATE 04 OCT 82 TIME 2027 GMT
 LAT 4 00.0S LONG 098 03.1W WEATHER SEA STATE
 BAROMETER 11 WIND DIR 132 T SPD 06 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	24.966	34.715	4.90	23.155	0.000
10.	24.764	34.708	4.889	23.211	.047
20.	24.552	34.702	4.873	23.499	.083
30.	24.395	34.696	4.857	23.575	.136
40.	24.273	34.690	4.841	23.605	.180
50.	24.210	34.684	4.825	23.616	.223
60.	24.181	34.678	4.809	23.621	.266
70.	23.955	34.672	4.793	23.695	.309
80.	21.310	34.666	4.777	24.517	.343
90.	17.438	34.660	4.761	25.599	.373
100.	15.872	34.654	4.745	25.921	.398
110.	15.094	34.648	4.729	26.056	.416
120.	14.727	34.642	4.713	26.113	.435
130.	14.676	34.636	4.697	26.119	.455
140.	14.508	34.630	4.681	26.142	.474
150.	14.263	34.624	4.665	26.178	.493
160.	14.120	34.618	4.649	26.199	.512
170.	13.905	34.612	4.633	26.233	.531
180.	13.590	34.606	4.617	26.284	.549
190.	13.396	34.600	4.601	26.307	.567
200.	13.220	34.594	4.585	26.312	.584
250.	12.916	34.588	4.569	26.364	.672
300.	12.638	34.582	4.553	26.408	.758
350.	11.898	34.576	4.537	26.524	.842
400.	11.801	34.570	4.521	26.670	.918
450.	9.444	34.564	4.505	26.844	.988
500.	8.499	34.558	4.489	26.955	1.051
550.	7.879	34.552	4.473	27.025	1.109
600.	7.439	34.546	4.457	27.077	1.165
650.	6.979	34.540	4.441	27.122	1.218
700.	6.561	34.534	4.425	27.168	1.270
750.	6.099	34.528	4.409	27.214	1.319
800.	5.764	34.522	4.393	27.253	1.367
850.	5.443	34.516	4.377	27.292	1.412
900.	5.215	34.510	4.361	27.316	1.457
950.	4.971	34.504	4.345	27.346	1.500
1000.	4.667	34.498	4.329	27.383	1.541
1022.	4.566	34.492	4.313	27.395	

CAST CONRAD-82-023 DATE 05 OCT 82 TIME 1849 GMT
LAT 4 59.2S LONG 095 02.3W

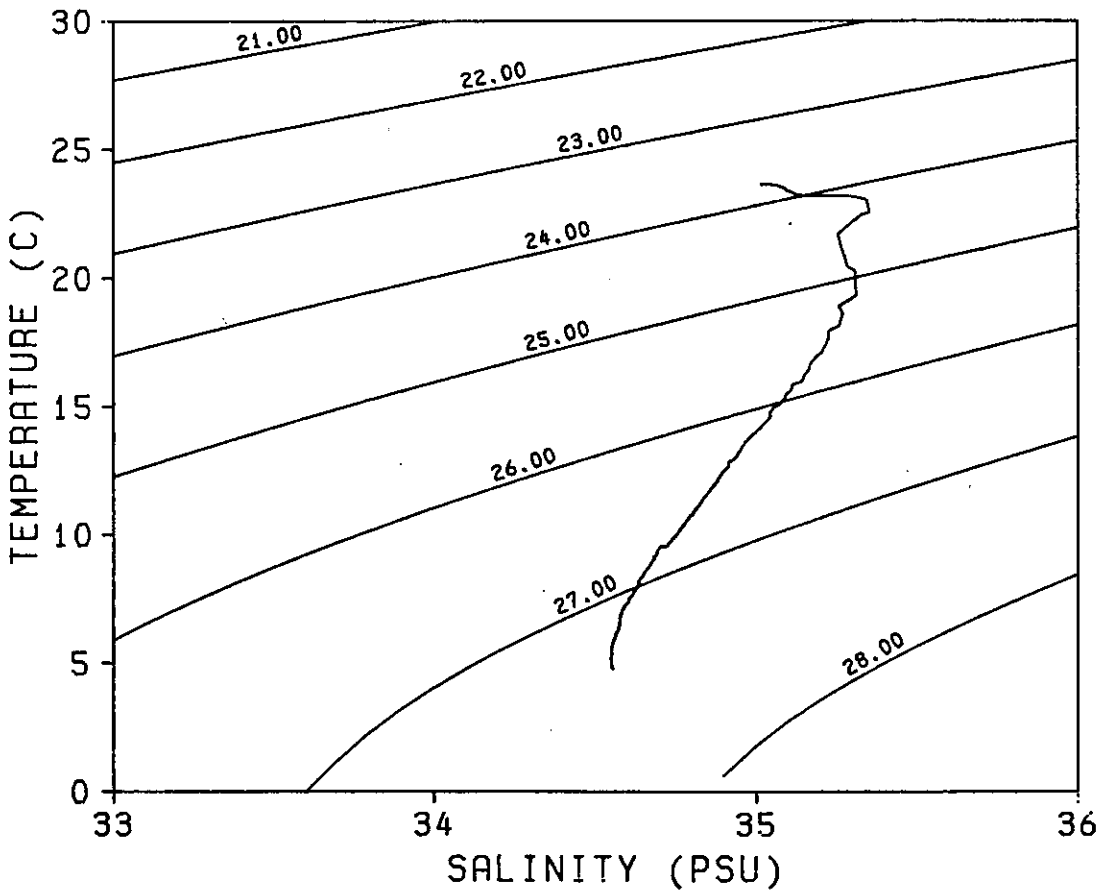


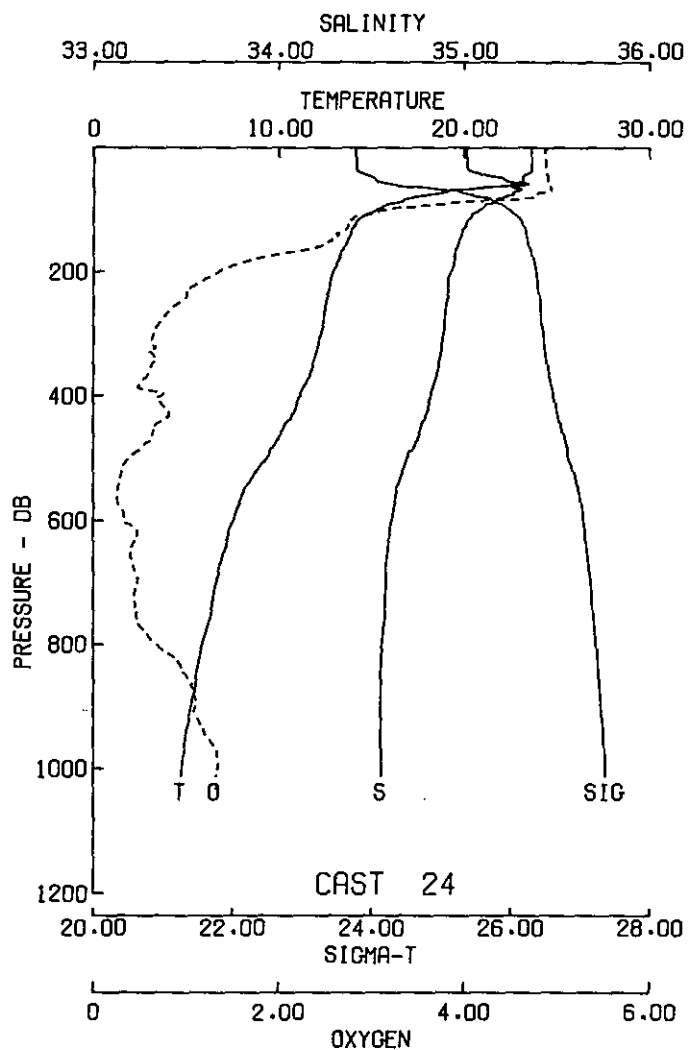


CAST CONRAD-82-023 DATE 05 OCT 82 TIME 1849 GMT
 LAT 4 59.2S LONG 095 02.3W WEATHER SEA STATE 3
 BAROMETER 14 WIND DIR 105 T SPD 10 KT VISIBILITY
 CLOUD AMOUNT DRY 27.0 WET 23.0 DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	23.842	34.989	4.92	23.698	0.000
10.	23.807	34.990	4.91	23.709	.042
20.	23.758	34.989	4.92	23.723	.084
30.	23.744	34.990	4.92	23.728	.126
40.	23.738	34.990	4.92	23.729	.168
50.	23.738	34.990	4.92	23.730	.210
60.	23.161	35.063	4.97	23.953	.252
70.	20.826	35.221	4.96	24.726	.298
80.	18.717	35.265	4.70	25.513	.318
90.	17.082	35.184	4.24	25.652	.343
100.	15.387	35.091	2.69	25.973	.365
110.	14.678	35.056	2.57	26.102	.385
120.	14.350	35.024	2.50	26.148	.404
130.	14.183	35.008	2.13	26.172	.423
140.	14.054	35.007	2.06	26.198	.442
150.	13.945	34.997	2.33	26.213	.461
160.	13.845	34.992	2.27	26.231	.479
170.	13.675	34.977	2.31	26.255	.497
180.	13.527	34.961	2.10	26.272	.516
190.	13.406	34.955	1.67	26.293	.534
200.	13.279	34.944	1.44	26.311	.551
250.	12.823	34.922	1.73	26.385	.639
300.	12.240	34.883	2.25	26.470	.723
350.	11.733	34.855	2.23	26.545	.804
400.	10.505	34.784	1.19	26.714	.879
450.	9.666	34.733	1.18	26.819	.948
500.	8.567	34.675	1.18	26.936	1.011
550.	7.963	34.637	1.18	27.015	1.070
600.	7.248	34.603	1.21	27.092	1.126
650.	6.758	34.581	1.62	27.141	1.178
700.	6.408	34.570	1.84	27.181	1.229
750.	6.039	34.565	1.86	27.225	1.278
800.	5.735	34.560	1.93	27.269	1.325
850.	5.473	34.558	1.03	27.291	1.371
900.	5.170	34.554	1.26	27.323	1.415
950.	4.893	34.555	1.41	27.357	1.457
1000.	4.680	34.556	1.51	27.382	1.498
1500.	3.173	34.602	2.10	27.573	1.855
2000.	2.333	34.644	2.41	27.681	2.138
2500.	1.948	34.668	2.50	27.731	2.388
3000.	1.773	34.678	2.96	27.753	2.623
3500.	1.789	34.681	3.17	27.754	2.859
3742.	1.811	34.680	3.17	27.752	

CAST CONRAD-82-024 DATE 06 OCT 82 TIME 1433 GMT
LAT 5 00.4S LONG 092 29.9W

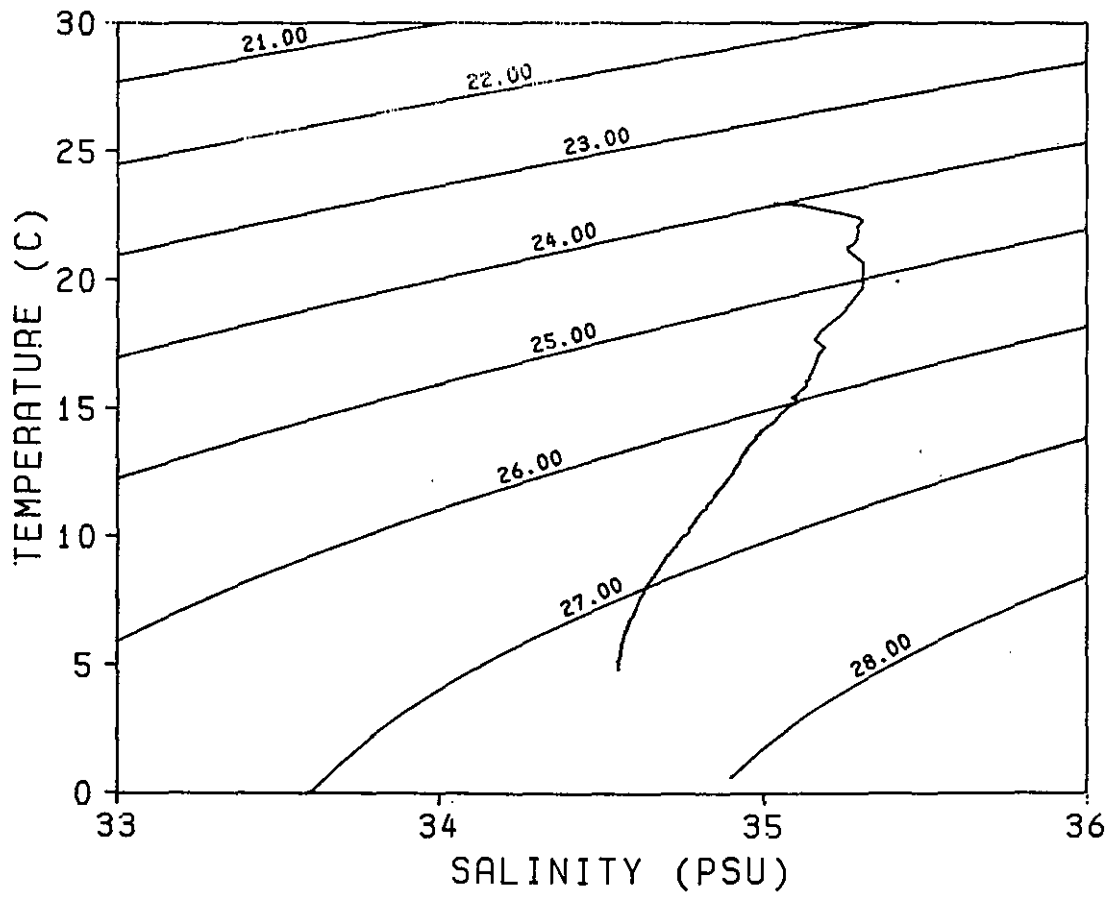


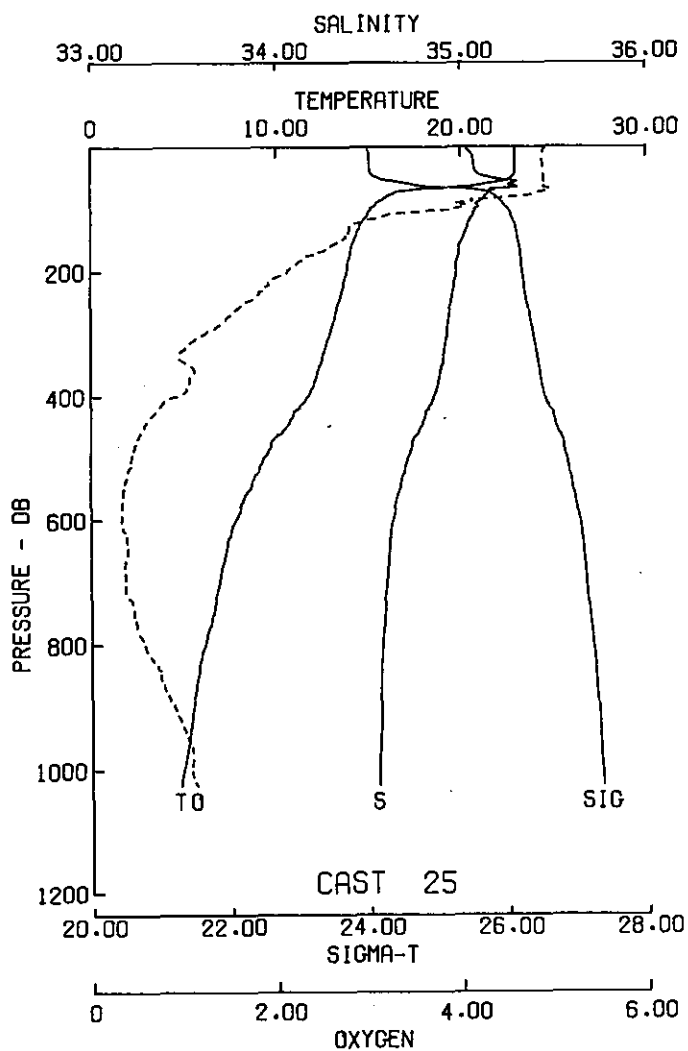


CAST CCNRAD-A2-024 DATE 06 OCT 82 TIME 1433 GMT
 LAT 5 00.4S LONG 092 29.9W WEATHER SEA STATE 5
 BAROMETER 13 WIND DIR 143 T SPD 10 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	23.632	35.019	4.99	23.783	0.000
10.	23.636	35.016	4.98	23.779	.041
20.	23.638	35.017	4.98	23.779	.083
30.	23.637	35.018	4.98	23.780	.124
40.	23.576	35.068	4.98	23.836	.165
50.	23.183	35.215	4.91	24.069	.205
60.	22.544	35.351	4.94	24.244	.247
70.	19.112	35.284	4.93	25.229	.275
80.	17.310	35.212	4.77	25.619	.302
90.	16.185	35.148	3.82	25.835	.325
100.	15.243	35.084	3.19	25.999	.346
110.	14.577	35.045	2.86	25.116	.366
120.	14.187	35.015	2.75	26.176	.385
130.	13.949	34.994	2.74	26.210	.404
140.	13.864	34.987	2.63	26.223	.422
150.	13.714	34.975	2.56	26.245	.441
160.	13.553	34.963	2.43	26.269	.458
170.	13.349	34.955	2.07	26.404	.474
180.	13.207	34.947	2.02	26.328	.494
190.	13.026	34.942	1.49	26.348	.511
200.	12.919	34.929	1.36	26.371	.529
250.	12.525	34.904	.93	26.430	.613
300.	12.257	34.887	.65	26.470	.697
350.	11.922	34.864	.63	26.536	.778
400.	11.178	34.823	.74	26.624	.856
450.	10.318	34.770	.66	26.736	.929
500.	9.382	34.693	.49	26.835	.997
550.	8.143	34.632	.27	26.984	1.060
600.	7.565	34.612	.32	27.053	1.117
650.	7.095	34.588	.40	27.109	1.172
700.	6.667	34.580	.48	27.154	1.224
750.	6.360	34.574	.46	27.191	1.274
800.	5.917	34.569	.68	27.237	1.323
850.	5.582	34.551	1.01	27.272	1.369
900.	5.310	34.553	1.11	27.306	1.414
950.	5.004	34.551	1.23	27.341	1.458
1000.	4.792	34.555	1.34	27.368	1.500
1012.	4.754	34.557	1.32	27.373	

CAST CONRAD-82-025 DATE 07 OCT 82 TIME 0741 GMT
LAT 5 00.0S LONG 090 00.2W

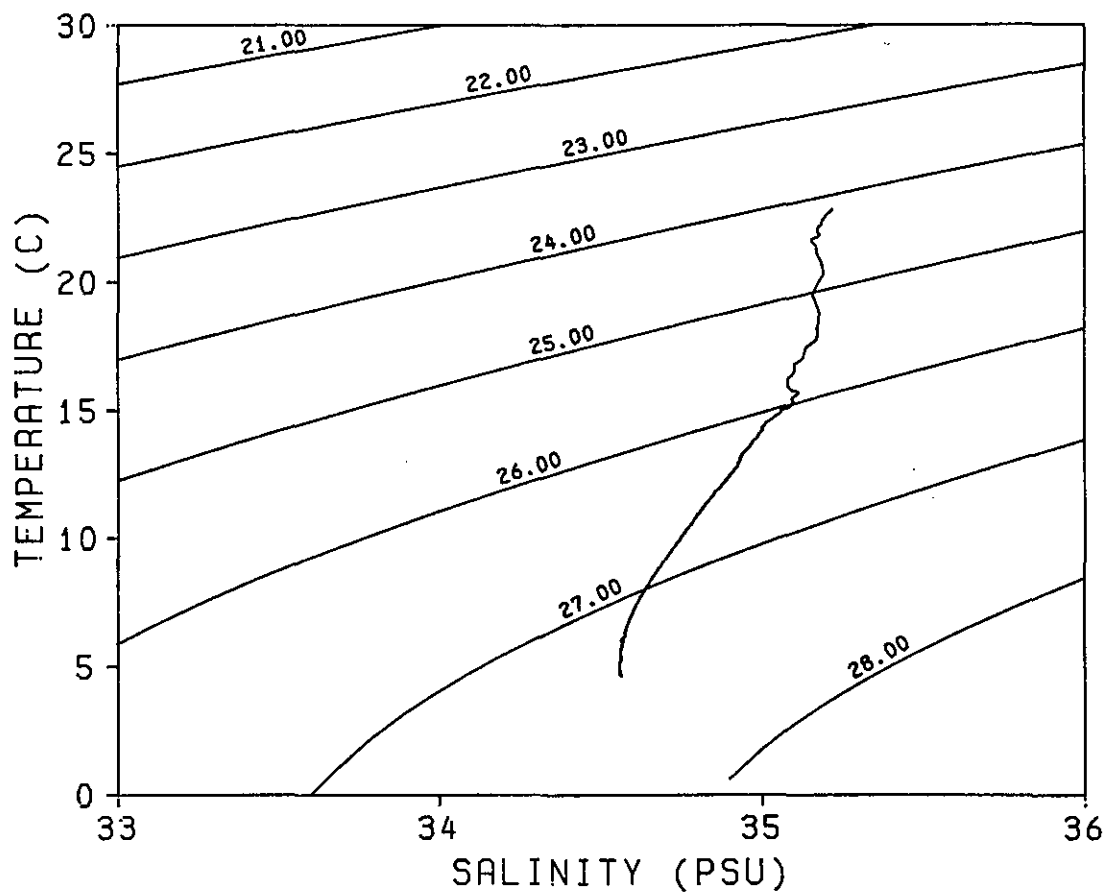


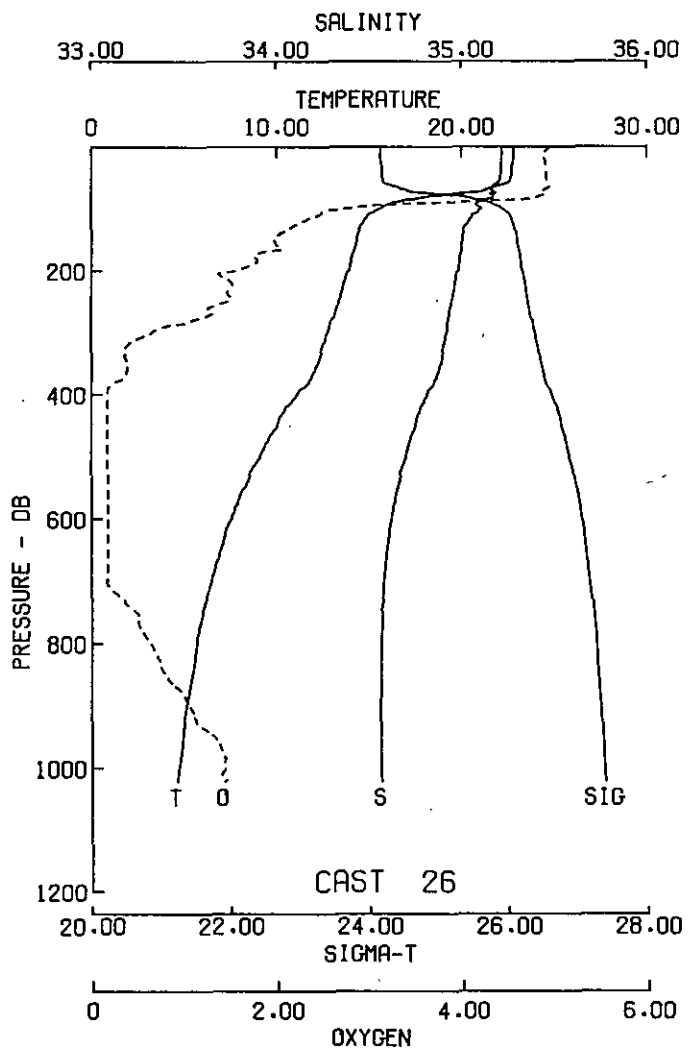


CAST CONRAD-82-025 DATE 07 OCT 82 TIME 0741 GMT
 LAT 5 00.0S LONG 090 00.2W WEATHER SEA STATE 4
 BAROMETER 12 WIND DIR 160 T SPD 06 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	22.948	35.033	4.92	23.992	0.000
10.	22.956	35.056	4.885	24.007	.039
20.	22.955	35.069	4.848	24.017	.078
30.	22.958	35.074	4.809	24.019	.117
40.	22.955	35.074	4.770	24.028	.157
50.	22.754	35.164	4.909	24.146	.195
60.	21.353	35.275	4.944	24.624	.231
70.	17.358	35.189	4.944	25.590	.261
80.	15.041	35.132	4.863	25.856	.284
90.	15.492	35.098	4.809	25.955	.305
100.	15.114	35.079	4.770	26.027	.326
110.	14.943	35.066	4.731	26.052	.346
120.	14.676	35.046	4.692	26.095	.365
130.	14.509	35.036	4.653	26.123	.385
140.	14.362	35.020	4.614	26.143	.404
150.	14.244	35.006	4.575	26.157	.423
160.	14.078	34.988	4.536	26.178	.442
170.	14.023	34.990	4.497	26.192	.461
180.	13.946	34.983	4.458	26.203	.480
190.	13.878	34.974	4.419	26.210	.499
200.	13.837	34.978	4.380	26.214	.517
250.	13.402	34.949	4.260	26.228	.569
300.	12.876	34.924	4.140	26.377	.609
350.	12.371	34.897	4.020	26.456	.648
400.	11.752	34.855	3.900	26.542	.685
450.	10.541	34.783	3.780	26.707	.741
500.	9.327	34.711	3.660	26.858	.809
550.	8.579	34.672	3.540	26.947	.872
600.	7.772	34.629	3.420	27.037	.931
650.	7.281	34.609	3.300	27.092	.986
700.	6.021	34.597	3.180	27.137	1.039
750.	6.572	34.583	3.060	27.176	1.091
800.	6.107	34.570	2.940	27.221	1.140
850.	5.742	34.563	2.820	27.251	1.187
900.	5.453	34.556	2.700	27.294	1.233
950.	5.243	34.556	2.580	27.317	1.277
1000.	4.013	34.559	2.460	27.350	1.319
1026.	4.802	34.552	2.340	27.364	1.352

CAST CONRAD-82-026 DATE 08 OCT 82 TIME 0030 GMT
LAT 5 00.1S LONG 87 30.0W

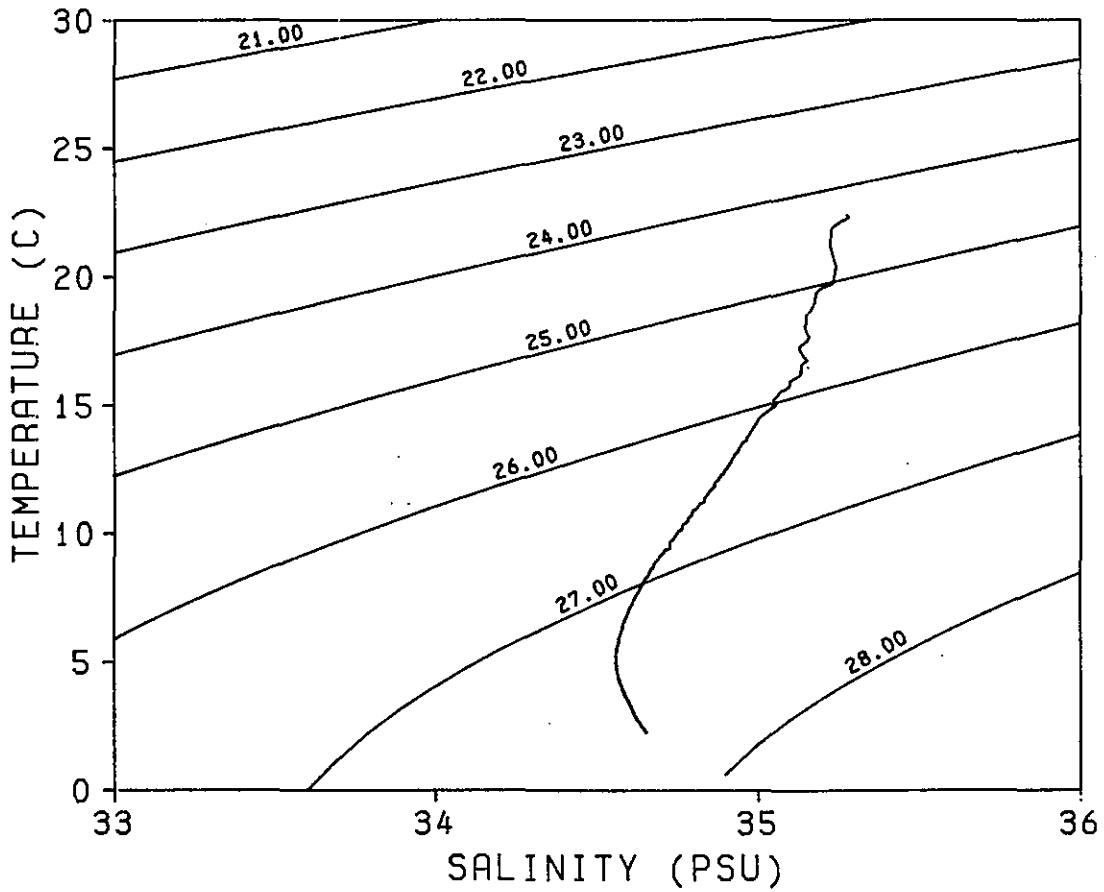


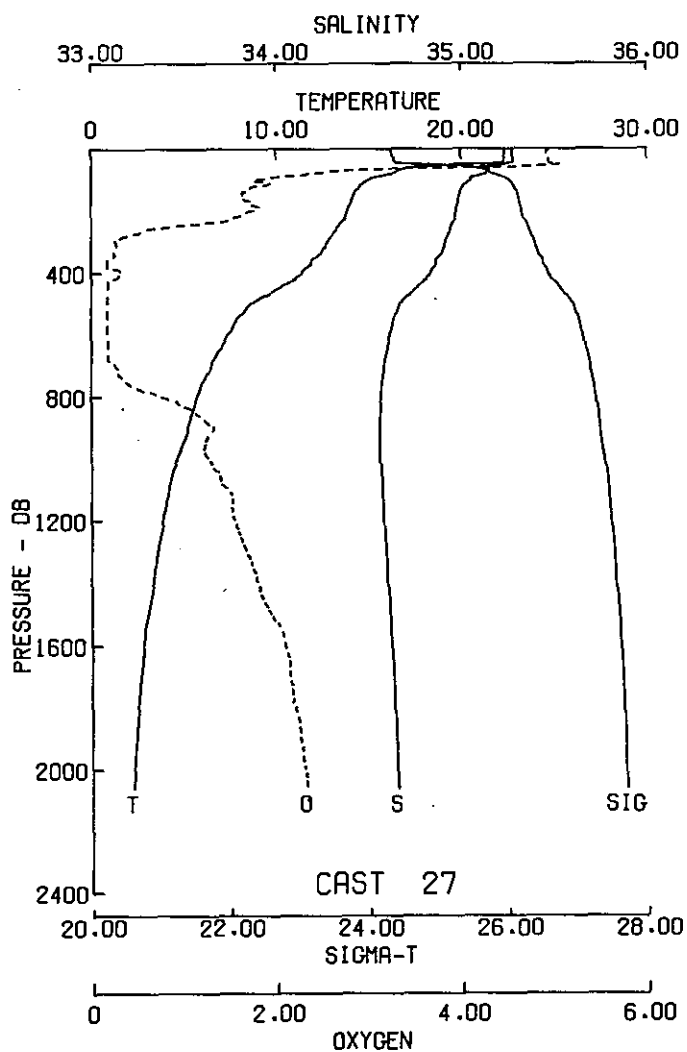


CAST CONRAD-82-026 DATE 08 OCT 82 TIME 0030 GMT
 LAT 5 00.1S LONG 87 30.0W WEATHER SEA STATE
 BAROMETER 19 WIND DIR 145 T SPD 13 KT VISIBILITY
 CLOUD AMOUNT DRY WET

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	22.821	35.219	4.94	24.169	0.000
10.	22.827	35.218	4.89	24.167	.038
20.	22.824	35.218	4.90	24.167	.075
30.	22.762	35.217	4.92	24.184	.113
40.	22.728	35.216	4.92	24.193	.150
50.	22.695	35.215	4.92	24.200	.188
60.	22.364	35.180	4.93	24.276	.225
70.	21.283	35.168	4.89	24.562	.261
80.	18.204	35.173	4.83	25.371	.291
90.	16.259	35.174	3.62	25.769	.315
100.	15.382	35.107	2.72	25.942	.337
110.	14.962	35.058	2.47	26.042	.358
120.	14.754	35.044	2.30	26.076	.377
130.	14.537	35.019	2.17	26.104	.397
140.	14.409	35.009	2.04	26.124	.417
150.	14.349	35.005	1.92	26.134	.436
160.	14.371	35.006	2.02	26.145	.455
170.	14.155	35.000	1.85	26.171	.474
180.	14.053	35.001	1.78	26.186	.493
190.	13.989	34.989	1.74	26.198	.512
200.	13.924	34.986	1.56	26.209	.531
250.	13.393	34.999	1.44	26.292	.593
300.	12.769	34.923	.65	26.397	.711
350.	12.237	34.889	.39	26.475	.795
400.	11.096	34.817	.18	26.631	.875
450.	10.950	34.753	.18	26.769	.947
500.	9.126	34.699	.18	26.881	1.013
550.	8.278	34.633	.18	26.979	1.074
600.	7.569	34.620	.18	27.059	1.132
650.	6.994	34.597	.18	27.122	1.185
700.	6.528	34.581	.18	27.174	1.237
750.	6.001	34.567	.48	27.231	1.285
800.	5.689	34.563	.64	27.269	1.332
850.	5.458	34.563	.80	27.295	1.377
900.	5.145	34.562	1.06	27.332	1.421
950.	4.920	34.559	1.33	27.356	1.463
1000.	4.717	34.563	1.44	27.383	1.504
1022.	4.633	34.566	1.44	27.398	

CAST CONRAD-82-027 DATE 08 OCT 82 TIME 1641 GMT
LAT 5 00.0S LONG 085 00.0W

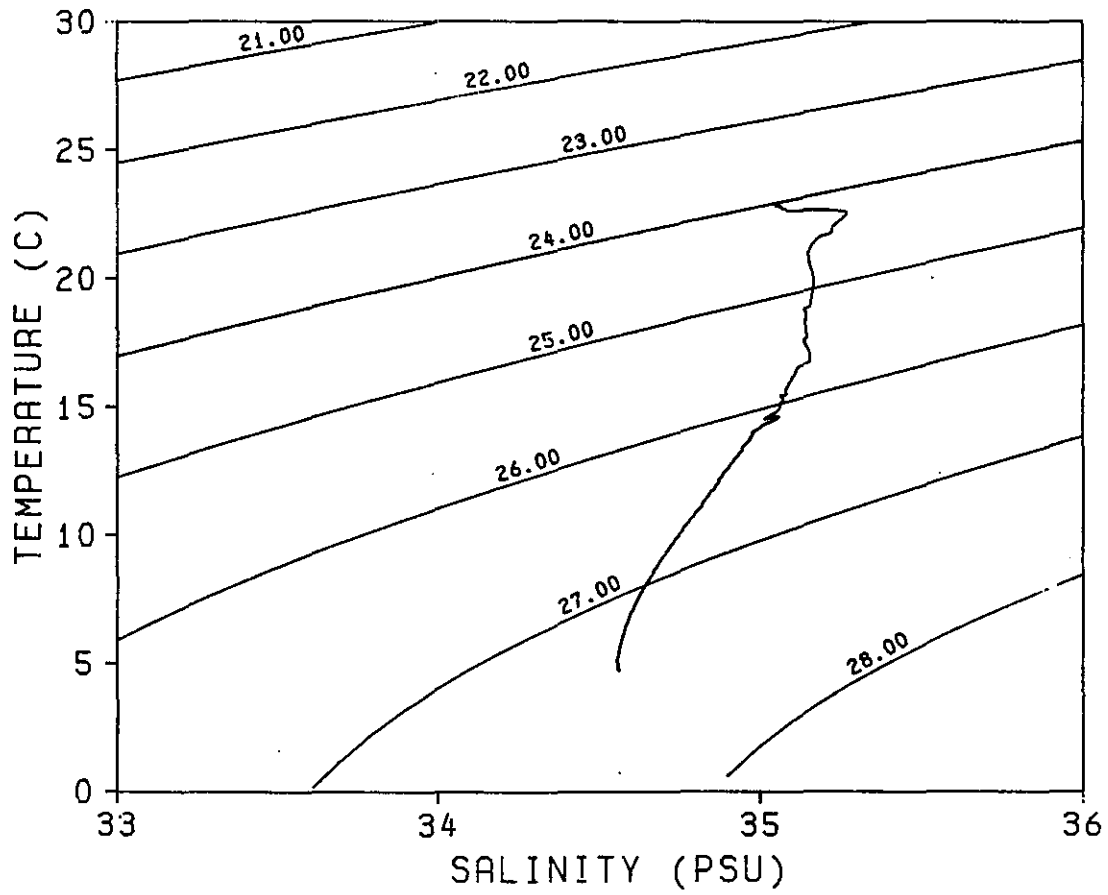


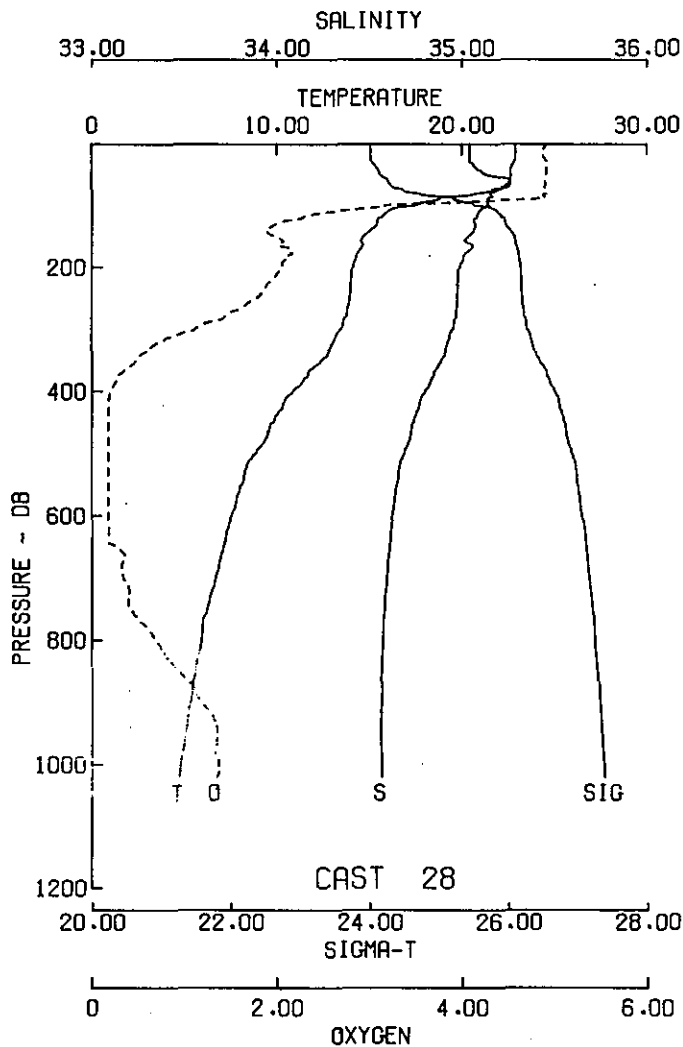


CAST CONRAD-82-027 DATE 08 OCT 82 TIME 1641 GMT
 LAT 5 08.0S LONG 085 00.0W WEATHER SEA STATE 4
 BAROMETER 01 WIND DIR 150 T SPD 08 HGT VISIBILITY
 CLOUD AMOUNT DRY WFT DEPTH 4000 M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	22.391	35.277	4.95	24.335	0.000
10.	22.389	35.277	4.92	24.336	.036
20.	22.355	35.276	4.92	24.345	.072
30.	22.302	35.280	4.94	24.353	.108
40.	22.278	35.280	4.94	24.370	.144
50.	19.719	35.232	5.06	25.029	.178
60.	17.491	35.155	4.15	25.532	.206
70.	16.638	35.144	2.72	25.727	.220
80.	16.212	35.135	2.44	25.820	.252
90.	15.352	35.062	2.03	25.959	.274
100.	14.994	35.057	1.76	26.034	.294
110.	14.714	35.033	1.94	26.074	.314
120.	14.541	35.012	1.75	26.098	.334
130.	14.415	35.002	1.71	26.118	.353
140.	14.278	34.997	1.64	26.143	.372
150.	14.205	34.993	1.68	26.155	.392
160.	14.142	34.989	1.65	26.165	.411
170.	14.083	34.987	1.72	26.175	.430
180.	14.028	34.985	1.76	26.187	.449
190.	13.929	34.977	1.80	26.202	.467
200.	13.873	34.976	1.71	26.212	.486
250.	13.342	34.947	1.84	26.300	.578
300.	12.779	34.917	.27	26.390	.666
350.	12.140	34.877	.22	26.484	.751
400.	11.417	34.838	.33	26.591	.831
450.	10.084	34.753	.18	26.763	.904
500.	8.572	34.669	.18	26.946	.969
550.	7.844	34.635	.18	27.031	1.028
600.	7.366	34.614	.18	27.084	1.084
650.	6.905	34.598	.18	27.136	1.137
700.	6.485	34.583	.17	27.181	1.188
750.	6.043	34.573	.17	27.231	1.236
800.	5.714	34.568	.17	27.268	1.283
850.	5.437	34.561	1.14	27.297	1.328
900.	5.208	34.560	1.14	27.323	1.372
950.	4.937	34.558	1.12	27.354	1.415
1000.	4.637	34.562	1.12	27.391	1.456
1500.	3.032	34.614	1.95	27.596	1.802
2000.	2.286	34.651	2.33	27.690	2.078
2059.	2.228	34.653	2.35	27.697	

CAST CONRAD--82--028 DATE 09 OCT 82 TIME 0044 GMT
LAT 4 01.6S LONG 084 59.3W

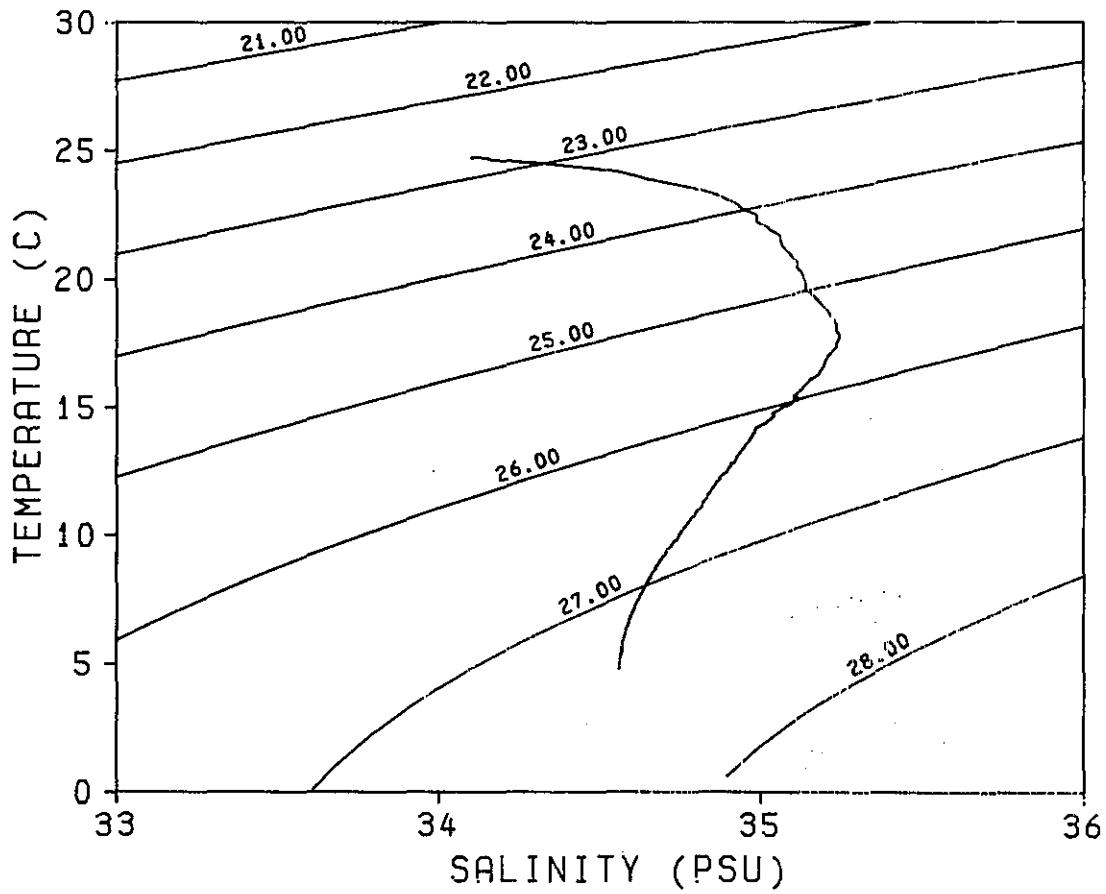


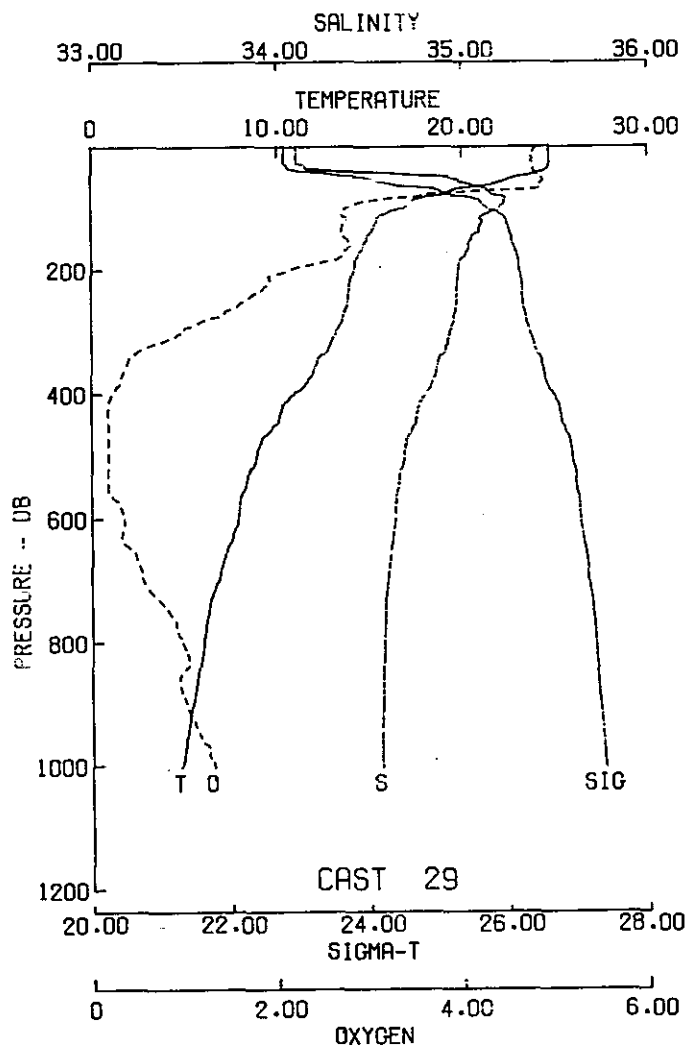


CAST CONRAD-82-028 DATE 09 OCT 82 TIME 0044 GMT
 LAT 4 01.6S LONG 084 59.3W WEATHER SEA STATE 3
 BAROMETER 12 WIND DIR 150 T SPD 08 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	22.89	35.046	4.90	24.017	0.000
10.	22.89	35.044	4.87	24.014	.039
20.	22.89	35.043	4.88	24.015	.078
30.	22.89	35.043	4.91	24.050	.117
40.	22.89	35.038	4.91	24.118	.156
50.	22.89	35.143	4.91	24.158	.194
60.	22.89	35.266	4.90	24.274	.231
70.	22.89	35.353	4.89	24.343	.268
80.	22.89	35.152	4.91	24.715	.305
90.	18.92	35.144	4.69	25.243	.332
100.	17.74	35.152	3.17	25.613	.358
110.	15.94	35.089	2.54	25.846	.381
120.	15.47	35.082	2.27	25.947	.402
130.	15.47	35.071	1.98	25.960	.423
140.	15.02	35.063	1.88	25.031	.444
150.	14.66	35.051	2.02	25.090	.464
160.	14.55	35.050	2.04	26.106	.484
170.	14.51	35.050	2.12	26.133	.503
180.	14.29	35.071	2.12	26.151	.523
190.	14.21	35.004	2.07	26.161	.542
200.	14.10	35.989	2.05	26.174	.561
250.	13.92	35.976	1.78	26.202	.656
300.	13.47	35.952	1.12	26.277	.749
350.	12.39	35.886	.48	26.443	.837
400.	10.85	35.799	.21	26.663	.916
450.	9.78	35.735	.18	26.800	.986
500.	8.82	35.687	.18	26.921	1.051
550.	8.11	35.647	.18	27.000	1.111
600.	7.56	35.622	.18	27.053	1.163
650.	7.09	35.607	.26	27.116	1.222
700.	6.68	35.592	.34	27.162	1.273
750.	6.23	35.582	.42	27.212	1.323
800.	5.93	35.572	.69	27.244	1.371
850.	5.55	35.564	.95	27.289	1.417
900.	5.31	35.562	1.14	27.313	1.461
950.	5.04	35.559	1.35	27.342	1.504
1000.	4.78	35.562	1.36	27.375	1.546
1020.	4.71	35.563	1.34	27.384	

CAST CONRAD-82-029 DATE 09 OCT 82 TIME 0817 GMT
LAT 2 59.9S LONG 085 00.1W

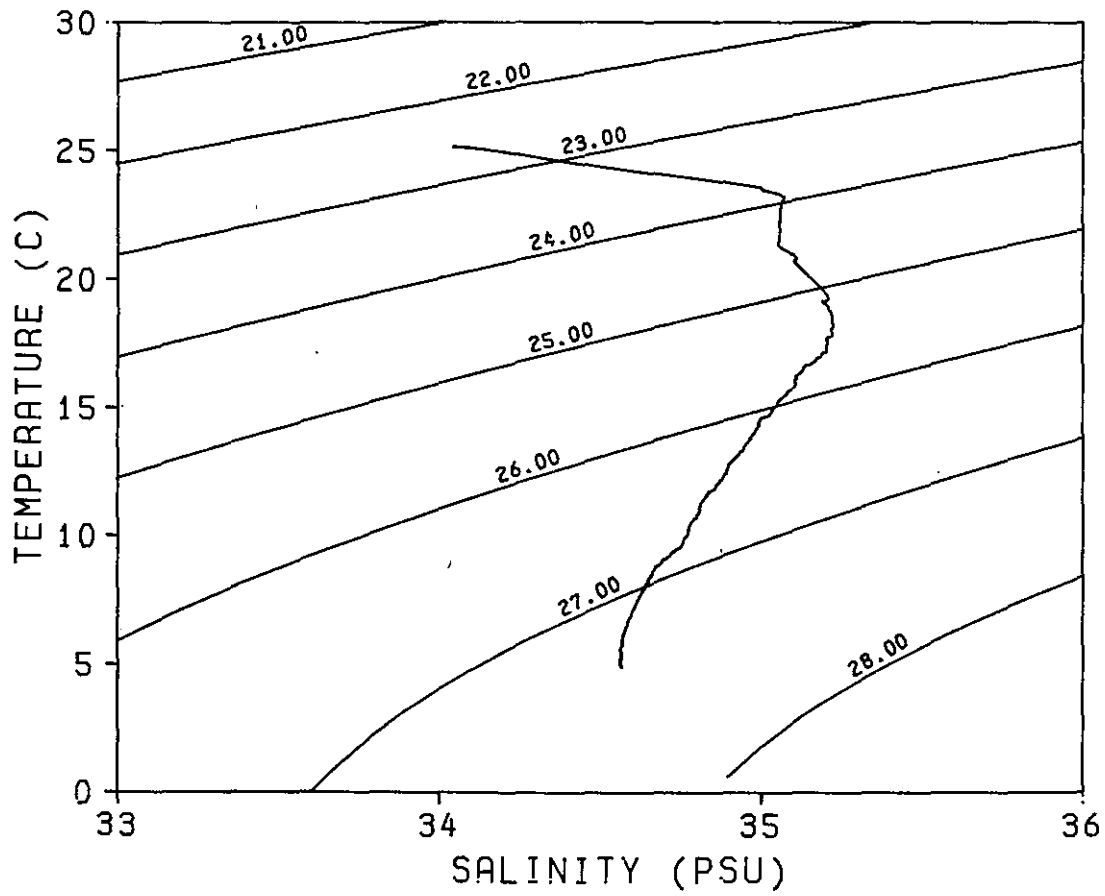


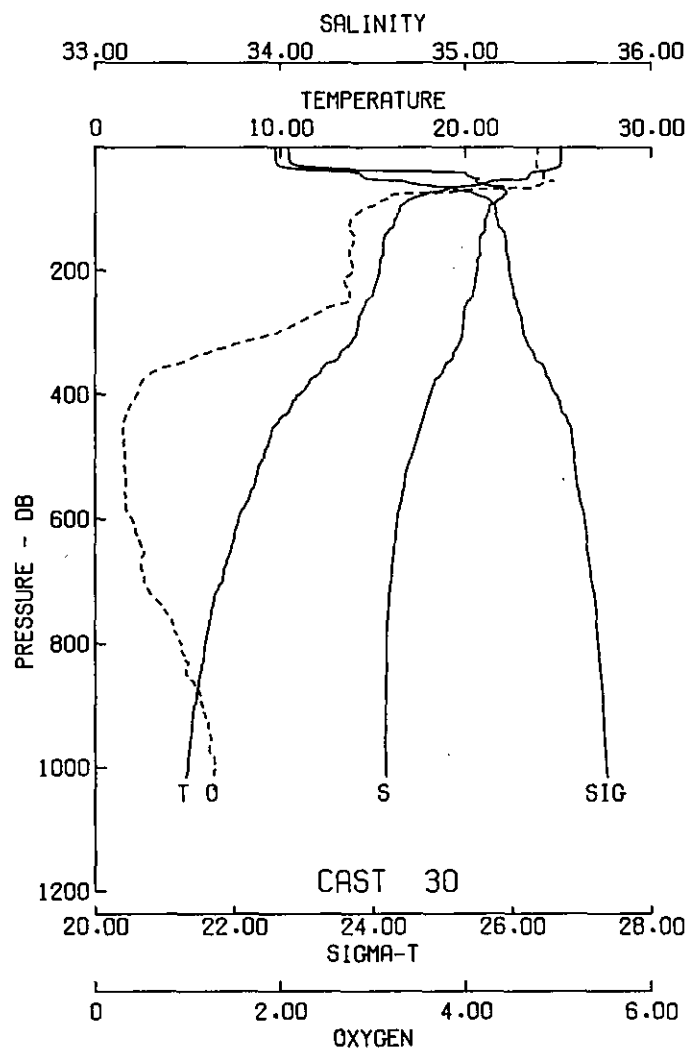


CAST CNRAD-R2-029 DATE 09 OCT 82 TIME 0817 GMT
 LAT 2 59.95 LONG 085 00.14 WEATHER SEA STATE 3
 BAROMETER 12 WIND DIR 145 T SPD 0P FT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-CM)
0.	24.701	34.105	4.80	22.775	0.000
10.	24.717	34.107	4.76	22.772	.051
20.	24.723	34.106	4.76	22.770	.103
30.	24.718	34.137	4.76	22.794	.153
40.	24.507	34.292	4.77	22.975	.203
50.	22.893	34.913	4.87	23.888	.253
60.	21.973	35.023	4.86	24.263	.287
70.	19.666	35.133	4.89	24.972	.321
80.	18.877	35.197	3.58	25.220	.345
90.	17.387	35.234	2.97	25.617	.375
100.	16.947	35.206	2.76	25.702	.399
110.	15.902	35.139	2.71	25.894	.421
120.	15.437	35.159	2.75	25.976	.441
130.	15.284	35.168	2.71	26.003	.463
140.	15.134	35.093	2.69	26.031	.486
150.	14.870	35.951	2.75	26.057	.503
160.	14.697	35.039	2.80	26.085	.522
170.	14.533	35.036	2.73	26.113	.542
180.	14.366	35.913	2.52	26.136	.562
190.	14.207	34.988	2.44	26.152	.582
200.	14.152	34.986	2.15	26.155	.601
250.	13.852	34.974	1.67	26.215	.696
300.	13.212	34.936	1.90	26.318	.788
350.	12.153	34.871	.39	26.477	.877
400.	10.972	34.803	.23	26.645	.953
450.	9.929	34.746	.18	26.784	1.026
500.	8.886	34.689	.18	26.909	1.099
550.	8.313	34.656	.18	26.976	1.151
600.	7.888	34.637	.35	27.025	1.200
650.	7.253	34.612	.43	27.097	1.265
700.	6.849	34.599	.56	27.143	1.317
750.	6.293	34.581	.83	27.205	1.367
800.	5.983	34.574	.97	27.239	1.414
850.	5.717	34.571	.96	27.270	1.456
900.	5.405	34.568	1.02	27.306	1.500
950.	5.105	34.561	1.14	27.336	1.551
1000.	4.802	34.561	1.30	27.371	1.593
1050.	4.780	34.562	1.31	27.374	1.593

CAST CONRAD-82-030 DATE 09 OCT 82 TIME 1517 GMT
LAT 1 59.7S LONG 084 59.8W

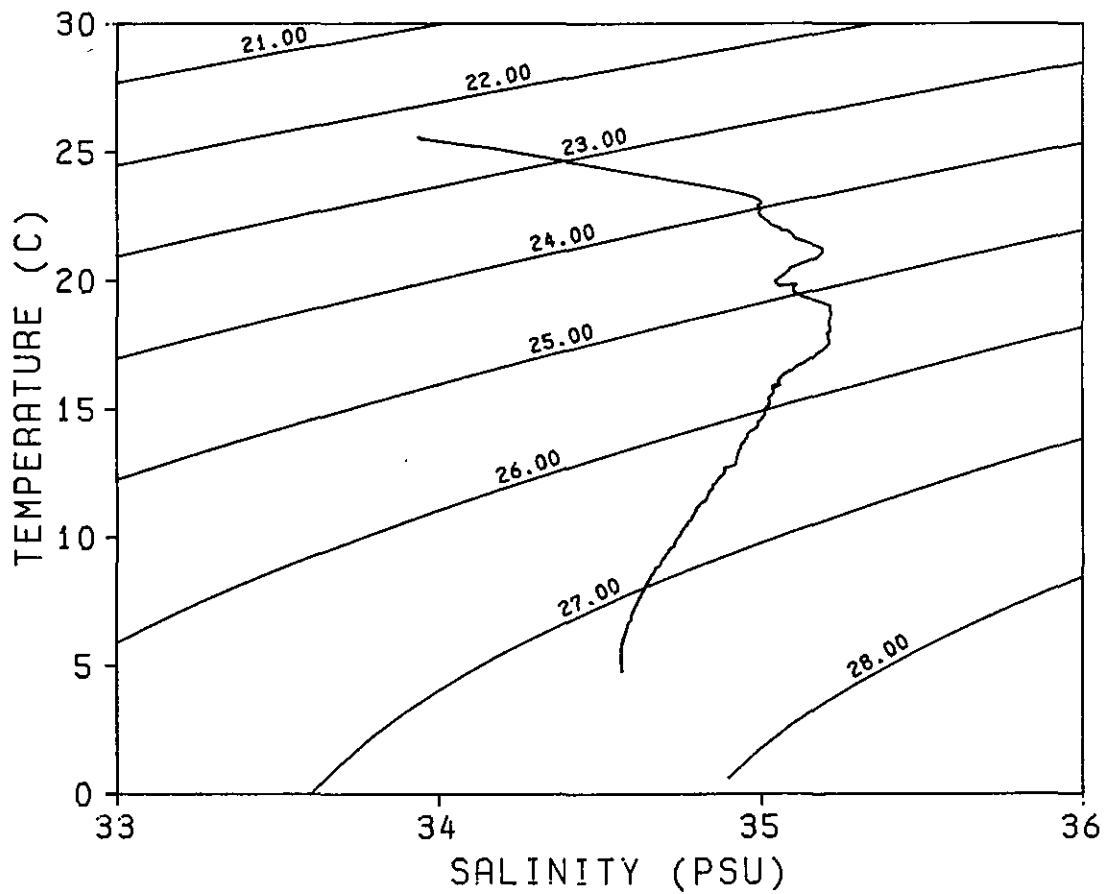


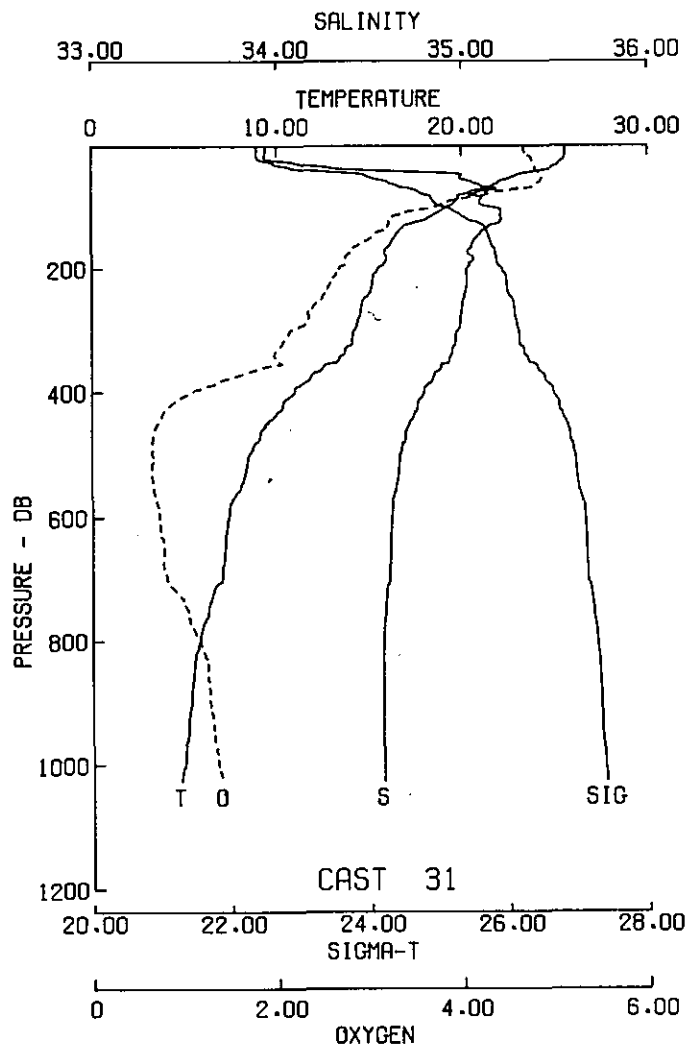


CAST CONRAD-82-030 DATE 09 OCT 82 TIME 1517 GMT
 LAT 1 59.78 LONG 084 59.8W WEATHER SEA STATE
 BAROMETER 13 WIND DIR 135 T SPD 12 KT VISIBILITY
 CLOUD AMOUNT DRY WFT DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (CYM-M)
0.	25.142	34.049	4.79	22.599	0.000
10.	25.145	34.047	4.78	22.597	.057
20.	25.144	34.050	4.76	22.600	.195
30.	25.107	34.093	4.77	22.643	.158
40.	23.890	34.868	4.83	23.619	.207
50.	23.351	35.043	4.84	23.882	.248
60.	20.915	35.103	4.82	24.613	.285
70.	18.869	35.204	3.97	25.227	.315
80.	17.501	35.205	3.20	25.568	.341
90.	16.754	35.162	3.05	25.713	.365
100.	16.425	35.125	2.92	25.763	.388
110.	15.734	35.120	2.81	25.780	.410
120.	15.180	35.105	2.76	25.804	.433
130.	15.111	35.107	2.76	25.821	.455
140.	15.735	35.095	2.79	25.898	.477
150.	15.601	35.079	2.79	25.916	.498
160.	15.577	35.077	2.78	25.920	.520
170.	15.577	35.078	2.76	25.921	.541
180.	15.434	35.066	2.76	25.946	.562
190.	15.371	35.066	2.78	25.957	.584
200.	15.343	35.062	2.78	25.960	.605
250.	14.636	35.014	2.75	26.379	.709
300.	14.119	34.984	1.97	26.166	.807
350.	12.555	34.894	.94	26.417	.906
400.	11.052	34.812	.46	26.638	.988
450.	9.490	34.759	.33	26.835	1.051
500.	8.076	34.706	.32	26.895	1.115
550.	8.573	34.664	.33	26.946	1.177
600.	7.739	34.630	.40	27.042	1.236
650.	7.343	34.515	.52	27.088	1.291
700.	6.856	34.599	.53	27.143	1.344
750.	6.253	34.581	.76	27.210	1.394
800.	5.956	34.575	.95	27.243	1.442
850.	5.654	34.571	.99	27.278	1.489
900.	5.363	34.570	1.16	27.313	1.533
950.	5.204	34.568	1.25	27.330	1.577
1000.	5.012	34.568	1.28	27.353	1.620
1016.	4.880	34.570	1.29	27.370	

CAST CONRAD-82-031 DATE 09 OCT 82 TIME 2209 GMT
LAT 1 00.6S LONG 084 59.5W

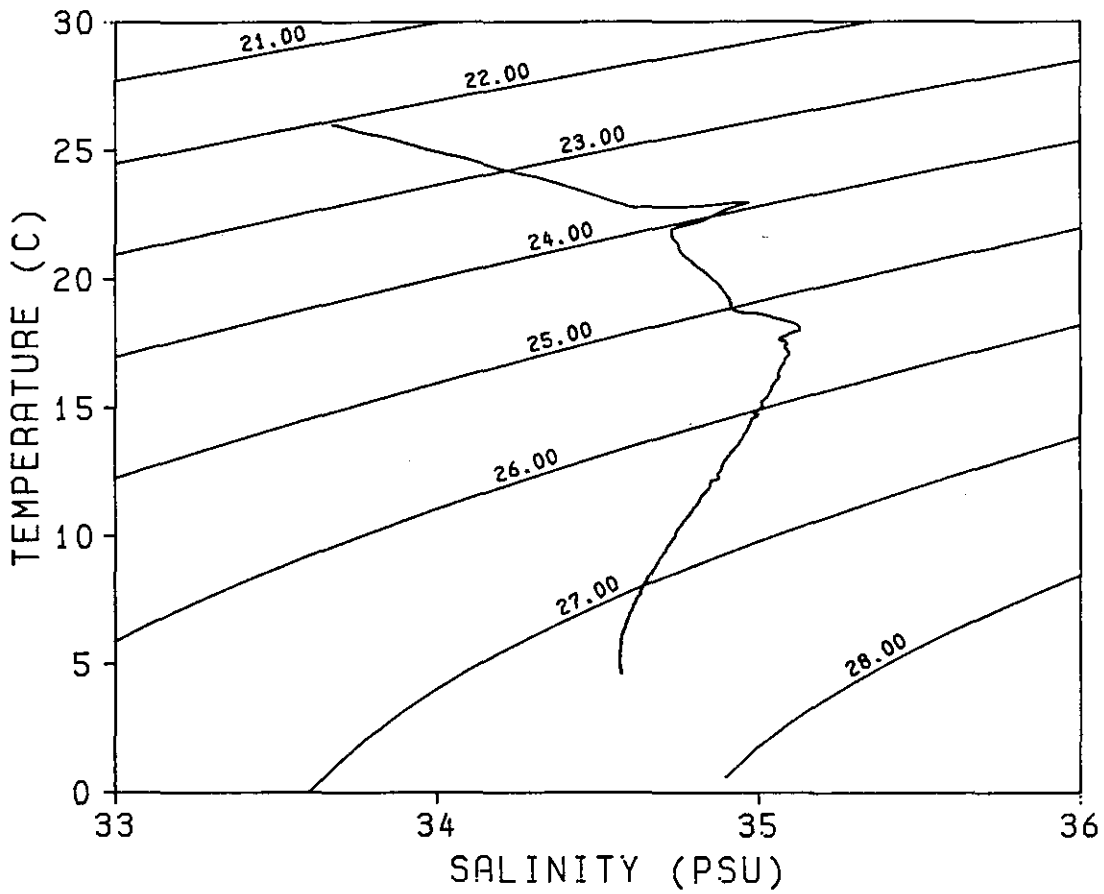


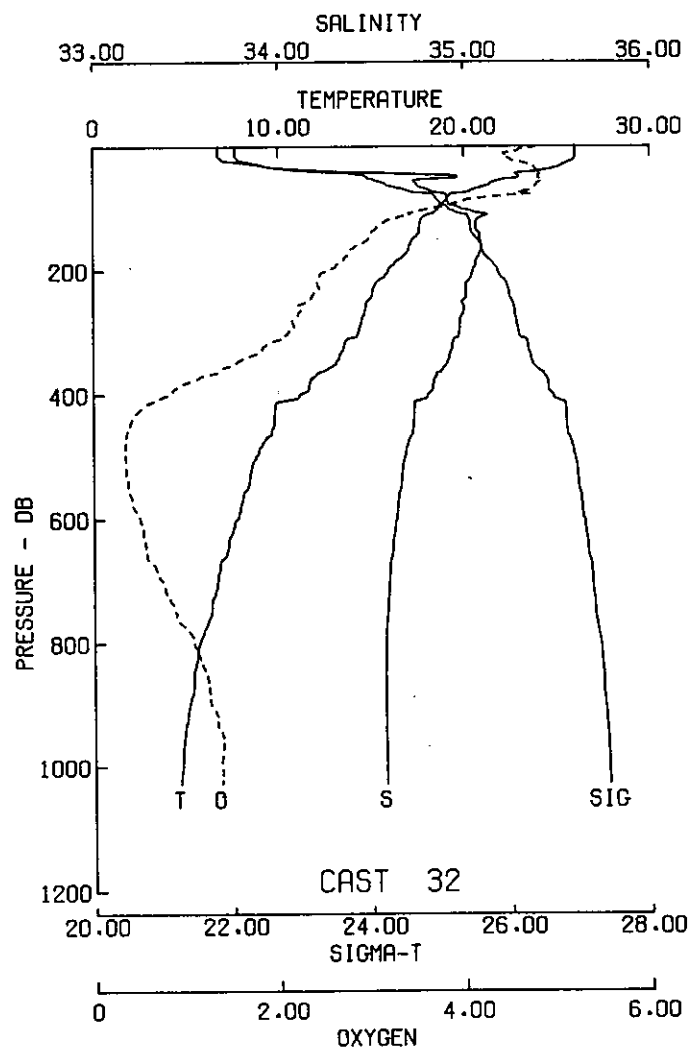


CAST CONRAD-P2-031 DATE 09 OCT 82 TIME 2209 GMT
 LAT 1 30.6S LONG 084 59.5W WEATHER SEA STATE 3
 BAROMETER 10 WIND DIR 150 T SPD 09 KT VISIBILITY M
 CLOUD AMOUNT DRY WET DEPTH

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	25.583	33.944	4.67	22.386	0.000
10.	25.583	33.941	4.68	22.383	0.055
20.	25.520	33.939	4.76	22.401	0.109
30.	25.194	34.132	4.78	22.546	0.163
40.	24.423	34.486	4.80	23.146	0.213
50.	22.992	34.989	4.86	23.975	0.255
60.	21.963	35.959	4.84	24.290	0.294
70.	21.233	35.192	4.65	24.593	0.329
80.	19.950	35.043	4.51	24.825	0.366
90.	19.719	35.038	4.38	24.927	0.393
100.	19.231	35.167	3.69	25.106	0.423
110.	18.631	35.214	3.38	25.295	0.451
120.	18.119	35.214	3.22	25.423	0.477
130.	16.927	35.151	3.29	25.664	0.502
140.	16.608	35.108	3.10	25.707	0.525
150.	16.388	35.081	3.02	25.737	0.549
160.	16.167	35.060	2.90	25.772	0.572
170.	15.894	35.039	2.81	25.818	0.595
180.	15.913	35.056	2.75	25.827	0.617
190.	15.851	35.049	2.74	25.836	0.639
200.	15.442	35.026	2.67	25.911	0.661
250.	14.691	35.009	2.48	26.063	0.766
300.	14.192	34.980	2.16	26.149	0.866
350.	13.318	34.932	2.00	26.293	0.962
400.	10.958	34.796	1.06	26.643	1.043
450.	9.457	34.716	0.71	26.841	1.113
500.	8.475	34.663	0.66	26.956	1.176
550.	8.059	34.644	0.67	27.006	1.235
600.	7.351	34.616	0.72	27.088	1.291
650.	7.163	34.610	0.79	27.109	1.344
700.	7.000	34.603	0.89	27.127	1.397
750.	6.258	34.582	1.04	27.210	1.447
800.	5.791	34.572	1.17	27.262	1.495
850.	5.478	34.566	1.24	27.290	1.540
900.	5.328	34.569	1.27	27.316	1.584
950.	5.166	34.569	1.32	27.335	1.627
1000.	4.938	34.571	1.36	27.363	1.669
1026.	4.751	34.570	1.41	27.384	

CAST CONRAD-82-032 DATE 10 OCT 82 TIME 0442 GMT
LAT 00 00.1N LONG 084 59.6W

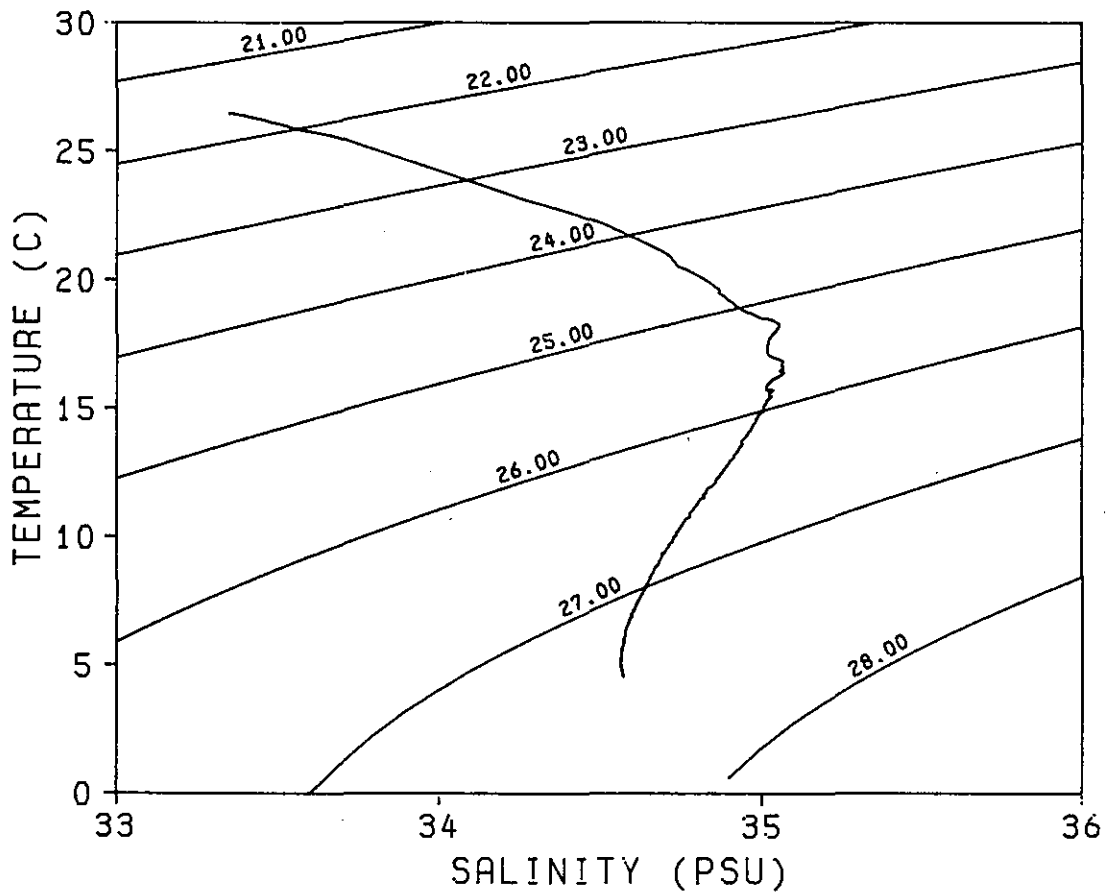


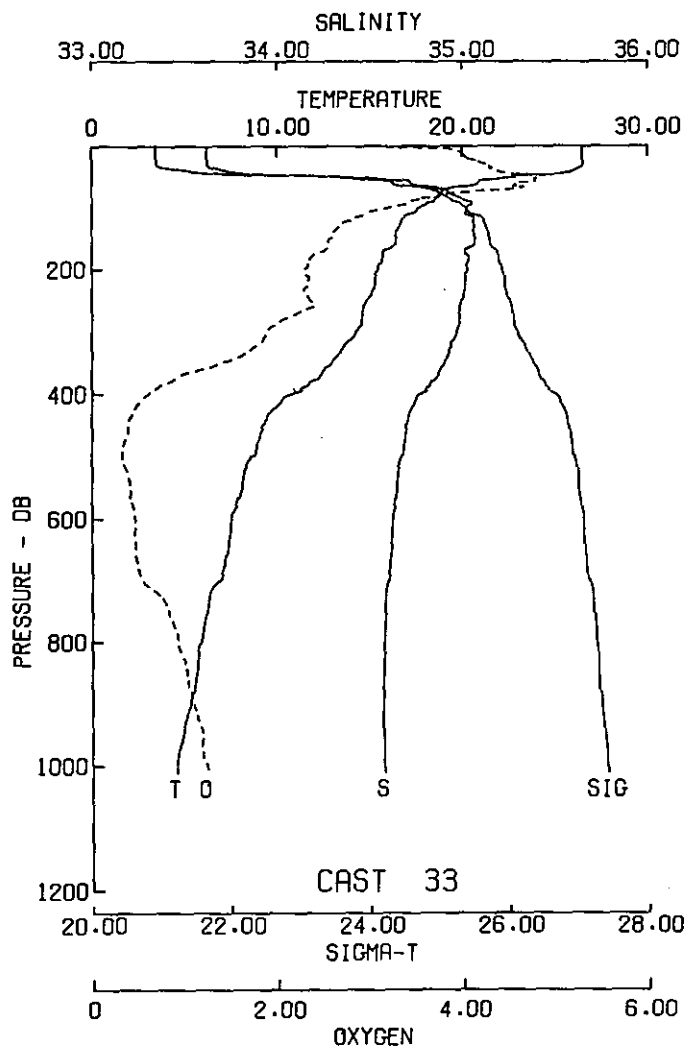


CAST CONRAD-82-032 DATE 10 OCT 82 TIME 0442 GMT
 LAT 00 00.1N LONG 084 59.6W WEATHER SEA STATE
 BAROMETER 12 WIND DIP 135 T SPD 10 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	25.993	33.679	4.77	22.060	0.000
10.	26.014	33.674	4.49	22.050	.058
20.	25.947	33.694	4.48	22.085	.116
30.	25.300	33.897	4.74	22.437	.172
40.	24.082	34.262	4.79	23.078	.224
50.	22.929	34.966	4.80	23.946	.266
60.	21.403	34.746	4.79	24.209	.305
70.	20.488	34.809	4.75	24.504	.341
80.	19.200	34.911	4.49	24.919	.374
90.	18.955	34.912	3.96	24.983	.404
100.	18.657	34.984	3.65	25.113	.434
110.	18.125	35.128	3.42	25.256	.462
120.	17.668	35.066	3.17	25.421	.488
130.	17.622	35.164	3.07	25.430	.514
140.	17.585	35.085	3.01	25.455	.540
150.	17.242	35.090	3.97	25.542	.565
160.	17.080	35.096	2.85	25.588	.590
170.	16.967	35.090	2.77	25.608	.615
180.	16.644	35.072	2.71	25.671	.639
190.	16.244	35.062	2.64	25.756	.662
200.	15.922	35.048	2.53	25.819	.685
250.	14.803	34.989	2.32	26.034	.792
300.	14.307	34.973	2.11	26.119	.897
350.	13.103	34.909	1.53	26.319	.987
400.	11.163	34.806	.81	26.613	1.060
450.	9.744	34.727	.40	26.801	1.130
500.	8.751	34.677	.34	26.924	1.203
550.	8.304	34.656	.37	26.977	1.264
600.	7.771	34.632	.58	27.039	1.321
650.	7.230	34.612	.57	27.101	1.376
700.	6.660	34.592	.74	27.164	1.428
750.	6.324	34.582	.88	27.202	1.477
800.	5.674	34.573	1.08	27.277	1.525
850.	5.334	34.569	1.20	27.316	1.569
900.	5.104	34.569	1.26	27.343	1.612
950.	4.825	34.571	1.38	27.377	1.654
1000.	4.708	34.573	1.37	27.392	1.694
1028.	4.619	34.574	1.37	27.403	

CAST CONRAD-82-033 DATE 10 OCT 82 TIME 1445 GMT
LAT 00 59.9N LONG 084 17.4W

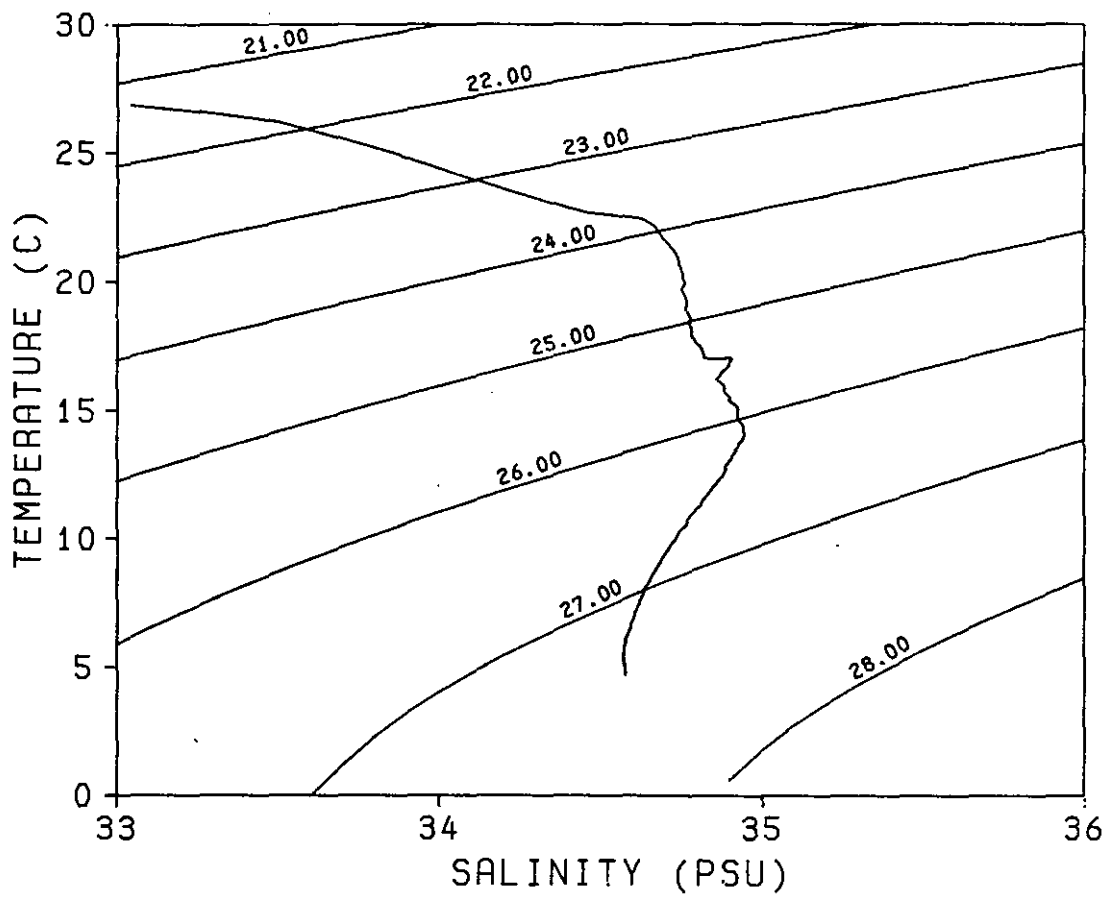


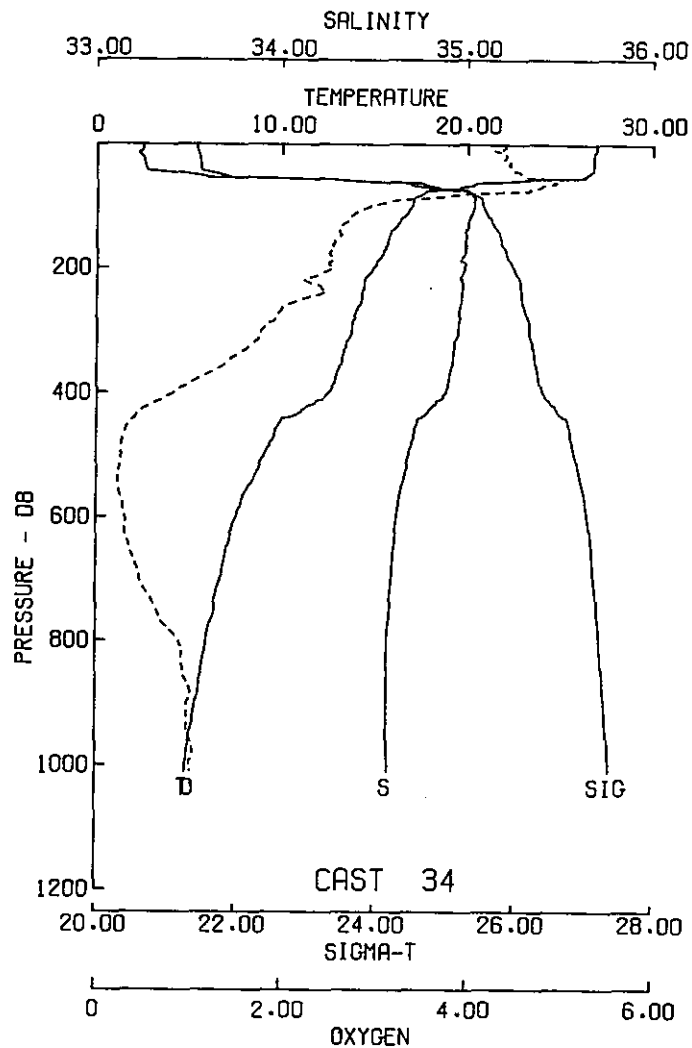


CAST CONRAD-82-033 DATE 10 OCT 82 TIME 1445 GMT
 LAT 30 59.9N LONG 084 17.4W WEATHER SEA STATE
 BAROMETER 12 WIND DIR 118 T SPD 07 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	26.459	33.349	3.18	21.666	0.000
10.	26.474	33.348	3.98	21.661	.062
20.	26.475	33.347	4.05	21.660	.123
30.	26.469	33.351	4.25	21.665	.185
40.	24.001	33.351	4.34	21.935	.246
50.	22.804	33.352	4.81	23.517	.299
60.	20.864	33.472	4.64	24.337	.339
70.	19.249	33.484	4.51	24.893	.372
80.	18.746	33.556	3.75	25.069	.402
90.	18.446	33.533	3.42	25.203	.431
100.	17.705	33.502	3.21	25.379	.458
110.	17.326	33.501	3.96	25.465	.484
120.	16.707	33.508	3.81	25.647	.509
130.	16.620	33.526	2.57	25.672	.532
140.	16.431	33.526	2.52	25.716	.556
150.	16.397	33.506	2.59	25.724	.579
160.	16.347	33.506	2.54	25.734	.602
170.	15.740	33.501	2.51	25.835	.625
180.	15.714	33.503	2.37	25.859	.647
190.	15.649	33.503	2.33	25.868	.669
200.	15.464	33.503	2.30	25.911	.691
250.	14.830	33.599	2.45	26.025	.798
300.	14.266	33.497	1.91	26.125	.899
350.	12.036	33.490	1.40	26.348	.993
400.	9.743	33.478	.63	26.669	1.076
450.	8.255	33.469	.33	26.859	1.144
500.	8.547	33.468	.33	26.949	1.207
550.	8.394	33.444	.42	27.000	1.266
600.	7.516	33.462	.46	27.067	1.323
650.	7.321	33.461	.47	27.090	1.378
700.	6.868	33.450	.55	27.143	1.431
750.	6.244	33.458	.83	27.211	1.480
800.	5.882	33.457	.92	27.255	1.528
850.	5.649	33.457	1.00	27.279	1.573
900.	5.301	33.456	1.17	27.319	1.618
950.	4.889	33.457	1.19	27.369	1.660
1000.	4.573	33.457	1.23	27.408	1.700
1012.	4.542	33.457	1.24	27.413	

CAST CONRAD-82-034 DATE 10 OCT 82 TIME 2111 GMT
LAT 02 00.0N LONG 083 36.9W

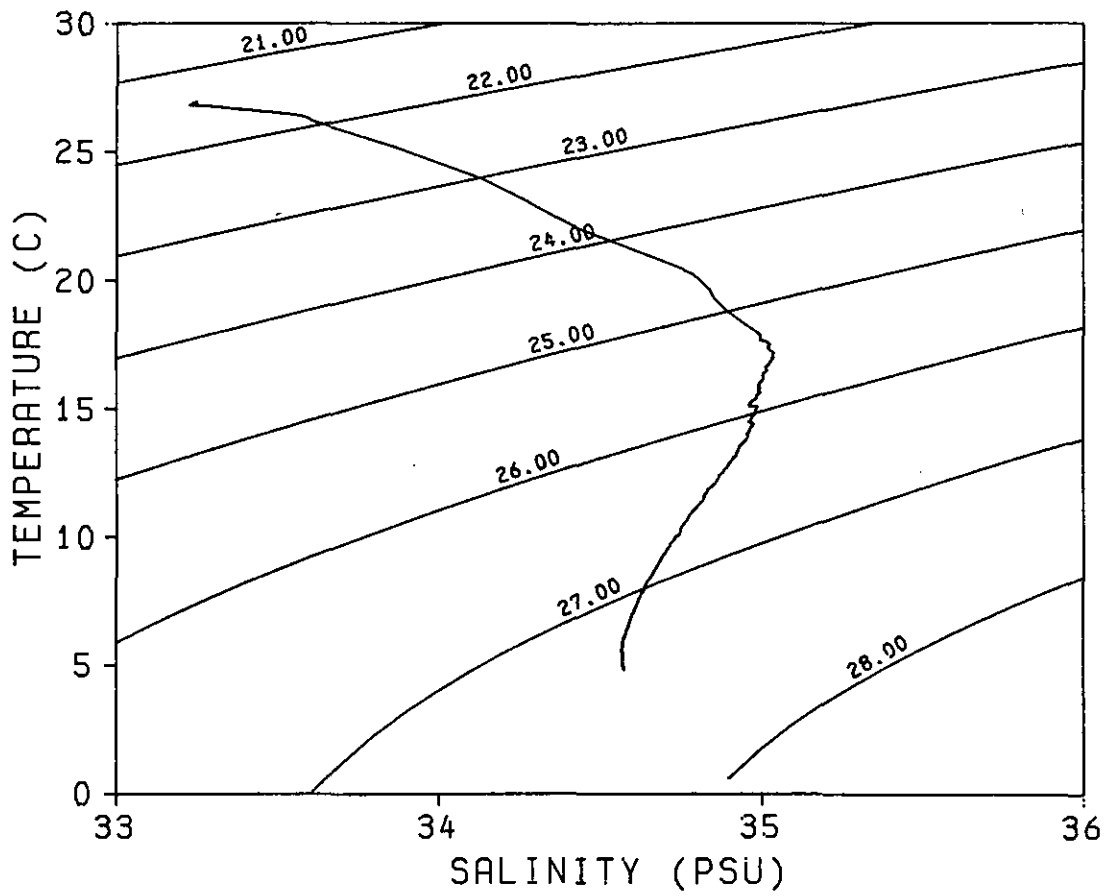


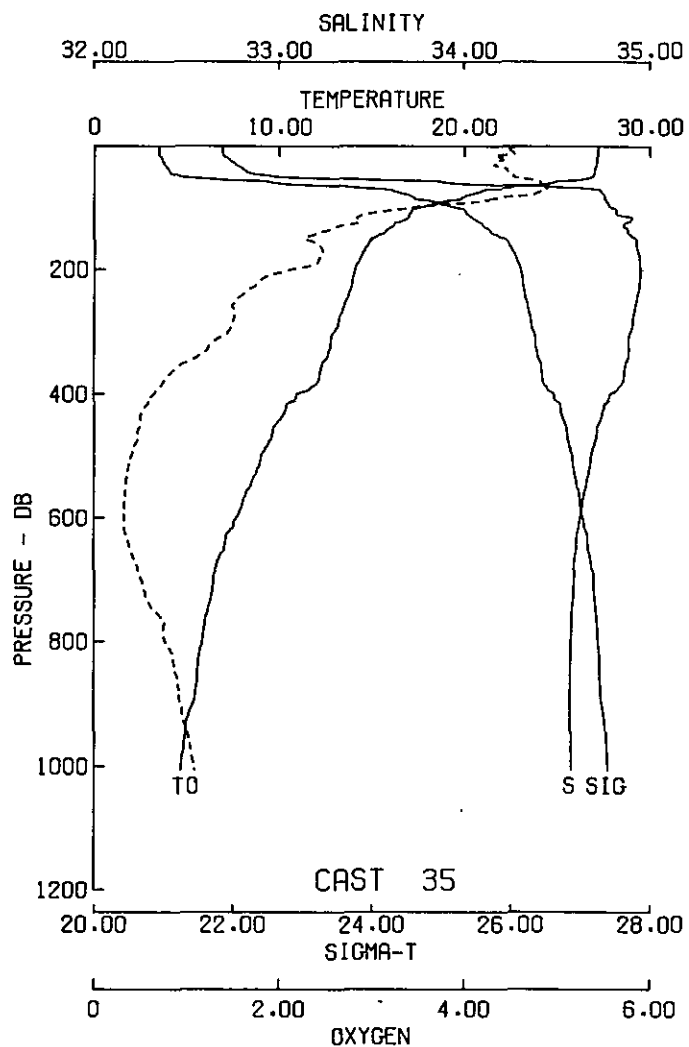


CAST CONRAD-82-034 DATE 10 OCT 82 TIME 2111 GMT
 LAT 02 00.0N LONG 083 36.9W WEATHER SEA STATE 3
 BAROMETER 10 WIND DIR 175 T SPD 04 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRFS (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	26.936	33.251	4.40	21.442	0.000
10.	26.917	33.246	4.29	21.444	.054
20.	26.902	33.248	4.41	21.482	.127
30.	26.795	33.260	4.46	21.493	.190
40.	26.777	33.269	4.50	21.506	.254
50.	26.424	33.550	4.63	21.828	.316
60.	22.030	34.431	4.92	23.796	.368
70.	19.625	34.841	4.78	24.756	.403
80.	17.597	35.019	4.02	25.402	.432
90.	17.073	35.036	3.25	25.541	.457
100.	17.009	35.038	2.95	25.558	.480
110.	16.798	35.028	2.80	25.600	.506
120.	16.430	35.015	2.72	25.676	.530
130.	16.244	35.003	2.65	25.710	.554
140.	15.908	34.993	2.62	25.780	.577
150.	15.787	34.997	2.62	25.811	.599
160.	15.711	34.990	2.58	25.823	.622
170.	15.509	34.985	2.53	25.864	.644
180.	15.366	34.980	2.52	25.892	.666
190.	15.100	34.973	2.54	25.946	.687
200.	14.913	34.981	2.56	25.994	.708
250.	14.323	34.970	2.23	26.113	.800
300.	13.765	34.950	1.78	26.215	.900
350.	13.251	34.923	1.41	26.300	.998
400.	12.549	34.881	.84	26.408	1.087
450.	9.871	34.723	.35	26.578	1.165
500.	9.093	34.687	.28	26.687	1.231
550.	8.224	34.647	.23	26.982	1.293
600.	7.578	34.623	.32	27.060	1.350
650.	7.037	34.605	.36	27.123	1.404
700.	6.748	34.595	.47	27.155	1.454
750.	6.394	34.585	.66	27.195	1.500
800.	5.986	34.574	.89	27.233	1.554
850.	5.720	34.572	.95	27.271	1.601
900.	5.387	34.571	.99	27.311	1.646
950.	5.099	34.571	1.01	27.345	1.689
1000.	4.855	34.577	1.02	27.378	1.731
1010.	4.831	34.578	1.03	27.481	

CAST CONRAD-82-035 DATE 11 OCT 82 TIME 0600 GMT
LAT 02 59.8N LONG 082 55.5W

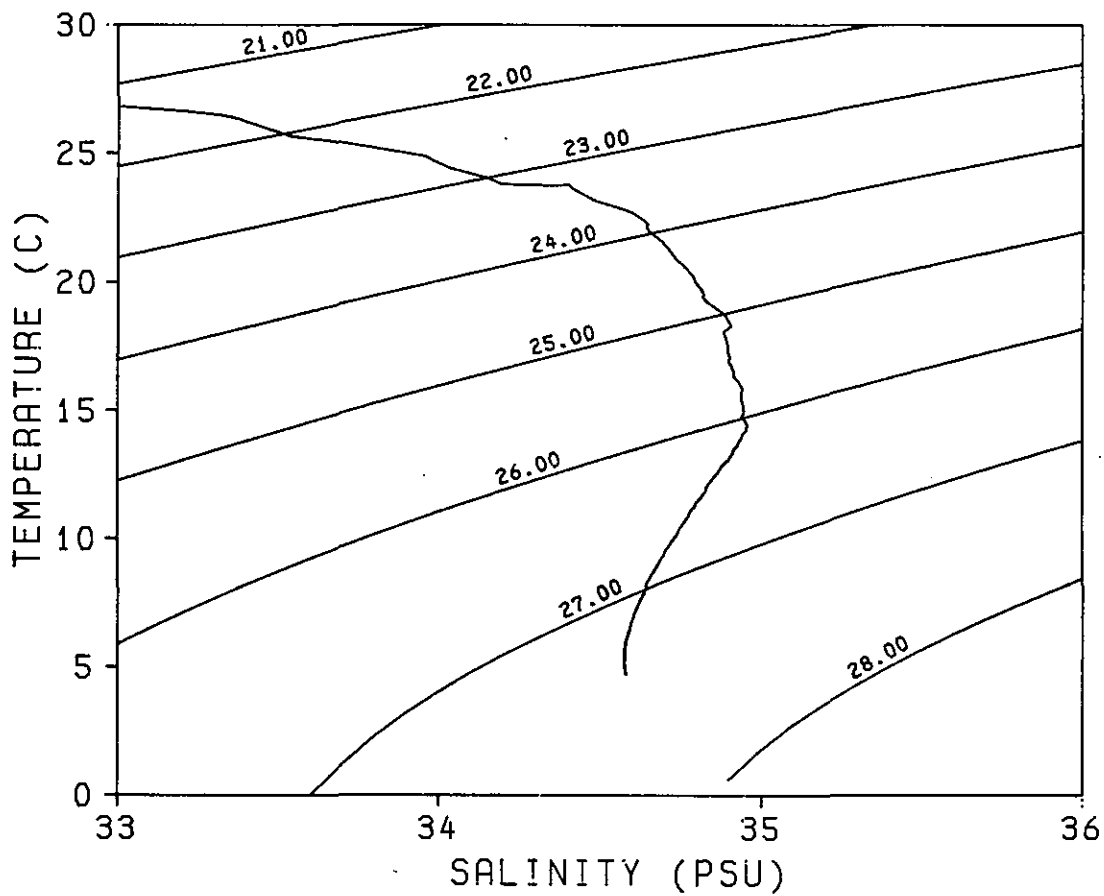


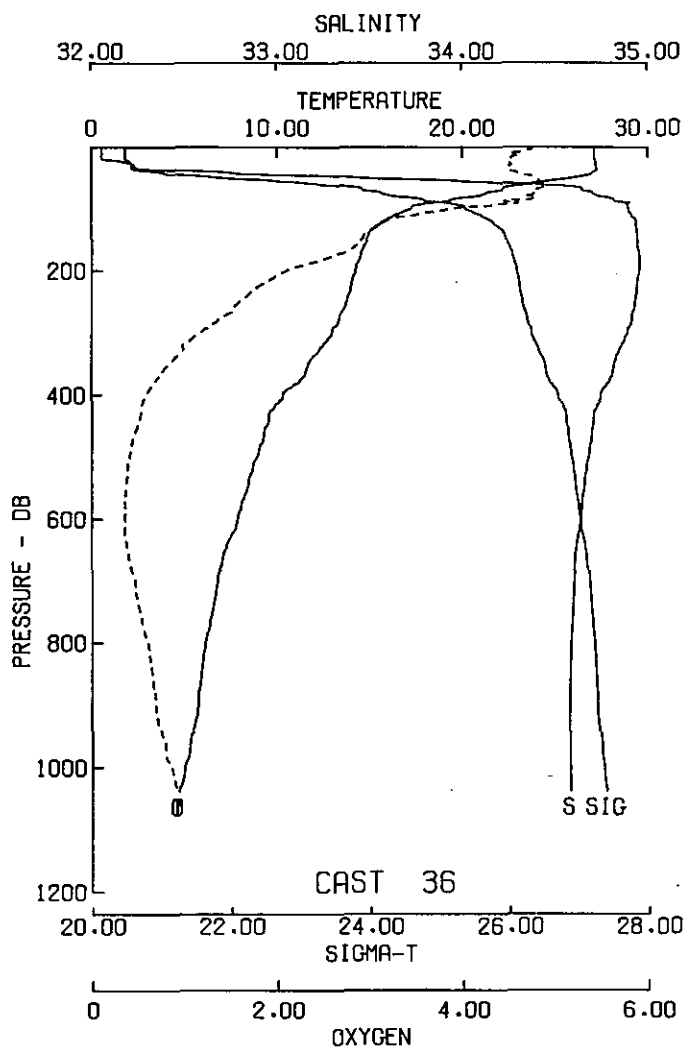


CAST CONRAD-82-035 DATE 11 OCT 82 TIME 0600 GMT
 LAT 02 59.8N LONG 082 55.5W WEATHER SEA STATE
 BAROMETER 10 WIND DIR 190 T SPD 10 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	27.200	32.695	4.54	20.941	0.000
10.	27.212	32.694	4.53	20.936	.068
20.	27.139	32.725	4.38	20.982	.137
30.	27.126	32.766	4.33	21.017	.205
40.	27.025	32.819	4.46	21.090	.272
50.	26.912	32.982	4.54	21.249	.339
60.	24.701	33.922	4.83	22.637	.398
70.	21.553	34.703	4.90	24.135	.443
80.	20.151	34.754	4.69	24.552	.479
90.	18.963	34.764	4.18	24.868	.512
100.	17.625	34.795	3.42	25.224	.543
110.	17.069	34.821	2.97	25.577	.569
120.	16.811	34.900	2.87	25.899	.595
130.	16.189	34.861	2.67	25.612	.619
140.	15.766	34.881	2.45	25.727	.643
150.	15.086	34.925	2.28	25.912	.665
160.	14.777	34.924	2.43	25.979	.686
170.	14.579	34.931	2.46	26.027	.707
180.	14.392	34.943	2.45	26.077	.727
190.	14.232	34.943	2.41	26.111	.747
200.	14.089	34.947	2.13	26.144	.766
250.	13.592	34.927	1.53	26.233	.861
300.	12.978	34.895	1.45	26.334	.953
350.	12.349	34.870	.98	26.438	1.040
400.	10.978	34.789	.66	26.534	1.122
450.	9.788	34.719	.51	26.637	1.194
500.	9.024	34.683	.40	26.785	1.260
550.	8.428	34.655	.35	26.957	1.322
600.	7.710	34.624	.33	27.041	1.381
650.	7.066	34.605	.39	27.119	1.435
700.	6.449	34.590	.52	27.191	1.485
750.	6.155	34.580	.65	27.222	1.534
800.	5.857	34.575	.78	27.256	1.581
850.	5.600	34.572	.89	27.286	1.627
900.	5.371	34.572	.93	27.314	1.672
950.	4.912	34.574	1.02	27.369	1.714
1000.	4.717	34.575	1.09	27.393	1.755
1006.	4.685	34.576	1.09	27.397	

CAST CONRAD-82-036 DATE 11 OCT 82 TIME 1340 GMT
LAT 03 59.3N LONG 082 13.1W

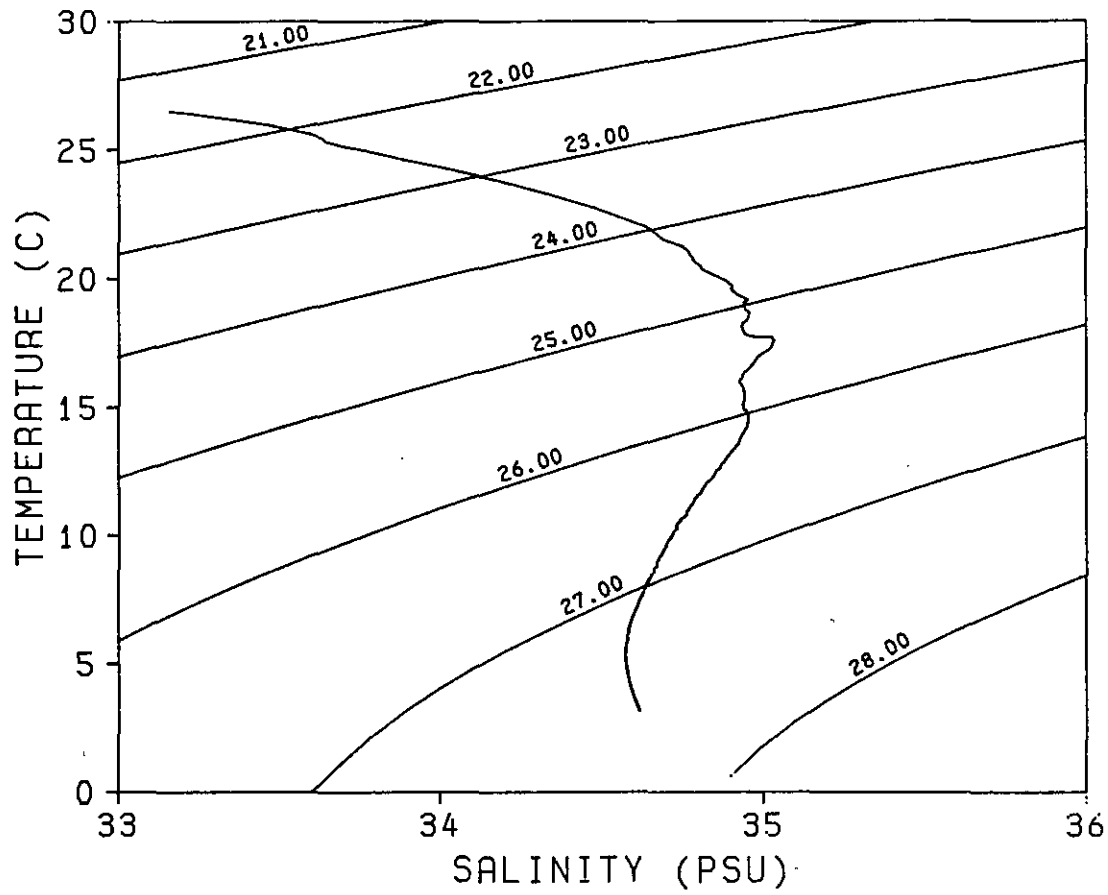


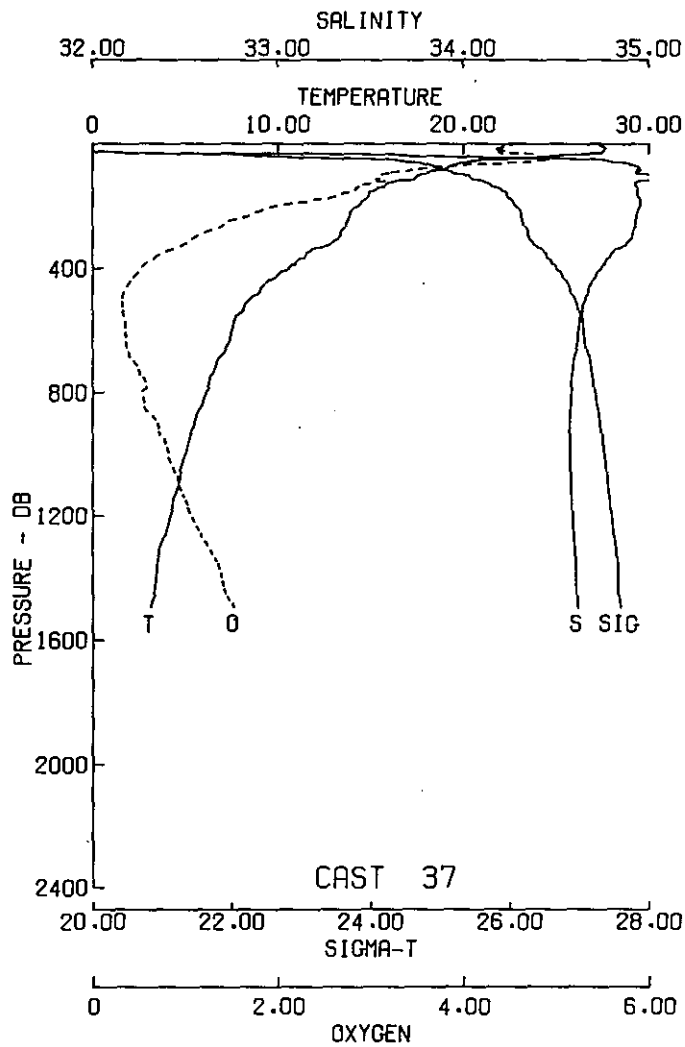


CAST CONRAD-82-036 DATE 11 OCT 82 TIME 1340 GMT
 LAT 03 59.3N LONG 082 13.1W WEATHER SEA STATE
 BAROMETER 09 WIND DIR 183 T SPD 10 KT VISIBILITY
 CLOUD AMOUNT DRY WET VISIRILITY DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	27.112	32.058	4.76	20.491	0.000
10.	27.116	32.058	4.54	20.489	.073
20.	27.132	32.078	4.51	20.499	.146
30.	27.220	32.236	4.50	20.590	.218
40.	27.383	32.705	4.58	20.985	.289
50.	25.865	33.483	4.79	21.952	.353
60.	23.752	34.404	4.84	23.283	.406
70.	22.148	34.642	4.79	23.923	.448
80.	20.631	34.759	4.74	24.423	.485
90.	18.276	34.907	4.62	25.150	.517
100.	17.260	34.898	3.85	25.391	.544
110.	16.354	34.916	3.50	25.618	.569
120.	15.769	34.940	3.17	25.771	.593
130.	15.312	34.941	3.07	25.875	.615
140.	14.993	34.945	3.07	25.949	.636
150.	14.858	34.945	2.92	25.977	.657
160.	14.688	34.943	2.84	26.013	.678
170.	14.545	34.952	2.75	26.051	.698
180.	14.490	34.954	2.52	26.065	.719
190.	14.290	34.956	2.30	26.109	.739
200.	14.240	34.953	2.10	26.117	.758
250.	13.774	34.931	1.60	26.198	.855
300.	12.980	34.890	1.16	26.329	.947
350.	11.698	34.818	.84	26.523	1.031
400.	10.348	34.747	.59	26.713	1.108
450.	9.413	34.701	.49	26.835	1.176
500.	8.912	34.678	.41	26.899	1.240
550.	8.392	34.654	.37	26.962	1.301
600.	7.878	34.637	.37	27.027	1.360
650.	7.208	34.610	.39	27.103	1.416
700.	6.772	34.598	.46	27.154	1.468
750.	6.483	34.591	.52	27.188	1.519
800.	6.111	34.582	.61	27.223	1.568
850.	5.909	34.579	.65	27.252	1.615
900.	5.746	34.578	.69	27.272	1.662
950.	5.322	34.576	.76	27.323	1.707
1000.	4.982	34.577	.86	27.363	1.750
1038.	4.695	34.579	.94	27.398	

CAST CONRAD-82-037 DATE 12 OCT 82 TIME 0046 GMT
LAT 05 00.6N LONG 081 32.0W

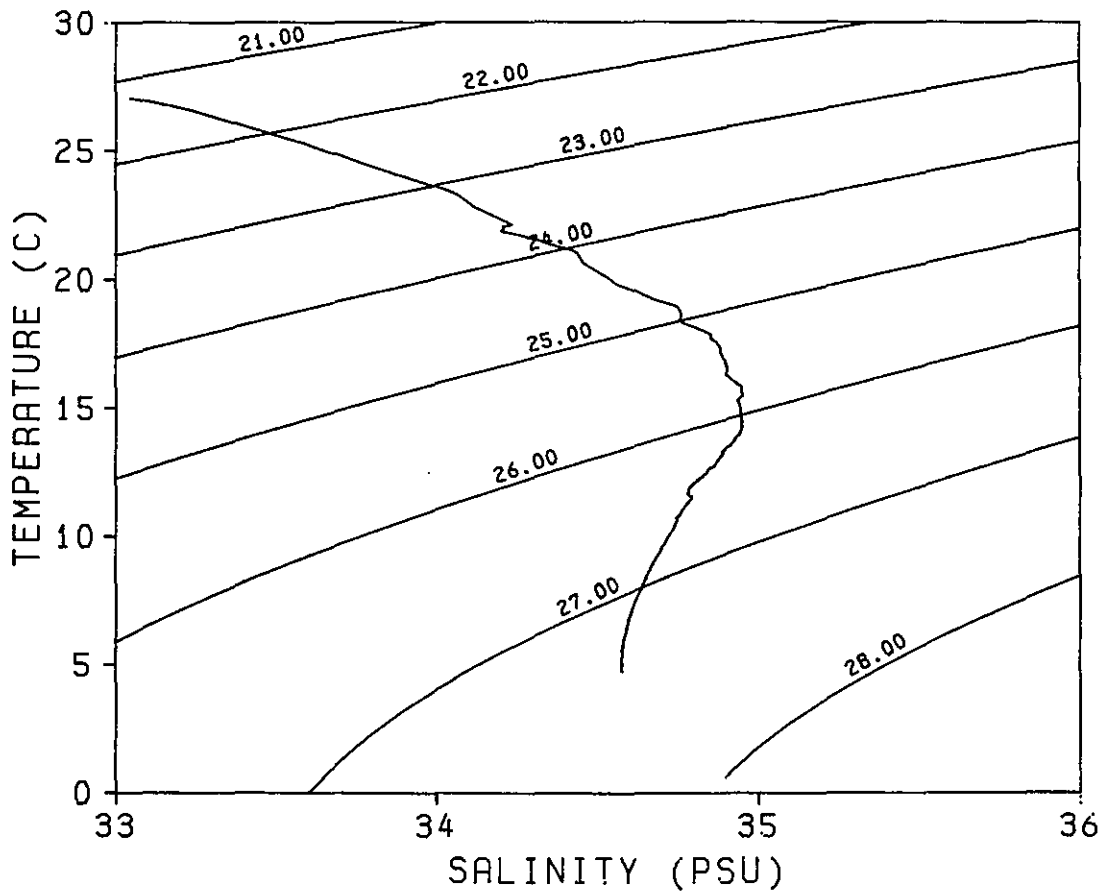




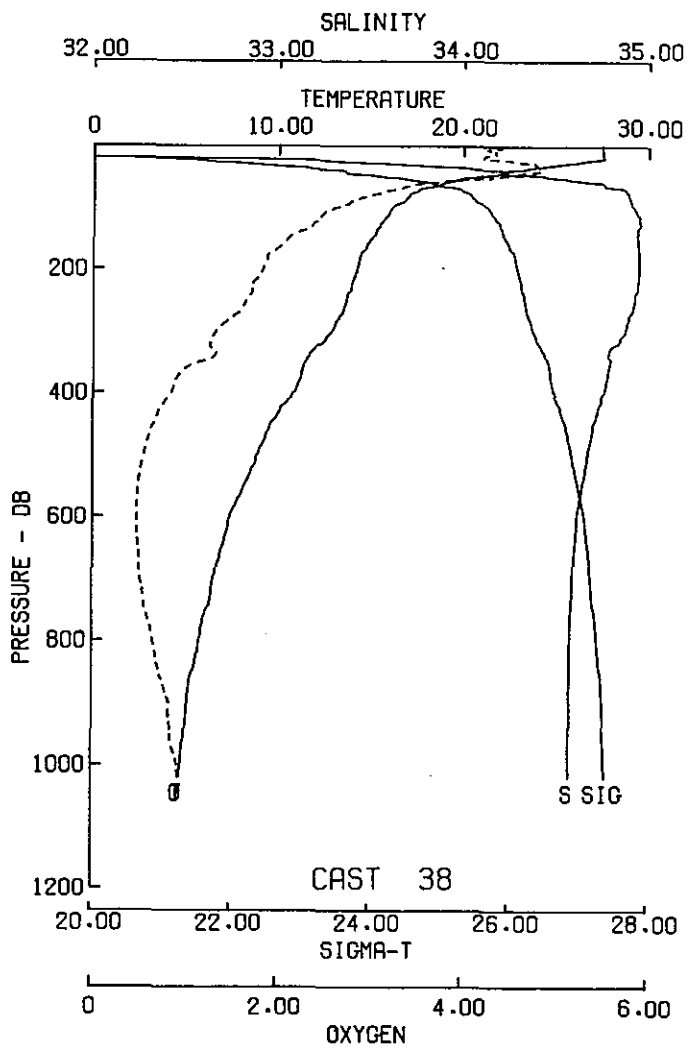
CAST CONRAD-82-037 DATE 12 OCT 82 TIME 0046 GMT
 LAT 05 00.6N LONG 081 32.0W WEATHER SEA STATE 3
 BAROMETER 08 WIND DIR 300 T SPD 04 KT VISIBILITY 3
 CLOUD AMOUNT DRY WFT DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-R (DYN-M)
0.	27.366	30.491	4.56	19.235	0.000
10.	27.480	30.694	4.43	19.351	0.085
20.	27.578	31.396	4.38	19.846	0.165
30.	27.564	32.189	4.41	20.463	0.242
40.	25.098	33.710	4.79	22.358	0.303
50.	21.510	34.690	4.91	24.136	0.551
60.	20.085	34.856	4.66	24.647	0.387
70.	19.423	34.916	3.96	24.866	0.419
80.	19.125	34.955	3.55	24.972	0.459
90.	18.264	34.939	3.37	25.177	0.479
100.	17.718	35.016	3.14	25.370	0.507
110.	17.441	35.028	3.11	25.447	0.533
120.	16.532	34.959	3.16	25.610	0.555
130.	15.925	34.927	2.99	25.726	0.582
140.	15.573	34.940	2.87	25.815	0.505
150.	15.205	34.940	2.83	25.897	0.626
160.	14.914	34.937	2.71	25.959	0.648
170.	14.886	34.941	2.60	25.968	0.669
180.	14.704	34.953	2.42	26.017	0.689
190.	14.519	34.956	2.20	26.060	0.710
200.	14.370	34.954	1.99	26.090	0.730
250.	13.789	34.930	1.47	26.195	0.825
300.	13.284	34.907	1.10	26.281	0.919
350.	11.627	34.895	0.76	26.527	1.006
400.	10.581	34.742	0.52	26.668	1.082
450.	9.710	34.685	0.39	26.841	1.152
500.	8.525	34.659	0.33	26.946	1.215
550.	7.840	34.631	0.33	27.028	1.274
600.	7.515	34.621	0.36	27.068	1.330
650.	7.285	34.614	0.37	27.095	1.385
700.	6.725	34.594	0.45	27.157	1.437
750.	5.377	34.585	0.54	27.196	1.488
800.	5.143	34.581	0.54	27.224	1.537
850.	5.027	34.578	0.57	27.262	1.584
900.	5.07	34.574	0.70	27.299	1.620
950.	5.245	34.574	0.77	27.330	1.674
1000.	5.016	34.577	0.82	27.359	1.716
1498.	3.143	34.517	1.53	27.588	

CAST CONRAD-82-038 DATE 12 OCT 82 TIME 0810 GMT
LAT 05 59.5N LONG 80 50.8W



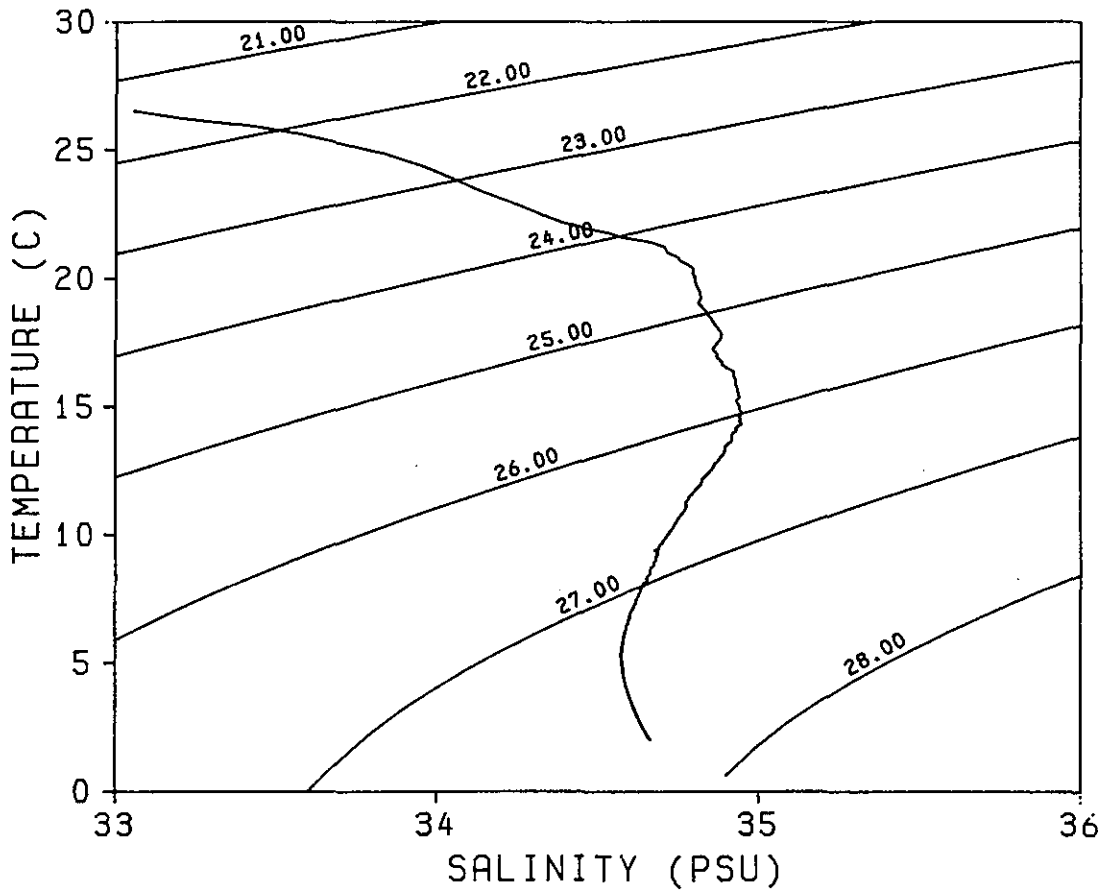
111

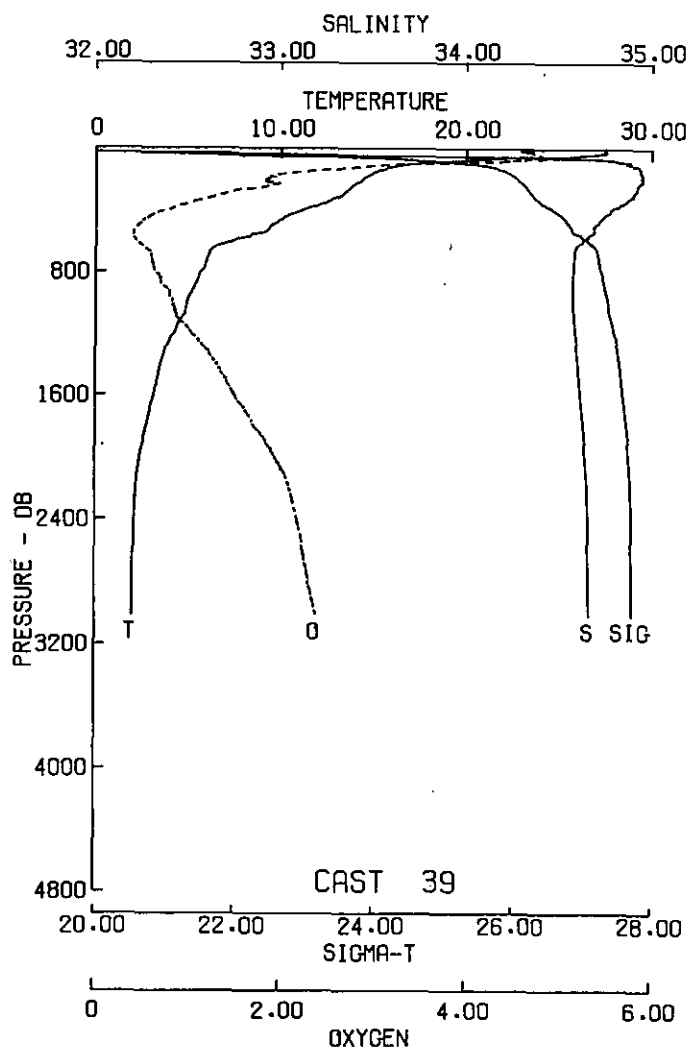


CAST CONRAD-82-038 DATE 12 OCT 82 TIME 0810 GMT
 LAT 05 59.5N LONG 80 50.8W WEATHER SEA STATE 3
 BAROMETER 28 WIND DIR 290 T SPD 10 KT VISIBILITY M
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	27.484	30.822	4.41	19.446	0.000
10.	27.492	30.822	4.33	19.444	.083
20.	27.591	33.449	4.21	20.631	.164
30.	25.011	33.550	4.77	22.538	.226
40.	22.197	34.224	4.32	23.592	.276
50.	20.736	34.452	4.37	24.166	.317
60.	18.902	34.752	3.61	24.874	.352
70.	17.576	34.871	3.26	25.294	.381
80.	17.049	34.890	3.97	25.435	.408
90.	16.725	34.901	3.77	25.520	.433
100.	16.085	34.920	2.61	25.683	.457
110.	15.917	34.935	2.48	25.733	.480
120.	15.677	34.946	2.44	25.796	.503
130.	15.450	34.951	2.36	25.851	.525
140.	15.235	34.936	2.21	25.888	.547
150.	15.069	34.942	2.11	25.929	.568
160.	14.809	34.945	2.05	25.989	.589
170.	14.648	34.947	1.97	26.025	.610
180.	14.421	34.950	1.88	26.076	.630
190.	14.355	34.948	1.86	26.089	.650
200.	14.267	34.950	1.84	26.109	.670
250.	12.689	34.925	1.65	26.211	.766
300.	12.875	34.873	1.53	26.333	.858
350.	11.450	34.792	1.16	26.550	.942
400.	10.789	34.756	.95	26.642	1.010
450.	9.592	34.701	.67	26.807	1.090
500.	8.841	34.672	.56	26.906	1.155
550.	8.172	34.644	.49	26.988	1.216
600.	7.412	34.615	.48	27.078	1.273
650.	7.213	34.604	.50	27.125	1.327
700.	6.552	34.594	.52	27.180	1.378
750.	6.177	34.587	.57	27.224	1.427
800.	5.788	34.580	.66	27.268	1.474
850.	5.406	34.579	.73	27.315	1.519
900.	5.152	34.577	.83	27.343	1.561
950.	5.017	34.577	.85	27.359	1.603
1000.	4.817	34.577	.93	27.383	1.644
1020.	4.736	34.577	.94	27.392	

CAST CONRAD-82-039 DATE 12 OCT 82 TIME 1531 GMT
LAT 06 44.4N LONG 080 19.1W





CAST CONRAD-82-039 DATE 12 OCT 82 TIME 1531 GMT
 LAT 06 44.4N LONG 080 19.1W WEATHER SEA STATE
 BAROMETER 11 WIND DIR 275 T SPD 06 KT VISIBILITY
 CLOUD AMOUNT DRY WET DEPTH M

PRES (DB)	TEMP (C)	SAL (PSU)	OXY (ML/L)	SIG-T	DELTA-D (DYN-M)
0.	27.509	30.745	4.86	19.380	0.000
10.	27.499	30.746	4.76	19.384	.083
20.	27.532	30.714	4.64	19.671	.166
30.	27.414	30.692	4.72	20.420	.244
40.	26.662	30.987	4.78	21.330	.312
50.	25.585	30.578	4.83	22.110	.373
60.	21.906	30.472	4.82	23.862	.421
70.	20.776	30.754	4.69	24.385	.458
80.	19.424	30.819	4.49	24.791	.493
90.	18.004	30.876	4.35	25.193	.523
100.	17.248	30.860	4.3	25.565	.550
110.	16.372	30.925	3.8	25.621	.575
120.	15.961	30.931	3.86	25.720	.599
130.	15.668	30.937	3.64	25.792	.622
140.	15.360	30.943	3.47	25.865	.644
150.	15.143	30.937	3.25	25.909	.666
160.	14.951	30.942	3.09	25.955	.687
170.	14.821	30.949	2.96	25.989	.708
180.	14.612	30.945	1.88	26.031	.728
190.	14.499	30.946	1.93	26.057	.749
200.	14.395	30.944	1.85	26.077	.769
250.	13.755	30.918	1.81	26.192	.866
300.	13.312	30.896	1.56	26.267	.960
350.	12.425	30.848	1.03	26.406	1.049
400.	11.094	30.776	.77	26.603	1.130
450.	10.102	30.725	.56	26.739	1.204
500.	9.438	30.689	.46	26.823	1.273
550.	8.703	30.666	.40	26.923	1.338
600.	7.420	30.620	.44	27.081	1.396
650.	6.341	30.588	.55	27.204	1.447
700.	6.107	30.583	.60	27.230	1.494
750.	5.949	30.581	.62	27.249	1.541
800.	5.716	30.577	.65	27.276	1.588
850.	5.523	30.576	.71	27.299	1.632
900.	5.334	30.572	.75	27.319	1.676
950.	5.102	30.575	.80	27.348	1.719
1000.	4.943	30.576	.83	27.367	1.761
1500.	4.354	30.608	1.41	27.561	2.126
2000.	2.439	30.643	1.94	27.672	2.421
2500.	2.095	30.659	2.22	27.713	2.678
3000.	2.016	30.666	2.22	27.724	2.932
3016.	2.013	30.666	2.39	27.724	