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CTD TRANSECT OF THE KUROSHIO EXTENSION 28-41 DEG N, 152 DEG E, --ETC(U)

MAR 81 R T WILLIAMS

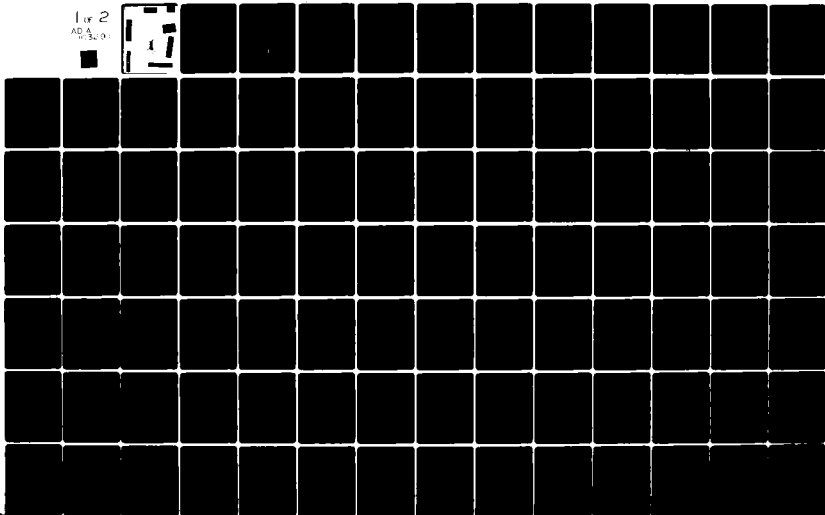
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CTD TRANSECT OF THE KUROSHIO EXTENSION

28°N - 41°N, 152°E

JULY 1980

Data Report Prepared by
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April 1981



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KUROSHIO EXTENSION ARRAY
28° - 41°N, 152°E
July 1980

This report presents CTD observations of temperature and salinity as a function of hydrostatic pressure in the Kuroshio Extension. The data was taken during the deployment of a ten element current meter array in the Kuroshio in July 1980. CTD lowerings were made from the surface to the ocean floor along a north-south section at 152°E, with twenty-two nearly equally spaced stations from 29°N -41°N. It is the first "eddy resolving" hydrographic section from the surface to the bottom in the Kuroshio Extension. The scientific objectives of this survey are to document the water masses presently in this area and compute the buoyancy frequency and geostrophic relative currents from the surface to the bottom. Identical sections will be made in May 1981 and in July 1982. The combined three sections of CTD data will be used with two year long records of currents from the moored array to describe the low-frequency variability of the Kuroshio transport and eddy field between July 1980 and July 1982.

P.P. Niiler
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February 1981

HYDROGRAPHIC DATA

The hydrographic data in this report were collected and processed by personnel of the Physical and Chemical Oceanographic Data Facility (PACODF), Scripps Institution of Oceanography. Continuous profiles of temperature, salinity, and oxygen were taken with a slightly modified Neil Brown Mark III CTD, manufactured by Neil Brown Instrument Systems of Falmouth, Massachusetts. Several rosette-mounted Niskin bottles were tripped during each cast to provide discrete temperature, salinity, and oxygen data for calibration purposes. Dissolved oxygen was not intentionally measured on this expedition, but as the CTD was equipped with an oxygen sensor, discrete bottle samples were taken and titrated for possible future calibration and use of the oxygen probe data.

The CTD pressure transducer is compensated for temperature effect in the analog circuitry. The pressure signal has been calibrated at several temperatures against an Ashcroft deadweight tester, the calibration of which is traceable to the National Bureau of Standards. The overall accuracy of the pressure signal is estimated to be ± 4 decibars with a precision of ± 2 decibars.

Temperatures at the check points were measured by deep sea reversing thermometers manufactured by Kahl Scientific Instrument Co. of El Cajon, California. These thermometers vary in precision from $\pm .01$ to $\pm .002^{\circ}\text{C}$ depending on the range of the thermometer, the narrow range low temperature thermometers being the more precise. The calibration of the thermometers is traceable to the PACODF platinum resistance standard which is checked frequently at low temperature against the triple point of water, employing at least two different triple point cells. The platinum standard is compared with the triple points of both water and diphenyl ether ($26.8685 \pm .002^{\circ}\text{C}$) when calibrating thermometers to be used at warmer temperatures. The overall accuracy of the glass thermometers against which the CTD data is calibrated is estimated to be $\pm .003$ -. 005°C at low temperatures and $\pm .01^{\circ}\text{C}$ at temperature above 6° . The precision of the CTD temperatures is estimated to be $\pm .001^{\circ}\text{C}$.

Typical check sample depths were 2-10 m, the oxygen minimum, the salinity minimum and three deeper samples, including one at the bottom. Salinity determinations were made on all water samples with a Plessey inductive laboratory salinometer.

Salinity calibrations were handled as follows: discrete salinities and uncorrected CTD salinities were plotted versus latitude. From this it was determined that a conductivity shift occurred at the bottom of station 6 cast 1. Stations 2 through 6 (down casts) had lower CTD salinity values at the bottom than stations 6 (up cast) through 27. Also the hydrographic salts for stations 2 through 5 were about $.01^{\circ}/\text{oo}$ higher than the rest of the cruise. These were salts from one salinometer run and are considered to be in error. Stations 6 (up cast) through 27 were calibrated to their hydrographic salts. Stations 2 through 6 were calibrated to bring them in line with the hydrographic values of the latter stations in the cruise. The estimated accuracy of the CTD salinity data is $\pm .006$.

Dissolved oxygen was determined by single titrations employing the Winkler method as revised by J. H. Carpenter (1965).

CTD DATA PROCESSING

Pressure, temperature, and conductivity are first converted from 16-bit integer values to engineering values. A "box car" filter is next applied which rejects conductivities less than 26 mmho/cm and temperatures outside the range -2 to 32°C. A gradient filter is then applied which rejects data where:

1. Pressure changes more than 3db/frame,
2. Temperature uncompensated for time response changes more than .5°C/frame,
3. Conductivity changes more than .5 mmho/cm/frame.

The conductivity response is matched to the temperature response with a lag filter of exponentially decreasing coefficients.

After calculation of salinity from pressure, temperature, and salinity a "box car" filter is applied to pressure and salinity, rejecting:

1. Pressures less than 0 db and greater than the maximum pressure of the casts,
2. Salinities outside the range of 32 ‰ to 38 ‰.

The data is divided into 2.5 decibar blocks and averaged, then standard deviations are computed. The data is subjected to two passes through a standard deviation filter. On the first pass, temperature or salinity data exceeding $4\sigma + .004$ are rejected and the average and standard deviations are adjusted. On the second pass, temperature or salinity data exceeding $2\sigma + .004$ are rejected. The averages are adjusted for the rejected data and a final gradient filter is applied which rejects:

1. Shallower than 160 db, temperature changes greater than 1.5°C/db,
2. Deeper than 160 db, temperature changes greater than .18°C/db,
3. Shallower than 160 db, salinity changes greater than 1.500‰/db,
4. Deeper than 160 db, salinity changes greater than .180‰/db.

The data is then stored in the files and calibrated to the bottle data.

Variations in depths of isotherms and isohalines were observed frequently between down and up traces from the CTD. Therefore, the CTD data taken during lowering cannot be expected to agree in all cases with the Niskin data taken on the up trace, particularly in regions of large gradients.

The following table gives the means of the difference obtained by subtracting the corrected CTD data from the upper and lower Niskin bottle data, and the standard deviations of those differences.

	Temperature Degrees		Salinity Per Mil	
	<u>Shallow</u>	<u>Deep</u>	<u>Shallow</u>	<u>Deep</u>
Mean	-0.0475	-0.0004	0.0020	0.0004
Standard Deviation	0.0630	0.0011	0.0182	0.0063

Potential temperature, salinity, and several calculated parameters are tabulated in this report for each CTD cast at pressure intervals of 10 decibars. Individual station plots include potential temperature, salinity, and sigma theta versus depth, and potential temperature, salinity, and sigma theta versus depth, and potential temperature versus salinity. Niskin bottle salinities and reversing thermometer temperature from CTD check samples are overlaid on the CTD traces. Offset sequential station plots of potential temperature and salinity from 0 to 1600 meters and from 1500 to 6000 depth are also included to illustrate changes from station to station. The profiles for each station are offset by 5°C and 0.5°/oo from those of the previous station for shallow plots and 0.5°C and 0.05/oo for deep profiles.

APPENDIX A

1. Salinity - calculated from temperature, pressure, conductivity, and previous salinity.

```

SUBROUTINE SALCQ(T,P,G,SP,S)
CC      SALCQ USED TO BE SALCP. SALCP IS NOW A ASM PROGRAM AND
CC      RESIDES IN THE EXECUTIVE
C      SOURCE.
C      WOODS HOLE OCEANOGRAPHIC INSTITUTION
C      TECHNICAL MEMORANDUM NO.4-71      MAY 1971
C      COMPUTER PROGRAM FOR REAL TIME DIGITAL ACQUISITION
C      CONDUCTIVITY, TEMPERATURE, AND PRESSURE.
C      AUTHORS: C.D. TOLLIVUS, G.H. POWER, AND D.J. EKSTRAND
C
C      SALCP CALCULATES SALINITY FROM CONDUCTIVITY
C      PARAMETERS ARE TEMPERATURE,PRESSURE,CONDUCTIVITY,PREVIOUS SALINITY
C
      GO=42.909
      IF (P) 100,50,100
50      RP=1.
      GO TO 200
100     GT=1.5192-4.5302E-2*T+8.3089E-4*T*T -7.9E-6*T*T*T
      FP=1.042E-3*P-3.3913E-8*P*P +3.3E-13*P*P*P
      HP=4.E-4+2.577E-5*P-2.492E-9*P*P
      RJT=1.-.1535*T+8.276E-3*T*T-1.657E-4*T*T*T
      RLT=6.95E-3-7.6E-5*T
      RMS=35.-SP
      RP=1.+01*(GT*FP+HP*RJT)*(1.+RLT*RMS)
200     PT=.67652453+T*(.20131661E-1+T*(.99886585E-4+T*(-.19426015E-6+
1       T*(-.67249142E-8))) )
      RT=G/(GO*PT*RP)
      R=RT+(RT-1.)*(0175*RT-.0045*RT*RT)
1       *(-1.+08*T-.00089 *T*T )
      S=-.73469+R*(32.28071+R*(3.4775-R*.02395))
      RETURN
      END

```

The above routine was developed for temperatures based on the 1948 International Practical Temperature Scale. The conversion from IPTS-68 to IPTS-48 is approximated in the calling routine by the expression

$$T_{48} = T_{68} + 4.4E-6 * T_{68} * (100 - T_{68}).$$

2. Potential Temperature

```

SUBROUTINE TPOT(PRESS,TEMP,SAL,POT)
C      THIS PROGRAM COMPUTES POTENTIAL TEMPERATURE FROM PRESSURE, TEMPERATURE
C      AND SALINITY.
C      PRESSURE DATA MUST BE IN DECIBARS
C      B. HELLAND-HANSEN, THE OCEAN WATERS. INTERN. REV. GES. HYDROBIOL.
C      HYDROGR., (1912), SUPPL. BD III, H. 2, 1-84.
      P=PRESS
      A=TEMP*(1.014E-5+TEMP*(-1.27E-7+TEMP*2.7E-9) )
      B=SAL*(1.322E-6-TEMP *2.62E-8+SAL*4.1E-9)
      C=P*(9.14E-9+TEMP*(-2.77E-10+TEMP*9.5E-13)-P*1.557E-13)
      POT=TEMP-P*(-1.6E-5+A+B+C)
      RETURN
      END

```

3. Sigma Theta

```

SUBROUTINE SIGMT(S,I,SIG)
C
C PARAMETERS ARE SALINITY AND TEMPERATURE
C SOURCE.
C DEEP-SEA RESEARCH, 1970, VOL. 17, PP 679 TO 689.
C PERAMON PRESS. PRINT IN GREAT BRITAIN.
C THE SPECIFIC GRAVITY/SALINITY/TEMPERATURE RELATIONSHIP IN
C NATURAL SEA WATER.
C AUTHORS
C R.A. COX, M.J. MCCARTNEY AND F. CULKIN.
C
C SPECIFIC GRAVITY FROM SALINITY (PARTS PER MILLE) AND TEMPERATURE
C (DEGREES C).
C
      IF(IXCH(S))30,30,20
20 IF(IXCH(T))30,30,40
30 SIG=2.2E-22
      GO TO 50
40 SIG=8.00969062E-2 +5.88194023E-2*T
      1 +7.97018644E-1*S -8.11465413E-3*T*T
      2 -3.25310441E-3*S*T +1.31710842E-4*S*S
      3 +4.76600414E-5*T*T*T +3.89187483E-5*S*T*T
      4 +2.87971530E-6*S*S*T -6.11831499E-8*S*S*S
C
50 RETURN
END

```

4. Specific Volume

```

FUNCTION ALPH2(SS,TT,PP)
C
C ALPH2 CALCULATES SPECIFIC VOLUME
C PARAMETERS ARE SALINITY, TEMPERATURE, PRESSURE
C (B) SIGMA ZERO AND T BY COX ET AL 1970 ALPHA (ALPH2) BY EKMAN EQN 1908
C V. W. EKMAN, DIE ZUSAMMENDRUCKBARKEIT DES MEERWASSERS, PUBL. CIRC.
C CONS. EXPLOR. MER, (1908), 43, 1-47.
C
      S=SS
      T=TT
      P=PP
      CALL SIGMT(S,0.,SIG)
      CALL SIGMT(S,T,SIGM)
      AL = 1.0/(1.0+1.E-3*SIGM )
      ALPH2 = AL -P*AL *1.E-9*(4886.0/(1.0+1.83E-5*P)-(227.0+
* 28.33*T-0.551*T*T+0.004*T*T*T)+P*1.E-4*(105.5+9.50*T-0.158*T*T)
* -1.5*P*P*T*1.E-8-(SIG -28.0)/10.0*(147.3-2.72*T+0.04*T*T-p*1.E-4
* *(32.4-0.87*T+ 0.02*T*T)))+(SIG -28.0)/10.0*(SIG -28.0)/10.0
* *(4.5-0.1*T-P*1.E-4*(1.8-0.06*T)))
      RETURN
END

```

5. Transport function - the integral of dynamic depth with respect to depth,

$$\int_0^Z \int_0^P \delta \text{ dpdZ}$$

```

SUBROUTINE TRNSP(HC,HT,PREIN,NUM)
DIMENSION C(1),T(1)
C = VIRTUAL ARRAY CONTAINING DYNAMIC HEIGHT
C = VIRTUAL ARRAY TO STORE TRANSPORT
PREIN = PRESSURE INTERVAL
NUM = NUMBER OF RECORDS TO COMPUTE
T(1)=0.0
TLAST=0.0
M=NUM-1
DO 100 I=1,M
T(I+1)=TLAST+(C(I+1)+C(I))/2.0*(DEEP(I*PREIN)-DEEP((I-1)*PREIN))
TLAST=T(I+1)
100 CONTINUE
RETURN
END

```

6. Sound Velocity

```

FUNCTION CVEL(S,T,PP,CSTP)
C TAKEN FROM V. A. DEL GROSSO - NAVAL RESEARCH LAB 1974
C EQUATION KNOWN AS NRL II
C STANDARD DEVIATION OF 0.05 M/SEC
C T IS IN DEGREES CELSIUS
C S IS IN PARTS PER THOUSAND
C P IS IN KILOGRAMS PER SQUARE CENTIMETER GAUGE
C
C CONVERT TO DECIBARS
DATA CHECK/2.2E-22/
IF(S.EQ.CHECK.OR.T.EQ.CHECK.OR.PP.EQ.CHECK) GO TO 100
P=PP*0.1019716
C0=1402.392
DELTA CT=0.501109398873E+1*T -0.550946843172E-1*T**2
*+ 0.221535969240E-3*T**3
DELTA CS= 0.132952270781E+1*S +0.120955756844E-3*S**2
DELTA CP=0.156059257041*P +0.24499068841E-4*P**2
*-0.083392332513E-8*P**3
DCSTP=-0.127562783426E-1*T*S +0.635191613309E-2*T**2*P
*+ 0.265484716608E-7*T**2*P**2-0.159349479045E-5*T*P**2
*+0.522116437235E-9*T*P**3 -0.438031096213E-6*T**3*P
*-0.161674495909E-8*S**2*P**2 +0.968403156410E-4*T**2*S
*+0.485639620015E-5*T*S**2*P -0.340597039004E-3*T*S*P
CSTP=C0+DELTA CT+DELTA CS+DELTA CP+DCSTP
RETURN
100 CSTP=CHECK
RETURN
END

```

7. Vaisala frequency (squared, $\times 10^6$). The Vaisala frequency, N , is defined as:

$$N = -\left(\frac{g}{\rho} \frac{d\rho}{dZ} - \frac{g^2}{C^2}\right)^{\frac{1}{2}}$$

where g = gravitational acceleration,

ρ = in situ density,

Z = depth, and

C = sound velocity.

Assuming hydrostatic equilibrium, $dP = \rho g dZ$ and rearranging:

$$N^2 = g^2 \left(\frac{d\rho}{dP} - \frac{1}{C^2}\right)$$

The interval over which the gradient of density with respect to pressure was calculated in this report is +10 decibars from the pressure at which the Vaisala frequency is reported.

Kuroshio Extension Array
List of Participants
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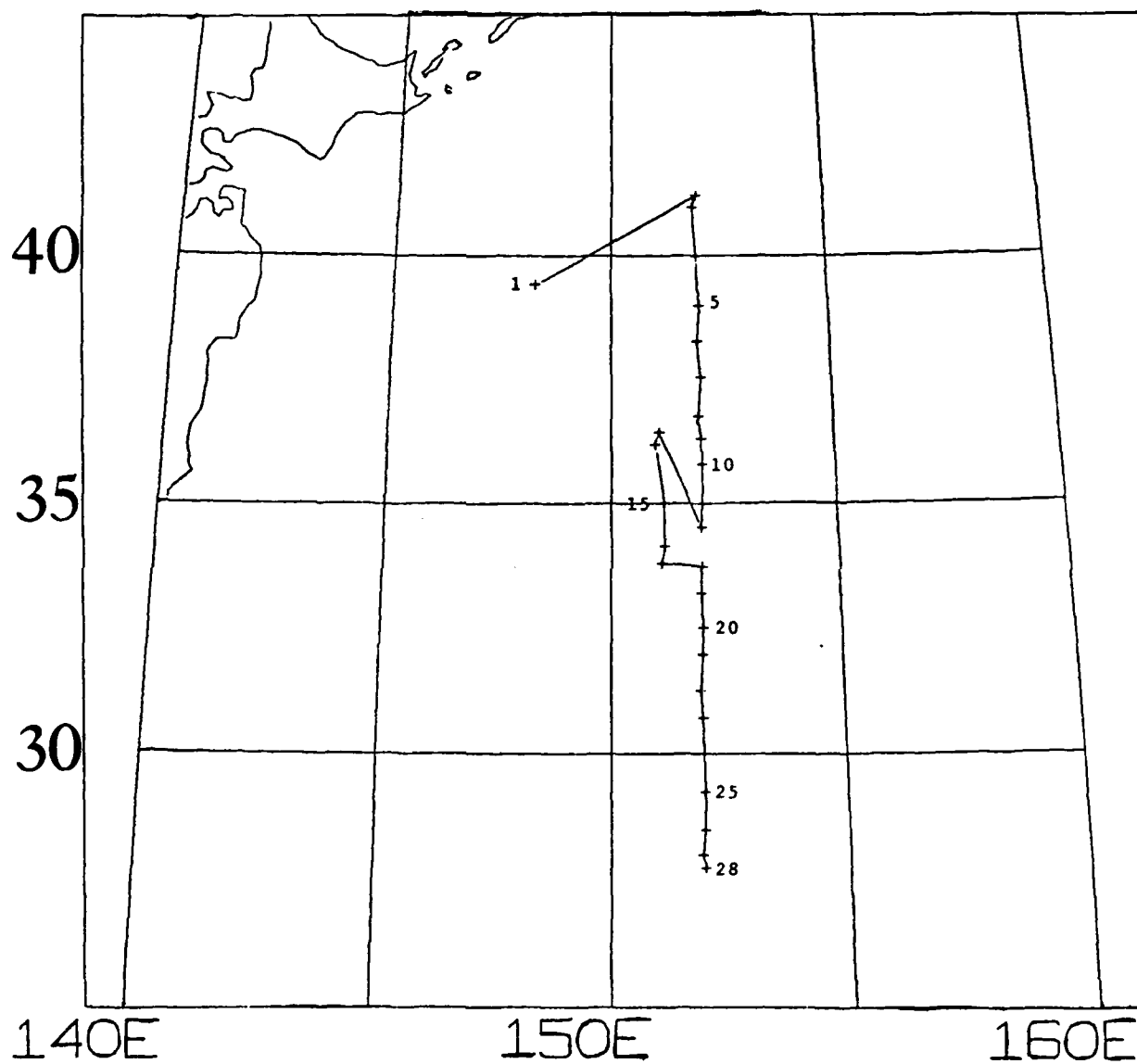
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KUROSHIO EXTENSION ARRAY

R/V THOMAS WASHINGTON



STATION AND CAST DESCRIPTION

RAMA-4				R/V T. MASHINGTON								REMARKS
STATION	CAST	DATE	CAST TYPE	LATITUDE	LONGITUDE	TIME GMT	BOTTOM DEPTH					
1	1	3 JUL 80	SPE	39DEG 25.1MIN N	148DEG 15.1MIN E		5525	* HEIGHT TEST				
	2	3 JUL 80	CTD	39DEG 25.1MIN N	148DEG 15.1MIN E	0500	5525	* CTD #10, TEST STATION				
2	1	4 JUL 80	CTD	41DEG 13.7MIN N	152DEG 0.6MIN E	0259	5354	* CTD #10, 5 CHECK SAMPLES				
3	1	4 JUL 80	SPE	40DEG 59.2MIN N	151DEG 54.8MIN E		5361	* BUOY TESTS				
	2	4 JUL 80	CTD	40DEG 59.2MIN N	151DEG 54.8MIN E	1644	5361	* CTD #10, 6 CHECK SAMPLES				
3	3	4 JUL 80	SPE	40DEG 59.4MIN N	152DEG 2.6MIN E	0048	5361	* MOORING #1 (695)				
4	1	5 JUL 80	CTD	39DEG 59.4MIN N	151DEG 59.7MIN E	0923	5350	* CTD #10, 6 CHECK SAMPLES				
5	1	5 JUL 80	SPE	38DEG 58.1MIN N	152DEG 2.6MIN E	2130	5647	* MOORING #2 (696)				
	2	5 JUL 80	CTD	38DEG 59.4MIN N	152DEG 2.8MIN E	0104	5647	* CTD #10, 5 CHECK SAMPLES				
6	1	6 JUL 80	CTD	38DEG 15.3MIN N	151DEG 59.0MIN E	1125	5766	* CTD #10, 6 CHECK SAMPLES				
7	1	6 JUL 80	SPE	37DEG 31.3MIN N	152DEG 2.6MIN E	2256	5845	* MOORING #3 (697)				
	2	7 JUL 80	CTD	37DEG 29.9MIN N	152DEG 2.1MIN E	0210	5845	* CTD #10, 6 CHECK SAMPLES				
7	3	7 JUL 80	SPE	37DEG 29.9MIN N	152DEG 2.1MIN E		5845	* BUOY TESTS				
8	1	7 JUL 80	CTD	36DEG 44.0MIN N	151DEG 58.3MIN E	1753	5455	* CTD #10, 6 CHECK SAMPLES				
9	1	8 JUL 80	SPE	36DEG 16.7MIN N	152DEG 1.9MIN E	0432	5551	* MOORING #4 (698)				
	2	8 JUL 80	CTD	36DEG 16.6MIN N	152DEG 2.3MIN E	0810	5555	* CTD #10, 6 CHECK SAMPLES				
10	1	8 JUL 80	CTD	35DEG 46.1MIN N	152DEG 2.4MIN E	1812	5892	* CTD #10, 6 CHECK SAMPLES				
11	1	9 JUL 80	SPE	34DEG 58.0MIN N	152DEG 2.1MIN E	0723	6042	* MOORING #5 (699)				
11	2	9 JUL 80	CTD	34DEG 58.8MIN N	152DEG 3.7MIN E	1050	6109	* CTD #10, 6 CHECK SAMPLES				
12	1	9 JUL 80	CTD	34DEG 30.5MIN N	152DEG 0.2MIN E	2047	6113	* CTD #10, 6 CHECK SAMPLES				
13	1	10 JUL 80	CTD	36DEG 26.4MIN N	151DEG 4.8MIN E	0043	5487	* CTD #10, 6 CHECK SAMPLES				
14	1	11 JUL 80	CTD	36DEG 11.2MIN N	150DEG 60.0MIN E	0438	5821	* CTD #10, 6 CHECK SAMPLES				
15	1	11 JUL 80	CTD	35DEG 0.8MIN N	151DEG 12.0MIN E	1208	6065	* CTD #10, 6 CHECK SAMPLES				
16	1	11 JUL 80	CTD	34DEG 7.9MIN N	151DEG 11.0MIN E	1929	5967	* CTD #10, 6 CHECK SAMPLES				
17	1	11 JUL 80	CTD	33DEG 47.4MIN N	151DEG 7.0MIN E	2314	5974	* CTD #10, 6 CHECK SAMPLES				
18	1	12 JUL 80	CTD	33DEG 43.7MIN N	151DEG 59.8MIN E	0614	6008	* CTD #10, 6 CHECK SAMPLES				
18	2	12 JUL 80	SPE	33DEG 47.5MIN N	152DEG 3.2MIN E	1049	5952	* MOORING #6 (700)				
19	1	12 JUL 80	CTD	33DEG 11.5MIN N	151DEG 59.2MIN E	0107	5908	* CTD #10, 6 CHECK SAMPLES				
20	1	13 JUL 80	CTD	32DEG 30.0MIN N	152DEG 0.6MIN E	1026	5773	* CTD #10, 6 CHECK SAMPLES				
20	2	13 JUL 80	SPE	32DEG 30.1MIN N	152DEG 5.9MIN E	1431	5773	* BUOY TEST				
20	3	13 JUL 80	SPE	32DEG 28.4MIN N	152DEG 10.5MIN E	2047	5770	* MOORING #7 (701)				
21	1	14 JUL 80	CTD	31DEG 57.6MIN N	151DEG 59.9MIN E	0346	6180	* CTD #10, 6 CHECK SAMPLES				
22	1	14 JUL 80	CTD	31DEG 14.7MIN N	151DEG 56.7MIN E	1309	5861	* CTD #10, 6 CHECK SAMPLES				
22	2	14 JUL 80	SPE	31DEG 15.6MIN N	152DEG 5.0MIN E	2011	5899	* MOORING #8 (702)				
23	1	15 JUL 80	CTD	30DEG 41.8MIN N	151DEG 58.4MIN E	0227	5921	* CTD #10, 6 CHECK SAMPLES				
23	2	15 JUL 80	SPE	30DEG 42.3MIN N	151DEG 59.2MIN E		5899	* BUOY TEST				
24	1	15 JUL 80	CTD	30DEG 0.1MIN N	151DEG 59.8MIN E	1607	5970	* CTD #10, 6 CHECK SAMPLES				
24	2	15 JUL 80	SPE	30DEG 1.2MIN N	152DEG 0.1MIN E	2214	5966	* MOORING #9 (703)				
25	1	16 JUL 80	CTD	29DEG 14.1MIN N	152DEG 0.2MIN E	0744	5891	* CTD #10, 6 CHECK SAMPLES				
26	1	16 JUL 80	CTD	28DEG 28.9MIN N	151DEG 59.4MIN E	1633	5918	* CTD #10, 6 CHECK SAMPLES				
27	1	17 JUL 80	SPE	27DEG 59.5MIN N	151DEG 56.3MIN E	0210	6073	* MOORING #10 (704)				
27	2	17 JUL 80	CTD	27DEG 59.0MIN N	151DEG 59.0MIN E	0538	6101	* CTD #10, 6 CHECK SAMPLES				
28	1	17 JUL 80	CTD	27DEG 44.0MIN N	152DEG 0.1MIN E	1131	5959	* CTD #10, 6 CHECK SAMPLES				

CTD DATA REPORT

CTD REPORT RAMA-4 STATION: 2 CAST: 1 DN
 POSITION: 41DEG 13.7MIN N 152DEG 0.6MIN E DATE: 4 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
0.0	0.0	15.256	15.256	34.198	25.330	25.330	266.04	0.000	0.0	1506.54	
10.0	9.9	15.227	15.225	34.199	25.338	25.382	265.63	0.027	0.1	1506.61	13.3
20.0	19.8	15.119	15.116	34.193	25.357	25.446	264.07	0.053	0.5	1506.43	78.0
30.0	29.8	13.860	13.856	34.024	25.499	25.632	250.89	0.079	1.2	1502.34	195.6
40.0	39.7	13.251	13.245	34.203	25.763	25.941	226.04	0.104	2.1	1500.71	286.4
50.0	49.6	11.516	11.510	34.191	26.092	26.317	194.90	0.125	3.2	1494.97	206.8
60.0	59.5	11.071	11.064	34.212	26.190	26.461	185.76	0.144	4.6	1493.61	75.2
70.0	69.5	10.878	10.869	34.240	26.247	26.563	180.58	0.162	6.1	1493.12	50.2
80.0	79.4	10.479	10.469	34.208	26.293	26.655	176.38	0.180	7.8	1491.83	57.3
90.0	89.3	9.974	9.963	34.187	26.364	26.772	169.79	0.197	9.7	1490.16	72.3
100.0	99.2	9.407	9.396	34.164	26.441	26.895	162.61	0.214	11.7	1488.23	50.6
110.0	109.1	8.998	8.986	34.133	26.467	26.967	160.26	0.230	13.9	1487.22	27.6
120.0	119.1	8.844	8.831	34.119	26.497	27.043	157.62	0.246	16.3	1486.42	30.6
130.0	129.0	8.372	8.358	34.066	26.529	27.124	154.66	0.262	18.8	1484.76	20.4
140.0	138.9	7.112	7.099	34.034	26.543	27.182	153.43	0.277	21.3	1483.90	10.4
150.0	148.8	6.716	6.701	33.982	26.548	27.234	149.02	0.293	23.7	1482.47	19.9
160.0	158.7	6.783	6.768	33.960	26.578	27.314	149.93	0.308	26.3	1478.87	22.2
170.0	168.7	6.675	6.659	33.846	26.598	27.380	148.21	0.323	30.4	1478.61	22.6
180.0	178.6	6.516	6.500	33.853	26.624	27.453	145.79	0.337	33.7	1478.16	16.9
190.0	188.5	6.157	6.140	33.802	26.630	27.507	145.22	0.352	37.1	1476.84	10.9
200.0	198.4	5.917	5.900	33.781	26.643	27.567	143.97	0.366	40.6	1476.02	9.4
210.0	208.3	5.696	5.678	33.751	26.647	27.618	143.68	0.381	44.3	1475.26	11.0
220.0	218.2	5.521	5.503	33.746	26.664	27.682	142.11	0.395	48.2	1474.71	12.5
230.0	228.2	5.568	5.549	33.763	26.672	27.736	141.50	0.409	52.2	1475.08	12.0
240.0	238.1	5.219	5.200	33.730	26.686	27.799	140.04	0.423	56.3	1473.79	20.3
250.0	248.0	5.043	5.023	33.735	26.710	27.870	137.77	0.437	60.6	1473.24	23.2
260.0	257.9	5.103	5.082	33.773	26.734	27.939	135.71	0.451	65.0	1473.69	21.2
270.0	267.8	5.128	5.106	33.803	26.755	28.006	133.86	0.465	69.5	1474.00	19.4
280.0	277.7	4.909	4.887	33.794	26.772	28.072	132.17	0.478	74.2	1473.25	11.3
290.0	287.6	4.541	4.519	33.745	26.773	28.122	131.91	0.491	79.0	1471.84	3.4
300.0	297.6	4.489	4.467	33.741	26.776	28.171	131.73	0.504	83.9	1471.78	4.9
310.0	307.5	4.243	4.220	33.715	26.781	28.225	131.17	0.517	89.0	1470.89	17.1
320.0	317.4	4.639	4.615	33.807	26.812	28.299	128.60	0.531	94.2	1472.81	22.4
330.0	327.3	4.600	4.575	33.824	26.830	28.363	127.02	0.543	99.5	1472.83	11.7
340.0	337.2	4.465	4.439	33.812	26.835	28.416	126.54	0.556	104.9	1472.42	14.2
350.0	347.1	4.729	4.702	33.880	26.860	28.485	124.44	0.569	110.5	1473.76	18.8
360.0	357.0	4.691	4.663	33.894	26.876	28.547	123.08	0.581	116.2	1473.78	12.5
370.0	366.9	4.525	4.497	33.882	26.884	28.603	122.24	0.593	122.0	1473.24	6.7
380.0	376.8	4.434	4.405	33.873	26.887	28.653	122.01	0.605	128.0	1473.01	8.4
390.0	386.7	4.259	4.230	33.865	26.899	28.713	120.81	0.618	134.0	1472.44	15.9
400.0	396.7	4.146	4.117	33.873	26.916	28.778	119.09	0.630	140.2	1472.14	13.7
410.0	406.6	4.079	4.049	33.878	26.925	28.834	118.33	0.641	146.5	1472.03	13.5
420.0	416.5	4.174	4.143	33.912	26.945	28.899	116.66	0.653	152.9	1472.91	17.3
430.0	426.4	3.967	3.936	33.904	26.959	28.963	115.14	0.665	159.4	1471.92	17.3
440.0	436.3	3.905	3.874	33.904	26.965	29.015	114.58	0.676	166.1	1471.82	9.7
450.0	446.2	3.959	3.927	33.928	26.979	29.075	113.44	0.688	172.8	1472.24	11.8
460.0	456.1	3.851	3.818	33.927	26.989	29.132	112.46	0.699	179.7	1471.95	7.3
470.0	466.0	3.747	3.714	33.917	26.991	29.182	112.21	0.710	186.7	1471.66	11.5
480.0	475.9	3.721	3.687	33.939	27.011	29.249	110.39	0.721	193.8	1471.74	13.8
490.0	485.8	3.777	3.742	33.957	27.020	29.303	109.70	0.732	201.0	1472.16	12.6
500.0	495.7	3.797	3.761	33.982	27.038	29.367	108.12	0.743	208.3	1472.44	18.4
510.0	505.6	3.772	3.736	34.004	27.058	29.434	106.29	0.754	215.7	1472.53	15.8
520.0	515.5	3.755	3.718	34.017	27.070	29.492	105.23	0.765	223.2	1472.63	9.7
530.0	525.4	3.725	3.687	34.022	27.077	29.546	104.61	0.775	230.8	1472.68	6.9
540.0	535.3	3.643	3.605	34.019	27.083	29.599	104.06	0.786	238.6	1472.49	10.3
550.0	545.2	3.626	3.587	34.035	27.097	29.660	102.76	0.796	246.4	1472.60	12.3
560.0	555.1	3.595	3.556	34.044	27.108	29.717	101.84	0.806	254.3	1472.64	9.8
570.0	565.0	3.647	3.607	34.063	27.118	29.772	101.04	0.816	262.4	1473.05	7.4
580.0	574.9	3.697	3.656	34.077	27.124	29.824	100.60	0.826	270.5	1473.44	13.7
590.0	584.8	3.939	3.896	34.140	27.151	29.893	98.57	0.836	278.7	1474.70	15.7
600.0	594.7	4.113	4.068	34.178	27.164	29.949	97.73	0.846	287.1	1475.64	8.1
610.0	604.6	4.164	4.118	34.194	27.171	30.001	97.19	0.856	295.5	1476.04	6.8
620.0	614.4	4.137	4.090	34.199	27.178	30.055	96.62	0.866	304.0	1476.10	10.9
630.0	624.3	4.049	4.002	34.205	27.192	30.116	95.28	0.875	312.6	1475.90	13.5
640.0	634.2	4.003	3.955	34.214	27.204	30.175	94.19	0.885	321.3	1475.88	12.8
650.0	644.1	3.974	3.926	34.227	27.217	30.234	92.38	0.894	330.1	1475.94	10.7
660.0	654.0	3.967	3.918	34.236	27.225	30.289	92.02	0.903	339.0	1476.08	5.7
670.0	663.9	3.933	3.883	34.240	27.228	30.338	92.77	0.913	348.0	1476.23	3.6
680.0	673.8	3.893	3.843	34.247	27.236	30.392	91.41	0.922	357.1	1476.27	9.0
690.0	683.7	3.890	3.839	34.252	27.245	30.448	90.53	0.931	366.3	1476.32	9.4
700.0	693.7	3.842	3.791	34.256	27.253	30.503	89.80	0.940	375.5	1476.24	9.3
710.0	703.6	3.815	3.763	34.265	27.263	30.560	88.91	0.949	384.9	1476.30	9.2
720.0	713.5	3.817	3.764	34.276	27.272	30.614	88.19	0.958	394.3	1476.48	7.7
730.0	723.4	3.784	3.731	34.280	27.278	30.667	87.62	0.967	403.8	1476.51	10.3
740.0	733.3	3.746	3.692	34.292	27.292	30.727	86.38	0.975	413.4	1476.53	11.8
750.0	743.2	3.692	3.637	34.297	27.301	30.784	85.50	0.984	423.1	1476.47	9.1
760.0	753.1	3.668	3.613	34.304	27.309	30.838	84.78	0.992	432.9	1476.54	7.7
770.0	763.0	3.638	3.582	34.309	27.316	30.892	84.19	1.001	442.8	1476.59	6.4
780.0	772.9	3.618	3.562	34.313	27.321	30.943	83.73	1.009	452.7	1476.67	7.5
790.0	782.8	3.544	3.487	34.314	27.329	30.999	82.92	1.018	462.7	1476.52	6.1
800.0	792.6	3.518	3.461	34.314	27.331	31.048	82.72	1.026	472.8	1476.57	6.3
810.0	802.5	3.452	3.394	34.317	27.340	31.104	81.86	1.034	483.0	1476.46	7.0
820.0	812.4	3.396	3.338	34.314	27.343	31.154	81.55	1.042	493.3	1476.38	5.4
830.0	822.3	3.352	3.293	34.316	27.349	31.207	80.99	1.050	503.6	1476.36	7.4
840.0	832.2	3.320	3.261	34.322	27.356	31.261	80.29	1.059	514.1	1476.40	7.1
850.0	842.1	3.364	3.304	34.336	27.364	31.313	79.79	1.067	524.6	1476.76	7.3
860.0	852.0	3.324	3.263	34.341	27.371	31.368	79.06	1.075	535.2	1476.76	7.3
870.0	861.9	3.285	3.224	34.343	27.377	31.420	78.56	1.082	545.8	1476.76	5.2
880.0	871.8	3.254	3.192	34.344	27.380	31.470	78.23	1.090	556.6	1476.80	5.1
890.0	881.6	3.215	3.153	34.346	27.385	31.522	77.72	1.098	567.4	1476.80	4.9
900.0	891.5	3.197	3.134	34.348	27.389	31.572	77.44	1.106	578.3	1476.89	5.8
910.0	901.4	3.157	3.094	34.352	27.396	31.626	76.78	1.114	589.3	1476.88	7.3
920.0	911.3	3.131	3.067	34.357	27.402	31.679	76.20	1.121	600.3	1476.94	4.8
930.0	921.2	3.065	3.001	34.351	27.403	31.728	76.01	1.129	611.4	1476.82	4.9
940.0	931.1	3.053	2.988	34.358							

CTD REPORT RAMA-4 STATION: 2 CAST: 1 DN
 POSITION: 41DEG 13.7MIN N 152DEG 0.6MIN E DATE: 4 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS SQD-1E6	FQ
980.0	970.6	2.988	2.921	34.374	27.428	31.985	73.79	1.166	668.1	1477.33	5.7	
990.0	980.5	2.988	2.880	34.375	27.433	32.036	73.35	1.174	679.7	1477.33	3.6	
1000.0	990.4	2.944	2.875	34.377	27.435	32.084	73.23	1.181	691.3	1477.48	3.3	
1050.0	1039.8	2.917	2.845	34.400	27.456	32.335	71.54	1.217	750.6	1478.21	2.7	
1100.0	1089.2	2.808	2.733	34.414	27.477	32.589	69.63	1.252	811.6	1478.58	4.7	
1150.0	1138.6	2.723	2.645	34.433	27.499	32.843	67.59	1.287	874.3	1479.06	3.4	
1200.0	1188.0	2.647	2.566	34.446	27.516	33.092	66.09	1.320	938.7	1479.57	4.2	
1250.0	1237.3	2.571	2.486	34.462	27.536	33.342	64.35	1.353	1004.6	1480.08	3.8	
1300.0	1286.7	2.512	2.424	34.475	27.551	33.588	62.01	1.385	1072.2	1480.67	3.2	
1350.0	1336.0	2.465	2.374	34.485	27.563	33.830	62.02	1.416	1141.3	1481.30	3.3	
1400.0	1385.4	2.405	2.310	34.496	27.577	34.075	60.80	1.447	1211.9	1481.88	1.6	
1450.0	1434.7	2.341	2.243	34.506	27.591	34.319	59.60	1.477	1284.0	1482.44	3.6	
1500.0	1484.0	2.288	2.197	34.518	27.604	34.561	58.50	1.506	1357.7	1483.09	3.9	
1550.0	1533.3	2.250	2.155	34.527	27.614	34.801	57.63	1.535	1432.6	1483.77	1.7	
1600.0	1582.6	2.229	2.121	34.535	27.623	35.039	56.92	1.564	1509.0	1484.47	2.3	
1650.0	1631.9	2.189	2.077	34.542	27.632	35.277	56.18	1.592	1586.8	1485.13	2.3	
1700.0	1681.2	2.154	2.038	34.549	27.641	35.514	55.49	1.620	1665.9	1485.82	1.4	
1750.0	1730.5	2.118	1.999	34.558	27.651	35.753	54.83	1.648	1746.4	1486.50	2.1	
1800.0	1779.7	2.086	1.963	34.565	27.660	35.989	54.97	1.675	1828.3	1487.21	2.0	
1850.0	1829.0	2.043	1.917	34.572	27.669	36.227	53.16	1.702	1911.4	1487.86	2.2	
1900.0	1878.2	2.008	1.878	34.579	27.677	36.463	52.44	1.728	1995.8	1488.55	2.8	
1950.0	1927.4	1.973	1.839	34.586	27.686	36.699	51.72	1.754	2081.6	1489.24	1.6	
2000.0	1976.6	1.950	1.812	34.590	27.691	36.931	51.36	1.780	2168.5	1489.98	0.8	
2050.0	2025.8	1.930	1.789	34.593	27.695	37.162	51.08	1.806	2256.7	1490.73	1.6	
2100.0	2075.0	1.898	1.753	34.600	27.703	37.397	50.38	1.831	2346.2	1491.43	2.2	
2150.0	2124.2	1.870	1.721	34.605	27.710	37.630	49.88	1.856	2436.9	1492.15	1.6	
2200.0	2173.4	1.835	1.682	34.609	27.716	37.863	49.33	1.881	2528.7	1492.84	1.7	
2250.0	2222.6	1.801	1.644	34.616	27.724	38.098	48.59	1.905	2621.8	1493.54	1.9	
2300.0	2271.7	1.772	1.612	34.620	27.730	38.330	48.10	1.930	2716.0	1494.26	1.6	
2350.0	2320.9	1.747	1.583	34.625	27.736	38.561	47.61	1.954	2811.5	1494.99	1.6	
2400.0	2370.0	1.730	1.562	34.629	27.740	38.791	47.29	1.977	2908.0	1495.77	1.4	
2450.0	2419.1	1.710	1.537	34.632	27.745	39.020	46.98	2.001	3005.5	1496.52	0.5	
2500.0	2468.2	1.690	1.513	34.635	27.749	39.249	46.67	2.024	3104.5	1497.28	1.3	
2550.0	2517.3	1.672	1.491	34.638	27.753	39.477	46.38	2.047	3204.0	1498.05	1.5	
2600.0	2566.4	1.650	1.465	34.642	27.758	39.707	45.97	2.071	3305.5	1498.80	1.6	
2650.0	2615.5	1.638	1.449	34.644	27.760	39.933	45.82	2.093	3407.0	1499.60	0.9	
2700.0	2664.6	1.623	1.429	34.647	27.764	40.160	45.56	2.116	3511.1	1500.38	0.4	
2750.0	2713.8	1.608	1.410	34.650	27.768	40.388	45.31	2.139	3615.5	1501.16	1.1	
2800.0	2762.7	1.596	1.394	34.651	27.770	40.612	45.23	2.162	3720.9	1501.96	0.4	
2850.0	2811.7	1.581	1.374	34.655	27.774	40.840	44.88	2.184	3825.4	1502.75	0.9	
2900.0	2860.7	1.574	1.363	34.656	27.776	41.064	44.87	2.207	3935.1	1503.57	0.3	
2950.0	2909.7	1.564	1.348	34.657	27.778	41.288	44.81	2.229	4043.8	1504.37	0.4	
3000.0	2958.8	1.552	1.331	34.660	27.781	41.513	44.57	2.251	4153.5	1505.17	0.7	
3050.0	3007.8	1.541	1.316	34.662	27.784	41.738	44.42	2.274	4264.4	1505.98	0.8	
3100.0	3056.7	1.532	1.302	34.663	27.786	41.961	44.37	2.296	4376.3	1506.79	0.3	
3150.0	3105.7	1.526	1.291	34.665	27.788	42.184	44.29	2.318	4489.3	1507.62	0.5	
3200.0	3154.7	1.516	1.277	34.667	27.791	42.407	44.13	2.340	4603.3	1508.43	0.7	
3250.0	3203.6	1.508	1.264	34.668	27.792	42.630	44.08	2.362	4718.4	1509.25	0.2	
3300.0	3252.6	1.502	1.253	34.669	27.794	42.851	44.07	2.384	4834.5	1510.08	0.4	
3350.0	3301.5	1.496	1.242	34.670	27.795	43.073	44.06	2.406	4951.8	1510.91	0.7	
3400.0	3350.4	1.495	1.236	34.670	27.796	43.293	44.18	2.428	5070.0	1511.76	0.6	
3450.0	3399.4	1.490	1.226	34.671	27.797	43.514	44.17	2.450	5189.3	1512.59	0.6	
3500.0	3448.3	1.489	1.220	34.671	27.798	43.733	44.30	2.472	5309.9	1513.44	0.3	
3550.0	3497.2	1.482	1.208	34.673	27.800	43.954	44.18	2.495	5431.1	1514.27	0.7	
3600.0	3546.0	1.478	1.199	34.674	27.802	44.174	44.18	2.517	5553.3	1515.15	0.3	
3650.0	3594.9	1.475	1.191	34.674	27.802	44.393	44.26	2.539	5677.1	1516.06	0.5	
3700.0	3643.8	1.473	1.183	34.676	27.804	44.613	44.30	2.561	5801.1	1516.81	0.3	
3750.0	3692.6	1.469	1.174	34.676	27.805	44.832	44.30	2.583	5927.3	1517.65	0.5	
3800.0	3741.3	1.468	1.168	34.677	27.806	45.050	44.33	2.605	6054.4	1518.51	0.4	
3850.0	3790.3	1.468	1.162	34.677	27.806	45.268	44.41	2.627	6181.4	1519.31	0.4	
3900.0	3839.1	1.464	1.153	34.678	27.808	45.487	44.45	2.649	6308.4	1520.14	0.8	
3950.0	3887.9	1.463	1.147	34.679	27.809	45.705	44.50	2.671	6435.4	1520.97	0.4	
4000.0	3936.7	1.461	1.139	34.681	27.811	45.923	44.45	2.693	6562.4	1521.80	0.5	
4050.0	3985.5	1.461	1.134	34.681	27.811	46.140	44.45	2.715	6689.4	1522.63	0.5	
4100.0	4034.3	1.460	1.128	34.681	27.812	46.358	44.45	2.737	6816.4	1523.46	0.5	
4150.0	4083.1	1.460	1.121	34.681	27.813	46.576	44.45	2.759	6943.4	1524.29	0.5	
4200.0	4131.9	1.459	1.115	34.681	27.813	46.794	44.45	2.781	7070.4	1525.12	0.5	
4250.0	4180.8	1.460	1.110	34.682	27.814	47.012	44.45	2.803	7197.4	1525.95	0.5	
4300.0	4229.6	1.462	1.106	34.683	27.815	47.230	44.45	2.825	7324.4	1526.78	0.5	
4350.0	4278.5	1.463	1.102	34.683	27.815	47.448	44.45	2.847	7451.4	1527.61	0.5	
4400.0	4327.4	1.465	1.098	34.683	27.815	47.666	44.45	2.869	7578.4	1528.44	0.5	
4450.0	4376.3	1.468	1.095	34.684	27.816	47.884	44.45	2.891	7705.4	1529.27	0.5	
4500.0	4425.2	1.470	1.091	34.684	27.817	48.102	44.45	2.913	7832.4	1530.10	0.5	
4550.0	4474.1	1.474	1.089	34.684	27.817	48.320	44.45	2.935	7959.4	1530.93	0.5	
4600.0	4523.0	1.478	1.087	34.684	27.817	48.538	44.45	2.957	8086.4	1531.76	0.5	
4650.0	4571.9	1.483	1.086	34.683	27.816	48.756	44.45	2.979	8213.4	1532.59	0.5	
4700.0	4620.8	1.485	1.082	34.684	27.817	48.974	44.45	2.999	8340.4	1533.42	0.5	
4750.0	4669.7	1.490	1.080	34.685	27.818	49.192	44.45	3.021	8467.4	1534.25	0.5	
4800.0	4718.6	1.495	1.079	34.684	27.817	49.410	44.45	3.043	8594.4	1535.08	0.5	
4850.0	4767.5	1.499	1.077	34.684	27.818	49.628	44.45	3.065	8721.4	1535.91	0.5	
4900.0	4816.4	1.504	1.076	34.684	27.818	49.846	44.45	3.087	8848.4	1536.74	0.5	
4950.0	4865.3	1.508	1.073	34.684	27.818	50.064	44.45	3.109	8975.4	1537.57	0.5	
5000.0	4914.2	1.514	1.073	34.685	27.819	50.282	44.45	3.131	9102.4	1538.40	0.5	
5050.0	4963.1	1.519	1.072	34.685	27.819	50.500	44.45	3.153	9229.4	1539.23	0.5	
5100.0	5012.0	1.525	1.071	34.684	27.818	50.718	44.45	3.175	9356.4	1540.06	0.5	
5150.0	5060.9	1.530	1.070	34.684	27.818	50.936	44.45	3.197	9483.4	1540.89	0.5	
5200.0	5109.8	1.536	1.069	34.684	27.818	51.154	44.45	3.219	9610.4	1541.72	0.5	
5250.0	5158.7	1.541	1.068	34.684	27.818	51.372	44.45	3.241	9737.4	1542.55	0.5	
5300.0	5207.6	1.546	1.066	34.685	27.818	51.590	44.45	3.263	9864.4	1543.38	0.5	
5350.0	5256.5	1.553	1.066	34.684	27.818	51.808	44.45	3.285	9991.4	1		

CTD REPORT RAMA-4 STATION: 3 CAST: 2 DN
 POSITION: 40DEG 59.2MIN N 151DEG 54.8MIN E DATE: 4 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD=1E6
0.0	0.0	14.420	14.420	34.133	25.463	25.463	253.39	0.000	0.0	1503.80	
10.0	9.9	14.166	14.165	34.124	25.511	25.555	249.16	0.025	0.1	1503.13	99.1
20.0	19.8	12.882	12.879	33.985	25.668	25.758	234.43	0.049	0.5	1498.90	78.4
30.0	29.8	12.864	12.860	33.986	25.673	25.807	234.27	0.073	1.1	1499.00	172.7
40.0	39.7	11.998	11.993	34.224	26.026	26.206	200.89	0.095	1.9	1496.51	251.0
50.0	49.6	11.317	11.311	34.274	26.193	26.418	185.26	0.115	3.0	1494.38	104.7
60.0	59.5	11.178	11.170	34.305	26.243	26.513	180.77	0.133	4.2	1494.09	55.2
70.0	69.5	10.479	10.471	34.225	26.306	26.623	174.92	0.151	5.6	1491.69	70.3
80.0	79.4	9.950	9.941	34.211	26.387	26.749	167.42	0.168	7.2	1489.94	52.9
90.0	89.3	9.611	9.601	34.173	26.414	26.823	164.97	0.185	9.0	1488.83	28.8
100.0	99.2	9.287	9.276	34.144	26.445	26.899	162.21	0.201	10.9	1487.77	25.9
110.0	109.1	8.901	8.890	34.116	26.467	26.967	160.31	0.217	12.9	1486.91	24.0
120.0	119.1	8.820	8.807	34.110	26.494	27.040	157.92	0.233	15.2	1486.32	24.3
130.0	129.0	8.658	8.644	34.106	26.516	27.108	155.95	0.249	17.6	1485.88	20.6
140.0	138.9	8.323	8.308	34.064	26.535	27.173	154.27	0.264	20.1	1484.73	16.3
150.0	148.8	8.092	8.077	34.036	26.548	27.233	153.16	0.280	22.8	1483.99	17.6
160.0	158.7	7.810	7.794	34.010	26.569	27.301	151.24	0.295	25.7	1483.05	16.3
170.0	168.7	7.564	7.547	33.978	26.579	27.358	150.32	0.310	28.7	1482.23	16.8
180.0	178.6	7.401	7.383	33.977	26.602	27.427	148.30	0.325	31.8	1481.76	17.6
190.0	188.5	7.218	7.200	33.960	26.614	27.486	147.22	0.340	35.1	1481.20	18.3
200.0	198.4	6.896	6.877	33.933	26.637	27.556	145.07	0.354	38.6	1480.08	10.4
210.0	208.3	6.676	6.657	33.890	26.633	27.598	143.53	0.369	42.1	1479.32	3.9
220.0	218.2	6.403	6.383	33.851	26.643	27.658	142.65	0.383	45.9	1479.20	14.4
230.0	228.1	6.233	6.213	33.812	26.659	27.720	143.03	0.398	49.7	1477.85	9.8
240.0	238.0	6.002	5.981	33.812	26.658	27.785	143.21	0.412	53.5	1477.04	9.2
250.0	248.0	5.885	5.864	33.799	26.662	27.817	142.86	0.427	57.3	1476.02	8.6
260.0	257.9	5.773	5.751	33.791	26.669	27.871	142.22	0.441	61.2	1476.43	8.3
270.0	267.8	5.754	5.731	33.799	26.678	27.926	141.51	0.455	65.0	1476.52	8.1
280.0	277.7	5.634	5.610	33.789	26.685	27.979	140.93	0.469	68.8	1476.19	10.1
290.0	287.6	5.550	5.526	33.792	26.697	28.038	139.82	0.483	76.0	1476.02	13.6
300.0	297.6	5.655	5.630	33.828	26.713	28.099	138.52	0.497	80.8	1476.65	18.8
310.0	307.5	5.488	5.462	33.831	26.735	28.169	136.40	0.511	85.8	1476.14	21.8
320.0	317.4	5.394	5.368	33.843	26.756	28.237	134.52	0.524	90.9	1475.94	16.5
330.0	327.3	5.425	5.398	33.864	26.769	28.295	133.43	0.538	96.2	1476.25	15.5
340.0	337.2	5.325	5.297	33.872	26.787	28.360	131.76	0.551	101.6	1476.02	15.8
350.0	347.1	5.287	5.258	33.883	26.800	28.420	130.61	0.564	107.1	1476.04	15.8
360.0	357.0	5.223	5.194	33.897	26.819	28.485	128.92	0.577	112.8	1475.96	16.8
370.0	366.9	5.117	5.087	33.900	26.833	28.547	127.57	0.590	118.6	1475.69	22.9
380.0	376.8	5.026	4.996	33.926	26.864	28.625	124.69	0.603	124.5	1475.52	22.3
390.0	386.7	4.842	4.811	33.916	26.877	28.685	123.43	0.615	130.5	1474.91	13.0
400.0	396.7	4.714	4.683	33.912	26.888	28.744	122.38	0.627	136.7	1474.55	13.1
410.0	406.6	4.544	4.513	33.905	26.901	28.804	121.10	0.640	142.9	1474.00	17.6
420.0	416.5	4.445	4.413	33.918	26.922	28.872	119.15	0.652	149.3	1473.77	17.5
430.0	426.4	4.411	4.379	33.931	26.935	28.933	117.89	0.664	155.9	1473.80	9.1
440.0	436.3	4.266	4.233	33.915	26.935	28.984	117.59	0.675	162.5	1473.34	9.9
450.0	446.2	4.354	4.320	33.948	26.955	29.046	116.18	0.687	169.2	1473.91	13.3
460.0	456.1	4.495	4.460	33.983	26.968	29.103	115.22	0.699	176.1	1474.71	13.6
470.0	466.0	4.686	4.649	34.033	26.987	29.166	113.74	0.710	183.1	1475.72	15.7
480.0	475.9	4.708	4.670	34.056	27.003	29.228	112.38	0.721	190.2	1476.00	15.4
490.0	485.8	4.511	4.473	34.046	27.017	29.290	110.98	0.733	197.4	1475.34	13.0
500.0	495.7	4.387	4.349	34.041	27.026	29.347	110.07	0.744	204.7	1474.98	16.3
510.0	505.6	4.401	4.362	34.072	27.049	29.415	108.00	0.754	212.1	1475.24	17.0
520.0	515.5	4.404	4.364	34.088	27.062	29.474	106.94	0.765	219.6	1475.44	11.3
530.0	525.4	4.478	4.437	34.113	27.074	29.531	106.01	0.776	227.3	1475.94	10.2
540.0	535.3	4.330	4.289	34.103	27.081	29.587	105.18	0.786	235.0	1475.48	9.5
550.0	545.2	4.257	4.215	34.104	27.090	29.643	104.38	0.797	242.8	1475.34	10.6
560.0	555.1	4.267	4.225	34.121	27.102	29.701	103.32	0.807	250.8	1475.56	12.9
570.0	565.0	4.175	4.132	34.125	27.115	29.761	102.09	0.818	258.8	1475.35	12.9
580.0	574.9	4.069	4.026	34.125	27.126	29.820	101.02	0.828	267.0	1475.07	13.0
590.0	584.8	4.108	4.064	34.149	27.141	29.880	99.75	0.838	275.2	1475.42	12.3
600.0	594.7	4.043	3.998	34.153	27.151	29.937	98.81	0.848	283.5	1475.32	11.4
610.0	604.6	3.908	3.863	34.149	27.161	29.996	97.73	0.858	292.0	1474.91	12.0
620.0	614.5	3.960	3.914	34.172	27.174	30.054	96.68	0.867	300.5	1475.32	8.9
630.0	624.4	3.702	3.657	34.142	27.176	30.106	95.20	0.877	309.2	1474.36	7.0
640.0	634.3	3.645	3.599	34.144	27.183	30.160	95.52	0.887	317.9	1474.28	7.6
650.0	644.2	3.631	3.585	34.151	27.190	30.214	94.91	0.896	326.7	1474.40	8.3
660.0	654.1	3.608	3.561	34.160	27.199	30.270	94.09	0.906	335.6	1474.47	8.4
670.0	664.0	3.590	3.542	34.167	27.207	30.323	93.46	0.915	344.6	1474.57	8.4
680.0	673.9	3.625	3.576	34.184	27.217	30.379	92.64	0.924	353.7	1474.90	12.9
690.0	683.8	3.673	3.623	34.212	27.235	30.442	91.14	0.934	362.9	1475.30	10.2
700.0	693.7	3.687	3.636	34.219	27.239	30.492	90.85	0.943	372.2	1475.54	5.6
710.0	703.6	3.697	3.646	34.230	27.247	30.546	90.23	0.952	381.6	1475.75	6.3
720.0	713.5	3.687	3.635	34.235	27.252	30.597	89.81	0.961	391.1	1475.88	7.4
730.0	723.4	3.663	3.610	34.244	27.261	30.653	88.98	0.970	400.6	1475.96	10.9
740.0	733.3	3.631	3.578	34.255	27.273	30.711	87.88	0.979	410.2	1476.00	10.5
750.0	743.2	3.580	3.526	34.259	27.281	30.767	87.11	0.987	420.0	1475.95	9.2
760.0	753.1	3.524	3.470	34.271	27.291	30.822	86.27	0.996	429.8	1476.12	8.6
770.0	763.0	3.505	3.450	34.270	27.297	30.876	85.63	1.005	439.7	1475.97	9.3
780.0	772.9	3.498	3.442	34.283	27.308	30.934	84.65	1.013	449.7	1476.12	8.0
790.0	782.8	3.479	3.423	34.287	27.313	30.985	84.23	1.022	459.7	1476.21	5.4
800.0	792.6	3.478	3.421	34.294	27.319	31.037	83.78	1.030	469.9	1476.38	6.4
810.0	802.5	3.463	3.405	34.301	27.326	31.090	83.16	1.038	480.1	1476.49	8.5
820.0	812.4	3.465	3.406	34.306	27.330	31.140	82.90	1.047	490.4	1476.67	7.4
830.0	822.3	3.431	3.372	34.315	27.341	31.197	81.92	1.055	500.8	1476.70	7.9
840.0	832.2	3.420	3.360	34.320	27.346	31.248	81.52	1.063	511.3	1476.82	6.0
850.0	842.1	3.367	3.307	34.321	27.351	31.301	80.93	1.071	521.8	1476.76	8.1
860.0	852.0	3.334	3.273	34.328	27.360	31.356	80.13	1.079	532.5	1476.79	7.6
870.0	861.9	3.308	3.247	34.332	27.366	31.409	79.63	1.087	543.2	1476.85	7.2
880.0	871.8	3.285	3.223	34.339	27.373	31.463	78.92	1.095	554.0	1476.92	5.7
890.0	881.6	3.272	3.209	34.341	27.376	31.512	78.70	1.103	564.8	1477.03	5.4
900.0	891.5	3.251	3.188	34.348	27.384	31.566	78.01	1.111	575.8	1477.12	7.5
910.0	901.4	3.229	3.165	34.354	27.391	31.619	77.40	1.119	586.8	1477.19	6.5
920.0	911.3	3.205	3.140	34.358	27.396	31.671	76.94	1.126	597.9	1477.26	6.4
930.0	921.2	3.178	3.113	34.363	27.403	31.724	76.33	1.134	609.1	1477.31	5.3
940.0	931.1	3									

CTD REPORT RAMA-4
POSITION: 40DEG 59.2MIN N

151DEG 54.8MIN E STATION: 3 CAST: 2 DN
DATE: 4 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FQ SQD*1E6
980.0	970.6	3.073	3.005	34.379	27.425	31.979	74.33	1.172	666.0	1477.70	4.7
990.0	980.5	3.054	2.985	34.383	27.430	32.030	73.91	1.179	677.7	1477.79	5.1
1000.0	990.4	3.038	2.969	34.387	27.435	32.081	73.49	1.187	689.4	1477.89	4.7
1050.0	1039.8	2.930	2.858	34.404	27.458	32.337	71.38	1.223	748.9	1478.27	6.0
1100.0	1089.2	2.813	2.738	34.422	27.483	32.594	69.09	1.258	810.2	1478.61	5.5
1150.0	1138.6	2.757	2.678	34.432	27.496	32.838	68.03	1.292	873.1	1479.20	3.9
1200.0	1188.0	2.691	2.609	34.443	27.510	33.084	66.79	1.326	937.8	1479.75	3.0
1250.0	1237.3	2.613	2.528	34.456	27.527	33.333	65.26	1.359	1004.1	1480.26	4.1
1300.0	1286.7	2.532	2.444	34.470	27.546	33.582	63.60	1.391	1072.0	1480.75	2.9
1350.0	1336.0	2.477	2.386	34.482	27.560	33.827	62.37	1.423	1141.4	1481.35	3.3
1400.0	1385.4	2.424	2.329	34.493	27.573	34.070	61.24	1.454	1212.4	1481.96	3.0
1450.0	1434.7	2.357	2.259	34.506	27.589	34.317	59.80	1.484	1284.8	1482.51	3.3
1500.0	1484.0	2.310	2.209	34.516	27.601	34.559	58.77	1.514	1358.9	1483.14	3.9
1550.0	1533.3	2.270	2.168	34.525	27.612	34.798	57.99	1.543	1434.0	1483.81	3.5
1600.0	1582.6	2.231	2.133	34.533	27.624	35.038	56.85	1.572	1510.0	1484.44	3.1
1650.0	1631.9	2.191	2.099	34.543	27.634	35.279	55.66	1.600	1589.0	1485.10	3.8
1700.0	1681.2	2.151	2.067	34.552	27.644	35.518	54.44	1.628	1668.0	1485.77	2.0
1750.0	1730.5	2.112	2.033	34.559	27.653	35.754	53.44	1.658	1749.4	1486.48	2.0
1800.0	1779.7	2.070	1.997	34.567	27.662	35.993	52.63	1.687	1831.6	1487.14	2.3
1850.0	1829.0	2.043	1.917	34.572	27.669	36.227	53.16	1.709	1915.1	1487.86	2.1
1900.0	1878.2	1.993	1.863	34.582	27.681	36.467	52.05	1.735	1999.8	1488.49	3.0
1950.0	1927.4	1.954	1.821	34.589	27.690	36.704	51.28	1.761	2085.9	1489.16	1.7
2000.0	1976.6	1.926	1.789	34.594	27.696	36.938	50.77	1.786	2173.2	1489.88	2.0
2050.0	2025.8	1.900	1.759	34.599	27.702	37.171	50.29	1.812	2261.7	1490.60	1.7
2100.0	2075.0	1.875	1.730	34.603	27.707	37.403	49.88	1.837	2351.4	1491.34	1.0
2150.0	2124.2	1.853	1.704	34.608	27.713	37.635	49.44	1.862	2442.4	1492.08	1.4
2200.0	2173.4	1.825	1.672	34.613	27.720	37.867	48.92	1.886	2534.5	1492.80	2.2
2250.0	2222.6	1.794	1.638	34.618	27.726	38.100	48.35	1.911	2627.9	1493.51	2.1
2300.0	2271.7	1.768	1.608	34.623	27.732	38.332	47.84	1.935	2722.3	1494.24	1.6
2350.0	2320.9	1.738	1.574	34.628	27.739	38.565	47.28	1.958	2818.0	1494.96	1.7
2400.0	2370.0	1.718	1.550	34.632	27.744	38.795	46.91	1.982	2914.8	1495.72	1.4
2450.0	2419.1	1.706	1.534	34.634	27.746	39.022	46.78	2.005	3012.7	1496.51	1.1
2500.0	2468.2	1.681	1.504	34.638	27.752	39.252	46.34	2.029	3111.8	1497.25	0.7
2550.0	2517.3	1.669	1.488	34.640	27.754	39.479	46.19	2.052	3211.1	1498.04	0.8
2600.0	2566.4	1.648	1.463	34.644	27.759	39.709	45.80	2.075	3313.2	1498.80	0.8
2650.0	2615.5	1.638	1.449	34.645	27.761	39.934	45.75	2.098	3415.6	1499.60	0.6
2700.0	2664.6	1.629	1.435	34.647	27.764	40.160	45.65	2.120	3519.1	1500.41	0.2
2750.0	2713.9	1.623	1.425	34.649	27.766	40.385	45.59	2.143	3623.7	1501.23	0.3
2800.0	2762.7	1.616	1.413	34.651	27.769	40.609	45.50	2.166	3729.3	1502.05	1.3
2850.0	2811.7	1.597	1.390	34.653	27.772	40.836	45.25	2.189	3836.1	1502.81	0.9
2900.0	2860.7	1.587	1.375	34.655	27.774	41.061	45.12	2.211	3944.0	1503.62	0.8
2950.0	2909.7	1.581	1.365	34.657	27.777	41.285	45.05	2.234	4052.0	1504.45	0.7
3000.0	2958.8	1.567	1.346	34.660	27.780	41.511	44.97	2.256	4162.0	1505.24	0.9
3050.0	3007.8	1.558	1.332	34.661	27.782	41.734	44.79	2.279	4274.0	1506.04	0.8
3100.0	3056.7	1.550	1.320	34.662	27.784	41.957	44.69	2.301	4386.0	1506.87	0.8
3150.0	3105.7	1.543	1.308	34.663	27.785	42.180	44.69	2.324	4498.0	1507.69	1.0
3200.0	3154.7	1.535	1.295	34.665	27.788	42.403	44.55	2.346	4613.7	1508.51	0.3
3250.0	3203.6	1.532	1.287	34.665	27.788	42.624	44.64	2.368	4729.1	1509.35	0.4
3300.0	3252.6	1.528	1.278	34.667	27.791	42.846	44.58	2.390	4845.5	1510.19	0.5
3350.0	3301.5	1.520	1.265	34.669	27.793	43.068	44.48	2.413	4963.1	1511.01	0.6
3400.0	3350.4	1.512	1.253	34.670	27.795	43.290	44.43	2.435	5081.6	1511.83	0.5
3450.0	3399.4	1.507	1.243	34.671	27.796	43.511	44.42	2.457	5201.3	1512.67	0.2
3500.0	3448.3	1.502	1.233	34.673	27.798	43.732	44.33	2.479	5321.9	1513.50	1.1
3550.0	3497.2	1.496	1.222	34.673	27.799	43.952	44.38	2.501	5443.7	1514.33	0.3
3600.0	3546.0	1.493	1.213	34.674	27.801	44.172	44.41	2.524	5566.5	1515.18	0.3
3650.0	3594.9	1.490	1.205	34.675	27.802	44.392	44.42	2.546	5690.4	1516.03	0.2
3700.0	3643.8	1.487	1.197	34.676	27.803	44.611	44.43	2.568	5815.3	1516.87	0.3
3750.0	3692.6	1.485	1.190	34.676	27.804	44.829	44.54	2.590	5941.3	1517.72	0.1
3800.0	3741.5	1.482	1.181	34.677	27.805	45.048	44.55	2.613	6068.3	1518.57	0.1
3850.0	3790.3	1.481	1.175	34.678	27.806	45.266	44.60	2.635	6196.4	1519.43	0.2
3900.0	3839.1	1.477	1.166	34.679	27.808	45.485	44.58	2.657	6325.6	1520.27	0.8
3950.0	3887.9	1.475	1.158	34.678	27.807	45.702	44.76	2.679	6455.8	1521.12	0.3
4000.0	3936.7	1.474	1.152	34.680	27.809	45.920	44.73	2.702	6587.1	1521.98	0.3
4050.0	3985.5	1.472	1.144	34.681	27.811	46.138	44.75	2.724	6719.5	1522.84	0.1
4100.0	4034.3	1.471	1.138	34.682	27.812	46.355	44.80	2.747	6852.9	1523.70	0.5
4150.0	4083.1	1.470	1.131	34.681	27.812	46.570	44.99	2.769	6987.4	1524.56	0.1
4200.0	4131.8	1.469	1.125	34.682	27.813	46.787	45.03	2.791	7123.0	1525.42	0.1
4250.0	4180.6	1.470	1.120	34.682	27.813	47.002	45.16	2.814	7259.6	1526.29	0.0
4300.0	4229.3	1.469	1.113	34.683	27.814	47.219	45.19	2.837	7397.3	1527.15	0.2
4350.0	4278.0	1.470	1.108	34.684	27.816	47.435	45.26	2.859	7536.0	1528.02	0.1
4400.0	4326.8	1.471	1.104	34.684	27.816	47.649	45.41	2.882	7675.8	1528.89	0.0
4450.0	4375.5	1.474	1.101	34.685	27.817	47.864	45.51	2.905	7816.8	1529.77	0.0
4500.0	4424.2	1.476	1.097	34.685	27.817	48.078	45.66	2.927	7958.7	1530.65	0.0
4550.0	4472.9	1.480	1.095	34.684	27.816	48.291	45.94	2.950	8101.8	1531.53	0.0
4600.0	4521.5	1.482	1.091	34.685	27.817	48.505	46.04	2.973	8246.0	1532.41	0.0
4650.0	4570.2	1.486	1.089	34.684	27.817	48.718	46.27	2.996	8391.1	1533.29	0.0
4700.0	4618.8	1.488	1.085	34.686	27.819	48.932	46.29	3.019	8537.5	1534.17	0.0
4750.0	4667.5	1.491	1.081	34.686	27.819	49.145	46.46	3.043	8684.9	1535.06	0.0
4800.0	4716.1	1.496	1.080	34.686	27.819	49.357	46.67	3.066	8833.5	1535.95	0.2
4850.0	4764.8	1.501	1.079	34.686	27.819	49.569	46.87	3.089	8983.1	1536.84	0.1
4900.0	4813.4	1.505	1.077	34.686	27.819	49.781	47.06	3.113	9133.8	1537.73	0.0
4950.0	4862.0	1.509	1.074	34.687	27.820	49.993	47.18	3.136	9285.7	1538.62	0.4
5000.0	4910.6	1.513	1.072	34.687	27.820	50.204	47.37	3.160	9438.6	1539.51	0.6
5050.0	4959.2	1.517	1.070	34.686	27.820	50.415	47.63	3.184	9592.7	1540.39	0.1
5100.0	5007.7	1.523	1.069	34.687	27.820	50.626	47.80	3.207	9747.9	1541.29	0.0
5150.0	5056.3	1.527	1.067	34.687	27.821	50.837	47.99	3.231	9904.2	1542.18	0.1
5200.0	5104.8	1.533	1.066	34.687	27.821	51.047	48.23	3.255	10061.7	1543.08	0.1
5250.0	5153.4	1.537	1.064	34.687	27.821	51.257	48.42	3.280	10220.3	1543.97	0.0
5300.0	5201.9	1.541	1.061	34.687	27.821	51.467	48.61	3.304	10380.0	1544.86	0.2
5350.0	5250.4	1.545	1.059	34.687	27.821	51.677	48.80	3.328	10540.9	1545.75	0.3
5400.0	5298.9	1.550	1.057	34.687	27.821	51.886	49.02	3.353	10702.9	1546.65	0.0
5450.0	5347.4	1.554	1.054	34.688	27.822	52.096	49.15	3.377	10866.1	1547.54	0.1
5500.0	5395.9	1.560	1.								

CTD REPORT RAMA-4
POSITION: 39DEG 59.4MIN N

151DEG 59.7MIN E

STATION: 4 CAST: 1 DN
DATE: 5 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
10.0	0.0	17.121	17.121	34.197	24.898	24.898	307.13	0.000	0.0	1512.27	
20.0	9.9	17.125	17.123	34.197	24.897	24.941	307.54	0.031	0.2	1512.44	291.2
30.0	19.8	15.197	15.194	34.405	25.503	25.591	250.24	0.062	0.6	1506.92	481.7
40.0	29.8	13.285	13.281	34.387	25.898	26.031	212.96	0.085	1.3	1500.88	249.1
50.0	39.7	12.868	12.862	34.435	26.019	26.198	201.64	0.106	2.3	1499.71	112.8
60.0	49.6	12.407	12.400	34.461	26.131	26.355	191.28	0.126	3.4	1498.35	102.2
70.0	59.5	11.678	11.670	34.408	26.230	26.500	182.06	0.145	4.8	1495.96	83.8
80.0	69.5	10.823	10.814	34.298	26.302	26.618	175.37	0.162	6.3	1493.00	64.3
90.0	79.4	9.963	9.954	34.180	26.361	26.723	169.91	0.180	8.0	1489.95	69.5
100.0	89.3	9.573	9.563	34.203	26.444	26.852	162.15	0.197	9.9	1488.72	61.2
110.0	99.2	9.064	9.053	34.150	26.486	26.941	158.31	0.213	11.9	1486.95	40.4
120.0	109.1	8.389	8.377	34.065	26.525	27.027	154.63	0.228	14.1	1484.50	32.4
130.0	119.1	8.030	8.018	34.028	26.550	27.099	152.35	0.244	16.4	1483.26	26.3
140.0	129.0	7.533	7.520	33.970	26.577	27.173	149.83	0.259	18.9	1481.45	28.3
150.0	138.9	6.701	6.688	33.859	26.604	27.249	147.15	0.274	21.6	1478.25	19.5
160.0	148.8	6.449	6.436	33.829	26.613	27.305	146.33	0.289	24.4	1477.38	13.4
170.0	158.7	6.279	6.265	33.822	26.630	27.368	144.85	0.303	27.3	1476.86	12.2
180.0	168.7	6.173	6.158	33.814	26.637	27.422	144.26	0.318	30.4	1476.59	10.0
190.0	178.6	5.850	5.835	33.777	26.648	27.480	143.21	0.332	33.6	1475.42	10.9
200.0	188.5	5.692	5.676	33.764	26.657	27.536	142.42	0.346	37.0	1474.93	10.1
210.0	198.4	5.547	5.530	33.755	26.667	27.593	141.50	0.360	40.5	1474.50	13.4
220.0	208.3	5.355	5.338	33.746	26.683	27.656	140.07	0.375	44.1	1473.87	14.9
230.0	218.2	5.147	5.129	33.732	26.696	27.716	138.86	0.388	47.9	1473.17	16.0
240.0	228.2	4.907	4.889	33.720	26.713	27.782	137.17	0.402	51.8	1472.34	13.5
250.0	238.1	4.392	4.374	33.657	26.719	27.837	136.45	0.416	55.9	1470.30	11.3
260.0	248.0	4.566	4.547	33.700	26.734	27.898	135.17	0.430	60.1	1471.23	21.3
270.0	257.9	4.048	4.030	33.665	26.760	27.974	132.48	0.443	64.4	1469.20	15.6
280.0	267.8	4.183	4.164	33.697	26.764	28.023	132.30	0.456	68.8	1469.65	13.3
290.0	277.7	4.300	4.280	33.733	26.789	28.093	130.14	0.469	73.4	1470.66	20.5
300.0	287.6	4.432	4.410	33.775	26.808	28.158	128.50	0.482	78.2	1471.42	19.6
310.0	297.5	4.478	4.456	33.809	26.831	28.226	126.53	0.495	83.0	1471.82	15.7
320.0	307.5	4.400	4.377	33.811	26.840	28.283	125.63	0.508	88.0	1471.76	12.6
330.0	317.4	4.384	4.360	33.828	26.856	28.345	124.29	0.520	93.1	1471.78	15.6
340.0	327.3	4.280	4.256	33.834	26.871	28.408	122.82	0.533	98.3	1471.52	11.8
350.0	337.2	4.248	4.223	33.839	26.879	28.462	122.20	0.545	103.6	1471.55	16.6
360.0	347.1	4.652	4.625	33.931	26.909	28.534	119.78	0.557	109.1	1473.50	16.1
370.0	357.0	4.896	4.868	33.976	26.918	28.587	119.27	0.569	114.7	1474.73	16.8
380.0	366.9	4.749	4.720	33.989	26.945	28.661	116.74	0.581	120.4	1474.30	11.5
390.0	376.8	4.743	4.713	33.982	26.940	28.703	117.28	0.593	126.2	1474.43	19.0
400.0	386.7	4.685	4.655	34.029	26.984	28.793	113.24	0.604	132.1	1474.41	20.5
410.0	396.7	4.804	4.773	34.045	26.983	28.838	113.49	0.616	138.2	1475.09	3.7
420.0	406.6	4.751	4.719	34.048	26.992	28.893	112.77	0.627	144.3	1475.03	16.3
430.0	416.5	4.665	4.632	34.066	27.015	28.964	110.54	0.638	150.6	1474.87	14.3
440.0	426.4	4.666	4.633	34.072	27.020	29.014	110.21	0.649	157.0	1475.04	6.4
450.0	436.3	4.677	4.643	34.084	27.029	29.069	109.54	0.660	163.4	1475.26	10.2
460.0	446.2	4.646	4.611	34.095	27.041	29.127	108.47	0.671	170.0	1475.31	10.3
470.0	456.1	4.641	4.605	34.105	27.049	29.182	107.77	0.682	176.7	1475.47	12.1
480.0	466.0	4.558	4.522	34.113	27.065	29.244	106.33	0.693	183.5	1475.30	15.9
490.0	475.9	4.513	4.476	34.127	27.081	29.307	104.88	0.703	190.5	1475.29	13.8
500.0	485.8	4.493	4.455	34.139	27.092	29.365	103.87	0.714	197.5	1475.38	12.2
510.0	495.7	4.456	4.418	34.150	27.105	29.424	102.72	0.724	204.6	1475.41	11.4
520.0	505.6	4.418	4.379	34.157	27.115	29.481	101.86	0.734	211.8	1475.42	12.2
530.0	515.5	4.353	4.313	34.166	27.129	29.542	100.56	0.744	219.1	1475.33	10.3
540.0	525.4	4.309	4.269	34.167	27.134	29.594	100.09	0.755	226.6	1475.31	8.9
550.0	535.3	4.242	4.211	34.174	27.146	29.652	99.04	0.764	234.1	1475.24	1.1
560.0	545.2	4.197	4.166	34.179	27.153	29.709	98.15	0.774	241.4	1475.18	9.3
570.0	555.1	4.166	4.124	34.185	27.163	29.763	97.45	0.784	248.7	1475.22	7.1
580.0	565.0	4.142	4.099	34.189	27.169	29.817	96.98	0.794	256.1	1475.26	8.8
590.0	574.9	4.109	4.066	34.199	27.181	29.874	96.94	0.804	263.5	1475.33	8.8
600.0	584.8	4.089	4.045	34.203	27.186	29.925	95.52	0.813	273.1	1475.41	5.9
610.0	594.7	4.068	4.023	34.208	27.192	29.978	95.00	0.823	281.2	1475.49	6.7
620.0	604.6	4.049	4.004	34.214	27.199	30.031	94.43	0.832	289.4	1475.58	8.7
630.0	614.5	4.019	3.973	34.223	27.209	30.088	93.52	0.841	297.7	1475.63	10.3
640.0	624.4	3.992	3.945	34.232	27.219	30.144	92.64	0.851	306.1	1475.69	7.8
650.0	634.3	3.973	3.926	34.236	27.224	30.196	92.22	0.860	314.6	1475.78	8.4
660.0	644.2	3.913	3.865	34.242	27.235	30.253	91.20	0.869	323.1	1475.70	12.5
670.0	654.1	3.848	3.800	34.250	27.248	30.313	89.97	0.878	331.8	1475.60	9.4
680.0	664.0	3.750	3.701	34.242	27.251	30.365	89.59	0.887	340.5	1475.34	8.7
690.0	673.9	3.799	3.749	34.265	27.265	30.423	88.49	0.896	349.3	1475.74	10.9
700.0	683.8	3.778	3.728	34.274	27.274	30.479	87.65	0.905	358.2	1475.83	10.0
710.0	693.7	3.746	3.695	34.283	27.284	30.536	86.74	0.914	367.2	1475.87	7.2
720.0	703.6	3.732	3.680	34.286	27.288	30.586	86.44	0.922	376.3	1475.97	6.0
730.0	713.5	3.712	3.660	34.293	27.296	30.640	85.78	0.931	385.5	1476.06	9.7
740.0	723.4	3.678	3.625	34.303	27.307	30.698	84.75	0.940	394.7	1476.09	9.1
750.0	733.3	3.627	3.574	34.304	27.313	30.751	84.19	0.948	404.1	1476.04	8.1
760.0	743.2	3.597	3.543	34.312	27.322	30.807	83.35	0.956	413.5	1476.09	9.2
770.0	753.1	3.548	3.494	34.316	27.330	30.862	82.59	0.965	423.0	1476.05	7.9
780.0	763.0	3.519	3.464	34.321	27.337	30.915	81.99	0.973	432.6	1476.10	7.3
790.0	772.9	3.487	3.431	34.326	27.344	30.969	81.35	0.981	442.3	1476.13	8.7
800.0	782.8	3.476	3.420	34.337	27.354	31.025	80.48	0.989	452.0	1476.26	8.5
810.0	792.7	3.455	3.398	34.343	27.360	31.078	79.88	0.997	461.8	1476.34	6.5
820.0	802.6	3.381	3.324	34.339	27.364	31.129	79.45	1.005	471.7	1476.19	6.5
830.0	812.5	3.332	3.274	34.342	27.371	31.183	78.79	1.013	481.7	1476.15	9.1
840.0	822.4	3.288	3.230	34.349	27.381	31.240	77.86	1.021	491.8	1476.13	7.6
850.0	832.3	3.261	3.201	34.353	27.385	31.291	77.49	1.029	501.9	1476.24	4.4
860.0	842.2	3.232	3.172	34.356	27.393	31.343	77.19	1.036	512.1	1476.35	3.2
870.0	852.1	3.204	3.143	34.360	27.401	31.395	76.06	1.043	522.8	1476.40	6.7
880.0	862.0	3.199	3.138	34.365	27.405	31.447	75.76	1.051	533.2	1476.59	4.6
890.0	871.9	3.173	3.111	34.372	27.410	31.498	75.34	1.059	543.7	1476.65	4.3
900.0	881.8	3.163	3.100	34.375	27.413	31.549	75.07	1.075	554.3	1476.78	3.4
910.0	891.7	3.155	3.092	34.378	27.416	31.601	74.84	1.082	564.9	1476.91	6.0
920.0	901.6	3.126	3.062	34.385	27.425	31.653	74.06	1.089	575.7	1476.96	8.1
930.0	911.5	3.110	3.045	34.392	27.432	31.705	73.44	1.097	586.5	1477.06	5.6
940.0	921.4	3.090	3.025	34.394	27.435	31.757	73.15	1.			

CTD REPORT RAMA-4
 POSITION: 39DEG 59.4MIN N

151DEG 59.7MIN E

STATION: 4 CAST: 1 DN
 DATE: 5 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
980.0	970.6	2.999	2.931	34.407	27.454	32.010	71.45	1.133	651.6	1477.42	4.4
990.0	980.5	2.981	2.913	34.409	27.457	32.059	71.19	1.140	662.9	1477.51	4.6
1000.0	990.4	2.960	2.891	34.413	27.462	32.111	70.73	1.147	674.2	1477.59	5.5
1050.0	1039.8	2.859	2.787	34.425	27.481	32.362	69.06	1.182	731.7	1477.99	2.4
1100.0	1089.2	2.777	2.702	34.439	27.499	32.612	67.44	1.216	791.0	1478.48	4.7
1150.0	1138.6	2.704	2.626	34.450	27.514	32.859	66.14	1.250	851.9	1479.00	3.6
1200.0	1188.0	2.622	2.541	34.464	27.533	33.109	64.48	1.283	914.4	1479.48	4.9
1250.0	1237.3	2.554	2.470	34.475	27.547	33.354	63.20	1.314	978.5	1480.03	2.3
1300.0	1286.7	2.504	2.416	34.482	27.557	33.595	62.42	1.346	1044.2	1480.64	2.8
1350.0	1336.0	2.435	2.344	34.493	27.572	33.840	61.11	1.377	1111.3	1481.18	2.5
1400.0	1385.4	2.370	2.276	34.505	27.587	34.086	59.75	1.407	1180.0	1481.74	4.3
1450.0	1434.7	2.322	2.224	34.515	27.599	34.328	58.73	1.437	1250.2	1482.37	1.7
1500.0	1484.0	2.276	2.175	34.525	27.611	34.570	57.72	1.466	1321.7	1483.01	3.7
1550.0	1533.3	2.226	2.122	34.535	27.623	34.812	56.66	1.494	1394.7	1483.63	3.5
1600.0	1582.6	2.175	2.067	34.545	27.636	35.053	55.58	1.522	1469.1	1484.25	1.6
1650.0	1631.9	2.150	2.039	34.551	27.643	35.289	55.09	1.550	1544.8	1484.97	2.4
1700.0	1681.2	2.124	2.009	34.557	27.650	35.524	54.55	1.578	1621.8	1485.70	1.9
1750.0	1730.5	2.095	1.976	34.562	27.656	35.759	54.09	1.605	1700.2	1486.41	1.4
1800.0	1779.7	2.057	1.935	34.568	27.664	35.995	53.42	1.632	1779.9	1487.08	1.9
1850.0	1829.0	2.023	1.897	34.574	27.672	36.231	52.77	1.658	1860.9	1487.77	2.2
1900.0	1878.2	1.988	1.858	34.580	27.680	36.466	52.13	1.684	1943.2	1488.46	3.0
1950.0	1927.4	1.948	1.815	34.589	27.690	36.705	51.21	1.710	2026.7	1489.13	2.5
2000.0	1976.6	1.920	1.783	34.594	27.696	36.938	50.71	1.736	2111.5	1489.85	1.7
2050.0	2025.8	1.897	1.756	34.598	27.702	37.170	50.32	1.761	2197.5	1490.59	1.9
2100.0	2075.0	1.871	1.726	34.604	27.709	37.404	49.77	1.786	2284.8	1491.32	1.1
2150.0	2124.2	1.843	1.694	34.609	27.715	37.637	49.25	1.811	2373.2	1492.04	1.1
2200.0	2173.4	1.820	1.667	34.612	27.719	37.867	48.92	1.835	2462.9	1492.78	1.6
2250.0	2222.6	1.798	1.642	34.617	27.725	38.099	48.48	1.859	2553.7	1493.53	1.3
2300.0	2271.7	1.776	1.616	34.621	27.730	38.330	48.08	1.884	2645.7	1494.28	1.1
2350.0	2320.9	1.746	1.582	34.626	27.737	38.562	47.53	1.908	2738.8	1494.99	1.7
2400.0	2370.0	1.714	1.546	34.631	27.743	38.795	46.93	1.931	2833.1	1495.70	1.1
2450.0	2419.1	1.694	1.522	34.635	27.748	39.025	46.55	1.954	2928.5	1496.46	1.4
2500.0	2468.2	1.681	1.504	34.636	27.750	39.251	46.48	1.978	3025.1	1497.24	0.4
2550.0	2517.3	1.663	1.482	34.640	27.755	39.480	46.12	2.001	3122.7	1498.01	1.1
2600.0	2566.4	1.647	1.462	34.643	27.759	39.708	45.85	2.024	3221.5	1498.79	0.5
2650.0	2615.5	1.635	1.446	34.645	27.761	39.934	45.72	2.047	3321.4	1499.59	0.9
2700.0	2664.6	1.622	1.428	34.647	27.764	40.161	45.55	2.070	3422.4	1500.38	0.5
2750.0	2713.6	1.608	1.410	34.650	27.768	40.388	45.31	2.092	3524.5	1501.16	0.3
2800.0	2762.7	1.597	1.395	34.652	27.771	40.613	45.18	2.115	3627.7	1501.97	0.7
2850.0	2811.7	1.588	1.381	34.654	27.773	40.838	45.06	2.137	3731.9	1502.78	0.8
2900.0	2860.7	1.580	1.368	34.655	27.775	41.062	45.03	2.160	3837.2	1503.59	0.5
2950.0	2909.7	1.569	1.353	34.658	27.778	41.288	44.81	2.182	3943.7	1504.39	0.8
3000.0	2958.8	1.559	1.338	34.658	27.779	41.510	44.82	2.205	4051.2	1505.20	0.3
3050.0	3007.7	1.548	1.323	34.662	27.784	41.735	44.51	2.227	4159.7	1506.01	0.5
3100.0	3056.7	1.538	1.308	34.663	27.785	41.960	44.45	2.249	4269.4	1506.82	0.9
3150.0	3105.7	1.534	1.299	34.664	27.787	42.182	44.48	2.272	4380.1	1507.63	0.3
3200.0	3154.7	1.528	1.288	34.665	27.788	42.404	44.45	2.294	4491.8	1508.48	0.2
3250.0	3203.6	1.520	1.276	34.666	27.790	42.626	44.41	2.316	4604.1	1509.30	1.1
3300.0	3252.2	1.514	1.265	34.668	27.792	42.849	44.32	2.338	4718.5	1510.13	0.7
3350.0	3301.5	1.507	1.253	34.669	27.794	43.070	44.30	2.360	4833.5	1510.95	0.1
3400.0	3350.4	1.503	1.244	34.670	27.795	43.291	44.30	2.382	4949.5	1511.79	0.2
3450.0	3399.4	1.497	1.233	34.671	27.797	43.512	44.26	2.405	5066.6	1512.62	0.6
3500.0	3448.3	1.491	1.222	34.673	27.799	43.734	44.18	2.427	5184.7	1513.46	0.2
3550.0	3497.2	1.487	1.213	34.674	27.801	43.954	44.19	2.449	5303.9	1514.30	0.7
3600.0	3546.0	1.482	1.203	34.675	27.802	44.175	44.16	2.471	5424.1	1515.13	0.9
3650.0	3594.9	1.479	1.194	34.675	27.803	44.393	44.25	2.493	5545.4	1515.98	0.2
3700.0	3643.8	1.473	1.183	34.676	27.804	44.613	44.21	2.515	5667.8	1516.81	0.3
3750.0	3692.6	1.472	1.177	34.677	27.805	44.832	44.26	2.537	5791.2	1517.67	0.2
3800.0	3741.5	1.471	1.171	34.677	27.806	45.050	44.38	2.559	5915.6	1518.52	0.4
3850.0	3790.3	1.469	1.163	34.679	27.808	45.269	44.35	2.582	6041.1	1519.38	0.2
3900.0	3839.1	1.468	1.157	34.680	27.809	45.487	44.38	2.604	6167.7	1520.24	0.2
3950.0	3887.9	1.466	1.150	34.680	27.810	45.705	44.49	2.626	6295.3	1521.09	0.3
4000.0	3936.7	1.466	1.144	34.681	27.811	45.922	44.54	2.648	6424.0	1521.95	0.4
4050.0	3985.5	1.466	1.138	34.681	27.811	46.139	44.66	2.671	6553.7	1522.81	0.0
4100.0	4034.3	1.465	1.132	34.681	27.812	46.355	44.78	2.693	6684.5	1523.67	0.6
4150.0	4083.1	1.465	1.126	34.681	27.812	46.571	44.91	2.715	6816.4	1524.54	0.3
4200.0	4131.8	1.464	1.120	34.683	27.814	46.789	44.86	2.738	6949.3	1525.40	0.3
4250.0	4180.6	1.464	1.114	34.683	27.814	47.004	44.98	2.760	7083.3	1526.26	0.1
4300.0	4229.3	1.466	1.110	34.684	27.815	47.220	45.07	2.783	7218.4	1527.14	0.0
4350.0	4278.0	1.468	1.106	34.684	27.816	47.435	45.23	2.805	7354.5	1528.01	0.2
4400.0	4326.8	1.469	1.102	34.684	27.816	47.650	45.37	2.828	7491.7	1528.88	0.6
4450.0	4375.5	1.471	1.098	34.684	27.816	47.864	45.54	2.851	7630.0	1529.76	0.3
4500.0	4424.2	1.472	1.093	34.685	27.817	48.079	45.60	2.873	7769.4	1530.63	0.9
4550.0	4472.9	1.476	1.091	34.684	27.817	48.292	45.86	2.896	7909.8	1531.51	0.5
4600.0	4521.7	1.478	1.087	34.685	27.818	48.506	45.96	2.919	8051.3	1532.39	0.2
4650.0	4570.4	1.482	1.085	34.685	27.818	48.719	46.15	2.942	8193.9	1533.28	0.0
4700.0	4619.1	1.485	1.082	34.686	27.819	48.933	46.23	2.965	8337.6	1534.16	0.3
4750.0	4667.8	1.489	1.079	34.686	27.819	49.145	46.42	2.988	8482.4	1535.05	0.9
4800.0	4716.5	1.494	1.078	34.686	27.819	49.357	46.63	3.012	8628.3	1535.94	0.3
4850.0	4764.8	1.498	1.076	34.686	27.819	49.569	46.83	3.035	8775.3	1536.83	0.6
4900.0	4813.4	1.502	1.074	34.686	27.819	49.781	47.03	3.058	8923.4	1537.72	0.1
4950.0	4862.0	1.505	1.070	34.687	27.820	49.994	47.12	3.082	9072.6	1538.60	0.5
5000.0	4910.6	1.510	1.069	34.687	27.820	50.205	47.33	3.106	9222.9	1539.49	0.0
5050.0	4959.2	1.515	1.068	34.687	27.821	50.416	47.53	3.129	9374.3	1540.39	0.1
5100.0	5007.7	1.519	1.065	34.687	27.821	50.627	47.73	3.153	9526.9	1541.28	0.1
5150.0	5056.3	1.524	1.064	34.687	27.821	50.837	47.95	3.177	9680.6	1542.17	0.6
5200.0	5104.8	1.529	1.062	34.687	27.821	51.048	48.15	3.201	9835.4	1543.06	0.1
5250.0	5153.4	1.534	1.061	34.687	27.821	51.258	48.36	3.225	9991.3	1543.96	0.1
5300.0	5201.9	1.539	1.059	34.687	27.821	51.467	48.58	3.249	10148.4	1544.85	0.1
5350.0	5250.4	1.544	1.058	34.687	27.821	51.677	48.79	3.274	10306.7	1545.75	0.1

CTD REPORT RAMA-4
 POSITION: 38DEG 58.1MIN N 152DEG 2.6MIN E STATION: 5 CAST: 2 DN
 DATE: 5 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
0.0	0.0	20.123	20.123	34.544	24.405	24.405	354.08	0.000	0.0	1521.29	
10.0	9.9	20.054	20.052	34.536	24.418	24.461	353.26	0.035	0.2	1521.26	103.9
20.0	19.8	18.746	18.742	34.357	24.621	24.708	334.31	0.071	0.7	1517.54	191.1
30.0	29.8	18.047	18.042	34.381	24.814	24.946	316.20	0.103	1.6	1515.71	208.6
40.0	39.7	17.321	17.314	34.461	25.053	25.229	293.77	0.134	2.7	1513.82	347.2
50.0	49.6	15.817	15.809	34.627	25.535	25.755	248.27	0.162	4.2	1509.61	312.6
60.0	59.5	14.866	14.857	34.566	25.701	25.967	232.66	0.186	5.9	1506.71	116.0
70.0	69.5	14.377	14.367	34.522	25.774	26.084	226.01	0.209	7.9	1505.26	60.5
80.0	79.4	13.992	13.980	34.482	25.825	26.181	221.37	0.231	10.1	1504.13	92.8
90.0	89.3	13.347	13.334	34.488	25.965	26.366	208.34	0.253	12.5	1502.19	96.8
100.0	99.2	13.106	13.092	34.502	26.025	26.471	202.88	0.274	15.1	1501.57	68.1
110.0	109.1	12.678	12.663	34.494	26.105	26.596	195.49	0.294	17.9	1500.29	61.6
120.0	119.1	12.385	12.369	34.479	26.151	26.688	191.32	0.313	20.9	1499.44	67.5
130.0	129.0	11.572	11.555	34.395	26.242	26.825	182.77	0.332	24.1	1496.72	69.6
140.0	139.0	11.161	11.143	34.362	26.292	26.922	178.11	0.350	27.5	1495.41	49.4
150.0	148.9	10.765	10.747	34.333	26.342	27.017	173.58	0.367	31.1	1494.14	48.5
160.0	158.7	10.244	10.225	34.277	26.390	27.112	169.09	0.385	34.8	1492.38	38.4
170.0	168.7	9.878	9.858	34.233	26.418	27.187	166.48	0.402	38.7	1491.17	29.0
180.0	178.6	9.386	9.366	34.164	26.446	27.263	163.84	0.418	42.7	1489.46	31.1
190.0	188.5	8.901	8.880	34.105	26.478	27.342	160.83	0.434	47.0	1487.76	26.4
200.0	198.4	8.606	8.585	34.070	26.497	27.408	159.10	0.450	51.4	1486.78	22.6
210.0	208.3	8.434	8.412	34.069	26.523	27.480	156.80	0.466	55.9	1486.29	22.8
220.0	218.2	7.830	7.808	33.984	26.546	27.552	154.44	0.482	60.6	1484.07	21.9
230.0	228.2	7.572	7.549	33.958	26.563	27.616	152.87	0.497	65.5	1483.21	14.2
240.0	238.1	7.338	7.315	33.928	26.573	27.673	152.00	0.512	70.5	1482.43	23.4
250.0	248.0	7.281	7.257	33.965	26.610	27.756	148.63	0.527	75.6	1482.42	24.1
260.0	257.9	7.289	7.264	33.982	26.622	27.814	147.62	0.542	80.9	1482.64	16.7
270.0	267.8	7.170	7.144	33.988	26.644	27.881	145.71	0.557	86.4	1482.35	20.0
280.0	277.7	7.196	7.169	34.017	26.663	27.946	144.05	0.571	92.0	1482.65	22.4
290.0	287.6	6.505	6.479	33.927	26.685	28.019	141.67	0.586	97.7	1480.00	18.0
300.0	297.6	6.627	6.599	33.961	26.696	28.075	140.86	0.600	103.6	1480.68	20.9
310.0	307.5	7.210	7.180	34.093	26.721	28.141	139.07	0.614	109.6	1483.28	14.7
320.0	317.4	7.241	7.210	34.127	26.744	28.209	137.14	0.628	115.7	1483.61	19.0
330.0	327.3	7.168	7.136	34.135	26.760	28.272	135.68	0.641	122.0	1483.50	19.8
340.0	337.2	7.011	6.978	34.136	26.783	28.341	133.62	0.655	128.5	1483.05	23.8
350.0	347.1	6.836	6.803	34.136	26.807	28.412	131.37	0.668	135.0	1482.53	17.9
360.0	357.0	6.711	6.677	34.128	26.817	28.469	130.44	0.681	141.7	1482.19	8.0
370.0	366.9	6.605	6.571	34.115	26.821	28.520	130.13	0.694	148.5	1481.92	12.5
380.0	376.8	6.361	6.326	34.098	26.839	28.586	128.32	0.707	155.5	1481.10	18.3
390.0	386.7	6.042	6.007	34.064	26.853	28.649	126.86	0.720	162.5	1479.96	20.3
400.0	396.7	5.730	5.696	34.043	26.875	28.720	124.63	0.732	169.7	1478.84	17.5
410.0	406.6	5.489	5.454	34.017	26.883	28.777	123.73	0.745	177.0	1478.00	14.1
420.0	416.5	5.330	5.295	34.014	26.900	28.841	122.15	0.757	184.5	1477.52	8.2
430.0	426.4	4.481	4.445	34.037	26.900	28.885	122.38	0.769	192.2	1478.32	17.8
440.0	436.3	4.566	4.529	34.039	26.939	28.969	118.94	0.781	199.7	1478.91	26.3
450.0	446.2	4.409	4.371	34.094	26.954	29.032	117.50	0.793	207.5	1478.43	14.1
460.0	456.1	4.138	4.099	34.072	26.984	29.090	116.44	0.805	215.4	1477.62	15.9
470.0	466.0	4.076	4.038	34.072	26.984	29.156	114.66	0.817	223.3	1477.13	10.1
480.0	475.9	5.138	5.099	34.100	26.986	29.229	114.12	0.828	231.1	1477.82	10.7
490.0	485.8	5.225	5.184	34.133	27.007	29.270	112.82	0.839	239.9	1478.38	13.9
500.0	495.7	5.256	5.214	34.155	27.021	29.329	111.68	0.851	248.2	1478.70	11.8
510.0	505.6	5.078	5.036	34.140	27.029	29.386	110.77	0.862	256.7	1478.12	13.4
520.0	515.5	4.977	4.935	34.145	27.045	29.449	109.30	0.873	265.3	1477.87	16.0
530.0	525.4	4.931	4.888	34.158	27.060	29.511	107.90	0.884	274.0	1477.86	15.6
540.0	535.3	5.105	5.061	34.206	27.079	29.573	106.51	0.894	282.8	1478.80	16.3
550.0	545.2	5.014	4.969	34.212	27.094	29.635	105.08	0.905	291.7	1478.60	14.8
560.0	555.1	4.835	4.790	34.205	27.108	29.698	103.58	0.915	300.7	1478.02	12.8
570.0	565.0	4.785	4.739	34.214	27.121	29.757	102.44	0.926	309.8	1477.99	13.6
580.0	574.9	4.642	4.596	34.208	27.132	29.816	101.32	0.936	319.1	1477.55	10.7
590.0	584.8	4.495	4.449	34.204	27.145	29.877	100.02	0.946	328.4	1477.10	9.3
600.0	594.7	4.445	4.398	34.205	27.151	29.930	99.46	0.956	337.8	1477.06	11.3
610.0	604.6	4.406	4.359	34.214	27.162	29.988	98.43	0.966	347.3	1477.07	7.4
620.0	614.5	4.299	4.252	34.212	27.172	30.046	97.47	0.976	356.9	1476.79	10.4
630.0	624.4	4.274	4.226	34.213	27.175	30.096	97.20	0.985	366.6	1476.85	13.3
640.0	634.3	4.149	4.101	34.216	27.190	30.159	95.67	0.995	376.4	1476.49	7.5
650.0	644.2	4.112	4.063	34.223	27.200	30.215	94.81	1.005	386.3	1476.55	6.9
660.0	654.1	4.081	4.031	34.225	27.205	30.266	94.41	1.014	396.3	1476.58	8.2
670.0	664.0	4.048	3.998	34.231	27.213	30.321	93.69	1.024	406.4	1476.66	9.0
680.0	673.9	4.027	3.976	34.238	27.221	30.375	93.01	1.033	416.6	1476.67	9.7
690.0	683.8	3.989	3.938	34.243	27.228	30.430	92.29	1.042	426.8	1476.67	9.3
700.0	693.7	3.955	3.903	34.250	27.237	30.485	91.48	1.051	437.2	1476.70	10.8
710.0	703.6	3.902	3.849	34.255	27.247	30.542	90.61	1.060	447.7	1476.65	10.7
720.0	713.5	3.842	3.789	34.261	27.257	30.600	89.79	1.069	458.2	1476.57	9.7
730.0	723.4	3.810	3.756	34.269	27.267	30.656	88.73	1.078	468.8	1476.64	10.0
740.0	733.3	3.768	3.714	34.272	27.276	30.711	87.71	1.087	479.9	1476.64	9.4
750.0	743.2	3.738	3.681	34.284	27.286	30.768	86.94	1.096	490.0	1476.69	9.0
760.0	753.1	3.708	3.653	34.289	27.295	30.828	86.48	1.105	501.1	1476.70	8.8
770.0	763.0	3.670	3.614	34.296	27.302	30.878	85.48	1.113	512.2	1476.81	8.5
780.0	772.9	3.656	3.599	34.299	27.306	30.928	85.20	1.122	523.3	1476.81	8.6
790.0	782.8	3.634	3.577	34.304	27.312	30.980	84.65	1.130	534.4	1476.89	8.4
800.0	792.6	3.629	3.571	34.309	27.317	31.031	84.30	1.139	545.6	1477.04	8.6
810.0	802.5	3.625	3.566	34.317	27.324	31.084	83.74	1.147	556.9	1477.19	8.9
820.0	812.4	3.576	3.517	34.326	27.336	31.143	82.62	1.155	568.3	1477.16	7.2
830.0	822.3	3.571	3.511	34.332	27.341	31.194	82.19	1.164	579.8	1477.31	7.0
840.0	832.2	3.554	3.493	34.336	27.346	31.245	81.79	1.172	591.3	1477.41	6.2
850.0	842.1	3.513	3.452	34.341	27.354	31.300	81.04	1.180	602.9	1477.40	6.6
860.0	852.0	3.465	3.403	34.347	27.363	31.356	80.16	1.188	614.6	1477.37	6.9
870.0	861.9	3.386	3.324	34.341	27.366	31.407	79.80	1.196	626.4	1477.19	6.8
880.0	871.8	3.331	3.269	34.342	27.372	31.460	79.20	1.204	638.3	1477.12	6.5
890.0	881.6	3.307	3.244	34.347	27.378	31.513	78.64	1.212	650.2	1477.19	7.1
900.0	891.5	3.279	3.215	34.351	27.384	31.565	78.11	1.220	662.3	1477.24	7.4
910.0	901.4	3.246	3.182	34.356	27.391	31.619	77.45	1.228	674.4	1477.27	7.1
920.0	911.3	3.219	3.154	34.361	27.397	31.672	76.85	1.235	686.5	1477.32	5.8
930.0	921.2	3.190	3.125	34.366	27.404	31.725	76.23	1.243	698.8	1477.37	

CTD REPORT RAMA-4 STATION: 5 CAST: 2 DN
 POSITION: 38DEG 58.1MIN N 152DEG 2.6MIN E DATE: 5 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS SQD-1E6	FO
980.0	970.6	3.052	2.984	34.382	27.429	31.984	73.89	1.281	761.2	1477.62	4.9	
990.0	980.5	3.042	2.973	34.385	27.433	32.033	73.62	1.288	773.8	1477.74	5.1	
1000.0	990.4	3.029	2.960	34.392	27.439	32.086	73.03	1.295	786.6	1477.86	6.4	
1050.0	1039.8	2.914	2.842	34.407	27.462	32.341	70.99	1.331	851.5	1478.21	6.5	
1100.0	1089.2	2.815	2.740	34.422	27.482	32.594	69.11	1.366	918.1	1478.62	2.3	
1150.0	1138.6	2.738	2.660	34.440	27.504	32.847	67.23	1.400	986.5	1479.13	5.5	
1200.0	1188.3	2.656	2.574	34.454	27.522	33.097	65.60	1.434	1056.4	1479.62	3.8	
1250.0	1237.3	2.601	2.516	34.462	27.533	33.339	64.68	1.466	1128.0	1480.21	3.9	
1300.0	1286.7	2.528	2.440	34.473	27.548	33.585	63.35	1.498	1201.2	1480.73	4.2	
1350.0	1336.0	2.464	2.373	34.485	27.563	33.831	62.00	1.529	1275.9	1481.30	2.4	
1400.0	1385.4	2.404	2.309	34.498	27.579	34.077	60.64	1.560	1352.1	1481.88	3.7	
1450.0	1434.7	2.355	2.257	34.512	27.594	34.322	59.32	1.590	1429.9	1482.51	3.4	
1500.0	1484.0	2.311	2.210	34.521	27.605	34.566	58.41	1.619	1508.8	1483.15	2.7	
1550.0	1533.3	2.270	2.165	34.530	27.616	34.802	57.53	1.648	1589.9	1483.81	2.2	
1600.0	1582.6	2.230	2.122	34.540	27.628	35.044	56.45	1.677	1671.5	1484.44	2.6	
1650.0	1631.9	2.192	2.084	34.550	27.641	35.286	55.38	1.705	1754.4	1485.03	2.8	
1700.0	1681.2	2.154	2.047	34.559	27.653	35.526	54.31	1.732	1839.9	1485.69	2.7	
1750.0	1730.5	2.116	2.010	34.568	27.665	35.764	53.24	1.760	1925.4	1486.37	2.1	
1800.0	1779.7	2.079	1.973	34.578	27.676	36.000	52.17	1.786	2012.2	1487.03	2.0	
1850.0	1829.0	2.040	1.934	34.584	27.684	36.235	51.10	1.813	2101.4	1487.72	2.5	
1900.0	1878.2	1.976	1.846	34.584	27.684	36.471	50.03	1.839	2191.3	1488.41	1.6	
1950.0	1927.4	1.934	1.801	34.592	27.693	36.709	49.08	1.864	2282.4	1489.07	1.7	
2000.0	1976.6	1.903	1.766	34.597	27.700	36.943	50.28	1.890	2374.8	1489.78	0.9	
2050.0	2025.8	1.875	1.734	34.602	27.706	37.176	49.77	1.915	2468.4	1490.50	1.7	
2100.0	2075.0	1.853	1.709	34.606	27.711	37.408	49.40	1.939	2563.2	1491.24	1.5	
2150.0	2124.2	1.828	1.680	34.611	27.718	37.640	48.91	1.964	2659.9	1491.98	2.0	
2200.0	2173.4	1.808	1.656	34.615	27.722	37.871	48.57	1.988	2756.3	1492.73	1.3	
2250.0	2222.6	1.776	1.620	34.620	27.729	38.104	47.99	2.012	2854.7	1493.44	1.6	
2300.0	2271.7	1.754	1.594	34.625	27.735	38.336	47.52	2.036	2954.2	1494.19	1.3	
2350.0	2320.9	1.730	1.566	34.629	27.740	38.567	47.11	2.060	3054.8	1494.93	1.7	
2400.0	2370.0	1.707	1.539	34.632	27.744	38.797	46.77	2.084	3156.6	1495.67	1.8	
2450.0	2419.1	1.687	1.515	34.636	27.749	39.026	46.40	2.107	3259.5	1496.43	1.6	
2500.0	2468.2	1.670	1.494	34.639	27.753	39.255	46.12	2.130	3363.3	1497.20	0.8	
2550.0	2517.3	1.654	1.473	34.643	27.758	39.484	45.78	2.153	3468.7	1497.98	1.4	
2600.0	2566.4	1.644	1.459	34.644	27.760	39.709	45.74	2.176	3574.9	1498.78	0.5	
2650.0	2615.5	1.626	1.437	34.648	27.764	39.938	45.38	2.198	3682.3	1499.55	1.0	
2700.0	2664.6	1.614	1.421	34.650	27.767	40.164	45.23	2.221	3790.7	1500.34	0.7	
2750.0	2713.6	1.605	1.407	34.651	27.769	40.389	45.19	2.244	3900.2	1501.15	0.7	
2800.0	2762.7	1.596	1.394	34.653	27.771	40.614	45.08	2.266	4010.8	1501.96	0.7	
2850.0	2811.7	1.584	1.377	34.656	27.775	40.840	44.86	2.289	4122.5	1502.76	1.0	
2900.0	2860.7	1.570	1.359	34.658	27.778	41.066	44.67	2.311	4235.3	1503.55	0.7	
2950.0	2909.7	1.559	1.343	34.659	27.780	41.290	44.60	2.334	4349.1	1504.35	0.8	
3000.0	2958.8	1.557	1.336	34.660	27.781	41.512	44.64	2.356	4464.0	1505.19	0.2	
3050.0	3007.8	1.552	1.327	34.660	27.782	41.734	44.72	2.378	4580.0	1506.02	0.4	
3100.0	3056.7	1.542	1.312	34.664	27.786	41.960	44.44	2.400	4697.0	1506.84	0.3	
3150.0	3105.7	1.534	1.299	34.664	27.787	42.182	44.48	2.423	4815.1	1507.65	0.7	
3200.0	3154.7	1.528	1.288	34.666	27.789	42.405	44.37	2.445	4934.3	1508.48	0.9	
3250.0	3203.6	1.524	1.279	34.667	27.790	42.626	44.39	2.467	5054.4	1509.32	0.7	
3300.0	3252.6	1.517	1.268	34.668	27.792	42.848	44.37	2.489	5175.8	1510.14	1.1	
3350.0	3301.5	1.511	1.257	34.668	27.793	43.069	44.42	2.512	5298.8	1510.97	0.3	
3400.0	3350.4	1.505	1.246	34.670	27.795	43.291	44.32	2.534	5421.5	1511.80	0.7	
3450.0	3399.4	1.503	1.239	34.671	27.798	43.511	44.36	2.556	5546.0	1512.65	0.6	
3500.0	3448.3	1.499	1.230	34.673	27.797	43.731	44.33	2.578	5671.1	1513.53	0.0	
3550.0	3497.2	1.495	1.221	34.673	27.799	43.952	44.37	2.600	5798.1	1514.43	0.0	
3600.0	3546.0	1.491	1.211	34.674	27.801	44.172	44.37	2.622	5925.7	1515.37	0.6	
3650.0	3594.9	1.487	1.202	34.675	27.802	44.392	44.37	2.645	6054.4	1516.01	0.3	
3700.0	3643.8	1.487	1.197	34.675	27.802	44.610	44.50	2.667	6184.2	1516.87	0.0	
3750.0	3692.6	1.482	1.187	34.677	27.805	44.830	44.42	2.689	6315.0	1517.71	0.2	
3800.0	3741.5	1.481	1.180	34.676	27.804	45.048	44.60	2.711	6446.9	1518.56	0.4	
3850.0	3790.3	1.478	1.172	34.677	27.806	45.266	44.61	2.734	6579.8	1519.41	0.3	
3900.0	3839.1	1.476	1.165	34.678	27.807	45.485	44.64	2.756	6713.8	1520.27	0.2	
3950.0	3887.9	1.477	1.160	34.678	27.807	45.701	44.80	2.778	6848.9	1521.13	0.2	
4000.0	3936.7	1.476	1.154	34.678	27.808	45.918	44.91	2.801	6985.0	1521.99	0.1	
4050.0	3985.5	1.475	1.147	34.680	27.810	46.136	44.87	2.823	7122.2	1522.85	0.7	
4100.0	4034.3	1.473	1.140	34.680	27.810	46.353	44.97	2.846	7260.4	1523.71	0.2	
4150.0	4083.1	1.473	1.134	34.681	27.811	46.570	45.03	2.868	7399.7	1524.57	0.6	
4200.0	4131.8	1.474	1.129	34.681	27.812	46.785	45.17	2.891	7540.1	1525.44	0.4	
4250.0	4180.6	1.474	1.124	34.681	27.812	47.001	45.29	2.913	7681.6	1526.30	0.2	
4300.0	4229.3	1.475	1.119	34.682	27.813	47.217	45.36	2.936	7824.1	1527.17	1.0	
4350.0	4278.0	1.477	1.115	34.683	27.814	47.432	45.45	2.959	7967.7	1528.05	0.1	
4400.0	4326.8	1.479	1.111	34.683	27.815	47.647	45.61	2.981	8112.4	1528.93	0.2	
4450.0	4375.5	1.483	1.109	34.682	27.814	47.860	45.87	3.004	8258.2	1529.81	0.1	
4500.0	4424.2	1.484	1.104	34.683	27.815	48.075	45.94	3.027	8405.0	1530.68	0.2	
4550.0	4472.9	1.485	1.100	34.683	27.815	48.289	46.07	3.050	8552.9	1531.55	0.5	
4600.0	4521.5	1.488	1.096	34.683	27.815	48.503	46.25	3.073	8702.0	1532.43	0.1	
4650.0	4570.2	1.491	1.093	34.684	27.816	48.717	46.36	3.096	8852.1	1533.32	0.1	
4700.0	4618.8	1.491	1.087	34.684	27.817	48.930	46.48	3.120	9003.3	1534.19	0.1	
4750.0	4667.5	1.493	1.083	34.684	27.817	49.143	46.63	3.143	9155.6	1535.06	0.2	
4800.0	4716.1	1.496	1.080	34.684	27.817	49.355	46.81	3.166	9309.9	1535.95	0.3	
4850.0	4764.8	1.499	1.077	34.684	27.818	49.568	46.99	3.190	9463.5	1536.83	0.0	
4900.0	4813.4	1.502	1.074	34.684	27.818	49.780	47.16	3.213	9619.1	1537.71	0.5	
4950.0	4862.0	1.506	1.071	34.685	27.819	49.992	47.28	3.237	9775.8	1538.60	0.1	
5000.0	4910.6	1.510	1.069	34.685	27.819	50.204	47.46	3.261	9933.7	1539.49	0.1	
5050.0	4959.2	1.514	1.067	34.685	27.819	50.415	47.66	3.284	10093.6	1540.38	0.1	
5100.0	5007.8	1.519	1.065	34.685	27.819	50.625	47.88	3.308	10255.2	1541.27	0.0	
5150.0	5056.3	1.522	1.062	34.686	27.820	50.837	47.98	3.332	10413.9	1542.16	0.4	
5200.0	5104.9	1.525	1.058	34.686	27.820	51.048	48.15	3.356	10576.3	1543.05	0.1	
5250.0	5153.3	1.528	1.057	34.685	27.820	51.257	48.43	3.380	10739.9	1543.94	0.1	
5300.0	5201.9	1.533	1.053	34.685	27.820	51.467	48.60	3.405	10904.4	1544.83	0.1	
5350.0	5250.4	1.538	1.052	34.686	27.821	51.677	48.76	3.429	11070.2			

CTD REPORT RAMA-4 STATION: 6 CAST: 1 DN
 POSITION: 38DEG 15.3MIN N 151DEG 59.0MIN E DATE: 6 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
0.0	0.0	19.356	19.356	34.301	24.421	24.421	352.57	0.000	0.0	1518.88	
10.0	9.9	19.020	19.018	34.288	24.498	24.541	345.64	0.035	0.2	1518.08	113.8
20.0	19.8	18.513	18.509	34.328	24.657	24.745	330.81	0.069	0.7	1516.84	388.5
30.0	29.8	16.337	16.332	34.484	25.304	25.436	269.52	0.099	1.5	1510.72	480.5
40.0	39.7	15.015	15.009	34.549	25.655	25.832	236.45	0.125	2.7	1506.84	271.8
50.0	49.6	13.891	13.884	34.510	25.867	26.090	216.47	0.148	4.0	1503.35	176.1
60.0	59.5	13.161	13.153	34.510	26.019	26.286	202.31	0.169	5.6	1501.11	111.6
70.0	69.5	12.689	12.679	34.489	26.098	26.410	195.05	0.189	7.4	1499.66	71.0
80.0	79.4	12.104	12.093	34.427	26.164	26.523	188.91	0.208	9.3	1497.77	51.6
90.0	89.3	11.865	11.853	34.418	26.203	26.607	185.43	0.227	11.5	1497.10	41.5
100.0	99.2	11.492	11.479	34.386	26.249	26.698	181.29	0.245	13.8	1495.94	61.0
110.0	109.1	10.877	10.863	34.342	26.328	26.823	173.95	0.263	16.4	1493.90	52.5
120.0	119.1	10.620	10.605	34.319	26.356	26.897	171.46	0.281	19.1	1493.12	35.3
130.0	129.0	10.175	10.160	34.274	26.399	26.986	167.51	0.298	21.9	1491.64	26.8
140.0	138.9	10.035	10.019	34.257	26.410	27.043	166.67	0.314	25.0	1491.28	23.7
150.0	148.8	9.682	9.665	34.227	26.446	27.125	163.34	0.331	28.2	1490.13	32.5
160.0	158.7	9.359	9.341	34.195	26.474	27.200	160.74	0.347	31.5	1489.07	22.2
170.0	168.7	9.088	9.069	34.166	26.496	27.268	158.82	0.363	35.0	1488.20	22.2
180.0	178.6	8.850	8.830	34.146	26.518	27.337	156.82	0.379	38.7	1487.46	20.3
190.0	188.5	8.530	8.510	34.104	26.535	27.401	155.27	0.394	42.6	1486.37	22.0
200.0	198.4	8.253	8.232	34.083	26.561	27.473	152.90	0.410	46.5	1485.47	17.6
210.0	208.3	7.914	7.892	34.073	26.570	27.528	150.22	0.425	50.7	1485.21	11.9
220.0	218.2	7.894	7.872	34.043	26.583	27.588	150.98	0.440	55.0	1484.38	13.0
230.0	228.1	7.720	7.697	34.026	26.595	27.647	149.93	0.455	59.4	1483.86	14.0
240.0	238.0	7.475	7.451	34.002	26.612	27.710	148.42	0.470	64.0	1483.05	14.0
250.0	247.9	7.287	7.263	33.981	26.620	27.767	147.52	0.485	68.7	1482.47	10.0
260.0	257.8	7.085	7.060	33.956	26.630	27.823	146.77	0.500	73.9	1481.81	10.0
270.0	267.7	6.793	6.768	33.927	26.647	27.887	146.14	0.514	78.8	1480.80	21.0
280.0	277.6	6.532	6.506	33.897	26.670	27.937	145.98	0.529	83.8	1479.92	21.0
290.0	287.5	6.117	6.091	33.877	26.695	28.032	145.42	0.543	89.1	1478.40	22.8
300.0	297.4	5.696	5.670	33.897	26.714	28.096	138.81	0.557	94.6	1478.50	17.9
310.0	307.3	5.910	5.883	33.889	26.731	28.161	137.21	0.571	100.2	1477.91	19.9
320.0	317.2	5.771	5.744	33.895	26.752	28.230	135.17	0.585	105.9	1477.52	18.1
330.0	327.1	5.586	5.558	33.883	26.765	28.290	133.94	0.598	111.8	1476.93	19.3
340.0	337.0	5.524	5.496	33.905	26.790	28.361	131.68	0.611	117.8	1476.87	16.3
350.0	346.9	5.424	5.395	33.899	26.797	28.415	131.03	0.624	123.9	1476.62	11.0
360.0	356.8	5.332	5.302	33.903	26.811	28.476	129.77	0.638	130.1	1476.41	18.4
370.0	366.7	5.355	5.324	33.936	26.835	28.545	127.70	0.650	136.5	1476.71	19.1
380.0	376.6	5.448	5.416	33.971	26.852	28.608	126.30	0.663	143.0	1477.29	19.1
390.0	386.5	5.426	5.393	33.997	26.875	28.677	124.22	0.676	149.7	1477.40	18.4
400.0	396.4	5.399	5.366	34.011	26.889	28.737	122.98	0.688	156.4	1477.47	17.2
410.0	406.3	5.285	5.251	34.019	26.909	28.804	121.13	0.700	163.3	1477.18	22.0
420.0	416.2	5.115	5.081	34.023	26.931	28.875	118.94	0.712	170.3	1476.65	17.5
430.0	426.1	5.144	5.109	34.042	26.943	28.932	117.96	0.724	177.4	1476.96	14.6
440.0	436.0	5.097	5.061	34.058	26.961	28.997	116.34	0.736	184.6	1476.95	18.3
450.0	445.9	5.059	5.022	34.076	26.980	29.062	114.64	0.748	192.0	1476.98	11.9
460.0	455.8	4.961	4.924	34.083	26.985	29.113	114.26	0.759	199.5	1477.16	15.2
470.0	465.7	4.948	4.910	34.098	27.010	29.185	111.93	0.770	207.0	1476.88	23.0
480.0	475.6	4.851	4.813	34.110	27.030	29.253	110.01	0.781	214.7	1476.66	18.5
490.0	485.5	4.838	4.799	34.129	27.047	29.315	108.55	0.792	222.5	1476.79	16.2
500.0	495.4	4.780	4.740	34.141	27.063	29.378	107.09	0.803	230.4	1476.73	12.6
510.0	505.3	4.758	4.716	34.149	27.072	29.433	106.31	0.814	238.3	1476.81	10.8
520.0	515.2	4.730	4.689	34.161	27.085	29.492	105.21	0.824	246.2	1476.88	14.7
530.0	525.1	4.678	4.636	34.165	27.101	29.556	103.68	0.835	254.1	1476.84	13.0
540.0	535.0	4.633	4.593	34.181	27.111	29.612	102.06	0.845	262.0	1476.84	10.0
550.0	544.9	4.591	4.548	34.186	27.120	29.667	101.06	0.855	270.0	1476.83	14.0
560.0	554.8	4.544	4.500	34.188	27.126	29.717	100.46	0.866	278.0	1476.80	14.0
570.0	564.7	4.458	4.414	34.197	27.143	29.784	99.91	0.876	286.0	1476.61	14.4
580.0	574.6	4.379	4.334	34.200	27.153	29.842	98.90	0.886	294.0	1476.45	10.2
590.0	584.5	4.336	4.291	34.205	27.162	29.897	98.13	0.896	306.2	1476.44	11.3
600.0	594.4	4.273	4.227	34.213	27.175	29.957	96.92	0.905	315.1	1476.36	11.9
610.0	604.3	4.219	4.173	34.218	27.185	30.014	96.02	0.915	324.1	1476.30	10.8
620.0	614.2	4.094	4.048	34.214	27.194	30.072	95.03	0.925	333.2	1475.94	13.4
630.0	624.1	4.073	4.026	34.231	27.210	30.134	93.62	0.934	342.4	1476.03	10.9
640.0	634.0	4.020	3.972	34.231	27.215	30.186	93.11	0.943	351.7	1475.97	8.5
650.0	643.9	3.962	3.914	34.236	27.225	30.243	92.17	0.953	361.1	1475.90	10.5
660.0	653.8	3.917	3.868	34.243	27.235	30.300	91.24	0.962	370.6	1475.88	11.9
670.0	663.7	3.881	3.832	34.255	27.249	30.360	90.05	0.971	380.1	1475.91	11.0
680.0	673.6	3.847	3.797	34.261	27.257	30.414	89.31	0.980	389.8	1475.94	6.9
690.0	683.5	3.830	3.779	34.265	27.262	30.466	88.89	0.989	399.5	1476.03	6.4
700.0	693.4	3.792	3.741	34.269	27.269	30.520	88.27	0.998	409.3	1476.04	6.3
710.0	703.3	3.776	3.724	34.273	27.273	30.571	87.88	1.007	419.3	1476.14	9.1
720.0	713.2	3.727	3.675	34.283	27.286	30.630	86.69	1.015	429.3	1476.11	10.1
730.0	723.1	3.715	3.662	34.290	27.293	30.683	86.12	1.024	439.4	1476.23	9.3
740.0	733.0	3.673	3.619	34.299	27.304	30.741	85.07	1.033	449.5	1476.23	11.1
750.0	742.9	3.634	3.580	34.307	27.314	30.798	84.13	1.041	459.8	1476.24	8.8
760.0	752.8	3.614	3.559	34.315	27.321	30.852	83.53	1.049	470.1	1476.33	10.9
770.0	762.7	3.565	3.510	34.325	27.335	30.913	82.19	1.058	480.5	1476.30	10.2
780.0	772.6	3.529	3.473	34.327	27.341	30.965	81.73	1.066	491.1	1476.31	6.9
790.0	782.5	3.493	3.437	34.332	27.348	31.019	81.04	1.074	501.6	1476.33	9.9
800.0	792.4	3.470	3.413	34.332	27.351	31.068	80.79	1.082	512.3	1476.39	3.5
810.0	802.3	3.455	3.397	34.333	27.354	31.118	80.55	1.090	523.0	1476.50	4.3
820.0	812.2	3.431	3.373	34.338	27.359	31.169	80.14	1.098	533.7	1476.56	4.0
830.0	822.1	3.417	3.358	34.340	27.362	31.218	79.92	1.106	544.4	1476.67	4.0
840.0	832.0	3.394	3.334	34.343	27.366	31.269	79.05	1.114	555.1	1476.74	4.5
850.0	841.9	3.362	3.302	34.346	27.372	31.321	78.05	1.122	565.8	1476.77	4.0
860.0	851.8	3.332	3.271	34.346	27.375	31.371	78.77	1.130	576.5	1476.81	4.4
870.0	861.7	3.294	3.233	34.347	27.379	31.422	78.36	1.138	587.2	1476.81	10.9
880.0	871.6	3.264	3.202	34.353	27.386	31.476	77.65	1.146	598.0	1476.85	10.9
890.0	881.5	3.224	3.162	34.360	27.396	31.533	76.78	1.153	609.1	1476.85	10.8
900.0	891.4	3.161	3.098	34.366	27.406	31.590	75.72	1.161	623.3	1476.76	7.6
910.0	901.3	3.145	3.082	34.368	27.409	31.640	75.47	1.169	634.8	1476.85	5.0
920.0	911.2	3.121	3.057	34.373	27.416	31.693	74.91	1.176	646.4	1476.92	3.9
930.0	921.1	3.117	3.052	34.374	27.417	31.740	74.86	1.184	658.0	1477.07	

STATION: 6 CAST: 1 DN
N E DATE: 6 JUL 80

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CTD REPORT RAMA-4 STATION: 7 CAST: 2 DN
 POSITION: 37DEG 31.3MIN N 152DEG 2.6MIN E DATE: 6 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SOD*1E6
0.0	0.0	21.057	21.057	34.013	23.752	23.752	416.39	0.000	0.0	1523.24	
1.0	0.9	20.873	20.871	34.183	23.931	23.975	399.67	0.041	0.2	1523.10	241.9
2.0	1.9	20.693	20.691	34.358	24.104	24.341	369.25	0.081	0.8	1523.52	536.9
3.0	2.9	20.513	20.511	34.533	24.277	24.510	338.83	0.121	1.8	1512.66	606.0
4.0	3.9	20.333	20.331	34.708	24.450	24.683	308.41	0.161	3.1	1508.14	304.6
5.0	4.9	20.153	20.151	34.883	24.625	24.856	277.99	0.201	4.6	1505.77	125.8
6.0	5.9	19.973	19.971	35.058	24.800	25.033	247.57	0.241	6.4	1504.48	74.3
7.0	6.9	19.793	19.791	35.233	24.975	25.208	217.15	0.281	8.4	1504.91	53.7
8.0	7.9	19.613	19.611	35.408	25.150	25.383	186.73	0.321	10.6	1503.85	71.1
9.0	8.9	19.433	19.431	35.583	25.325	25.558	156.31	0.361	13.1	1502.40	69.4
10.0	9.9	19.253	19.251	35.758	25.500	25.733	125.89	0.401	15.7	1501.62	51.0
11.0	10.9	19.073	19.071	35.933	25.675	25.908	95.47	0.441	18.6	1500.06	68.1
12.0	11.9	18.893	18.891	36.108	25.850	26.083	65.05	0.481	21.6	1496.68	75.6
13.0	12.9	18.713	18.711	36.283	26.025	26.258	34.63	0.521	24.9	1496.34	67.9
14.0	13.9	18.533	18.531	36.458	26.200	26.433	4.21	0.561	28.3	1494.41	50.7
15.0	14.9	18.353	18.351	36.633	26.375	26.608	-26.21	0.601	31.9	1493.12	40.2
16.0	15.9	18.173	18.171	36.808	26.550	26.783	-56.79	0.641	35.6	1492.64	36.1
17.0	16.9	17.993	17.991	36.983	26.725	26.958	-87.37	0.681	39.6	1491.79	29.6
18.0	17.9	17.813	17.811	37.158	26.900	27.133	-117.95	0.721	43.7	1490.88	35.8
19.0	18.9	17.633	17.631	37.333	27.075	27.308	-148.53	0.761	47.9	1489.53	30.1
20.0	19.9	17.453	17.451	37.508	27.250	27.483	-179.11	0.801	52.4	1488.44	21.9
21.0	20.9	17.273	17.271	37.683	27.425	27.658	-209.69	0.841	56.9	1487.64	28.0
22.0	21.9	17.093	17.091	37.858	27.600	27.833	-240.27	0.881	61.7	1486.07	32.9
23.0	22.9	16.913	16.911	38.033	27.775	28.008	-270.85	0.921	66.6	1484.51	30.0
24.0	23.9	16.733	16.731	38.208	27.950	28.183	-301.43	0.961	71.1	1482.97	22.6
25.0	24.9	16.553	16.551	38.383	28.125	28.358	-332.01	1.001	76.8	1483.23	19.1
26.0	25.9	16.373	16.371	38.558	28.300	28.533	-362.59	1.041	82.1	1481.43	12.9
27.0	26.9	16.193	16.191	38.733	28.475	28.708	-393.17	1.081	88.2	1479.16	17.5
28.0	27.9	16.013	16.011	38.908	28.650	28.883	-423.75	1.121	93.2	1477.81	22.1
29.0	28.9	15.833	15.831	39.083	28.825	29.058	-454.33	1.161	99.0	1479.29	21.6
30.0	29.9	15.653	15.651	39.258	29.000	29.233	-484.91	1.201	104.9	1478.94	17.6
31.0	30.9	15.473	15.471	39.433	29.175	29.408	-515.49	1.241	110.9	1479.41	15.6
32.0	31.9	15.293	15.291	39.608	29.350	29.583	-546.07	1.281	117.1	1478.84	
33.0	32.9	15.113	15.111	39.783	29.525	29.758	-576.65	1.321	123.8	1476.80	24.2
34.0	33.9	14.933	14.931	39.958	29.700	29.933	-607.23	1.361	130.3	1476.51	19.9
35.0	34.9	14.753	14.751	40.133	29.875	30.108	-637.81	1.401	136.8	1476.45	17.7
36.0	35.9	14.573	14.571	40.308	30.050	30.283	-668.39	1.441	143.0	1476.54	17.9
37.0	36.9	14.393	14.391	40.483	30.225	30.458	-698.97	1.481	149.8	1476.44	18.7
38.0	37.9	14.213	14.211	40.658	30.400	30.633	-729.55	1.521	156.8	1476.44	
39.0	38.9	14.033	14.031	40.833	30.575	30.808	-760.13	1.561	163.8	1476.44	
40.0	39.9	13.853	13.851	41.008	30.750	30.983	-790.71	1.601	171.0	1476.44	18.6
41.0	40.9	13.673	13.671	41.183	30.925	31.158	-821.29	1.641	178.3	1476.49	20.2
42.0	41.9	13.493	13.491	41.358	31.100	31.333	-851.87	1.681	185.7	1476.17	23.6
43.0	42.9	13.313	13.311	41.533	31.275	31.508	-882.45	1.721	193.3	1475.83	15.5
44.0	43.9	13.133	13.131	41.708	31.450	31.683	-913.03	1.761	200.9	1475.82	14.1
45.0	44.9	12.953	12.951	41.883	31.625	31.858	-943.61	1.801	208.5	1475.08	17.7
46.0	45.9	12.773	12.771	42.058	31.800	32.033	-974.19	1.841	216.5	1475.53	12.5
47.0	46.9	12.593	12.591	42.233	31.975	32.208	-1004.77	1.881	224.5	1476.35	11.0
48.0	47.9	12.413	12.411	42.408	32.150	32.383	-1035.35	1.921	232.6	1476.30	13.0
49.0	48.9	12.233	12.231	42.583	32.325	32.558	-1065.93	1.961	240.6	1476.40	15.0
50.0	49.9	12.053	12.051	42.758	32.500	32.733	-1096.51	2.001	249.5	1476.21	12.6
51.0	50.9	11.873	11.871	42.933	32.675	32.908	-1127.09	2.041	257.5	1476.24	8.8
52.0	51.9	11.693	11.691	43.108	32.850	33.083	-1157.67	2.081	266.0	1476.36	8.8
53.0	52.9	11.513	11.511	43.283	33.025	33.258	-1188.25	2.121	274.0	1476.29	15.9
54.0	53.9	11.333	11.331	43.458	33.200	33.433	-1218.83	2.161	282.4	1476.21	18.1
55.0	54.9	11.153	11.151	43.633	33.375	33.608	-1249.41	2.201	290.9	1476.88	14.1
56.0	55.9	10.973	10.971	43.808	33.550	33.783	-1279.99	2.241	300.1	1476.33	16.7
57.0	56.9	10.793	10.791	43.983	33.725	33.958	-1310.57	2.281	309.2	1475.54	14.1
58.0	57.9	10.613	10.611	44.158	33.900	34.133	-1341.15	2.321	318.4	1475.44	11.4
59.0	58.9	10.433	10.431	44.333	34.075	34.308	-1371.73	2.361	327.8	1475.63	10.4
60.0	59.9	10.253	10.251	44.508	34.250	34.483	-1402.31	2.401	337.2	1475.52	11.5
61.0	60.9	10.073	10.071	44.683	34.425	34.658	-1432.89	2.441	346.6	1475.50	10.3
62.0	61.9	9.893	9.891	44.858	34.600	34.833	-1463.47	2.481	356.0	1475.39	8.8
63.0	62.9	9.713	9.711	45.033	34.775	35.008	-1494.05	2.521	365.4	1475.57	9.6
64.0	63.9	9.533	9.531	45.208	34.950	35.183	-1524.63	2.561	375.7	1475.61	10.9
65.0	64.9	9.353	9.351	45.383	35.125	35.358	-1555.21	2.601	385.5	1475.57	8.7
66.0	65.9	9.173	9.171	45.558	35.300	35.533	-1585.79	2.641	395.4	1475.60	9.1
67.0	66.9	8.993	8.991	45.733	35.475	35.708	-1616.37	2.681	405.4	1475.58	10.1
68.0	67.9	8.813	8.811	45.908	35.650	35.883	-1646.95	2.721	415.5	1475.58	8.1
69.0	68.9	8.633	8.631	46.083	35.825	36.058	-1677.53	2.761	425.6	1475.50	
70.0	69.9	8.453	8.451	46.258	36.000	36.233	-1708.11	2.801	435.8	1475.60	5.6
71.0	70.9	8.273	8.271	46.433	36.175	36.408	-1738.69	2.841	446.1	1475.67	6.9
72.0	71.9	8.093	8.091	46.608	36.350	36.583	-1769.27	2.881	456.4	1475.64	8.2
73.0	72.9	7.913	7.911	46.783	36.525	36.758	-1799.85	2.921	466.9	1475.87	8.4
74.0	73.9	7.733	7.731	46.958	36.700	36.933	-1830.43	2.961	477.4	1475.92	8.1
75.0	74.9	7.553	7.551	47.133	36.875	37.108	-1861.01	3.001	488.0	1475.86	6.3
76.0	75.9	7.373	7.371	47.308	37.050	37.283	-1891.59	3.041	498.7	1475.90	6.3
77.0	76.9	7.193	7.191	47.483	37.225	37.458	-1922.17	3.081	509.5	1475.84	6.6
78.0	77.9	7.013	7.011	47.658	37.400	37.633	-1952.75	3.121	520.4	1475.98	5.9
79.0	78.9	6.833	6.831	47.833	37.575	37.808	-1983.33	3.161	531.3	1476.10	7.2
80.0	79.9	6.653	6.651	48.008	37.750	37.983	-2013.91	3.201	542.3	1476.10	7.6
81.0	80.9	6.473	6.471	48.183	37.925	38.158	-2044.49	3.241	553.3	1476.23	19.6
82.0	81.9	6.293	6.291	48.358	38.100	38.333	-2075.07	3.281	564.3	1476.29	19.6
83.0	82.9	6.113	6.111	48.533	38.275	38.508	-2105.65	3.321	575.3	1476.41	18.4
84.0	83.9	5.933	5.931	48.708	38.450	38.683	-2136.23	3.361	586.3	1476.33	18.4
85.0	84.9	5.753	5.751	48.883	38.625	38.858	-2166.81	3.401	597.3	1476.40	7.1
86.0	85.9	5.573	5.571	49.058	38.800	39.033	-2197.39	3.441	608.3	1476.43	7.4
87.0	86.9	5.393	5.391	49.233	38.975	39.208	-2227.97	3.481	619.3	1476.51	5.1
88.0	87.9	5.213	5.211	49.408	39.150	39.383	-2258.55	3.521	630.3	1476.53	4.8
89.0	88.9	5.033	5.031	49.583	39.325	39.558	-2289.13	3.561	641.3	1476.53	
90.0	89.9	4.853	4.851	49.758	39.500	39.733	-2319.71	3.601	652.3	1476.56	5.0
91.0	90.9	4.673	4.671	49.933	39.675	39.908	-2350.29	3.641	663.3	1476.63	4.8
92.0	91.9	4.493	4.491	50.108	39.850	40.083	-2380.87	3.681	674.3	1476.74	3.8
93.0	92.9	4.313	4.311	50.283	40.025	40.258	-2411.45	3.721	685.3	1476.80	4.2
94.0	93.9	4.133	4.131	50.458	40.200						

CTD REPORT RAMA-4 STATION: 7 CAST: 2 DN
 POSITION: 37DEG 31.3MIN N 152DEG 2.6MIN E DATE: 6 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
5800.0	5686.7	1.579	1.032	34.690	27.825	53.557	50.33	3.598	12386.8	1553.78	0.1
5850.0	5735.1	1.584	1.030	34.691	27.826	53.765	50.47	3.623	12561.6	1554.68	-0.5
5900.0	5783.5	1.591	1.030	34.691	27.826	53.972	50.74	3.648	12737.5	1555.59	

CTD REPORT RAMA-4
POSITION: 36DEG 44.0MIN N

151DEG 58.3MIN E STATION: 8 CAST: 1 DN
DATE: 7 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT DEG C	TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
0.0	0.0	21.261	21.261	33.875	23.592	23.592	431.67	0.000	0.0	0.0	1523.64	
10.0	10.0	21.178	21.176	33.897	23.631	23.675	428.26	0.043	0.2	0.2	1523.60	248.7
20.0	20.0	20.083	20.079	34.138	24.108	24.195	383.17	0.085	0.8	0.8	1521.06	806.1
30.0	30.0	15.396	15.391	34.205	25.305	25.438	269.38	0.117	1.9	1.9	1507.43	723.3
40.0	40.0	13.952	13.946	34.192	25.609	25.787	240.68	0.143	3.2	3.2	1503.01	260.0
50.0	50.0	12.281	12.274	34.316	25.844	26.067	218.61	0.166	4.7	4.7	1501.11	176.6
60.0	60.0	11.538	11.530	34.292	25.975	26.243	206.40	0.187	6.4	6.4	1498.76	149.3
70.0	70.0	10.885	10.876	34.118	26.151	26.467	189.70	0.207	8.4	8.4	1493.00	114.9
80.0	80.0	10.192	10.183	34.037	26.210	26.572	184.23	0.226	10.9	10.9	1490.60	90.0
90.0	90.0	9.591	9.581	34.068	26.336	26.744	172.42	0.243	12.9	12.9	1488.62	99.2
100.0	100.0	9.501	9.490	34.150	26.415	26.869	165.13	0.260	15.4	15.4	1488.56	54.2
110.0	110.0	9.132	9.120	34.144	26.447	26.947	162.21	0.277	18.0	18.0	1487.32	44.4
120.0	120.0	8.732	8.721	33.957	26.503	27.052	156.81	0.293	20.9	20.9	1487.95	40.0
130.0	130.0	8.333	8.323	33.939	26.525	27.122	154.67	0.309	23.3	23.3	1487.07	33.3
140.0	140.0	7.933	7.923	34.108	26.590	27.232	152.33	0.324	26.0	26.0	1486.60	26.0
150.0	150.0	7.533	7.523	34.108	26.608	27.282	147.71	0.339	28.4	28.4	1485.19	20.0
160.0	160.0	7.133	7.123	34.076	26.616	27.339	146.94	0.354	30.7	30.7	1485.41	14.1
170.0	170.0	6.733	6.723	33.809	26.667	27.439	141.48	0.369	33.0	33.0	1485.68	9.9
180.0	180.0	6.333	6.323	33.802	26.668	27.547	141.44	0.387	34.9	34.9	1475.61	0.9
200.0	200.0	5.499	5.483	33.746	26.666	27.592	141.61	0.411	48.9	48.9	1474.29	6.2
210.0	210.0	4.894	4.884	33.673	26.675	27.651	140.52	0.426	53.0	53.0	1471.97	1.4
220.0	220.0	4.538	4.522	33.633	26.684	27.709	139.61	0.440	57.3	57.3	1470.55	13.1
230.0	230.0	4.123	4.107	33.596	26.698	27.771	138.16	0.453	61.8	61.8	1468.94	7.0
240.0	240.0	4.260	4.243	33.612	26.697	27.816	138.45	0.467	66.3	66.3	1469.69	7.4
250.0	250.0	4.386	4.368	33.651	26.715	27.869	136.94	0.481	71.0	71.0	1470.43	18.9
260.0	260.0	4.745	4.723	33.884	26.746	27.948	134.94	0.495	75.9	75.9	1476.43	24.6
270.0	270.0	6.068	6.044	33.973	26.777	28.022	132.41	0.508	80.8	80.8	1478.00	26.0
280.0	280.0	6.509	6.483	34.081	26.806	28.093	130.13	0.521	85.9	85.9	1480.04	12.6
290.0	290.0	6.734	6.707	34.121	26.808	28.140	130.25	0.534	91.2	91.2	1481.14	8.0
300.0	300.0	6.651	6.623	34.126	26.823	28.201	128.92	0.547	96.5	96.5	1480.98	17.3
310.0	310.0	6.045	6.018	34.046	26.838	28.266	127.21	0.560	102.0	102.0	1478.65	22.2
320.0	320.0	5.737	5.710	34.028	26.861	28.339	124.86	0.572	107.6	107.6	1477.55	20.3
330.0	330.0	5.595	5.567	34.025	26.876	28.401	123.48	0.585	113.3	113.3	1477.14	13.0
340.0	340.0	5.459	5.431	34.021	26.886	28.457	122.59	0.597	119.2	119.2	1476.86	11.1
350.0	350.0	5.545	5.516	34.047	26.900	28.517	121.46	0.609	125.2	125.2	1477.29	16.6
360.0	360.0	5.651	5.620	34.090	26.921	28.583	119.69	0.622	131.1	131.1	1477.94	17.3
370.0	370.0	5.994	5.963	34.100	26.936	28.644	118.36	0.633	137.7	137.7	1477.88	12.0
380.0	380.0	6.274	6.243	34.065	26.943	28.700	117.60	0.645	143.8	143.8	1476.88	10.4
390.0	390.0	6.040	6.009	34.038	26.952	28.757	116.61	0.657	150.3	150.3	1475.88	26.2
400.0	400.0	4.289	4.259	33.979	26.986	28.846	112.71	0.669	156.9	156.9	1472.87	9.9
410.0	410.0	4.129	4.099	33.927	26.962	28.870	114.88	0.680	163.0	163.0	1472.26	1.1
420.0	420.0	4.057	4.026	33.885	26.984	28.933	113.46	0.693	170.7	170.7	1474.61	1.9
430.0	430.0	4.694	4.663	34.020	26.984	29.003	111.27	0.703	175.4	175.4	1475.84	15.9
440.0	440.0	4.563	4.532	34.071	26.971	29.057	109.63	0.714	181.6	181.6	1475.94	20.0
450.0	450.0	4.553	4.523	34.108	26.957	29.131	108.95	0.725	188.6	188.6	1475.25	17.7
460.0	460.0	4.447	4.417	34.108	26.965	29.246	106.19	0.746	198.0	198.0	1475.01	12.1
470.0	470.0	4.410	4.380	34.119	26.981	29.309	104.74	0.757	206.4	206.4	1475.01	12.1
480.0	480.0	4.416	4.379	34.125	26.989	29.363	104.05	0.767	213.4	213.4	1475.05	10.8
500.0	500.0	4.440	4.402	34.146	27.104	29.423	102.85	0.778	228.6	228.6	1475.34	14.6
510.0	510.0	4.351	4.312	34.153	27.119	29.485	101.41	0.788	236.4	236.4	1475.14	15.5
520.0	520.0	4.300	4.261	34.165	27.133	29.547	100.05	0.798	244.2	244.2	1475.11	12.7
530.0	530.0	4.292	4.252	34.177	27.144	29.604	99.16	0.808	252.2	252.2	1475.25	12.7
540.0	540.0	4.197	4.157	34.137	27.162	29.721	96.96	0.828	268.4	268.4	1473.46	5.1
550.0	550.0	3.799	3.760	34.142	27.166	29.771	96.70	0.837	276.6	276.6	1473.64	9.4
560.0	560.0	3.801	3.761	34.160	27.173	29.824	96.18	0.847	284.9	284.9	1474.12	14.2
570.0	570.0	3.871	3.830	34.189	27.187	29.883	95.07	0.856	293.4	293.4	1474.70	14.9
580.0	580.0	3.961	3.918	34.229	27.206	29.945	93.60	0.866	301.9	301.9	1475.45	10.9
600.0	600.0	4.034	3.989	34.228	27.211	29.997	93.15	0.875	310.5	310.5	1475.38	8.6
610.0	610.0	3.941	3.896	34.229	27.221	30.055	92.14	0.885	319.2	319.2	1475.15	9.9
620.0	620.0	3.956	3.910	34.239	27.228	30.108	91.64	0.894	328.8	328.8	1475.39	9.9
630.0	630.0	3.940	3.894	34.252	27.240	30.166	90.99	0.903	336.6	336.6	1475.50	9.0
640.0	640.0	3.913	3.866	34.258	27.247	30.220	90.59	0.912	345.9	345.9	1475.56	6.0
650.0	650.0	3.842	3.795	34.260	27.251	30.270	89.60	0.921	355.0	355.0	1475.63	7.4
660.0	660.0	3.831	3.783	34.265	27.261	30.327	88.67	0.930	364.1	364.1	1475.55	7.4
670.0	670.0	3.788	3.739	34.264	27.265	30.378	87.36	0.939	373.4	373.4	1475.53	9.2
680.0	680.0	3.733	3.686	34.272	27.276	30.436	86.27	0.947	382.7	382.7	1475.48	9.2
690.0	690.0	3.685	3.635	34.274	27.283	30.490	86.65	0.956	392.1	392.1	1475.43	7.8
700.0	700.0	3.654	3.604	34.280	27.291	30.544	85.96	0.965	401.6	401.6	1475.47	9.5
710.0	710.0	3.613	3.563	34.288	27.301	30.597	85.02	0.973	411.1	411.1	1475.48	9.5
720.0	720.0	3.579	3.528	34.295	27.310	30.651	84.43	0.982	420.0	420.0	1475.50	1.1
730.0	730.0	3.554	3.502	34.300	27.316	30.704	83.83	0.990	429.0	429.0	1475.57	1.0
740.0	740.0	3.524	3.471	34.302	27.321	30.751	83.23	0.999	438.0	438.0	1475.60	1.0
750.0	750.0	3.501	3.448	34.310	27.329	30.816	82.47	1.007	447.4	447.4	1475.68	1.0
760.0	760.0	3.482	3.428	34.314	27.334	30.868	82.03	1.015	450.4	450.4	1475.77	6.4
770.0	770.0	3.451	3.396	34.319	27.341	30.921	81.41	1.023	450.5	450.5	1475.81	4.5
780.0	780.0	3.430	3.375	34.323	27.347	30.973	80.96	1.031	460.7	460.7	1475.89	4.5
790.0	790.0	3.418	3.362	34.325	27.349	31.022	80.75	1.040	490.9	490.9	1476.00	4.5
800.0	800.0	3.387	3.330	34.328	27.355	31.074	80.26	1.048	501.2	501.2	1476.04	4.9
810.0	810.0	3.353	3.296	34.328	27.358	31.124	79.98	1.056	511.6	511.6	1476.05	5.3
820.0	820.0	3.330	3.272	34.333	27.364	31.177	79.43	1.064	522.1	522.1	1476.13	6.0
830.0	830.0	3.293	3.235	34.340	27.373	31.232	78.58	1.071	532.7	532.7	1476.14	6.1
840.0	840.0	3.274	3.215	34.342	27.377	31.282	78.30	1.079	543.3	543.3	1476.23	4.4
850.0	850.0	3.247	3.188	34.344	27.381	31.333	77.93	1.087	554.0	554.0	1476.28	4.3
860.0	860.0	3.226	3.166	34.346	27.384	31.383	77.64	1.095	564.8	564.8	1476.35	4.4
870.0	870.0	3.206	3.145	34.349	27.388	31.434	77.26	1.103	575.7	575.7	1476.44	7.6
880.0	880.0	3.169	3.108	34.357	27.398	31.490	76.34	1.110	586.6	586.6	1476.45	3.9
890.0	890.0	3.151	3.089	34.359	27.401	31.540	76.07	1.118	597.6	597.6	1476.54	3.9
900.0	900.0	3.136	3.074	34.362								

CTD REPORT RAMA-4
POSITION: 36DEG 44.0MIN N

151DEG 58.3MIN E

STATION: B CAST: 1 DN
DATE: 7 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
980.0	970.6	2.974	2.907	34.394	27.446	32.002	72.16	1.185	700.1	1477.30	5.7
990.0	980.5	2.955	2.887	34.398	27.451	32.054	71.72	1.192	711.8	1477.45	5.6
1000.0	990.4	2.930	2.861	34.402	27.456	32.106	71.23	1.199	723.7	1477.45	5.5
1050.0	1039.8	2.836	2.764	34.417	27.476	32.358	69.40	1.234	783.8	1477.88	5.5
1100.0	1089.2	2.747	2.672	34.434	27.498	32.612	67.48	1.268	845.6	1478.34	5.5
1150.0	1138.6	2.672	2.594	34.447	27.513	32.860	66.01	1.302	909.1	1478.86	5.5
1200.0	1188.0	2.574	2.493	34.464	27.537	33.114	63.97	1.334	974.1	1479.28	5.5
1250.0	1237.3	2.503	2.419	34.477	27.553	33.362	62.51	1.366	1040.8	1479.81	5.5
1300.0	1286.7	2.448	2.361	34.486	27.565	33.604	61.51	1.397	1109.0	1480.40	5.5
1350.0	1336.0	2.388	2.298	34.496	27.578	33.848	60.37	1.427	1178.7	1480.98	5.5
1400.0	1385.4	2.341	2.247	34.506	27.590	34.090	59.35	1.457	1249.8	1481.61	5.5
1450.0	1434.7	2.288	2.191	34.517	27.604	34.334	58.22	1.487	1322.4	1482.22	5.5
1500.0	1484.0	2.247	2.146	34.525	27.613	34.573	57.41	1.516	1396.5	1482.88	5.5
1550.0	1533.3	2.200	2.096	34.534	27.623	34.815	56.37	1.544	1471.9	1483.52	5.5
1600.0	1582.6	2.153	2.051	34.541	27.633	35.052	55.73	1.572	1548.7	1484.19	5.5
1650.0	1631.9	2.110	2.009	34.551	27.646	35.294	54.63	1.600	1626.9	1484.80	5.5
1700.0	1681.1	2.055	1.941	34.561	27.658	35.536	53.48	1.627	1706.4	1485.40	5.5
1750.0	1730.3	2.032	1.914	34.566	27.664	35.770	53.06	1.653	1787.2	1486.14	5.5
1800.0	1779.7	1.984	1.863	34.575	27.675	36.010	52.06	1.680	1869.3	1486.77	5.5
1850.0	1829.0	1.970	1.845	34.577	27.678	36.240	51.94	1.706	1952.6	1487.54	5.5
1900.0	1878.2	1.938	1.809	34.584	27.686	36.476	51.25	1.732	2037.3	1488.25	5.5
1950.0	1927.4	1.901	1.768	34.591	27.695	36.712	50.51	1.757	2123.1	1488.93	5.5
2000.0	1976.6	1.872	1.736	34.596	27.701	36.946	49.98	1.782	2210.2	1489.64	5.5
2050.0	2025.8	1.838	1.698	34.602	27.709	37.181	49.33	1.807	2298.5	1490.34	5.5
2100.0	2075.0	1.818	1.674	34.606	27.714	37.412	48.97	1.832	2388.0	1491.09	5.5
2150.0	2124.2	1.793	1.645	34.611	27.720	37.645	48.49	1.856	2478.7	1491.82	5.5
2200.0	2173.4	1.776	1.624	34.614	27.724	37.875	48.26	1.880	2570.5	1492.59	5.5
2250.0	2222.6	1.756	1.600	34.617	27.728	38.105	47.96	1.904	2663.5	1493.34	5.5
2300.0	2271.7	1.736	1.576	34.622	27.734	38.336	47.52	1.928	2757.7	1494.10	5.5
2350.0	2320.9	1.719	1.555	34.624	27.737	38.564	47.34	1.952	2853.0	1494.87	5.5
2400.0	2370.0	1.701	1.533	34.628	27.742	38.794	46.99	1.975	2949.5	1495.64	5.5
2450.0	2419.1	1.678	1.506	34.632	27.747	39.025	46.56	1.999	3047.1	1496.38	5.5
2500.0	2468.2	1.664	1.488	34.634	27.750	39.252	46.40	2.022	3145.8	1497.17	5.5
2550.0	2517.3	1.656	1.475	34.637	27.753	39.477	46.24	2.045	3245.5	1497.98	5.5
2600.0	2566.4	1.635	1.450	34.640	27.759	39.707	46.08	2.068	3346.5	1498.73	5.5
2650.0	2615.5	1.622	1.433	34.641	27.764	40.000	45.84	2.091	3448.8	1499.52	5.5
2700.0	2664.6	1.606	1.414	34.645	27.768	40.285	45.55	2.114	3552.8	1500.30	5.5
2750.0	2713.3	1.602	1.404	34.646	27.768	40.561	45.45	2.137	3656.6	1501.13	5.5
2800.0	2762.2	1.596	1.394	34.648	27.767	40.835	45.45	2.159	3761.4	1501.96	5.5
2850.0	2811.1	1.584	1.377	34.649	27.769	41.100	45.36	2.182	3867.9	1502.75	5.5
2900.0	2860.7	1.573	1.362	34.653	27.774	41.361	45.07	2.205	3975.4	1503.56	5.5
2950.0	2909.7	1.564	1.348	34.653	27.775	41.624	45.10	2.227	4084.0	1504.37	5.5
3000.0	2958.8	1.549	1.329	34.655	27.778	41.881	44.89	2.250	4193.7	1505.15	5.5
3050.0	3007.8	1.544	1.319	34.656	27.779	42.132	44.89	2.272	4304.0	1505.98	5.5
3100.0	3056.7	1.536	1.306	34.659	27.782	42.381	44.70	2.294	4416.3	1506.80	5.5
3150.0	3105.7	1.533	1.298	34.660	27.784	42.627	44.74	2.317	4529.2	1507.64	5.5
3200.0	3154.7	1.526	1.286	34.662	27.786	42.872	44.63	2.339	4643.2	1508.47	5.5
3250.0	3203.6	1.525	1.280	34.662	27.786	43.114	44.76	2.362	4758.2	1509.31	5.5
3300.0	3252.6	1.520	1.271	34.663	27.788	43.354	44.76	2.384	4874.4	1510.15	5.5
3350.0	3301.5	1.512	1.258	34.664	27.790	43.596	44.72	2.406	4991.6	1510.97	5.5
3400.0	3350.4	1.504	1.245	34.665	27.791	43.837	44.67	2.429	5109.8	1511.79	5.5
3450.0	3399.4	1.497	1.233	34.666	27.793	44.079	44.62	2.451	5229.2	1512.62	5.5
3500.0	3448.3	1.493	1.224	34.668	27.795	44.320	44.56	2.473	5349.9	1513.46	5.5
3550.0	3497.2	1.493	1.219	34.669	27.796	44.561	44.53	2.495	5471.1	1514.32	5.5
3600.0	3546.1	1.491	1.211	34.669	27.797	44.801	44.48	2.518	5593.5	1515.16	5.5
3650.0	3594.9	1.489	1.204	34.670	27.798	45.041	44.45	2.540	5717.1	1516.01	5.5
3700.0	3643.8	1.483	1.193	34.671	27.799	45.281	44.42	2.562	5841.1	1516.85	5.5
3750.0	3692.6	1.481	1.186	34.672	27.801	45.521	44.45	2.585	5967.7	1517.70	5.5
3800.0	3741.1	1.478	1.178	34.673	27.802	45.761	44.45	2.607	6094.4	1518.55	5.5
3850.0	3790.3	1.477	1.171	34.674	27.803	46.001	44.45	2.630	6222.1	1519.41	5.5
3900.0	3839.1	1.477	1.166	34.675	27.805	46.241	44.87	2.652	6351.0	1520.27	5.5
3950.0	3887.9	1.477	1.164	34.675	27.805	46.481	45.07	2.674	6481.0	1521.15	5.5
4000.0	3936.6	1.477	1.158	34.675	27.805	46.721	45.18	2.697	6612.1	1522.00	5.5
4050.0	3985.3	1.477	1.149	34.677	27.807	46.961	45.11	2.720	6744.2	1522.86	5.5
4100.0	4034.1	1.476	1.143	34.677	27.808	47.201	45.22	2.742	6877.4	1523.71	5.5
4150.0	4083.1	1.477	1.138	34.677	27.808	47.441	45.37	2.765	7011.7	1524.58	5.5
4200.0	4131.8	1.480	1.135	34.677	27.808	47.681	45.55	2.788	7147.0	1525.46	5.5
4250.0	4180.6	1.480	1.130	34.678	27.809	47.921	45.60	2.810	7283.5	1526.33	5.5
4300.0	4229.3	1.486	1.130	34.678	27.809	48.161	45.82	2.833	7421.0	1527.22	5.5
4350.0	4278.0	1.490	1.128	34.679	27.810	48.401	45.94	2.856	7559.6	1528.10	5.5
4400.0	4326.8	1.491	1.123	34.679	27.811	48.641	46.09	2.879	7699.3	1528.97	5.5
4450.0	4375.5	1.491	1.117	34.680	27.812	48.881	46.15	2.902	7840.0	1529.84	5.5
4500.0	4424.2	1.493	1.113	34.680	27.812	49.121	46.30	2.925	7981.9	1530.72	5.5
4550.0	4472.9	1.494	1.108	34.681	27.813	49.361	46.36	2.948	8124.9	1531.59	5.5
4600.0	4521.7	1.498	1.106	34.681	27.813	49.601	46.56	2.972	8269.0	1532.47	5.5
4650.0	4570.2	1.501	1.103	34.681	27.813	49.841	46.74	2.995	8414.1	1533.36	5.5
4700.0	4618.8	1.503	1.099	34.681	27.814	50.081	46.89	3.018	8560.4	1534.23	5.5
4750.0	4667.5	1.508	1.098	34.681	27.814	50.321	47.10	3.042	8707.8	1535.12	5.5
4800.0	4716.1	1.509	1.093	34.682	27.815	50.561	47.17	3.065	8856.3	1536.00	5.5
4850.0	4764.8	1.514	1.091	34.682	27.815	50.801	47.39	3.089	9005.9	1536.89	5.5
4900.0	4813.4	1.517	1.088	34.682	27.815	51.041	47.55	3.113	9156.6	1537.77	5.5
4950.0	4862.0	1.522	1.087	34.682	27.815	51.281	47.76	3.137	9308.8	1538.66	5.5
5000.0	4910.6	1.526	1.085	34.682	27.816	51.521	47.99	3.161	9461.1	1539.56	5.5
5050.0	4959.2	1.530	1.082	34.682	27.816	51.761	48.19	3.185	9613.5	1540.44	5.5
5100.0	5007.7	1.532	1.078	34.682	27.817	52.001	48.23	3.209	9770.0	1541.33	5.5
5150.0	5056.3	1.538	1.077	34.682	27.818	52.241	48.53	3.233	9927.7	1542.22	5.5
5200.0	5104.8	1.542	1.075	34.682	27.817	52.481	48.66	3.257	10084.4	1543.11	5.5
5250.0	5153.4	1.540	1.073	34.684	27.818	52.721	48.96	3.281	10243.3	1544.01	5.5
5300.0	5201.9	1.540	1.070	34.684	27.818	52.961	49.19	3.305	10403.3	1544.90	5.5
5350.0	5250.4	1.554	1.067	34.684	27.818	53.201	49.35	3.330	10564.3	1545.79	5.5
5400.0	5298.9	1.557	1.064	34.684	27.818	53.441	49.41	3.355	10726.4	1546.68	5.5
5450.0	5347.4	1.561	1.061	34.686	27.820	53.681	49.52	3.380	10889.7	1547.57	5.5

CTD REPORT RAMA-4
POSITION: 36DEG 16.7MIN N

152DEG 1.9MIN E

STATION: 9 CAST: 2 DN
DATE: 8 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD=1E6
100.0	0.0	20.903	20.903	34.137	23.888	23.888	403.44	0.000	0.0	1522.97	115.7
110.0	1.0	20.825	20.825	34.136	23.908	23.952	401.84	0.040	0.0	1522.97	40.6
120.0	2.0	20.770	20.770	34.136	23.924	23.983	398.10	0.080	0.0	1521.97	107.7
130.0	3.0	20.745	20.745	34.136	23.937	24.008	394.08	0.117	0.0	1508.48	84.6
140.0	4.0	20.720	20.720	34.136	23.948	24.025	390.00	0.145	0.0	1503.93	83.3
150.0	5.0	20.695	20.695	34.136	23.957	24.033	385.00	0.169	0.0	1501.69	83.3
160.0	6.0	20.670	20.670	34.136	23.964	24.033	380.00	0.192	0.0	1499.32	83.3
170.0	7.0	20.645	20.645	34.136	23.969	24.033	375.00	0.214	0.0	1499.32	83.3
180.0	8.0	20.620	20.620	34.136	23.972	24.033	370.00	0.236	0.0	1499.32	83.3
190.0	9.0	20.595	20.595	34.136	23.972	24.033	365.00	0.256	0.0	1499.32	83.3
200.0	10.0	20.570	20.570	34.136	23.972	24.033	360.00	0.276	0.0	1499.32	83.3
210.0	11.0	20.545	20.545	34.136	23.972	24.033	355.00	0.295	0.0	1499.32	83.3
220.0	12.0	20.520	20.520	34.136	23.972	24.033	350.00	0.313	0.0	1499.32	83.3
230.0	13.0	20.495	20.495	34.136	23.972	24.033	345.00	0.331	0.0	1499.32	83.3
240.0	14.0	20.470	20.470	34.136	23.972	24.033	340.00	0.348	0.0	1499.32	83.3
250.0	15.0	20.445	20.445	34.136	23.972	24.033	335.00	0.365	0.0	1499.32	83.3
260.0	16.0	20.420	20.420	34.136	23.972	24.033	330.00	0.381	0.0	1499.32	83.3
270.0	17.0	20.395	20.395	34.136	23.972	24.033	325.00	0.397	0.0	1499.32	83.3
280.0	18.0	20.370	20.370	34.136	23.972	24.033	320.00	0.413	0.0	1499.32	83.3
290.0	19.0	20.345	20.345	34.136	23.972	24.033	315.00	0.429	0.0	1499.32	83.3
300.0	20.0	20.320	20.320	34.136	23.972	24.033	310.00	0.444	0.0	1499.32	83.3
310.0	21.0	20.295	20.295	34.136	23.972	24.033	305.00	0.460	0.0	1499.32	83.3
320.0	22.0	20.270	20.270	34.136	23.972	24.033	300.00	0.475	0.0	1499.32	83.3
330.0	23.0	20.245	20.245	34.136	23.972	24.033	295.00	0.489	0.0	1499.32	83.3
340.0	24.0	20.220	20.220	34.136	23.972	24.033	290.00	0.504	0.0	1499.32	83.3
350.0	25.0	20.195	20.195	34.136	23.972	24.033	285.00	0.518	0.0	1499.32	83.3
360.0	26.0	20.170	20.170	34.136	23.972	24.033	280.00	0.533	0.0	1499.32	83.3
370.0	27.0	20.145	20.145	34.136	23.972	24.033	275.00	0.547	0.0	1499.32	83.3
380.0	28.0	20.120	20.120	34.136	23.972	24.033	270.00	0.561	0.0	1499.32	83.3
390.0	29.0	20.095	20.095	34.136	23.972	24.033	265.00	0.575	0.0	1499.32	83.3
400.0	30.0	20.070	20.070	34.136	23.972	24.033	260.00	0.588	0.0	1499.32	83.3
410.0	31.0	20.045	20.045	34.136	23.972	24.033	255.00	0.602	0.0	1499.32	83.3
420.0	32.0	20.020	20.020	34.136	23.972	24.033	250.00	0.616	0.0	1499.32	83.3
430.0	33.0	19.995	19.995	34.136	23.972	24.033	245.00	0.630	0.0	1499.32	83.3
440.0	34.0	19.970	19.970	34.136	23.972	24.033	240.00	0.644	0.0	1499.32	83.3
450.0	35.0	19.945	19.945	34.136	23.972	24.033	235.00	0.658	0.0	1499.32	83.3
460.0	36.0	19.920	19.920	34.136	23.972	24.033	230.00	0.672	0.0	1499.32	83.3
470.0	37.0	19.895	19.895	34.136	23.972	24.033	225.00	0.686	0.0	1499.32	83.3
480.0	38.0	19.870	19.870	34.136	23.972	24.033	220.00	0.700	0.0	1499.32	83.3
490.0	39.0	19.845	19.845	34.136	23.972	24.033	215.00	0.714	0.0	1499.32	83.3
500.0	40.0	19.820	19.820	34.136	23.972	24.033	210.00	0.728	0.0	1499.32	83.3
510.0	41.0	19.795	19.795	34.136	23.972	24.033	205.00	0.742	0.0	1499.32	83.3
520.0	42.0	19.770	19.770	34.136	23.972	24.033	200.00	0.756	0.0	1499.32	83.3
530.0	43.0	19.745	19.745	34.136	23.972	24.033	195.00	0.770	0.0	1499.32	83.3
540.0	44.0	19.720	19.720	34.136	23.972	24.033	190.00	0.784	0.0	1499.32	83.3
550.0	45.0	19.695	19.695	34.136	23.972	24.033	185.00	0.798	0.0	1499.32	83.3
560.0	46.0	19.670	19.670	34.136	23.972	24.033	180.00	0.812	0.0	1499.32	83.3
570.0	47.0	19.645	19.645	34.136	23.972	24.033	175.00	0.826	0.0	1499.32	83.3
580.0	48.0	19.620	19.620	34.136	23.972	24.033	170.00	0.840	0.0	1499.32	83.3
590.0	49.0	19.595	19.595	34.136	23.972	24.033	165.00	0.854	0.0	1499.32	83.3
600.0	50.0	19.570	19.570	34.136	23.972	24.033	160.00	0.868	0.0	1499.32	83.3
610.0	51.0	19.545	19.545	34.136	23.972	24.033	155.00	0.882	0.0	1499.32	83.3
620.0	52.0	19.520	19.520	34.136	23.972	24.033	150.00	0.896	0.0	1499.32	83.3
630.0	53.0	19.495	19.495	34.136	23.972	24.033	145.00	0.910	0.0	1499.32	83.3
640.0	54.0	19.470	19.470	34.136	23.972	24.033	140.00	0.924	0.0	1499.32	83.3
650.0	55.0	19.445	19.445	34.136	23.972	24.033	135.00	0.938	0.0	1499.32	83.3
660.0	56.0	19.420	19.420	34.136	23.972	24.033	130.00	0.952	0.0	1499.32	83.3
670.0	57.0	19.395	19.395	34.136	23.972	24.033	125.00	0.966	0.0	1499.32	83.3
680.0	58.0	19.370	19.370	34.136	23.972	24.033	120.00	0.980	0.0	1499.32	83.3
690.0	59.0	19.345	19.345	34.136	23.972	24.033	115.00	0.994	0.0	1499.32	83.3
700.0	60.0	19.320	19.320	34.136	23.972	24.033	110.00	1.008	0.0	1499.32	83.3
710.0	61.0	19.295	19.295	34.136	23.972	24.033	105.00	1.022	0.0	1499.32	83.3
720.0	62.0	19.270	19.270	34.136	23.972	24.033	100.00	1.036	0.0	1499.32	83.3
730.0	63.0	19.245	19.245	34.136	23.972	24.033	95.00	1.050	0.0	1499.32	83.3
740.0	64.0	19.220	19.220	34.136	23.972	24.033	90.00	1.064	0.0	1499.32	83.3
750.0	65.0	19.195	19.195	34.136	23.972	24.033	85.00	1.078	0.0	1499.32	83.3
760.0	66.0	19.170	19.170	34.136	23.972	24.033	80.00	1.092	0.0	1499.32	83.3
770.0	67.0	19.145	19.145	34.136	23.972	24.033	75.00	1.106	0.0	1499.32	83.3
780.0	68.0	19.120	19.120	34.136	23.972	24.033	70.00	1.120	0.0	1499.32	83.3
790.0	69.0	19.095	19.095	34.136	23.972	24.033	65.00	1.134	0.0	1499.32	83.3
800.0	70.0	19.070	19.070	34.136	23.972	24.033	60.00	1.148	0.0	1499.32	83.3
810.0	71.0	19.045	19.045	34.136	23.972	24.033	55.00	1.162	0.0	1499.32	83.3
820.0	72.0	19.020	19.020	34.136	23.972	24.033	50.00	1.176	0.0	1499.32	83.3
830.0	73.0	18.995	18.995	34.136	23.972	24.033	45.00	1.190	0.0	1499.32	83.3
840.0	74.0	18.970	18.970	34.136	23.972	24.033	40.00	1.204	0.0	1499.32	83.3
850.0	75.0	18.945	18.945	34.136	23.972	24.033	35.00	1.218	0.0	1499.32	83.3
860.0	76.0	18.920	18.920	34.136	23.972	24.033	30.00	1.232	0.0	1499.32	83.3
870.0	77.0	18.895	18.895	34.136	23.972	24.033	25.00	1.246	0.0	1499.32	83.3
880.0	78.0	18.870	18.870	34.136	23.972	24.033	20.00	1.260	0.0	1499.32	83.3
890.0	79.0	18.845	18.845	34.136	23.972	24.033	15.00	1.274	0.0	1499.32	83.3
900.0	80.0	18.820	18.820	34.136	23.972	24.033	10.00	1.288	0.0	1499.32	83.3
910.0	81.0	18.795	18.795	34.136	23.972	24.033	5.00	1.302	0.0	1499.32	83.3
920.0	82.0	18.770	18.770	34.136	23.972	24.033	0.00	1.316	0.0	1499.32	83.3
930.0	83.0	18.745	18.745	34.136	23.972	24.033		1.330	0.0	1499.32	83.3
940.0	84.0	18.720	18.720	34.136	23.972	24.033		1.344	0.0	1499.32	83.3
950.0	85.0	18.695	18.695	34.136	23.972	24.033		1.358	0.0	1499.32	83.3
960.0	86.0	18.670	18.670	34.136	23.972	24.033		1.372	0.0	1499.32	83.3
970.0	87.0	18.645	18.645	34.136	23.972	24.033		1.386	0.0	1499.32	83.3

CTD REPORT
POSITION 36DEG 16 7MIN N

52DEG

MIN

DATE

TIME

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY 0/00	SIGMA TETA	SIGMA 2	SV ANOM	SV M	TRANSPORT FUNCTION	SOUND M SE	SOUND SQ
980.0	970.6	3.104	3.036	34.373	27.417	31.977	75.13	1.277	1.277	1.277	1.277
990.0	980.5	3.080	3.011	34.378	27.424	32.024	74.85	1.279	1.279	1.279	1.279
1000.0	990.4	3.059	2.989	34.382	27.429	32.074	74.09	1.281	1.281	1.281	1.281
1050.0	1039.8	2.936	2.864	34.400	27.454	32.333	69.74	1.333	1.333	1.333	1.333
1100.0	1089.2	2.821	2.746	34.419	27.480	32.591	65.39	1.389	1.389	1.389	1.389
1150.0	1138.6	2.731	2.653	34.435	27.500	32.844	60.53	1.445	1.445	1.445	1.445
1200.0	1188.0	2.644	2.563	34.451	27.521	33.096	55.70	1.501	1.501	1.501	1.501
1250.0	1237.3	2.562	2.477	34.466	27.540	33.346	50.97	1.557	1.557	1.557	1.557
1300.0	1286.7	2.508	2.420	34.475	27.552	33.589	46.29	1.613	1.613	1.613	1.613
1350.0	1336.0	2.442	2.351	34.486	27.566	33.834	41.70	1.669	1.669	1.669	1.669
1400.0	1385.4	2.401	2.306	34.496	27.578	34.075	37.16	1.725	1.725	1.725	1.725
1450.0	1434.7	2.336	2.238	34.508	27.593	34.321	32.67	1.781	1.781	1.781	1.781
1500.0	1484.0	2.277	2.176	34.521	27.608	34.566	28.13	1.837	1.837	1.837	1.837
1550.0	1533.3	2.228	2.124	34.532	27.618	34.807	23.54	1.893	1.893	1.893	1.893
1600.0	1582.2	2.184	2.079	34.539	27.630	35.048	18.95	1.949	1.949	1.949	1.949
1650.0	1631.1	2.150	2.043	34.546	27.638	35.285	14.36	2.005	2.005	2.005	2.005
1700.0	1680.0	2.107	1.992	34.553	27.648	35.523	9.77	2.061	2.061	2.061	2.061
1750.0	1728.9	2.062	1.944	34.558	27.655	35.763	5.18	2.117	2.117	2.117	2.117
1800.0	1777.8	2.032	1.910	34.568	27.666	35.998	0.59	2.173	2.173	2.173	2.173
1850.0	1826.7	2.006	1.880	34.573	27.672	36.232	0.00	2.229	2.229	2.229	2.229
1900.0	1875.2	1.957	1.828	34.582	27.683	36.472	0.41	2.285	2.285	2.285	2.285
1950.0	1924.4	1.928	1.795	34.587	27.690	36.706	0.82	2.341	2.341	2.341	2.341
2000.0	1973.6	1.905	1.769	34.591	27.695	36.938	1.23	2.397	2.397	2.397	2.397
2050.0	2022.8	1.875	1.734	34.597	27.702	37.172	1.64	2.453	2.453	2.453	2.453
2100.0	2072.0	1.852	1.708	34.600	27.707	37.403	2.05	2.509	2.509	2.509	2.509
2150.0	2121.2	1.821	1.673	34.606	27.714	37.637	2.46	2.565	2.565	2.565	2.565
2200.0	2170.4	1.797	1.645	34.611	27.720	37.870	2.87	2.621	2.621	2.621	2.621
2250.0	2219.6	1.784	1.628	34.614	27.724	38.099	3.28	2.677	2.677	2.677	2.677
2300.0	2268.7	1.747	1.587	34.620	27.731	38.333	3.69	2.733	2.733	2.733	2.733
2350.0	2317.9	1.721	1.557	34.625	27.738	38.565	4.10	2.789	2.789	2.789	2.789
2400.0	2367.0	1.705	1.537	34.628	27.741	38.794	4.51	2.845	2.845	2.845	2.845
2450.0	2416.2	1.689	1.517	34.630	27.744	39.021	4.92	2.901	2.901	2.901	2.901
2500.0	2465.4	1.674	1.498	34.633	27.748	39.250	5.33	2.957	2.957	2.957	2.957
2550.0	2514.6	1.663	1.482	34.636	27.752	39.477	5.74	3.013	3.013	3.013	3.013
2600.0	2563.8	1.649	1.464	34.638	27.755	39.704	6.15	3.069	3.069	3.069	3.069
2650.0	2613.0	1.639	1.450	34.641	27.758	39.931	6.56	3.125	3.125	3.125	3.125
2700.0	2662.2	1.628	1.434	34.642	27.760	40.156	6.97	3.181	3.181	3.181	3.181
2750.0	2711.4	1.622	1.424	34.644	27.762	40.381	7.38	3.237	3.237	3.237	3.237
2800.0	2760.6	1.606	1.403	34.646	27.765	40.607	7.79	3.293	3.293	3.293	3.293
2850.0	2809.8	1.589	1.382	34.650	27.770	40.833	8.20	3.349	3.349	3.349	3.349
2900.0	2859.0	1.574	1.363	34.652	27.773	41.061	8.61	3.405	3.405	3.405	3.405
2950.0	2908.2	1.568	1.352	34.654	27.775	41.285	9.02	3.461	3.461	3.461	3.461
3000.0	2957.4	1.561	1.340	34.655	27.777	41.508	9.43	3.517	3.517	3.517	3.517
3050.0	3006.6	1.555	1.330	34.657	27.779	41.731	9.84	3.573	3.573	3.573	3.573
3100.0	3055.8	1.547	1.317	34.658	27.781	41.954	10.25	3.629	3.629	3.629	3.629
3150.0	3105.0	1.540	1.305	34.659	27.782	42.177	10.66	3.685	3.685	3.685	3.685
3200.0	3154.2	1.536	1.296	34.660	27.784	42.399	11.07	3.741	3.741	3.741	3.741
3250.0	3203.4	1.533	1.288	34.661	27.785	42.620	11.48	3.797	3.797	3.797	3.797
3300.0	3252.6	1.526	1.276	34.662	27.787	42.842	11.89	3.853	3.853	3.853	3.853
3350.0	3301.8	1.515	1.261	34.664	27.789	43.065	12.30	3.909	3.909	3.909	3.909
3400.0	3351.0	1.510	1.251	34.665	27.791	43.286	12.71	3.965	3.965	3.965	3.965
3450.0	3400.2	1.507	1.243	34.666	27.792	43.507	13.12	4.021	4.021	4.021	4.021
3500.0	3449.4	1.503	1.234	34.668	27.794	43.728	13.53	4.077	4.077	4.077	4.077
3550.0	3498.6	1.497	1.222	34.669	27.796	43.949	13.94	4.133	4.133	4.133	4.133
3600.0	3547.8	1.494	1.214	34.670	27.797	44.169	14.35	4.189	4.189	4.189	4.189
3650.0	3597.0	1.490	1.205	34.671	27.799	44.389	14.76	4.245	4.245	4.245	4.245
3700.0	3646.2	1.492	1.202	34.671	27.799	44.606	15.17	4.301	4.301	4.301	4.301
3750.0	3695.4	1.488	1.193	34.672	27.800	44.826	15.58	4.357	4.357	4.357	4.357
3800.0	3744.6	1.488	1.187	34.673	27.801	45.044	15.99	4.413	4.413	4.413	4.413
3850.0	3793.8	1.488	1.182	34.673	27.802	45.261	16.40	4.469	4.469	4.469	4.469
3900.0	3843.0	1.485	1.173	34.675	27.804	45.481	16.81	4.525	4.525	4.525	4.525
3950.0	3892.2	1.485	1.168	34.675	27.804	45.698	17.22	4.581	4.581	4.581	4.581
4000.0	3941.4	1.483	1.160	34.676	27.805	45.915	17.63	4.637	4.637	4.637	4.637
4050.0	3990.6	1.483	1.153	34.677	27.808	46.131	18.04	4.693	4.693	4.693	4.693
4100.0	4039.8	1.479	1.140	34.677	27.808	46.350	18.45	4.749	4.749	4.749	4.749
4150.0	4089.0	1.479	1.135	34.678	27.809	46.566	18.86	4.805	4.805	4.805	4.805
4200.0	4138.2	1.480	1.132	34.678	27.809	46.782	19.27	4.861	4.861	4.861	4.861
4250.0	4187.4	1.483	1.127	34.678	27.809	46.997	19.68	4.917	4.917	4.917	4.917
4300.0	4236.6	1.483	1.121	34.680	27.811	47.212	20.09	4.973	4.973	4.973	4.973
4350.0	4285.8	1.483	1.116	34.680	27.812	47.429	20.50	5.029	5.029	5.029	5.029
4400.0	4335.0	1.484	1.114	34.680	27.812	47.644	20.91	5.085	5.085	5.085	5.085
4450.0	4384.2	1.488	1.109	34.680	27.812	47.858	21.32	5.141	5.141	5.141	5.141
4500.0	4433.4	1.491	1.105	34.681	27.813	48.072	21.73	5.197	5.197	5.197	5.197
4550.0	4482.6	1.492	1.100	34.682	27.814	48.287	22.14	5.253	5.253	5.253	5.253
4600.0	4531.8	1.495	1.097	34.682	27.815	48.501	22.55	5.309	5.309	5.309	5.309
4650.0	4581.0	1.498	1.094	34.683	27.816	48.714	22.96	5.365	5.365	5.365	5.365
4700.0	4630.2	1.501	1.091	34.683	27.816	48.928	23.37	5.421	5.421	5.421	5.421
4750.0	4679.4	1.504	1.088	34.683	27.816	49.140	23.78	5.477	5.477	5.477	5.477
4800.0	4728.6	1.505	1.083	34.683	27.816	49.353	24.19	5.533	5.533	5.533	5.533
4850.0	4777.8	1.505	1.083	34.683	27.816	49.566	24.60	5.589	5.589	5.589	5.589
4900.0	4827.0	1.509	1.081	34.683	27.817	49.778	25.01	5.645	5.645	5.645	5.645
4950.0	4876.2	1.513	1.078	34.684	27.817	49.990	25.42	5.701	5.701	5.701	5.701
5000.0	4925.4	1.516	1.075	34.684	27.818	50.202	25.83	5.757	5.757	5.757	5.757
5050.0	4974.6	1.519	1.072	34.684	27.818	50.413	26.24	5.813	5.813	5.813	5.813
5100.0	5023.8	1.523	1.069	34.684	27.818	50.624	26.65	5.869	5.869	5.869	5.869
5150.0	5073.0	1.528	1.068	34.684	27.818	50.834	27.06	5.925	5.925	5.925	5.925
5200.0	5122.2	1.531	1.064	34.685	27.819	51.046	27.47	5.981	5.981	5.981	5.981
5250.0	5171.4	1.534	1.061	34.685	27.819	51.256	27.88	6.037	6.037	6.037	6.037
5300.0	5220.6	1.538	1.058	34.685	27.820	51.466	28.29	6.093	6.093	6.093	6.093
5350.0	5269.8	1.542	1.056	34.686	27.821	51.677	28.70	6.149	6.149	6.149	6.149
5400.0	5319.0	1.546	1.053	34.686	27.821	51.886	29.11	6.205	6.205	6.205	6.205
5450.0	5368.2	1.551	1.051	34.688	27.822	52.097	29.52	6.261	6.261	6.261	6.261
5500.0	5417.4	1.556	1.050	34.688	27.823	52.306	29.93	6			

CTD REPORT RAMA-4 STATION: 10 CAST 1 DN
 POSITION 35DEG 46.1MIN N 152DEG 2.4MIN E DATE: 8 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
0	0	21.834	21.834	34.292	23.750	23.750	416.53	0.000	0.0	1525.62	
10	0	21.766	21.764	34.288	23.767	23.810	415.38	0.042	0.0	1525.60	173.2
20	1	20.761	20.757	34.378	24.110	24.196	383.04	0.083	0.8	1523.18	217.3
30	2	20.305	20.299	34.359	24.218	24.348	373.13	0.120	1.8	1522.08	123.2
40	3	19.846	19.838	34.393	24.365	24.539	359.43	0.157	3.2	1521.01	129.0
50	4	19.440	19.431	34.411	24.485	24.703	348.38	0.193	4.9	1520.06	162.2
60	5	18.600	18.589	34.412	24.701	24.963	328.12	0.227	7.0	1517.84	216.9
70	6	18.095	18.083	34.552	24.935	25.241	306.21	0.259	9.4	1516.70	285.6
80	7	16.884	16.871	34.635	25.293	25.644	272.37	0.288	12.2	1513.37	258.5
90	8	16.137	16.122	34.636	25.469	25.865	255.85	0.315	15.2	1511.26	140.2
100	9	15.659	15.643	34.640	25.582	26.023	245.38	0.340	18.4	1509.95	117.1
110	10	15.006	14.989	34.616	25.710	26.197	233.40	0.364	21.9	1508.04	107.3
120	11	14.445	14.427	34.576	25.802	26.334	224.88	0.387	25.6	1506.36	78.0
130	12	13.935	13.916	34.522	25.870	26.447	218.67	0.409	29.6	1504.81	73.8
140	13	13.525	13.505	34.519	25.953	26.576	210.93	0.431	33.8	1503.63	68.2
150	14	13.156	13.135	34.493	26.009	26.677	205.84	0.452	38.1	1502.34	61.7
160	15	12.733	12.711	34.473	26.079	26.793	199.37	0.472	42.7	1501.26	58.4
170	16	12.114	12.091	34.478	26.127	26.888	194.88	0.492	47.5	1499.21	62.0
180	17	11.706	11.683	34.377	26.204	27.011	187.71	0.511	52.2	1497.97	63.4
190	18	11.351	11.327	34.358	26.256	27.109	182.94	0.530	57.6	1496.88	51.7
200	19	10.892	10.867	34.317	26.307	27.207	178.07	0.548	63.0	1495.39	38.7
210	20	10.554	10.528	34.271	26.352	27.278	175.85	0.566	68.2	1494.30	40.0
220	21	10.092	10.066	34.233	26.387	27.380	170.88	0.583	73.2	1492.78	28.0
230	22	9.888	9.861	34.214	26.418	27.457	167.89	0.600	78.0	1491.35	23.5
240	23	9.589	9.561	34.214	26.453	27.539	164.11	0.616	83.0	1489.90	19.9
250	24	9.060	9.032	34.135	26.477	27.612	162.60	0.633	88.1	1488.36	16.6
260	25	8.669	8.641	34.088	26.502	27.685	159.61	0.649	93.5	1486.93	13.7
270	26	8.348	8.320	34.058	26.528	27.758	157.37	0.665	98.5	1485.80	10.8
280	27	8.017	7.988	34.022	26.550	27.827	155.32	0.680	103.6	1484.84	8.7
290	28	7.478	7.449	33.968	26.585	27.912	151.77	0.696	108.6	1483.85	6.2
300	29	7.197	7.168	33.914	26.582	27.957	152.02	0.711	113.6	1482.85	3.2
310	30	6.894	6.864	33.888	26.609	28.077	149.57	0.741	118.6	1481.80	1.1
320	31	6.854	6.824	33.940	26.628	28.141	148.01	0.756	123.6	1480.65	0.0
330	32	6.931	6.899	33.918	26.622	28.182	148.69	0.771	128.6	1479.47	0.0
340	33	6.613	6.581	33.902	26.652	28.260	145.76	0.786	133.6	1478.36	0.0
350	34	6.611	6.578	33.914	26.662	28.315	144.98	0.800	138.6	1477.33	0.0
360	35	6.554	6.520	33.962	26.707	28.407	140.80	0.814	143.6	1476.33	0.0
370	36	6.174	6.140	33.899	26.706	28.455	140.68	0.829	148.6	1475.14	0.0
380	37	6.157	6.122	33.907	26.715	28.510	139.99	0.843	153.6	1474.11	0.0
390	38	5.584	5.547	34.010	26.741	28.578	138.06	0.857	158.6	1473.22	0.0
400	39	5.598	5.560	34.031	26.756	28.638	136.82	0.870	163.6	1472.44	0.0
410	40	5.342	5.304	34.016	26.778	28.708	134.69	0.884	168.6	1471.68	0.0
420	41	5.055	5.015	33.942	26.782	28.764	133.90	0.897	173.6	1470.93	0.0
430	42	4.647	4.609	33.930	26.796	28.826	132.49	0.911	178.6	1470.20	0.0
440	43	4.414	4.376	33.894	26.795	28.874	132.43	0.924	183.6	1469.53	0.0
450	44	4.887	4.850	33.826	26.801	28.932	131.36	0.937	188.6	1468.93	0.0
460	45	4.807	4.770	33.834	26.838	28.991	127.67	0.950	193.6	1468.41	0.0
470	46	4.306	4.269	33.835	26.850	29.077	126.36	0.963	198.6	1467.89	0.0
480	47	4.964	4.925	33.931	26.876	29.144	124.75	0.976	203.6	1467.06	0.0
490	48	4.999	4.958	33.971	26.904	29.235	122.35	0.988	208.6	1466.38	0.0
500	49	4.876	4.834	33.981	26.926	29.332	120.41	0.999	213.6	1465.78	0.0
510	50	4.807	4.765	33.990	26.936	29.437	119.42	1.012	218.6	1465.25	0.0
520	51	4.904	4.861	34.016	26.951	29.549	118.23	1.024	223.6	1464.78	0.0
530	52	4.922	4.878	34.031	26.961	29.662	117.43	1.036	228.6	1464.36	0.0
540	53	4.910	4.864	34.060	26.974	29.782	116.43	1.048	233.6	1463.98	0.0
550	54	4.786	4.740	34.051	26.992	29.909	115.55	1.060	238.6	1463.65	0.0
560	55	4.441	4.396	34.014	26.999	30.043	113.43	1.071	243.6	1463.37	0.0
570	56	4.318	4.273	34.007	27.007	30.184	112.65	1.083	248.6	1463.12	0.0
580	57	4.230	4.185	34.011	27.019	30.332	111.46	1.094	253.6	1462.92	0.0
590	58	4.621	4.573	34.099	27.048	30.487	109.45	1.105	258.6	1462.78	0.0
600	59	4.831	4.781	34.167	27.079	30.645	106.98	1.116	263.6	1462.68	0.0
610	60	4.828	4.777	34.173	27.084	30.806	106.61	1.127	268.6	1462.61	0.0
620	61	4.662	4.611	34.168	27.099	30.969	105.12	1.138	273.6	1462.56	0.0
630	62	4.632	4.580	34.178	27.110	31.136	104.11	1.148	278.6	1462.53	0.0
640	63	4.573	4.521	34.186	27.123	31.307	102.93	1.159	283.6	1462.54	0.0
650	64	4.534	4.481	34.190	27.130	31.481	102.27	1.169	288.6	1462.55	0.0
660	65	4.431	4.378	34.192	27.143	31.658	101.02	1.180	293.6	1462.58	0.0
670	66	4.349	4.296	34.193	27.152	31.837	100.09	1.190	298.6	1462.61	0.0
680	67	4.270	4.217	34.207	27.166	32.019	98.86	1.200	303.6	1462.65	0.0
690	68	4.195	4.142	34.200	27.181	32.203	97.57	1.210	308.6	1462.70	0.0
700	69	4.250	4.195	34.216	27.195	32.389	96.23	1.220	313.6	1462.75	0.0
710	70	4.111	4.056	34.216	27.195	32.578	94.84	1.229	318.6	1462.80	0.0
720	71	4.081	4.026	34.226	27.206	32.769	93.40	1.239	323.6	1462.85	0.0
730	72	4.002	3.946	34.234	27.213	32.962	91.94	1.249	328.6	1462.90	0.0
740	73	3.958	3.901	34.234	27.223	33.158	90.44	1.258	333.6	1462.95	0.0
750	74	3.940	3.882	34.248	27.238	33.357	88.89	1.268	338.6	1462.99	0.0
760	75	3.987	3.929	34.262	27.244	33.558	87.29	1.277	343.6	1463.03	0.0
770	76	3.953	3.894	34.265	27.250	33.761	85.64	1.286	348.6	1463.07	0.0
780	77	3.892	3.832	34.267	27.258	33.967	83.95	1.295	353.6	1463.11	0.0
790	78	3.828	3.768	34.269	27.268	34.175	82.21	1.304	358.6	1463.15	0.0
800	79	3.837	3.776	34.280	27.274	34.384	80.42	1.313	363.6	1463.19	0.0
810	80	3.841	3.779	34.291	27.282	34.594	78.58	1.322	368.6	1463.23	0.0
820	81	3.851	3.789	34.293	27.292	34.804	76.69	1.331	373.6	1463.27	0.0
830	82	3.885	3.823	34.293	27.305	35.014	74.75	1.340	378.6	1463.31	0.0
840	83	3.958	3.895	34.293	27.318	35.224	72.76	1.349	383.6	1463.35	0.0
850	84	3.968	3.905	34.294	27.331	35.434	70.72	1.357	388.6	1463.39	0.0
860	85	3.934	3.870	34.301	27.320	35.644	68.63	1.366	393.6	1463.43	0.0
870	86	3.498	3.434	34.308	27.329	35.854	66.49	1.374	398.6	1463.47	0.0
880	87	3.469	3.404	34.314	27.337	36.064	64.30	1.383	403.6	1463.51	0.0
890	88	3.456	3.390	34.316	27.340	36.274	62.06	1.391	408.6	1463.55	0.0
900	89	3.441	3.375	34.319	27.343	36.484	59.77	1.408	413.6	1463.59	0.0
910	90	3.433	3.366	34.321	27.346	36.694	57.43	1.416	418.6	1463.63	0.0
920	91	3.412	3.344	34.325	27.351	36.904	55.04	1.424	423.6	1463.67	0.0
930	92	3.374	3.306	34.332	27.360	37.114	52.60	1.432	428.6	1463.71	0.0
940	93	3.336	3.267	34.337	27.368	37.324	50.11	1.440	433.6	1463.75	0.0
950	94	3.288	3.219	34.339	27.370	37.534	47.57	1.448	438.6	1463.79	0.0
960	95										
970	96										

CTD REPORT RAMA-4
 POSITION: 35DEG 46.1MIN N 152DEG 2.4MIN E

STATION: 10 CAST: 1 DN
 DATE: 8 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z	FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
980.0	970.6	3.302	3.232	34.344	27.377	31.925	79.43	1.456	883.6	1478.64	6.0
990.0	980.5	3.280	3.209	34.347	27.381	31.976	79.04	1.464	898.1	1478.71	4.5
1000.0	990.4	3.278	3.207	34.352	27.385	32.026	78.71	1.472	912.6	1478.87	7.2
1010.0	1009.8	3.145	3.071	34.375	27.416	32.289	75.86	1.511	986.3	1479.15	5.3
1100.0	1089.2	3.010	2.933	34.395	27.444	32.550	73.23	1.548	1061.8	1479.42	5.3
1150.0	1138.6	2.909	2.829	34.409	27.464	32.802	71.41	1.584	1139.2	1479.83	4.5
1200.0	1188.0	2.789	2.706	34.427	27.489	33.060	69.05	1.619	1218.3	1480.16	4.5
1250.0	1237.3	2.698	2.612	34.444	27.511	33.313	67.07	1.653	1299.0	1480.61	3.7
1300.0	1286.7	2.626	2.537	34.455	27.526	33.559	65.74	1.687	1381.5	1481.13	3.4
1350.0	1336.0	2.531	2.439	34.471	27.547	33.812	63.78	1.719	1465.5	1481.57	4.3
1400.0	1385.4	2.488	2.392	34.480	27.558	34.052	62.91	1.750	1551.1	1482.22	4.3
1450.0	1434.7	2.425	2.326	34.492	27.573	34.298	61.58	1.782	1638.2	1482.79	3.3
1500.0	1484.0	2.369	2.267	34.503	27.586	34.541	60.38	1.812	1726.8	1483.38	2.6
1550.0	1533.3	2.326	2.220	34.513	27.598	34.782	59.40	1.842	1816.9	1484.04	2.2
1600.0	1582.2	2.267	2.158	34.524	27.612	35.026	58.16	1.871	1908.4	1484.62	2.2
1650.0	1631.9	2.200	2.088	34.537	27.628	35.272	56.68	1.900	2001.4	1485.18	2.7
1700.0	1681.1	2.152	2.036	34.547	27.640	35.513	55.61	1.928	2095.7	1485.81	2.7
1750.0	1730.0	2.113	1.994	34.553	27.648	35.749	54.94	1.956	2191.3	1486.48	2.9
1800.0	1779.9	2.067	1.944	34.562	27.659	35.989	53.97	1.983	2288.4	1487.12	2.9
1850.0	1829.0	2.028	1.902	34.569	27.667	36.226	53.20	2.010	2386.7	1487.79	2.9
1900.0	1878.2	1.992	1.862	34.576	27.676	36.463	52.46	2.036	2486.3	1488.47	2.2
1950.0	1927.4	1.974	1.840	34.579	27.680	36.694	52.24	2.062	2587.1	1489.23	2.2
2000.0	1976.6	1.953	1.815	34.583	27.685	36.924	51.99	2.088	2689.3	1490.08	2.2
2050.0	2025.8	1.911	1.770	34.591	27.695	37.153	51.00	2.114	2793.7	1490.64	1.1
2100.0	2075.0	1.869	1.724	34.598	27.704	37.389	50.19	2.139	2897.3	1491.30	1.1
2150.0	2124.2	1.845	1.696	34.603	27.710	37.632	49.70	2.164	3003.1	1492.04	1.1
2200.0	2173.4	1.815	1.663	34.608	27.716	37.865	49.16	2.189	3110.1	1492.75	1.1
2250.0	2222.6	1.791	1.635	34.613	27.722	38.097	48.69	2.213	3218.3	1493.49	0.8
2300.0	2271.7	1.770	1.610	34.617	27.727	38.328	48.29	2.238	3327.7	1494.25	1.1
2350.0	2320.9	1.747	1.583	34.621	27.733	38.558	47.90	2.262	3438.3	1494.99	1.1
2400.0	2370.0	1.726	1.558	34.625	27.738	38.788	47.52	2.286	3550.0	1495.74	1.2
2450.0	2419.1	1.706	1.534	34.628	27.742	39.017	47.22	2.309	3662.8	1496.50	1.1
2500.0	2468.2	1.686	1.509	34.633	27.747	39.248	46.77	2.333	3776.8	1497.26	1.1
2550.0	2517.3	1.673	1.492	34.635	27.750	39.475	46.60	2.356	3891.9	1498.05	0.9
2600.0	2566.4	1.652	1.467	34.639	27.755	39.704	46.21	2.379	4008.1	1498.81	0.9
2650.0	2615.5	1.627	1.438	34.642	27.760	39.933	45.82	2.402	4125.5	1499.55	0.9
2700.0	2664.6	1.620	1.426	34.644	27.762	40.159	45.74	2.425	4243.9	1500.36	0.9
2750.0	2713.7	1.610	1.412	34.647	27.765	40.385	45.55	2.448	4363.4	1501.17	0.9
2800.0	2762.7	1.599	1.397	34.648	27.767	40.610	45.48	2.471	4484.0	1501.97	0.8
2850.0	2811.7	1.591	1.384	34.650	27.770	40.835	45.38	2.493	4605.7	1502.78	0.9
2900.0	2860.0	1.579	1.367	34.652	27.772	41.060	45.22	2.516	4728.5	1503.58	0.3
2950.0	2909.9	1.571	1.355	34.654	27.775	41.284	45.12	2.539	4852.4	1504.40	0.3
3000.0	2959.8	1.564	1.343	34.656	27.777	41.508	45.03	2.561	4977.7	1505.22	0.3
3050.0	3009.7	1.558	1.332	34.658	27.779	41.731	45.01	2.584	5103.4	1506.05	0.3
3100.0	3059.6	1.549	1.320	34.659	27.781	41.955	44.89	2.606	5230.0	1506.86	0.3
3150.0	3109.5	1.538	1.310	34.660	27.783	42.177	44.79	2.629	5358.8	1507.69	0.3
3200.0	3159.4	1.530	1.294	34.661	27.785	42.401	44.74	2.651	5487.7	1508.50	0.3
3250.0	3209.3	1.523	1.283	34.662	27.787	42.622	44.76	2.673	5616.9	1509.34	0.3
3300.0	3259.2	1.518	1.273	34.663	27.788	42.844	44.73	2.696	5746.9	1510.16	0.3
3350.0	3309.1	1.518	1.264	34.665	27.790	43.066	44.73	2.718	5882.1	1511.00	0.4
3400.0	3359.0	1.514	1.255	34.667	27.792	43.287	44.67	2.740	6015.6	1511.84	0.1
3450.0	3408.9	1.510	1.246	34.668	27.794	43.508	44.68	2.763	6150.2	1512.68	0.3
3500.0	3458.8	1.504	1.235	34.669	27.795	43.729	44.66	2.785	6285.8	1513.51	0.3
3550.0	3508.7	1.501	1.226	34.670	27.796	43.949	44.68	2.807	6422.6	1514.35	0.6
3600.0	3558.6	1.495	1.215	34.671	27.798	44.169	44.64	2.830	6560.3	1515.18	0.6
3650.0	3608.5	1.491	1.206	34.673	27.800	44.390	44.57	2.852	6699.2	1516.03	0.6
3700.0	3658.4	1.488	1.198	34.673	27.801	44.608	44.66	2.874	6839.9	1516.87	0.3
3750.0	3708.3	1.489	1.194	34.673	27.801	44.826	44.81	2.897	6980.0	1517.74	0.3
3800.0	3758.2	1.484	1.183	34.675	27.803	45.046	44.73	2.919	7122.0	1518.58	0.2
3850.0	3808.1	1.483	1.177	34.675	27.804	45.264	44.83	2.941	7265.1	1519.43	0.4
3900.0	3858.0	1.480	1.169	34.675	27.804	45.482	44.92	2.964	7409.3	1520.28	0.1
3950.0	3907.9	1.478	1.161	34.677	27.806	45.700	44.87	2.986	7554.5	1521.14	0.3
4000.0	3957.8	1.478	1.156	34.678	27.808	45.918	44.93	3.009	7700.7	1522.00	0.3
4050.0	4007.7	1.477	1.149	34.678	27.808	46.134	45.05	3.031	7848.1	1522.86	0.3
4100.0	4057.6	1.476	1.143	34.679	27.809	46.352	45.08	3.054	7996.9	1523.72	0.3
4150.0	4107.5	1.474	1.135	34.680	27.811	46.569	45.11	3.076	8145.9	1524.57	0.3
4200.0	4157.4	1.475	1.130	34.680	27.811	46.784	45.26	3.099	8296.6	1525.44	0.3
4250.0	4207.3	1.479	1.129	34.681	27.812	47.000	45.37	3.121	8448.8	1526.33	0.3
4300.0	4257.2	1.480	1.124	34.682	27.813	47.216	45.44	3.144	8600.0	1527.20	0.3
4350.0	4307.1	1.480	1.118	34.682	27.813	47.431	45.57	3.167	8754.5	1528.06	0.2
4400.0	4357.0	1.480	1.112	34.683	27.814	47.647	45.62	3.190	8909.3	1528.93	0.8
4450.0	4406.9	1.479	1.105	34.683	27.815	47.862	45.74	3.213	9065.3	1529.79	0.1
4500.0	4456.8	1.483	1.103	34.684	27.816	48.078	45.92	3.235	9222.2	1530.66	0.3
4550.0	4506.7	1.487	1.101	34.684	27.816	48.290	46.04	3.258	9380.1	1531.58	0.3
4600.0	4556.6	1.490	1.098	34.684	27.816	48.503	46.22	3.280	9538.0	1532.44	0.3
4650.0	4606.5	1.492	1.094	34.685	27.817	48.717	46.30	3.305	9699.6	1533.32	0.3
4700.0	4656.4	1.491	1.087	34.685	27.818	48.931	46.41	3.328	9861.0	1534.19	0.3
4750.0	4706.3	1.491	1.081	34.686	27.819	49.145	46.46	3.351	10023.4	1535.06	0.5
4800.0	4756.2	1.495	1.079	34.686	27.819	49.357	46.66	3.374	10186.9	1535.94	0.5
4850.0	4806.1	1.499	1.077	34.687	27.820	49.570	46.78	3.398	10351.5	1536.83	0.6
4900.0	4856.0	1.503	1.075	34.687	27.820	49.782	46.97	3.421	10517.3	1537.72	0.5
4950.0	4905.9	1.507	1.072	34.687	27.820	49.993	47.16	3.445	10684.1	1538.61	0.5
5000.0	4955.8	1.511	1.070	34.687	27.820	50.205	47.34	3.468	10852.0	1539.50	0.6
5050.0	5005.7	1.516	1.069	34.687	27.820	50.416	47.55	3.492	11021.1	1540.39	0.6
5100.0	5055.6	1.519	1.065	34.687	27.821	50.627	47.73	3.516	11191.3	1541.28	0.7
5150.0	5105.5	1.524	1.064	34.688	27.822	50.833	47.87	3.540	11362.5	1542.17	0.7
5200.0	5155.4	1.526	1.059	34.688	27.822	51.049	48.03	3.564	11535.5	1543.05	0.3
5250.0	5205.3	1.529	1.056	34.689	27.823	51.260	48.14	3.588	11708.5	1543.94	0.3
5300.0	5255.2	1.534	1.054	34.689	27.823	51.470	48.34	3.612	11883.2	1544.84	0.1
5350.0	5305.1	1.538	1.052	34.689	27.823	51.680	48.55	3.636	12059.0	1545.73	0.1
5400.0	5355.0	1.544	1.051	34.689	27.823	51.889	48.77	3.660	12236.0	1546.63	0.1
5450.0	5404.9	1.549	1.049	34.690	27.824	52.098	48.98	3.685	12414.0	1547.52	0.0
5500.0	5454.8	1.									

CTD REPORT RAMA-4 STATION: 10 CAST: 1 DN
 POSITION: 35DEG 46.1MIN N 152DEG 2.4MIN E DATE: 8 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
5800.0	5686.7	1.584	1.037	34.691	27.826	53.557	50.34	3.858	13693.1	1553.81	0.2
5850.0	5735.1	1.590	1.036	34.692	27.827	53.765	50.52	3.884	13880.5	1554.71	0.2
5900.0	5783.5	1.593	1.032	34.692	27.827	53.972	50.71	3.909	14069.1	1555.60	0.3
5950.0	5831.9	1.599	1.031	34.692	27.827	54.179	50.94	3.934	14258.9	1556.50	-0.1

CTD REPORT
POSITION: 34DEG 58.0MIN N

RAMA-4
152DEG 2.1MIN E

STATION: 11
DATE: 9 JUL 80

CAST: 2
DN: 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
0.0	0.0	24.328	24.328	34.440	23.148	23.148	473.99	0.000	0.0	1532.11	
10.0	1.0	24.328	24.328	34.440	23.148	23.148	466.85	0.047	0.0	1531.88	
20.0	2.0	24.328	24.328	34.440	23.148	23.148	459.71	0.094	0.0	1531.65	
30.0	3.0	24.328	24.328	34.440	23.148	23.148	452.57	0.141	0.0	1531.42	
40.0	4.0	24.328	24.328	34.440	23.148	23.148	445.43	0.188	0.0	1531.19	
50.0	5.0	24.328	24.328	34.440	23.148	23.148	438.29	0.235	0.0	1530.96	
60.0	6.0	24.328	24.328	34.440	23.148	23.148	431.15	0.282	0.0	1530.73	
70.0	7.0	24.328	24.328	34.440	23.148	23.148	424.01	0.329	0.0	1530.50	
80.0	8.0	24.328	24.328	34.440	23.148	23.148	416.87	0.376	0.0	1530.27	
90.0	9.0	24.328	24.328	34.440	23.148	23.148	409.73	0.423	0.0	1530.04	
100.0	99.2	18.747	18.729	34.943	25.071	25.506	294.53	0.384	21.0	1519.51	87.1
110.0	109.1	18.381	18.361	34.917	25.144	25.623	287.90	0.413	24.9	1518.60	59.3
120.0	119.1	18.072	18.051	34.879	25.192	25.716	283.60	0.442	29.2	1517.82	43.4
130.0	129.0	17.923	17.900	34.883	25.233	25.800	280.09	0.470	33.7	1517.55	36.4
140.0	138.9	17.686	17.662	34.851	25.267	25.879	277.15	0.498	38.5	1516.99	30.6
150.0	148.8	17.480	17.454	34.821	25.295	25.951	274.83	0.526	43.6	1516.51	28.2
160.0	158.7	17.356	17.329	34.820	25.325	26.024	272.33	0.553	48.9	1516.30	30.6
170.0	168.7	17.177	17.148	34.806	25.357	26.101	269.51	0.580	54.6	1515.92	28.7
180.0	178.6	17.025	16.995	34.791	25.383	26.171	267.41	0.607	60.4	1515.61	23.9
190.0	188.5	16.910	16.878	34.785	25.406	26.238	265.54	0.634	66.6	1515.42	24.2
200.0	198.4	16.770	16.736	34.775	25.432	26.308	263.37	0.660	73.0	1515.15	21.4
210.0	208.3	16.695	16.660	34.774	25.449	26.370	262.05	0.687	79.7	1515.08	13.2
220.0	218.2	16.647	16.610	34.771	25.459	26.423	261.47	0.713	86.6	1515.10	12.8
230.0	228.2	16.575	16.537	34.770	25.475	26.484	260.22	0.739	93.8	1515.04	17.0
240.0	238.1	16.465	16.425	34.759	25.493	26.545	258.84	0.765	101.3	1514.86	19.0
250.0	248.0	16.321	16.280	34.741	25.513	26.610	257.21	0.791	109.0	1514.56	19.6
260.0	257.9	16.197	16.154	34.728	25.532	26.673	255.67	0.816	117.0	1514.33	25.7
270.0	267.8	16.097	16.054	34.704	25.555	26.751	254.23	0.842	125.2	1513.80	23.0
280.0	277.7	15.981	15.936	34.692	25.578	26.809	253.83	0.867	133.7	1513.65	19.9
290.0	287.6	15.737	15.690	34.683	25.605	26.879	249.61	0.892	142.4	1513.35	30.2
300.0	297.6	15.519	15.471	34.663	25.639	26.959	246.56	0.917	151.3	1512.81	31.0
310.0	307.7	15.314	15.266	34.653	25.667	27.031	244.18	0.941	160.9	1512.48	26.6
320.0	317.7	15.143	15.093	34.638	25.692	27.103	242.01	0.966	170.0	1512.11	26.9
330.0	327.7	14.993	14.943	34.630	25.719	27.173	240.00	0.988	179.7	1511.71	33.8
340.0	337.7	14.748	14.698	34.601	25.743	27.243	238.00	1.014	189.0	1511.28	33.8
350.0	347.7	14.555	14.505	34.587	25.765	27.313	236.00	1.037	198.3	1510.83	40.4
360.0	357.0	14.284	14.230	34.562	25.783	27.383	234.00	1.060	207.6	1510.35	37.6
370.0	366.9	14.031	13.976	34.545	25.807	27.453	232.00	1.083	216.9	1509.85	31.1
380.0	376.8	13.842	13.786	34.537	25.829	27.523	230.00	1.106	226.2	1509.31	31.9
390.0	386.7	13.644	13.587	34.519	25.853	27.593	228.00	1.128	235.5	1508.71	
400.0	396.7	13.310	13.253	34.501	25.891	27.666	214.80	1.150	244.8	1507.15	36.3
410.0	406.6	13.184	13.126	34.489	25.908	27.738	213.43	1.171	254.1	1506.94	35.5
420.0	416.5	12.860	12.801	34.473	25.961	27.828	208.43	1.192	263.4	1505.88	52.4
430.0	426.4	12.470	12.411	34.437	26.110	28.025	203.70	1.213	272.7	1504.75	56.2
440.0	436.3	12.083	12.024	34.418	26.171	28.133	197.94	1.233	282.0	1503.57	54.0
450.0	446.2	11.729	11.669	34.389	26.216	28.226	193.63	1.253	291.3	1502.48	43.3
460.0	456.1	11.445	11.385	34.371	26.255	28.313	189.91	1.272	300.6	1501.64	43.3
470.0	466.0	11.139	11.079	34.356	26.299	28.405	185.66	1.291	309.9	1500.71	47.8
480.0	475.9	10.805	10.745	34.340	26.347	28.501	181.04	1.309	319.2	1499.66	34.1
490.0	485.8	10.642	10.581	34.325	26.365	28.565	179.47	1.327	328.5	1499.25	18.9
500.0	495.7	10.504	10.442	34.317	26.383	28.629	177.85	1.345	337.8	1498.91	39.4
510.0	505.6	10.019	9.958	34.282	26.439	28.736	172.21	1.362	347.1	1497.29	47.3
520.0	515.5	9.684	9.623	34.251	26.472	28.817	169.01	1.380	356.4	1496.64	29.3
530.0	525.4	9.236	9.176	34.181	26.490	28.886	166.93	1.396	365.7	1495.64	28.3
540.0	535.3	8.924	8.864	34.158	26.522	28.966	163.76	1.413	375.0	1494.62	34.3
550.0	545.2	8.491	8.431	34.110	26.552	29.047	160.61	1.429	384.3	1493.10	20.3
560.0	555.1	8.286	8.226	34.075	26.556	29.098	160.18	1.445	393.6	1491.45	
570.0	565.0	8.029	7.969	34.036	26.582	29.221	157.51	1.477	402.9	1489.26	
580.0	574.9	7.900	7.840	34.006	26.582	29.297	154.79	1.493	412.2	1489.08	31.0
590.0	584.8	7.557	7.497	34.066	26.608	29.376	151.79	1.508	421.5	1489.64	20.1
600.0	594.7	7.643	7.582	34.066	26.643	29.429	149.22	1.523	430.8	1489.58	32.9
610.0	604.6	7.194	7.134	34.017	26.684	29.532	146.88	1.538	440.1	1487.77	15.7
620.0	614.5	6.974	6.914	34.032	26.708	29.585	145.30	1.553	449.4	1487.00	23.4
630.0	624.4	6.991	6.930	34.038	26.721	29.645	144.12	1.567	458.7	1486.20	23.4
640.0	634.3	6.929	6.867	34.038	26.721	29.728	140.73	1.582	468.0	1485.39	18.5
650.0	644.2	6.345	6.285	33.973	26.758	29.784	139.87	1.596	477.3	1484.51	24.6
660.0	654.1	6.255	6.194	34.000	26.785	29.857	137.41	1.610	486.6	1483.62	28.8
670.0	664.0	6.211	6.149	34.000	26.805	29.926	135.35	1.623	495.9	1484.08	31.2
680.0	673.9	6.047	5.985	34.014	26.839	30.008	132.05	1.637	505.2	1483.55	27.7
690.0	683.8	5.866	5.804	34.019	26.864	30.082	129.53	1.650	514.5	1483.24	24.1
700.0	693.7	5.692	5.630	34.004	26.887	30.156	126.92	1.662	523.8	1482.48	18.1
710.0	703.6	5.393	5.332	34.013	26.907	30.223	125.06	1.675	533.1	1482.05	20.8
720.0	713.5	5.289	5.228	34.019	26.922	30.285	123.62	1.688	542.4	1481.58	18.1
730.0	723.4	5.201	5.139	34.026	26.945	30.357	121.25	1.700	551.7	1481.66	12.8
740.0	733.3	5.044	4.982	34.036	26.956	30.414	118.99	1.712	561.0	1481.60	10.6
750.0	743.2	5.020	4.958	34.046	26.970	30.475	118.49	1.736	570.3	1481.67	7.8
760.0	753.1	4.964	4.901	34.050	26.976	30.527	117.73	1.748	579.6	1481.73	13.6
770.0	763.0	4.939	4.875	34.057	26.985	30.582	116.07	1.759	588.9	1481.59	16.8
780.0	772.9	4.911	4.847	34.068	27.002	30.646	114.68	1.771	598.2	1481.41	14.2
790.0	782.8	4.834	4.769	34.074	27.016	30.708	113.53	1.782	607.5	1481.25	16.4
800.0	792.6	4.748	4.683	34.078	27.028	30.767	112.51	1.794	616.8	1481.27	15.3
810.0	802.5	4.670	4.605	34.099	27.043	30.828	110.57	1.805	626.1	1481.36	11.8
820.0	812.4	4.681	4.616	34.107	27.060	30.892	109.45	1.816	635.4	1481.49	11.8
830.0	822.3	4.586	4.521	34.120	27.073	30.951	108.65	1.827	644.7	1481.60	11.8
840.0	832.2	4.564	4.499	34.126	27.082	31.006	107.97	1.837	654.0	1481.67	11.8
850.0	842.1	4.528	4.463	34.134	27.090	31.060	107.44	1.848	663.3	1481.73	11.8
860.0	852.0	4.512	4.447	34.147	27.106	31.123	106.44	1.859	672.6	1481.59	11.8
870.0	861.9	4.458	4.393	34.159	27.119	31.183	105.24	1.869	681.9	1481.50	11.8
880.0	871.8	4.421	4.356	34.168	27.130	31.240	104.24	1.879	691.2	1481.50	11.8
890.0	881.7	4.387	4.316	34.173	27.139	31.296	103.43	1.880	700.5	1481.50	11.8
900.0	891.6	4.344	4.273	34.180	27.161	31.360	102.23	1.890	709.8	1481.50	11.8
910.0	901.5	4.257	4.186	34.185	27.171	31.422	101.11	1.900	719.1	1481.50	11.8
920.0	911.4	4.204	4.133	34.197	27.173	31.471</					

CTD REPORT
POSITION: 34DEG 58.0MIN N

RAMA-4

152DEG 2.1MIN E

STATION

DATE: 11 CAST 9 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT DEG C	TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS SQD-1E6	FO 1E6
980 0	970 6	3 901	3 826	34 236	27 234	31 767	94 23	1 959	1177 5	1481 03	9	11 5	
990 0	980 6	3 863	3 788	34 242	27 243	31 823	93 42	1 958	1196 5	1481 05	13 5	11 5	
1000 0	990 6	3 808	3 732	34 250	27 256	33 883	92 42	1 957	1216 5	1481 09	13 5	11 5	
1050 0	1039 6	3 765	3 686	34 256	27 301	33 161	87 89	1 955	1315 2	1481 30	13 5	11 5	
1100 0	1089 6	3 715	3 634	34 263	27 337	33 430	84 52	1 954	1416 2	1481 36	13 5	11 5	
1150 0	1138 6	3 665	3 582	34 270	27 381	33 708	80 28	1 953	1519 2	1481 59	13 5	11 5	
1200 0	1188 6	3 615	3 530	34 277	27 414	33 974	77 10	1 952	1624 2	1482 08	13 5	11 5	
1250 0	1237 6	3 565	3 478	34 284	27 437	33 228	75 05	1 951	1731 1	1482 46	13 5	11 5	
1300 0	1286 6	3 515	3 426	34 291	27 460	33 483	72 90	1 950	1839 8	1482 83	13 5	11 5	
1350 0	1336 0	3 465	3 374	34 298	27 482	33 736	70 82	1 949	1950 2	1483 29	13 5	11 5	
1400 0	1385 4	3 415	3 322	34 305	27 502	33 987	69 00	1 948	2062 4	1483 78	13 5	11 5	
1450 0	1434 7	3 365	3 270	34 312	27 520	34 236	67 33	1 947	2176 3	1484 34	13 5	11 5	
1500 0	1484 0	3 315	3 218	34 319	27 535	34 481	66 05	1 946	2291 1	1484 87	13 5	11 5	
1550 0	1533 3	3 265	3 166	34 326	27 551	34 727	64 52	1 945	2408 8	1485 38	13 5	11 5	
1600 0	1582 6	3 215	3 114	34 333	27 567	34 977	62 67	1 944	2527 7	1485 98	13 5	11 5	
1650 0	1631 9	3 165	3 062	34 340	27 585	35 220	61 48	1 943	2647 7	1486 57	13 5	11 5	
1700 0	1681 2	3 115	3 010	34 347	27 599	35 464	60 16	1 942	2769 7	1487 12	13 5	11 5	
1750 0	1730 5	3 065	2 958	34 354	27 617	35 711	58 57	1 941	2892 7	1487 75	13 5	11 5	
1800 0	1779 7	3 015	2 906	34 361	27 627	35 950	57 59	1 940	3017 7	1488 41	13 5	11 5	
1850 0	1829 0	2 965	2 854	34 368	27 638	36 189	56 62	1 939	3143 2	1489 08	13 5	11 5	
1900 0	1878 2	2 915	2 802	34 375	27 648	36 427	55 80	1 938	3270 5	1489 73	13 5	11 5	
1950 0	1927 4	2 865	2 750	34 382	27 659	36 667	54 74	1 937	3399 9	1490 40	13 5	11 5	
2000 0	1976 6	2 815	2 698	34 389	27 667	36 902	53 05	1 936	3529 9	1491 05	13 5	11 5	
2050 0	2025 8	2 765	2 646	34 396	27 677	37 140	51 12	1 935	3660 0	1491 74	13 5	11 5	
2100 0	2075 1	2 715	2 594	34 403	27 686	37 376	50 37	1 934	3793 3	1492 42	13 5	11 5	
2150 0	2124 2	2 665	2 542	34 410	27 694	37 611	49 11	1 933	3926 6	1493 12	13 5	11 5	
2200 0	2173 4	2 615	2 490	34 417	27 701	37 845	48 11	1 932	4062 6	1493 86	13 5	11 5	
2250 0	2222 6	2 565	2 438	34 424	27 707	38 077	47 05	1 931	4198 8	1494 55	13 5	11 5	
2300 0	2271 8	2 515	2 386	34 431	27 713	38 340	46 08	1 930	4335 5	1495 33	13 5	11 5	
2350 0	2320 9	2 465	2 334	34 438	27 720	38 540	45 06	1 929	4474 7	1496 08	13 5	11 5	
2400 0	2370 0	2 415	2 282	34 445	27 726	38 772	44 03	1 928	4614 4	1496 86	13 5	11 5	
2450 0	2419 1	2 365	2 230	34 452	27 731	39 002	43 03	1 927	4755 5	1497 68	13 5	11 5	
2500 0	2468 2	2 315	2 178	34 459	27 736	39 232	42 03	1 926	4896 6	1498 50	13 5	11 5	
2550 0	2517 3	2 265	2 126	34 466	27 742	39 463	41 03	1 925	5037 7	1499 36	13 5	11 5	
2600 0	2566 4	2 215	2 074	34 473	27 747	39 688	40 03	1 924	5178 8	1500 22	13 5	11 5	
2650 0	2615 5	2 165	2 022	34 480	27 753	39 915	39 03	1 923	5319 9	1501 08	13 5	11 5	
2700 0	2664 6	2 115	1 970	34 487	27 758	40 140	38 03	1 922	5460 0	1501 94	13 5	11 5	
2750 0	2713 7	2 065	1 918	34 494	27 763	40 369	37 03	1 921	5600 1	1502 80	13 5	11 5	
2800 0	2762 8	2 015	1 866	34 501	27 768	40 595	36 03	1 920	5740 2	1503 66	13 5	11 5	
2850 0	2811 9	1 965	1 814	34 508	27 773	40 821	35 03	1 919	5880 3	1504 52	13 5	11 5	
2900 0	2860 7	1 915	1 762	34 515	27 778	41 051	34 03	1 918	6020 4	1505 38	13 5	11 5	
2950 0	2909 8	1 865	1 710	34 522	27 783	41 276	33 03	1 917	6160 5	1506 24	13 5	11 5	
3000 0	2958 8	1 815	1 658	34 529	27 788	41 500	32 03	1 916	6300 6	1507 10	13 5	11 5	
3050 0	3007 9	1 765	1 606	34 536	27 793	41 723	31 03	1 915	6440 7	1507 96	13 5	11 5	
3100 0	3056 7	1 715	1 554	34 543	27 798	41 947	30 03	1 914	6580 8	1508 82	13 5	11 5	
3150 0	3105 7	1 665	1 502	34 550	27 803	42 170	29 03	1 913	6720 9	1509 68	13 5	11 5	
3200 0	3154 7	1 615	1 450	34 557	27 808	42 391	28 03	1 912	6860 0	1510 54	13 5	11 5	
3250 0	3203 6	1 565	1 398	34 564	27 813	42 615	27 03	1 911	7000 1	1511 40	13 5	11 5	
3300 0	3252 6	1 515	1 346	34 571	27 818	42 838	26 03	1 910	7140 2	1512 26	13 5	11 5	
3350 0	3301 5	1 465	1 294	34 578	27 823	43 060	25 03	1 909	7280 3	1513 12	13 5	11 5	
3400 0	3350 4	1 415	1 242	34 585	27 828	43 282	24 03	1 908	7420 4	1513 98	13 5	11 5	
3450 0	3399 4	1 365	1 190	34 592	27 833	43 501	23 03	1 907	7560 5	1514 84	13 5	11 5	
3500 0	3448 3	1 315	1 138	34 599	27 838	43 722	22 03	1 906	7700 6	1515 70	13 5	11 5	
3550 0	3497 3	1 265	1 086	35 006	27 843	43 944	21 03	1 905	7840 7	1516 56	13 5	11 5	
3600 0	3546 2	1 215	1 034	35 013	27 848	44 164	20 03	1 904	7980 8	1517 42	13 5	11 5	
3650 0	3595 2	1 165	982	35 020	27 853	44 384	19 03	1 903	8120 9	1518 28	13 5	11 5	
3700 0	3644 1	1 115	930	35 027	27 858	44 604	18 03	1 902	8260 0	1519 14	13 5	11 5	
3750 0	3693 1	1 065	878	35 034	27 863	44 823	17 03	1 901	8400 1	1520 00	13 5	11 5	
3800 0	3742 0	1 015	826	35 041	27 868	45 041	16 03	1 900	8540 2	1520 86	13 5	11 5	
3850 0	3791 0	965	774	35 048	27 873	45 260	15 03	1 899	8680 3	1521 72	13 5	11 5	
3900 0	3840 0	915	722	35 055	27 878	45 478	14 03	1 898	8820 4	1522 58	13 5	11 5	
3950 0	3889 0	865	670	35 062	27 883	45 697	13 03	1 897	8960 5	1523 44	13 5	11 5	
4000 0	3938 0	815	618	35 069	27 888	45 915	12 03	1 896	9100 6	1524 30	13 5	11 5	
4050 0	3987 0	765	566	35 076	27 893	46 132	11 03	1 895	9240 7	1525 16	13 5	11 5	
4100 0	4036 0	715	514	35 083	27 898	46 349	10 03	1 894	9380 8	1526 02	13 5	11 5	
4150 0	4085 0	665	462	35 090	27 903	46 564	9 03	1 893	9520 9	1526 88	13 5	11 5	
4200 0	4134 0	615	410	35 097	27 908	46 779	8 03	1 892	9660 0	1527 74	13 5	11 5	
4250 0	4183 0	565	358	35 104	27 913	46 997	7 03	1 891	9800 1	1528 60	13 5	11 5	
4300 0	4232 0	515	306	35 111	27 918	47 212	6 03	1 890	9940 2	1529 46	13 5	11 5	
4350 0	4281 0	465	254	35 118	27 923	47 429	5 03	1 889	10080 3	1530 32	13 5	11 5	
4400 0	4330 0	415	202	35 125	27 928	47 643	4 03	1 888	10220 4	1531 18	13 5	11 5	
4450 0	4379 0	365	150	35 132	27 933	47 859	3 03	1 887	10360 5	1532 04	13 5	11 5	
4500 0	4428 0	315	98	35 139	27 938	48 073	2 03	1 886	10500 6	1532 90	13 5	11 5	
4550 0	4477 0	265	46	35 146	27 943	48 286	1 03	1 885	10640 7	1533 76	13 5	11 5	
4600 0	4526 0	215	0	35 153	27 948	48 502	0 03	1 884	10780 8	1534 62	13 5	11 5	
4650 0	4575 0	165	0	35 160	27 953	48 715	0 03	1 883	10920 9	1535 48	13 5	11 5	
4700 0	4624 0	115	0	35 167	27 958	48 929	0 03	1 882	11060 0	1536 34	13 5	11 5	
4750 0	4673 0	65	0	35 174	27 963	49 141	0 03	1 881	11200 1	1537 20	13 5	11 5	
4800 0	4722 0	15	0	35 181	27 968	49 354	0 03	1 880	11340 2	1538 06	13 5	11 5	
4850 0	4771 0	0	0	35 188	27 973	49 567	0 03	1 879	11480 3	1538 92	13 5	11 5	
4900 0	4820 0	0	0	35 195	27 978	49 779	0 03	1 878	11620 4	1539 78	13 5	11 5	
4950 0	4869 0	0	0	35 202	27 983	49 991	0 03	1 877	11760 5	1540 64	13 5	11 5	
5000 0	4918 0	0	0	35 209	27 988	50 204	0 03	1 876	11900 6	1541 50	13 5	11 5	
5050 0	4967 0	0	0	35 216	27 993	50 416	0 03	1 875	12040 7	1542 36	13 5	11 5	
5100 0	5016 0	0	0	35 223	27 998	50 629	0 03	1 874	12180 8	1543 22	13 5	11 5	
5150 0	5065 0	0	0	35 230	28 003	50 841	0 03	1 873	12320 9	1544 08	13 5	11 5	
5200 0	5114 0	0	0	3									

CTD REPORT RAMA-4 STATION: 11 CAST: 2 DN
 POSITION: 34DEG 58.0MIN N 152DEG 2.1MIN E DATE: 9 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
5800.0	5686.7	1.578	1.031	34.693	27.828	53.560	50.10	4.449	16703.1	1553.78	0.2
5850.0	5735.1	1.582	1.028	34.692	27.827	53.767	50.37	4.474	16919.1	1554.68	0.1
5900.0	5783.5	1.582	1.021	34.694	27.829	53.976	50.35	4.499	17136.2	1555.56	0.2
5950.0	5831.9	1.587	1.019	34.694	27.829	54.183	50.58	4.524	17354.6	1556.45	0.3
6000.0	5880.3	1.592	1.017	34.695	27.830	54.391	50.72	4.550	17574.0	1557.35	-0.1

CTD REPORT RAMA-4
POSITION 34DEG 30.5MIN N

152DEG 0 2MIN E

STATION 12
DATE 9 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS SOD-1E6	TO 1E6
0	0	24.913	24.913	34.541	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
10	10	24.883	24.883	34.539	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
20	20	24.853	24.853	34.537	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
30	30	24.823	24.823	34.535	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
40	40	24.793	24.793	34.533	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
50	50	24.763	24.763	34.531	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
60	60	24.733	24.733	34.529	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
70	70	24.703	24.703	34.527	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
80	80	24.673	24.673	34.525	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
90	90	24.643	24.643	34.523	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
100	100	24.613	24.613	34.521	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
110	110	24.583	24.583	34.519	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
120	120	24.553	24.553	34.517	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
130	130	24.523	24.523	34.515	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
140	140	24.493	24.493	34.513	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
150	150	24.463	24.463	34.511	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
160	160	24.433	24.433	34.509	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
170	170	24.403	24.403	34.507	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
180	180	24.373	24.373	34.505	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
190	190	24.343	24.343	34.503	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
200	200	24.313	24.313	34.501	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
210	210	24.283	24.283	34.499	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
220	220	24.253	24.253	34.497	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
230	230	24.223	24.223	34.495	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
240	240	24.193	24.193	34.493	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
250	250	24.163	24.163	34.491	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
260	260	24.133	24.133	34.489	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
270	270	24.103	24.103	34.487	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
280	280	24.073	24.073	34.485	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
290	290	24.043	24.043	34.483	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
300	300	24.013	24.013	34.481	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
310	310	23.983	23.983	34.479	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
320	320	23.953	23.953	34.477	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
330	330	23.923	23.923	34.475	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
340	340	23.893	23.893	34.473	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
350	350	23.863	23.863	34.471	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
360	360	23.833	23.833	34.469	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
370	370	23.803	23.803	34.467	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
380	380	23.773	23.773	34.465	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
390	390	23.743	23.743	34.463	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
400	400	23.713	23.713	34.461	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
410	410	23.683	23.683	34.459	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
420	420	23.653	23.653	34.457	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
430	430	23.623	23.623	34.455	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
440	440	23.593	23.593	34.453	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
450	450	23.563	23.563	34.451	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
460	460	23.533	23.533	34.449	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
470	470	23.503	23.503	34.447	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
480	480	23.473	23.473	34.445	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
490	490	23.443	23.443	34.443	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
500	500	23.413	23.413	34.441	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
510	510	23.383	23.383	34.439	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
520	520	23.353	23.353	34.437	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
530	530	23.323	23.323	34.435	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
540	540	23.293	23.293	34.433	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
550	550	23.263	23.263	34.431	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
560	560	23.233	23.233	34.429	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
570	570	23.203	23.203	34.427	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
580	580	23.173	23.173	34.425	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
590	590	23.143	23.143	34.423	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
600	600	23.113	23.113	34.421	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
610	610	23.083	23.083	34.419	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
620	620	23.053	23.053	34.417	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
630	630	23.023	23.023	34.415	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
640	640	22.993	22.993	34.413	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
650	650	22.963	22.963	34.411	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
660	660	22.933	22.933	34.409	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
670	670	22.903	22.903	34.407	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
680	680	22.873	22.873	34.405	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
690	690	22.843	22.843	34.403	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
700	700	22.813	22.813	34.401	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
710	710	22.783	22.783	34.399	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
720	720	22.753	22.753	34.397	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
730	730	22.723	22.723	34.395	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
740	740	22.693	22.693	34.393	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
750	750	22.663	22.663	34.391	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
760	760	22.633	22.633	34.389	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
770	770	22.603	22.603	34.387	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
780	780	22.573	22.573	34.385	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
790	790	22.543	22.543	34.383	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
800	800	22.513	22.513	34.381	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
810	810	22.483	22.483	34.379	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
820	820	22.453	22.453	34.377	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
830	830	22.423	22.423	34.375	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
840	840	22.393	22.393	34.373	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
850	850	22.363	22.363	34.371	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
860	860	22.333	22.333	34.369	23.051	23.051	483.30	0.000	0.000	1533.6	1.000	1.000
870	870	22.303	22.303	34.367	23.051							

CTD REPORT RAMA-4 STATION 12 CAST 1 DN
 POSITION: 34DEG 30.5MIN N 152DEG 0.2MIN E DATE 9 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VALS SQD-1E6
980.0	970.6	3.889	3.814	34.252	27.248	31.781	92.90	1.982	1200.2	1481.00	5.6
990.0	980.5	3.873	3.798	34.256	27.253	31.832	92.51	1.991	1219.8	1481.1	5.6
1000.0	990.4	3.810	3.734	34.256	27.259	31.886	91.84	2.000	1239.6	1481.00	5.6
1050.0	1039.8	3.547	3.469	34.292	27.313	32.176	86.52	2.045	1339.5	1480.76	5.6
1100.0	1089.2	3.412	3.331	34.321	27.349	32.444	83.21	2.087	1441.6	1481.04	5.6
1150.0	1138.6	3.268	3.185	34.350	27.386	32.713	79.77	2.128	1545.7	1481.29	5.6
1200.0	1188.0	3.135	3.049	34.371	27.415	32.975	77.04	2.167	1651.7	1481.57	5.6
1250.0	1237.3	3.041	2.952	34.386	27.435	33.227	75.19	2.205	1759.7	1482.01	5.6
1300.0	1286.7	2.939	2.847	34.403	27.458	33.481	73.10	2.242	1869.5	1482.42	5.6
1350.0	1336.0	2.822	2.727	34.424	27.485	33.740	70.51	2.278	1981.0	1482.77	5.6
1400.0	1385.4	2.725	2.627	34.441	27.507	33.993	68.44	2.313	2094.3	1483.19	5.6
1450.0	1434.7	2.647	2.546	34.456	27.526	34.243	66.73	2.347	2209.2	1483.70	5.6
1500.0	1484.0	2.582	2.477	34.470	27.543	34.489	65.23	2.380	2325.7	1484.27	5.6
1550.0	1533.3	2.505	2.397	34.481	27.558	34.735	63.80	2.412	2443.7	1484.77	5.6
1600.0	1582.3	2.419	2.308	34.496	27.577	34.985	62.19	2.443	2563.6	1485.25	5.6
1650.0	1631.9	2.350	2.236	34.509	27.594	35.231	60.45	2.474	2684.7	1485.79	5.6
1700.0	1681.1	2.294	2.177	34.521	27.608	35.475	59.15	2.504	2807.7	1486.39	5.6
1750.0	1730.0	2.235	2.114	34.533	27.622	35.719	57.82	2.533	2931.1	1486.98	5.6
1800.0	1779.7	2.197	2.073	34.540	27.631	35.955	57.10	2.562	3057.0	1487.57	5.6
1850.0	1829.0	2.147	2.019	34.550	27.643	36.196	55.98	2.590	3183.8	1488.28	5.6
1900.0	1878.2	2.115	1.983	34.556	27.651	36.431	55.38	2.618	3312.0	1488.99	5.6
1950.0	1927.7	2.087	1.945	34.563	27.659	36.658	54.67	2.646	3441.4	1489.68	5.6
2000.0	1976.8	2.064	1.905	34.569	27.667	36.886	53.93	2.674	3571.2	1490.37	5.6
2050.0	2026.0	2.044	1.885	34.577	27.674	37.113	53.13	2.700	3701.4	1491.07	5.6
2100.0	2075.0	2.026	1.866	34.585	27.682	37.337	52.30	2.726	3831.8	1491.77	5.6
2150.0	2124.2	2.011	1.848	34.590	27.689	37.561	51.41	2.752	3962.4	1492.47	5.6
2200.0	2173.4	2.000	1.831	34.597	27.697	37.784	50.49	2.778	4093.1	1493.17	5.6
2250.0	2222.6	1.986	1.814	34.602	27.708	38.009	49.50	2.803	4224.0	1493.88	5.6
2300.0	2271.7	1.978	1.796	34.607	27.715	38.231	48.88	2.828	4354.3	1494.59	5.6
2350.0	2320.9	1.969	1.783	34.611	27.719	38.454	48.52	2.853	4484.3	1495.29	5.6
2400.0	2370.0	1.961	1.765	34.617	27.727	38.674	48.89	2.878	4614.7	1496.01	5.6
2450.0	2419.1	1.951	1.751	34.621	27.732	38.894	48.47	2.902	4744.6	1496.75	5.6
2500.0	2468.2	1.943	1.743	34.625	27.737	39.113	48.08	2.926	4874.9	1497.50	5.6
2550.0	2517.3	1.934	1.724	34.629	27.742	39.333	47.70	2.950	5004.7	1498.27	5.6
2600.0	2566.4	1.926	1.706	34.632	27.746	39.551	47.41	2.974	5134.9	1499.04	5.6
2650.0	2615.5	1.919	1.690	34.635	27.750	39.769	47.15	2.997	5264.4	1499.81	5.6
2700.0	2664.6	1.911	1.674	34.638	27.753	39.986	46.89	3.021	5394.3	1500.59	5.6
2750.0	2713.6	1.904	1.661	34.640	27.756	40.203	46.73	3.044	5524.0	1501.38	5.6
2800.0	2762.7	1.897	1.644	34.644	27.761	40.419	46.37	3.068	5653.2	1502.16	5.6
2850.0	2811.7	1.891	1.629	34.646	27.764	40.636	46.18	3.091	5782.2	1502.95	5.6
2900.0	2860.7	1.884	1.619	34.647	27.766	40.851	46.12	3.114	5911.3	1503.75	5.6
2950.0	2909.9	1.877	1.609	34.650	27.769	41.065	46.02	3.137	6040.4	1504.56	5.6
3000.0	2958.8	1.871	1.599	34.653	27.773	41.279	45.92	3.160	6169.5	1505.38	5.6
3050.0	3007.7	1.864	1.589	34.654	27.775	41.492	45.80	3.183	6298.6	1506.20	5.6
3100.0	3056.6	1.858	1.579	34.656	27.777	41.705	45.68	3.206	6427.7	1507.02	5.6
3150.0	3105.5	1.851	1.569	34.657	27.779	41.918	45.56	3.229	6556.8	1507.84	5.6
3200.0	3154.4	1.845	1.559	34.659	27.782	42.131	45.44	3.251	6685.9	1508.66	5.6
3250.0	3203.3	1.839	1.549	34.661	27.784	42.344	45.32	3.273	6815.0	1509.48	5.6
3300.0	3252.2	1.833	1.538	34.663	27.787	42.557	45.20	3.296	6944.1	1510.30	5.6
3350.0	3301.1	1.827	1.528	34.665	27.789	42.770	45.16	3.318	7073.2	1511.12	5.6
3400.0	3350.0	1.821	1.518	34.665	27.790	42.983	45.10	3.341	7202.3	1511.94	5.6
3450.0	3398.9	1.815	1.508	34.667	27.792	43.196	45.03	3.364	7331.4	1512.76	5.6
3500.0	3447.8	1.809	1.498	34.668	27.793	43.409	44.94	3.386	7460.5	1513.58	5.6
3550.0	3496.7	1.803	1.488	34.668	27.794	43.622	44.86	3.409	7589.6	1514.40	5.6
3600.0	3545.6	1.797	1.478	34.668	27.794	43.835	44.77	3.431	7718.7	1515.22	5.6
3650.0	3594.5	1.791	1.468	34.670	27.797	44.048	44.68	3.454	7847.8	1516.04	5.6
3700.0	3643.4	1.785	1.458	34.671	27.798	44.261	44.59	3.476	7976.9	1516.86	5.6
3750.0	3692.3	1.779	1.448	34.672	27.799	44.474	44.50	3.499	8106.0	1517.68	5.6
3800.0	3741.2	1.773	1.438	34.674	27.802	44.687	44.41	3.521	8235.1	1518.50	5.6
3850.0	3790.1	1.767	1.428	34.674	27.802	44.900	44.32	3.544	8364.2	1519.32	5.6
3900.0	3839.0	1.761	1.418	34.675	27.803	45.113	44.23	3.567	8493.3	1520.14	5.6
3950.0	3887.9	1.755	1.408	34.676	27.805	45.326	44.14	3.589	8622.4	1520.96	5.6
4000.0	3936.8	1.749	1.398	34.677	27.806	45.539	44.05	3.612	8751.5	1521.78	5.6
4050.0	3985.7	1.743	1.388	34.677	27.807	45.752	43.96	3.634	8880.6	1522.60	5.6
4100.0	4034.6	1.737	1.378	34.677	27.808	45.965	43.87	3.657	9009.7	1523.42	5.6
4150.0	4083.5	1.731	1.368	34.678	27.808	46.178	43.78	3.680	9138.8	1524.24	5.6
4200.0	4132.4	1.725	1.358	34.678	27.809	46.391	43.69	3.703	9267.9	1525.06	5.6
4250.0	4181.3	1.719	1.348	34.679	27.810	46.604	43.60	3.725	9397.0	1525.88	5.6
4300.0	4230.2	1.713	1.338	34.679	27.811	46.817	43.51	3.748	9526.1	1526.70	5.6
4350.0	4279.1	1.707	1.328	34.680	27.811	47.030	43.42	3.771	9655.2	1527.52	5.6
4400.0	4328.0	1.701	1.318	34.681	27.812	47.243	43.33	3.794	9784.3	1528.34	5.6
4450.0	4376.9	1.695	1.308	34.681	27.813	47.456	43.24	3.817	9913.4	1529.16	5.6
4500.0	4425.8	1.689	1.298	34.682	27.814	47.669	43.15	3.840	10042.5	1530.00	5.6
4550.0	4474.7	1.683	1.288	34.682	27.815	47.882	43.06	3.863	10171.6	1530.82	5.6
4600.0	4523.6	1.677	1.278	34.683	27.816	48.095	42.97	3.886	10300.7	1531.64	5.6
4650.0	4572.5	1.671	1.268	34.683	27.817	48.308	42.88	3.909	10429.8	1532.46	5.6
4700.0	4621.4	1.665	1.258	34.684	27.818	48.521	42.79	3.932	10558.9	1533.28	5.6
4750.0	4670.3	1.659	1.248	34.684	27.819	48.734	42.70	3.955	10688.0	1534.10	5.6
4800.0	4719.2	1.653	1.238	34.685	27.820	48.947	42.61	3.978	10817.1	1534.92	5.6
4850.0	4768.1	1.647	1.228	34.685	27.821	49.160	42.52	3.999	10946.2	1535.74	5.6
4900.0	4817.0	1.641	1.218	34.685	27.822	49.373	42.43	4.022	11075.3	1536.56	5.6
4950.0	4865.9	1.635	1.208	34.685	27.823	49.586	42.34	4.044	11204.4	1537.38	5.6
5000.0	4914.8	1.629	1.198	34.685	27.824	49.799	42.25	4.067	11333.5	1538.20	5.6
5050.0	4963.7	1.623	1.188	34.686	27.825	50.012	42.16	4.089	11462.6	1539.02	5.6
5100.0	5012.6	1.617	1.178	34.686	27.826	50.225	42.07	4.112	11591.7	1539.84	5.6
5150.0	5061.5	1.611	1.168	34.686	27.827	50.438	41.98	4.134	11720.8	1540.66	5.6
5200.0	5110.4	1.605	1.158	34.686	27.828	50.651	41.89	4.157	11849.9	1541.48	5.6
5250.0	5159.3	1.600	1.148	34.687	27.829	50.864	41.80	4.179	11979.0	1542.30	5.6
5300.0	5208.2	1.594	1.138	34.687	27.830	51.077	41.71	4.202	12108.1	1543.12	5.6
5350.0	5257.1	1.588	1.128	34.688	27.831	51.290	41.62	4.224	12237.2	1543.94	5.6
5400.0	5306.0	1.582	1.118	34.688	27.832	51.503	41.53	4.247	12366.3	1544.76	5.6
5450.0	5354.9	1.576	1.108	34.688	27.833	51.716	41.44	4.269	12495.4	1545.58	5.6
5500.0	5403.8	1.570	1.098	34.688	2						

CTD REPORT RAMA-4 STATION: 12 CAST: 1 DN
 POSITION: 34DEG 30.5MIN N 152DEG 0.2MIN E DATE: 9 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
5800.0	5686.7	1.573	1.026	34.693	27.828	53.561	50.00	4.466	16806.5	1553.76	-0.2
5850.0	5735.1	1.578	1.024	34.692	27.827	53.768	50.28	4.491	17023.3	1554.66	0.1
5900.0	5783.5	1.581	1.020	34.693	27.828	53.976	50.41	4.516	17241.3	1556.55	0.0
5950.0	5831.9	1.586	1.018	34.693	27.829	54.183	50.62	4.541	17460.4	1556.45	0.5

CTD REPORT RAMA-4 STATION: 13 CAST: 1 DN
 POSITION: 36DEG 26.4MIN N 151DEG 4.8MIN E DATE: 10 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY 0/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD=1E6
0.0	0.0	23.812	23.812	34.403	23.272	23.272	462.21	0.000	0.0	1530.80	
1.0	0.9	23.188	23.186	34.344	23.408	23.451	449.61	0.046	0.2	1529.33	175.3
2.0	1.9	22.416	22.412	34.354	23.636	23.722	428.31	0.090	0.9	1527.53	463.2
3.0	2.9	20.325	20.319	34.567	24.371	24.501	358.58	0.130	2.0	1522.36	493.2
4.0	3.9	19.452	19.445	34.645	24.660	24.834	331.37	0.165	3.0	1520.19	238.0
5.0	4.9	18.650	18.641	34.643	24.864	25.082	312.24	0.197	4.0	1518.08	159.4
6.0	5.9	18.056	18.045	34.612	24.990	25.252	300.61	0.228	5.0	1516.49	175.8
7.0	6.9	16.932	16.920	34.565	25.228	25.535	278.25	0.257	6.0	1513.27	247.7
8.0	7.9	15.720	15.707	34.554	25.502	25.854	252.37	0.284	7.0	1509.71	179.8
9.0	8.9	15.372	15.358	34.578	25.599	25.996	243.40	0.309	8.0	1508.82	84.4
10.0	9.9	15.043	15.028	34.582	25.676	26.118	236.38	0.333	9.0	1507.95	66.7
11.0	10.9	14.724	14.707	34.569	25.736	26.223	230.90	0.356	10.0	1507.08	55.6
12.0	11.9	14.464	14.446	34.565	25.790	26.322	226.07	0.379	11.0	1506.41	57.0
13.0	12.9	14.149	14.130	34.559	25.853	26.430	220.30	0.402	12.0	1505.55	60.9
14.0	13.9	13.755	13.735	34.536	25.919	26.541	214.28	0.424	13.0	1504.40	60.0
15.0	14.9	13.423	13.402	34.520	25.976	26.643	209.11	0.445	14.0	1503.46	54.7
16.0	15.9	13.085	13.063	34.501	26.030	26.743	204.12	0.466	15.0	1502.48	56.2
17.0	16.9	12.687	12.664	34.475	26.090	26.849	198.59	0.486	16.0	1501.27	50.9
18.0	17.9	12.421	12.397	34.462	26.133	26.937	194.74	0.505	17.0	1500.52	47.1
19.0	18.9	12.076	12.051	34.443	26.185	27.035	189.91	0.525	18.0	1499.49	46.3
20.0	19.9	11.769	11.743	34.420	26.226	27.122	186.18	0.544	19.0	1498.57	44.6
21.0	20.9	11.410	11.383	34.395	26.273	27.217	181.67	0.562	20.0	1497.46	36.1
22.0	21.9	11.079	11.050	34.361	26.328	27.317	179.61	0.580	21.0	1496.11	23.9
23.0	22.9	10.798	10.766	34.311	26.381	27.421	177.49	0.598	22.0	1495.33	21.7
24.0	23.9	10.518	10.489	34.252	26.439	27.529	175.87	0.616	23.0	1495.32	46.4
25.0	24.9	10.253	10.223	34.178	26.506	27.641	168.82	0.633	24.0	1495.07	33.6
26.0	25.9	10.035	10.005	34.093	26.578	27.757	166.77	0.650	25.0	1494.44	33.4
27.0	26.9	9.770	9.739	34.000	26.653	27.877	162.98	0.666	26.0	1492.58	34.2
28.0	27.9	9.538	9.507	33.896	26.732	27.999	160.50	0.682	27.0	1491.17	32.8
29.0	28.9	9.335	9.302	33.778	26.815	28.122	157.96	0.698	28.0	1491.17	32.8
30.0	29.9	9.155	9.122	33.648	26.901	28.248	154.52	0.714	29.0	1491.52	32.8
31.0	30.9	8.995	8.962	33.505	27.000	28.377	151.96	0.729	30.0	1491.92	18.5
32.0	31.9	8.855	8.822	33.348	27.102	28.509	151.34	0.744	31.0	1490.97	18.3
33.0	32.9	8.735	8.702	33.178	27.207	28.643	148.81	0.759	32.0	1489.94	24.8
34.0	33.9	8.635	8.602	33.000	27.315	28.781	146.88	0.774	33.0	1488.97	
35.0	34.9	8.545	8.512	32.815	27.425	28.921	142.29	0.803	34.0	1487.92	
36.0	35.9	8.465	8.432	32.625	27.537	29.063	140.68	0.817	35.0	1486.14	21.0
37.0	36.9	8.395	8.362	32.430	27.651	29.207	138.47	0.832	36.0	1484.78	13.3
38.0	37.9	8.335	8.302	32.230	27.767	29.353	136.34	0.845	37.0	1483.62	5.3
39.0	38.9	8.285	8.252	32.025	27.884	29.501	133.70	0.859	38.0	1482.75	
40.0	39.9	8.245	8.212	31.815	27.999	29.651	131.27	0.873	39.0	1482.04	11.8
41.0	40.9	8.215	8.182	31.600	28.117	29.803	128.67	0.886	40.0	1481.45	13.0
42.0	41.9	8.195	8.162	31.380	28.235	29.957	126.24	0.899	41.0	1480.97	14.6
43.0	42.9	8.175	8.142	31.155	28.353	30.113	123.95	0.913	42.0	1480.61	27.0
44.0	43.9	8.155	8.122	30.925	28.471	30.271	121.82	0.926	43.0	1480.38	20.0
45.0	44.9	8.135	8.102	30.690	28.589	30.431	119.82	0.939	44.0	1480.25	22.1
46.0	45.9	8.115	8.082	30.450	28.707	30.591	117.95	0.952	45.0	1480.14	16.4
47.0	46.9	8.095	8.062	30.205	28.825	30.751	116.24	0.964	46.0	1480.04	24.8
48.0	47.9	8.075	8.042	29.955	28.943	30.911	114.77	0.976	47.0	1479.97	21.8
49.0	48.9	8.055	8.022	29.700	29.061	31.071	113.43	0.989	48.0	1479.92	15.3
50.0	49.9	8.035	8.002	29.440	29.179	31.231	112.21	1.000	49.0	1479.88	14.8
51.0	50.9	8.015	7.982	29.175	29.297	31.391	111.10	1.012	50.0	1479.85	11.1
52.0	51.9	7.995	7.962	28.905	29.415	31.551	110.07	1.024	51.0	1479.83	18.9
53.0	52.9	7.975	7.942	28.630	29.533	31.711	109.07	1.035	52.0	1479.81	17.1
54.0	53.9	7.955	7.922	28.350	29.651	31.871	108.14	1.047	53.0	1479.80	15.8
55.0	54.9	7.935	7.902	28.065	29.769	32.031	107.29	1.058	54.0	1479.79	14.7
56.0	55.9	7.915	7.882	27.775	29.887	32.191	106.53	1.069	55.0	1479.78	10.4
57.0	56.9	7.895	7.862	27.480	29.999	32.351	105.84	1.080	56.0	1479.77	14.5
58.0	57.9	7.875	7.842	27.180	30.111	32.511	105.21	1.091	57.0	1479.76	
59.0	58.9	7.855	7.822	26.875	30.223	32.671	104.64	1.102	58.0	1479.75	17.8
60.0	59.9	7.835	7.802	26.565	30.335	32.831	104.13	1.112	59.0	1479.74	12.3
61.0	60.9	7.815	7.782	26.250	30.447	32.991	103.67	1.123	60.0	1479.73	8.3
62.0	61.9	7.795	7.762	25.930	30.559	33.151	103.26	1.133	61.0	1479.72	10.3
63.0	62.9	7.775	7.742	25.605	30.671	33.311	102.89	1.143	62.0	1479.71	16.1
64.0	63.9	7.755	7.722	25.275	30.783	33.471	102.56	1.153	63.0	1479.70	12.5
65.0	64.9	7.735	7.702	24.940	30.895	33.631	102.27	1.163	64.0	1479.69	6.7
66.0	65.9	7.715	7.682	24.600	31.007	33.791	102.01	1.173	65.0	1479.68	10.9
67.0	66.9	7.695	7.662	24.255	31.119	33.951	101.78	1.183	66.0	1479.67	14.1
68.0	67.9	7.675	7.642	23.905	31.231	34.111	101.58	1.193	67.0	1479.66	13.3
69.0	68.9	7.655	7.622	23.550	31.343	34.271	101.40	1.203	68.0	1479.65	10.4
70.0	69.9	7.635	7.602	23.190	31.455	34.431	101.24	1.212	69.0	1479.64	8.1
71.0	70.9	7.615	7.582	22.825	31.567	34.591	101.10	1.222	70.0	1479.63	8.9
72.0	71.9	7.595	7.562	22.455	31.679	34.751	101.00	1.231	71.0	1479.62	7.2
73.0	72.9	7.575	7.542	22.080	31.791	34.911	100.92	1.240	72.0	1479.61	10.5
74.0	73.9	7.555	7.522	21.700	31.903	35.071	100.86	1.250	73.0	1479.60	12.8
75.0	74.9	7.535	7.502	21.315	32.015	35.231	100.82	1.259	74.0	1479.59	12.1
76.0	75.9	7.515	7.482	20.925	32.127	35.391	100.79	1.268	75.0	1479.58	10.9
77.0	76.9	7.495	7.462	20.530	32.239	35.551	100.78	1.277	76.0	1479.57	9.0
78.0	77.9	7.475	7.442	20.130	32.351	35.711	100.78	1.286	77.0	1479.56	7.2
79.0	78.9	7.455	7.422	19.725	32.463	35.871	100.79	1.294	78.0	1479.55	9.4
80.0	79.9	7.435	7.402	19.315	32.575	36.031	100.80	1.303	79.0	1479.54	14.5
81.0	80.9	7.415	7.382	18.900	32.687	36.191	100.81	1.312	80.0	1479.53	13.5
82.0	81.9	7.395	7.362	18.480	32.799	36.351	100.82	1.320	81.0	1479.52	9.6
83.0	82.9	7.375	7.342	18.055	32.911	36.511	100.83	1.329	82.0	1479.51	8.5
84.0	83.9	7.355	7.322	17.625	33.023	36.671	100.84	1.337	83.0	1479.50	6.0
85.0	84.9	7.335	7.302	17.190	33.135	36.831	100.85	1.346	84.0	1479.49	5.3
86.0	85.9	7.315	7.282	16.750	33.247	36.991	100.86	1.354	85.0	1479.48	7.7
87.0	86.9	7.295	7.262	16.305	33.359	37.151	100.87	1.362	86.0	1479.47	8.3
88.0	87.9	7.275	7.242	15.855	33.471	37.311	100.88	1.370	87.0	1479.46	5.8
89.0	88.9	7.255	7.222	15.400	33.583	37.471	100.89	1.378	88.0	1479.45	6.0
90.0	89.9	7.235	7.202	14.940	33.695	37.631	100.90	1.385	89.0	1479.44	3.3
91.0	90.9	7.215	7.182	14.475	33.807	37.791	100.91	1.393	90.0	1479.43	5.3
92.0	91.9	7.195	7.162	14.005	33.919	37.951	100.92	1.401	91.0	1479.42	7.7
93.0	92.9	7.175	7.142	13.530	34.031	38.111	100.93	1.409	92.0	1479.41	5.3
94.0	93.9	7.155	7.122	13.050	34.143	38.271	100.94	1.417	93.0	1479.40	6.3
95.0	94.9	7.135	7.102	12.565	34.255	38.431					

CTD REPORT RAMA-4 STATION: 13 CAST 1 DN
 POSITION: 36DEG 26.4MIN N 151DEG 4.8MIN E DATE: 10 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/0	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
980.0	970.6	3.254	3.184	34.387	27.415	31.964	75.72	1.439	879.8	1478.49	5.2
990.0	980.5	3.211	3.141	34.389	27.421	32.017	75.17	1.447	894.0	1478.47	7.1
1000.0	990.4	3.164	3.094	34.392	27.427	32.071	74.49	1.455	908.4	1478.44	7.4
1050.0	1039.8	3.005	3.032	34.410	27.456	32.333	71.75	1.491	981.2	1478.60	6.2
1100.0	1089.2	3.095	3.017	34.450	27.480	32.534	70.11	1.526	1055.7	1479.86	4.8
1150.0	1138.6	3.043	3.062	34.466	27.498	32.832	68.66	1.561	1131.9	1480.48	3.4
1200.0	1188.0	3.771	3.588	34.460	27.509	33.080	67.15	1.595	1209.9	1480.11	3.3
1250.0	1237.3	3.675	3.589	34.460	27.533	33.336	66.97	1.638	1289.4	1480.54	3.0
1300.0	1286.7	3.611	3.522	34.477	27.545	33.588	63.96	1.660	1370.6	1481.10	4.0
1350.0	1336.0	3.521	3.429	34.488	27.561	33.826	62.42	1.692	1453.3	1481.55	0.9
1400.0	1385.4	2.455	2.360	34.499	27.576	34.071	61.14	1.723	1537.5	1482.10	2.6
1450.0	1434.7	2.383	2.285	34.513	27.593	34.319	59.57	1.753	1623.3	1482.63	4.4
1500.0	1484.0	2.338	2.236	34.519	27.602	34.557	58.87	1.783	1710.4	1483.27	0.8

CTD REPORT RAMA-4
POSITION: 36DEG 11.2MIN N

150DEG 60.0MIN E STATION: 14 CAST: 1 DN
DATE: 11 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
0.0	0.0	24.609	24.609	34.504	23.114	23.114	477.31	0.000	0.0	1532.87	
10.0	10.0	24.665	24.663	34.505	23.098	23.141	479.21	0.048	0.0	1533.16	-6.9
20.0	20.0	24.665	24.660	34.505	23.099	23.185	479.60	0.096	0.0	1533.33	242.4
30.0	30.0	22.885	22.878	34.750	23.602	23.730	432.03	0.142	2.1	1531.10	347.8
40.0	40.0	22.885	22.881	34.775	23.821	23.993	411.47	0.184	3.8	1529.53	159.1
50.0	50.0	22.508	22.498	34.777	23.932	24.147	401.37	0.225	5.8	1528.72	149.2
60.0	60.0	21.823	21.813	34.786	24.130	24.389	382.79	0.265	8.2	1527.12	179.0
70.0	70.0	21.223	21.214	34.796	24.303	24.605	366.70	0.302	11.0	1525.72	181.1
80.0	80.0	20.159	20.144	34.852	24.482	24.828	349.96	0.339	14.2	1522.82	192.4
90.0	90.0	19.773	19.756	34.775	24.678	25.068	331.69	0.373	17.7	1522.05	
100.0	99.2	18.819	18.801	34.716	24.879	25.315	312.72	0.405	21.6	1519.46	132.3
110.0	109.1	18.574	18.554	34.727	24.950	25.429	306.31	0.466	25.9	1518.94	105.8
120.0	119.9	17.795	17.774	34.749	25.063	25.586	295.95	0.500	30.0	1518.03	79.0
130.0	129.0	17.487	17.464	34.755	25.168	25.736	286.17	0.535	35.0	1517.01	68.8
140.0	138.8	17.082	17.058	34.731	25.273	25.897	277.38	0.570	40.0	1516.23	60.0
150.0	148.0	16.742	16.715	34.711	25.385	26.067	269.07	0.605	45.0	1515.40	53.0
160.0	157.7	16.458	16.430	34.688	25.490	26.250	261.80	0.640	50.0	1514.61	48.0
170.0	167.6	16.207	16.178	34.679	25.529	26.364	255.56	0.657	55.0	1513.60	44.0
180.0	177.5	15.998	15.967	34.667	25.559	26.439	250.97	0.682	60.0	1512.12	36.7
190.0	187.4	15.825	15.793	34.654	25.589	26.528	247.00	0.707	65.0	1511.46	54.0
200.0	197.3	15.667	15.634	34.635	25.613	26.639	241.01	0.732	70.0	1510.55	66.6
210.0	207.2	15.529	15.495	34.621	25.639	26.754	234.54	0.755	75.0	1509.49	70.7
220.0	217.1	15.400	15.367	34.603	25.666	26.874	227.71	0.779	80.0	1508.26	64.8
230.0	227.0	15.282	15.248	34.587	25.693	26.997	222.41	0.801	85.0	1507.14	56.1
240.0	236.9	15.174	15.140	34.571	25.720	27.128	217.28	0.823	90.0	1506.00	63.9
250.0	246.8	15.076	15.042	34.555	25.747	27.260	210.43	0.845	95.0	1504.75	52.7
260.0	256.7	14.988	14.954	34.539	25.774	27.393	207.50	0.866	100.0	1503.45	40.4
270.0	266.6	14.900	14.866	34.523	25.801	27.526	203.06	0.886	105.0	1503.20	28.9
280.0	276.5	14.825	14.791	34.507	25.828	27.659	202.39	0.907	110.0	1503.24	17.6
290.0	286.4	14.750	14.716	34.491	25.855	27.792	200.19	0.927	115.0	1502.87	40.8
300.0	296.3	14.675	14.641	34.475	25.882	27.925	194.94	0.947	120.0	1501.63	42.3
310.0	306.2	14.600	14.566	34.459	25.909	28.058	192.21	0.966	125.0	1500.96	33.3
320.0	316.1	14.525	14.491	34.443	25.936	28.191	188.59	0.985	130.0	1500.11	33.3
330.0	326.0	14.450	14.416	34.427	25.963	28.324	186.23	1.004	135.0	1500.09	27.9
340.0	335.9	14.375	14.341	34.411	25.990	28.457	183.64	1.022	140.0	1499.58	26.7
350.0	345.8	14.300	14.266	34.395	26.017	28.590	181.52	1.041	145.0	1499.05	29.1
360.0	355.7	14.225	14.191	34.379	26.044	28.723	178.67	1.059	150.0	1498.36	29.9
370.0	365.6	14.150	14.116	34.363	26.071	28.856	176.35	1.077	155.0	1497.85	24.3
380.0	375.5	14.075	14.041	34.347	26.098	28.989	174.40	1.094	160.0	1496.78	23.3
390.0	385.4	14.000	13.966	34.331	26.125	29.122	172.45	1.111	165.0	1496.46	24.9
400.0	395.3	13.925	13.891	34.315	26.152	29.255	169.03	1.129	170.0	1495.99	42.1
410.0	405.2	13.850	13.816	34.299	26.179	29.388	165.99	1.145	175.0	1495.49	2.2
420.0	415.1	13.775	13.741	34.283	26.206	29.521	163.22	1.163	180.0	1494.53	1.1
430.0	425.0	13.700	13.666	34.267	26.233	29.654	160.76	1.180	185.0	1493.27	33.7
440.0	434.9	13.625	13.591	34.251	26.260	29.787	158.16	1.197	190.0	1492.22	33.3
450.0	444.8	13.550	13.516	34.235	26.287	29.920	155.86	1.214	195.0	1491.14	33.3
460.0	454.7	13.475	13.441	34.219	26.314	30.053	153.28	1.231	200.0	1489.61	24.7
470.0	464.6	13.400	13.366	34.203	26.341	30.186	150.77	1.249	205.0	1488.61	
480.0	474.5	13.325	13.291	34.187	26.368	30.319	148.35	1.266	210.0	1487.38	22.9
490.0	484.4	13.250	13.216	34.171	26.395	30.452	146.48	1.283	215.0	1486.96	23.5
500.0	494.3	13.175	13.141	34.155	26.422	30.585	144.38	1.299	220.0	1486.06	24.3
510.0	504.2	13.100	13.066	34.139	26.449	30.718	142.38	1.316	225.0	1485.61	31.1
520.0	514.1	13.025	12.991	34.123	26.476	30.851	140.08	1.332	230.0	1485.32	22.2
530.0	524.0	12.950	12.916	34.107	26.503	30.984	137.57	1.349	235.0	1485.09	18.6
540.0	533.9	12.875	12.841	34.091	26.530	31.117	135.03	1.365	240.0	1484.84	16.6
550.0	543.8	12.800	12.766	34.075	26.557	31.250	132.22	1.381	245.0	1484.52	16.6
560.0	553.7	12.725	12.691	34.059	26.584	31.383	130.08	1.397	250.0	1484.20	18.5
570.0	563.6	12.650	12.616	34.043	26.611	31.516	127.27	1.413	255.0	1483.80	19.4
580.0	573.5	12.575	12.541	34.027	26.638	31.649	124.77	1.429	260.0	1482.08	18.9
590.0	583.4	12.500	12.466	34.011	26.665	31.782	122.32	1.445	265.0	1481.55	18.4
600.0	593.3	12.425	12.391	34.000	26.692	31.915	120.00	1.461	270.0	1481.32	17.4
610.0	603.2	12.350	12.316	33.984	26.719	32.048	117.70	1.477	275.0	1480.46	13.3
620.0	613.1	12.275	12.241	33.968	26.746	32.181	115.43	1.493	280.0	1480.19	13.3
630.0	623.0	12.200	12.166	33.952	26.773	32.314	113.17	1.509	285.0	1479.65	16.6
640.0	632.9	12.125	12.091	33.936	26.800	32.447	110.90	1.525	290.0	1479.52	20.8
650.0	642.8	12.050	12.016	33.920	26.827	32.580	108.63	1.541	295.0	1479.18	11.1
660.0	652.7	11.975	11.941	33.904	26.854	32.713	106.29	1.557	300.0	1478.73	11.9
670.0	662.6	11.900	11.866	33.888	26.881	32.846	103.96	1.573	305.0	1478.88	13.3
680.0	672.5	11.825	11.791	33.872	26.908	32.979	101.60	1.589	310.0	1478.18	14.7
690.0	682.4	11.750	11.716	33.856	26.935	33.112	99.24	1.605	315.0	1477.26	14.4
700.0	692.3	11.675	11.641	33.840	26.962	33.245	96.88	1.621	320.0	1476.34	9.3
710.0	702.2	11.600	11.566	33.824	26.989	33.378	94.52	1.637	325.0	1475.65	17.5
720.0	712.1	11.525	11.491	33.808	27.016	33.511	92.16	1.653	330.0	1475.47	16.7
730.0	722.0	11.450	11.416	33.792	27.043	33.644	89.80	1.669	335.0	1475.83	11.1
740.0	731.9	11.375	11.341	33.776	27.070	33.777	87.44	1.685	340.0	1475.45	15.5
750.0	741.8	11.300	11.266	33.760	27.097	33.910	85.08	1.701	345.0	1475.28	12.8
760.0	751.7	11.225	11.191	33.744	27.124	34.043	82.72	1.717	350.0	1475.36	11.3
770.0	761.6	11.150	11.116	33.728	27.151	34.176	80.36	1.733	355.0	1475.87	14.7
780.0	771.5	11.075	11.041	33.712	27.178	34.309	78.00	1.749	360.0	1475.47	16.9
790.0	781.4	11.000	10.966	33.696	27.205	34.442	75.64	1.765	365.0	1475.37	7.1
800.0	791.3	10.925	10.891	33.680	27.232	34.575	73.28	1.781	370.0	1475.53	3.8
810.0	801.2	10.850	10.816	33.664	27.259	34.708	70.92	1.797	375.0	1475.94	10.4
820.0	811.1	10.775	10.741	33.648	27.286	34.841	68.56	1.813	380.0	1475.01	10.4
830.0	821.0	10.700	10.666	33.632	27.313	34.974	66.20	1.829	385.0	1475.83	11.1
840.0	830.9	10.625	10.591	33.616	27.340	35.107	63.84	1.845	390.0	1475.45	15.5
850.0	840.8	10.550	10.516	33.600	27.367	35.240	61.48	1.861	395.0	1475.28	12.8
860.0	850.7	10.475	10.441	33.584	27.394	35.373	59.12	1.877	400.0	1475.36	11.3
870.0	860.6	10.400	10.366	33.568	27.421	35.506	56.76	1.893	405.0	1475.58	10.9
880.0	870.5	10.325	10.291	33.552	27.448	35.639	54.40	1.909	410.0	1475.49	10.9
890.0	880.4	10.250	10.216	33.536	27.475	35.772	52.04	1.925	415.0	1475.37	10.2
900.0	890.3	10.175	10.141	33.520	27.502	35.905	49.68	1.941	420.0	1475.33	8.5
910.0	900.2	10.100	10.066	33.504	27.529	36.038	47.32	1.957	425.0	1475.29	7.4
920.0	910.1	10.025</									

CTD REPORT RAMA-4 STATION: 14 CAST: 1 DN
 POSITION: 36DEG 11.2MIN N 150DEG 60.0MIN E DATE: 11 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
980.0	970.6	3.449	3.378	34.312	27.338	31.883	83.43	1.780	1102.9	1479.22	10.7
990.0	980.6	3.512	3.440	34.335	27.350	31.936	82.52	1.788	1120.6	1479.68	8.9
1000.0	990.4	3.470	3.397	34.338	27.356	31.992	81.88	1.799	1138.3	1479.67	7.3
1050.0	1039.8	3.324	3.248	34.349	27.379	32.247	79.80	1.837	1228.0	1479.89	5.3
1100.0	1089.2	3.177	3.099	34.375	27.413	32.515	76.57	1.876	1319.7	1480.11	6.0
1150.0	1138.6	3.938	3.858	34.383	27.441	32.779	73.65	1.913	1413.3	1479.92	7.1
1200.0	1188.0	3.903	3.819	34.415	27.470	33.037	71.19	1.950	1508.7	1480.63	4.6
1250.0	1237.3	3.859	3.771	34.434	27.489	33.286	69.59	1.985	1605.8	1481.29	4.2
1300.0	1286.7	3.744	3.654	34.443	27.507	33.536	67.94	2.019	1704.6	1481.63	5.4
1350.0	1336.0	2.665	2.572	34.455	27.523	33.783	66.45	2.053	1805.1	1482.13	4.4
1400.0	1385.4	2.613	2.516	34.469	27.539	34.029	65.11	2.086	1907.2	1482.75	2.7
1450.0	1434.7	2.549	2.449	34.477	27.551	34.271	64.08	2.118	2010.9	1483.30	5.5
1500.0	1484.0	2.472	2.369	34.490	27.568	34.519	62.50	2.150	2116.2	1483.81	3.3
1550.0	1533.3	2.400	2.293	34.501	27.583	34.764	61.12	2.181	2222.9	1484.34	3.8

STATION: 15 CAST: 1 DN
N E DATE: 11 JUL 80

28 JAN 81

CTD REPORT RAMA-4 STATION: 15 CAST: 1 DN
 POSITION: 35DEG 0.8MIN N 151DEG 12.0MIN E DATE: 11 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FL SQD*1E6
980.0	970.6	3.996	3.921	34.226	27.217	31.748	96.08	2.071	1244.2	1481.42	13.5
990.0	980.6	3.937	3.851	34.234	27.229	31.807	94.88	2.080	1264.7	1481.35	13.6
1000.0	990.6	3.868	3.782	34.241	27.241	31.867	93.63	2.090	1285.2	1481.23	11.4
1050.0	1039.8	3.580	3.503	34.277	27.311	32.138	90.10	2.136	1388.7	1481.54	6.6
1100.0	1089.8	3.293	3.219	34.319	27.348	32.401	87.23	2.180	1496.3	1481.74	10.0
1150.0	1138.6	3.015	2.942	34.343	27.380	32.671	85.67	2.223	1605.0	1481.87	6.0
1200.0	1188.0	2.746	2.672	34.364	27.408	32.936	80.08	2.303	1718.8	1482.12	3.5
1250.0	1237.3	2.481	2.407	34.387	27.439	33.196	78.13	2.342	1823.5	1482.46	3.1
1300.0	1286.7	2.215	2.141	34.404	27.461	33.459	75.10	2.379	1943.2	1482.72	3.7
1350.0	1336.0	1.920	1.846	34.418	27.479	33.712	71.51	2.415	2059.6	1483.16	3.7
1400.0	1385.4	1.646	1.572	34.436	27.500	33.960	69.53	2.450	2177.9	1483.69	5.2
1450.0	1434.7	1.374	1.300	34.451	27.520	34.213	67.69	2.485	2297.9	1484.18	5.8
1500.0	1484.0	1.102	1.028	34.468	27.541	34.463	65.73	2.518	2419.6	1484.64	6.4
1550.0	1533.3	0.830	0.756	34.479	27.557	34.714	64.17	2.550	2542.9	1485.12	3.4
1600.0	1582.6	0.552	0.478			34.961			2667.8	1485.56	3.1

16 CAST: 1 DN
DATE: 11 JUL 80

28 JAN 81

CTD REPORT RAMA-4 STATION 16 CAST 1 DN
 POSITION 34DEG 7 9MIN N 151DEG 11 0MIN E DATE 11 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS SQD	FO E6
980 0	970 6	3 689	3 616	34 273	27 284	31 822	89 05	1 853	1144 7	1480 19	8 0	
990 0	980 5	3 651	3 588	34 278	27 292	31 828	88 24	1 852	1163 1	1480 20	8 8	
990 0	990 4	3 621	3 547	34 285	27 300	31 932	87 52	1 851	1181 5	1480 24	7 7	
1000 0	1039 8	3 476	3 399	34 313	27 336	32 201	84 17	1 914	1275 1	1480 49	6 0	
1050 0	1089 2	3 332	3 252	34 338	27 370	32 467	81 04	1 955	1370 6	1480 73	5 3	
1100 0	1138 6	3 162	3 080	34 362	27 405	32 735	77 69	1 955	1468 2	1480 85	5 6	
1150 0	1188 0	3 070	2 984	34 379	27 427	32 989	75 71	2 033	1567 7	1481 30	4 7	
1200 0	1237 3	2 922	2 834	34 406	27 462	33 257	72 37	2 070	1669 0	1481 52	5 4	
1250 0	1286 7	2 825	2 734	34 421	27 482	33 509	70 46	2 106	1772 0	1481 95	6 4	
1300 0	1336 0	2 744	2 650	34 436	27 501	33 759	68 74	2 141	1876 8	1482 44	4 8	
1400 0	1385 4	2 669	2 571	34 450	27 519	34 007	67 14	2 175	1983 3	1482 96	5 9	
1450 0	1434 7	2 576	2 475	34 466	27 540	34 259	65 20	2 208	2091 4	1483 41	4 1	
1500 0	1484 0	2 517	2 413	34 476	27 553	34 502	64 04	2 240	2201 0	1483 99	3 0	

17 CAST 1 DN
DATE 11 JUL 80

36

CTD REPORT RAMA-4 STATION 17 CAST 1 DN
 POSITION 33DEG 47.4MIN N 151DEG 7 0MIN E DATE 11 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
980 0	970 6	3 586	3 514	34 297	27 313	31 854	86 09	1 726	1059 3	1479 78	4 1
990 0	980 5	3 566	3 495	34 302	27 319	31 906	85 59	1 735	1076 4	1479 88	7 1
1000 0	990 4	3 546	3 469	34 310	27 327	31 961	84 78	1 743	1093 5	1479 94	000
1050 0	1039 9	3 505	3 423	34 332	27 366	32 230	81 44	1 785	1180 7	1480 01	000
1100 0	1089 9	3 455	3 366	34 358	27 394	32 493	78 58	1 825	1266 9	1480 38	000
1150 0	1139 8	3 405	3 306	34 374	27 417	32 748	76 48	1 864	1366 1	1480 55	000
1200 0	1189 8	3 355	3 246	34 393	27 445	33 009	73 79	1 901	1466 4	1480 78	000
1250 0	1239 7	3 305	3 186	34 415	27 475	33 272	70 94	1 937	1566 8	1481 24	000
1300 0	1289 6	3 255	3 131	34 431	27 499	33 527	68 80	1 972	1666 2	1481 60	000
1350 0	1339 5	3 205	3 076	34 448	27 519	33 780	66 79	2 006	1743 4	1482 05	3 1
1400 0	1389 4	3 155	3 021	34 465	27 541	34 034	64 66	2 039	1843 2	1482 45	2 1
1450 0	1439 3	3 105	2 966	34 480	27 558	34 282	63 05	2 071	1944 5	1483 00	3 2
1500 0	1489 2	3 055	2 911	34 491	27 573	34 526	61 82	2 102	2047 4	1483 58	3 3
1550 0	1539 1	3 005	2 856	34 501	27 588	34 767	60 82	2 133	2151 8	1484 23	3 4

CTD REPORT RAMA-4
POSITION 330DEG 43.7MIN N

151DEG 59.8MIN E

STATION 18 CAST 1 DN
DATE 12 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
0	0	24.621	24.621	34.383	23.019	23.019	486.37	0.000	0.0	1532.76	
1	1	24.584	24.584	34.425	23.062	23.105	482.68	0.048	0.0	1532.88	38.1
2	2	24.566	24.566	34.464	23.098	23.183	479.76	0.097	1.0	1533.04	171.5
3	3	24.634	23.582	34.526	23.418	23.547	449.54	0.144	2.2	1530.98	837.0
4	4	24.579	18.572	34.581	24.835	25.009	314.69	0.183	3.8	1517.64	842.0
5	5	24.372	17.363	34.626	25.168	25.387	283.28	0.213	5.8	1514.33	274.0
6	6	24.325	16.315	34.608	25.403	25.667	261.14	0.240	8.0	1511.31	162.0
7	7	24.926	15.915	34.619	25.504	25.813	251.83	0.266	10.5	1510.26	93.0
8	8	24.515	15.502	34.617	25.597	25.949	243.34	0.291	13.3	1509.15	83.0
9	9	24.118	15.104	34.604	25.676	26.073	236.08	0.315	16.3	1508.05	68.0
10	10	24.829	14.814	34.601	25.738	26.180	230.48	0.338	19.5	1507.29	63.0
11	11	24.452	14.435	34.584	25.807	26.294	224.15	0.361	23.0	1506.23	70.0
12	12	24.043	14.025	34.567	25.881	26.414	217.29	0.383	26.7	1505.05	63.0
13	13	24.781	13.762	34.537	25.937	26.514	212.26	0.405	30.6	1504.36	59.0
14	14	24.351	13.331	34.537	26.003	26.626	206.16	0.426	34.7	1503.07	53.0
15	15	24.038	13.017	34.537	26.045	26.714	202.36	0.444	39.0	1502.16	41.0
16	16	24.778	12.756	34.499	26.087	26.801	198.61	0.466	43.6	1501.44	36.0
17	17	24.546	12.539	34.476	26.119	26.878	195.83	0.486	48.3	1500.80	32.0
18	18	24.383	12.359	34.464	26.152	26.946	193.87	0.506	53.2	1500.40	32.0
19	19	24.078	12.053	34.443	26.185	27.035	189.95	0.525	58.3	1499.50	32.0
20	20	24.876	11.850	34.422	26.207	27.103	187.99	0.544	63.6	1498.94	24.0
21	21	24.644	11.618	34.400	26.234	27.175	185.63	0.563	69.0	1498.28	20.0
22	22	24.452	11.434	34.383	26.266	27.247	183.33	0.581	75.0	1497.80	17.0
23	23	24.211	11.211	34.366	26.298	27.321	181.00	0.600	81.0	1497.40	15.0
24	24	24.043	11.000	34.350	26.333	27.413	178.66	0.619	87.0	1497.00	13.0
25	25	24.833	10.800	34.333	26.365	27.492	176.33	0.638	93.0	1496.60	11.0
26	26	24.069	10.600	34.317	26.402	27.576	174.00	0.657	99.0	1496.20	9.0
27	27	24.811	10.428	34.300	26.438	27.649	171.73	0.676	105.0	1495.80	7.0
28	28	24.454	10.222	34.283	26.470	27.718	169.44	0.695	111.0	1495.40	5.0
29	29	24.390	10.057	34.266	26.506	27.779	167.18	0.718	117.0	1495.00	3.0
30	30	24.258	9.824	34.249	26.542	27.850	164.94	0.741	123.0	1494.60	1.0
31	31	24.054	9.619	34.232	26.578	27.929	162.71	0.764	129.0	1494.20	0.0
32	32	24.893	9.400	34.215	26.615	28.000	160.48	0.787	135.0	1493.80	0.0
33	33	24.657	9.211	34.198	26.651	28.071	158.25	0.810	141.0	1493.40	0.0
34	34	24.436	9.000	34.181	26.687	28.142	156.02	0.833	147.0	1493.00	0.0
35	35	24.153	8.777	34.164	26.723	28.213	153.79	0.856	153.0	1492.60	0.0
36	36	24.755	8.577	34.147	26.759	28.284	151.56	0.879	159.0	1492.20	0.0
37	37	24.408	8.371	34.130	26.795	28.355	149.33	0.902	165.0	1491.80	0.0
38	38	24.299	8.162	34.113	26.831	28.426	147.10	0.925	171.0	1491.40	0.0
39	39	24.098	7.960	34.096	26.867	28.497	144.87	0.948	177.0	1491.00	0.0
40	40	24.988	7.750	34.079	26.903	28.568	142.64	0.971	183.0	1490.60	0.0
41	41	24.833	7.544	34.062	26.939	28.639	140.41	0.994	189.0	1490.20	0.0
42	42	24.624	7.344	34.045	26.975	28.710	138.18	1.017	195.0	1489.80	0.0
43	43	24.439	7.144	34.028	27.011	28.781	135.95	1.040	201.0	1489.40	0.0
44	44	24.255	6.944	34.011	27.047	28.852	133.72	1.063	207.0	1489.00	0.0
45	45	24.070	6.744	34.000	27.083	28.923	131.49	1.086	213.0	1488.60	0.0
46	46	24.895	6.544	33.983	27.119	29.000	129.26	1.109	219.0	1488.20	0.0
47	47	24.699	6.344	33.966	27.155	29.071	127.03	1.132	225.0	1487.80	0.0
48	48	24.512	6.144	33.949	27.191	29.142	124.80	1.155	231.0	1487.40	0.0
49	49	24.325	5.944	33.932	27.227	29.213	122.57	1.178	237.0	1487.00	0.0
50	50	24.138	5.744	33.915	27.263	29.284	120.34	1.201	243.0	1486.60	0.0
51	51	24.951	5.544	33.898	27.299	29.355	118.11	1.224	249.0	1486.20	0.0
52	52	24.755	5.344	33.881	27.335	29.426	115.88	1.247	255.0	1485.80	0.0
53	53	24.568	5.144	33.864	27.371	29.497	113.65	1.270	261.0	1485.40	0.0
54	54	24.381	4.944	33.847	27.407	29.568	111.42	1.293	267.0	1485.00	0.0
55	55	24.194	4.744	33.830	27.443	29.639	109.19	1.316	273.0	1484.60	0.0
56	56	24.007	4.544	33.813	27.479	29.710	106.96	1.339	279.0	1484.20	0.0
57	57	24.820	4.344	33.796	27.515	29.781	104.73	1.362	285.0	1483.80	0.0
58	58	24.633	4.144	33.779	27.551	29.852	102.50	1.385	291.0	1483.40	0.0
59	59	24.446	3.944	33.762	27.587	29.923	100.27	1.408	297.0	1483.00	0.0
60	60	24.259	3.744	33.745	27.623	29.994	98.04	1.431	303.0	1482.60	0.0
61	61	24.072	3.544	33.728	27.659	30.065	95.81	1.454	309.0	1482.20	0.0
62	62	24.885	3.344	33.711	27.695	30.136	93.58	1.477	315.0	1481.80	0.0
63	63	24.698	3.144	33.694	27.731	30.207	91.35	1.500	321.0	1481.40	0.0
64	64	24.511	2.944	33.677	27.767	30.278	89.12	1.523	327.0	1481.00	0.0
65	65	24.324	2.744	33.660	27.803	30.349	86.89	1.546	333.0	1480.60	0.0
66	66	24.137	2.544	33.643	27.839	30.420	84.66	1.569	339.0	1480.20	0.0
67	67	24.950	2.344	33.626	27.875	30.491	82.43	1.592	345.0	1479.80	0.0
68	68	24.763	2.144	33.609	27.911	30.562	80.20	1.615	351.0	1479.40	0.0
69	69	24.576	1.944	33.592	27.947	30.633	77.97	1.638	357.0	1479.00	0.0
70	70	24.389	1.744	33.575	27.983	30.704	75.74	1.661	363.0	1478.60	0.0
71	71	24.202	1.544	33.558	28.019	30.775	73.51	1.684	369.0	1478.20	0.0
72	72	24.015	1.344	33.541	28.055	30.846	71.28	1.707	375.0	1477.80	0.0
73	73	24.828	1.144	33.524	28.091	30.917	69.05	1.730	381.0	1477.40	0.0
74	74	24.641	0.944	33.507	28.127	30.988	66.82	1.753	387.0	1477.00	0.0
75	75	24.454	0.744	33.490	28.163	31.059	64.59	1.776	393.0	1476.60	0.0
76	76	24.267	0.544	33.473	28.199	31.130	62.36	1.799	400.0	1476.20	0.0
77	77	24.080	0.344	33.456	28.235	31.201	60.13	1.822	406.0	1475.80	0.0
78	78	24.893	0.144	33.439	28.271	31.272	57.90	1.845	412.0	1475.40	0.0
79	79	24.706	0.000	33.422	28.307	31.343	55.67	1.868	418.0	1475.00	0.0
80	80	24.519	0.000	33.405	28.343	31.414	53.44	1.891	424.0	1474.60	0.0
81	81	24.332	0.000	33.388	28.379	31.485	51.21	1.914	430.0	1474.20	0.0
82	82	24.145	0.000	33.371	28.415	31.556	48.98	1.937	436.0	1473.80	0.0
83	83	24.958	0.000	33.354	28.451	31.627	46.75	1.960	442.0	1473.40	0.0
84	84	24.771	0.000	33.337	28.487	31.698	44.52	1.983	448.0	1473.00	0.0
85	85	24.584	0.000	33.320	28.523	31.769	42.29	2.006	454.0	1472.60	0.0
86	86	24.397	0.000	33.303	28.559	31.840	40.06	2.029	460.0	1472.20	0.0
87	87	24.210	0.000	33.286	28.595	31.911	37.83	2.052	466.0	1471.80	0.0
88	88	24.023	0.000	33.269	28.631	31.982	35.60	2.075	472.0	1471.40	0.0
89	89	24.836	0.000	33.252	28.667	32.053	33.37	2.098	478.0	1471.00	0.0
90	90	24.649	0.000	33.235	28.703	32.124	31.14	2.121	484.0	1470.60	0.0
91	91	24.462	0.000	33.218	28.739	32.195	28.91	2.144	490.0	1470.20	0.0
92	92	24.275	0.000	33.201	28.775	32.266	26.68	2.167	496.0	1469.80	0.0
93	93	24.088	0.000	33.184	28.811	32.337	24.45	2.190	502.0	1469.40	0.0
94	94	24.901	0.000	33.167	28.847	32.408	22.22	2.213	508.0	1469.00	0.0
95	95	24.714	0.000	33.150	28.883	32.479	19.99	2.236	514.0	1468.60	0.0
96	96	24.527	0.000	33.133	28.919	32.550	17.76	2.259	520.0	1468.20	0.0
97	97	24.340	0.000	33.116	28.955						

CTD REPORT RAMA-4 STATION: 18 CAST: 1 DN
 POSITION: 33DEG 43.7MIN N 151DEG 59.8MIN E DATE: 12 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SOD+1E6
980.0	970.6	22.2	22.2	34.331	27.367	31.916	80.29	1.484	898.4	1478.58	4.6
990.0	980.0	22.2	22.2	34.336	27.374	31.970	79.58	1.492	913.1	1478.60	4.6
1000.0	990.0	22.3	22.3	34.343	27.383	32.025	78.77	1.500	927.9	1478.63	4.6
1050.0	1039.8	22.3	22.3	34.359	27.404	32.278	76.89	1.539	1003.0	1479.66	4.6
1100.0	1089.9	22.3	22.3	34.379	27.430	32.536	74.57	1.576	1075.9	1479.66	4.6
1150.0	1138.9	22.2	22.2	34.401	27.459	32.797	71.91	1.613	1156.7	1479.70	4.6
1200.0	1188.0	22.2	22.2	34.416	27.477	33.046	70.31	1.649	1233.9	1480.32	4.6
1250.0	1237.3	22.2	22.2	34.430	27.494	33.295	68.81	1.683	1312.5	1480.86	4.6
1300.0	1286.7	22.2	22.2	34.444	27.512	33.544	67.20	1.717	1405.4	1481.37	4.6
1350.0	1336.0	22.2	22.2	34.460	27.534	33.797	65.20	1.750	1491.0	1481.79	4.6
1400.0	1385.4	22.2	22.2	34.475	27.552	34.046	63.51	1.783	1578.1	1482.31	4.6
1450.0	1434.7	22.2	22.2	34.486	27.567	34.291	62.22	1.814	1666.8	1482.86	4.6
1500.0	1484.0	22.2	22.2	34.500	27.583	34.538	60.69	1.845	1757.1	1483.41	4.6
1550.0	1533.3	22.2	22.2	34.510	27.595	34.780	59.65	1.875	1848.8	1484.04	4.6
1600.0	1582.6	22.2	22.2	34.520	27.608	35.021	58.60	1.905	1941.4	1484.67	4.6
1650.0	1631.9	22.2	22.2	34.527	27.616	35.258	57.97	1.934	2036.5	1485.38	4.6
1700.0	1681.1	22.2	22.2	34.537	27.628	35.499	56.86	1.963	2132.5	1485.99	4.6
1750.0	1730.0	22.2	22.2	34.545	27.638	35.738	56.04	1.991	2229.9	1486.66	4.6
1800.0	1779.9	22.2	22.2	34.551	27.645	35.973	55.47	2.019	2328.7	1487.37	4.6
1850.0	1829.0	22.2	22.2	34.559	27.655	36.211	54.62	2.046	2428.7	1488.03	4.6
1900.0	1878.2	22.2	22.2	34.565	27.663	36.447	53.94	2.073	2530.1	1488.71	4.6
1950.0	1927.7	22.2	22.2	34.573	27.673	36.684	53.11	2.100	2632.8	1489.38	4.6
2000.0	1976.6	22.2	22.2	34.580	27.682	36.921	52.30	2.126	2736.8	1490.04	4.6
2050.0	2025.9	22.2	22.2	34.588	27.688	37.154	51.78	2.152	2842.1	1490.76	4.6
2100.0	2075.9	22.2	22.2	34.599	27.695	37.388	51.25	2.178	2948.6	1491.50	4.6
2150.0	2124.4	22.2	22.2	34.608	27.704	37.622	50.38	2.204	3056.6	1492.24	4.6
2200.0	2173.3	22.2	22.2	34.616	27.710	37.856	49.96	2.229	3165.5	1492.91	4.6
2250.0	2222.2	22.2	22.2	34.619	27.717	38.090	49.00	2.254	3275.0	1493.60	4.6
2300.0	2271.1	22.2	22.2	34.612	27.721	38.324	48.04	2.278	3385.6	1494.36	4.6
2350.0	2320.0	22.2	22.2	34.617	27.728	38.552	48.45	2.303	3499.4	1495.08	4.6
2400.0	2370.0	22.2	22.2	34.621	27.733	38.783	48.04	2.327	3613.1	1495.82	4.6
2450.0	2419.0	22.2	22.2	34.624	27.737	39.011	47.83	2.351	3728.5	1496.58	4.6
2500.0	2468.2	22.2	22.2	34.626	27.739	39.237	47.78	2.375	3844.2	1497.34	4.6
2550.0	2517.3	22.2	22.2	34.631	27.746	39.469	47.16	2.398	3961.2	1498.14	4.6
2600.0	2566.6	22.2	22.2	34.635	27.750	39.698	46.80	2.422	4079.5	1498.91	4.6
2650.0	2615.5	22.2	22.2	34.638	27.752	39.922	46.81	2.445	4198.1	1499.72	4.6
2700.0	2664.4	22.2	22.2	34.638	27.755	40.149	46.66	2.469	4319.9	1500.52	4.6
2750.0	2713.3	22.2	22.2	34.641	27.758	40.376	46.42	2.492	4444.1	1501.31	4.6
2800.0	2762.2	22.2	22.2	34.643	27.761	40.601	46.29	2.515	4564.4	1502.11	4.6
2850.0	2811.1	22.2	22.2	34.646	27.765	40.828	46.97	2.538	4687.6	1502.98	4.6
2900.0	2860.0	22.2	22.2	34.649	27.769	41.055	46.65	2.561	4812.8	1503.84	4.6
2950.0	2909.0	22.2	22.2	34.651	27.772	41.281	46.45	2.584	4938.8	1504.73	4.6
3000.0	2958.8	22.2	22.2	34.653	27.774	41.504	46.37	2.606	5066.1	1505.66	4.6
3050.0	3007.7	22.2	22.2	34.656	27.778	41.731	46.06	2.629	5194.3	1506.64	4.6
3100.0	3056.6	22.2	22.2	34.657	27.780	41.954	45.00	2.652	5323.7	1507.65	4.6
3150.0	3105.5	22.2	22.2	34.660	27.783	42.178	44.82	2.674	5454.4	1508.67	4.6
3200.0	3154.4	22.2	22.2	34.661	27.785	42.400	44.80	2.696	5585.5	1509.68	4.6
3250.0	3203.3	22.2	22.2	34.662	27.786	42.622	44.78	2.719	5718.1	1510.71	4.6
3300.0	3252.2	22.2	22.2	34.663	27.788	42.844	44.78	2.741	5851.7	1511.75	4.6
3350.0	3301.1	22.2	22.2	34.666	27.791	43.067	44.56	2.763	5986.4	1512.80	4.6
3400.0	3350.0	22.2	22.2	34.666	27.792	43.288	44.64	2.786	6122.2	1513.88	4.6
3450.0	3399.0	22.2	22.2	34.667	27.793	43.508	44.67	2.808	6259.5	1514.98	4.6
3500.0	3448.8	22.2	22.2	34.668	27.794	43.728	44.69	2.830	6398.1	1516.10	4.6
3550.0	3498.7	22.2	22.2	34.669	27.795	43.949	44.67	2.853	6538.0	1517.24	4.6
3600.0	3548.6	22.2	22.2	34.670	27.797	44.169	44.67	2.875	6679.1	1518.40	4.6
3650.0	3598.5	22.2	22.2	34.671	27.797	44.389	44.69	2.897	6821.4	1519.58	4.6
3700.0	3648.4	22.2	22.2	34.672	27.798	44.609	44.70	2.920	6964.9	1520.77	4.6
3750.0	3698.3	22.2	22.2	34.673	27.798	44.829	44.70	2.942	7109.6	1521.98	4.6
3800.0	3748.2	22.2	22.2	34.675	27.802	45.049	44.73	2.964	7255.5	1523.20	4.6
3850.0	3798.0	22.2	22.2	34.675	27.804	45.264	44.81	2.987	7399.4	1524.42	4.6
3900.0	3847.9	22.2	22.2	34.675	27.805	45.482	44.87	3.009	7537.9	1525.67	4.6
3950.0	3897.7	22.2	22.2	34.676	27.806	45.700	44.93	3.032	7688.3	1526.93	4.6
4000.0	3947.6	22.2	22.2	34.677	27.807	45.918	44.94	3.054	7839.3	1528.21	4.6
4050.0	3997.5	22.2	22.2	34.678	27.808	46.135	45.00	3.077	7990.8	1529.51	4.6
4100.0	4047.4	22.2	22.2	34.678	27.809	46.351	45.13	3.099	8143.9	1530.83	4.6
4150.0	4097.3	22.2	22.2	34.679	27.810	46.568	45.22	3.122	8298.5	1532.16	4.6
4200.0	4147.2	22.2	22.2	34.680	27.811	46.785	45.24	3.144	8453.6	1533.51	4.6
4250.0	4197.1	22.2	22.2	34.679	27.810	46.999	45.48	3.167	8609.2	1534.88	4.6
4300.0	4247.0	22.2	22.2	34.681	27.812	47.216	45.44	3.190	8764.4	1536.27	4.6
4350.0	4296.9	22.2	22.2	34.680	27.812	47.430	45.67	3.212	8903.0	1537.68	4.6
4400.0	4346.8	22.2	22.2	34.682	27.814	47.646	45.69	3.235	9060.0	1539.11	4.6
4450.0	4396.7	22.2	22.2	34.682	27.814	47.860	45.86	3.258	9218.1	1540.56	4.6
4500.0	4446.6	22.2	22.2	34.683	27.815	48.076	45.90	3.281	9377.3	1542.03	4.6
4550.0	4496.5	22.2	22.2	34.684	27.816	48.290	45.98	3.304	9537.6	1543.51	4.6
4600.0	4546.4	22.2	22.2	34.683	27.816	48.503	46.23	3.327	9699.1	1545.01	4.6
4650.0	4596.3	22.2	22.2	34.684	27.817	48.717	46.35	3.350	9861.4	1546.53	4.6
4700.0	4646.2	22.2	22.2	34.685	27.818	48.931	46.42	3.373	10025.0	1548.07	4.6
4750.0	4696.1	22.2	22.2	34.685	27.818	49.143	46.60	3.397	10189.6	1549.63	4.6
4800.0	4746.0	22.2	22.2	34.685	27.818	49.356	46.75	3.420	10355.5	1551.21	4.6
4850.0	4795.9	22.2	22.2	34.686	27.819	49.569	46.85	3.443	10522.2	1552.81	4.6
4900.0	4845.8	22.2	22.2	34.685	27.819	49.781	47.09	3.467	10690.0	1554.43	4.6
4950.0	4895.7	22.2	22.2	34.685	27.820	49.993	47.18	3.490	10858.8	1556.07	4.6
5000.0	4945.6	22.2	22.2	34.685	27.821	50.205	47.30	3.514	11029.4	1557.73	4.6
5050.0	4995.5	22.2	22.2	34.685	27.821	50.417	47.47	3.538	11200.0	1559.41	4.6
5100.0	5045.4	22.2	22.2	34.685	27.821	50.629	47.65	3.561	11371.5	1561.11	4.6
5150.0	5095.3	22.2	22.2	34.685	27.821	50.841	47.77	3.585	11543.0	1562.83	4.6
5200.0	5145.2	22.2	22.2	34.685	27.821	51.053	47.98	3.609	11714.5	1564.57	4.6
5250.0	5195.1	22.2	22.2	34.685	27.821	51.265	48.10	3.633	11886.0	1566.33	4.6
5300.0	5245.0	22.2	22.2	34.685	27.821	51.477	48.30	3.657	12057.5	1568.11	4.6
5350.0	5294.9	22.2	22.2	34.685	27.821	51.689	48.53	3.682	12229.0	1569.91	4.6
5400.0	5344.8	22.2	22.2	34.685	27.821	51.901	48.73	3.706	12400.5	1571.73	4.6
5450.0	5394.7	22.2	22.2	34.685	27.821	52.113	48.95	3.730	12572.0	1573.57	4.6
5500.0	5444.6	22.2	22.2	34.685	27.821	52.325	49.16	3.754	12743.5	1575.43	4.6
5550.0	5494.5	22.2	22.2	34.685	27.821	52.537	49.34	3.778	12915.0	157	

CTD REPORT RAMA-4 STATION: 18 CAST 1 ON
 POSITION: 33DEG 43.7MIN N 151DEG 59.8MIN E DATE: 12 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
5800.0	5686.7	1.584	1.037	34.691	27.826	53.557	50.34	3.904	13905.9	1553.81	-0.1
5850.0	5735.1	1.589	1.035	34.691	27.826	53.764	50.57	3.929	14095.5	1554.70	0.2
5900.0	5783.5	1.594	1.033	34.692	27.827	53.972	50.72	3.955	14286.3	1555.60	

CTD REPORT RAMA-4 STATION 19 CAST 1 DN
 POSITION 33DEG 11.5MIN N 151DEG 59.2MIN E DATE 12 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
0.0	0.0	24.246	24.246	34.344	23.100	23.100	478.60	0.000	0.0	1531.81	
10.0	10.0	24.244	24.242	34.321	23.084	23.127	480.58	0.048	0.0	1531.94	-6.0
20.0	20.0	24.235	24.231	34.321	23.087	23.173	480.71	0.096	0.0	1532.08	11.7
30.0	30.0	24.198	24.191	34.333	23.108	23.236	479.19	0.144	2.1	1532.16	516.0
40.0	40.0	20.974	20.966	34.516	24.158	24.331	379.25	0.191	3.8	1524.23	835.5
50.0	50.0	18.296	18.287	34.497	24.842	25.060	314.35	0.227	8.3	1516.89	550.2
60.0	60.0	16.604	16.594	34.557	25.299	25.562	271.09	0.257	8.3	1512.10	322.8
70.0	70.0	15.587	15.576	34.526	25.510	25.819	251.23	0.283	11.0	1509.10	166.5
80.0	80.0	15.032	15.020	34.537	25.643	25.997	238.86	0.307	13.9	1507.53	154.1
90.0	89.3	14.185	14.172	34.538	25.828	26.227	221.47	0.330	17.1	1504.99	148.7
100.0	99.2	13.499	13.485	34.508	25.949	26.394	210.15	0.352	20.5	1502.88	152.1
110.0	109.1	12.274	12.259	34.437	26.140	26.632	192.06	0.373	24.0	1498.85	134.7
120.0	119.1	11.686	11.670	34.401	26.225	26.763	184.15	0.391	27.8	1496.95	77.0
130.0	129.0	11.081	11.065	34.349	26.297	26.882	177.43	0.409	31.8	1494.95	53.7
140.0	138.9	10.705	10.688	34.309	26.333	26.964	174.09	0.427	36.0	1493.74	36.8
150.0	148.8	10.446	10.428	34.296	26.389	27.046	170.86	0.444	40.3	1492.96	27.0
160.0	158.7	10.228	10.209	34.273	26.389	27.112	169.12	0.461	44.8	1492.22	22.2
170.0	168.7	9.895	9.875	34.231	26.414	27.183	166.90	0.478	49.4	1491.23	34.5
180.0	178.5	9.562	9.541	34.216	26.458	27.273	162.82	0.495	54.2	1490.16	27.5
190.0	188.3	9.371	9.350	34.189	26.468	27.330	161.96	0.511	59.2	1489.59	15.0
200.0	198.4	9.141	9.119	34.165	26.487	27.395	160.30	0.527	64.4	1488.88	24.8
210.0	208.3	8.819	8.796	34.138	26.517	27.472	157.51	0.543	69.7	1487.82	16.9
220.0	218.2	8.468	8.444	34.131	26.542	27.543	155.27	0.559	75.1	1487.00	13.5
230.0	228.2	8.290	8.265	34.110	26.550	27.597	154.61	0.574	80.8	1486.28	16.3
240.0	238.1	8.176	8.150	34.094	26.582	27.662	153.03	0.590	86.5	1486.00	16.9
250.0	248.0	7.942	7.915	34.073	26.600	27.722	151.81	0.605	92.5	1485.25	17.2
260.0	257.9	7.732	7.705	34.052	26.615	27.787	150.11	0.620	98.5	1484.55	21.0
270.0	267.8	7.474	7.446	34.038	26.641	27.848	148.82	0.635	104.7	1483.75	21.4
280.0	277.7	7.305	7.277	34.027	26.656	27.922	146.37	0.650	111.1	1483.24	16.9
290.0	287.6	7.148	7.119	34.021	26.673	27.984	144.98	0.664	117.6	1482.79	21.8
300.0	297.6	6.904	6.875	34.010	26.698	28.048	143.41	0.679	124.3	1482.19	18.7
310.0	307.5	6.753	6.723	33.998	26.709	28.120	141.05	0.693	131.0	1481.99	17.7
320.0	317.4	6.555	6.525	33.994	26.732	28.178	140.07	0.707	138.0	1481.55	24.2
330.0	327.3	6.372	6.341	33.994	26.756	28.248	137.89	0.721	145.1	1480.93	17.9
340.0	337.2	6.235	6.203	33.990	26.766	28.320	135.64	0.735	151.3	1480.37	13.6
350.0	347.1	6.121	6.089	33.984	26.776	28.377	134.69	0.748	157.7	1480.10	10.8
360.0	357.0	6.049	6.016	33.988	26.792	28.433	133.84	0.762	167.1	1479.81	12.2
370.0	366.9	5.973	5.939	33.992	26.801	28.496	132.35	0.775	174.7	1479.56	15.8
380.0	376.8	5.906	5.872	33.992	26.824	28.551	131.63	0.788	182.5	1479.56	14.1
390.0	386.7	5.839	5.805	34.024	26.824	28.620	129.59	0.801	190.4	1479.83	14.1
400.0	396.6	5.772	5.738	34.035	26.830	28.672	129.15	0.814	198.4	1480.09	14.1
410.0	406.5	5.711	5.677	34.027	26.851	28.741	127.17	0.827	206.5	1479.37	14.1
420.0	416.4	5.650	5.616	34.030	26.858	28.819	125.34	0.840	214.6	1477.62	14.1
430.0	426.3	5.594	5.559	34.030	26.868	28.898	123.54	0.853	222.7	1476.68	14.1
440.0	436.2	5.543	5.508	34.030	26.879	28.977	121.77	0.866	230.8	1476.37	14.1
450.0	446.1	5.496	5.461	34.030	26.890	29.056	120.03	0.879	238.9	1476.37	14.1
460.0	456.0	5.453	5.418	34.030	26.901	29.135	118.35	0.892	247.0	1476.37	14.1
470.0	465.9	5.414	5.379	34.030	26.912	29.214	116.70	0.905	255.1	1476.37	14.1
480.0	475.8	5.379	5.344	34.030	26.923	29.293	115.08	0.918	263.2	1476.37	14.1
490.0	485.7	5.344	5.309	34.030	26.934	29.372	113.49	0.931	271.3	1476.37	14.1
500.0	495.6	5.310	5.275	34.030	26.945	29.451	111.94	0.944	279.4	1476.37	14.1
510.0	505.5	5.275	5.240	34.030	26.956	29.530	110.42	0.957	287.5	1476.37	14.1
520.0	515.4	5.240	5.205	34.030	26.967	29.609	108.94	0.970	295.6	1476.37	14.1
530.0	525.3	5.205	5.170	34.030	26.978	29.688	107.49	0.983	303.7	1476.37	14.1
540.0	535.2	5.170	5.135	34.030	26.989	29.767	106.07	0.996	311.8	1476.37	14.1
550.0	545.1	5.135	5.100	34.030	26.999	29.846	104.68	1.009	319.9	1476.37	14.1
560.0	555.0	5.100	5.065	34.030	27.010	29.925	103.32	1.022	328.0	1476.37	14.1
570.0	564.9	5.065	5.030	34.030	27.021	30.004	101.99	1.035	336.1	1476.37	14.1
580.0	574.8	5.030	4.995	34.030	27.032	30.083	100.69	1.048	344.2	1476.37	14.1
590.0	584.7	5.000	4.965	34.030	27.043	30.162	99.42	1.061	352.3	1476.37	14.1
600.0	594.6	4.965	4.930	34.030	27.054	30.241	98.18	1.074	360.4	1476.37	14.1
610.0	604.5	4.930	4.895	34.030	27.065	30.320	96.97	1.087	368.5	1476.37	14.1
620.0	614.4	4.895	4.860	34.030	27.076	30.399	95.79	1.100	376.6	1476.37	14.1
630.0	624.3	4.860	4.825	34.030	27.087	30.478	94.64	1.113	384.7	1476.37	14.1
640.0	634.2	4.825	4.790	34.030	27.098	30.557	93.51	1.126	392.8	1476.37	14.1
650.0	644.1	4.790	4.755	34.030	27.109	30.636	92.40	1.139	400.9	1476.37	14.1
660.0	654.0	4.755	4.720	34.030	27.120	30.715	91.31	1.152	409.0	1476.37	14.1
670.0	663.9	4.720	4.685	34.030	27.131	30.794	90.24	1.165	417.1	1476.37	14.1
680.0	673.8	4.685	4.650	34.030	27.142	30.873	89.19	1.178	425.2	1476.37	14.1
690.0	683.7	4.650	4.615	34.030	27.153	30.952	88.16	1.191	433.3	1476.37	14.1
700.0	693.6	4.615	4.580	34.030	27.164	31.031	87.15	1.204	441.4	1476.37	14.1
710.0	703.5	4.580	4.545	34.030	27.175	31.110	86.16	1.217	449.5	1476.37	14.1
720.0	713.4	4.545	4.510	34.030	27.186	31.189	85.18	1.230	457.6	1476.37	14.1
730.0	723.3	4.510	4.475	34.030	27.197	31.268	84.22	1.243	465.7	1476.37	14.1
740.0	733.2	4.475	4.440	34.030	27.208	31.347	83.27	1.256	473.8	1476.37	14.1
750.0	743.1	4.440	4.405	34.030	27.219	31.426	82.33	1.269	481.9	1476.37	14.1
760.0	753.0	4.405	4.370	34.030	27.230	31.505	81.40	1.282	490.0	1476.37	14.1
770.0	762.9	4.370	4.335	34.030	27.241	31.584	80.48	1.295	498.1	1476.37	14.1
780.0	772.8	4.335	4.300	34.030	27.252	31.663	79.57	1.308	506.2	1476.37	14.1
790.0	782.7	4.300	4.265	34.030	27.263	31.742	78.67	1.321	514.3	1476.37	14.1
800.0	792.6	4.265	4.230	34.030	27.274	31.821	77.78	1.334	522.4	1476.37	14.1
810.0	802.5	4.230	4.195	34.030	27.285	31.900	76.90	1.347	530.5	1476.37	14.1
820.0	812.4	4.195	4.160	34.030	27.296	31.979	76.03	1.360	538.6	1476.37	14.1
830.0	822.3	4.160	4.125	34.030	27.307	32.058	75.17	1.373	546.7	1476.37	14.1
840.0	832.2	4.125	4.090	34.030	27.318	32.137	74.32	1.386	554.8	1476.37	14.1
850.0	842.1	4.090	4.055	34.030	27.329	32.216	73.48	1.399	562.9	1476.37	14.1
860.0	852.0	4.055	4.020	34.030	27.340	32.295	72.64	1.412	571.0	1476.37	14.1
870.0	861.9	4.020	3.985	34.030	27.351	32.374	71.81	1.425	579.1	1476.37	14.1
880.0	871.8	3.985	3.950	34.030	27.362	32.453	70.99	1.438	587.2	1476.37	14.1
890.0	881.7	3.950	3.915	34.030	27.373	32.532	70.18	1.451	595.3	1476.37	14.1
900.0	891.6	3.915	3.880	34.030	27.384	32.611	69.38	1.464	603.4	1476.37	14.1
910.0	901.5	3.880	3.845	34.030	27.395	32.690	68.59	1.477	611.5	1476.37	14.1
920.0	911.4	3.845	3.810	34.030	27.406	32.769	67.80	1.490	619.6	1476.37	14.1
930.0	921.3	3.810	3.775	34.030	27.417	32.848	67.02				

CTD REPORT RAMA-4
POSITION: 33DEG 11.5MIN N

151DEG 59.2MIN E

STATION

DATE 19 CAST 1 ON
12 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
980.0	970.6	3.221	3.152	34.349	27.388	31.938	78.17	1.390	845.6	1478.30	6.4
990.0	980.5	3.192	3.122	34.354	27.395	31.992	77.55	1.398	859.4	1478.35	5.2
1000.0	990.4	3.179	3.108	34.356	27.397	32.041	77.32	1.406	873.2	1478.46	4.4
1050.0	1039.8	3.077	3.003	34.376	27.423	32.298	75.05	1.444	943.7	1478.86	0.8
1100.0	1089.2	2.955	2.878	34.397	27.450	32.558	72.48	1.481	1015.9	1479.19	0.8
1150.0	1138.6	2.873	2.793	34.415	27.472	32.812	70.55	1.517	1090.0	1479.68	0.9
1200.0	1188.0	2.742	2.660	34.435	27.500	33.072	67.94	1.552	1165.7	1479.96	1.1
1250.0	1237.3	2.659	2.574	34.448	27.517	33.324	66.35	1.585	1243.2	1480.44	1.1
1300.0	1286.7	2.585	2.496	34.460	27.533	33.568	64.92	1.618	1321.2	1480.96	4.5
1350.0	1336.0	2.511	2.419	34.471	27.548	33.814	63.56	1.650	1402.9	1481.48	4.1
1400.0	1385.4	2.456	2.361	34.482	27.562	34.058	62.39	1.682	1485.1	1482.08	4.3
1450.0	1434.7	2.384	2.286	34.496	27.579	34.306	60.83	1.713	1568.8	1482.61	2.2
1500.0	1484.0	2.327	2.225	34.508	27.594	34.550	59.56	1.743	1658.0	1483.16	0.9
1550.0	1533.3	2.286	2.181	34.517	27.604	34.790	58.65	1.772	1740.6	1483.67	2.3
1600.0	1582.6	2.237	2.128	34.526	27.616	35.031	57.67	1.801	1828.7	1484.49	3.7
1650.0	1631.9	2.179	2.067	34.537	27.629	35.274	56.45	1.830	1915.2	1485.08	2.5
1700.0	1681.2	2.121	2.006	34.548	27.643	35.517	55.19	1.858	2009.0	1485.67	0.6
1750.0	1730.5	2.086	1.967	34.555	27.651	35.754	54.49	1.885	2101.2	1486.36	1.6
1800.0	1779.7	2.043	1.921	34.562	27.660	35.992	53.69	1.912	2194.7	1487.01	2.9
1850.0	1829.0	2.006	1.880	34.569	27.669	36.229	52.94	1.939	2289.6	1487.69	1.6
1900.0	1878.2	1.969	1.840	34.576	27.678	36.466	52.20	1.965	2385.7	1488.37	1.5
1950.0	1927.4	1.932	1.799	34.585	27.688	36.704	51.32	1.991	2483.0	1489.06	1.2
2000.0	1976.6	1.904	1.767	34.590	27.694	36.937	50.81	2.016	2581.6	1489.77	0.6
2050.0	2025.8	1.876	1.735	34.595	27.701	37.171	50.29	2.042	2681.5	1490.49	2.9
2100.0	2075.0	1.840	1.696	34.600	27.708	37.405	49.69	2.067	2782.5	1491.18	1.8
2150.0	2124.2	1.823	1.675	34.603	27.711	37.635	49.44	2.091	2884.8	1491.94	0.9
2200.0	2173.4	1.798	1.646	34.609	27.718	37.868	48.89	2.116	2988.2	1492.68	1.3
2250.0	2222.6	1.766	1.610	34.615	27.726	38.102	48.23	2.140	3092.8	1493.39	2.4
2300.0	2271.7	1.750	1.590	34.618	27.730	38.331	47.98	2.164	3198.6	1494.16	0.4
2350.0	2320.9	1.730	1.566	34.621	27.734	38.561	47.68	2.188	3305.6	1494.91	1.1
2400.0	2370.0	1.707	1.539	34.626	27.740	38.792	47.21	2.212	3413.6	1495.66	0.6
2450.0	2419.1	1.687	1.515	34.629	27.744	39.021	46.91	2.236	3522.9	1496.42	2.0
2500.0	2468.2	1.664	1.488	34.632	27.748	39.250	46.55	2.259	3633.3	1497.16	1.8
2550.0	2517.4	1.652	1.472	34.635	27.752	39.478	46.34	2.282	3744.7	1497.96	0.5
2600.0	2566.6	1.640	1.455	34.638	27.755	39.705	46.12	2.305	3857.3	1498.75	1.3
2650.0	2615.8	1.630	1.441	34.640	27.758	39.931	45.91	2.328	3971.0	1499.56	0.0
2700.0	2664.9	1.607	1.414	34.645	27.763	40.160	45.56	2.351	4085.8	1500.31	0.0
2750.0	2714.1	1.597	1.399	34.648	27.765	40.385	45.33	2.374	4201.7	1501.11	1.1
2800.0	2763.2	1.587	1.385	34.647	27.767	40.611	45.41	2.397	4318.7	1501.91	0.7
2850.0	2811.7	1.578	1.371	34.650	27.771	40.836	45.22	2.419	4436.8	1502.73	0.4
2900.0	2860.7	1.572	1.361	34.651	27.772	41.060	45.20	2.442	4555.9	1503.55	0.7
2950.0	2909.7	1.568	1.352	34.653	27.774	41.284	45.16	2.464	4675.1	1504.38	0.6
3000.0	2958.8	1.560	1.339	34.654	27.776	41.507	45.12	2.487	4797.5	1505.20	0.7
3050.0	3007.8	1.552	1.327	34.655	27.778	41.730	45.07	2.510	4919.9	1506.02	0.1
3100.0	3056.7	1.549	1.319	34.656	27.779	41.953	45.11	2.532	5043.4	1506.86	0.6
3150.0	3105.7	1.541	1.306	34.657	27.781	42.175	45.06	2.555	5167.9	1507.67	0.8
3200.0	3154.7	1.535	1.295	34.658	27.782	42.397	45.05	2.577	5293.6	1508.50	0.8
3250.0	3203.6	1.533	1.288	34.658	27.783	42.618	45.16	2.600	5420.3	1509.34	0.1
3300.0	3252.6	1.528	1.278	34.661	27.786	42.841	45.01	2.622	5548.0	1510.18	0.9
3350.0	3301.5	1.516	1.262	34.662	27.788	43.064	44.92	2.645	5676.9	1510.98	0.4
3400.0	3350.4	1.510	1.251	34.663	27.789	43.285	44.89	2.667	5806.8	1511.81	0.7
3450.0	3399.4	1.504	1.240	34.665	27.792	43.507	44.80	2.690	5937.9	1512.65	1.1
3500.0	3448.3	1.498	1.229	34.666	27.793	43.727	44.79	2.712	6069.9	1513.48	0.5
3550.0	3497.2	1.493	1.219	34.668	27.795	43.949	44.69	2.734	6203.1	1514.31	0.3
3600.0	3546.0	1.490	1.210	34.668	27.796	44.168	44.78	2.757	6337.3	1515.16	0.4
3650.0	3594.9	1.487	1.202	34.669	27.797	44.387	44.80	2.779	6472.5	1516.00	0.8
3700.0	3643.8	1.488	1.198	34.669	27.798	44.605	44.94	2.802	6608.9	1516.87	0.3
3750.0	3692.6	1.485	1.190	34.670	27.799	44.825	44.95	2.824	6746.3	1517.71	1.1
3800.0	3741.1	1.483	1.182	34.671	27.800	45.043	44.98	2.847	6884.8	1518.57	1.1
3850.0	3790.3	1.477	1.171	34.672	27.802	45.263	44.95	2.869	7024.3	1519.40	1.6
3900.0	3839.1	1.476	1.165	34.671	27.801	45.479	45.14	2.891	7164.9	1520.26	0.2
3950.0	3888.7	1.474	1.157	34.673	27.803	45.698	45.11	2.914	7306.6	1521.11	0.6
4000.0	3938.5	1.471	1.149	34.675	27.806	45.917	45.04	2.936	7449.3	1521.96	1.1
4050.0	3988.3	1.468	1.140	34.676	27.807	46.135	45.17	2.959	7593.1	1522.82	0.8
4100.0	4038.1	1.468	1.135	34.677	27.807	46.351	45.24	2.982	7738.0	1523.68	0.4
4150.0	4088.1	1.469	1.130	34.677	27.808	46.568	45.36	3.004	7884.0	1524.55	0.5
4200.0	4138.1	1.469	1.125	34.677	27.809	46.783	45.36	3.027	8031.0	1525.41	0.5

CTD REPORT RAMA-4 STATION: 20 CAST: 1 DN
 POSITION: 32DEG 30.0MIN N 152DEG 0.6MIN E DATE: 13 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
0.0	0.0	24.587	24.587	34.505	23.121	23.121	476.62	0.000	0.0	1532.81	
10.0	9.9	24.586	24.584	34.505	23.122	23.165	476.97	0.048	0.2	1532.97	0.8
20.0	19.8	24.589	24.584	34.506	23.122	23.208	477.37	0.095	0.9	1533.14	14.6
30.0	29.8	24.448	24.441	34.489	23.152	23.280	475.00	0.143	2.1	1532.94	360.0
40.0	39.7	22.725	22.717	34.777	23.870	24.042	406.85	0.188	3.8	1529.12	501.6
50.0	49.6	21.572	21.562	34.777	24.193	24.049	376.38	0.228	5.8	1526.28	213.1
60.0	59.5	20.967	20.955	34.714	24.311	24.571	365.48	0.265	8.3	1524.76	134.7
70.0	69.5	20.550	20.536	34.777	24.472	24.775	350.53	0.301	11.1	1523.87	136.2
80.0	79.4	20.131	20.116	34.789	24.593	24.940	339.34	0.336	14.3	1522.90	107.2
90.0	89.3	19.735	19.718	34.783	24.694	25.084	330.15	0.369	17.8	1521.96	89.9
100.0	99.2	19.433	19.414	34.791	24.779	25.213	322.39	0.402	21.6	1521.29	83.4
110.0	109.1	19.062	19.042	34.779	24.866	25.344	314.44	0.434	25.7	1520.39	77.3
120.0	119.1	18.729	18.707	34.762	24.938	25.460	307.88	0.465	30.0	1519.58	61.6
130.0	129.0	18.522	18.499	34.764	24.993	25.559	303.04	0.496	35.0	1519.16	56.6
140.0	138.9	18.347	18.322	34.787	25.054	25.665	297.49	0.526	40.0	1518.84	55.0
150.0	148.8	18.107	18.080	34.775	25.106	25.760	292.96	0.555	45.0	1518.29	47.4
160.0	158.7	17.778	17.750	34.728	25.151	25.850	288.89	0.584	50.0	1517.44	45.5
170.0	168.7	17.587	17.558	34.729	25.199	25.942	284.64	0.613	55.0	1517.04	45.1
180.0	178.6	17.317	17.286	34.719	25.258	26.045	279.39	0.641	60.0	1516.40	39.9
190.0	188.5	17.089	17.057	34.719	25.313	26.144	274.43	0.669	65.0	1515.88	37.5
200.0	198.4	16.749	16.716	34.694	25.375	26.251	268.76	0.696	70.0	1514.99	46.8
210.0	208.3	16.638	16.603	34.703	25.408	26.329	263.90	0.723	75.0	1514.83	26.8
220.0	218.2	16.514	16.478	34.692	25.450	26.482	258.50	0.750	80.0	1514.60	31.4
230.0	228.1	16.316	16.278	34.687	25.472	26.548	250.40	0.776	85.0	1514.16	47.5
240.0	238.0	16.050	16.011	34.676	25.526	26.580	245.55	0.802	90.0	1513.49	41.7
250.0	248.0	15.946	15.906	34.655	25.557	26.655	238.89	0.827	95.0	1513.35	42.3
260.0	257.9	15.620	15.579	34.659	25.612	26.756	234.88	0.852	100.0	1512.47	39.4
270.0	267.8	15.458	15.415	34.643	25.636	26.825	225.81	0.877	105.0	1512.11	29.6
280.0	277.7	15.256	15.212	34.629	25.671	26.904	224.73	0.901	110.0	1511.62	27.3
290.0	287.6	15.116	15.071	34.614	25.691	26.969	241.10	0.926	115.0	1511.33	25.8
300.0	297.6	14.953	14.907	34.608	25.723	27.046	238.32	0.950	120.0	1510.97	31.2
310.0	307.5	14.743	14.695	34.588	25.753	27.122	235.59	0.973	125.0	1510.44	36.0
320.0	317.4	14.519	14.470	34.578	25.795	27.208	231.87	0.997	130.0	1509.87	29.7
330.0	327.3	14.397	14.347	34.567	25.813	27.271	230.40	1.020	135.0	1509.63	24.8
340.0	337.2	14.241	14.190	34.564	25.844	27.348	227.64	1.043	140.0	1509.29	26.5
350.0	347.1	14.133	14.081	34.562	25.866	27.414	225.82	1.066	145.0	1509.10	33.3
360.0	357.0	13.826	13.773	34.535	25.910	27.504	221.73	1.088	150.0	1508.23	35.0
370.0	366.9	13.653	13.599	34.520	25.935	27.575	219.56	1.110	155.0	1507.87	27.7
380.0	376.8	13.473	13.418	34.510	25.964	27.650	216.91	1.132	160.0	1507.31	38.2
390.0	386.7	13.167	13.111	34.488	26.010	27.742	212.63	1.153	165.0	1506.90	41.3
400.0	396.7	12.930	12.874	34.472	26.046	27.824	209.38	1.174	170.0	1505.85	31.1
410.0	406.6	12.738	12.681	34.455	26.071	27.895	207.10	1.195	175.0	1505.05	25.5
420.0	416.5	12.610	12.552	34.454	26.096	27.965	204.93	1.216	180.0	1505.05	25.5
430.0	426.4	12.404	12.345	34.435	26.122	28.037	202.58	1.236	185.0	1504.40	49.0
440.0	436.3	12.052	11.993	34.419	26.177	28.121	197.27	1.256	190.0	1503.24	27.7
450.0	446.2	11.719	11.659	34.390	26.218	28.229	193.33	1.276	195.0	1502.44	35.0
460.0	456.1	11.517	11.457	34.386	26.248	28.304	189.70	1.296	200.0	1502.04	42.1
470.0	466.0	11.444	11.383	34.384	26.265	28.360	189.92	1.314	205.0	1501.71	52.2
480.0	475.9	11.090	11.029	34.357	26.309	28.560	184.92	1.333	210.0	1500.71	52.2
490.0	485.8	10.755	10.694	34.326	26.346	28.544	181.39	1.351	215.0	1499.65	39.2
500.0	495.7	10.439	10.377	34.303	26.383	28.630	177.73	1.369	220.0	1498.66	38.0
510.0	505.6	10.155	10.093	34.284	26.418	28.712	174.39	1.387	225.0	1497.78	32.0
520.0	515.5	9.799	9.737	34.238	26.442	28.786	171.91	1.404	230.0	1496.60	24.9
530.0	525.4	9.668	9.606	34.237	26.464	28.854	169.97	1.422	235.0	1496.29	21.5
540.0	535.3	9.600	9.537	34.249	26.484	28.920	168.14	1.439	240.0	1496.22	29.4
550.0	545.2	9.284	9.221	34.228	26.520	29.004	164.65	1.455	245.0	1495.20	34.4
560.0	555.1	9.073	9.010	34.222	26.549	29.081	161.84	1.472	250.0	1494.57	28.5
570.0	565.0	8.779	8.716	34.192	26.572	29.153	159.49	1.488	255.0	1493.61	40.4
580.0	574.9	8.225	8.163	34.146	26.621	29.254	154.36	1.504	260.0	1491.63	35.4
590.0	584.8	7.869	7.808	34.094	26.633	29.316	152.95	1.519	265.0	1490.38	20.4
600.0	594.7	7.596	7.535	34.071	26.654	29.387	150.73	1.534	270.0	1489.47	
610.0	604.6	7.311	7.250	34.034	26.705	29.468	145.40	1.564	275.0	1487.52	
620.0	614.5	7.019	6.958	34.034	26.744	29.537	141.69	1.578	280.0	1487.09	
630.0	624.4	6.861	6.800	34.056	26.770	29.624	139.37	1.592	285.0	1487.14	24.0
640.0	634.3	6.823	6.761	34.082	26.770	29.695	137.31	1.606	290.0	1486.55	24.3
650.0	644.2	6.634	6.572	34.076	26.810	29.764	134.92	1.620	295.0	1485.03	16.6
660.0	654.1	6.222	6.161	34.034	26.815	29.836	131.37	1.634	300.0	1484.64	18.3
670.0	664.0	5.988	5.927	34.019	26.841	29.885	131.63	1.647	305.0	1483.38	29.0
680.0	673.9	5.832	5.772	34.012	26.878	30.040	128.98	1.660	310.0	1485.64	24.1
690.0	683.8	6.224	6.160	34.120	26.897	30.106	127.23	1.673	315.0	1485.52	19.6
700.0	693.7	6.149	6.085	34.132	26.915	30.172	125.46	1.685	320.0	1485.15	21.0
710.0	703.6	6.018	5.954	34.134	26.931	30.241	123.37	1.698	325.0	1483.33	42.9
720.0	713.5	5.539	5.475	34.083	26.967	30.323	120.07	1.710	330.0	1481.05	10.0
730.0	723.4	5.027	4.963	34.034	26.990	30.381	117.09	1.722	335.0	1481.67	17.0
740.0	733.3	4.905	4.841	34.078	27.003	30.448	115.91	1.745	340.0	1481.74	16.2
750.0	743.2	4.910	4.846	34.093	27.020	30.513	114.17	1.757	345.0	1481.31	14.8
760.0	753.1	4.984	4.921	34.083	27.028	30.573	113.26	1.768	350.0	1480.90	12.5
770.0	763.0	4.839	4.776	34.083	27.042	30.630	112.02	1.780	355.0	1480.92	
780.0	772.9	4.702	4.639	34.095	27.056	30.684	110.65	1.791	360.0	1480.85	14.6
790.0	782.8	4.664	4.600	34.111	27.069	30.711	109.39	1.802	365.0	1480.71	10.6
800.0	792.7	4.604	4.540	34.105	27.076	30.864	108.83	1.813	370.0	1480.75	10.5
810.0	802.6	4.528	4.463	34.115	27.090	30.924	107.56	1.823	375.0	1480.96	15.1
820.0	812.5	4.498	4.433	34.134	27.111	30.987	106.10	1.834	380.0	1481.81	18.8
830.0	822.4	4.502	4.436	34.180	27.128	31.054	104.14	1.845	385.0	1481.03	17.3
840.0	832.3	4.655	4.587	34.171	27.143	31.114	102.96	1.855	390.0	1481.45	11.8
850.0	842.1	4.430	4.363	34.197	27.152	31.170	102.06	1.865	395.0	1481.29	8.8
860.0	852.0	4.483	4.414	34.198	27.158	31.223	101.46	1.876	400.0	1481.36	7.4
870.0	861.9	4.406	4.337	34.203	27.167	31.277	100.84	1.886	405.0	1481.65	9.4
880.0	871.8	4.380	4.310	34.217	27.178	31.334	99.85	1.896	410.0	1481.68	10.9
890.0	881.7	4.335	4.265	34.226	27.184	31.390	98.93	1.906	415.0	1481.03	15.1
900.0	891.6	4.182	4.111	34.209	27.200	31.456	97.13	1.916	420.0	1480.55	15.1
910.0	901.5	4.028	3.957	34.225	27.213	31.514	96.06	1.925	425.0	1480.72	11.2
920.0	911.4	3.977	3.905	34.231	27.222	31.571	95.15	1.935	430.0	1480.69	11.3
930.0											

CTD REPORT
 POSITION: 32DEG 30.0 MIN N

RAMA-4

152DEG 0.6MIN E

STATION: 20 CAST: 1 DN
 DATE: 13 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FQ SQD=1E6
980.0	970.6	3.866	3.792	34.254	27.252	31.786	92.48	1.972	1199.8	1480.91	6.5
990.0	980.0	3.874	3.799	34.268	27.262	31.842	91.62	1.981	1219.3	1481.13	11.1
1000.0	990.0	3.885	3.810	34.271	27.273	31.901	90.44	1.991	1238.9	1480.92	11.1
1050.0	1039.9	3.610	3.532	34.298	27.312	32.173	86.82	2.035	1338.4	1481.03	7.7
1100.0	1089.9	3.462	3.381	34.326	27.348	32.442	83.41	2.077	1440.0	1481.26	5.5
1150.0	1138.8	3.311	3.227	34.343	27.376	32.702	80.78	2.119	1543.6	1481.46	1.1
1200.0	1188.8	3.178	3.091	34.376	27.415	32.973	77.16	2.158	1649.2	1481.76	9.9
1250.0	1237.7	3.017	2.928	34.405	27.453	33.244	73.52	2.196	1756.7	1481.93	9.9
1300.0	1286.6	2.855	2.764	34.419	27.478	33.503	70.97	2.232	1865.9	1482.08	6.6
1350.0	1336.6	2.730	2.636	34.436	27.502	33.760	68.58	2.267	1976.9	1482.38	4.5
1400.0	1385.4	2.666	2.568	34.449	27.519	34.007	67.17	2.301	2089.6	1482.95	-0.2
1450.0	1434.4	2.599	2.495	34.464	27.537	34.255	65.57	2.334	2203.3	1483.49	0.0
1500.0	1483.4	2.511	2.413	34.479	27.555	34.504	63.95	2.366	2317.0	1484.00	0.0
1550.0	1532.4	2.437	2.337	34.494	27.571	34.751	62.30	2.399	2430.7	1484.47	0.0
1600.0	1581.4	2.377	2.287	34.509	27.586	35.000	60.66	2.432	2544.4	1484.90	0.0
1650.0	1630.4	2.308	2.218	34.524	27.603	35.243	59.00	2.465	2658.1	1485.32	0.0
1700.0	1679.4	2.245	2.153	34.539	27.627	35.487	57.33	2.498	2771.8	1485.71	0.0
1750.0	1728.4	2.202	2.110	34.554	27.647	35.725	55.65	2.531	2885.5	1486.14	0.0
1800.0	1777.4	2.120	2.027	34.569	27.667	35.975	54.00	2.564	3000.0	1486.58	0.0
1850.0	1826.4	2.081	1.984	34.584	27.686	36.222	52.48	2.597	3114.5	1487.01	0.0
1900.0	1875.4	2.036	1.906	34.599	27.667	36.452	53.50	2.600	3229.0	1488.66	1.9
1950.0	1924.4	1.994	1.860	34.614	27.676	36.689	52.70	2.626	3343.4	1489.32	2.2
2000.0	1973.4	1.956	1.818	34.629	27.685	36.925	51.93	2.652	3457.8	1489.99	2.1
2050.0	2022.4	1.924	1.783	34.644	27.692	37.159	51.38	2.678	3572.2	1490.69	2.0
2100.0	2071.4	1.884	1.739	34.659	27.702	37.397	50.44	2.703	3686.6	1491.37	1.9
2150.0	2120.4	1.845	1.696	34.674	27.709	37.631	49.78	2.729	3801.0	1492.04	1.7
2200.0	2169.4	1.819	1.667	34.689	27.715	37.863	49.29	2.753	3915.4	1492.77	2.1
2250.0	2218.4	1.800	1.644	34.611	27.720	38.094	48.94	2.778	4030.0	1493.53	1.8
2300.0	2267.4	1.769	1.609	34.616	27.727	38.327	48.36	2.802	4144.4	1494.24	1.4
2350.0	2316.4	1.738	1.574	34.622	27.734	38.560	47.72	2.826	4258.8	1494.95	2.3
2400.0	2365.4	1.710	1.542	34.627	27.740	38.792	47.17	2.850	4373.2	1495.68	1.1
2450.0	2414.4	1.694	1.522	34.631	27.745	39.021	46.85	2.873	4487.6	1496.45	0.0
2500.0	2463.4	1.676	1.500	34.635	27.750	39.251	46.49	2.897	4602.0	1497.22	0.0
2550.0	2512.4	1.656	1.475	34.639	27.755	39.480	46.10	2.920	4716.4	1497.98	0.0
2600.0	2561.4	1.640	1.455	34.641	27.758	39.707	45.91	2.943	4830.8	1498.76	0.0
2650.0	2610.4	1.628	1.439	34.643	27.760	39.934	45.76	2.966	4945.2	1499.55	0.0
2700.0	2659.4	1.613	1.420	34.646	27.764	40.161	45.50	2.989	5059.6	1500.33	0.0
2750.0	2708.4	1.602	1.404	34.648	27.767	40.387	45.37	3.011	5174.0	1501.12	0.0
2800.0	2757.4	1.589	1.387	34.651	27.768	40.611	45.35	3.034	5288.4	1501.92	0.0
2850.0	2806.4	1.577	1.370	34.653	27.773	40.839	44.98	3.057	5402.8	1502.73	0.0
2900.0	2855.4	1.561	1.350	34.655	27.776	41.065	44.76	3.079	5517.2	1503.51	1.4
2950.0	2904.4	1.550	1.334	34.658	27.778	41.289	44.69	3.101	5631.6	1504.31	0.7
3000.0	2953.4	1.541	1.321	34.661	27.780	41.513	44.57	3.124	5746.0	1505.12	0.7
3050.0	3002.4	1.533	1.308	34.664	27.783	41.737	44.45	3.146	5860.4	1505.94	0.4
3100.0	3051.4	1.522	1.292	34.667	27.786	41.961	44.31	3.168	5974.8	1506.74	0.0
3150.0	3100.4	1.512	1.278	34.669	27.788	42.185	44.16	3.190	6089.2	1507.56	0.1
3200.0	3149.4	1.506	1.267	34.672	27.790	42.407	44.13	3.212	6203.6	1508.38	0.7
3250.0	3198.4	1.500	1.256	34.675	27.791	42.629	44.13	3.235	6318.0	1509.21	1.1
3300.0	3247.4	1.497	1.248	34.677	27.793	42.851	44.14	3.257	6432.4	1510.05	0.2
3350.0	3296.4	1.493	1.239	34.677	27.793	43.071	44.23	3.279	6546.8	1510.89	0.9
3400.0	3345.4	1.482	1.223	34.679	27.796	43.294	44.07	3.301	6661.2	1511.70	0.7
3450.0	3394.4	1.476	1.212	34.682	27.797	43.514	44.11	3.323	6775.6	1512.52	0.5
3500.0	3443.4	1.472	1.203	34.681	27.799	43.736	44.04	3.345	6890.0	1513.37	0.1
3550.0	3492.4	1.469	1.195	34.673	27.801	43.956	43.99	3.367	7004.4	1514.22	0.3
3600.0	3541.4	1.469	1.190	34.673	27.801	44.175	44.12	3.389	7118.8	1515.07	0.3
3650.0	3590.4	1.468	1.184	34.674	27.803	44.394	44.16	3.411	7233.2	1515.93	0.0
3700.0	3639.4	1.465	1.176	34.676	27.805	44.614	44.11	3.433	7347.6	1516.78	0.6
3750.0	3688.4	1.463	1.168	34.677	27.806	44.834	44.13	3.455	7462.0	1517.63	0.3
3800.0	3737.4	1.462	1.162	34.677	27.806	45.051	44.25	3.477	7576.4	1518.48	0.3
3850.0	3786.4	1.458	1.153	34.678	27.808	45.270	44.24	3.499	7690.8	1519.33	0.5
3900.0	3835.4	1.456	1.145	34.679	27.809	45.489	44.26	3.521	7805.2	1520.18	0.9
3950.0	3884.4	1.457	1.141	34.679	27.809	45.705	44.42	3.544	7919.6	1521.05	0.6
4000.0	3933.4	1.452	1.131	34.680	27.811	45.924	44.41	3.566	8034.0	1521.92	0.4
4050.0	3982.4	1.455	1.128	34.681	27.812	46.141	44.49	3.588	8148.4	1522.77	0.3
4100.0	4031.4	1.453	1.120	34.682	27.812	46.357	44.57	3.610	8262.8	1523.62	0.0
4150.0	4080.4	1.453	1.115	34.682	27.813	46.574	44.64	3.632	8377.2	1524.49	0.0
4200.0	4129.4	1.454	1.110	34.683	27.813	46.789	44.86	3.655	8491.6	1525.35	0.3
4250.0	4178.4	1.457	1.106	34.683	27.813	46.904	44.90	3.677	8606.0	1526.23	0.0
4300.0	4227.4	1.457	1.102	34.683	27.815	47.119	44.99	3.700	8720.4	1527.10	0.0
4350.0	4276.4	1.458	1.097	34.683	27.815	47.336	45.14	3.722	8834.8	1527.97	0.1
4400.0	4325.4	1.459	1.092	34.684	27.817	47.551	45.20	3.745	8949.2	1528.84	0.1
4450.0	4374.4	1.462	1.089	34.684	27.817	47.766	45.38	3.768	9063.6	1529.72	0.4
4500.0	4423.4	1.465	1.086	34.684	27.817	47.981	45.56	3.790	9178.0	1530.60	0.7
4550.0	4472.4	1.467	1.082	34.684	27.817	48.196	45.70	3.813	9292.4	1531.48	0.5
4600.0	4521.4	1.470	1.079	34.684	27.817	48.411	45.87	3.836	9406.8	1532.36	0.9
4650.0	4570.4	1.474	1.077	34.685	27.818	48.626	46.00	3.859	9521.2	1533.24	0.9
4700.0	4619.4	1.475	1.072	34.686	27.819	48.841	46.06	3.882	9635.6	1534.12	0.9
4750.0	4668.4	1.476	1.067	34.687	27.821	49.056	46.13	3.905	9750.0	1535.00	0.3
4800.0	4717.4	1.479	1.064	34.686	27.820	49.271	46.38	3.928	9864.4	1535.88	0.6
4850.0	4766.4	1.483	1.062	34.686	27.820	49.486	46.56	3.951	9978.8	1536.76	0.6
4900.0	4815.4	1.487	1.059	34.687	27.821	49.701	46.69	3.975	10093.2	1537.65	0.4
4950.0	4864.4	1.493	1.059	34.686	27.820	49.916	46.98	3.998	10207.6	1538.55	0.0
5000.0	4913.4	1.495	1.055	34.687	27.821	50.131	47.06	4.022	10322.0	1539.43	0.0
5050.0	4962.4	1.500	1.053	34.687	27.821	50.346	47.28	4.045	10436.4	1540.32	0.4
5100.0	5011.4	1.504	1.051	34.688	27.822	50.561	47.40	4.069	10550.8	1541.21	0.0
5150.0	5060.4	1.508	1.048	34.687	27.822	50.776	47.66	4.093	10665.2	1542.10	0.0
5200.0	5109.4	1.512	1.046	34.688	27.823	50.991	47.78	4.116	10779.6	1542.99	0.2
5250.0	5158.4	1.515	1.043	34.688	27.823	51.206	47.95	4.140	10894.0	1543.88	0.5
5300.0	5207.4	1.521	1.042	34.688	27.823	51.421	48.18	4.164	11008.4	1544.78	0.0
5350.0	5256.4	1.525	1.039	34.690	27.825	51.636	48.24	4.188	11122.8	1545.67	0.1
5400.0	5305.4	1.530	1.038	34.689	27.824	51.851	48.52	4.213	11237.2	1546.57	0.3
5450.0	5354.4	1.535	1.036	34.688	27.823	52.066					

CTD REPORT RAMA-4 STATION: 20 CAST: 1 DN
 POSITION: 32DEG 30.0MIN N 152DEG 0.6MIN E DATE: 13 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FQ SQD*1E6
5800.0	5686.7	1.559	1.013	34.693	27.829	53.564	49.73	4.409	16632.2	1553.70	0.2
5850.0	5735.1	1.561	1.008	34.693	27.829	53.772	49.89	4.434	16846.2	1554.59	-1.0

CTD REPORT RAMA-4 STATION 21 CAST 1 ON
 POSITION 31DEG 57.6MIN N 151DEG 59.9MIN E DATE 14 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD+1E6
100.0	0.0	24.674	24.674	34.420	23.031	23.031	485.21	0.000	0.00	1532.93	
110.0	10.0	24.621	24.619	34.429	23.054	23.097	483.44	0.000	0.00	1532.98	13.6
120.0	20.0	24.609	24.604	34.430	23.059	23.145	483.42	0.000	0.00	1533.11	24.3
130.0	30.0	24.444	24.437	34.474	23.142	23.270	475.97	0.000	0.00	1532.92	22.7
140.0	40.0	23.385	23.376	34.577	23.529	23.701	439.35	0.000	0.00	1530.57	38.4
150.0	50.0	21.995	21.985	34.598	23.940	24.156	400.52	0.000	0.00	1527.20	30.8
160.0	60.0	21.471	21.459	34.702	24.165	24.423	379.51	0.000	0.00	1526.09	24.5
170.0	70.0	20.610	20.596	34.806	24.478	24.781	349.97	0.000	0.00	1524.06	24.2
180.0	80.0	19.935	19.920	34.825	24.673	25.019	331.78	0.000	0.00	1522.40	17.6
190.0	90.0	19.248	19.231	34.814	24.844	25.235	315.80	0.000	0.00	1520.63	12.7
200.0	100.0	18.917	18.899	34.823	24.936	25.371	307.37	0.000	0.00	1519.86	9.6
210.0	110.0	18.384	18.364	34.791	24.047	25.525	297.09	0.000	0.00	1518.43	10.9
220.0	120.0	17.966	17.945	34.804	23.161	25.593	286.85	0.000	0.00	1517.78	14.8
230.0	130.0	17.570	17.547	34.790	22.245	25.639	278.78	0.000	0.00	1516.96	19.7
240.0	140.0	17.188	17.162	34.786	21.333	25.673	270.70	0.000	0.00	1515.91	24.4
250.0	150.0	16.818	16.789	34.787	20.422	25.696	262.62	0.000	0.00	1514.66	29.0
260.0	160.0	16.456	16.424	34.790	19.511	25.712	254.54	0.000	0.00	1513.23	33.1
270.0	170.0	16.101	16.065	34.783	18.600	25.721	246.46	0.000	0.00	1511.64	37.9
280.0	180.0	15.755	15.715	34.778	17.689	25.724	238.38	0.000	0.00	1510.00	42.7
290.0	190.0	15.426	15.379	34.774	16.778	25.722	230.30	0.000	0.00	1508.33	47.5
300.0	200.0	15.112	15.059	34.771	15.867	25.719	222.22	0.000	0.00	1506.63	52.3
310.0	210.0	14.812	14.754	34.770	14.956	25.716	214.14	0.000	0.00	1504.90	57.1
320.0	220.0	14.525	14.461	34.773	14.045	25.712	206.06	0.000	0.00	1503.15	61.9
330.0	230.0	14.250	14.181	34.786	13.134	25.707	197.97	0.000	0.00	1501.38	66.7
340.0	240.0	13.986	13.912	34.786	12.223	25.702	189.89	0.000	0.00	1499.59	71.5
350.0	250.0	13.734	13.655	34.786	11.312	25.697	181.81	0.000	0.00	1497.78	76.3
360.0	260.0	13.493	13.408	34.782	10.401	25.692	173.73	0.000	0.00	1495.94	81.1
370.0	270.0	13.264	13.174	34.780	9.490	25.687	165.65	0.000	0.00	1494.08	85.9
380.0	280.0	13.047	12.952	34.780	8.579	25.682	157.57	0.000	0.00	1492.20	90.7
390.0	290.0	12.842	12.742	34.775	7.668	25.677	149.49	0.000	0.00	1490.30	95.5
400.0	300.0	12.648	12.543	34.762	6.757	25.672	141.41	0.000	0.00	1488.38	100.3
410.0	310.0	12.465	12.355	34.757	5.846	25.667	133.33	0.000	0.00	1486.44	105.1
420.0	320.0	12.292	12.177	34.739	4.935	25.662	125.25	0.000	0.00	1484.48	109.9
430.0	330.0	12.130	12.010	34.720	4.024	25.657	117.17	0.000	0.00	1482.50	114.7
440.0	340.0	11.978	11.848	34.703	3.113	25.652	109.09	0.000	0.00	1480.50	119.5
450.0	350.0	11.836	11.698	34.697	2.202	25.647	101.01	0.000	0.00	1478.48	124.3
460.0	360.0	11.704	11.561	34.692	1.291	25.642	92.93	0.000	0.00	1476.44	129.1
470.0	370.0	11.582	11.435	34.682	0.380	25.637	84.85	0.000	0.00	1474.38	133.9
480.0	380.0	11.470	11.318	34.665	-0.531	25.632	76.77	0.000	0.00	1472.30	138.7
490.0	390.0	11.368	11.206	34.652	-1.442	25.627	68.69	0.000	0.00	1470.20	143.5
500.0	400.0	11.276	11.104	34.632	-2.353	25.622	60.61	0.000	0.00	1468.08	148.3
510.0	410.0	11.194	11.012	34.616	-3.264	25.617	52.53	0.000	0.00	1465.94	153.1
520.0	420.0	11.122	10.930	34.602	-4.175	25.612	44.45	0.000	0.00	1463.78	157.9
530.0	430.0	11.060	10.858	34.588	-5.086	25.607	36.37	0.000	0.00	1461.60	162.7
540.0	440.0	11.008	10.786	34.574	-5.997	25.602	28.29	0.000	0.00	1459.41	167.5
550.0	450.0	10.966	10.724	34.560	-6.908	25.597	20.21	0.000	0.00	1457.20	172.3
560.0	460.0	10.934	10.682	34.546	-7.819	25.592	12.13	0.000	0.00	1454.98	177.1
570.0	470.0	10.912	10.660	34.532	-8.730	25.587	4.05	0.000	0.00	1452.74	181.9
580.0	480.0	10.899	10.648	34.518	-9.641	25.582	-4.03	0.000	0.00	1450.48	186.7
590.0	490.0	10.896	10.645	34.504	-10.552	25.577	-12.11	0.000	0.00	1448.20	191.5
600.0	500.0	10.902	10.651	34.490	-11.463	25.572	-20.19	0.000	0.00	1445.90	196.3
610.0	510.0	10.918	10.667	34.476	-12.374	25.567	-28.27	0.000	0.00	1443.58	201.1
620.0	520.0	10.944	10.693	34.462	-13.285	25.562	-36.35	0.000	0.00	1441.24	205.9
630.0	530.0	10.980	10.729	34.448	-14.196	25.557	-44.43	0.000	0.00	1438.88	210.7
640.0	540.0	11.026	10.775	34.434	-15.107	25.552	-52.51	0.000	0.00	1436.50	215.5
650.0	550.0	11.082	10.831	34.420	-16.018	25.547	-60.59	0.000	0.00	1434.10	220.3
660.0	560.0	11.148	10.897	34.406	-16.929	25.542	-68.67	0.000	0.00	1431.68	225.1
670.0	570.0	11.224	10.973	34.392	-17.840	25.537	-76.75	0.000	0.00	1429.24	229.9
680.0	580.0	11.310	11.059	34.378	-18.751	25.532	-84.83	0.000	0.00	1426.78	234.7
690.0	590.0	11.406	11.155	34.364	-19.662	25.527	-92.91	0.000	0.00	1424.30	239.5
700.0	600.0	11.512	11.261	34.350	-20.573	25.522	-100.99	0.000	0.00	1421.80	244.3
710.0	610.0	11.628	11.377	34.336	-21.484	25.517	-109.07	0.000	0.00	1419.28	249.1
720.0	620.0	11.754	11.503	34.322	-22.395	25.512	-117.15	0.000	0.00	1416.74	253.9
730.0	630.0	11.890	11.639	34.308	-23.306	25.507	-125.23	0.000	0.00	1414.18	258.7
740.0	640.0	12.036	11.785	34.294	-24.217	25.502	-133.31	0.000	0.00	1411.60	263.5
750.0	650.0	12.192	11.941	34.280	-25.128	25.497	-141.39	0.000	0.00	1409.00	268.3
760.0	660.0	12.358	12.107	34.266	-26.039	25.492	-149.47	0.000	0.00	1406.38	273.1
770.0	670.0	12.534	12.283	34.252	-26.950	25.487	-157.55	0.000	0.00	1403.74	277.9
780.0	680.0	12.720	12.469	34.238	-27.861	25.482	-165.63	0.000	0.00	1401.08	282.7
790.0	690.0	12.916	12.665	34.224	-28.772	25.477	-173.71	0.000	0.00	1398.40	287.5
800.0	700.0	13.122	12.871	34.210	-29.683	25.472	-181.79	0.000	0.00	1395.70	292.3
810.0	710.0	13.338	13.087	34.196	-30.594	25.467	-189.87	0.000	0.00	1392.98	297.1
820.0	720.0	13.564	13.313	34.182	-31.505	25.462	-197.95	0.000	0.00	1390.24	301.9
830.0	730.0	13.800	13.549	34.168	-32.416	25.457	-206.03	0.000	0.00	1387.48	306.7
840.0	740.0	14.046	13.795	34.154	-33.327	25.452	-214.11	0.000	0.00	1384.70	311.5
850.0	750.0	14.302	14.051	34.140	-34.238	25.447	-222.19	0.000	0.00	1381.90	316.3
860.0	760.0	14.568	14.317	34.126	-35.149	25.442	-230.27	0.000	0.00	1379.08	321.1
870.0	770.0	14.844	14.593	34.112	-36.060	25.437	-238.35	0.000	0.00	1376.24	325.9
880.0	780.0	15.130	14.879	34.098	-36.971	25.432	-246.43	0.000	0.00	1373.38	330.7
890.0	790.0	15.426	15.175	34.084	-37.882	25.427	-254.51	0.000	0.00	1370.50	335.5
900.0	800.0	15.732	15.481	34.070	-38.793	25.422	-262.59	0.000	0.00	1367.60	340.3
910.0	810.0	16.048	15.797	34.056	-39.704	25.417	-270.67	0.000	0.00	1364.68	345.1
920.0	820.0	16.374	16.123	34.042	-40.615	25.412	-278.75	0.000	0.00	1361.74	349.9
930.0	830.0	16.710	16.459	34.028	-41.526	25.407	-286.83	0.000	0.00	1358.78	354.7
940.0	840.0	17.056	16.805	34.014	-42.437	25.402	-294.91	0.000	0.00	1355.80	359.5
950.0	850.0	17.412	17.161	34.000	-43.348	25.397	-302.99	0.000	0.00	1352.80	364.3
960.0	860.0	17.778	17.527	33.986	-44.259	25.392	-311.07	0.000	0.00	1349.78	369.1
970.0	870.0	18.154	17.903	33.972	-45.170	25.387	-319.15	0.000	0.00	1346.74	373.9
980.0	880.0	18.540	18.289	33.958	-46.081	25.382	-327.23	0.000	0.00	1343.68	378.7
990.0	890.0	18.936	18.685	33.944	-47.000	25.377	-335.31	0.000	0.00	1340.60	383.5

CTD REPORT RAMA-4
POSITION: 31DEG 57.6MIN N

151DEG 59.9MIN E

STATION: 21 CAST: 1 DN
DATE: 14 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT DEG C	TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
980.0	970.6	4.203	4.126	34.210	27.183	31.709	99.72	1.112	1253.1	1483.27	2.5	
990.0	980.0	4.126	4.049	34.208	27.189	31.763	99.03	1.122	1274.0	1483.10	2.5	
1000.0	990.0	4.186	4.107	34.261	27.225	31.843	99.92	1.132	1295.0	1482.59	2.5	
1050.0	1033.3	4.845	4.763	34.291	27.260	31.114	99.28	1.173	1401.1	1481.98	2.5	
1100.0	1083.3	4.688	4.603	34.239	27.238	31.374	99.48	1.222	1521.0	1481.13	2.5	
1150.0	1133.3	4.466	4.383	34.312	27.338	31.680	99.78	1.268	1734.1	1480.106	2.5	
1200.0	1183.3	4.324	4.241	34.343	27.409	31.939	99.91	1.310	1841.1	1480.248	2.5	
1250.0	1233.3	4.156	4.068	34.368	27.441	32.197	99.97	1.350	1966.3	1480.70	2.5	
1300.0	1283.3	4.008	3.912	34.389	27.462	32.451	99.97	1.388	2085.0	1483.11	2.5	
1350.0	1333.3	3.898	3.812	34.404	27.462	32.714	99.96	1.425	2085.0	1483.11	2.5	
1400.0	1383.3	3.805	3.706	34.423	27.486	33.969	70.68	2.461	2205.5	1483.52	5.3	
1450.0	1433.3	3.708	3.606	34.441	27.509	34.223	68.53	2.496	2327.8	1483.95	5.3	
1500.0	1483.3	3.626	3.521	34.455	27.527	34.472	66.83	2.529	2451.7	1484.44	5.3	
1550.0	1533.3	3.537	3.429	34.470	27.547	34.723	64.97	2.562	2577.2	1484.90	5.3	
1600.0	1583.3	3.452	3.341	34.486	27.567	34.973	63.06	2.594	2704.4	1485.38	5.3	
1650.0	1633.3	3.377	3.263	34.500	27.584	35.221	61.43	2.626	2833.0	1485.90	5.3	
1700.0	1683.3	3.326	3.208	34.510	27.597	35.462	60.33	2.656	2963.1	1486.52	5.3	
1750.0	1733.3	3.281	3.160	34.519	27.608	35.702	59.38	2.686	3094.7	1487.17	5.3	
1800.0	1783.3	3.212	3.087	34.532	27.624	35.947	57.85	2.715	3227.7	1487.71	5.3	
1850.0	1833.3	3.178	3.050	34.539	27.632	36.184	57.15	2.744	3362.1	1488.41	5.3	
1900.0	1883.3	3.137	3.005	34.548	27.643	36.422	56.23	2.772	3497.9	1489.07	5.3	
1950.0	1933.3	3.089	2.954	34.556	27.653	36.661	55.29	2.800	3635.1	1489.71	5.3	
2000.0	1983.3	3.041	2.902	34.563	27.663	36.898	54.41	2.828	3773.6	1490.34	5.3	
2050.0	2033.3	2.996	2.854	34.572	27.674	37.137	53.41	2.855	3913.4	1490.99	5.3	
2100.0	2083.3	2.951	2.805	34.581	27.684	37.375	52.40	2.881	4054.4	1491.64	5.3	
2150.0	2133.3	2.921	2.771	34.587	27.692	37.609	51.81	2.907	4196.8	1492.35	5.3	
2200.0	2183.3	2.895	2.741	34.592	27.698	37.842	51.31	2.933	4340.3	1493.08	5.3	
2250.0	2233.3	2.863	2.705	34.598	27.705	38.076	50.65	2.958	4485.1	1493.79	5.3	
2300.0	2283.3	2.830	2.669	34.604	27.713	38.309	49.98	2.983	4631.2	1494.49	5.3	
2350.0	2333.3	2.798	2.633	34.611	27.721	38.543	49.27	3.008	4778.4	1495.20	5.3	
2400.0	2383.3	2.771	2.602	34.617	27.728	38.776	48.66	3.033	4926.8	1495.93	5.3	
2450.0	2433.3	2.747	2.574	34.621	27.733	39.006	48.23	3.057	5076.3	1496.67	5.3	
2500.0	2483.3	2.722	2.545	34.625	27.738	39.233	47.79	3.081	5227.7	1497.41	5.3	
2550.0	2533.3	2.697	2.518	34.629	27.744	39.457	47.36	3.105	5378.8	1498.16	5.3	
2600.0	2583.3	2.677	2.492	34.633	27.751	39.676	46.93	3.129	5530.3	1498.91	5.3	
2650.0	2633.3	2.654	2.467	34.638	27.755	39.892	46.50	3.153	5682.1	1499.65	5.3	
2700.0	2683.3	2.635	2.440	34.643	27.758	40.107	46.08	3.177	5834.2	1500.39	5.3	
2750.0	2733.3	2.615	2.412	34.644	27.763	40.324	45.66	3.201	5986.5	1501.13	5.3	
2800.0	2783.3	2.595	2.388	34.645	27.765	40.542	45.23	3.224	6139.4	1501.84	5.3	
2850.0	2833.3	2.571	2.363	34.649	27.769	41.056	45.60	3.267	6473.1	1503.63	5.3	
2900.0	2883.3	2.545	2.339	34.650	27.771	41.279	45.18	3.290	6633.8	1504.46	5.3	
2950.0	2933.3	2.520	2.314	34.652	27.774	41.504	44.75	3.313	6795.5	1505.24	5.3	
3000.0	2983.3	2.495	2.289	34.654	27.777	41.729	44.33	3.335	6958.4	1506.05	5.3	
3050.0	3033.3	2.470	2.264	34.656	27.779	41.952	43.91	3.358	7122.3	1506.88	5.3	
3100.0	3083.3	2.445	2.239	34.658	27.781	42.175	43.49	3.381	7287.3	1507.70	5.3	
3150.0	3133.3	2.420	2.214	34.660	27.782	42.396	43.07	3.403	7453.4	1508.53	5.3	
3200.0	3183.3	2.395	2.189	34.662	27.784	42.620	42.65	3.426	7620.6	1509.34	5.3	
3250.0	3233.3	2.370	2.164	34.662	27.787	42.843	42.23	3.448	7788.8	1510.15	5.3	
3300.0	3283.3	2.345	2.139	34.662	27.788	43.063	41.81	3.471	7958.1	1510.99	5.3	
3350.0	3333.3	2.320	2.114	34.664	27.790	43.286	41.39	3.493	8128.4	1511.81	5.3	
3400.0	3383.3	2.295	2.089	34.665	27.792	43.507	40.97	3.515	8299.8	1512.62	5.3	
3450.0	3433.3	2.270	2.064	34.667	27.794	43.729	40.55	3.538	8472.2	1513.44	5.3	
3500.0	3483.3	2.245	2.039	34.668	27.796	43.950	40.13	3.560	8645.7	1514.29	5.3	
3550.0	3533.3	2.220	2.014	34.669	27.797	44.169	39.71	3.582	8820.3	1515.14	5.3	
3600.0	3583.3	2.195	1.989	34.670	27.798	44.389	39.29	3.605	8995.9	1515.99	5.3	
3650.0	3633.3	2.170	1.964	34.671	27.800	44.608	38.87	3.627	9172.7	1516.84	5.3	
3700.0	3683.3	2.145	1.939	34.671	27.800	44.826	38.45	3.649	9350.2	1517.70	5.3	
3750.0	3733.3	2.120	1.914	34.672	27.801	45.045	38.03	3.672	9529.0	1518.54	5.3	
3800.0	3783.3	2.095	1.889	34.674	27.804	45.265	37.61	3.694	9708.8	1519.39	5.3	
3850.0	3833.3	2.070	1.864	34.674	27.804	45.485	37.19	3.716	9889.7	1520.25	5.3	
3900.0	3883.3	2.045	1.839	34.675	27.805	45.705	36.77	3.739	10071.5	1521.10	5.3	
3950.0	3933.3	2.020	1.814	34.676	27.806	45.925	36.35	3.761	10254.3	1521.96	5.3	
4000.0	3983.3	2.000	1.789	34.677	27.807	46.145	35.93	3.784	10438.1	1522.82	5.3	
4050.0	4033.3	1.975	1.764	34.678	27.808	46.365	35.51	3.806	10622.9	1523.67	5.3	
4100.0	4083.3	1.950	1.739	34.678	27.809	46.585	35.09	3.829	10808.7	1524.53	5.3	
4150.0	4133.3	1.925	1.714	34.678	27.810	46.805	34.67	3.852	10994.5	1525.38	5.3	
4200.0	4183.3	1.900	1.689	34.678	27.810	47.025	34.25	3.874	11180.3	1526.23	5.3	
4250.0	4233.3	1.875	1.664	34.679	27.811	47.245	33.83	3.897	11366.1	1527.08	5.3	
4300.0	4283.3	1.850	1.639	34.679	27.811	47.465	33.41	3.920	11551.9	1527.93	5.3	
4350.0	4333.3	1.825	1.614	34.679	27.811	47.685	32.99	3.943	11737.7	1528.78	5.3	
4400.0	4383.3	1.800	1.589	34.679	27.812	47.905	32.57	3.966	11923.5	1529.63	5.3	
4450.0	4433.3	1.775	1.564	34.681	27.813	48.125	32.15	3.989	12109.3	1530.48	5.3	
4500.0	4483.3	1.750	1.539	34.681	27.814	48.345	31.73	4.012	12295.1	1531.33	5.3	
4550.0	4533.3	1.725	1.514	34.682	27.815	48.565	31.31	4.035	12480.9	1532.18	5.3	
4600.0	4583.3	1.700	1.489	34.682	27.816	48.785	30.89	4.058	12666.7	1533.03	5.3	
4650.0	4633.3	1.675	1.464	34.682	27.817	49.005	30.47	4.081	12852.5	1533.88	5.3	
4700.0	4683.3	1.650	1.439	34.682	27.818	49.225	30.05	4.104	13038.3	1534.73	5.3	
4750.0	4733.3	1.625	1.414	34.682	27.819	49.445	29.63	4.127	13224.1	1535.58	5.3	
4800.0	4783.3	1.600	1.389	34.682	27.820	49.665	29.21	4.150	13409.9	1536.43	5.3	
4850.0	4833.3	1.575	1.364	34.681	27.821	49.885	28.79	4.173	13595.7	1537.28	5.3	
4900.0	4883.3	1.550	1.339	34.682	27.822	50.105	28.37	4.196	13781.5	1538.13	5.3	
4950.0	4933.3	1.525	1.314	34.682	27.823	50.325	27.95	4.219	13967.3	1538.98	5.3	
5000.0	4983.3	1.500	1.289	34.682	27.824	50.545	27.53	4.242	14153.1	1539.83	5.3	
5050.0	5033.3	1.475	1.264	34.682	27.825	50.765	27.11	4.265	14338.9	1540.68	5.3	
5100.0	5083.3	1.450	1.239	34.682	27.826	50.985	26.69	4.288	14524.7	1541.53	5.3	
5150.0	5133.3	1.425	1.214	34.682	27.827	51.205	26.27	4.311	14710.5	1542.38	5.3	
5200.0	5183.3	1.400	1.189	34.682	27.828	51.425	25.85	4.334	14896.3	1543.23	5.3	
5250.0	5233.3	1.375	1.164	34.682	27.829	51.645	25.43	4.357	15082.1	1544.08	5.3	
5300.0	5283.3	1.350	1.139	34.682	27.830	51.865	25.01	4.380	15267.9	1544.93	5.3	
5350.0	5333.3	1.325	1.114	34.682	27.831	52.085	24.59	4.403	15453.7	1545.78	5.3	
5400.0	5383.3	1.300	1.089	34.682	27.832	52.305	24.17	4.426	15639.5	1546.63	5.3	
5450.0	5433.3	1.275	1.064	34.682	27.833	52.525	23.75	4				

CTD REPORT RAMA-4 STATION: 22 CAST: 1 DN
 POSITION: 31DEG 14.7MIN N 151DEG 56.7MIN E DATE: 14 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
0.0	0.0	24.796	24.796	34.536	23.082	23.082	480.32	0.000	0.0	1533.35	
10.0	1.0	24.783	24.783	34.543	23.092	23.135	479.83	0.048	0.2	1533.49	49.8
20.0	2.0	24.603	24.598	34.595	23.185	23.271	471.37	0.096	1.0	1533.27	458.1
30.0	3.0	22.533	22.533	34.938	24.044	24.173	389.84	0.140	2.1	1528.66	657.9
40.0	4.0	21.227	21.219	35.126	24.552	24.725	341.76	0.176	3.7	1525.99	332.0
50.0	5.0	20.558	20.548	35.124	24.733	24.949	324.94	0.210	5.6	1523.95	118.2
60.0	6.0	20.244	20.232	35.097	24.797	25.056	319.22	0.242	7.9	1523.23	57.6
70.0	7.0	19.983	19.970	35.078	24.852	25.155	314.35	0.274	10.4	1522.65	86.5
80.0	8.0	19.213	19.198	34.975	24.975	25.323	302.93	0.305	13.3	1520.55	113.6
90.0	8.9	18.715	18.699	34.953	25.086	25.478	292.68	0.335	16.5	1519.27	82.3
100.0	9.9	18.356	18.338	34.910	25.144	25.580	287.47	0.364	19.9	1518.35	51.3
110.0	10.9	18.124	18.105	34.895	25.191	25.671	283.34	0.392	23.7	1517.83	42.4
120.0	11.9	17.852	17.831	34.859	25.232	25.755	279.84	0.421	27.7	1517.15	33.9
130.0	12.9	17.639	17.616	34.828	25.261	25.829	277.40	0.449	32.0	1516.66	27.1
140.0	13.8	17.552	17.528	34.834	25.287	25.899	275.24	0.476	36.6	1516.57	29.5
150.0	14.8	17.342	17.316	34.811	25.321	25.977	272.35	0.504	41.5	1516.09	26.0
160.0	15.8	17.242	17.215	34.804	25.340	26.040	270.86	0.531	46.6	1515.94	17.9
170.0	16.8	17.147	17.118	34.796	25.357	26.101	269.54	0.558	52.0	1515.81	18.8
180.0	17.8	17.020	16.990	34.783	25.378	26.166	267.89	0.585	57.7	1515.58	14.9
190.0	18.8	16.964	16.932	34.777	25.387	26.219	267.35	0.611	63.6	1515.57	12.6
200.0	19.8	16.866	16.832	34.767	25.403	26.279	266.13	0.638	69.8	1515.43	16.7
210.0	20.8	16.764	16.729	34.758	25.421	26.341	264.78	0.665	76.3	1515.27	18.9
220.0	21.8	16.635	16.601	34.750	25.441	26.405	263.14	0.691	83.0	1515.24	13.7
230.0	22.8	16.500	16.465	34.750	25.463	26.461	262.40	0.717	90.0	1515.08	10.3
240.0	23.8	16.377	16.346	34.744	25.489	26.515	260.51	0.744	97.0	1514.94	15.0
250.0	24.8	16.317	16.284	34.733	25.498	26.563	258.96	0.770	104.7	1514.84	22.1
260.0	25.7	16.224	16.180	34.724	25.524	26.608	256.86	0.822	112.5	1514.57	19.3
270.0	26.7	16.130	16.084	34.713	25.557	26.766	255.86	0.847	120.5	1514.44	17.2
280.0	27.7	15.953	15.906	34.686	25.558	26.831	254.18	0.873	128.7	1514.02	18.7
290.0	28.7	15.887	15.838	34.688	25.575	26.892	252.87	0.898	137.3	1513.99	20.8
300.0	29.7	15.684	15.634	34.659	25.599	26.962	250.77	0.923	146.0	1513.49	23.2
310.0	30.7	15.562	15.511	34.651	25.621	27.028	248.97	0.948	155.1	1513.26	22.3
320.0	31.7	15.434	15.382	34.643	25.644	27.095	247.05	0.973	164.4	1513.02	21.8
330.0	32.7	15.319	15.265	34.622	25.664	27.161	245.34	0.998	173.9	1512.81	19.7
340.0	33.7	15.190	15.135	34.636	25.683	27.224	243.84	1.022	183.6	1512.55	21.0
350.0	34.7	15.062	15.006	34.615	25.706	27.292	241.88	1.047	193.6	1512.30	29.6
360.0	35.7	14.802	14.745	34.586	25.741	27.373	238.68	1.071	203.9	1511.61	25.0
370.0	36.6	14.714	14.656	34.579	25.755	27.431	237.60	1.094	214.4	1511.48	27.8
380.0	37.6	14.479	14.420	34.566	25.796	27.518	233.84	1.118	225.1	1510.88	36.3
390.0	38.6	14.300	14.240	34.556	25.827	27.594	231.09	1.141	236.1	1510.45	37.9
400.0	39.6	14.022	13.961	34.536	25.871	27.685	227.02	1.164	247.3	1509.69	36.1
410.0	40.6	13.870	13.808	34.530	25.899	27.757	224.60	1.187	258.7	1509.35	34.1
420.0	41.6	13.585	13.522	34.504	25.938	27.843	220.93	1.209	270.3	1508.35	42.3
430.0	42.6	13.322	13.259	34.487	25.982	27.933	216.89	1.231	282.2	1507.77	32.8
440.0	43.6	13.135	13.071	34.467	26.022	28.029	213.08	1.253	294.3	1507.49	33.7
450.0	44.6	12.834	12.769	34.435	26.065	28.132	208.63	1.274	306.6	1506.49	33.5
460.0	45.6	12.691	12.625	34.411	26.111	28.248	204.93	1.295	319.1	1506.02	32.9
470.0	46.6	12.444	12.378	34.400	26.146	28.330	201.61	1.336	334.8	1504.58	31.2
480.0	47.6	11.921	11.854	34.376	26.171	28.401	199.37	1.356	357.9	1503.95	22.5
490.0	48.6	11.811	11.743	34.373	26.189	28.466	197.73	1.376	371.2	1503.73	23.7
500.0	49.6	11.614	11.545	34.360	26.216	28.539	195.23	1.396	384.8	1503.19	36.7
510.0	50.6	11.321	11.252	34.346	26.260	28.630	191.06	1.415	398.5	1502.32	29.3
520.0	51.6	11.215	11.145	34.337	26.273	28.689	190.00	1.434	412.4	1502.10	34.4
530.0	52.6	10.844	10.775	34.319	26.326	28.791	184.80	1.453	426.5	1500.94	47.3
540.0	53.6	10.541	10.471	34.297	26.362	28.876	181.22	1.471	440.8	1500.00	36.1
550.0	54.6	10.243	10.173	34.270	26.393	28.955	178.19	1.489	455.3	1499.07	32.0
560.0	55.6	9.983	9.913	34.249	26.421	29.031	175.43	1.507	469.9	1498.26	31.6
570.0	56.6	9.694	9.624	34.225	26.451	29.109	172.48	1.525	484.8	1497.35	36.4
580.0	57.6	9.313	9.244	34.192	26.488	29.196	168.72	1.542	499.8	1496.35	32.0
590.0	58.6	8.994	8.925	34.174	26.509	29.265	166.63	1.558	515.0	1495.41	24.4
600.0	59.6	8.857	8.788	34.155	26.532	29.336	164.37	1.575	530.3	1494.67	28.8
610.0	60.6	8.508	8.439	34.122	26.560	29.415	161.41	1.591	545.8	1494.39	36.2
620.0	61.6	8.067	8.000	34.096	26.596	29.501	157.67	1.607	561.5	1492.21	38.4
630.0	62.6	7.765	7.698	34.068	26.628	29.584	154.26	1.623	577.3	1490.93	32.2
640.0	63.6	7.421	7.354	34.035	26.651	29.658	151.73	1.638	593.3	1489.73	
650.0	64.6	7.072	7.005	34.000	26.712	29.820	145.36	1.668	609.5	1487.52	
660.0	65.6	6.779	6.714	33.997	26.737	29.894	142.79	1.683	625.2	1486.85	25.7
670.0	66.6	6.569	6.504	33.986	26.757	29.964	140.64	1.697	642.2	1486.85	
680.0	67.6	6.279	6.214	33.980	26.787	30.043	137.56	1.711	658.8	1486.11	28.3
690.0	68.6	5.985	5.920	33.979	26.811	30.117	135.06	1.724	675.5	1485.24	30.0
700.0	69.6	5.522	5.457	33.981	26.851	30.182	132.09	1.738	692.3	1484.12	22.3
710.0	70.6	5.446	5.381	33.988	26.869	30.244	130.99	1.751	709.5	1483.50	22.3
720.0	71.6	5.401	5.336	33.995	26.880	30.319	129.23	1.764	726.7	1483.33	15.4
730.0	72.6	5.392	5.326	33.997	26.899	30.377	128.23	1.777	743.1	1483.33	14.6
740.0	73.6	5.284	5.217	33.997	26.911	30.441	126.62	1.790	759.6	1483.28	16.1
750.0	74.6	5.218	5.151	33.997	26.923	30.501	125.35	1.802	776.3	1483.20	13.5
760.0	75.6	5.117	5.050	33.997	26.937	30.560	124.25	1.815	793.1	1483.10	13.9
770.0	76.6	4.995	4.928	33.997	26.960	30.621	122.87	1.827	810.4	1482.86	20.2
780.0	77.6	4.867	4.799	33.997	26.984	30.693	120.56	1.839	827.9	1482.19	25.3
790.0	78.6	4.793	4.725	33.997	26.996	30.765	118.18	1.851	844.9	1482.19	19.3
800.0	79.6	4.723	4.655	33.997	27.011	30.824	115.02	1.863	861.8	1482.06	14.8
810.0	80.6	4.680	4.611	33.997	27.023	30.887	115.51	1.875	878.7	1481.94	14.4
820.0	81.6	4.634	4.564	33.997	27.037	30.945	114.42	1.886	895.6	1481.94	13.4
830.0	82.6	4.570	4.500	33.997	27.057	31.005	113.14	1.898	912.5	1481.93	17.3
840.0	83.6	4.455	4.385	33.997	27.067	31.072	111.28	1.909	929.4	1481.85	15.6
850.0	84.6	4.469	4.398	33.997	27.078	31.129	110.32	1.920	946.3	1481.84	11.5
860.0	85.6	4.407	4.336	33.997	27.095	31.187	109.28	1.931	963.2	1481.77	15.1
870.0	86.6	4.385	4.313	33.997	27.103	31.252	107.57	1.942	980.1	1481.70	13.3
880.0	87.6	4.246	4.174	33.997	27.120	31.306	106.89	1.953	997.0	1481.78	12.7
890.0	88.6	4.194	4.122	33.997	27.132	31.369	105.32	1.963	1013.9	1481.68	15.0
900.0	89.6	4.169	4.095	33.997	27.143	31.428	104.19	1.974	1030.8	1481.64	12.1
910.0	90.6	4.122	4.047	33.997	27.156	31.485	103.16	1.984	1047.7	1481.69	12.9
920.0	91.6	4.122	4.047	33.997	27.166	31.546	101.86	1.994	1064.6	1481.58	12.8
930.0	92.6	4.092	4.017	33.997	27.174	31.603	100.86	2.005	10		

CTD REPORT RAMA-4
POSITION: 31DEG 14.7MIN N

151DEG 56 7MIN E

STATION 22
DATE 14 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND M/SEC	VAIS FO SQD * FE
980.0	970.6	2.025	2.025	34.195	27.189	31.720	98.72	2.025	1193.3	1481.5	0.0
990.0	980.0	2.025	2.025	34.201	27.197	31.774	97.99	2.034	1213.3	1481.5	0.0
1000.0	990.0	2.025	2.025	34.206	27.204	31.827	97.38	2.044	1233.3	1481.5	0.0
1010.0	1000.0	2.025	2.025	34.211	27.211	31.880	96.77	2.054	1253.3	1481.5	0.0
1020.0	1010.0	2.025	2.025	34.216	27.218	31.933	96.16	2.064	1273.3	1481.5	0.0
1030.0	1020.0	2.025	2.025	34.221	27.225	31.986	95.55	2.074	1293.3	1481.5	0.0
1040.0	1030.0	2.025	2.025	34.226	27.232	32.039	94.94	2.084	1313.3	1481.5	0.0
1050.0	1040.0	2.025	2.025	34.231	27.239	32.092	94.33	2.094	1333.3	1481.5	0.0
1060.0	1050.0	2.025	2.025	34.236	27.246	32.145	93.72	2.104	1353.3	1481.5	0.0
1070.0	1060.0	2.025	2.025	34.241	27.253	32.198	93.11	2.114	1373.3	1481.5	0.0
1080.0	1070.0	2.025	2.025	34.246	27.260	32.251	92.50	2.124	1393.3	1481.5	0.0
1090.0	1080.0	2.025	2.025	34.251	27.267	32.304	91.89	2.134	1413.3	1481.5	0.0
1100.0	1090.0	2.025	2.025	34.256	27.274	32.357	91.28	2.144	1433.3	1481.5	0.0
1110.0	1100.0	2.025	2.025	34.261	27.281	32.410	90.67	2.154	1453.3	1481.5	0.0
1120.0	1110.0	2.025	2.025	34.266	27.288	32.463	90.06	2.164	1473.3	1481.5	0.0
1130.0	1120.0	2.025	2.025	34.271	27.295	32.516	89.45	2.174	1493.3	1481.5	0.0
1140.0	1130.0	2.025	2.025	34.276	27.302	32.569	88.84	2.184	1513.3	1481.5	0.0
1150.0	1140.0	2.025	2.025	34.281	27.309	32.622	88.23	2.194	1533.3	1481.5	0.0
1160.0	1150.0	2.025	2.025	34.286	27.316	32.675	87.62	2.204	1553.3	1481.5	0.0
1170.0	1160.0	2.025	2.025	34.291	27.323	32.728	87.01	2.214	1573.3	1481.5	0.0
1180.0	1170.0	2.025	2.025	34.296	27.330	32.781	86.40	2.224	1593.3	1481.5	0.0
1190.0	1180.0	2.025	2.025	34.301	27.337	32.834	85.79	2.234	1613.3	1481.5	0.0
1200.0	1190.0	2.025	2.025	34.306	27.344	32.887	85.18	2.244	1633.3	1481.5	0.0
1210.0	1200.0	2.025	2.025	34.311	27.351	32.940	84.57	2.254	1653.3	1481.5	0.0
1220.0	1210.0	2.025	2.025	34.316	27.358	32.993	83.96	2.264	1673.3	1481.5	0.0
1230.0	1220.0	2.025	2.025	34.321	27.365	33.046	83.35	2.274	1693.3	1481.5	0.0
1240.0	1230.0	2.025	2.025	34.326	27.372	33.099	82.74	2.284	1713.3	1481.5	0.0
1250.0	1240.0	2.025	2.025	34.331	27.379	33.152	82.13	2.294	1733.3	1481.5	0.0
1260.0	1250.0	2.025	2.025	34.336	27.386	33.205	81.52	2.304	1753.3	1481.5	0.0
1270.0	1260.0	2.025	2.025	34.341	27.393	33.258	80.91	2.314	1773.3	1481.5	0.0
1280.0	1270.0	2.025	2.025	34.346	27.400	33.311	80.30	2.324	1793.3	1481.5	0.0
1290.0	1280.0	2.025	2.025	34.351	27.407	33.364	79.69	2.334	1813.3	1481.5	0.0
1300.0	1290.0	2.025	2.025	34.356	27.414	33.417	79.08	2.344	1833.3	1481.5	0.0
1310.0	1300.0	2.025	2.025	34.361	27.421	33.470	78.47	2.354	1853.3	1481.5	0.0
1320.0	1310.0	2.025	2.025	34.366	27.428	33.523	77.86	2.364	1873.3	1481.5	0.0
1330.0	1320.0	2.025	2.025	34.371	27.435	33.576	77.25	2.374	1893.3	1481.5	0.0
1340.0	1330.0	2.025	2.025	34.376	27.442	33.629	76.64	2.384	1913.3	1481.5	0.0
1350.0	1340.0	2.025	2.025	34.381	27.449	33.682	76.03	2.394	1933.3	1481.5	0.0
1360.0	1350.0	2.025	2.025	34.386	27.456	33.735	75.42	2.404	1953.3	1481.5	0.0
1370.0	1360.0	2.025	2.025	34.391	27.463	33.788	74.81	2.414	1973.3	1481.5	0.0
1380.0	1370.0	2.025	2.025	34.396	27.470	33.841	74.20	2.424	1993.3	1481.5	0.0
1390.0	1380.0	2.025	2.025	34.401	27.477	33.894	73.59	2.434	2013.3	1481.5	0.0
1400.0	1390.0	2.025	2.025	34.406	27.484	33.947	72.98	2.444	2033.3	1481.5	0.0
1410.0	1400.0	2.025	2.025	34.411	27.491	34.000	72.37	2.454	2053.3	1481.5	0.0
1420.0	1410.0	2.025	2.025	34.416	27.498	34.053	71.76	2.464	2073.3	1481.5	0.0
1430.0	1420.0	2.025	2.025	34.421	27.505	34.106	71.15	2.474	2093.3	1481.5	0.0
1440.0	1430.0	2.025	2.025	34.426	27.512	34.159	70.54	2.484	2113.3	1481.5	0.0
1450.0	1440.0	2.025	2.025	34.431	27.519	34.212	69.93	2.494	2133.3	1481.5	0.0
1460.0	1450.0	2.025	2.025	34.436	27.526	34.265	69.32	2.504	2153.3	1481.5	0.0
1470.0	1460.0	2.025	2.025	34.441	27.533	34.318	68.71	2.514	2173.3	1481.5	0.0
1480.0	1470.0	2.025	2.025	34.446	27.540	34.371	68.10	2.524	2193.3	1481.5	0.0
1490.0	1480.0	2.025	2.025	34.451	27.547	34.424	67.49	2.534	2213.3	1481.5	0.0
1500.0	1490.0	2.025	2.025	34.456	27.554	34.477	66.88	2.544	2233.3	1481.5	0.0
1510.0	1500.0	2.025	2.025	34.461	27.561	34.530	66.27	2.554	2253.3	1481.5	0.0
1520.0	1510.0	2.025	2.025	34.466	27.568	34.583	65.66	2.564	2273.3	1481.5	0.0
1530.0	1520.0	2.025	2.025	34.471	27.575	34.636	65.05	2.574	2293.3	1481.5	0.0
1540.0	1530.0	2.025	2.025	34.476	27.582	34.689	64.44	2.584	2313.3	1481.5	0.0
1550.0	1540.0	2.025	2.025	34.481	27.589	34.742	63.83	2.594	2333.3	1481.5	0.0
1560.0	1550.0	2.025	2.025	34.486	27.596	34.795	63.22	2.604	2353.3	1481.5	0.0
1570.0	1560.0	2.025	2.025	34.491	27.603	34.848	62.61	2.614	2373.3	1481.5	0.0
1580.0	1570.0	2.025	2.025	34.496	27.610	34.901	62.00	2.624	2393.3	1481.5	0.0
1590.0	1580.0	2.025	2.025	34.501	27.617	34.954	61.39	2.634	2413.3	1481.5	0.0
1600.0	1590.0	2.025	2.025	34.506	27.624	35.007	60.78	2.644	2433.3	1481.5	0.0
1610.0	1600.0	2.025	2.025	34.511	27.631	35.060	60.17	2.654	2453.3	1481.5	0.0
1620.0	1610.0	2.025	2.025	34.516	27.638	35.113	59.56	2.664	2473.3	1481.5	0.0
1630.0	1620.0	2.025	2.025	34.521	27.645	35.166	58.95	2.674	2493.3	1481.5	0.0
1640.0	1630.0	2.025	2.025	34.526	27.652	35.219	58.34	2.684	2513.3	1481.5	0.0
1650.0	1640.0	2.025	2.025	34.531	27.659	35.272	57.73	2.694	2533.3	1481.5	0.0
1660.0	1650.0	2.025	2.025	34.536	27.666	35.325	57.12	2.704	2553.3	1481.5	0.0
1670.0	1660.0	2.025	2.025	34.541	27.673	35.378	56.51	2.714	2573.3	1481.5	0.0
1680.0	1670.0	2.025	2.025	34.546	27.680	35.431	55.90	2.724	2593.3	1481.5	0.0
1690.0	1680.0	2.025	2.025	34.551	27.687	35.484	55.29	2.734	2613.3	1481.5	0.0
1700.0	1690.0	2.025	2.025	34.556	27.694	35.537	54.68	2.744	2633.3	1481.5	0.0
1710.0	1700.0	2.025	2.025	34.561	27.701	35.590	54.07	2.754	2653.3	1481.5	0.0
1720.0	1710.0	2.025	2.025	34.566	27.708	35.643	53.46	2.764	2673.3	1481.5	0.0
1730.0	1720.0	2.025	2.025	34.571	27.715	35.696	52.85	2.774	2693.3	1481.5	0.0
1740.0	1730.0	2.025	2.025	34.576	27.722	35.749	52.24	2.784	2713.3	1481.5	0.0
1750.0	1740.0	2.025	2.025	34.581	27.729	35.802	51.63	2.794	2733.3	1481.5	0.0
1760.0	1750.0	2.025	2.025	34.586	27.736	35.855	51.02	2.804	2753.3	1481.5	0.0
1770.0	1760.0	2.025	2.025	34.591	27.743	35.908	50.41	2.814	2773.3	1481.5	0.0
1780.0	1770.0	2.025	2.025	34.596	27.750	35.961	49.80	2.824	2793.3	1481.5	0.0
1790.0	1780.0	2.025	2.025	34.601	27.757	36.014	49.19	2.834	2813.3	1481.5	0.0
1800.0	1790.0	2.025	2.025	34.606	27.764	36.067	48.58	2.844	2833.3	1481.5	0.0
1810.0	1800.0	2.025	2.025	34.611	27.771	36.120	47.97	2.854	2853.3	1481.5	0.0
1820.0	1810.0	2.025	2.025	34.616	27.778	36.173	47.36	2.864	2873.3	1481.5	0.0
1830.0	1820.0	2.025	2.025	34.621	27.785	36.226	46.75	2.874	2893.3	1481.5	0.0
1840.0	1830.0	2.025	2.025	34.626	27.792	36.279	46.14	2.884	2913.3	1481.5	0.0
1850.0	1840.0	2.025	2.025	34.631	27.799	36.332	45.53	2.894	2933.3	1481.5	0.0
1860.0	1850.0	2.025	2.025	34.636	27.806	36.385	44.92	2.904	2953.3	1481.5	0.0
1870.0	1860.0	2.025	2.025	34.641	27.813	36.438	44.31	2.914	2973.3	1481.5	0.0
1880.0	1870.0	2.025	2.025	34.646	27.820	36.491	43.70	2.924	2993.3	1481.5	0.0
1890.0	1880.0	2.025	2.025	34.651	27.827	36.544	43.09	2.934	3013.3	1481.5	0.0
1900.0	1890.0	2.025	2.025	34.656	27.834	36.597	42.48	2.944	30		

CTD REPORT RAMA-4 STATION 22 CAST 1 DN
 POSITION 31DEG 14.7MIN N 151DEG 56.7MIN E DATE 14 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	PCT TEMP DEG C	SALINITY O/00	SIGMA THERMA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
5800.0	5686.7	1.556	1.010	34.691	27.827	53.563	49.82	4.508	17034.6	1553.69	0.5
5850.0	5735.1	1.563	1.010	34.690	27.827	53.769	50.15	4.533	17253.4	1554.59	0.1
5900.0	5783.5	1.566	1.006	34.690	27.827	53.977	50.32	4.556	17473.4	1555.48	0.3

CTD REPORT RAMA-4
 POSITION: 30DEG 41.8MIN N 151DEG 58.4MIN E STATION: 23 CAST: 1 DN
 DATE: 15 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
10.0	0.0	26.624	26.624	34.817	22.738	22.738	513.17	0.000	0.0	1537.95	265.6
20.0	10.0	26.624	26.624	34.825	22.762	22.805	511.34	0.051	0.3	1537.99	265.1
30.0	20.0	26.624	26.624	34.869	22.290	22.375	461.40	0.101	1.0	1534.40	265.1
40.0	30.0	26.624	26.624	34.996	24.116	24.245	382.90	0.145	2.2	1534.46	265.1
50.0	40.0	26.624	26.624	35.074	24.462	24.635	350.31	0.181	3.3	1534.50	265.1
60.0	50.0	26.624	26.624	35.019	24.686	24.902	329.36	0.216	5.8	1534.50	265.1
70.0	60.0	26.624	26.624	34.960	24.832	25.092	315.82	0.248	8.1	1534.51	265.1
80.0	70.0	26.624	26.624	34.944	24.935	25.240	306.31	0.279	10.7	1534.52	265.1
90.0	80.0	26.624	26.624	34.912	25.038	25.386	296.88	0.310	13.7	1534.52	265.1
100.0	90.0	26.624	26.624	34.919	25.114	25.506	290.00	0.339	16.9	1534.52	265.1
110.0	100.0	17.973	17.955	34.863	25.204	25.640	281.75	0.368	20.4	1517.19	56.5
120.0	110.0	17.841	17.822	34.854	25.230	25.710	279.59	0.396	24.2	1516.95	36.1
130.0	120.0	17.583	17.562	34.833	25.278	25.802	275.40	0.423	28.2	1516.33	32.9
140.0	130.0	17.481	17.459	34.826	25.298	25.866	273.85	0.451	32.2	1516.19	32.1
150.0	140.0	17.331	17.307	34.811	25.323	25.935	271.76	0.478	36.2	1515.89	30.4
160.0	150.0	17.266	17.240	34.811	25.339	25.966	270.58	0.505	42.1	1515.86	30.9
170.0	160.0	17.101	17.074	34.793	25.365	26.066	268.40	0.532	47.2	1515.51	21.8
180.0	170.0	16.999	16.970	34.784	25.383	26.128	267.01	0.559	52.2	1515.36	21.6
190.0	180.0	16.865	16.835	34.768	25.403	26.192	265.42	0.586	58.8	1515.10	17.7
200.0	190.0	16.747	16.715	34.762	25.427	26.260	263.48	0.612	64.2	1514.90	11.5
210.0	200.0	16.678	16.645	34.756	25.439	26.316	262.64	0.639	70.4	1514.85	11.7
220.0	210.0	16.629	16.594	34.755	25.450	26.371	261.93	0.665	76.9	1514.73	11.4
230.0	220.0	16.571	16.533	34.742	25.463	26.427	261.26	0.691	83.7	1514.63	11.2
240.0	230.0	16.517	16.477	34.737	25.473	26.483	260.60	0.717	90.7	1514.54	11.0
250.0	240.0	16.467	16.426	34.737	25.483	26.539	260.00	0.743	97.9	1514.44	10.8
260.0	250.0	16.417	16.375	34.737	25.493	26.595	259.44	0.769	105.3	1514.34	10.6
270.0	260.0	16.367	16.325	34.737	25.503	26.651	258.88	0.795	112.9	1514.24	10.4
280.0	270.0	16.317	16.275	34.737	25.513	26.707	258.32	0.821	120.3	1514.14	10.2
290.0	280.0	16.267	16.225	34.737	25.523	26.763	257.76	0.847	127.8	1514.04	10.0
300.0	290.0	15.647	15.599	34.664	25.611	26.930	249.31	0.896	146.6	1513.21	20.6
310.0	300.0	15.546	15.497	34.664	25.634	26.997	247.38	0.921	155.6	1513.06	25.8
320.0	310.0	15.372	15.321	34.648	25.661	27.069	245.03	0.945	164.9	1512.66	26.6
330.0	320.0	15.184	15.132	34.627	25.687	27.141	242.77	0.970	174.3	1512.21	26.8
340.0	330.0	15.011	14.958	34.610	25.713	27.211	240.58	0.994	184.1	1511.81	26.8
350.0	340.0	14.851	14.797	34.598	25.739	27.282	238.29	1.018	194.0	1511.45	22.2
360.0	350.0	14.729	14.674	34.586	25.757	27.345	236.86	1.042	204.2	1511.21	21.7
370.0	360.0	14.502	14.446	34.568	25.792	27.426	233.63	1.065	214.7	1510.63	33.7
380.0	370.0	14.363	14.306	34.564	25.819	27.498	231.28	1.088	225.4	1510.34	35.6
390.0	380.0	14.248	14.189	34.563	25.843	27.567	229.22	1.112	236.3	1510.13	30.7
400.0	390.0	14.063	14.003	34.560	25.881	27.650	225.85	1.134	247.4	1509.69	28.1
410.0	400.0	13.932	13.871	34.548	25.899	27.713	224.30	1.157	258.7	1509.41	34.3
420.0	410.0	13.785	13.723	34.546	25.929	27.788	221.69	1.179	270.3	1509.10	34.1
430.0	420.0	13.538	13.476	34.520	25.960	27.866	218.81	1.201	282.1	1508.42	30.3
440.0	430.0	13.339	13.276	34.502	25.987	27.939	216.35	1.223	294.1	1507.90	33.7
450.0	440.0	13.047	12.983	34.484	26.033	28.031	212.09	1.245	306.3	1507.07	38.7
460.0	450.0	12.787	12.723	34.455	26.063	28.108	209.31	1.266	318.8	1506.33	34.4
470.0	460.0	12.537	12.472	34.437	26.098	28.190	205.99	1.286	331.4	1505.63	33.7
480.0	470.0	12.318	12.252	34.414	26.124	28.261	203.67	1.307	344.2	1505.02	33.5
490.0	480.0	12.070	12.004	34.401	26.161	28.346	200.12	1.327	357.3	1504.32	40.0
500.0	490.0	11.804	11.737	34.387	26.201	28.432	196.36	1.347	370.5	1503.56	42.0
510.0	500.0	11.509	11.442	34.369	26.243	28.520	192.37	1.367	384.0	1502.68	44.1
520.0	510.0	11.243	11.176	34.349	26.288	28.610	188.17	1.386	397.7	1501.69	44.4
530.0	520.0	10.938	10.871	34.328	26.339	28.702	183.76	1.404	411.7	1500.60	44.4
540.0	530.0	10.633	10.566	34.308	26.393	28.796	179.14	1.423	425.9	1499.41	44.4
550.0	540.0	10.328	10.261	34.287	26.450	28.892	174.31	1.441	440.3	1498.13	44.4
560.0	550.0	10.023	9.956	34.267	26.509	28.989	169.17	1.458	455.0	1496.76	44.4
570.0	560.0	9.718	9.651	34.247	26.570	29.087	163.72	1.476	469.9	1495.31	44.4
580.0	570.0	9.413	9.346	34.228	26.633	29.186	158.06	1.493	485.0	1493.78	44.4
590.0	580.0	9.108	9.041	34.208	26.698	29.286	152.19	1.510	498.0	1492.18	44.4
600.0	590.0	8.855	8.788	34.185	26.764	29.387	146.11	1.526	513.0	1490.51	44.4
610.0	600.0	8.632	8.565	34.174	26.833	29.489	140.03	1.542	528.0	1488.78	44.4
620.0	610.0	8.410	8.343	34.157	26.904	29.592	133.95	1.558	543.0	1486.99	44.4
630.0	620.0	8.187	8.120	34.140	26.975	29.696	127.87	1.574	558.0	1485.15	44.4
640.0	630.0	7.964	7.897	34.123	27.046	29.801	121.79	1.589	574.0	1483.26	44.4
650.0	640.0	7.741	7.674	34.106	27.117	29.906	115.71	1.605	590.0	1481.32	44.4
660.0	650.0	7.518	7.451	34.089	27.188	30.011	109.63	1.620	606.0	1479.34	44.4
670.0	660.0	7.295	7.228	34.072	27.259	30.116	103.55	1.634	622.0	1477.32	44.4
680.0	670.0	7.072	7.005	34.055	27.330	30.221	97.47	1.649	638.0	1475.26	44.4
690.0	680.0	6.849	6.782	34.038	27.401	30.326	91.39	1.663	655.0	1473.16	44.4
700.0	690.0	6.626	6.559	34.021	27.472	30.431	85.31	1.677	671.0	1471.02	44.4
710.0	700.0	6.403	6.336	34.004	27.543	30.536	79.23	1.691	688.0	1468.84	44.4
720.0	710.0	6.180	6.113	33.987	27.614	30.641	73.15	1.704	705.0	1466.62	44.4
730.0	720.0	5.957	5.890	33.970	27.685	30.746	67.07	1.718	722.0	1464.36	44.4
740.0	730.0	5.734	5.667	33.953	27.756	30.851	60.99	1.731	739.0	1462.06	44.4
750.0	740.0	5.511	5.444	33.936	27.827	30.956	54.91	1.744	756.0	1459.72	44.4
760.0	750.0	5.288	5.221	33.919	27.898	31.061	48.83	1.756	773.0	1457.34	44.4
770.0	760.0	5.065	5.000	33.902	27.969	31.166	42.75	1.769	791.0	1454.92	44.4
780.0	770.0	4.842	4.775	33.885	28.040	31.271	36.67	1.781	808.0	1452.46	44.4
790.0	780.0	4.619	4.552	33.868	28.111	31.376	30.59	1.793	826.0	1449.96	44.4
800.0	790.0	4.396	4.329	33.851	28.182	31.481	24.51	1.805	844.0	1447.42	44.4
810.0	800.0	4.173	4.106	33.834	28.253	31.586	18.43	1.817	862.0	1444.84	44.4
820.0	810.0	3.950	3.883	33.817	28.324	31.691	12.35	1.829	880.0	1442.22	44.4
830.0	820.0	3.727	3.660	33.800	28.395	31.796	6.27	1.841	898.0	1439.56	44.4
840.0	830.0	3.504	3.437	33.783	28.466	31.901	0.19	1.853	916.0	1436.86	44.4
850.0	840.0	3.281	3.214	33.766	28.537	32.006	-3.91	1.865	934.0	1434.12	44.4
860.0	850.0	3.058	2.991	33.749	28.608	32.111	-7.93	1.877	952.0	1431.34	44.4
870.0	860.0	2.835	2.768	33.732	28.679	32.216	-11.95	1.889	970.0	1428.52	44.4
880.0	870.0	2.612	2.545	33.715	28.750	32.321	-15.97	1.901	988.0	1425.66	44.4
890.0	880.0	2.389	2.322	33.698	28.821	32.426	-19.99	1.913	1006.0	1422.76	44.4
900.0	890.0	2.166	2.099	33.681	28.892	32.531	-24.01	1.925	1024.0	1419.82	44.4
910.0	900.0	1.943	1.876	33.664	28.963	32.636	-28.03	1.937	1042.0	1416.84	44.4
920.0	910.0	1.720	1.653	33.647	29.034	32.741	-32.05	1.949	1060.0	1413.82	44.4
930.0	920.0	1.497	1.430	33.630	29.105	32.846	-36.07	1.961	1078.0	1	

8C

28 JAN 8'

CTD REPORT RAMA-4 STATION. 23 CAST 1 DN
 POSITION. 30DEG 41 8MIN N 151DEG 58.4MIN E DATE. 15 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
5800.0	5686.7	1.554	1.008	34.692	27.828	53.564	49.71	4.469	16866.0	1553.68	0.1
5850.0	5735.1	1.558	1.005	34.693	27.829	53.772	49.84	4.494	17082.9	1554.58	0.6
5900.0	5783.5	1.560	1.000	34.695	27.831	53.982	49.87	4.518	17301.0	1555.46	-0.8
5950.0	5831.9	1.568	1.001	34.693	27.830	54.187	50.27	4.544	17520.2	1556.37	

151 DEG 59 8MIN E

24 CAST 1 DN
DATE 15 JUL 80

REF ID	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL ON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS SQD	FO M/SEC
0000	0	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	1	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	2	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	3	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	4	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	5	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	6	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	7	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	8	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	9	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	10	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	11	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	12	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	13	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	14	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	15	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	16	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	17	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	18	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	19	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	20	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	21	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	22	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	23	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	24	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	25	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	26	27.174	17.174	34.9003	22.6332	22.6332	35.35	0.0000	0.0000	1522.26	1.0000	2.0000
0000	27	27.174	17.174	34.9003	22.6332	22.633						

CTD REPORT RAMA-4 STATION: 24 CAST: 1 DN
 POSITION: 30DEG 0.1MIN N 151DEG 59.8MIN E DATE: 15 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
980.0	970.6	4.174	4.097	34.171	27.155	31.682	102.25	2.103	1241.7	1482.09	7.3
990.0	980.5	4.138	4.061	34.177	27.164	31.737	101.47	2.113	1262.5	1482.12	10.7
1000.0	990.4	4.095	4.017	34.186	27.175	31.795	100.37	2.123	1283.4	1482.11	13.7
1039.0	1039.8	3.855	3.775	34.231	27.235	32.090	94.62	2.172	1389.5	1481.98	8.6
1100.0	1089.2	3.625	3.543	34.273	27.291	32.380	89.20	2.218	1497.9	1481.89	12.2
1150.0	1138.6	3.452	3.367	34.306	27.334	32.656	85.13	2.261	1608.1	1482.02	8.4
1200.0	1188.0	3.312	3.224	34.333	27.369	32.923	81.87	2.303	1721.1	1482.28	7.6
1250.0	1237.3	3.166	3.075	34.365	27.408	33.195	78.17	2.343	1835.1	1482.52	5.9
1300.0	1286.7	3.081	2.987	34.379	27.427	33.444	76.48	2.381	1952.5	1483.00	2.1
1350.0	1336.0	2.956	2.859	34.399	27.454	33.704	73.89	2.419	2071.0	1483.31	5.8
1400.0	1385.4	2.835	2.736	34.420	27.481	33.963	71.24	2.455	2191.2	1483.64	4.7
1450.0	1434.7	2.720	2.618	34.440	27.507	34.221	68.75	2.490	2313.3	1484.00	4.0
1500.0	1484.0	2.644	2.539	34.456	27.527	34.471	66.97	2.524	2436.5	1484.32	3.8
1550.0	1533.3	2.539	2.431	34.473	27.549	34.725	64.78	2.557	2562.2	1484.91	3.6
1600.0	1582.2	2.468	2.357	34.490	27.569	34.974	62.95	2.589	2689.5	1485.45	3.9
1650.0	1631.9	2.396	2.281	34.503	27.585	35.221	61.43	2.620	2817.7	1485.99	3.6
1700.0	1681.1	2.343	2.225	34.512	27.597	35.461	60.39	2.651	2947.4	1486.60	1.7
1750.0	1730.9	2.286	2.165	34.524	27.611	35.705	59.08	2.681	3078.8	1487.19	2.9
1800.0	1779.7	2.207	2.082	34.539	27.630	35.953	57.29	2.710	3211.1	1487.70	2.9
1850.0	1829.0	2.154	2.026	34.546	27.640	36.192	55.36	2.738	3345.5	1488.31	2.8
1900.0	1878.2	2.113	1.981	34.554	27.649	36.430	55.50	2.766	3481.0	1488.97	2.3
1950.0	1927.4	2.060	1.925	34.562	27.650	36.668	53.51	2.794	3617.7	1489.59	2.6
2000.0	1976.6	2.015	1.876	34.571	27.657	36.906	51.51	2.821	3754.7	1490.19	2.6
2050.0	2025.8	1.978	1.836	34.578	27.660	37.144	50.35	2.847	3891.8	1490.62	2.6
2100.0	2075.0	1.943	1.797	34.583	27.667	37.378	50.17	2.874	4028.9	1491.11	2.6
2150.0	2124.2	1.906	1.756	34.590	27.695	37.614	51.40	2.899	4178.8	1492.29	1.3
2200.0	2173.4	1.881	1.727	34.595	27.701	37.846	50.91	2.925	4321.3	1493.03	1.3
2250.0	2222.6	1.857	1.699	34.601	27.708	38.079	50.37	2.950	4465.7	1493.77	2.0
2300.0	2271.7	1.823	1.662	34.606	27.715	38.312	49.75	2.975	4611.3	1494.46	2.0
2350.0	2320.9	1.795	1.630	34.610	27.720	38.543	49.29	3.000	4758.1	1495.19	1.1
2400.0	2370.0	1.769	1.600	34.614	27.726	38.774	48.86	3.025	4906.5	1495.92	1.4
2450.0	2419.1	1.737	1.564	34.619	27.732	39.006	48.26	3.049	5055.5	1496.63	1.5
2500.0	2468.2	1.714	1.537	34.624	27.738	39.237	47.77	3.073	5205.5	1497.37	0.9
2550.0	2517.3	1.701	1.520	34.626	27.741	39.464	47.61	3.097	5357.0	1498.16	1.1
2600.0	2566.4	1.673	1.488	34.631	27.747	39.695	47.06	3.120	5509.9	1498.89	1.6
2650.0	2615.5	1.658	1.468	34.634	27.751	39.923	46.80	3.144	5663.6	1499.67	1.3
2700.0	2664.4	1.643	1.449	34.637	27.755	40.150	46.54	3.167	5818.2	1500.46	0.8
2750.0	2713.3	1.629	1.431	34.639	27.758	40.376	46.38	3.190	5974.4	1501.24	0.8
2800.0	2762.1	1.621	1.418	34.643	27.762	40.603	46.15	3.213	6131.1	1502.06	1.4
2850.0	2811.1	1.608	1.401	34.645	27.765	40.828	45.97	3.236	6289.5	1502.85	1.0
2900.0	2860.7	1.600	1.388	34.648	27.768	41.053	45.80	3.259	6448.8	1503.67	0.3
2950.0	2909.9	1.589	1.372	34.649	27.770	41.278	45.73	3.282	6608.0	1504.47	0.4
3000.0	2959.8	1.582	1.361	34.650	27.771	41.501	45.70	3.305	6770.8	1505.29	1.1
3050.0	3009.7	1.571	1.347	34.652	27.774	41.725	45.57	3.328	6933.2	1506.10	0.0
3100.0	3059.6	1.563	1.332	34.653	27.776	41.949	45.44	3.351	7096.7	1506.90	0.0
3150.0	3109.5	1.557	1.317	34.654	27.777	42.171	45.43	3.373	7261.1	1507.71	0.0
3200.0	3159.4	1.550	1.307	34.655	27.780	42.394	45.36	3.396	7426.5	1508.52	0.0
3250.0	3209.3	1.543	1.294	34.656	27.782	42.617	45.33	3.419	7592.9	1509.33	0.0
3300.0	3259.2	1.536	1.282	34.659	27.784	42.839	45.32	3.441	7760.3	1510.10	0.0
3350.0	3309.1	1.526	1.271	34.661	27.786	43.061	45.13	3.464	7930.3	1511.03	0.0
3400.0	3359.0	1.522	1.262	34.662	27.788	43.282	45.14	3.487	8100.3	1511.86	0.7
3450.0	3408.9	1.516	1.251	34.663	27.789	43.503	45.12	3.509	8271.1	1512.70	0.6
3500.0	3458.8	1.507	1.237	34.664	27.791	43.725	45.05	3.532	8443.4	1513.51	0.0
3550.0	3508.7	1.503	1.228	34.666	27.793	43.946	44.98	3.554	8616.8	1514.36	0.2
3600.0	3558.6	1.498	1.218	34.667	27.795	44.166	44.97	3.577	8791.1	1515.19	0.1
3650.0	3608.5	1.496	1.211	34.668	27.796	44.385	44.90	3.599	8966.6	1516.04	0.6
3700.0	3658.4	1.491	1.201	34.670	27.798	44.606	44.91	3.622	9142.2	1516.88	0.1
3750.0	3708.3	1.490	1.195	34.670	27.799	44.824	45.04	3.644	9320.0	1517.74	0.0
3800.0	3758.2	1.485	1.184	34.670	27.799	45.042	45.08	3.667	9498.9	1518.57	0.0
3850.0	3808.1	1.480	1.174	34.672	27.802	45.262	45.00	3.689	9678.8	1519.42	0.1
3900.0	3858.0	1.480	1.169	34.673	27.803	45.480	45.06	3.712	9858.8	1520.28	0.0
3950.0	3907.9	1.479	1.162	34.674	27.804	45.698	45.11	3.734	10040.4	1521.14	0.0
4000.0	3957.8	1.478	1.156	34.674	27.804	45.915	45.23	3.757	10223.3	1522.00	0.0
4050.0	4007.7	1.478	1.150	34.675	27.806	46.132	45.26	3.779	10407.2	1522.86	0.0
4100.0	4057.6	1.478	1.145	34.675	27.806	46.348	45.39	3.802	10592.1	1523.72	0.0
4150.0	4107.5	1.478	1.140	34.676	27.807	46.565	45.47	3.825	10778.8	1524.58	0.0
4200.0	4157.4	1.478	1.133	34.677	27.808	46.782	45.51	3.847	10966.5	1525.44	0.0
4250.0	4207.3	1.478	1.128	34.677	27.809	46.997	45.63	3.870	11155.3	1526.32	0.0
4300.0	4257.2	1.477	1.121	34.678	27.810	47.213	45.68	3.893	11344.2	1527.18	0.2
4350.0	4307.1	1.478	1.116	34.679	27.811	47.429	45.75	3.916	11533.2	1528.05	0.0
4400.0	4357.0	1.480	1.112	34.679	27.811	47.644	45.91	3.939	11723.8	1528.92	0.1
4450.0	4406.9	1.481	1.107	34.679	27.812	47.859	46.04	3.962	11914.9	1529.79	0.0
4500.0	4456.8	1.483	1.103	34.680	27.813	48.073	46.13	3.985	12106.5	1530.66	0.0
4550.0	4506.7	1.484	1.099	34.681	27.814	48.288	46.25	4.008	12300.0	1531.53	0.0
4600.0	4556.6	1.486	1.095	34.681	27.814	48.503	46.32	4.031	12494.5	1532.40	0.0
4650.0	4606.5	1.488	1.091	34.681	27.814	48.715	46.33	4.054	12690.0	1533.27	0.0
4700.0	4656.4	1.491	1.087	34.682	27.815	48.928	46.32	4.077	12886.5	1534.14	0.0
4750.0	4706.3	1.492	1.082	34.682	27.816	49.142	46.35	4.101	13093.3	1535.01	0.0
4800.0	4756.2	1.494	1.078	34.683	27.817	49.355	46.35	4.124	13299.8	1535.88	0.1
4850.0	4806.1	1.497	1.075	34.683	27.817	49.567	47.02	4.148	13498.4	1536.75	0.1
4900.0	4856.0	1.499	1.071	34.683	27.817	49.780	47.17	4.171	13696.5	1537.70	0.4
4950.0	4905.9	1.501	1.067	34.684	27.818	49.992	47.25	4.195	13896.5	1538.58	0.2
5000.0	4955.8	1.503	1.062	34.685	27.819	50.205	47.35	4.218	14104.0	1539.46	0.1
5050.0	5005.7	1.507	1.060	34.684	27.819	50.415	47.60	4.242	14309.9	1540.35	0.1
5100.0	5055.6	1.511	1.058	34.685	27.820	50.627	47.73	4.266	14516.3	1541.24	0.1
5150.0	5105.5	1.513	1.053	34.685	27.820	50.838	47.89	4.290	14724.4	1542.12	0.5
5200.0	5155.4	1.517	1.051	34.686	27.821	51.049	48.01	4.314	14932.5	1543.01	0.0
5250.0	5205.3	1.521	1.048	34.685	27.820	51.259	48.27	4.338	15142.2	1543.90	0.5
5300.0	5255.2	1.524	1.045	34.687	27.822	51.470	48.32	4.362	15353.4	1544.79	0.1
5350.0	5305.1	1.527	1.041	34.687	27.822	51.680	48.48	4.386	15566.6	1545.68	0.0
5400.0	5355.0	1.530	1.038	34.687	27.822	51.890	48.66	4.411	15779.9	1546.56	0.3
5450.0	5404.9	1.535	1.036	34.687	27.823	52.100	48.88	4.435	15994.5	1547.46	0.1
5500.0	5454.8	1.539									

CTD REPORT RAMA-4 STATION: 24 CAST: 1 DN
 POSITION: 30DEG 0.1MIN N 151DEG 59.8MIN E DATE: 15 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
5800.0	5686.7	1.560	1.014	34.690	27.826	53.561	49.96	4.608	17527.4	1553.70	0.2
5850.0	5735.1	1.564	1.011	34.690	27.827	53.769	50.16	4.633	17751.0	1554.60	0.1
5900.0	5783.5	1.569	1.009	34.690	27.827	53.976	50.38	4.658	17975.9	1555.50	0.0

CTD REPORT RAMA-4 STATION: 25 CAST: 1 DN
 POSITION: 29DEG 14.1MIN N 152DEG 0.2MIN E DATE: 16 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SOD*1E6
0.0	0.0	22.311	28.311	35.280	22.556	22.556	530.65	0.000	0.0	1542.19	
10.0	10.0	22.284	28.284	35.283	22.557	22.557	527.16	0.053	0.0	1542.34	
20.0	20.0	22.241	28.241	35.286	22.558	22.558	523.77	0.103	0.0	1542.49	
30.0	30.0	22.197	28.197	35.289	22.559	22.559	520.38	0.153	0.0	1542.64	
40.0	40.0	22.154	28.154	35.292	22.560	22.560	517.00	0.203	0.0	1542.79	
50.0	50.0	22.110	28.110	35.295	22.561	22.561	513.61	0.253	0.0	1542.94	
60.0	60.0	22.067	28.067	35.298	22.562	22.562	510.23	0.303	0.0	1543.09	
70.0	70.0	22.024	28.024	35.301	22.563	22.563	506.84	0.353	0.0	1543.24	
80.0	80.0	21.981	27.981	35.304	22.564	22.564	503.46	0.403	0.0	1543.39	
90.0	90.0	21.938	27.938	35.307	22.565	22.565	500.07	0.453	0.0	1543.54	
100.0	99.2	19.604	19.585	35.174	25.026	25.460	298.93	0.411	22.8	1522.20	56.3
110.0	109.1	19.426	19.405	35.154	25.058	25.535	296.28	0.441	27.0	1521.84	22.7
120.0	119.1	19.333	19.311	35.141	25.072	25.593	293.77	0.471	31.5	1521.73	29.5
130.0	129.0	19.980	19.956	35.081	25.118	25.683	291.24	0.500	36.3	1520.82	40.3
140.0	138.9	19.716	19.691	35.040	25.154	25.763	288.09	0.529	41.5	1520.19	28.7
150.0	148.8	19.545	19.518	35.011	25.176	25.829	286.39	0.558	46.8	1519.83	25.8
160.0	158.7	19.313	19.284	34.974	25.207	25.904	283.80	0.586	52.2	1519.28	25.8
170.0	168.7	19.165	19.135	34.953	25.228	25.969	282.10	0.615	58.5	1518.99	30.7
180.0	178.6	19.860	19.828	34.907	25.269	26.054	278.51	0.643	64.7	1518.21	35.8
190.0	188.5	17.600	17.567	34.864	25.300	26.130	275.81	0.671	71.2	1517.56	29.7
200.0	198.4	17.471	17.436	34.860	25.329	26.203	273.39	0.698	78.0	1517.34	26.6
210.0	208.3	17.424	17.388	34.878	25.355	26.272	271.32	0.725	85.1	1517.39	20.9
220.0	218.2	17.454	17.416	34.910	25.372	26.333	270.02	0.752	92.4	1517.68	9.4
230.0	228.2	17.457	17.417	34.913	25.374	26.378	270.20	0.779	100.0	1517.85	2.3
240.0	238.1	17.412	17.371	34.901	25.376	26.424	270.32	0.806	107.8	1517.87	1.2
250.0	248.0	17.176	17.133	34.856	25.399	26.492	268.41	0.833	116.0	1517.28	1.9
260.0	257.9	16.993	16.949	34.818	25.414	26.555	267.23	0.860	124.4	1516.85	2.2
270.0	267.8	16.759	16.714	34.782	25.443	26.625	264.78	0.887	133.0	1516.27	1.2
280.0	277.7	16.684	16.637	34.771	25.452	26.678	264.17	0.913	141.9	1516.19	1.2
290.0	287.6	16.560	16.512	34.753	25.468	26.739	262.96	0.940	151.1	1515.96	1.4
300.0	297.6	16.505	16.455	34.753	25.482	26.796	262.02	0.966	160.6	1515.96	0.9
310.0	307.7	16.463	16.414	34.737	25.487	26.845	261.86	0.992	170.3	1515.99	1.1
320.0	317.7	16.424	16.374	34.732	25.503	26.893	261.00	1.018	180.0	1515.91	1.1
330.0	327.7	16.384	16.334	34.732	25.503	26.900	260.88	1.044	190.0	1515.91	0.4
340.0	337.7	16.344	16.294	34.699	25.520	26.950	260.00	1.070	200.0	1515.91	0.0
350.0	347.7	16.305	16.255	34.688	25.538	26.999	259.15	1.095	210.0	1515.91	0.0
360.0	357.7	16.265	16.215	34.658	25.555	27.048	258.43	1.121	220.0	1515.91	0.0
370.0	367.7	16.225	16.175	34.633	25.572	27.097	258.43	1.146	230.0	1515.91	0.0
380.0	377.7	16.185	16.135	34.621	25.582	27.147	258.43	1.170	240.0	1515.91	0.0
390.0	387.7	16.145	16.095	34.591	25.591	27.196	258.43	1.195	250.0	1515.91	0.0
400.0	397.7	14.619	14.558	34.573	25.772	27.537	236.57	1.219	260.0	1511.50	32.1
410.0	406.6	14.474	14.412	34.557	25.791	27.601	234.95	1.242	281.2	1511.18	27.2
420.0	416.6	14.265	14.202	34.543	25.825	27.681	231.85	1.266	293.3	1510.65	36.7
430.0	426.4	13.993	13.929	34.517	25.863	27.765	228.35	1.289	306.3	1509.90	37.1
440.0	436.3	13.741	13.676	34.493	25.898	27.846	225.17	1.311	319.9	1509.22	33.6
450.0	446.2	13.547	13.482	34.481	25.929	27.923	222.35	1.334	333.2	1508.73	30.0
460.0	456.1	13.398	13.332	34.478	25.957	27.996	219.82	1.356	345.6	1508.40	30.0
470.0	466.0	13.180	13.113	34.459	25.987	28.073	217.07	1.378	359.1	1507.81	29.9
480.0	475.9	13.000	12.932	34.448	26.015	28.147	214.53	1.399	372.9	1507.37	30.7
490.0	485.8	12.784	12.715	34.433	26.047	28.225	211.61	1.421	386.8	1506.79	27.8
500.0	495.7	12.615	12.546	34.418	26.069	28.293	209.64	1.442	401.0	1506.36	32.5
510.0	505.6	12.334	12.264	34.399	26.110	28.380	205.80	1.463	415.4	1505.55	41.1
520.0	515.5	12.026	11.956	34.374	26.150	28.468	201.96	1.483	430.0	1504.63	32.2
530.0	525.4	11.893	11.822	34.370	26.172	28.536	199.96	1.503	444.8	1504.33	32.8
540.0	535.3	11.579	11.508	34.346	26.213	28.625	196.05	1.523	459.7	1503.38	26.5
550.0	545.2	11.390	11.318	34.321	26.228	28.687	194.60	1.543	474.9	1502.38	18.1
560.0	555.1	11.268	11.196	34.315	26.246	28.751	193.02	1.562	490.0	1502.38	25.0
570.0	565.0	11.013	10.940	34.293	26.276	28.828	190.20	1.581	505.0	1501.43	34.9
580.0	574.9	10.766	10.693	34.283	26.312	28.912	186.68	1.600	521.1	1501.1	42.7
590.0	584.8	10.414	10.341	34.260	26.356	29.005	182.33	1.618	537.5	1499.99	34.4
600.0	594.7	10.209	10.136	34.240	26.376	29.072	180.41	1.637	553.6	1499.40	27.0
610.0	604.6	9.948	9.875	34.221	26.406	29.150	177.49	1.654	569.8	1498.60	20.0
620.0	614.5	9.753	9.679	34.213	26.433	29.234	174.95	1.672	586.0	1498.00	15.0
630.0	624.4	9.487	9.414	34.184	26.454	29.294	172.78	1.690	602.2	1497.40	10.0
640.0	634.3	9.294	9.220	34.180	26.482	29.370	170.04	1.707	618.4	1496.80	5.0
650.0	644.2	9.086	9.012	34.160	26.500	29.436	168.26	1.724	634.6	1496.20	0.0
660.0	654.1	8.829	8.755	34.145	26.529	29.514	166.37	1.740	650.8	1495.61	0.0
670.0	664.0	8.512	8.439	34.124	26.562	29.596	162.03	1.757	667.0	1495.03	0.0
680.0	673.9	8.392	8.318	34.120	26.577	29.658	160.59	1.773	683.2	1494.87	0.0
690.0	683.8	8.302	8.227	34.114	26.586	29.714	159.78	1.789	700.6	1494.69	0.0
700.0	693.7	8.040	7.966	34.101	26.615	29.792	156.83	1.805	724.1	1494.24	0.0
710.0	703.6	7.792	7.718	34.094	26.646	29.872	153.71	1.820	742.1	1493.85	0.0
720.0	713.5	7.575	7.501	34.080	26.666	29.941	151.63	1.836	760.2	1493.46	0.0
730.0	723.4	7.266	7.193	34.069	26.701	30.026	148.02	1.851	778.4	1493.07	0.0
740.0	733.3	7.156	7.082	34.066	26.714	30.086	146.77	1.865	796.8	1492.68	0.0
750.0	743.2	6.999	6.925	34.061	26.731	30.152	145.01	1.880	815.3	1492.29	0.0
760.0	753.1	6.695	6.622	34.042	26.757	30.229	142.19	1.894	834.0	1491.88	0.0
770.0	763.0	6.563	6.490	34.040	26.773	30.292	140.62	1.909	852.8	1491.49	0.0
780.0	772.9	6.440	6.366	34.040	26.789	30.356	139.03	1.923	871.7	1491.10	0.0
790.0	782.8	6.167	6.094	34.039	26.823	30.441	135.47	1.936	890.8	1490.71	0.0
800.0	792.7	6.018	5.945	34.043	26.844	30.511	133.29	1.950	910.1	1490.32	0.0
810.0	802.6	5.941	5.867	34.048	26.858	30.571	132.00	1.963	929.4	1489.93	0.0
820.0	812.5	5.817	5.743	34.056	26.879	30.640	129.88	1.976	948.8	1489.54	0.0
830.0	822.4	5.782	5.708	34.059	26.886	30.693	129.29	1.989	968.1	1489.15	0.0
840.0	832.3	5.638	5.564	34.064	26.908	30.763	127.14	2.002	987.5	1488.76	0.0
850.0	842.2	5.559	5.484	34.069	26.927	30.824	125.84	2.015	1006.8	1488.37	0.0
860.0	852.1	5.503	5.428	34.068	26.937	30.876	125.31	2.027	1026.1	1487.98	0.0
870.0	862.0	5.330	5.255	34.083	26.959	30.957	122.06	2.040	1045.4	1487.59	0.0
880.0	871.9	5.216	5.141	34.091	26.979	31.025	120.32	2.052	1064.8	1487.20	0.0
890.0	881.8	5.065	4.990	34.104	27.006	31.101	117.33	2.064	1084.2	1486.81	0.0
900.0	891.7	5.016	4.940	34.107	27.014	31.156	116.57	2.075	1103.6	1486.42	0.0
910.0	901.6	4.938	4.863	34.114	27.025	31.215	115.44	2.087	1123.0	1486.03	0.0
920.0	911.5	4.841	4.766	34.125	27.038	31.271	114.56	2.099	1142.4	1485.64	0.0
930.0	921.4	4.762	4.687	34.132							

CTD REPORT RAMA-4 STATION 25 CAST 1 DN
 POSITION 29DEG 14.1MIN N 152DEG 0.2MIN E DATE 16 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS SQD-1E6	FO 1E6
980.0	970.6	4.346	4.268	34.152	27.122	31.645	105.73	2.164	1277.0	1482.79	13.0	
990.0	980.5	4.297	4.219	34.161	27.135	31.704	104.56	2.175	1298.4	1482.76	13.6	
1000.0	990.4	4.239	4.160	34.170	27.148	31.764	103.28	2.185	1319.9	1482.69	14.4	
1050.0	1039.8	4.007	3.926	34.212	27.205	32.055	97.82	2.236	1429.2	1482.60	8.4	
1100.0	1089.2	3.779	3.695	34.255	27.262	32.347	92.34	2.283	1540.8	1482.51	10.2	
1150.0	1138.6	3.608	3.522	34.290	27.306	32.624	88.13	2.328	1654.7	1482.66	9.3	
1200.0	1188.0	3.446	3.357	34.327	27.351	32.902	83.88	2.371	1770.7	1482.84	6.9	
1250.0	1237.3	3.286	3.194	34.361	27.394	33.177	79.86	2.412	1888.8	1483.03	6.1	
1300.0	1286.7	3.187	3.092	34.391	27.427	33.441	76.83	2.451	2008.8	1483.46	6.1	
1350.0	1336.0	3.077	2.979	34.404	27.447	33.693	74.91	2.489	2130.8	1483.84	4.2	
1400.0	1385.4	2.939	2.838	34.429	27.480	33.957	71.79	2.526	2254.5	1484.10	6.0	
1450.0	1434.7	2.849	2.745	34.445	27.500	34.209	69.87	2.562	2380.0	1484.56	4.7	
1500.0	1484.0	2.766	2.659	34.459	27.519	34.458	68.16	2.596	2507.2	1485.05	4.4	
1550.0	1533.3	2.651	2.541	34.477	27.543	34.714	65.77	2.630	2636.0	1485.40	4.4	
1600.0	1582.6	2.561	2.448	34.491	27.562	34.964	63.96	2.662	2766.4	1485.86	4.4	
1650.0	1631.9	2.477	2.361	34.501	27.577	35.209	62.91	2.694	2898.4	1486.34	3.9	
1700.0	1681.2	2.384	2.265	34.513	27.594	35.457	60.80	2.725	3031.9	1486.78	3.9	
1750.0	1730.5	2.309	2.187	34.526	27.611	35.704	59.20	2.755	3166.9	1487.30	3.9	
1800.0	1779.7	2.240	2.115	34.538	27.626	35.949	57.74	2.784	3303.3	1487.84	3.9	
1850.0	1829.0	2.179	2.051	34.546	27.638	36.189	56.66	2.813	3441.1	1488.42	2.6	
1900.0	1878.2	2.120	1.988	34.557	27.651	36.431	55.37	2.841	3580.2	1489.01	2.8	
1950.0	1927.4	2.073	1.938	34.567	27.663	36.672	54.30	2.868	3720.7	1489.55	2.8	
2000.0	1976.6	2.035	1.900	34.573	27.673	36.910	53.37	2.895	3862.2	1490.24	2.4	
2050.0	2025.8	1.982	1.840	34.581	27.680	37.146	52.58	2.921	4004.9	1490.92	1.1	
2100.0	2075.0	1.903	1.759	34.583	27.686	37.381	51.86	2.947	4148.9	1491.60	0.9	
2150.0	2124.2	1.869	1.716	34.580	27.707	37.616	50.33	2.973	4294.3	1492.21	0.9	
2200.0	2173.4	1.841	1.684	34.586	27.713	37.852	49.81	3.004	4440.3	1492.98	0.9	
2250.0	2222.6	1.817	1.656	34.581	27.719	38.085	49.32	3.037	4586.9	1493.70	0.9	
2300.0	2271.7	1.791	1.626	34.581	27.726	38.317	48.74	3.073	4733.6	1494.44	0.9	
2350.0	2320.9	1.791	1.626	34.581	27.726	38.549	48.74	3.073	4880.0	1495.18	0.9	
2400.0	2370.0	1.761	1.592	34.622	27.733	38.781	48.17	3.097	5041.6	1495.89	1.2	
2450.0	2419.1	1.738	1.565	34.627	27.739	39.012	47.70	3.121	5194.3	1496.64	0.4	
2500.0	2468.2	1.720	1.543	34.630	27.743	39.241	47.41	3.145	5348.1	1497.41	1.2	
2550.0	2517.3	1.697	1.516	34.634	27.748	39.471	46.99	3.169	5503.1	1498.15	1.1	
2600.0	2566.4	1.681	1.495	34.636	27.751	39.698	46.80	3.192	5659.2	1498.93	0.8	
2650.0	2615.5	1.660	1.470	34.639	27.755	39.926	46.47	3.215	5816.6	1499.69	0.3	
2700.0	2664.6	1.642	1.448	34.642	27.759	40.154	46.17	3.238	5974.4	1500.46	0.0	
2750.0	2713.6	1.629	1.431	34.645	27.762	40.381	45.94	3.261	6134.2	1501.25	0.4	
2800.0	2762.7	1.614	1.411	34.648	27.766	40.607	45.69	3.284	6294.7	1502.03	0.8	
2850.0	2811.7	1.606	1.399	34.649	27.768	40.832	45.66	3.307	6456.4	1502.85	0.6	
2900.0	2860.7	1.589	1.377	34.652	27.772	41.058	45.36	3.330	6619.1	1503.63	0.7	
2950.0	2909.7	1.580	1.364	34.653	27.774	41.282	45.32	3.353	6782.8	1504.44	0.8	
3000.0	2958.8	1.571	1.350	34.655	27.776	41.506	45.20	3.375	6947.7	1505.25	0.8	
3050.0	3007.7	1.564	1.338	34.656	27.778	41.729	45.17	3.398	7113.6	1506.07	0.1	
3100.0	3056.7	1.558	1.328	34.659	27.779	41.952	45.17	3.420	7280.0	1506.90	0.0	
3150.0	3105.7	1.552	1.317	34.659	27.782	42.175	45.08	3.443	7448.7	1507.72	0.0	
3200.0	3154.7	1.541	1.301	34.660	27.783	42.398	44.99	3.466	7617.7	1508.53	0.4	
3250.0	3203.6	1.533	1.288	34.661	27.785	42.620	44.94	3.488	7788.0	1509.35	1.1	
3300.0	3252.6	1.525	1.275	34.664	27.788	42.844	44.75	3.510	7959.4	1510.17	0.4	
3350.0	3301.5	1.517	1.263	34.664	27.789	43.065	44.79	3.533	8131.6	1510.99	0.3	
3400.0	3350.4	1.510	1.251	34.666	27.792	43.287	44.68	3.555	8305.0	1511.82	0.0	
3450.0	3399.4	1.506	1.242	34.667	27.794	43.508	44.69	3.578	8479.3	1512.69	0.0	
3500.0	3448.3	1.501	1.232	34.668	27.795	43.728	44.78	3.600	8654.4	1513.49	0.0	
3550.0	3497.2	1.498	1.223	34.668	27.795	43.948	44.78	3.622	8831.1	1514.34	0.0	
3600.0	3546.0	1.492	1.213	34.670	27.797	44.169	44.67	3.645	9009.9	1515.17	0.0	
3650.0	3594.9	1.487	1.203	34.670	27.798	44.388	44.73	3.667	9187.7	1516.01	0.0	
3700.0	3643.8	1.487	1.197	34.672	27.800	44.608	44.70	3.689	9367.4	1516.87	0.6	
3750.0	3692.6	1.485	1.190	34.672	27.801	44.826	44.81	3.712	9548.1	1517.72	0.0	
3800.0	3741.5	1.481	1.180	34.673	27.802	45.045	44.82	3.734	9730.0	1518.56	0.2	
3850.0	3790.3	1.479	1.173	34.674	27.803	45.264	44.85	3.757	9912.8	1519.41	0.2	
3900.0	3839.1	1.477	1.166	34.674	27.804	45.481	44.94	3.779	10096.8	1520.27	0.5	
3950.0	3887.9	1.475	1.158	34.675	27.805	45.699	44.98	3.801	10281.7	1521.12	0.0	
4000.0	3936.7	1.473	1.151	34.676	27.806	45.917	45.00	3.824	10467.8	1521.97	0.3	
4050.0	3985.5	1.470	1.142	34.677	27.808	46.135	45.00	3.846	10654.9	1522.83	0.4	
4100.0	4034.3	1.468	1.135	34.677	27.808	46.352	45.10	3.869	10843.0	1523.68	0.4	
4150.0	4083.1	1.468	1.129	34.678	27.809	46.568	45.17	3.891	11032.3	1524.55	0.5	
4200.0	4131.8	1.469	1.125	34.678	27.810	46.784	45.30	3.914	11222.3	1525.41	0.0	
4250.0	4180.6	1.467	1.117	34.679	27.811	47.001	45.32	3.937	11413.9	1526.27	0.0	
4300.0	4229.3	1.467	1.111	34.680	27.812	47.217	45.37	3.959	11606.3	1527.14	0.0	
4350.0	4278.0	1.468	1.106	34.680	27.812	47.432	45.51	3.982	11799.7	1528.01	0.2	
4400.0	4326.8	1.470	1.103	34.680	27.813	47.646	45.67	4.005	11994.3	1528.88	0.4	
4450.0	4375.5	1.471	1.098	34.681	27.814	47.862	45.74	4.028	12189.9	1529.75	0.1	
4500.0	4424.2	1.473	1.094	34.682	27.815	48.076	45.82	4.051	12386.6	1530.63	0.0	
4550.0	4472.9	1.474	1.089	34.682	27.815	48.290	45.96	4.074	12584.3	1531.50	0.2	
4600.0	4521.7	1.475	1.084	34.683	27.815	48.504	46.11	4.097	12783.1	1532.38	0.0	
4650.0	4570.4	1.479	1.082	34.683	27.816	48.718	46.23	4.120	12983.0	1533.26	0.0	
4700.0	4619.1	1.481	1.078	34.683	27.817	48.931	46.37	4.143	13184.4	1534.14	0.0	
4750.0	4667.8	1.483	1.074	34.683	27.817	49.144	46.53	4.166	13386.6	1535.02	0.0	
4800.0	4716.1	1.486	1.071	34.683	27.817	49.356	46.72	4.189	13589.9	1535.90	0.5	
4850.0	4764.8	1.487	1.065	34.684	27.818	49.570	46.78	4.213	13793.3	1536.78	0.1	
4900.0	4813.4	1.490	1.062	34.684	27.819	49.782	46.96	4.236	13998.8	1537.66	0.1	
4950.0	4862.0	1.493	1.059	34.684	27.819	49.994	47.11	4.260	14205.3	1538.55	0.0	
5000.0	4910.6	1.496	1.056	34.685	27.820	50.206	47.23	4.283	14413.3	1539.43	0.2	
5050.0	4959.2	1.499	1.053	34.684	27.820	50.417	47.47	4.307	14621.1	1540.31	0.0	
5100.0	5007.7	1.502	1.049	34.685	27.820	50.629	47.56	4.331	14831.1	1541.20	0.0	
5150.0	5056.3	1.506	1.047	34.686	27.821	50.840	47.70	4.354	15042.1	1542.09	0.0	
5200.0	5104.8	1.509	1.043	34.686	27.821	51.051	47.86	4.378	15254.1	1542.98	0.0	
5250.0	5153.4	1.512	1.040	34.687	27.822	51.262	47.97	4.402	15467.1	1543.87	0.0	
5300.0	5201.9	1.516	1.037	34.686	27.822	51.471	48.22	4.426	15681.4	1544.75	0.0	
5350.0	5250.4	1.520	1.035	34.687	27.823							

CTD REPORT RAMA-4
 POSITION: 29DEG 14.1MIN N 152DEG 0.2MIN E STATION: 25 CAST: 1 DN
 DATE: 16 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FQ SQD*1E6
5800.0	5686.7	1.559	1.013	34.691	27.827	53.562	49.88	4.671	17885.7	1553.70	0.1
5850.0	5735.1	1.565	1.012	34.691	27.827	53.770	50.10	4.696	18112.4	1554.60	0.0
5900.0	5783.5	1.571	1.011	34.691	27.827	53.976	50.35	4.721	18340.3	1555.51	0.0
5950.0	5831.9	1.571	1.004	34.692	27.829	54.185	50.40	4.746	18569.4	1556.38	0.0

CTD REPORT RAMA-4
POSITION: 28DEG 28.9MIN N

151DEG 59.4MIN E

STATION 26 CAST 1 DN
DATE 16 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
10.0	0.0	28.353	28.353	35.230	22.505	22.505	535.52	0.000	0.0	1542.23	
20.0	1.0	28.377	28.374	35.232	22.499	22.542	536.53	0.054	0.3	1542.44	17.1
30.0	2.0	28.356	28.351	35.276	22.540	22.624	533.14	0.107	1.1	1542.61	33.3
40.0	3.0	26.302	26.295	35.334	23.229	23.356	467.72	0.159	2.4	1538.24	582.8
50.0	4.0	24.275	24.266	35.213	23.750	23.921	418.35	0.204	4.2	1533.47	442.0
60.0	5.0	22.509	22.499	35.060	24.146	24.361	380.98	0.244	6.4	1529.04	414.1
70.0	6.0	20.848	20.836	35.063	24.609	24.868	337.18	0.281	9.0	1524.83	314.4
80.0	7.0	20.252	20.239	35.100	24.797	25.100	319.56	0.313	12.0	1523.41	154.3
90.0	8.0	19.563	19.548	35.032	24.928	25.275	307.49	0.345	15.2	1521.59	118.4
	8.3	19.094	19.077	35.022	25.042	25.433	296.95	0.375	18.8	1520.43	92.2
100.0	9.2	18.703	18.685	34.990	25.118	25.553	290.06	0.405	22.7	1519.44	63.0
110.0	10.1	18.375	18.355	34.951	25.171	25.651	285.29	0.434	26.8	1518.62	38.0
120.0	11.1	18.225	18.204	34.933	25.196	25.719	283.34	0.462	31.3	1518.33	24.1
130.0	12.0	18.068	18.045	34.914	25.221	25.787	281.30	0.490	36.0	1518.01	28.0
140.0	13.0	17.848	17.823	34.884	25.252	25.864	278.57	0.518	41.0	1517.50	26.3
150.0	14.0	17.703	17.677	34.865	25.274	25.929	276.86	0.546	46.3	1517.21	27.1
160.0	15.0	17.529	17.501	34.853	25.308	26.007	273.98	0.574	51.8	1516.85	30.9
170.0	16.0	17.382	17.353	34.844	25.337	26.080	271.51	0.601	57.7	1516.57	24.5
180.0	17.0	17.367	17.336	34.866	25.358	26.145	269.89	0.628	63.8	1516.71	16.7
190.0	18.0	17.320	17.287	34.868	25.371	26.202	268.98	0.655	70.1	1516.74	13.1
200.0	19.4	17.199	17.165	34.846	25.384	26.259	268.07	0.682	76.8	1516.52	12.8
210.0	20.8	17.065	17.033	34.821	25.396	26.315	267.20	0.709	83.2	1516.26	12.1
220.0	22.2	17.001	17.001	34.818	25.402	26.365	266.02	0.735	90.0	1516.06	14.1
230.0	23.8	16.853	16.813	34.811	25.423	26.432	265.15	0.762	98.0	1515.83	20.0
240.0	25.0	16.735	16.693	34.803	25.443	26.494	263.70	0.788	105.5	1515.63	14.0
250.0	26.0	16.630	16.588	34.797	25.463	26.559	262.30	0.811	113.2	1515.41	10.0
260.0	27.0	16.545	16.503	34.790	25.484	26.630	261.01	0.835	120.5	1515.24	12.8
270.0	28.7	16.449	16.407	34.740	25.494	26.701	259.71	0.859	130.3	1515.04	16.5
280.0	29.7	16.351	16.303	34.729	25.499	26.770	259.97	0.882	148.3	1515.30	16.5
300.0	30.7	16.274	16.225	34.729	25.517	26.833	258.53	0.945	157.5	1515.22	15.0
310.0	31.7	16.199	16.148	34.721	25.529	26.888	257.73	0.971	167.0	1515.15	17.1
320.0	32.7	16.080	16.028	34.705	25.551	26.955	255.86	0.997	176.8	1514.84	26.6
330.0	33.7	15.948	15.895	34.684	25.582	27.031	253.18	1.022	186.8	1514.35	30.7
340.0	34.7	15.867	15.813	34.670	25.612	27.106	250.49	1.048	197.0	1513.94	29.9
350.0	35.7	15.749	15.693	34.658	25.641	27.180	247.96	1.073	207.5	1513.56	28.9
360.0	36.7	15.643	15.586	34.620	25.670	27.254	245.43	1.097	218.3	1512.88	32.4
370.0	37.7	15.555	15.497	34.609	25.703	27.333	242.45	1.122	229.3	1512.44	43.8
380.0	38.6	15.472	15.414	34.581	25.755	27.431	237.67	1.146	240.5	1511.52	41.1
390.0	39.6	15.312	15.253	34.560	25.785	27.506	234.99	1.169	252.0	1510.98	26.1
400.0	39.6	14.371	14.311	34.548	25.806	27.573	233.16	1.193	263.7	1510.67	24.2
410.0	40.6	14.199	14.138	34.534	25.832	27.644	230.86	1.216	275.6	1510.27	36.5
420.0	41.6	13.908	13.846	34.513	25.878	27.736	226.63	1.239	287.6	1509.46	41.1
430.0	42.6	13.646	13.583	34.489	25.914	27.819	223.26	1.262	300.0	1508.74	32.5
440.0	43.6	13.328	13.264	34.486	25.936	27.886	221.35	1.284	312.8	1508.51	30.7
450.0	44.6	13.024	12.959	34.478	25.976	27.972	217.66	1.306	325.6	1507.92	44.4
460.0	45.6	12.831	12.763	34.432	26.023	28.067	213.13	1.328	338.6	1506.67	41.1
470.0	46.6	12.654	12.589	34.412	26.056	28.146	210.08	1.349	351.9	1506.00	35.5
480.0	47.6	12.390	12.324	34.392	26.093	28.230	206.66	1.370	365.4	1505.24	28.9
490.0	48.6	12.140	12.074	34.371	26.125	28.309	203.66	1.390	379.0	1504.53	33.2
500.0	49.5	11.957	11.890	34.367	26.157	28.387	200.69	1.411	392.9	1504.06	22.1
510.0	50.5	11.832	11.764	34.360	26.188	28.463	199.83	1.431	407.0	1503.92	22.5
520.0	51.5	11.717	11.648	34.353	26.219	28.538	198.91	1.450	421.1	1503.71	11.1
530.0	52.5	11.617	11.548	34.346	26.250	28.612	197.94	1.468	435.7	1503.43	11.1
540.0	53.5	11.523	11.453	34.338	26.280	28.687	197.01	1.486	450.0	1503.16	11.1
550.0	54.5	11.437	11.367	34.330	26.310	28.762	196.08	1.503	465.0	1502.84	11.1
560.0	55.5	11.352	11.281	34.322	26.340	28.837	195.15	1.520	480.0	1502.43	11.1
570.0	56.5	11.273	11.202	34.314	26.370	28.912	194.22	1.537	495.0	1502.01	11.1
580.0	57.5	11.198	11.127	34.306	26.400	28.987	193.29	1.553	510.0	1501.58	11.1
590.0	58.4	11.127	11.056	34.298	26.429	29.062	192.36	1.569	526.0	1501.15	11.1
600.0	59.4	11.056	10.985	34.290	26.458	29.137	191.43	1.585	542.0	1500.72	11.1
610.0	60.4	10.985	10.914	34.282	26.487	29.212	190.50	1.601	558.0	1500.29	11.1
620.0	61.4	10.914	10.843	34.274	26.516	29.287	189.57	1.617	574.0	1500.00	11.1
630.0	62.4	10.843	10.772	34.266	26.545	29.362	188.64	1.633	590.0	1500.00	11.1
640.0	63.4	10.772	10.701	34.258	26.574	29.437	187.71	1.649	606.0	1500.00	11.1
650.0	64.4	10.701	10.630	34.250	26.603	29.512	186.78	1.665	622.0	1500.00	11.1
660.0	65.4	10.630	10.559	34.242	26.632	29.587	185.85	1.681	638.0	1500.00	11.1
670.0	66.4	10.559	10.488	34.234	26.661	29.662	184.92	1.697	654.0	1500.00	11.1
680.0	67.4	10.488	10.417	34.226	26.690	29.737	183.99	1.713	670.0	1500.00	11.1
690.0	68.4	10.417	10.346	34.218	26.719	29.812	183.06	1.728	686.0	1500.00	11.1
700.0	69.4	10.346	10.275	34.210	26.748	29.887	182.13	1.744	702.0	1500.00	11.1
710.0	70.4	10.275	10.204	34.202	26.777	29.962	181.20	1.759	718.0	1500.00	11.1
720.0	71.4	10.204	10.133	34.194	26.806	30.037	180.27	1.775	734.0	1500.00	11.1
730.0	72.4	10.133	10.062	34.186	26.835	30.112	179.34	1.790	750.0	1500.00	11.1
740.0	73.4	10.062	9.991	34.178	26.864	30.187	178.41	1.806	766.0	1500.00	11.1
750.0	74.4	9.991	9.920	34.170	26.893	30.262	177.48	1.821	782.0	1500.00	11.1
760.0	75.4	9.920	9.849	34.162	26.922	30.337	176.55	1.837	798.0	1500.00	11.1
770.0	76.4	9.849	9.778	34.154	26.951	30.412	175.62	1.852	814.0	1500.00	11.1
780.0	77.4	9.778	9.707	34.146	26.980	30.487	174.69	1.868	830.0	1500.00	11.1
790.0	78.4	9.707	9.636	34.138	27.009	30.562	173.76	1.883	846.0	1500.00	11.1
800.0	79.4	9.636	9.565	34.130	27.038	30.637	172.83	1.899	862.0	1500.00	11.1
810.0	80.4	9.565	9.494	34.122	27.067	30.712	171.90	1.914	878.0	1500.00	11.1
820.0	81.4	9.494	9.423	34.114	27.096	30.787	170.97	1.930	894.0	1500.00	11.1
830.0	82.4	9.423	9.352	34.106	27.125	30.862	170.04	1.945	910.0	1500.00	11.1
840.0	83.4	9.352	9.281	34.098	27.154	30.937	169.11	1.961	926.0	1500.00	11.1
850.0	84.4	9.281	9.210	34.090	27.183	31.012	168.18	1.976	942.0	1500.00	11.1
860.0	85.4	9.210	9.139	34.082	27.212	31.087	167.25	1.992	958.0	1500.00	11.1
870.0	86.4	9.139	9.068	34.074	27.241	31.162	166.32	2.007	974.0	1500.00	11.1
880.0	87.4	9.068	8.997	34.066	27.270	31.237	165.39	2.023	990.0	1500.00	11.1
890.0	88.4	8.997	8.926	34.058	27.299	31.312	164.46	2.038	1006.0	1500.00	11.1
900.0	89.4	8.926	8.855	34.050	27.328	31.387	163.53	2.054	1022.0	1500.00	11.1
910.0	90.4	8.855	8.784	34.042	27.357	31.462	162.60	2.069	1038.0	1500.00	11.1
920.0	91.4	8.784	8.713	34.034	27.386	31.537	161.67	2.085	1054.0	1500.00	11.1
930.0	92.4	8.713	8.642	34.026	27.415	31.612	160.74				

CTD REPORT RAMA-4 STATION: 26 CAST: 1 DN
 POSITION: 280EG 28.9MIN N 151DEG 59.4MIN E DATE: 16 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
980.0	970.6	4.212	4.135	34.178	27.157	31.683	102.19	2.102	1245.8	1482.26	18.0
990.0	980.5	4.168	4.090	34.200	27.179	31.751	100.12	2.112	1266.6	1482.27	19.2
1000.0	990.4	4.094	4.016	34.209	27.193	31.813	98.66	2.122	1287.7	1482.14	13.0
1050.0	1039.8	3.899	3.819	34.252	27.247	32.100	93.59	2.170	1393.3	1482.19	11.8
1089.2	1079.2	3.685	3.602	34.293	27.301	32.388	88.43	2.216	1501.9	1482.16	9.9
1150.0	1138.0	3.579	3.493	34.311	27.326	32.644	86.25	2.259	1612.4	1482.96	9.9
1200.0	1188.0	3.365	3.277	34.353	27.380	32.932	81.01	2.301	1725.0	1482.93	9.9
1250.0	1237.3	3.232	3.190	34.373	27.403	33.187	78.92	2.341	1839.9	1483.02	6.3
1300.0	1286.7	3.148	3.053	34.392	27.431	33.446	76.29	2.380	1956.1	1483.30	6.2
1350.0	1336.0	2.994	2.897	34.418	27.466	33.714	72.92	2.417	2074.5	1483.50	6.2
1400.0	1385.4	2.876	2.776	34.440	27.494	33.974	70.24	2.453	2194.7	1483.84	6.0
1450.0	1434.7	2.758	2.658	34.457	27.517	34.228	68.06	2.488	2316.6	1484.23	5.9
1500.0	1484.0	2.640	2.540	34.469	27.543	34.477	65.99	2.521	2440.0	1484.73	5.9
1550.0	1533.3	2.522	2.422	34.483	27.568	34.723	63.93	2.554	2564.1	1485.24	5.9
1600.0	1582.6	2.404	2.304	34.495	27.593	34.971	61.86	2.588	2688.2	1485.74	5.9
1650.0	1631.9	2.286	2.186	34.509	27.618	35.219	59.79	2.621	2812.3	1486.24	5.9
1700.0	1681.2	2.168	2.068	34.524	27.643	35.468	57.72	2.654	2936.4	1486.74	5.9
1750.0	1730.5	2.050	1.950	34.533	27.668	35.711	55.65	2.687	3060.5	1487.24	5.9
1800.0	1779.7	1.932	1.832	34.542	27.693	35.951	53.58	2.720	3184.6	1487.74	5.9
1850.0	1829.0	1.814	1.714	34.552	27.718	36.192	51.51	2.753	3308.7	1488.24	5.9
1900.0	1878.2	1.696	1.596	34.565	27.743	36.436	49.44	2.786	3432.8	1488.74	5.9
1950.0	1927.4	1.578	1.478	34.573	27.768	36.676	47.37	2.819	3556.9	1489.24	5.9
2000.0	1976.6	1.460	1.360	34.579	27.793	36.912	45.30	2.852	3681.0	1489.74	5.9
2050.0	2025.8	1.342	1.242	34.587	27.818	37.150	43.23	2.885	3805.1	1490.24	5.9
2100.0	2075.0	1.224	1.124	34.591	27.843	37.382	41.16	2.918	3929.2	1490.74	5.9
2150.0	2124.2	1.106	1.006	34.596	27.868	37.615	39.09	2.951	4053.3	1491.24	5.9
2200.0	2173.4	1.088	0.988	34.602	27.893	37.850	37.02	2.984	4177.4	1491.74	5.9
2250.0	2222.6	1.070	0.970	34.606	27.918	38.081	34.95	3.017	4301.5	1492.24	5.9
2300.0	2271.7	1.052	0.952	34.610	27.943	38.312	32.88	3.050	4425.6	1492.74	5.9
2350.0	2320.9	1.034	0.934	34.613	27.968	38.544	30.81	3.083	4549.7	1493.24	5.9
2400.0	2370.0	1.016	0.916	34.617	27.993	38.774	28.74	3.116	4673.8	1493.74	5.9
2450.0	2419.1	0.998	0.898	34.622	28.018	39.006	26.67	3.149	4797.9	1494.24	5.9
2500.0	2468.2	0.980	0.880	34.626	28.043	39.236	24.60	3.182	4922.0	1494.74	5.9
2550.0	2517.3	0.962	0.862	34.629	28.068	39.465	22.53	3.215	5046.1	1495.24	5.9
2600.0	2566.4	0.944	0.844	34.632	28.093	39.693	20.46	3.248	5170.2	1495.74	5.9
2650.0	2615.5	0.926	0.826	34.636	28.118	39.922	18.39	3.281	5294.3	1496.24	5.9
2700.0	2664.6	0.908	0.808	34.638	28.143	40.150	16.32	3.314	5418.4	1496.74	5.9
2750.0	2713.7	0.890	0.790	34.640	28.168	40.374	14.25	3.347	5542.5	1497.24	5.9
2800.0	2762.8	0.872	0.772	34.642	28.193	40.600	12.18	3.380	5666.6	1497.74	5.9
2850.0	2811.9	0.854	0.754	34.645	28.218	40.826	10.11	3.413	5790.7	1498.24	5.9
2900.0	2860.7	0.836	0.736	34.647	28.243	41.052	8.04	3.446	5914.8	1498.74	5.9
2950.0	2909.7	0.818	0.718	34.649	28.268	41.277	5.97	3.479	6038.9	1499.24	5.9
3000.0	2958.8	0.800	0.700	34.652	28.293	41.503	3.90	3.512	6163.0	1499.74	5.9
3050.0	3007.8	0.782	0.682	34.654	28.318	41.727	1.83	3.545	6287.1	1500.24	5.9
3100.0	3056.7	0.764	0.664	34.655	28.343	41.950	-0.24	3.578	6411.2	1500.74	5.9
3150.0	3105.7	0.746	0.646	34.657	28.368	42.174	-2.31	3.611	6535.3	1501.24	5.9
3200.0	3154.7	0.728	0.628	34.658	28.393	42.396	-4.38	3.644	6659.4	1501.74	5.9
3250.0	3203.6	0.710	0.610	34.659	28.418	42.618	-6.45	3.677	6783.5	1502.24	5.9
3300.0	3252.6	0.692	0.592	34.661	28.443	42.841	-8.52	3.710	6907.6	1502.74	5.9
3350.0	3301.5	0.674	0.574	34.662	28.468	43.063	-10.59	3.743	7031.7	1503.24	5.9
3400.0	3350.4	0.656	0.556	34.663	28.493	43.284	-12.66	3.776	7155.8	1503.74	5.9
3450.0	3399.4	0.638	0.538	34.665	28.518	43.505	-14.73	3.809	7279.9	1504.24	5.9
3500.0	3448.3	0.620	0.520	34.665	28.543	43.725	-16.80	3.842	7404.0	1504.74	5.9
3550.0	3497.2	0.602	0.502	34.667	28.568	43.947	-18.87	3.875	7528.1	1505.24	5.9
3600.0	3546.1	0.584	0.484	34.668	28.593	44.166	-20.94	3.908	7652.2	1505.74	5.9
3650.0	3595.0	0.566	0.466	34.668	28.618	44.385	-23.01	3.941	7776.3	1506.24	5.9
3700.0	3643.9	0.548	0.448	34.669	28.643	44.605	-25.08	3.974	7900.4	1506.74	5.9
3750.0	3692.8	0.530	0.430	34.670	28.668	44.824	-27.15	4.007	8024.5	1507.24	5.9
3800.0	3741.7	0.512	0.412	34.671	28.693	45.043	-29.22	4.040	8148.6	1507.74	5.9
3850.0	3790.6	0.494	0.394	34.672	28.718	45.262	-31.29	4.073	8272.7	1508.24	5.9
3900.0	3839.5	0.476	0.376	34.673	28.743	45.481	-33.36	4.106	8396.8	1508.74	5.9
3950.0	3888.4	0.458	0.358	34.674	28.768	45.699	-35.43	4.139	8520.9	1509.24	5.9
4000.0	3937.3	0.440	0.340	34.675	28.793	45.917	-37.50	4.172	8645.0	1509.74	5.9
4050.0	3986.2	0.422	0.322	34.675	28.818	46.133	-39.57	4.205	8769.1	1510.24	5.9
4100.0	4035.1	0.404	0.304	34.676	28.843	46.350	-41.64	4.238	8893.2	1510.74	5.9
4150.0	4084.0	0.386	0.286	34.676	28.868	46.565	-43.71	4.271	9017.3	1511.24	5.9
4200.0	4132.9	0.368	0.268	34.677	28.893	46.783	-45.78	4.304	9141.4	1511.74	5.9
4250.0	4181.8	0.350	0.250	34.677	28.918	46.998	-47.85	4.337	9265.5	1512.24	5.9
4300.0	4230.7	0.332	0.232	34.678	28.943	47.215	-49.92	4.370	9389.6	1512.74	5.9
4350.0	4279.6	0.314	0.214	34.678	28.968	47.432	-51.99	4.403	9513.7	1513.24	5.9
4400.0	4328.5	0.296	0.196	34.679	28.993	47.649	-54.06	4.436	9637.8	1513.74	5.9
4450.0	4377.4	0.278	0.178	34.679	29.018	47.860	-56.13	4.469	9761.9	1514.24	5.9
4500.0	4426.3	0.260	0.160	34.680	29.043	48.075	-58.20	4.502	9886.0	1514.74	5.9
4550.0	4475.2	0.242	0.142	34.681	29.068	48.289	-60.27	4.535	10010.1	1515.24	5.9
4600.0	4524.1	0.224	0.124	34.681	29.093	48.503	-62.34	4.568	10134.2	1515.74	5.9
4650.0	4573.0	0.206	0.106	34.682	29.118	48.717	-64.41	4.601	10258.3	1516.24	5.9
4700.0	4621.9	0.188	0.088	34.682	29.143	48.930	-66.48	4.634	10382.4	1516.74	5.9
4750.0	4670.8	0.170	0.070	34.682	29.168	49.143	-68.55	4.667	10506.5	1517.24	5.9
4800.0	4719.7	0.152	0.052	34.683	29.193	49.356	-70.62	4.700	10630.6	1517.74	5.9
4850.0	4768.6	0.134	0.034	34.682	29.218	49.568	-72.69	4.733	10754.7	1518.24	5.9
4900.0	4817.5	0.116	0.016	34.683	29.243	49.782	-74.76	4.766	10878.8	1518.74	5.9
4950.0	4866.4	0.098	0.098	34.683	29.268	49.994	-76.83	4.799	11002.9	1519.24	5.9
5000.0	4915.3	0.080	0.080	34.685	29.293	50.207	-78.90	4.832	11127.0	1519.74	5.9
5050.0	4964.2	0.062	0.062	34.685	29.318	50.419	-80.97	4.865	11251.1	1520.24	5.9
5100.0	5013.1	0.044	0.044	34.685	29.343	50.629	-83.04	4.898	11375.2	1520.74	5.9
5150.0	5062.0	0.026	0.026	34.685	29.368	50.841	-85.11	4.931	11499.3	1521.24	5.9
5200.0	5110.9	0.008	0.008	34.685	29.393	51.051	-87.18	4.964	11623.4	1521.74	5.9
5250.0	5159.8	0.000	0.000	34.685	29.418	51.262	-89.25	4.997	11747.5	1522.24	5.9
5300.0	5208.7	0.000	0.000	34.685	29.443	51.472	-91.32	5.030	11871.6	1522.74	5.9
5350.0	5257.6	0.000	0.000	34.687	29.468	51.683	-93.39	5.063	11995.7	1523.24	5.9
5400.0	5306.5	0.000	0.000	34.686	29.493	51.892	-95.46	5.096	12119.8	1523.74	5.9
5450.0	5355.4	0.000	0.000	34.687	29.518	52.102	-97.53	5.129	12243.9	1524.24	5.9
5500.0	5404.3	0.000	0.000	34.687							

CTD REPORT RAMA-4
 POSITION: 28DEG 28.9MIN N

151DEG 59.4MIN E

STATION: 26 CAST: 1 DN
 DATE: 16 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
5800.0	5686.7	1.558	1.012	34.690	27.827	53.562	49.92	4.600	17509.3	1553.69	0.1
5850.0	5735.1	1.564	1.011	34.690	27.827	53.562	50.16	4.605	17732.5	1552.60	0.0
5900.0	5783.5	1.570	1.010	34.690	27.827	53.576	50.39	4.650	17957.0	1555.50	0.4
5950.0	5831.9	1.576	1.009	34.691	27.828	54.183	50.57	4.675	18182.6	1556.40	0.0

STATION: 27 CAST: 2 DN
N E DATE: 17 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS SQD-1E6	FO 1E6
100.0	0.0	28.808	28.808	35.241	22.367	22.367	548.70	0.000	0.0	1543.22		
110.0	0.0	28.783	28.783	35.275	22.401	22.401	545.91	0.055	0.3	1543.36		
120.0	0.0	28.642	28.642	35.239	22.448	22.448	541.99	0.109	1.1	1543.22		
130.0	0.0	28.012	28.012	35.057	22.537	22.537	535.66	0.199	2.4	1543.76		
140.0	0.0	27.082	27.082	34.742	22.634	22.634	527.10	0.284	3.6	1543.99		
150.0	0.0	26.742	26.742	34.693	22.693	22.693	523.63	0.358	4.9	1543.32		
160.0	0.0	26.261	26.261	34.611	22.742	22.742	519.00	0.424	6.1	1543.28		
170.0	0.0	25.767	25.767	34.500	22.785	22.785	514.33	0.481	7.5	1543.77		
180.0	0.0	25.263	25.263	34.365	22.822	22.822	509.66	0.530	8.8	1543.44		
190.0	0.0	24.754	24.754	34.212	22.853	22.853	504.95	0.571	10.0	1543.10		
200.0	0.0	24.241	24.241	34.043	22.879	22.879	500.20	0.605	11.3	1543.51		
210.0	0.0	23.725	23.725	33.860	22.901	22.901	495.41	0.633	12.6	1543.89		
220.0	0.0	23.202	23.202	33.663	22.919	22.919	490.59	0.656	13.9	1543.29		
230.0	0.0	22.673	22.673	33.452	22.933	22.933	485.74	0.674	15.2	1543.55		
240.0	0.0	22.139	22.139	33.228	22.944	22.944	480.85	0.687	16.5	1543.77		
250.0	0.0	21.601	21.601	32.992	22.952	22.952	475.92	0.696	17.8	1543.88		
260.0	0.0	21.059	21.059	32.745	22.957	22.957	470.95	0.701	19.0	1543.99		
270.0	0.0	20.513	20.513	32.487	22.960	22.960	465.94	0.703	20.3	1543.99		
280.0	0.0	19.963	19.963	32.218	22.961	22.961	460.89	0.703	21.6	1543.99		
290.0	0.0	19.409	19.409	31.938	22.960	22.960	455.80	0.701	22.9	1543.99		
300.0	0.0	18.852	18.852	31.647	22.957	22.957	450.67	0.696	24.2	1543.99		
310.0	0.0	18.292	18.292	31.347	22.952	22.952	445.51	0.687	25.5	1543.99		
320.0	0.0	17.729	17.729	31.038	22.944	22.944	440.32	0.674	26.8	1543.99		
330.0	0.0	17.163	17.163	30.721	22.933	22.933	435.10	0.656	28.1	1543.99		
340.0	0.0	16.594	16.594	30.397	22.919	22.919	429.85	0.633	29.4	1543.99		
350.0	0.0	16.021	16.021	30.066	22.901	22.901	424.57	0.605	30.7	1543.99		
360.0	0.0	15.445	15.445	29.728	22.879	22.879	419.26	0.571	32.0	1543.99		
370.0	0.0	14.866	14.866	29.383	22.853	22.853	413.92	0.530	33.3	1543.99		
380.0	0.0	14.284	14.284	29.028	22.822	22.822	408.55	0.481	34.6	1543.99		
390.0	0.0	13.699	13.699	28.663	22.785	22.785	403.15	0.424	35.9	1543.99		
400.0	0.0	13.111	13.111	28.287	22.742	22.742	397.72	0.358	37.2	1543.99		
410.0	0	12.523	12.523	27.890	22.699	22.699	392.29	0.284	38.5	1543.99		
420.0	0	11.935	11.935	27.487	22.652	22.652	386.85	0.209	39.8	1543.99		
430.0	0	11.347	11.347	27.078	22.602	22.602	381.41	0.134	41.1	1543.99		
440.0	0	10.759	10.759	26.663	22.549	22.549	375.97	0.059	42.4	1543.99		
450.0	0	10.171	10.171	26.218	22.492	22.492	370.53	0.000	43.7	1543.99		
460.0	0	9.583	9.583	25.767	22.433	22.433	365.09	0.000	45.0	1543.99		
470.0	0	8.995	8.995	25.312	22.372	22.372	359.65	0.000	46.3	1543.99		
480.0	0	8.407	8.407	24.857	22.309	22.309	354.21	0.000	47.6	1543.99		
490.0	0	7.819	7.819	24.400	22.244	22.244	348.77	0.000	48.9	1543.99		
500.0	0	7.231	7.231	23.941	22.177	22.177	343.33	0.000	50.2	1543.99		
510.0	0	6.643	6.643	23.480	22.109	22.109	337.89	0.000	51.5	1543.99		
520.0	0	6.055	6.055	23.018	22.039	22.039	332.45	0.000	52.8	1543.99		
530.0	0	5.467	5.467	22.556	21.967	21.967	327.01	0.000	54.1	1543.99		
540.0	0	4.879	4.879	22.094	21.894	21.894	321.57	0.000	55.4	1543.99		
550.0	0	4.291	4.291	21.632	21.819	21.819	316.13	0.000	56.7	1543.99		
560.0	0	3.703	3.703	21.170	21.743	21.743	310.69	0.000	58.0	1543.99		
570.0	0	3.115	3.115	20.708	21.666	21.666	305.25	0.000	59.3	1543.99		
580.0	0	2.527	2.527	20.246	21.588	21.588	299.81	0.000	60.6	1543.99		
590.0	0	1.939	1.939	19.784	21.509	21.509	294.37	0.000	61.9	1543.99		
600.0	0	1.351	1.351	19.319	21.429	21.429	288.93	0.000	63.2	1543.99		
610.0	0	0.763	0.763	18.857	21.348	21.348	283.49	0.000	64.5	1543.99		
620.0	0	0.175	0.175	18.395	21.266	21.266	278.05	0.000	65.8	1543.99		
630.0	0	-0.413	-0.413	17.933	21.183	21.183	272.61	0.000	67.1	1543.99		
640.0	0	-0.999	-0.999	17.471	21.099	21.099	267.17	0.000	68.4	1543.99		
650.0	0	-1.587	-1.587	17.009	21.014	21.014	261.73	0.000	69.7	1543.99		
660.0	0	-2.175	-2.175	16.547	20.929	20.929	256.29	0.000	71.0	1543.99		
670.0	0	-2.763	-2.763	16.085	20.843	20.843	250.85	0.000	72.3	1543.99		
680.0	0	-3.351	-3.351	15.623	20.757	20.757	245.41	0.000	73.6	1543.99		
690.0	0	-3.939	-3.939	15.161	20.671	20.671	239.97	0.000	74.9	1543.99		
700.0	0	-4.527	-4.527	14.699	20.585	20.585	234.53	0.000	76.2	1543.99		
710.0	0	-5.115	-5.115	14.237	20.499	20.499	229.09	0.000	77.5	1543.99		
720.0	0	-5.703	-5.703	13.775	20.413	20.413	223.65	0.000	78.8	1543.99		
730.0	0	-6.291	-6.291	13.313	20.327	20.327	218.21	0.000	80.1	1543.99		
740.0	0	-6.879	-6.879	12.851	20.241	20.241	212.77	0.000	81.4	1543.99		
750.0	0	-7.467	-7.467	12.389	20.155	20.155	207.33	0.000	82.7	1543.99		
760.0	0	-8.055	-8.055	11.927	20.069	20.069	201.89	0.000	84.0	1543.99		
770.0	0	-8.643	-8.643	11.465	19.983	19.983	196.45	0.000	85.3	1543.99		
780.0	0	-9.231	-9.231	11.003	19.897	19.897	191.01	0.000	86.6	1543.99		
790.0	0	-9.819	-9.819	10.541	19.811	19.811	185.57	0.000	87.9	1543.99		
800.0	0	-10.407	-10.407	10.079	19.725	19.725	180.13	0.000	89.2	1543.99		
810.0	0	-10.995	-10.995	9.617	19.639	19.639	174.69	0.000	90.5	1543.99		
820.0	0	-11.583	-11.583	9.155	19.553	19.553	169.25	0.000	91.8	1543.99		
830.0	0	-12.171	-12.171	8.693	19.467	19.467	163.81	0.000	93.1	1543.99		
840.0	0	-12.759	-12.759	8.231	19.381	19.381	158.37	0.000	94.4	1543.99		
850.0	0	-13.347	-13.347	7.769	19.295	19.295	152.93	0.000	95.7	1543.99		
860.0	0	-13.935	-13.935	7.307	19.209	19.209	147.49	0.000	97.0	1543.99		
870.0	0	-14.523	-14.523	6.845	19.123	19.123	142.05	0.000	98.3	1543.99		
880.0	0	-15.111	-15.111	6.383	19.037	19.037	136.61	0.000	99.6	1543.99		
890.0	0	-15.699	-15.699	5.921	18.951	18.951	131.17	0.000	100.9	1543.99		
900.0	0	-16.287	-16.287	5.459	18.865	18.865	125.73	0.000	102.2	1543.99		
910.0	0	-16.875	-16.875	5.000	18.779	18.779	120.29	0.000	103.5	1543.99		
920.0	0	-17.463	-17.463	4.541	18.693	18.693	114.85	0.000	104.8	1543.99		
930.0	0	-18.051	-18.051	4.083	18.607	18.607	109.41	0.000	106.1	1543.99		
940.0	0	-18.639	-18.639	3.625	18.521	18.521	103.97	0.000	107.4	1543.99		
950.0	0	-19.227	-19.227	3.167	18.435	18.435	98.53	0.000	108.7	1543.99		
960.0	0	-19.815	-19.815	2.709	18.349	18.349	93.09	0.000	110.0	1543.99		
970.0	0	-20.403	-20.403	2.251	18.263	18.263	87.65	0.000	111.3	1543.99		
980.0	0	-20.991	-20.991	1.793	18.177	18.177	82.21	0.000	112.6	1543.99		
990.0	0	-21.579	-21.579	1.335	18.091	18.091	76.77	0.000	113.9	1543.99		
1000.0	0	-22.167	-22.167	0.877	18.005	18.005	71.33	0.000	115.2	1543.99		

CTD REPORT RAMA-4 STATION: 27 CAST: 2 DN
 POSITION: 27DEG 59.5MIN N 151DEG 56.3MIN E DATE: 17 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
980.0	970.6	4.194	4.117	34.215	27.188	31.714	99.24	2.126	1278.9	1482.23	15.0
990.0	980.5	4.152	4.075	34.227	27.202	31.774	97.94	2.136	1300.0	1482.24	12.7
1000.0	990.4	4.107	4.029	34.234	27.212	31.831	96.96	2.146	1321.1	1482.22	15.4
1050.0	1039.8	3.847	3.767	34.289	27.282	32.136	90.24	2.193	1428.3	1482.02	8.1
1100.0	1089.2	3.632	3.550	34.308	27.318	32.407	86.70	2.237	1537.7	1481.96	7.6
1150.0	1138.6	3.493	3.408	34.340	27.357	32.678	83.10	2.280	1649.3	1482.23	8.7
1200.0	1188.0	3.340	3.252	34.366	27.392	32.946	79.76	2.320	1762.9	1482.44	9.0
1250.0	1237.3	3.195	3.104	34.392	27.426	33.212	76.51	2.359	1878.4	1482.68	6.2
1300.0	1286.7	3.048	2.954	34.416	27.459	33.478	73.37	2.397	1995.8	1482.90	6.1
1350.0	1336.0	2.951	2.854	34.438	27.485	33.735	70.95	2.433	2114.9	1483.34	3.5
1400.0	1385.4	2.899	2.799	34.450	27.500	33.979	69.77	2.468	2235.9	1483.96	4.6
1450.0	1434.7	2.801	2.698	34.464	27.520	34.230	67.91	2.503	2358.5	1484.38	4.3
1500.0	1484.0	2.670	2.564	34.481	27.544	34.487	65.43	2.536	2482.7	1484.65	4.7
1550.0	1533.3	2.561	2.452	34.492	27.562	34.737	63.63	2.568	2608.0	1485.03	3.9
1600.0	1582.7	2.480	2.368	34.505	27.580	34.985	62.00	2.599	2735.9	1485.52	4.7
1650.0	1631.9	2.387	2.272	34.523	27.602	35.238	59.85	2.630	2864.0	1485.97	9.9
1700.0	1681.1	2.248	2.200	34.531	27.612	35.476	59.04	2.660	2995.7	1486.24	2.2
1750.0	1730.5	2.287	2.165	34.543	27.626	35.720	57.70	2.689	3126.0	1486.72	1.4
1800.0	1779.7	2.231	2.106	34.553	27.639	35.961	56.34	2.718	3256.0	1487.22	1.8
1850.0	1829.0	2.177	2.049	34.562	27.651	36.202	55.47	2.746	3394.0	1488.43	3.4
1900.0	1878.2	2.127	1.995	34.570	27.661	36.441	54.50	2.773	3530.4	1489.06	3.2
1950.0	1927.4	2.077	1.942	34.578	27.672	36.680	53.55	2.800	3667.6	1489.68	2.1
2000.0	1976.6	2.024	1.885	34.588	27.681	36.917	52.68	2.827	3806.0	1490.29	2.7
2050.0	2025.8	2.004	1.853	34.590	27.687	37.150	51.19	2.853	3945.8	1490.95	1.3
2100.0	2075.1	1.969	1.803	34.595	27.694	37.384	50.61	2.879	4086.7	1491.74	2.4
2150.0	2124.4	1.934	1.753	34.600	27.702	37.619	50.89	2.905	4229.0	1492.38	1.0
2200.0	2173.4	1.907	1.753	34.606	27.708	37.851	50.43	2.930	4372.4	1493.15	2.7
2250.0	2222.6	1.867	1.709	34.609	27.714	38.084	49.90	2.955	4517.0	1493.82	1.3
2300.0	2271.7	1.839	1.677	34.612	27.719	38.314	49.52	2.980	4662.9	1494.54	1.5
2350.0	2320.9	1.810	1.644	34.618	27.726	38.547	48.90	3.004	4809.9	1495.26	1.2
2400.0	2370.0	1.786	1.616	34.621	27.730	38.777	48.57	3.029	4958.1	1496.00	1.6
2450.0	2419.1	1.768	1.594	34.627	27.737	39.008	48.07	3.053	5107.5	1496.77	0.8
2500.0	2468.2	1.760	1.582	34.629	27.739	39.235	47.99	3.077	5258.0	1497.58	1.3
2550.0	2517.3	1.722	1.540	34.630	27.743	39.464	47.59	3.101	5409.6	1498.26	1.2
2600.0	2566.4	1.702	1.516	34.635	27.749	39.694	47.15	3.124	5562.4	1499.02	0.8
2650.0	2615.5	1.685	1.495	34.636	27.751	39.920	47.02	3.148	5716.3	1499.79	0.8
2700.0	2664.6	1.671	1.476	34.640	27.755	40.148	46.69	3.171	5871.4	1500.58	0.8
2750.0	2713.6	1.653	1.454	34.642	27.758	40.375	46.48	3.195	6027.7	1501.35	1.1
2800.0	2762.7	1.638	1.435	34.645	27.762	40.602	46.23	3.218	6184.8	1502.14	0.8
2850.0	2811.7	1.620	1.412	34.648	27.766	40.829	45.92	3.241	6343.1	1502.91	0.4
2900.0	2860.7	1.613	1.401	34.649	27.768	41.052	45.90	3.264	6502.6	1503.73	0.0
2950.0	2909.9	1.603	1.386	34.652	27.771	41.278	45.70	3.287	6663.1	1504.54	0.0
3000.0	2959.8	1.598	1.368	34.654	27.774	41.503	45.51	3.310	6824.7	1505.33	0.0
3050.0	3009.7	1.578	1.352	34.656	27.777	41.727	45.36	3.333	6987.5	1506.13	0.0
3100.0	3059.6	1.569	1.338	34.657	27.778	41.950	45.31	3.356	7151.1	1506.94	0.0
3150.0	3109.5	1.557	1.322	34.659	27.781	42.173	45.11	3.379	7316.1	1507.75	0.0
3200.0	3159.4	1.552	1.312	34.659	27.782	42.396	45.00	3.402	7482.0	1508.58	0.0
3250.0	3209.3	1.547	1.302	34.661	27.784	42.619	44.81	3.425	7649.1	1509.41	0.0
3300.0	3259.2	1.538	1.289	34.663	27.786	42.840	44.55	3.448	7817.1	1510.23	0.6
3350.0	3309.1	1.532	1.277	34.663	27.787	43.062	44.07	3.468	7986.2	1511.06	0.8
3400.0	3359.0	1.526	1.266	34.666	27.791	43.285	44.91	3.490	8156.4	1511.89	0.7
3450.0	3408.9	1.518	1.253	34.667	27.792	43.506	44.86	3.513	8327.7	1512.71	0.4
3500.0	3458.8	1.512	1.242	34.668	27.794	43.727	44.85	3.535	8500.0	1513.54	1.0
3550.0	3508.7	1.506	1.231	34.669	27.795	43.947	44.82	3.558	8673.4	1514.37	0.6
3600.0	3558.6	1.503	1.223	34.670	27.797	44.167	44.83	3.580	8847.8	1515.22	0.0
3650.0	3608.5	1.498	1.213	34.671	27.798	44.387	44.82	3.602	9023.3	1516.06	0.1
3700.0	3658.4	1.495	1.205	34.672	27.800	44.607	44.83	3.625	9199.9	1516.90	0.1
3750.0	3708.3	1.491	1.195	34.672	27.800	44.825	44.92	3.647	9377.5	1517.74	0.7
3800.0	3758.2	1.487	1.186	34.673	27.802	45.044	44.91	3.670	9556.6	1518.59	0.1
3850.0	3808.1	1.485	1.179	34.674	27.803	45.263	44.93	3.692	9735.9	1519.44	0.4
3900.0	3858.0	1.483	1.171	34.675	27.804	45.481	44.97	3.715	9916.7	1520.29	0.6
3950.0	3907.9	1.477	1.160	34.676	27.806	45.700	44.93	3.737	10098.5	1521.13	0.0
4000.0	3957.8	1.479	1.157	34.677	27.807	45.917	45.03	3.760	10281.4	1522.00	0.0
4050.0	4007.7	1.478	1.150	34.677	27.807	46.134	45.12	3.782	10465.4	1522.86	0.0
4100.0	4057.6	1.476	1.143	34.678	27.808	46.351	45.16	3.805	10650.4	1523.72	0.2
4150.0	4107.5	1.477	1.138	34.678	27.809	46.567	45.31	3.827	10836.9	1524.58	0.0
4200.0	4157.4	1.477	1.132	34.679	27.810	46.783	45.36	3.850	11023.3	1525.45	0.0
4250.0	4207.3	1.477	1.127	34.678	27.809	46.998	45.55	3.873	11211.8	1526.31	0.0
4300.0	4257.2	1.473	1.117	34.680	27.812	47.216	45.47	3.895	11401.1	1527.16	0.0
4350.0	4307.1	1.472	1.110	34.681	27.813	47.432	45.51	3.918	11591.5	1528.03	0.2
4400.0	4357.0	1.475	1.107	34.681	27.813	47.646	45.68	3.941	11782.9	1528.91	0.2
4450.0	4406.9	1.479	1.105	34.682	27.813	47.860	45.88	3.964	11975.4	1529.79	0.4
4500.0	4456.8	1.478	1.099	34.683	27.816	48.075	45.92	3.987	12168.9	1530.65	0.0
4550.0	4506.7	1.478	1.093	34.683	27.816	48.290	45.96	4.010	12363.6	1531.52	0.0
4600.0	4556.6	1.479	1.088	34.684	27.817	48.504	46.11	4.033	12559.3	1532.39	0.0
4650.0	4606.5	1.482	1.085	34.684	27.817	48.718	46.21	4.056	12756.1	1533.28	0.0
4700.0	4656.4	1.485	1.082	34.684	27.817	48.931	46.37	4.079	12954.0	1534.16	0.0
4750.0	4706.3	1.487	1.078	34.684	27.818	49.144	46.53	4.102	13152.9	1535.04	0.0
4800.0	4756.2	1.491	1.073	34.684	27.818	49.357	46.69	4.125	13353.0	1535.92	0.4
4850.0	4806.1	1.491	1.069	34.684	27.818	49.569	46.84	4.149	13554.1	1536.79	0.4
4900.0	4856.0	1.493	1.065	34.685	27.819	49.782	46.93	4.172	13756.4	1537.68	0.5
4950.0	4905.9	1.495	1.061	34.685	27.819	49.994	47.09	4.196	13959.9	1538.55	0.1
5000.0	4955.8	1.497	1.057	34.685	27.820	50.206	47.23	4.219	14164.2	1539.43	0.1
5050.0	5005.7	1.500	1.053	34.686	27.821	50.418	47.34	4.243	14369.9	1540.32	0.1
5100.0	5055.6	1.502	1.049	34.687	27.822	50.630	47.42	4.267	14576.3	1541.20	0.1
5150.0	5105.5	1.506	1.047	34.687	27.822	50.841	47.61	4.290	14784.1	1542.09	0.0
5200.0	5155.4	1.509	1.043	34.687	27.822	51.052	47.78	4.314	14992.9	1542.98	0.0
5250.0	5205.3	1.510	1.038	34.687	27.822	51.262	47.93	4.338	15202.0	1543.86	0.1
5300.0	5255.2	1.512	1.033	34.688	27.824	51.474	48.02	4.362	15412.4	1544.74	0.5
5350.0	5305.1	1.516	1.031	34.688	27.824	51.683	48.22	4.386	15626.2	1545.63	0.1
5400.0	5355.0	1.518	1.026	34.688	27.824	51.893	48.38	4.410	15839.9	1546.51	0.3
5450.0	5404.9	1.522	1.024	34.689	27.825	52.103	48.49	4.434	16054.0	1547.41	0.0
5500.0	5454.8	1.528									

CTD REPORT RAMA-4
 POSITION: 27DEG 59.5MIN N

151DEG 56.3MIN E

STATION: 27 CAST: 2 DN
 DATE: 17 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD-1E6
5800.0	5686.7	1.558	1.012	34.692	27.828	53.563	49.78	4.606	17587.0	1553.70	-0.4
5850.0	5735.1	1.564	1.011	34.692	27.828	53.770	50.02	4.631	17810.6	1554.60	0.1
5900.0	5783.5	1.570	1.010	34.693	27.829	53.978	50.19	4.656	18035.4	1555.50	-0.1
5950.0	5831.9	1.576	1.009	34.692	27.828	54.184	50.50	4.681	18261.3	1556.41	0.1

CTD REPORT RAMA-4 STATION: 28 CAST: 1 DN
 POSITION: 27DEG 44.0MIN N 152DEG 0.1MIN E DATE: 17 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD*1E6
0.0	0.0	29.150	29.150	35.250	22.263	22.263	558.63	0.000	0.0	1543.96	
10.0	9.9	29.163	29.160	35.250	22.260	22.302	559.44	0.056	0.3	1544.14	101.8
20.0	19.9	28.483	28.478	35.243	22.474	22.559	539.40	0.112	1.1	1542.84	252.4
30.0	29.8	27.480	27.473	35.230	22.784	22.911	510.28	0.164	2.5	1540.80	264.8
40.0	39.7	26.726	26.716	35.235	23.024	23.194	487.77	0.214	4.4	1539.27	338.9
50.0	49.6	25.102	25.091	35.190	23.487	23.700	443.96	0.262	6.7	1535.60	353.5
60.0	59.5	23.119	23.106	35.160	23.757	24.014	418.56	0.305	9.5	1533.35	249.1
70.0	69.5	22.122	22.107	35.101	24.003	24.303	395.48	0.346	12.8	1530.97	202.5
80.0	79.4	22.441	22.424	35.073	24.177	24.520	379.32	0.385	16.4	1529.37	180.8
90.0	89.3	21.652	21.634	35.046	24.377	24.765	360.54	0.422	20.4	1527.44	178.0
100.0	99.2	21.089	21.069	35.062	24.544	24.976	344.96	0.458	24.8	1526.13	149.1
110.0	109.1	20.550	20.529	35.055	24.685	25.161	331.87	0.492	29.9	1524.83	103.5
120.0	119.1	20.232	20.209	35.038	24.758	25.277	325.31	0.523	34.9	1524.14	78.2
130.0	129.0	19.927	19.902	35.048	24.847	25.410	317.22	0.557	39.9	1523.44	76.6
140.0	138.9	19.548	19.522	35.006	24.915	25.522	311.08	0.589	45.5	1522.40	69.9
150.0	148.8	19.056	19.028	34.937	24.990	25.641	304.21	0.620	51.1	1521.20	72.2
160.0	158.7	18.732	18.703	34.924	25.063	25.759	299.56	0.650	57.7	1520.43	69.9
170.0	168.7	18.495	18.464	34.907	25.110	25.850	293.37	0.679	64.4	1519.90	60.0
180.0	178.6	18.141	18.109	34.890	25.186	25.941	289.42	0.709	71.1	1519.02	54.4
190.0	188.5	17.918	17.885	34.862	25.221	26.049	283.46	0.737	78.9	1517.50	34.4
200.0	198.4	17.686	17.651	34.833	25.256	26.129	280.39	0.765	85.9	1517.95	38.9
210.0	208.3	17.396	17.360	34.797	25.359	26.217	276.54	0.793	93.7	1517.21	43.3
220.0	218.2	17.215	17.177	34.798	25.344	26.306	272.56	0.821	101.7	1516.84	35.0
230.0	228.1	17.085	17.046	34.791	25.371	26.377	270.38	0.848	109.9	1516.61	34.4
240.0	238.1	16.779	16.739	34.752	25.414	26.465	266.48	0.875	118.5	1515.80	30.9
250.0	248.0	16.677	16.635	34.745	25.433	26.528	264.98	0.901	127.3	1515.65	30.4
260.0	257.9	16.402	16.359	34.715	25.475	26.615	261.21	0.928	136.4	1514.94	30.7
270.0	267.8	16.222	16.178	34.703	25.508	26.693	258.35	0.954	145.7	1514.54	24.4
280.0	277.7	16.130	16.084	34.696	25.524	26.753	257.09	0.979	155.3	1514.42	20.0
290.0	287.6	15.981	15.934	34.684	25.550	26.823	254.94	1.005	165.1	1514.11	27.4
300.0	297.6	15.800	15.752	34.668	25.579	26.897	252.39	1.030	175.2	1513.69	27.7
310.0	307.5	15.642	15.592	34.655	25.605	26.968	250.15	1.056	185.5	1513.35	28.8
320.0	317.4	15.460	15.409	34.642	25.637	27.045	247.40	1.081	196.1	1512.93	24.4
330.0	327.3	15.359	15.307	34.635	25.654	27.107	245.99	1.105	206.9	1512.77	19.6
340.0	337.2	15.207	15.154	34.618	25.676	27.173	244.21	1.130	218.0	1512.44	21.9
350.0	347.1	15.066	15.011	34.606	25.698	27.240	242.33	1.154	229.3	1512.14	28.8
360.0	357.0	14.859	14.803	34.590	25.731	27.319	239.34	1.178	240.9	1511.63	28.5
370.0	366.9	14.746	14.689	34.588	25.755	27.387	237.35	1.202	252.7	1511.43	25.5
380.0	376.8	14.566	14.508	34.573	25.783	27.460	234.89	1.226	264.7	1511.00	30.0
390.0	386.7	14.356	14.297	34.557	25.816	27.538	231.92	1.249	277.0	1510.47	31.6
400.0	396.7	14.187	14.127	34.548	25.845	27.613	229.31	1.272	289.5	1510.08	30.0
410.0	406.6	13.959	13.898	34.529	25.876	27.690	226.99	1.295	302.2	1509.48	33.9
420.0	416.5	13.711	13.650	34.511	25.907	27.769	224.93	1.317	315.1	1508.84	28.8
430.0	426.4	13.505	13.443	34.490	25.937	27.850	223.15	1.340	328.3	1508.06	28.8
440.0	436.3	13.338	13.275	34.469	25.967	27.932	221.74	1.362	341.7	1507.15	43.3
450.0	446.2	13.201	13.138	34.450	25.997	28.017	220.68	1.385	355.3	1506.13	43.3
460.0	456.1	13.084	13.020	34.432	26.027	28.106	219.97	1.408	369.1	1505.00	28.8
470.0	466.0	12.923	12.858	34.414	26.053	28.195	219.40	1.435	383.1	1503.86	33.1
480.0	475.9	12.742	12.676	34.396	26.075	28.283	219.45	1.466	397.3	1502.68	31.6
490.0	485.8	12.568	12.502	34.378	26.100	28.372	219.76	1.496	411.7	1501.47	38.8
500.0	495.7	12.322	12.255	34.363	26.129	28.461	198.44	1.486	426.3	1500.25	37.9
510.0	505.6	12.152	12.085	34.339	26.217	28.549	194.85	1.506	441.1	1500.69	37.9
520.0	515.5	12.261	12.194	34.321	26.251	28.578	191.56	1.525	456.2	1501.92	36.6
530.0	525.4	12.011	11.943	34.307	26.286	28.606	188.26	1.544	471.4	1501.19	28.9
540.0	535.3	11.796	11.728	34.283	26.306	28.627	186.36	1.563	486.7	1500.56	28.9
550.0	545.2	11.668	11.599	34.272	26.320	28.688	185.08	1.582	502.3	1500.26	21.1
560.0	555.1	11.476	11.407	34.262	26.346	28.761	182.64	1.600	518.1	1499.73	21.1
570.0	565.0	11.330	11.260	34.247	26.360	28.821	181.39	1.618	534.0	1499.35	27.7
580.0	574.9	11.017	10.947	34.225	26.397	28.906	177.79	1.636	550.1	1498.36	42.2
590.0	584.8	10.670	10.601	34.204	26.439	28.998	173.60	1.654	566.4	1497.24	35.0
600.0	594.7	9.945	9.888	34.189	26.462	29.168	171.35	1.671	582.9	1496.61	37.3
610.0	604.6	9.719	9.662	34.165	26.489	29.244	168.68	1.688	599.5	1495.71	25.5
620.0	614.5	9.568	9.511	34.139	26.526	29.332	164.82	1.705	616.3	1494.78	36.6
630.0	624.4	9.392	9.335	34.127	26.556	29.410	161.89	1.721	633.2	1493.70	33.3
640.0	634.3	9.201	9.144	34.114	26.592	29.473	159.04	1.737	650.4	1493.21	33.3
650.0	644.2	9.017	8.960	34.097	26.633	29.541	156.34	1.753	667.6	1492.27	33.3
660.0	654.1	8.835	8.778	34.087	26.663	29.613	154.08	1.769	685.1	1491.39	33.3
670.0	664.0	8.600	8.543	34.073	26.696	29.673	151.74	1.785	702.6	1490.63	25.5
680.0	673.9	8.400	8.343	34.063	26.736	29.773	149.76	1.799	720.4	1489.90	24.4
690.0	683.8	8.222	8.165	34.062	26.701	29.846	147.28	1.814	738.3	1489.49	21.1
700.0	693.7	7.955	7.898	34.049	26.713	29.907	145.97	1.829	756.3	1488.98	20.3
710.0	703.6	7.895	7.838	34.051	26.737	29.978	143.67	1.843	774.4	1488.53	27.7
720.0	713.5	7.633	7.576	34.041	26.764	30.055	140.85	1.858	792.8	1487.65	36.6
730.0	723.4	7.334	7.277	34.041	26.802	30.145	136.85	1.871	811.2	1486.63	31.1
740.0	733.3	7.068	7.011	34.035	26.831	30.224	133.80	1.885	829.8	1485.73	33.3
750.0	743.2	6.876	6.819	34.042	26.860	30.302	130.84	1.898	848.5	1484.83	33.3
760.0	753.1	6.661	6.604	34.049	26.892	30.383	127.61	1.911	867.3	1484.44	20.7
770.0	763.0	6.422	6.365	34.051	26.928	30.436	127.08	1.924	886.3	1484.45	9.9
780.0	772.9	6.145	6.088	34.054	26.910	30.495	125.97	1.937	905.4	1484.31	18.1
790.0	782.8	5.915	5.858	34.062	26.932	30.564	123.81	1.949	924.6	1483.95	25.6
800.0	792.6	5.274	5.217	34.074	26.958	30.639	121.22	1.962	944.0	1483.56	20.4
810.0	802.5	5.208	5.151	34.080	26.970	30.698	120.07	1.974	963.4	1483.46	13.1
820.0	812.4	5.106	5.049	34.081	26.982	30.758	118.80	1.986	983.0	1483.21	14.5
830.0	822.3	4.946	4.889	34.090	26.996	30.819	117.48	1.997	1002.7	1483.14	16.2
840.0	832.2	4.974	4.917	34.101	27.013	30.883	115.88	2.009	1022.5	1483.02	17.4
850.0	842.1	4.895	4.838	34.110	27.029	30.946	114.33	2.021	1042.4	1482.87	1.1
860.0	852.0	4.800	4.743	34.120	27.048	31.012	112.52	2.032	1062.5	1482.66	17.7
870.0	861.9	4.727	4.670	34.128	27.062	31.074	111.13	2.043	1082.6	1482.53	11.1
880.0	871.8	4.614	4.557	34.132	27.070	31.128	110.42	2.054	1102.6	1482.53	13.0
890.0	881.7	4.601	4.544	34.141	27.086	31.192	108.81	2.065	1123.3	1482.36	23.3
900.0	891.6	4.497	4.440	34.161	27.113	31.267	106.16	2.076	1143.7	1482.12	22.1
910.0	901.5	4.437	4.380	34.172	27.128	31.329	104.71	2.087	1164.3	1482.04	13.0
920.0	911.4	4.394	4.337	34.178	27.137	31.389	103.86	2.097	1185.0		

CTD REPORT RAMA-4 STATION: 28 CAST: 1 DN
 POSITION 27DEG 44.0MIN N 152DEG 0.1MIN E DATE 17 JUL 80

PRESS DB	DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY O/00	SIGMA THETA	SIGMA Z	SV ANOM CL/TON	DYN Z M	TRANSPORT FUNCTION	SOUND V M/SEC	VAIS FO SQD * 1E6
980.0	970.6	4.121	4.045	34.230	27.207	31.735	97.26	2.157	1311.2	1481.95	14.1
990.0	980.5	4.073	3.996	34.250	27.228	31.803	95.30	2.167	1332.5	1481.94	18.7
1000.0	990.4	4.021	3.944	34.263	27.244	31.865	93.81	2.176	1354.0	1481.90	10.8
1050.0	1039.8	3.895	3.814	34.292	27.280	32.132	90.59	2.223	1462.7	1482.23	1.0
1100.0	1089.2	3.766	3.682	34.324	27.318	32.403	87.09	2.267	1573.6	1482.55	1.0
1150.0	1138.6	3.562	3.476	34.357	27.364	32.683	82.65	2.310	1686.6	1482.95	1.0
1200.0	1188.0	3.481	3.391	34.386	27.395	32.944	79.93	2.350	1801.7	1483.06	1.0
1250.0	1237.3	3.335	3.243	34.418	27.435	33.215	76.22	2.389	1918.7	1483.31	1.0
1300.0	1286.7	3.160	3.065	34.435	27.464	33.479	73.27	2.427	2037.5	1483.41	1.0
1350.0	1336.0	3.016	2.919	34.449	27.488	33.736	70.89	2.463	2158.2	1483.63	1.0
1400.0	1385.4	2.866	2.766	34.461	27.511	33.992	68.58	2.498	2280.6	1483.83	7.2
1450.0	1434.7	2.672	2.570	34.470	27.535	34.250	65.99	2.532	2404.6	1483.83	5.8
1500.0	1484.0	2.604	2.499	34.483	27.551	34.497	64.53	2.564	2530.5	1484.38	5.1

CTD DATA PLOTS

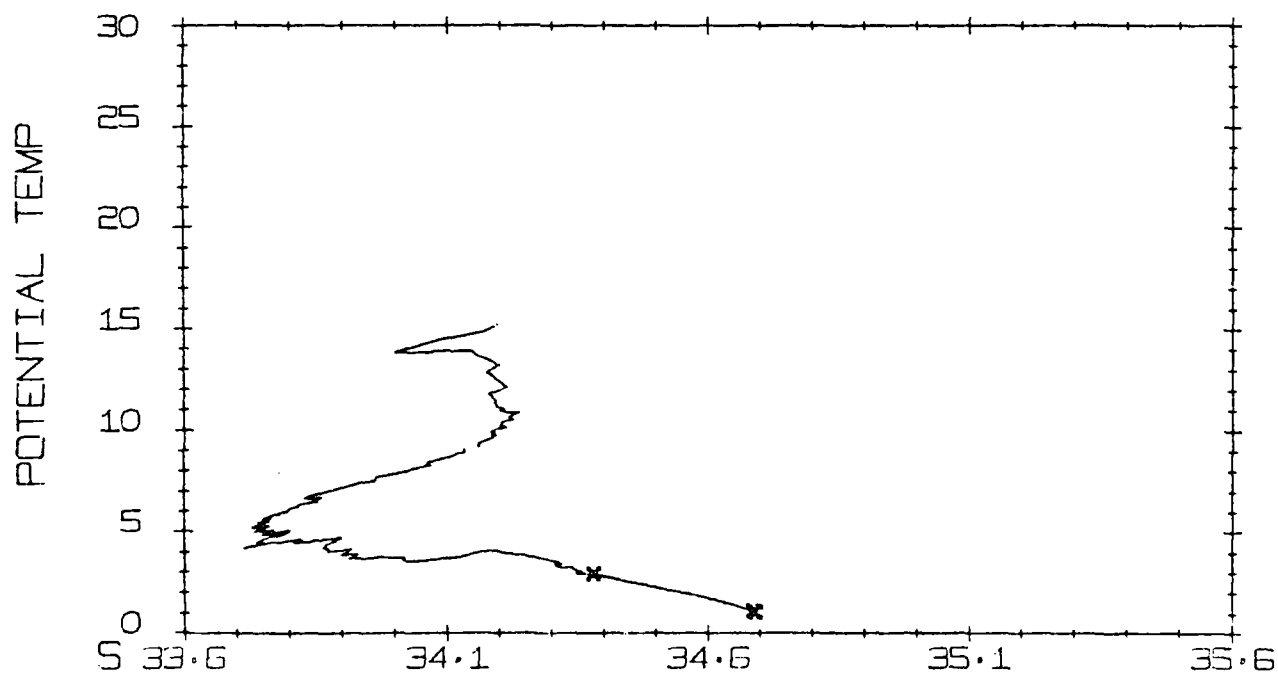
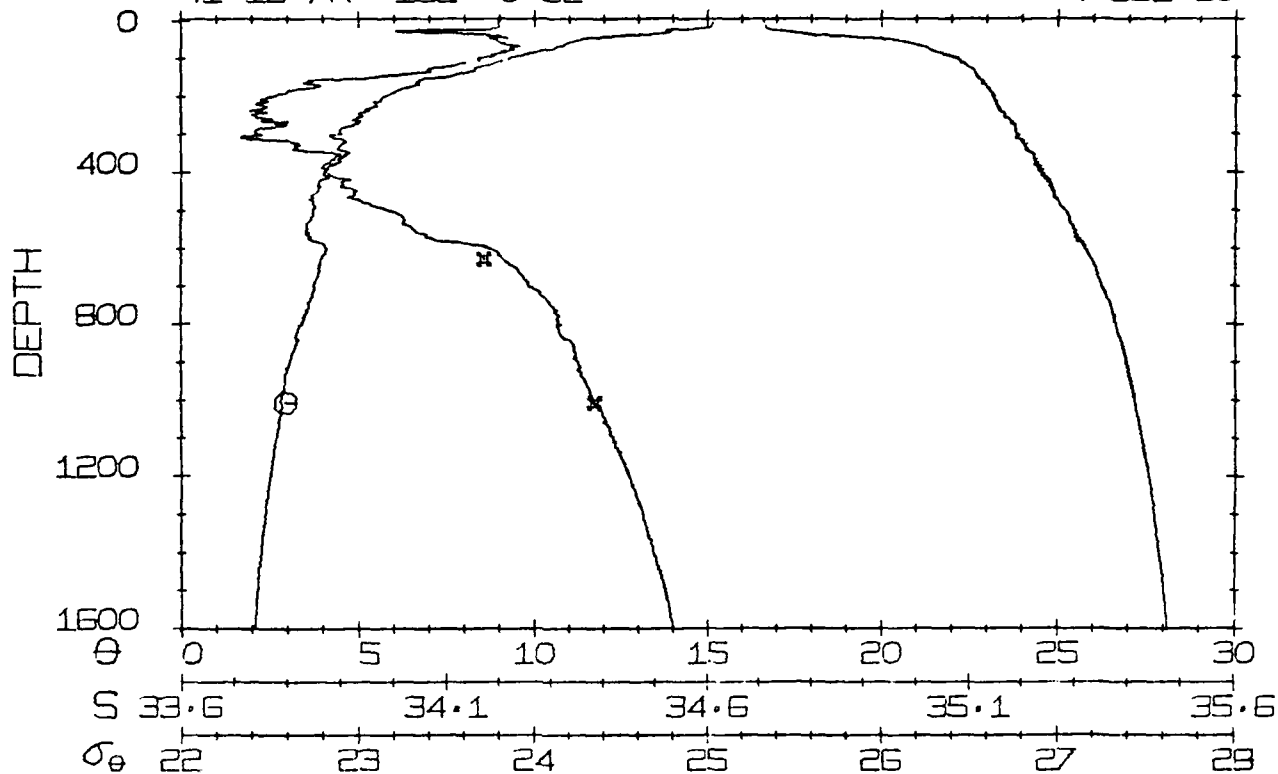
Shallow and Deep Plots
Of Potential Temperature, Salt, and
Sigma Theta As A Function
Of Pressure and Potential Temperature
Versus Salinity Diagrams

RAMA-4

STATION 2- 1 DN

41-13.7N 152- 0.6E

4 JUL 80

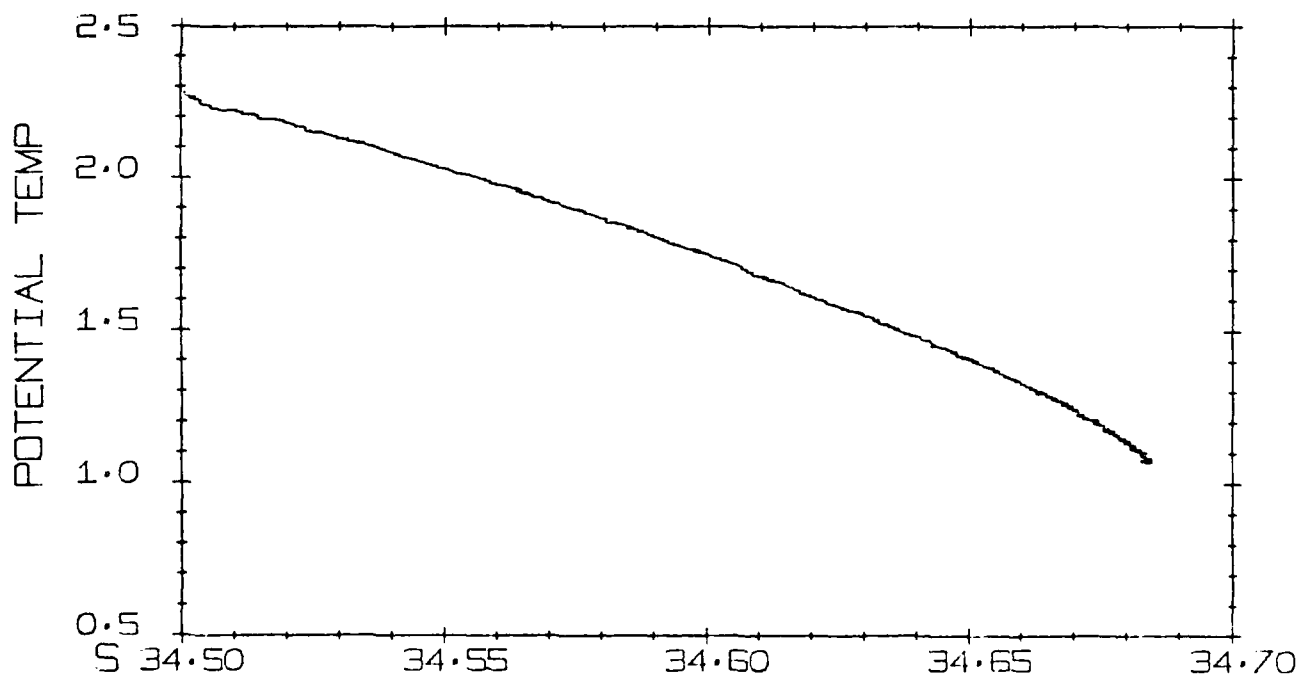
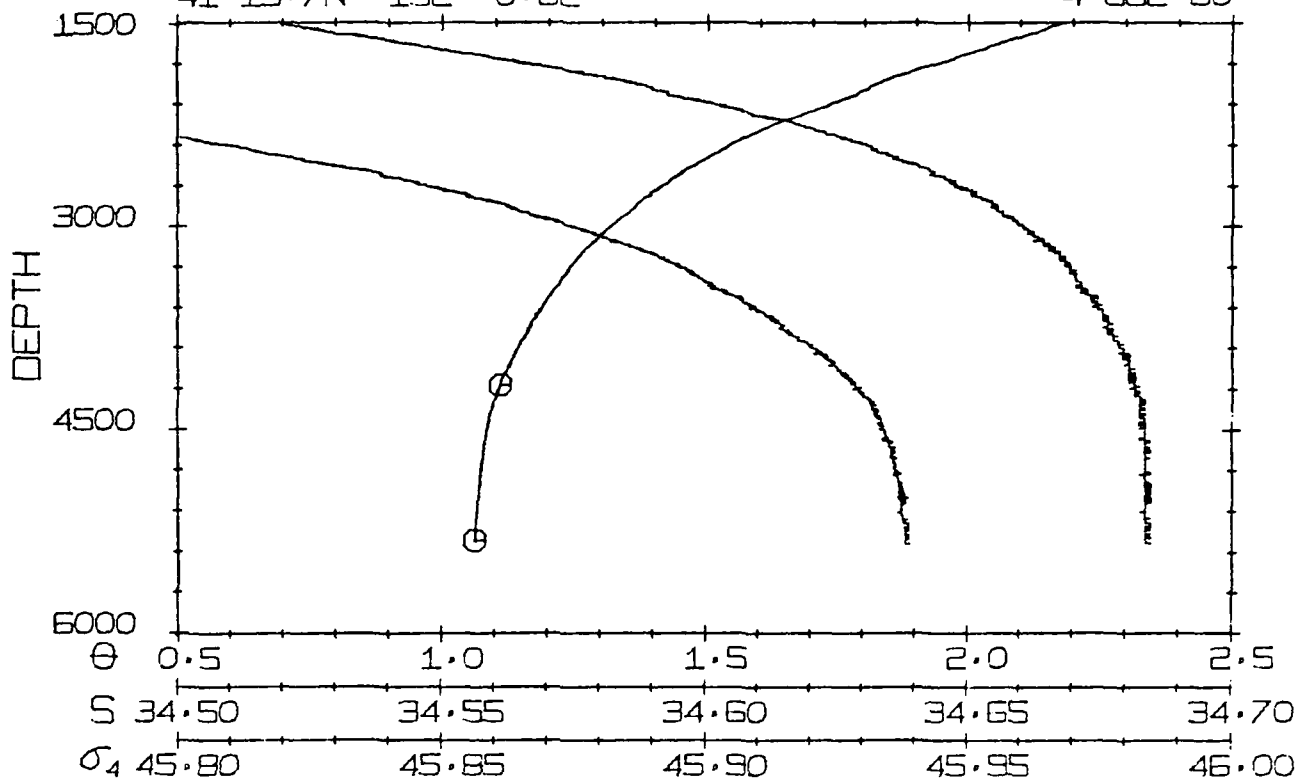


RAMA-4

STATION 2- 1 DN

41-13.7N 152- 0.6E

4 JUL 80

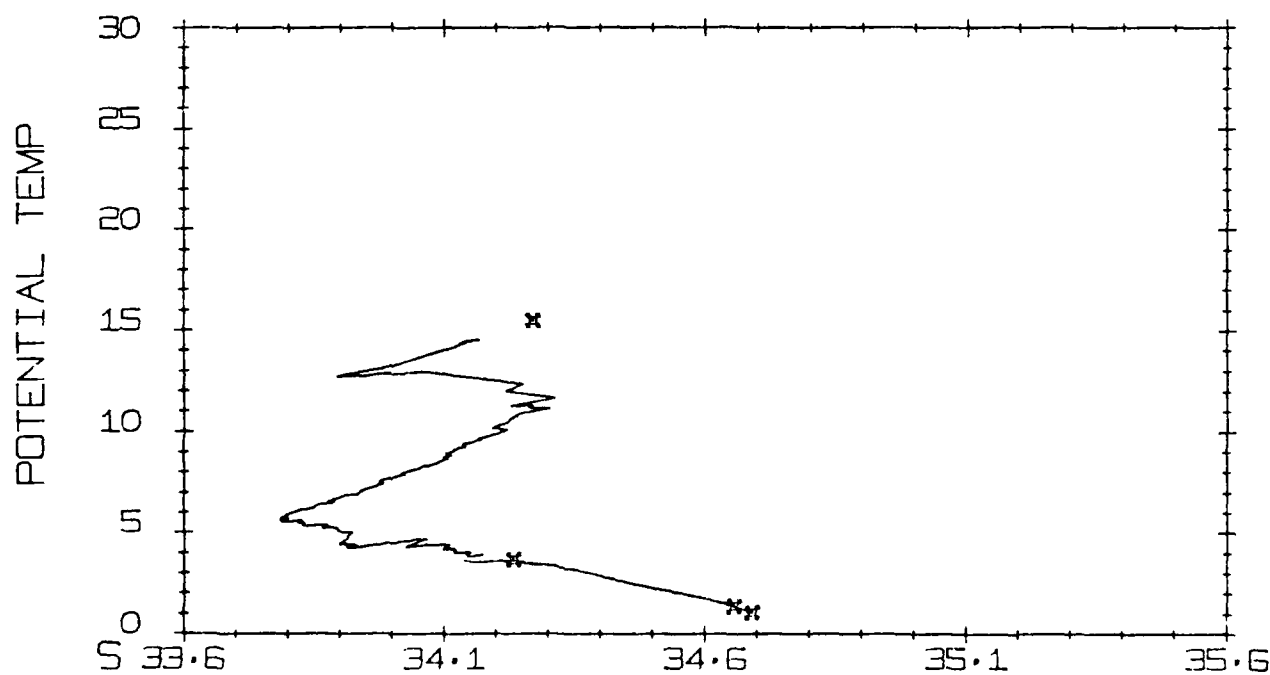
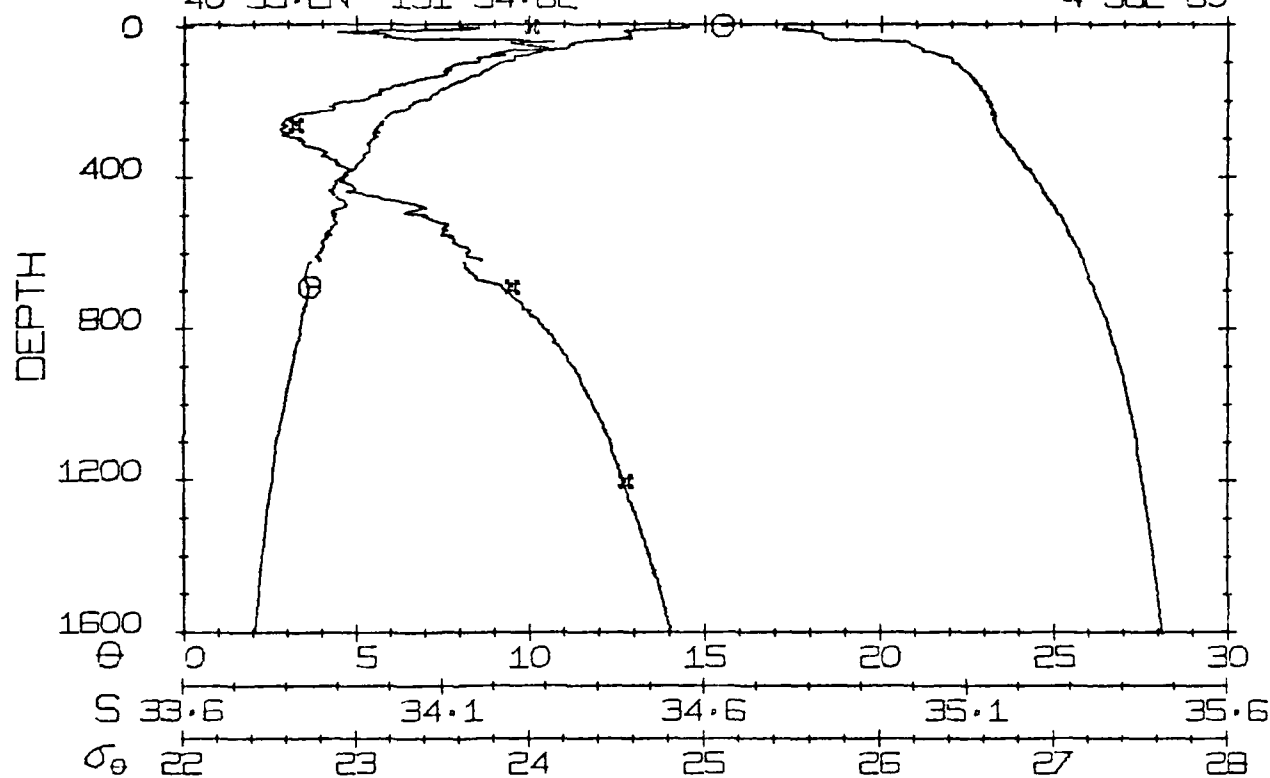


RAMA-4

STATION 3-2 ON

40-59.2N 151-54.8E

4 JUL 80

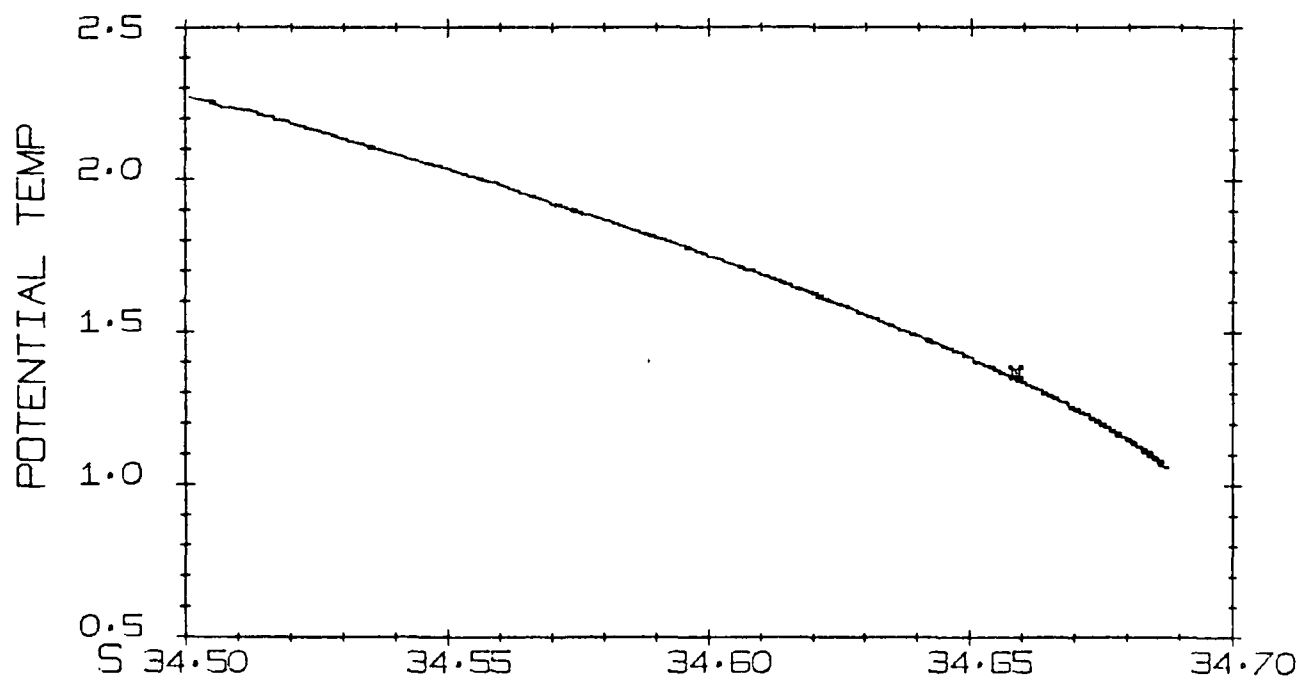
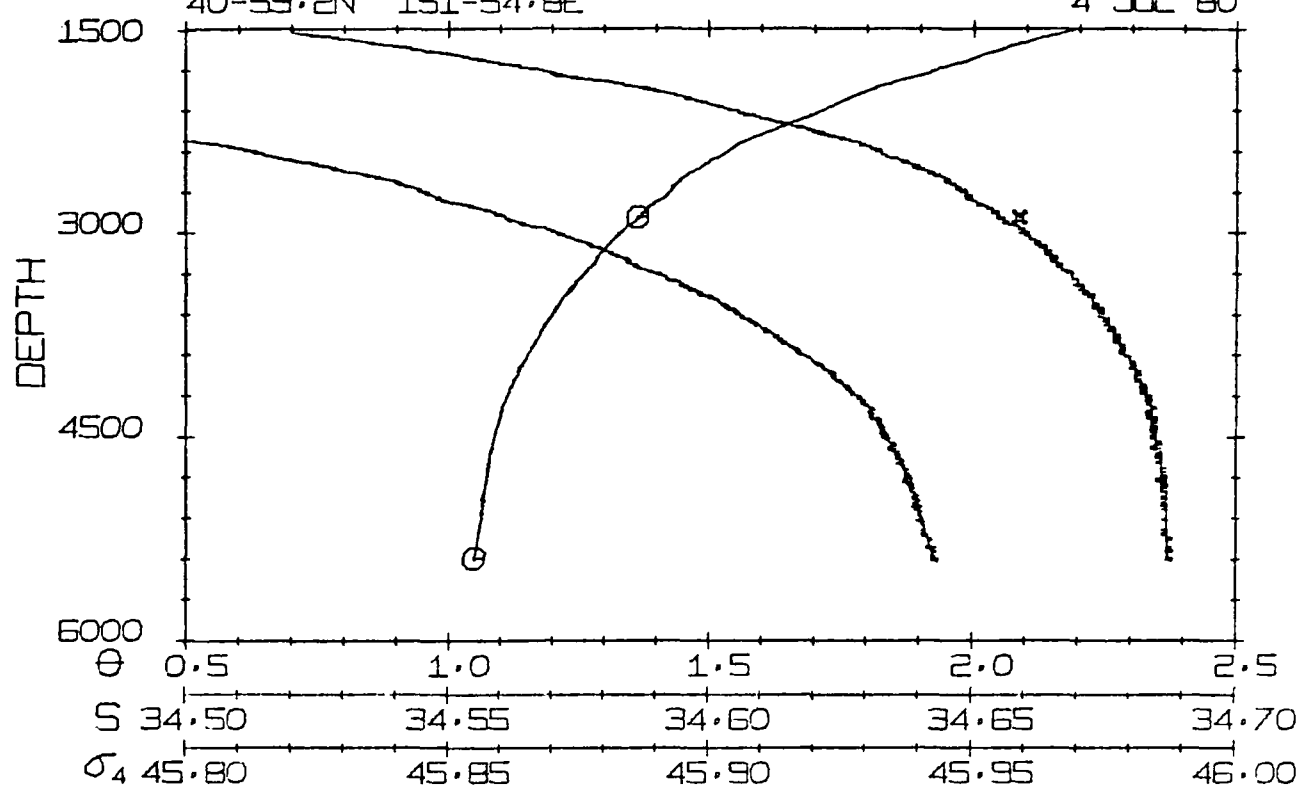


RAMA-4

STATION 3- 2 DN

40-59.2N 151-54.8E

4 JUL 80



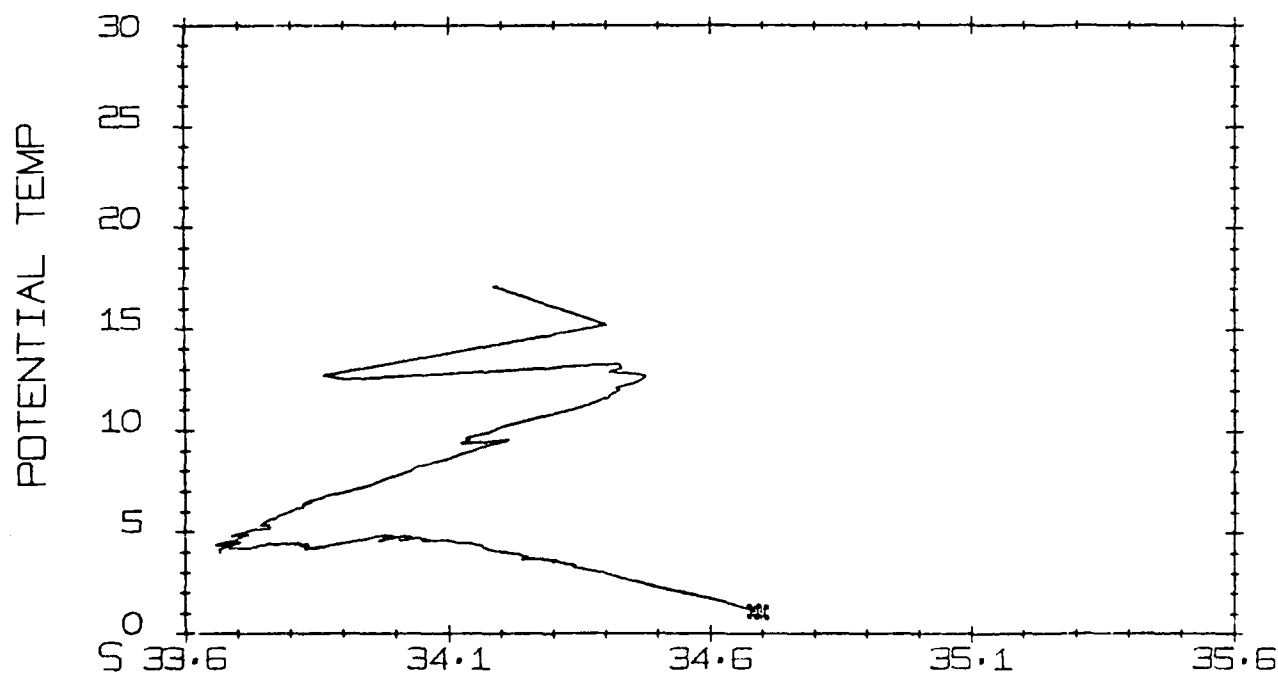
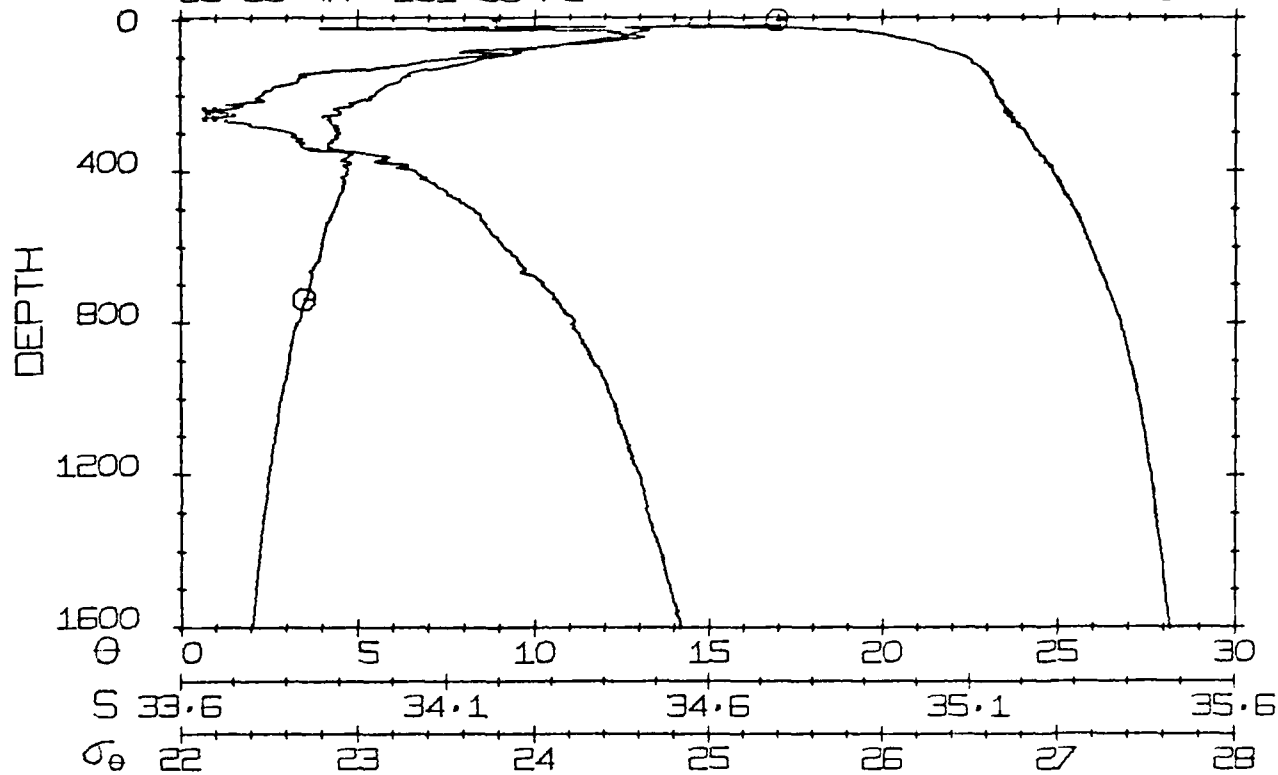
RAMA-4

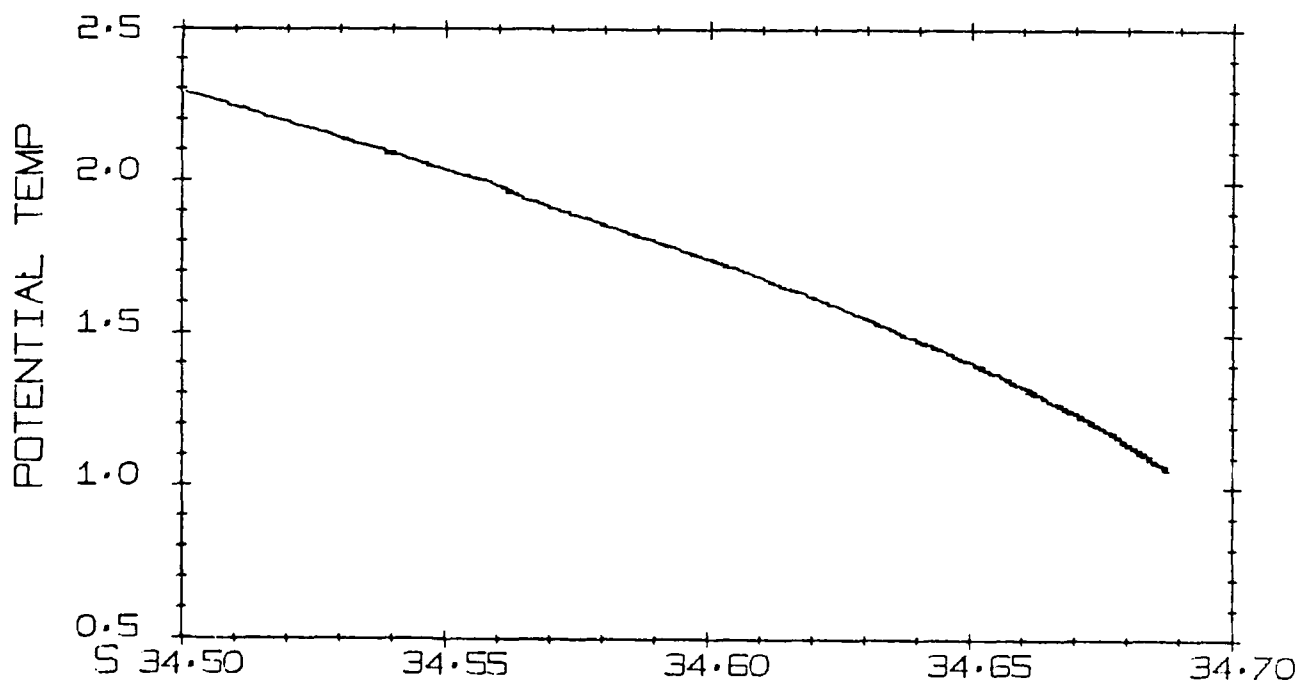
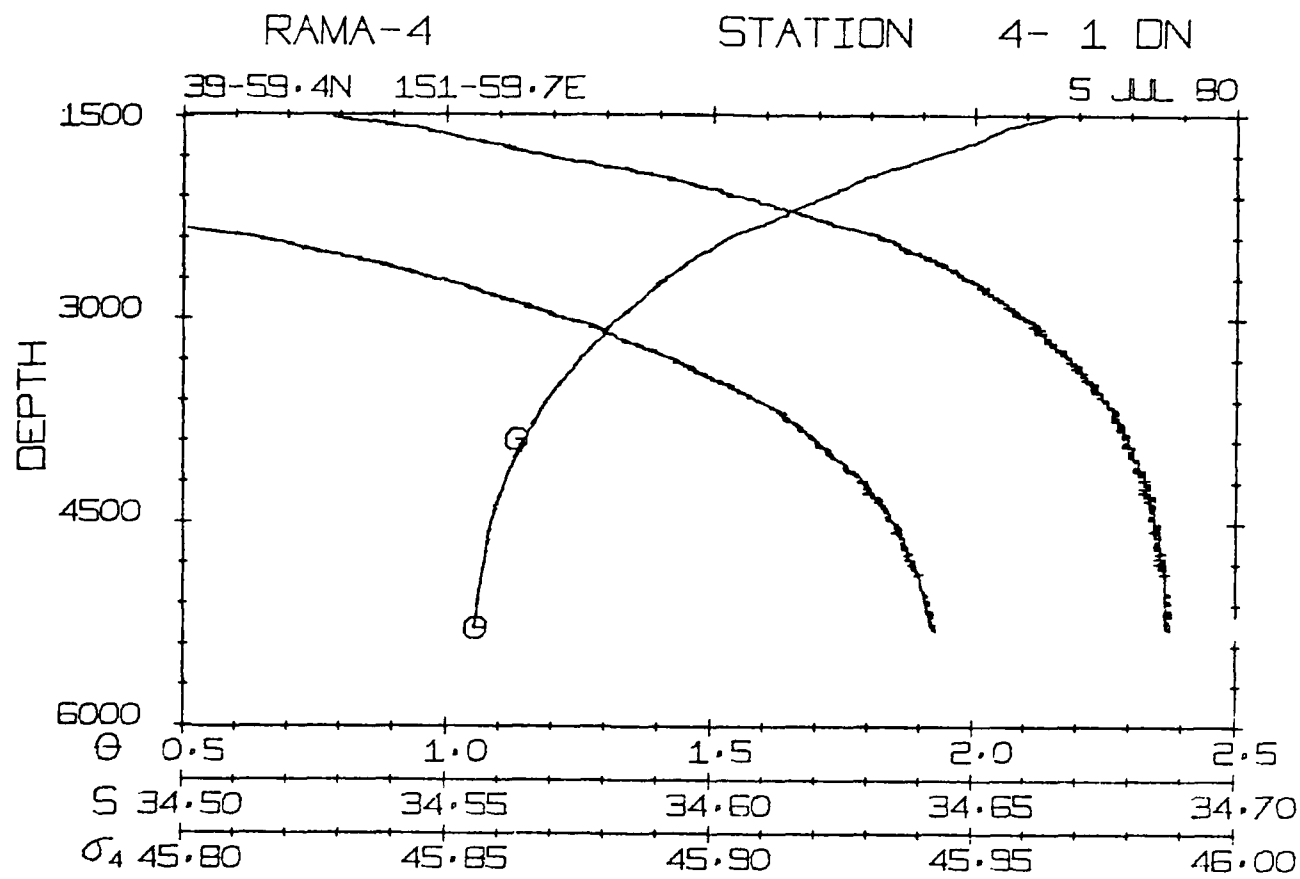
STATION

4- 1 ON

39-59.4N 151-59.7E

5 JUL 90



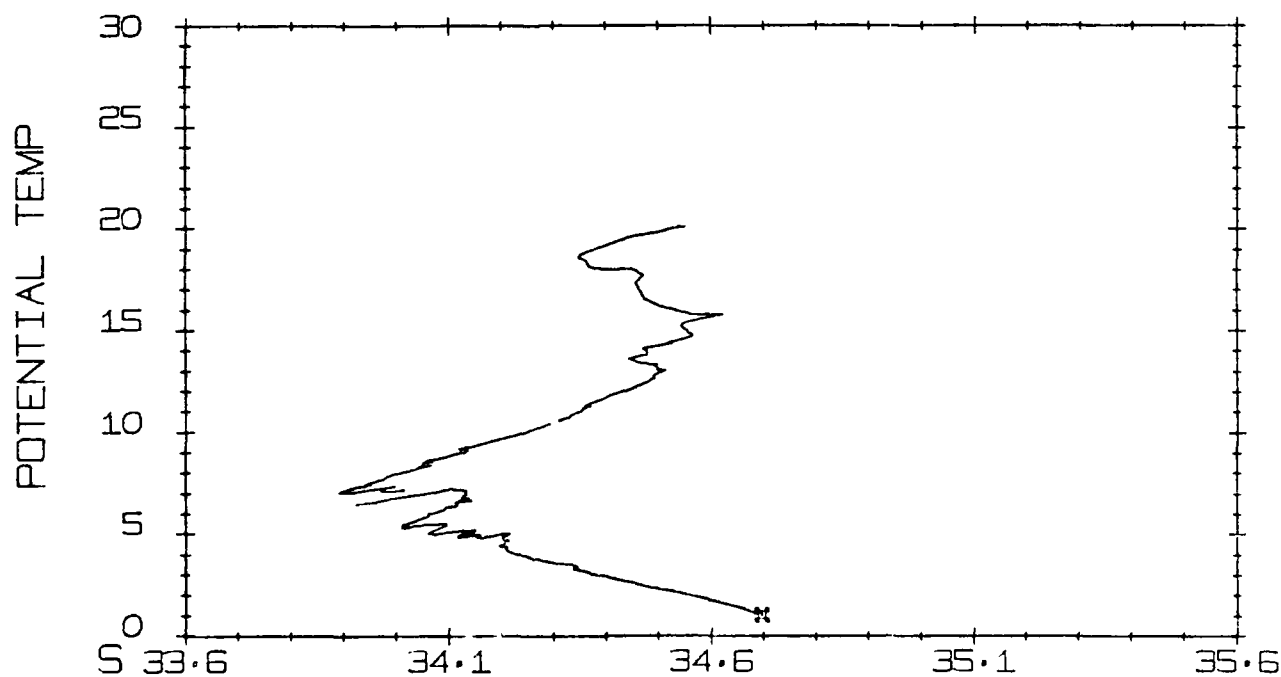
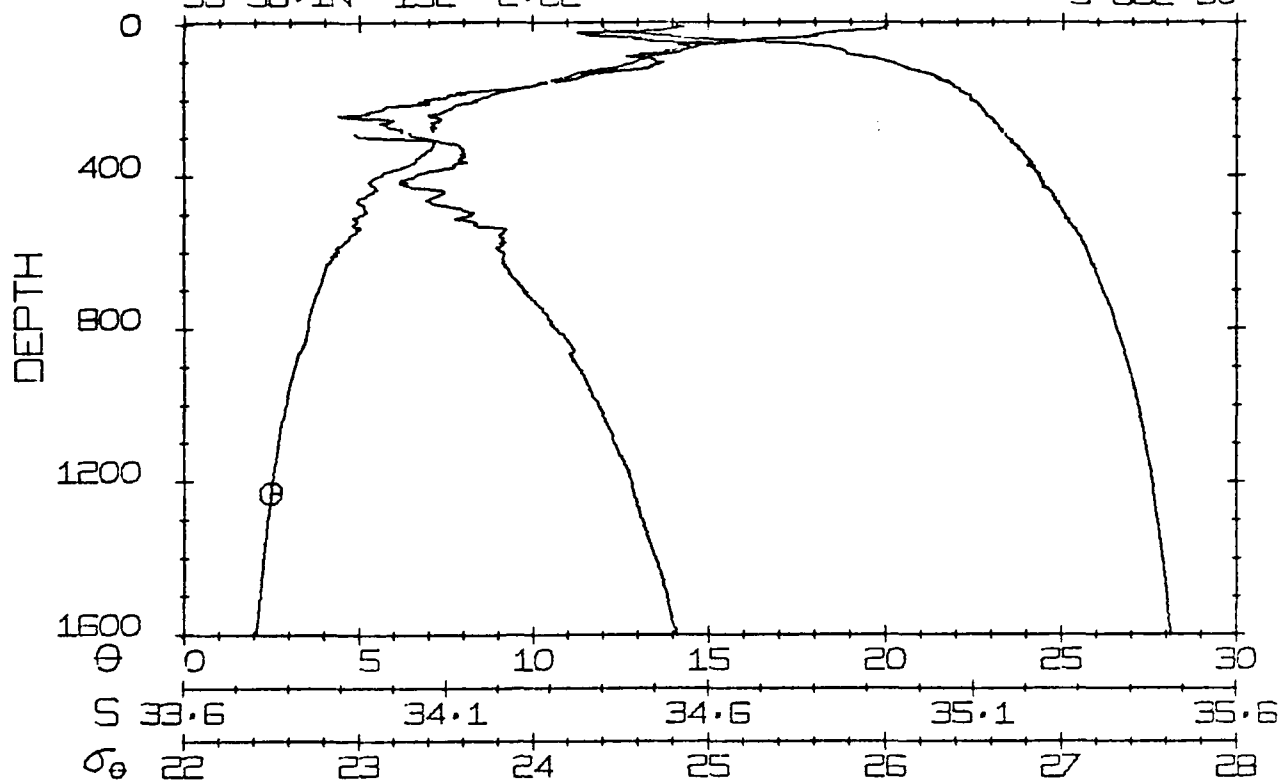


RAMA-4

STATION 5- 2 DN

39-58.1N 152- 2.6E

5 JUL 80

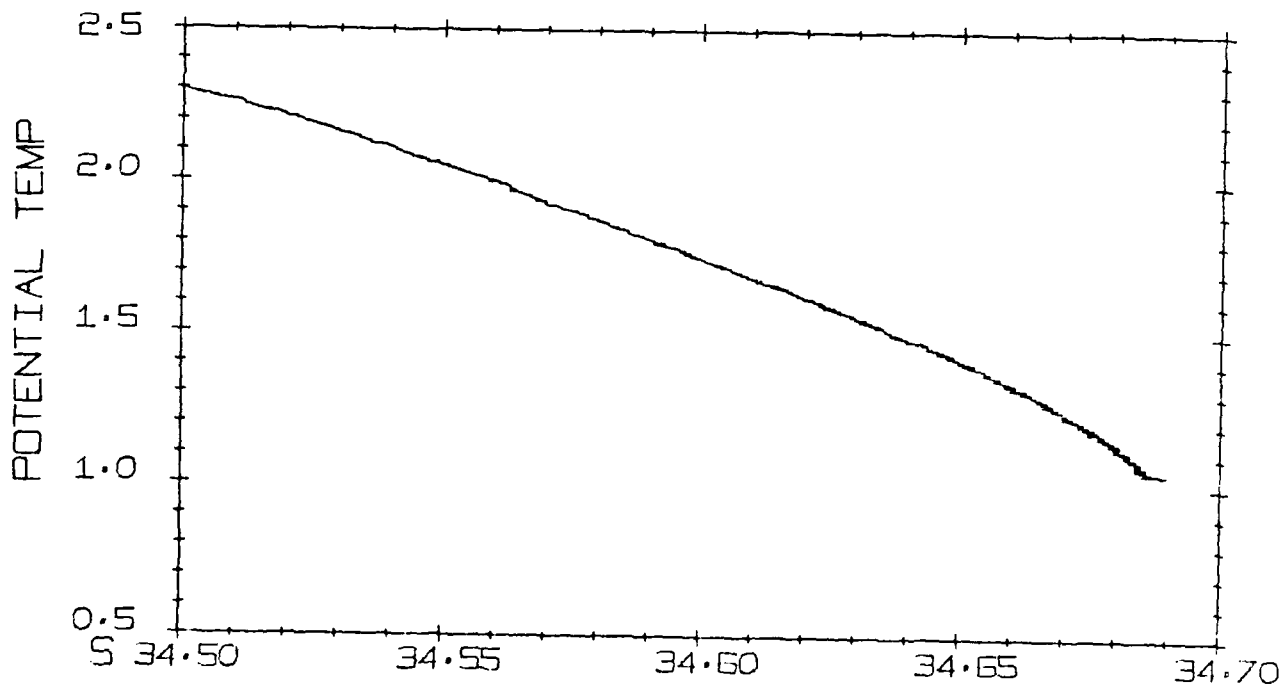
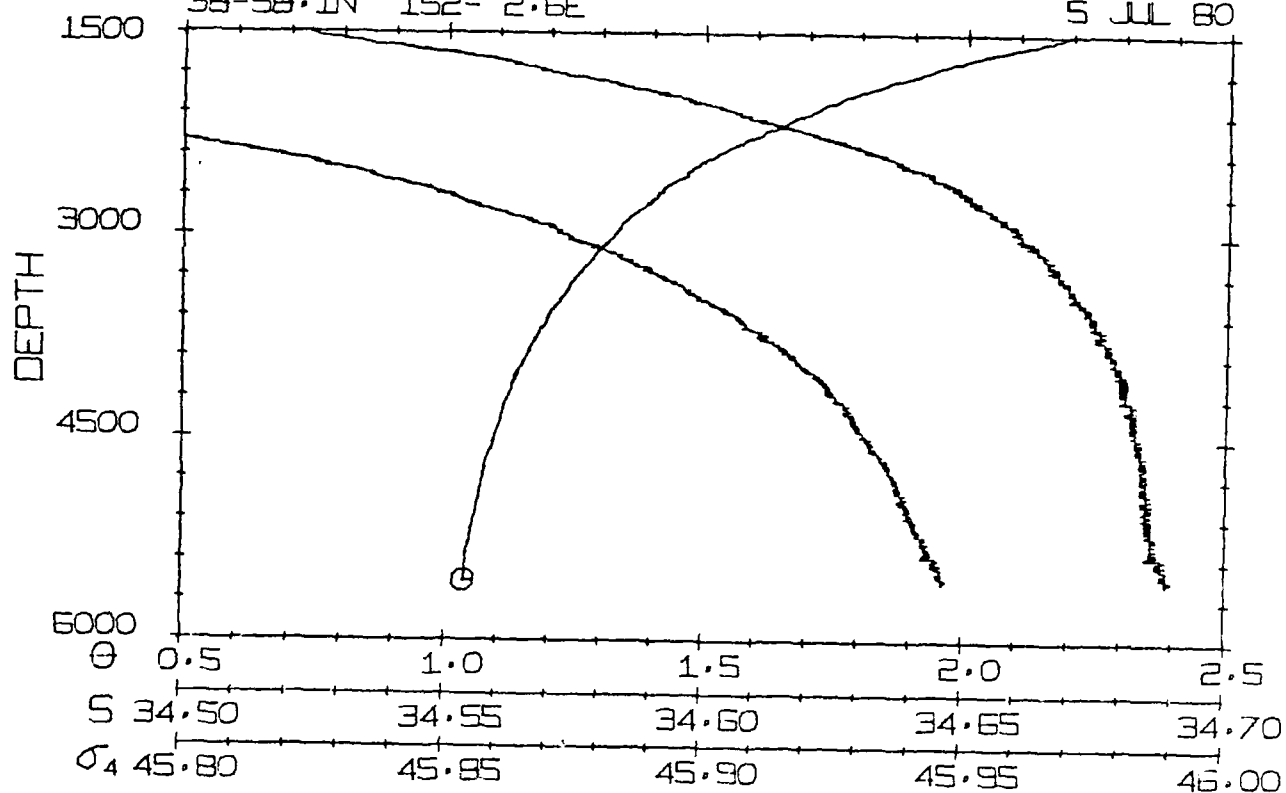


RAMA-4

STATION 5- 2 DN

38-58.1N 152- 2.6E

5 JUL 80



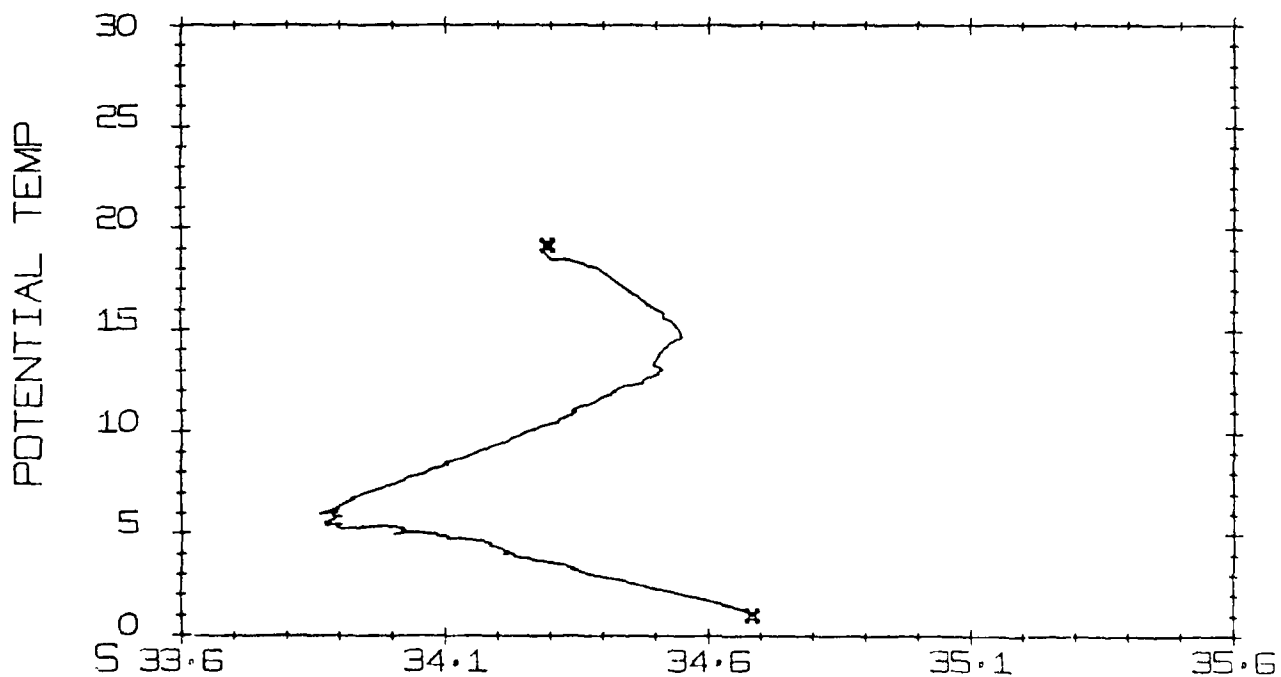
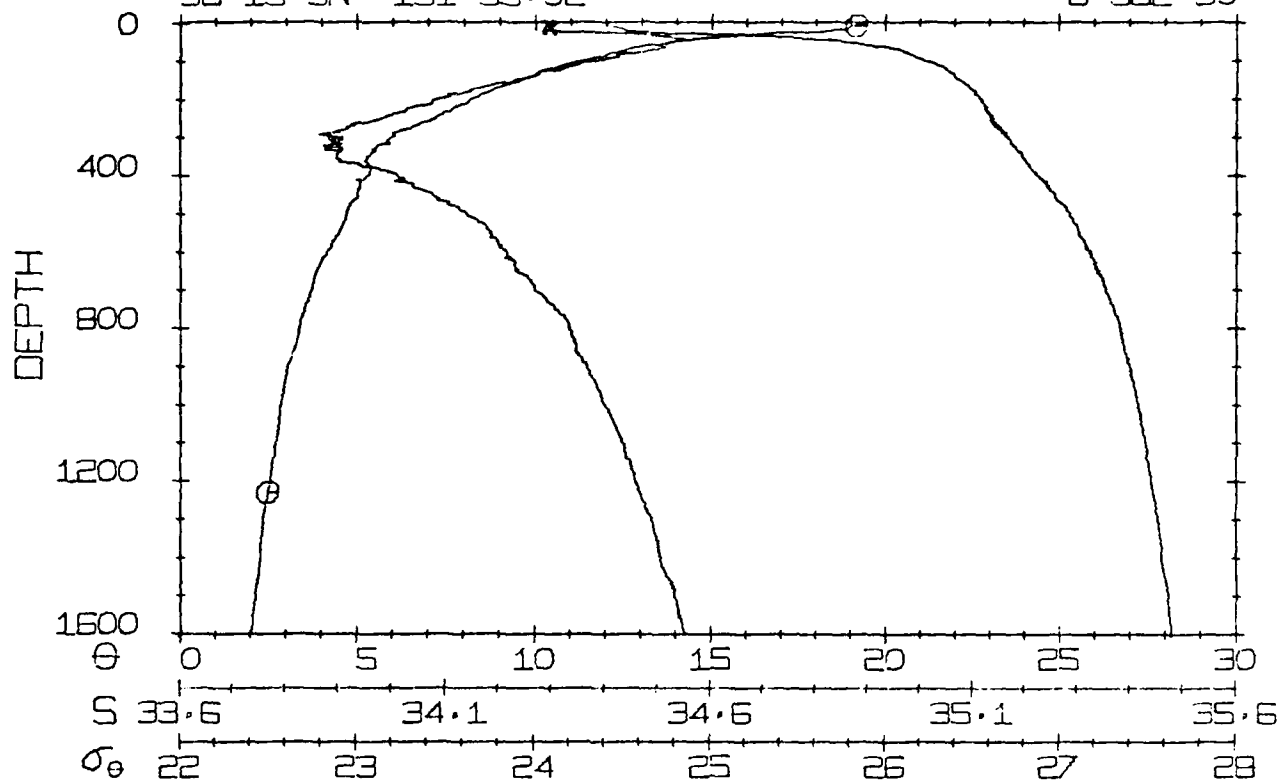
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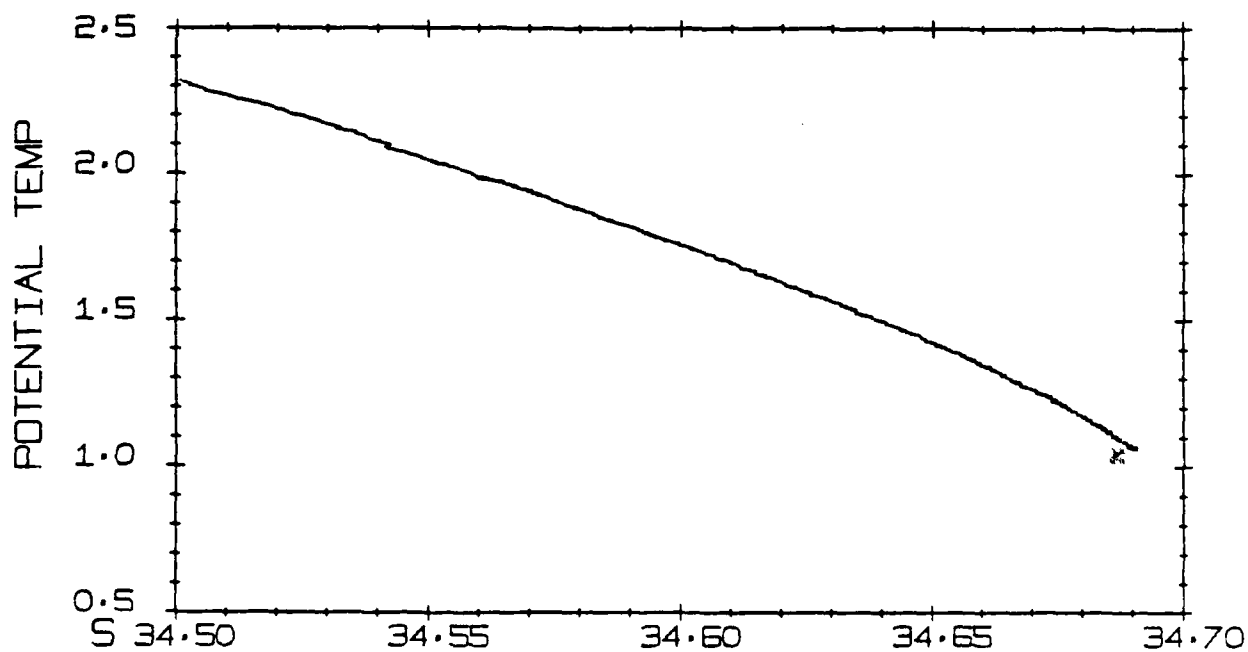
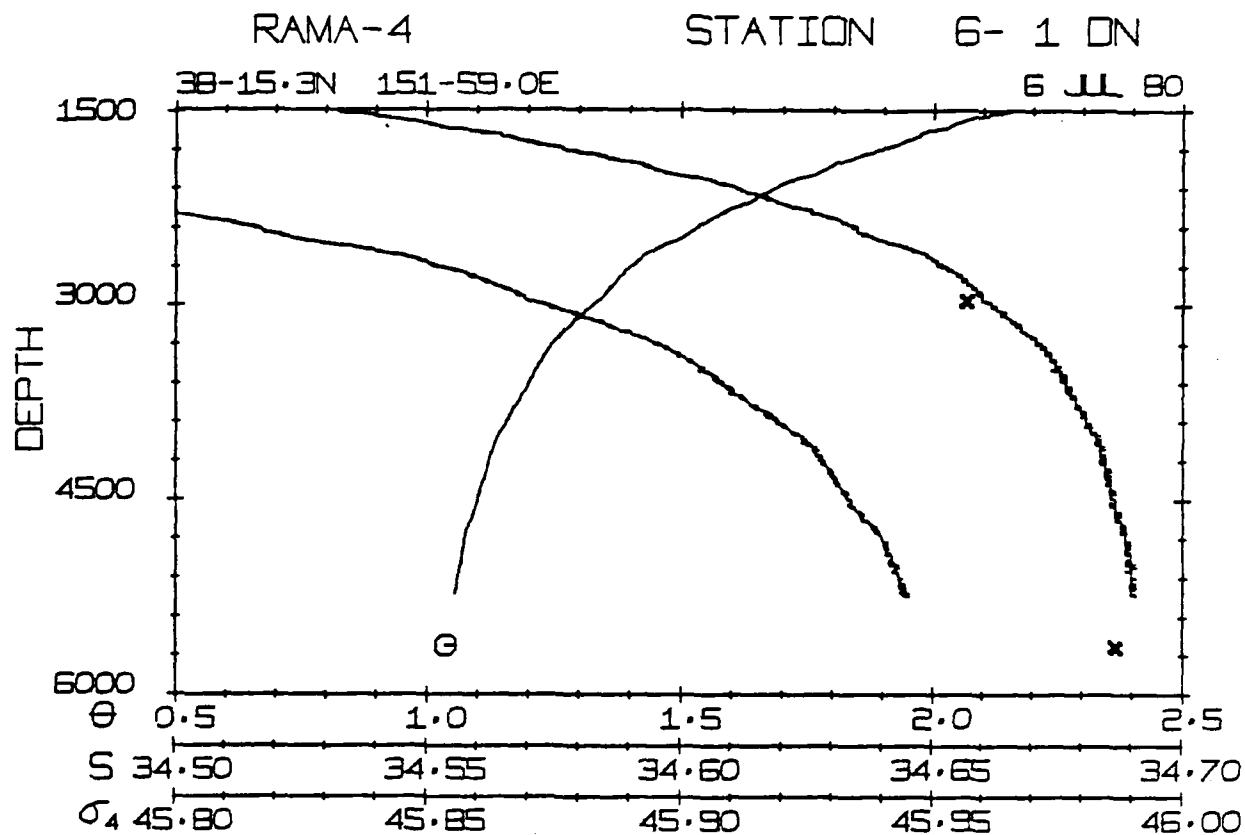
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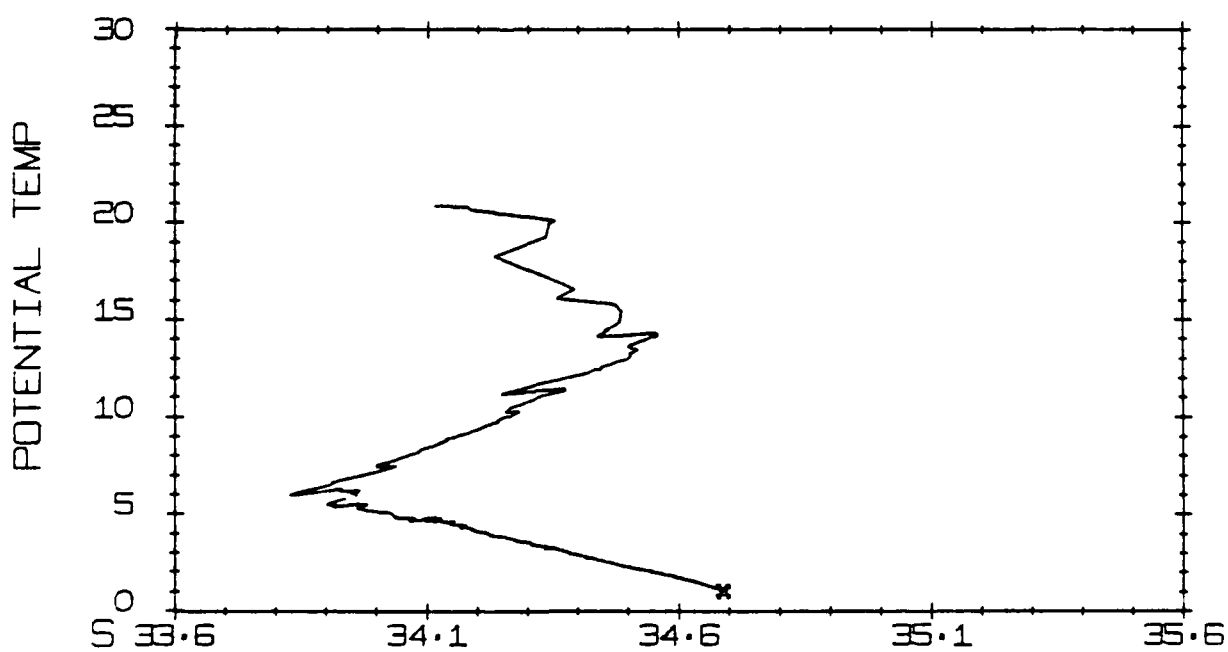
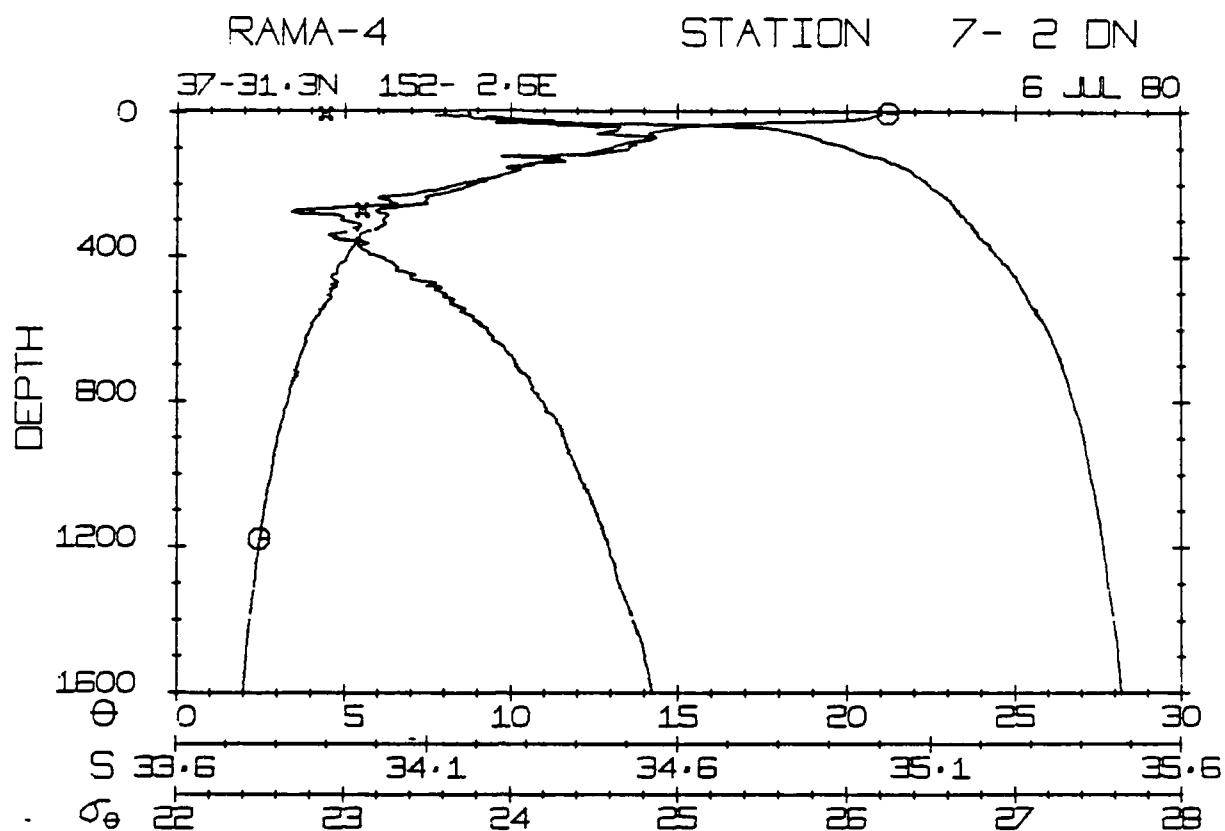
6- 1 ON

38-15.3N 151-59.0E

6 JUL 90





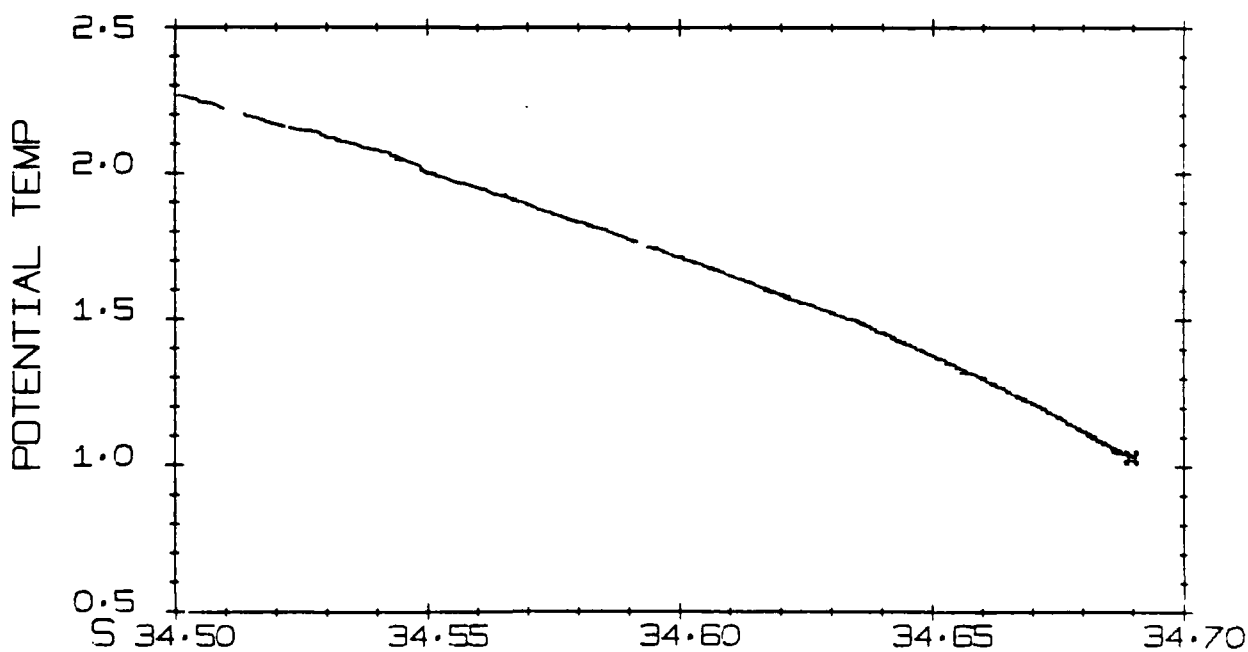
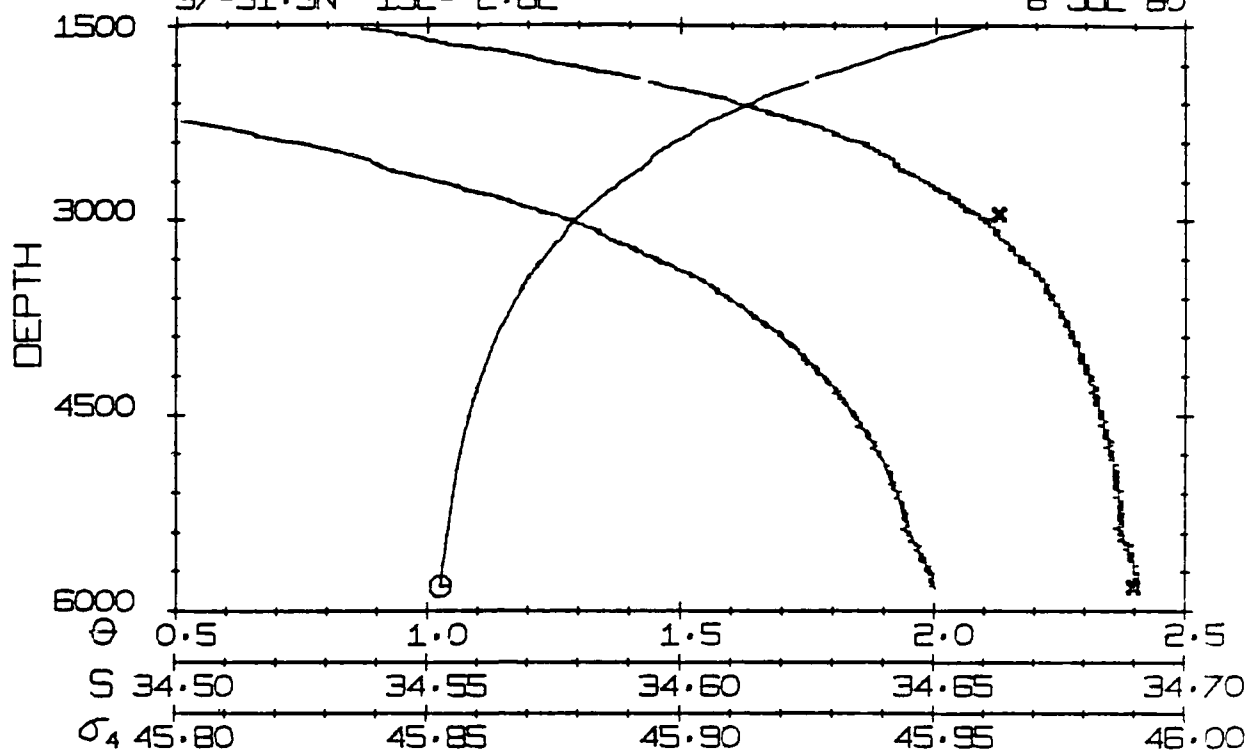


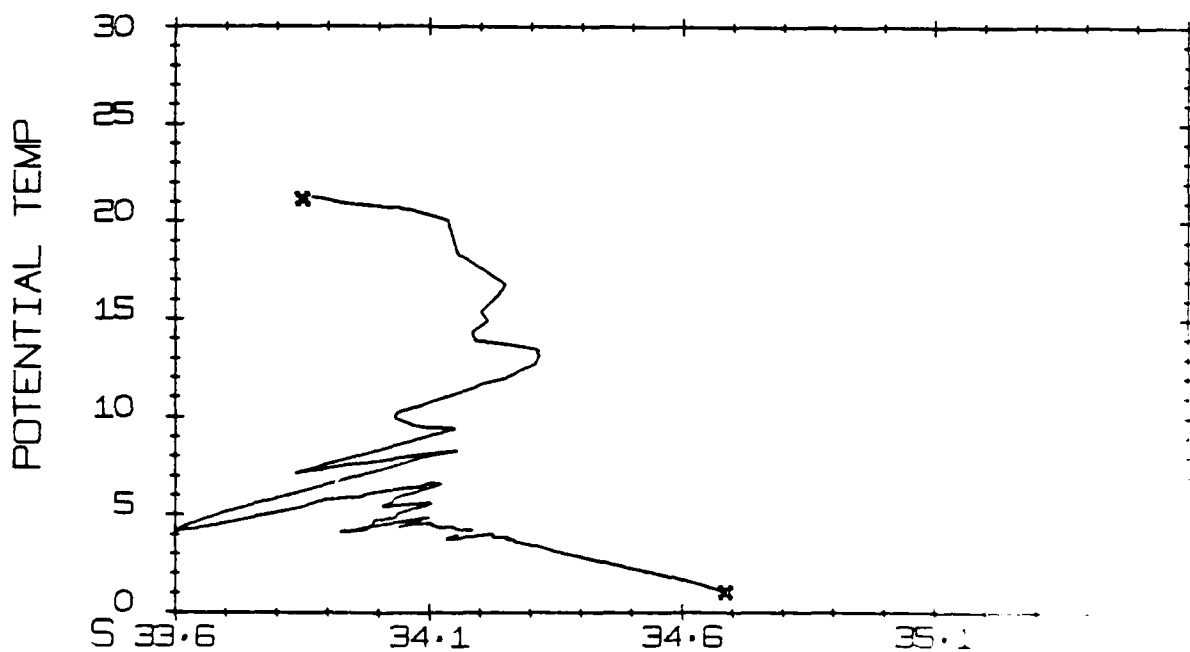
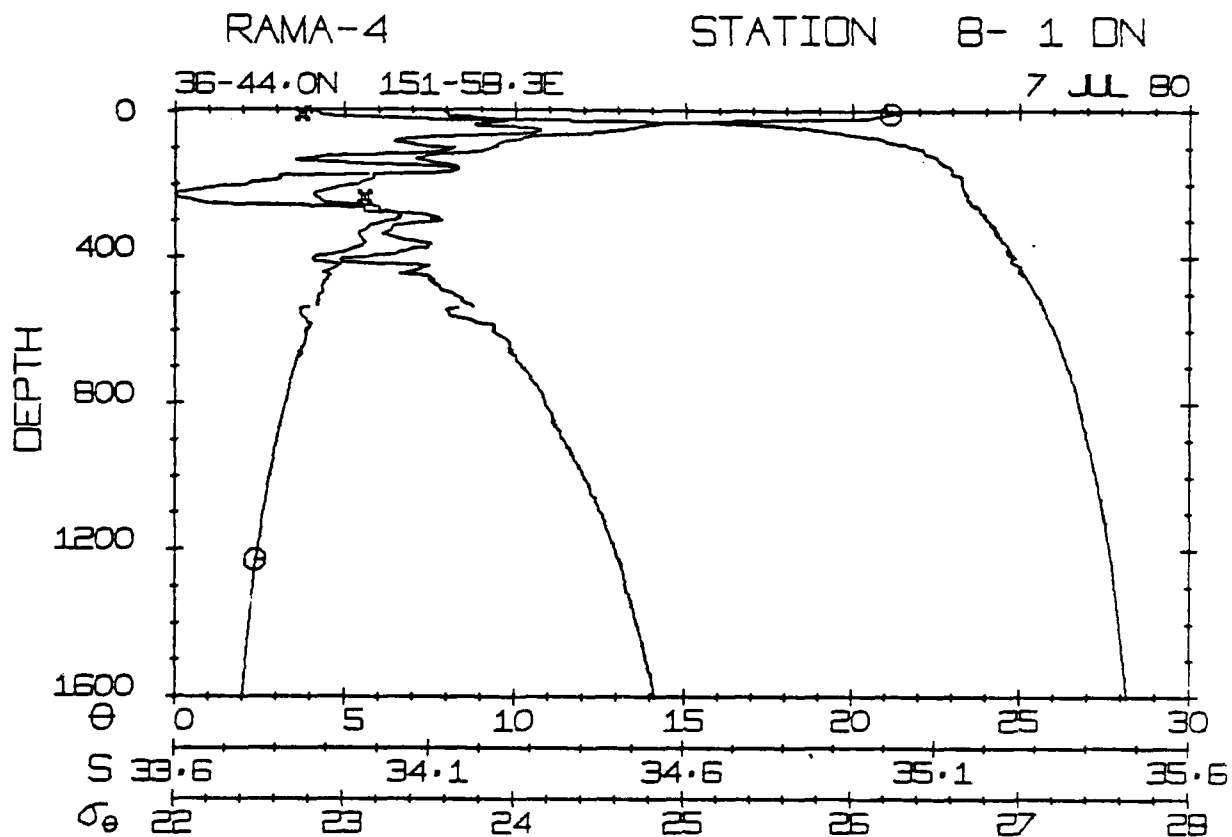
RAMA-4

STATION 7- 2 DN

37-31.3N 152- 2.6E

6 JUL 80





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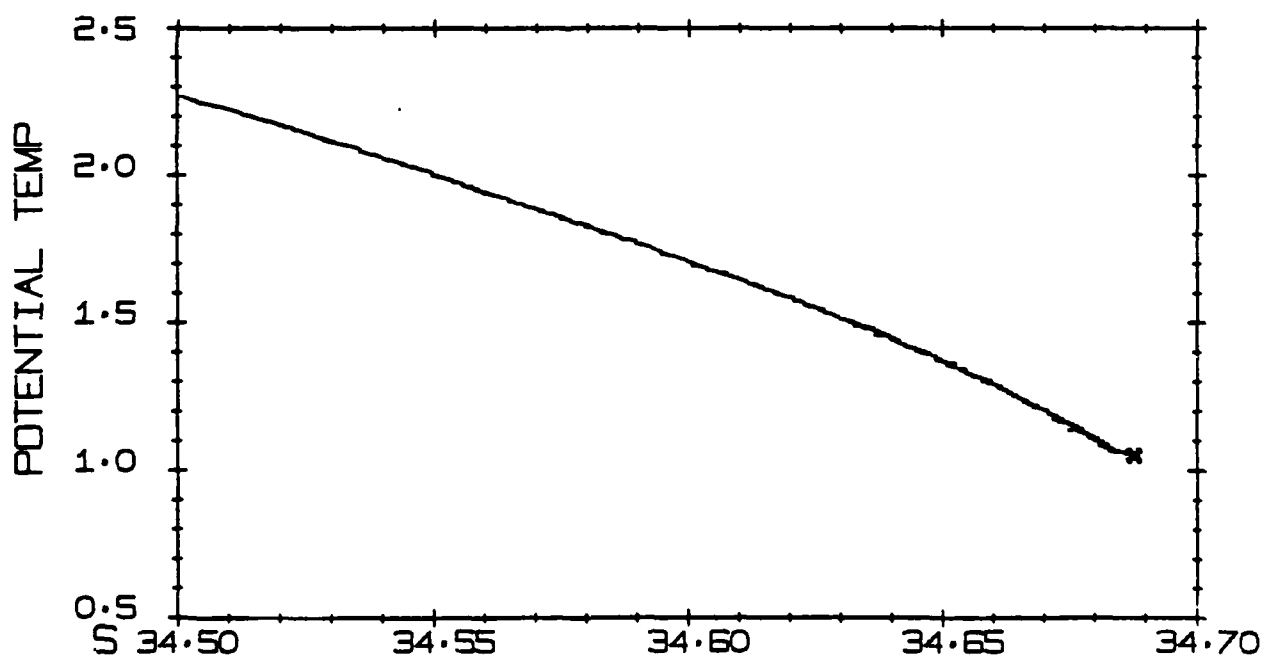
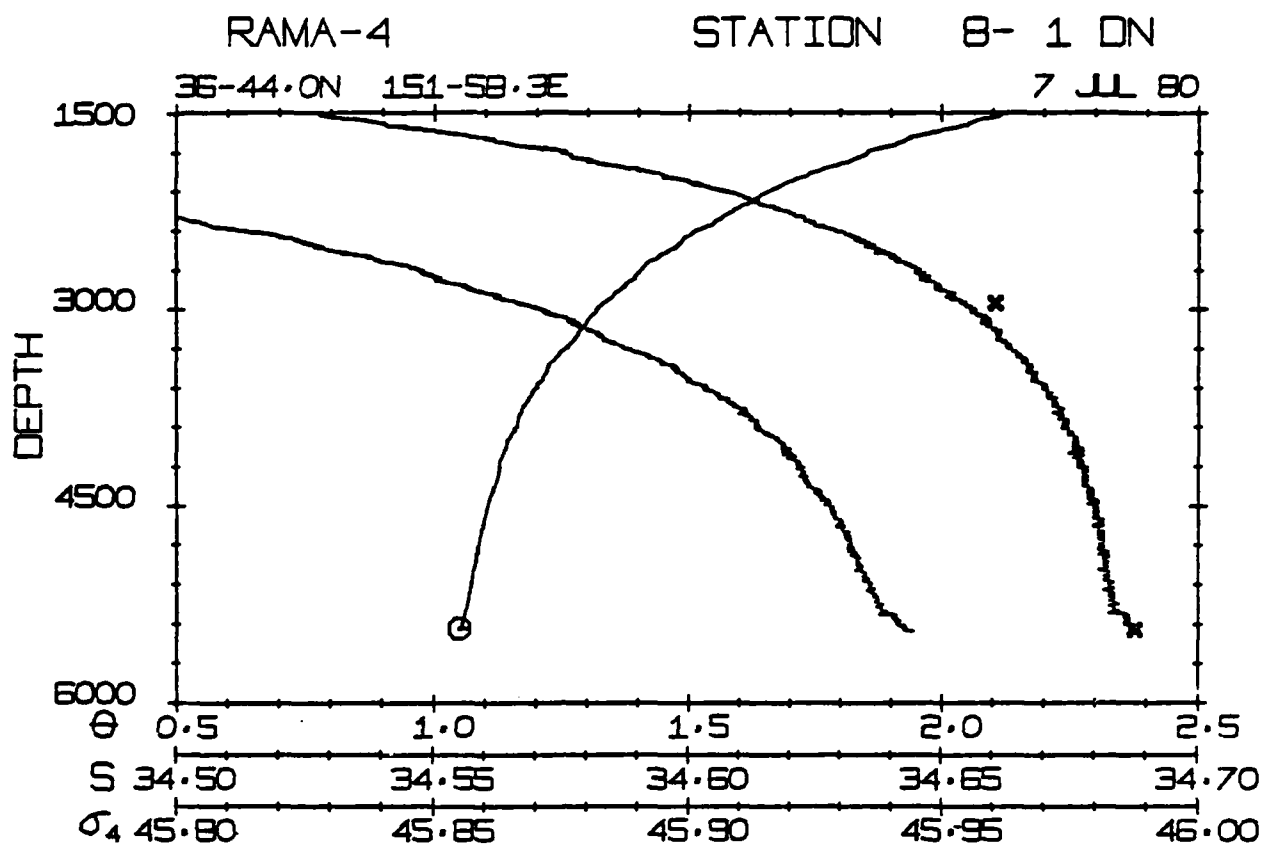
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AD-A183 291



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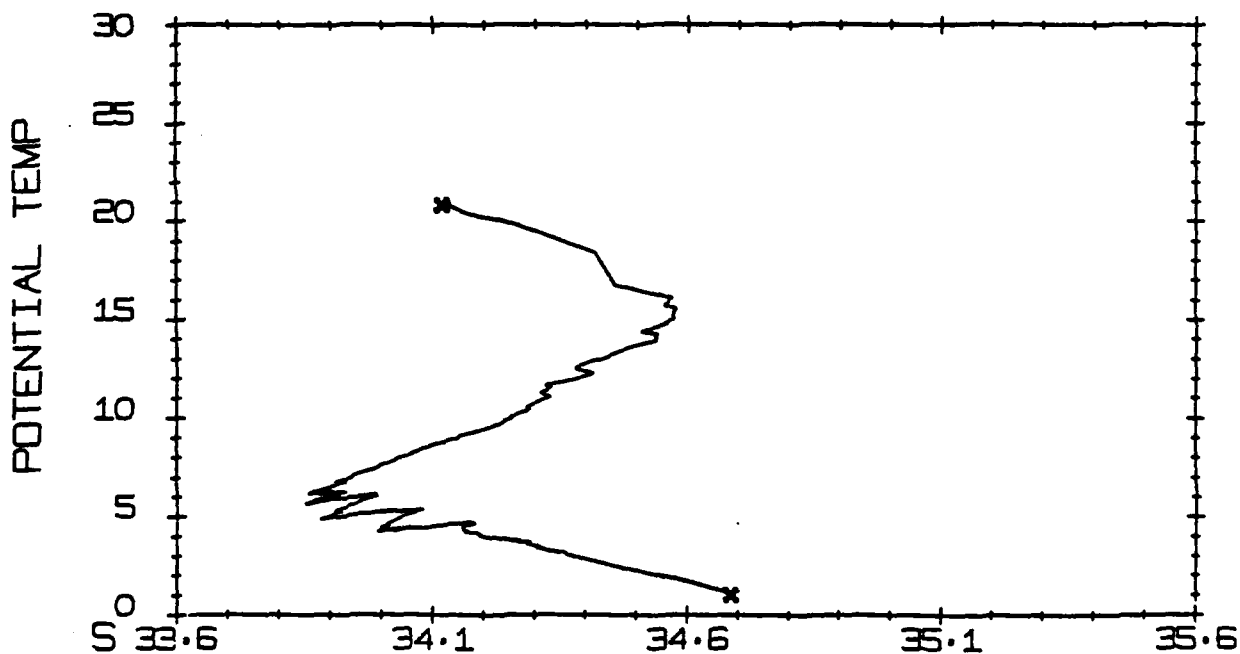
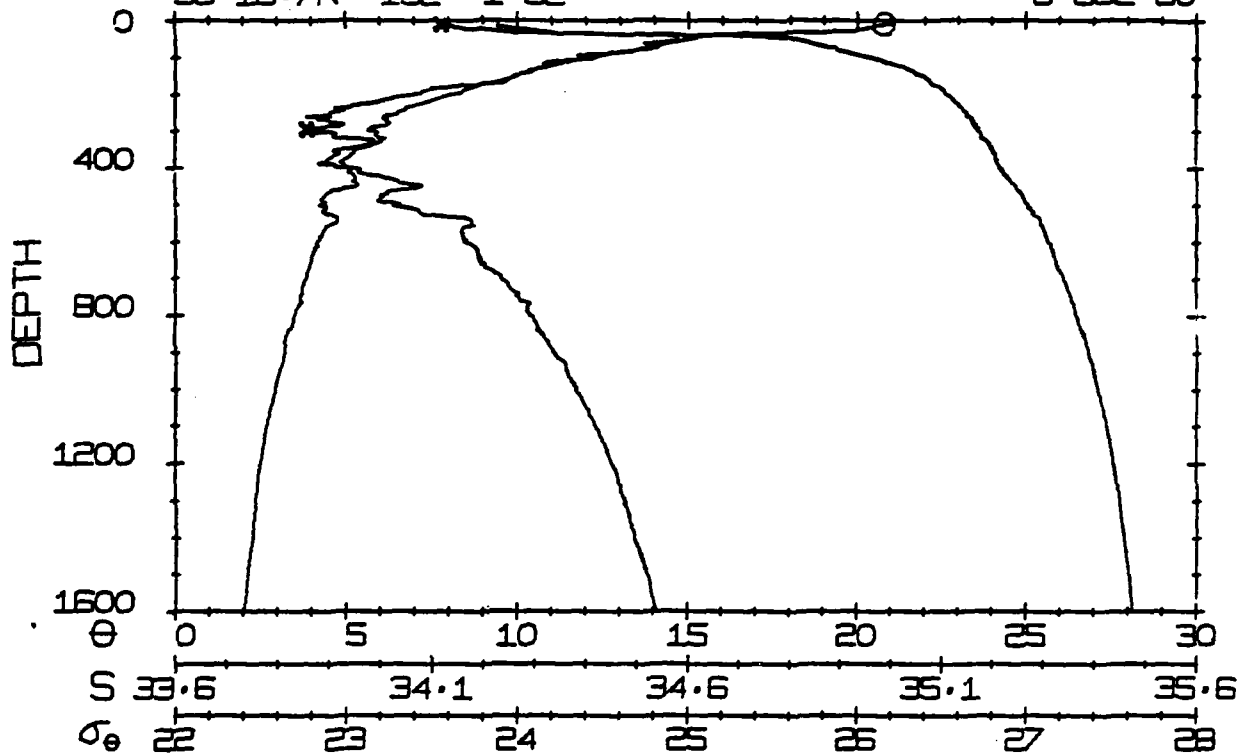


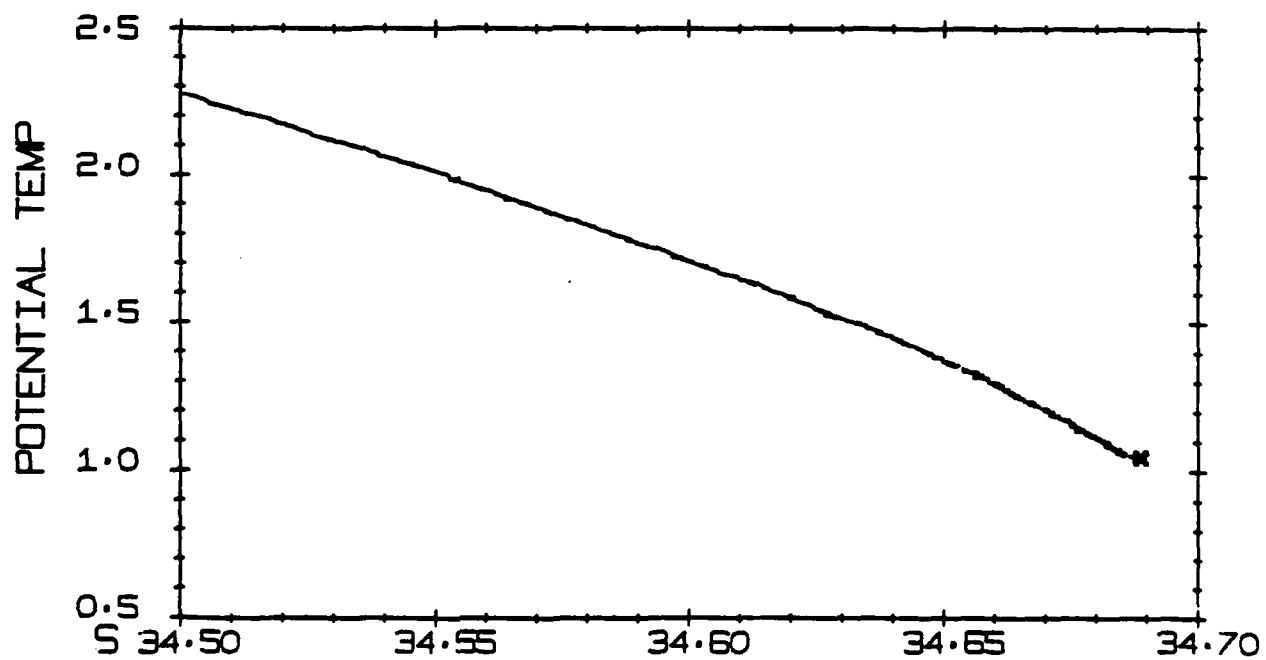
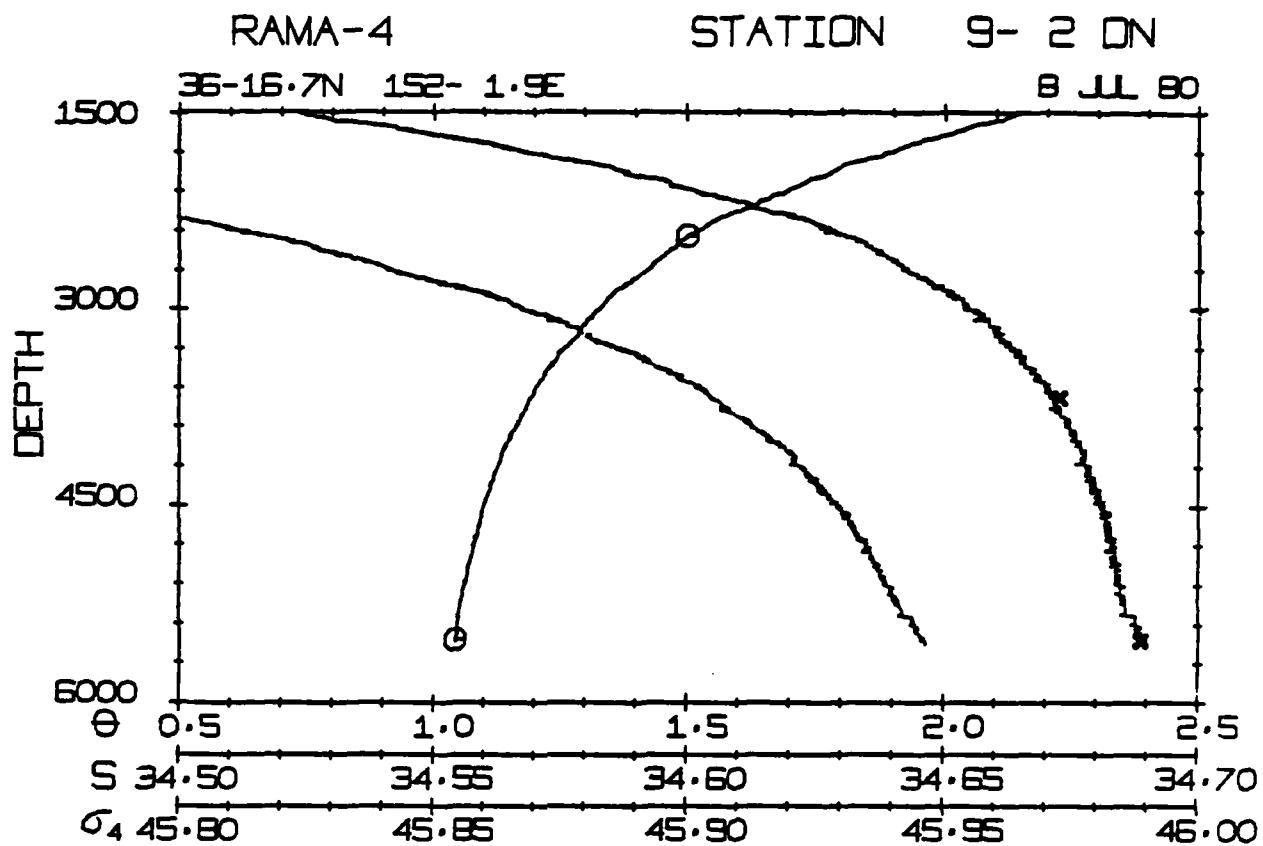
RAMA-4

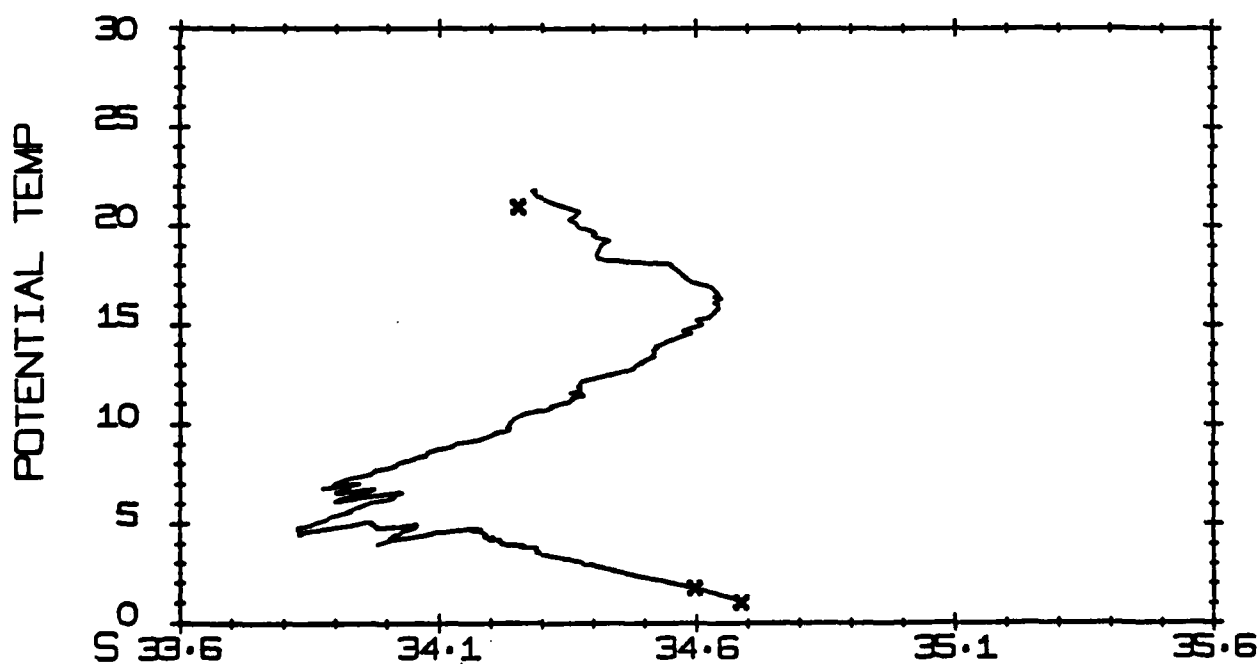
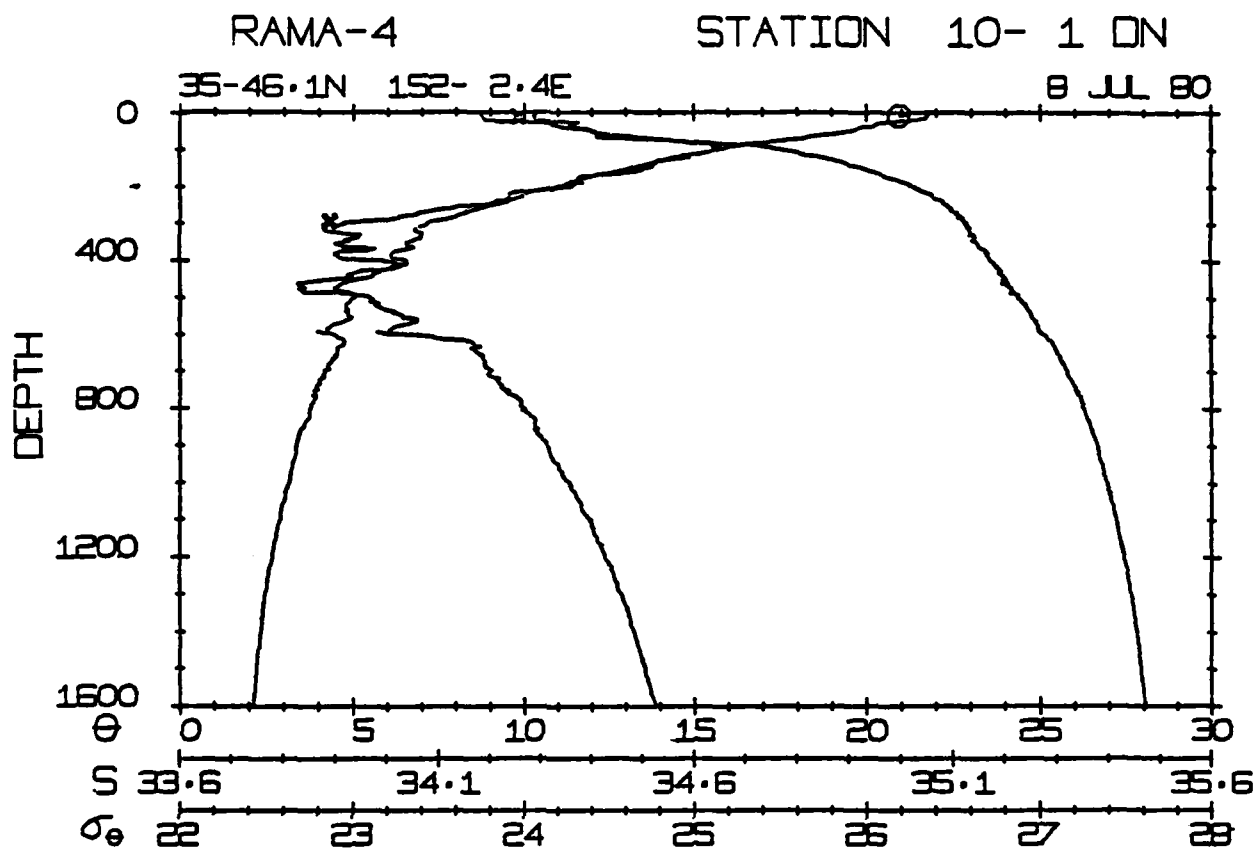
STATION 9- 2 DN

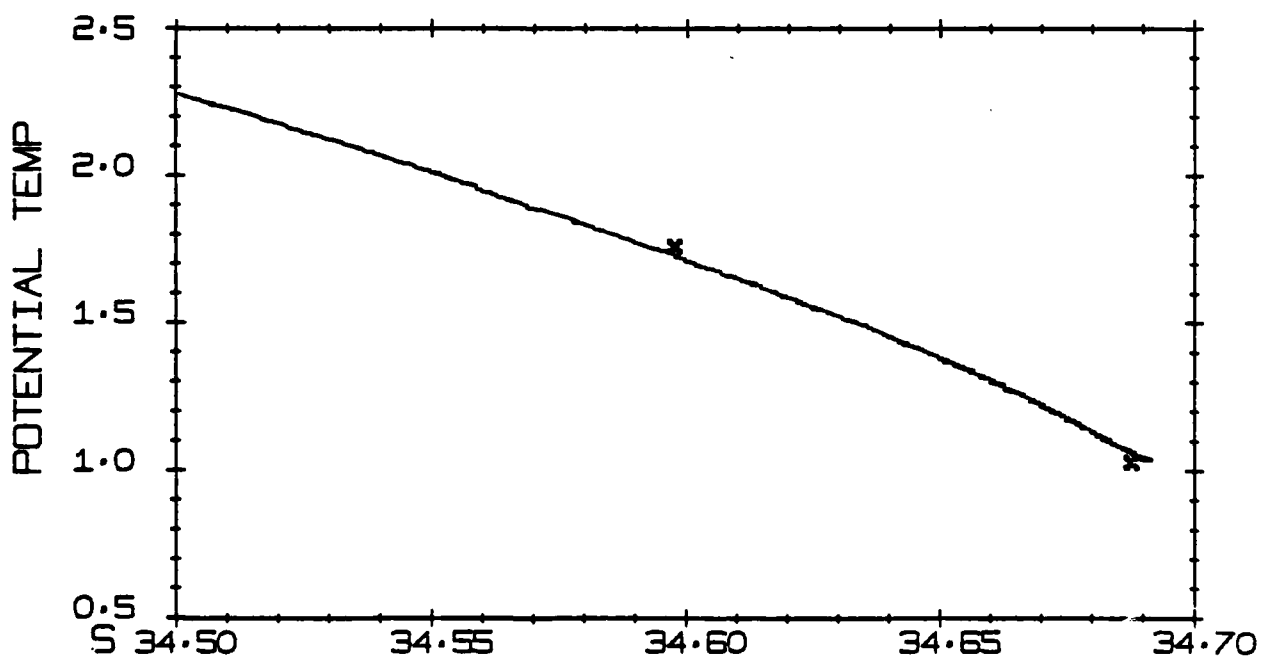
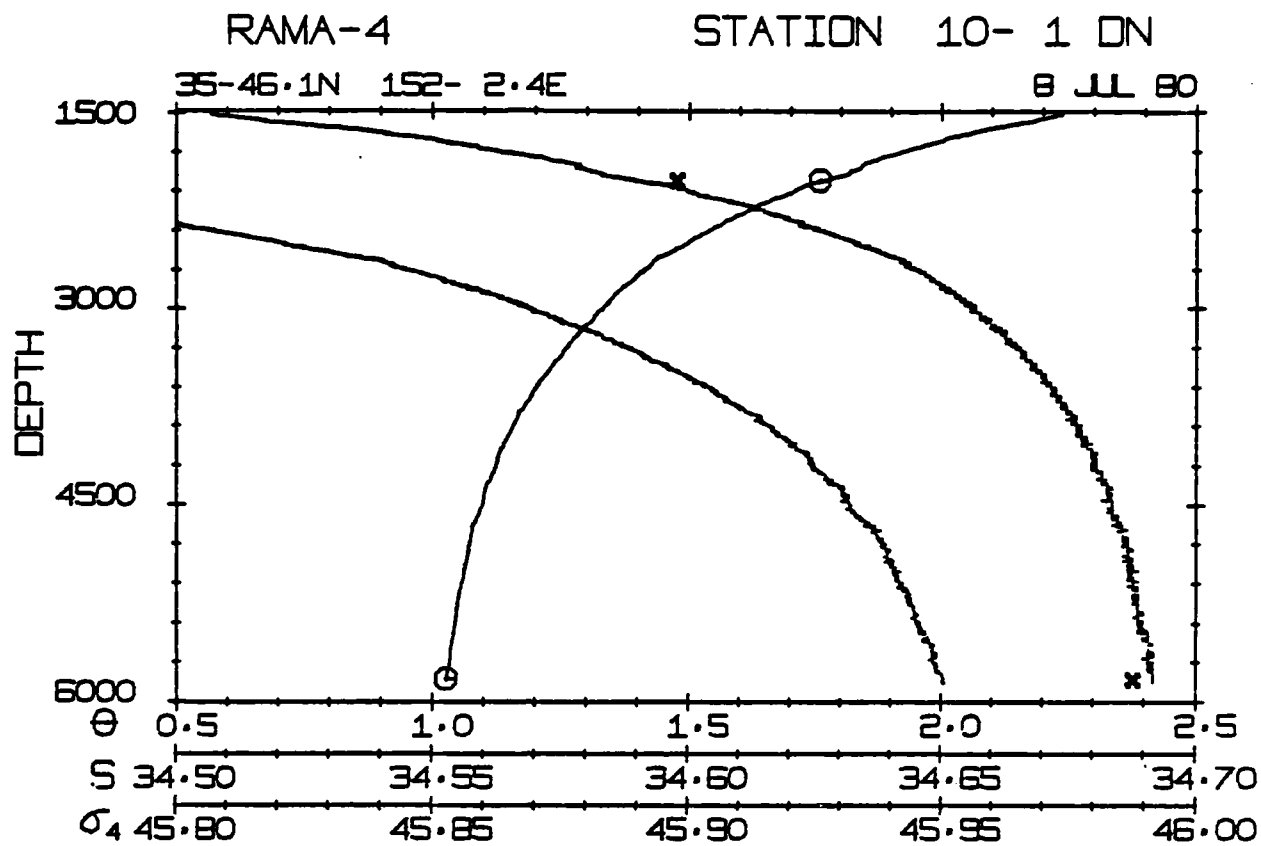
36-16.7N 152- 1.9E

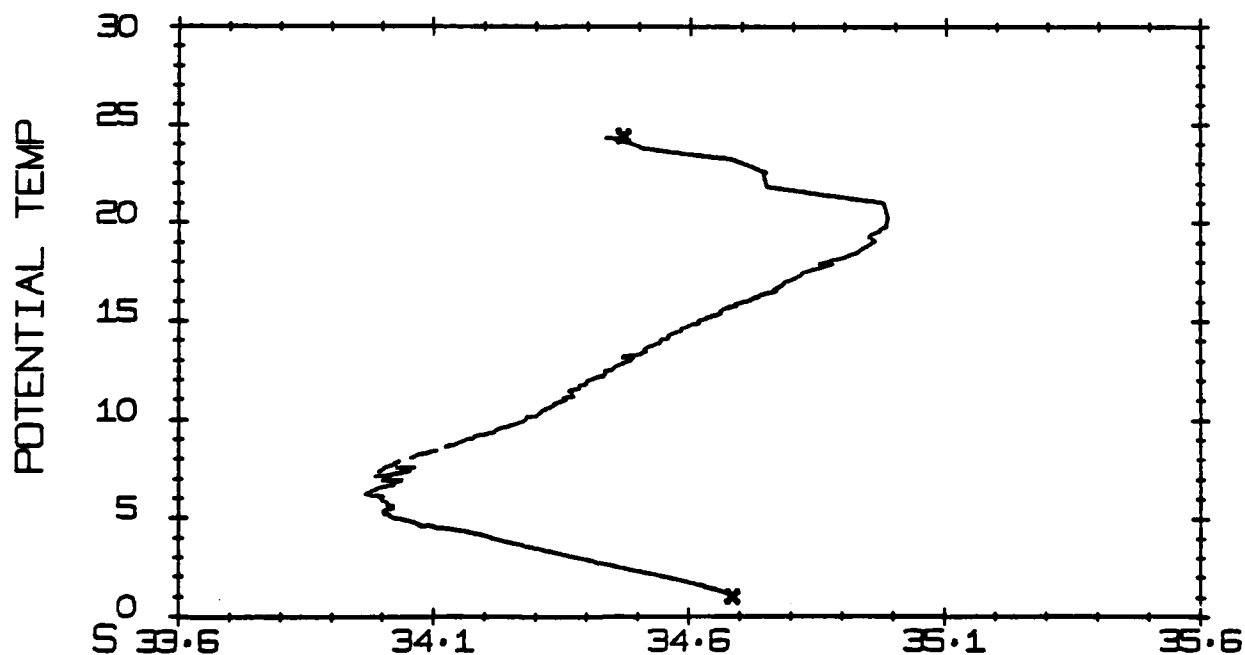
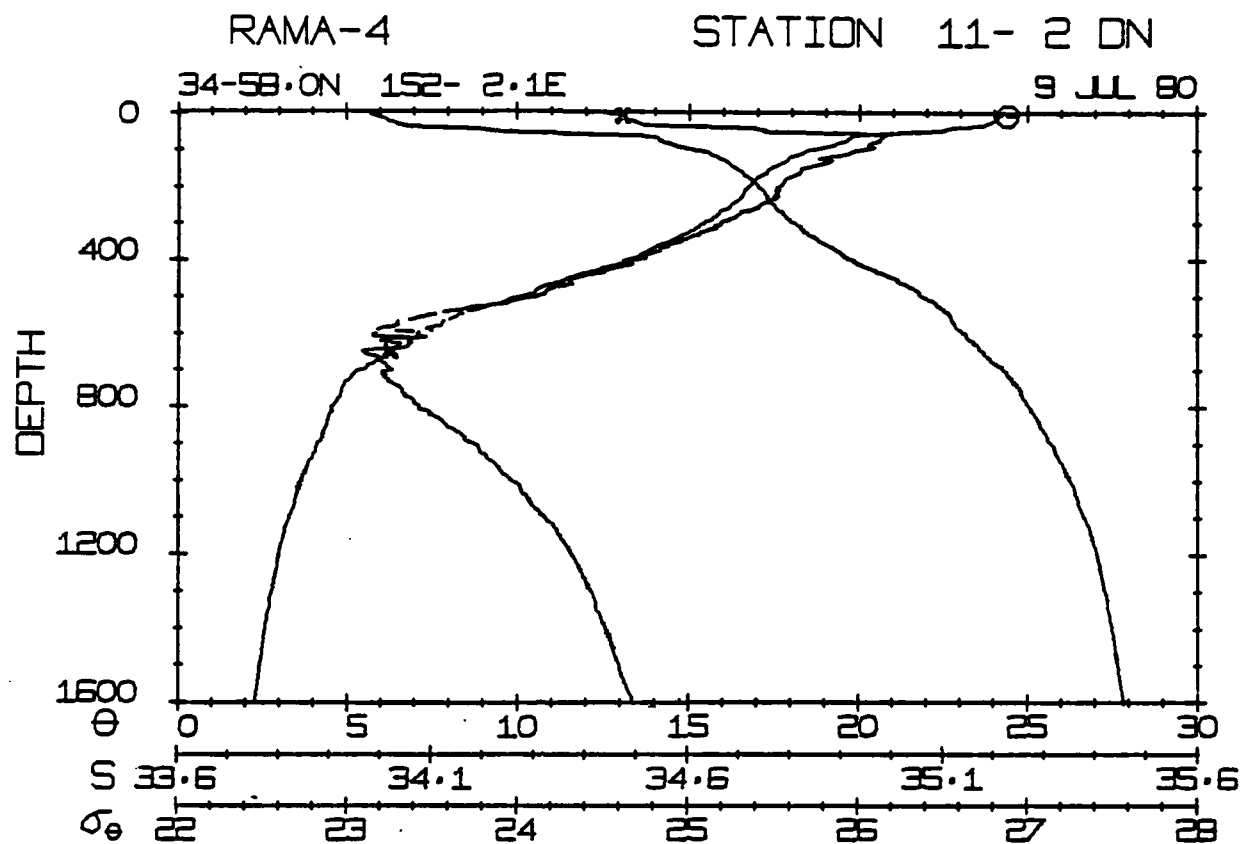
8 JUL 80

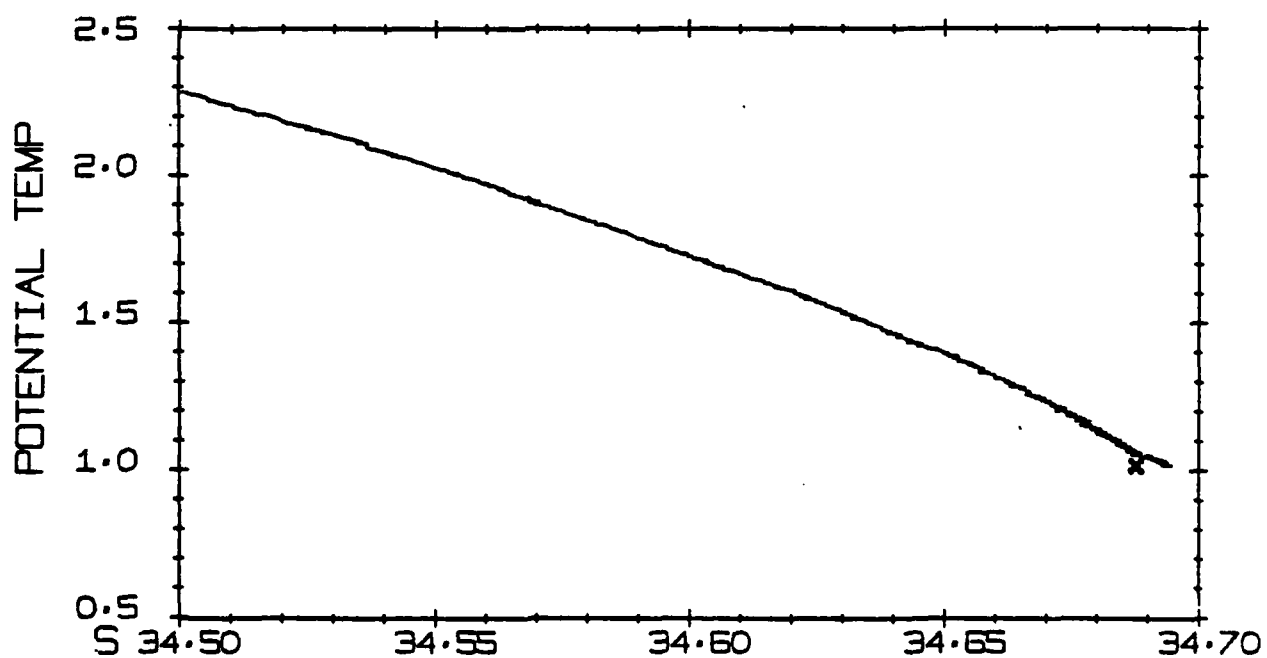
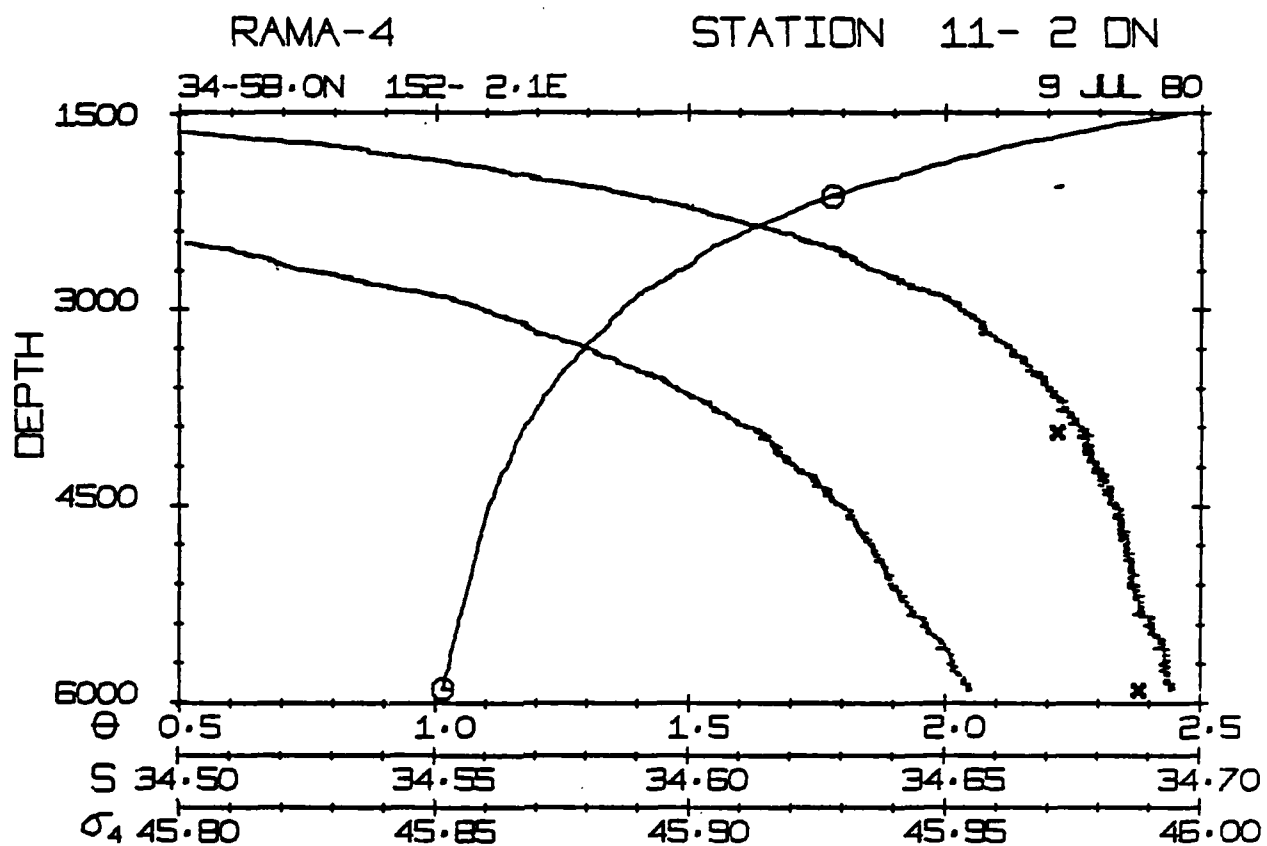










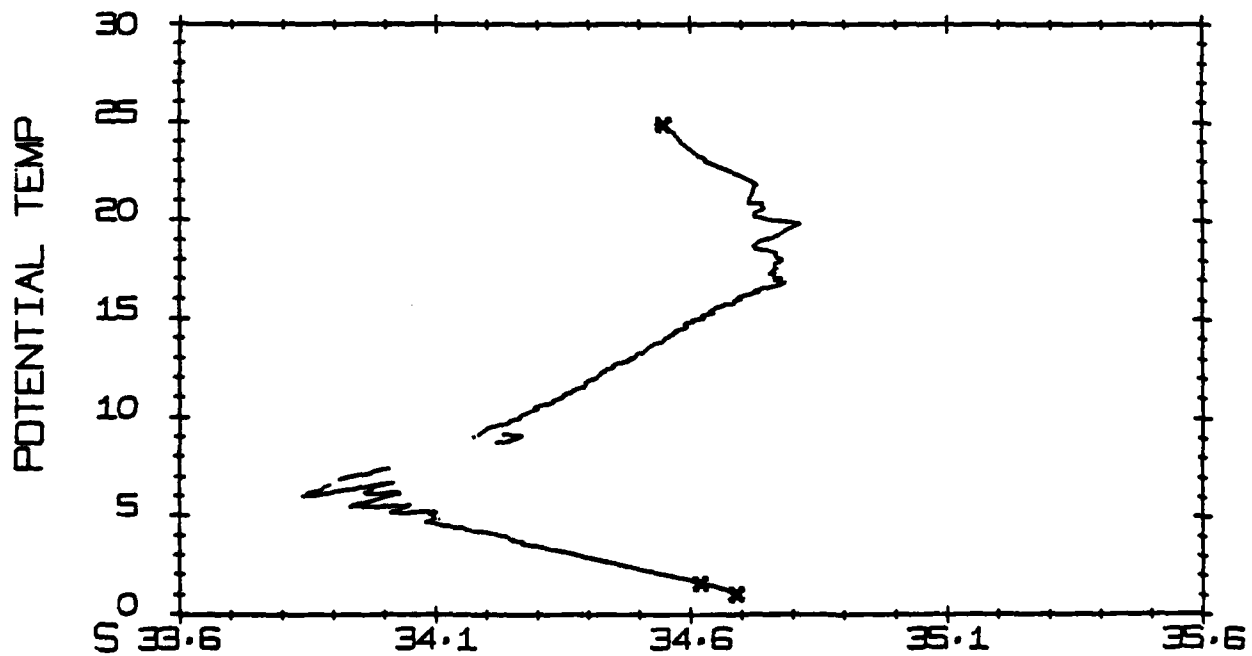
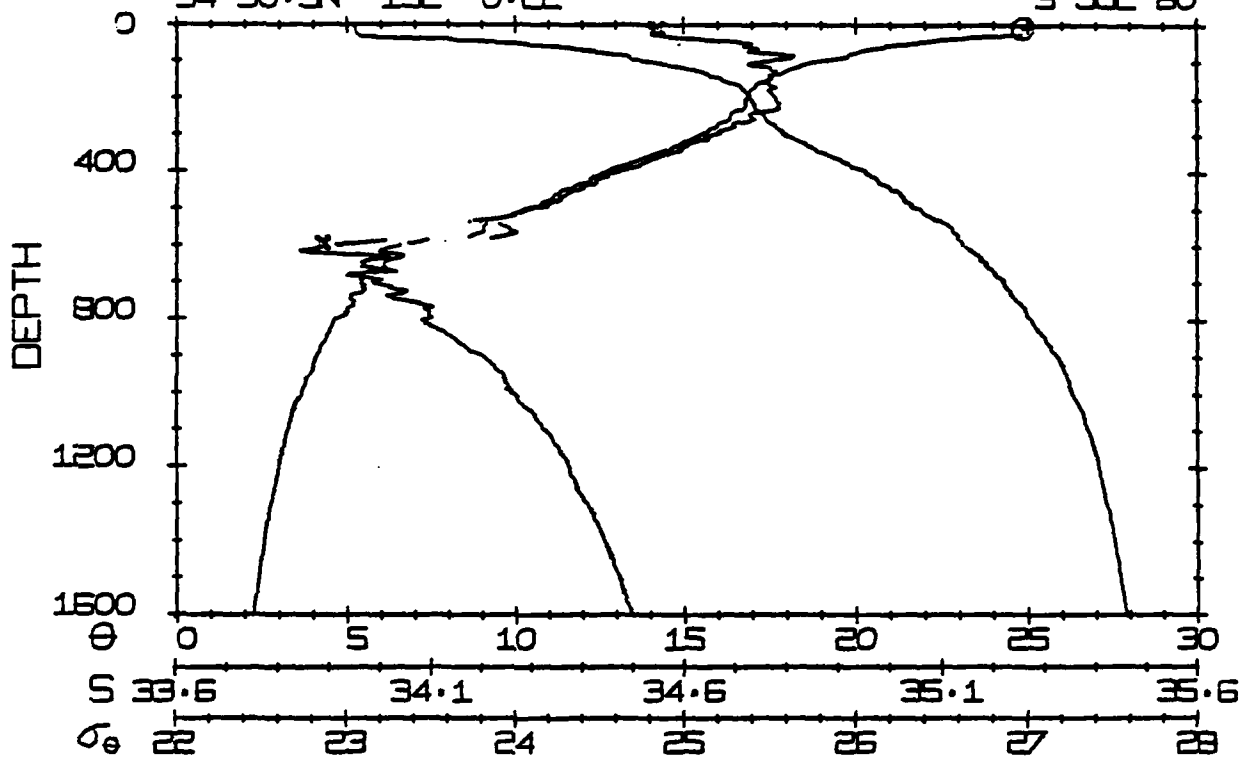


RAMA-4

STATION 12- 1 ON

34-30.5N 152- 0.2E

9 JUL 80

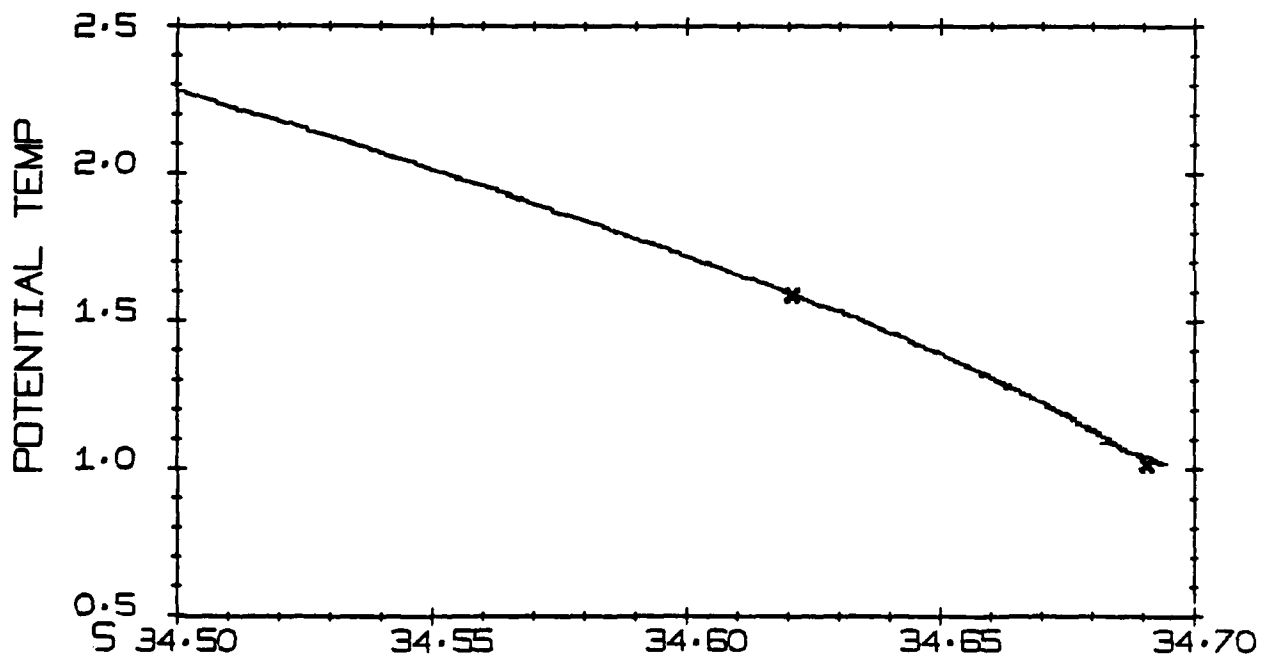
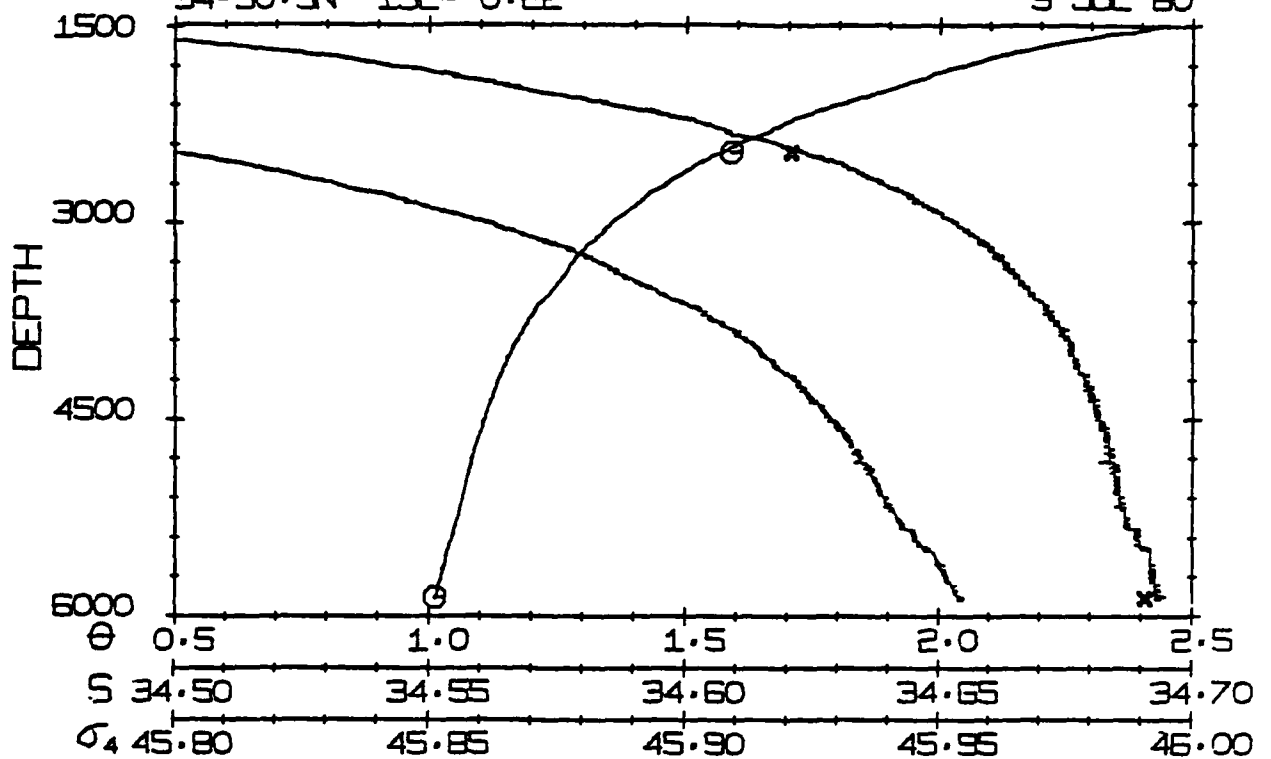


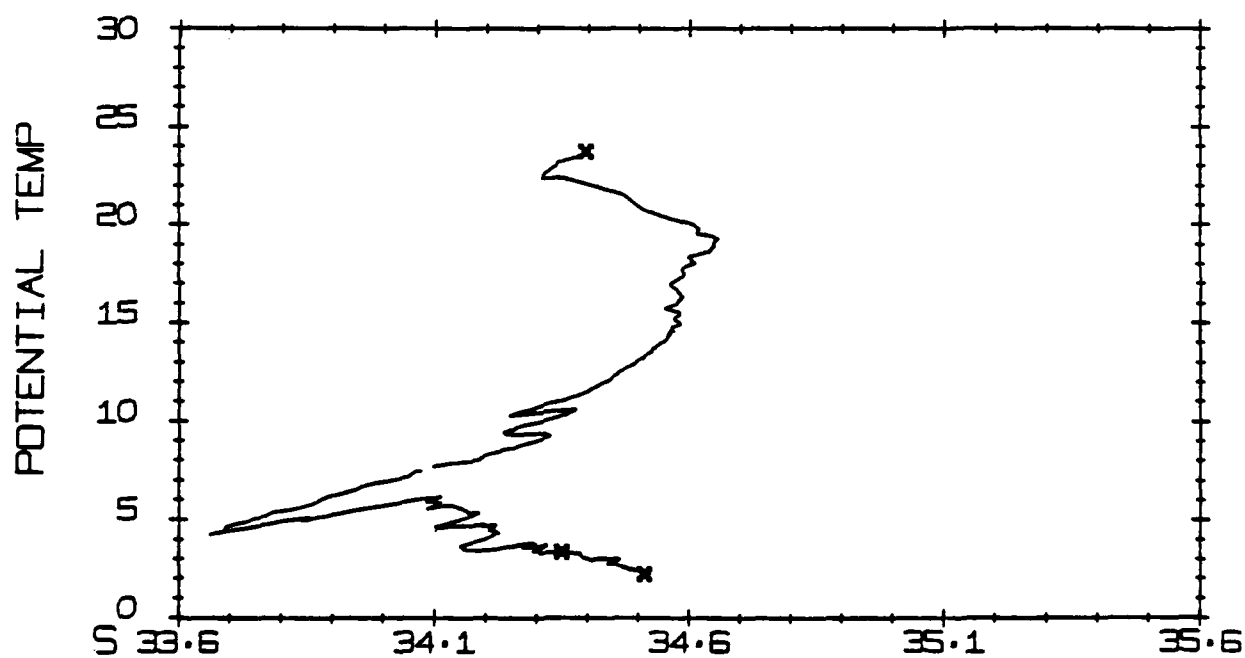
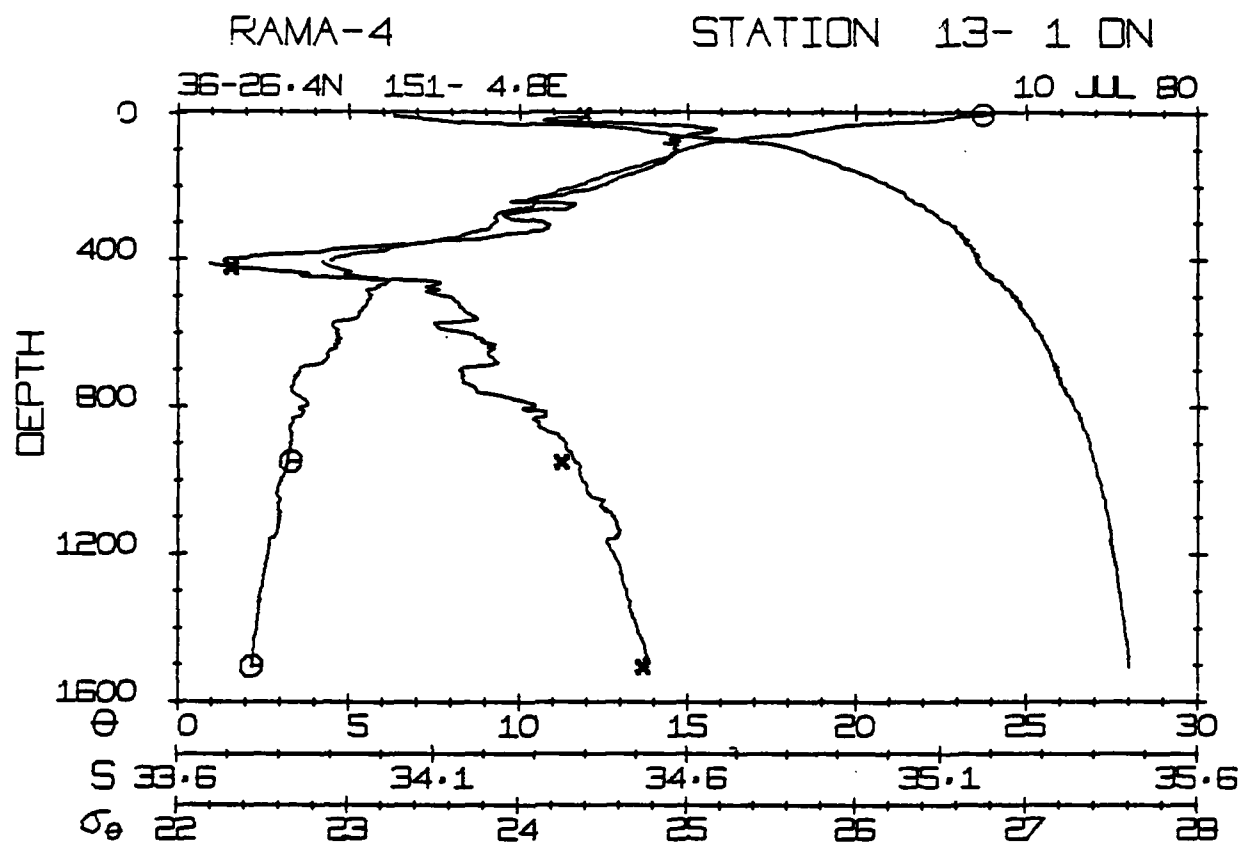
RAMA-4

STATION 12- 1 DN

34-30.5N 152- 0.2E

9 JUL 80



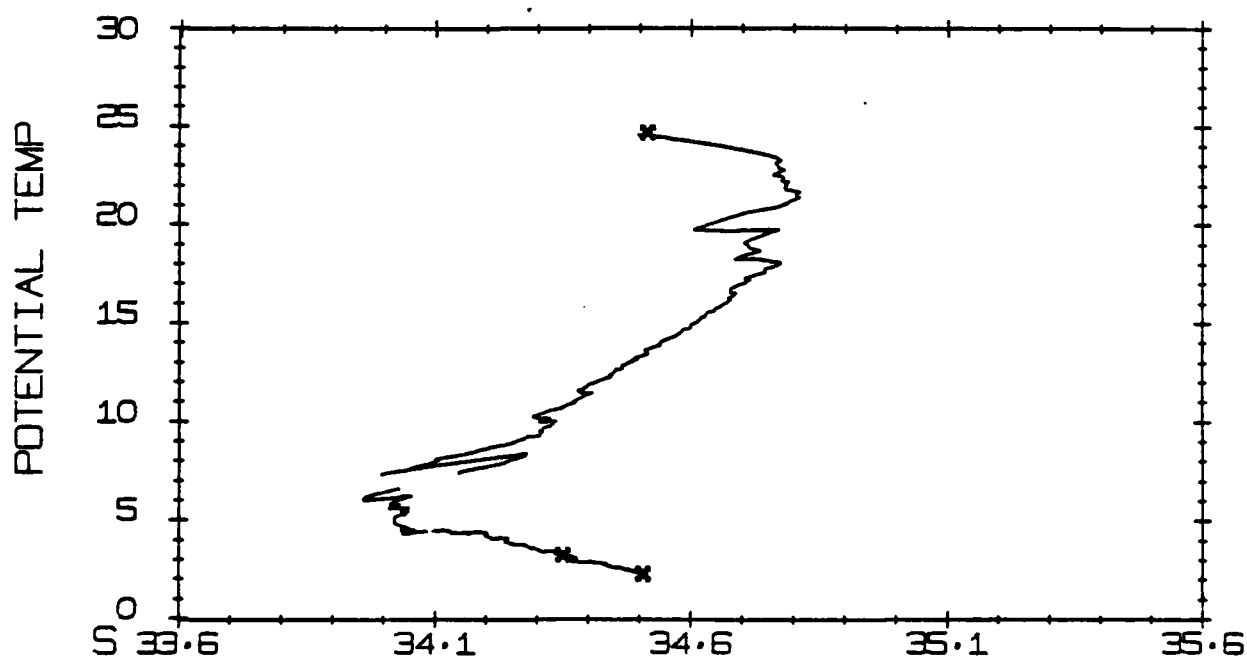
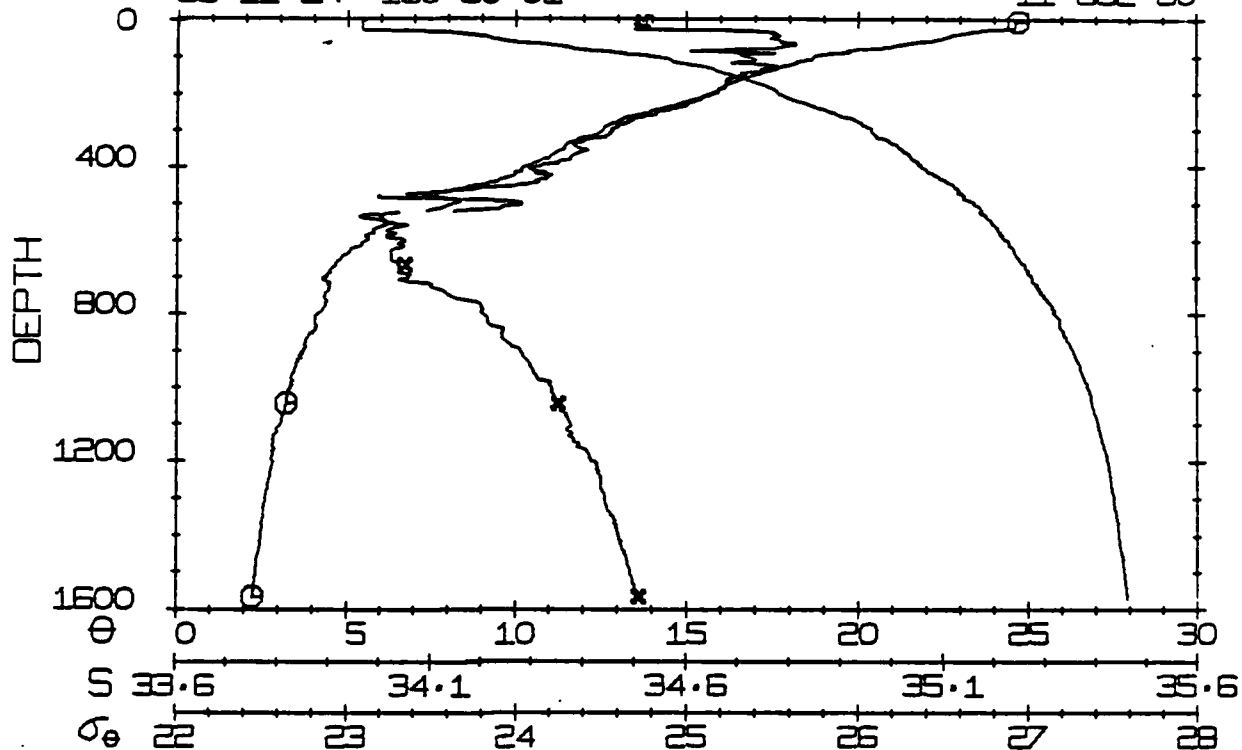


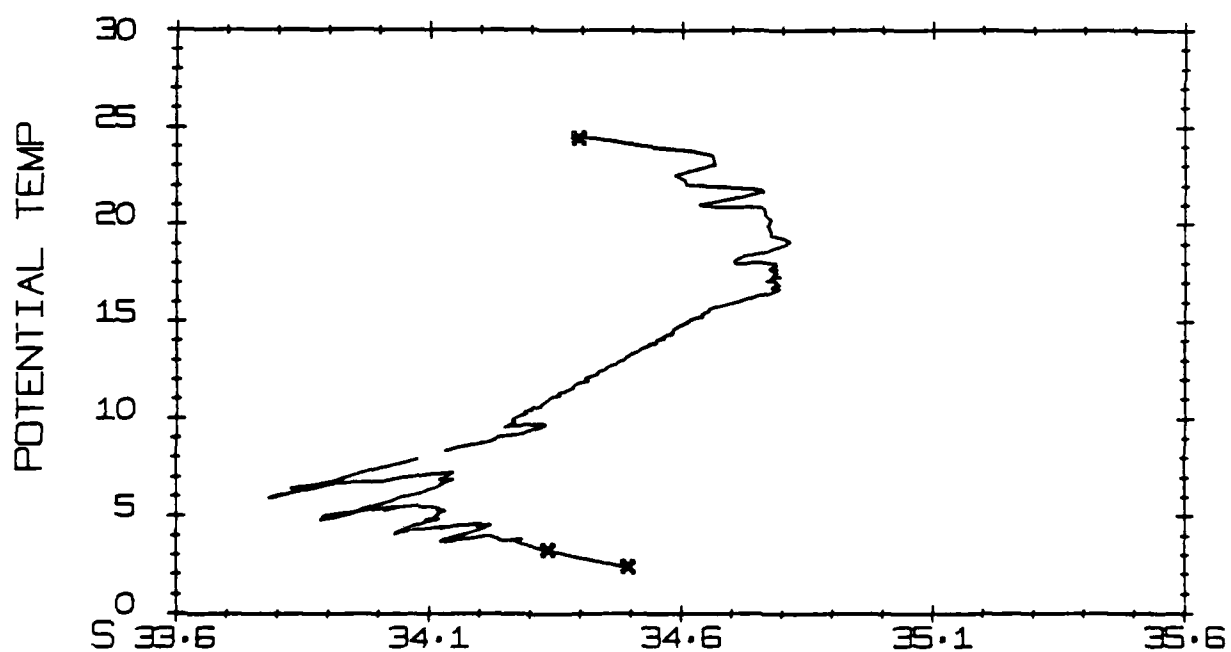
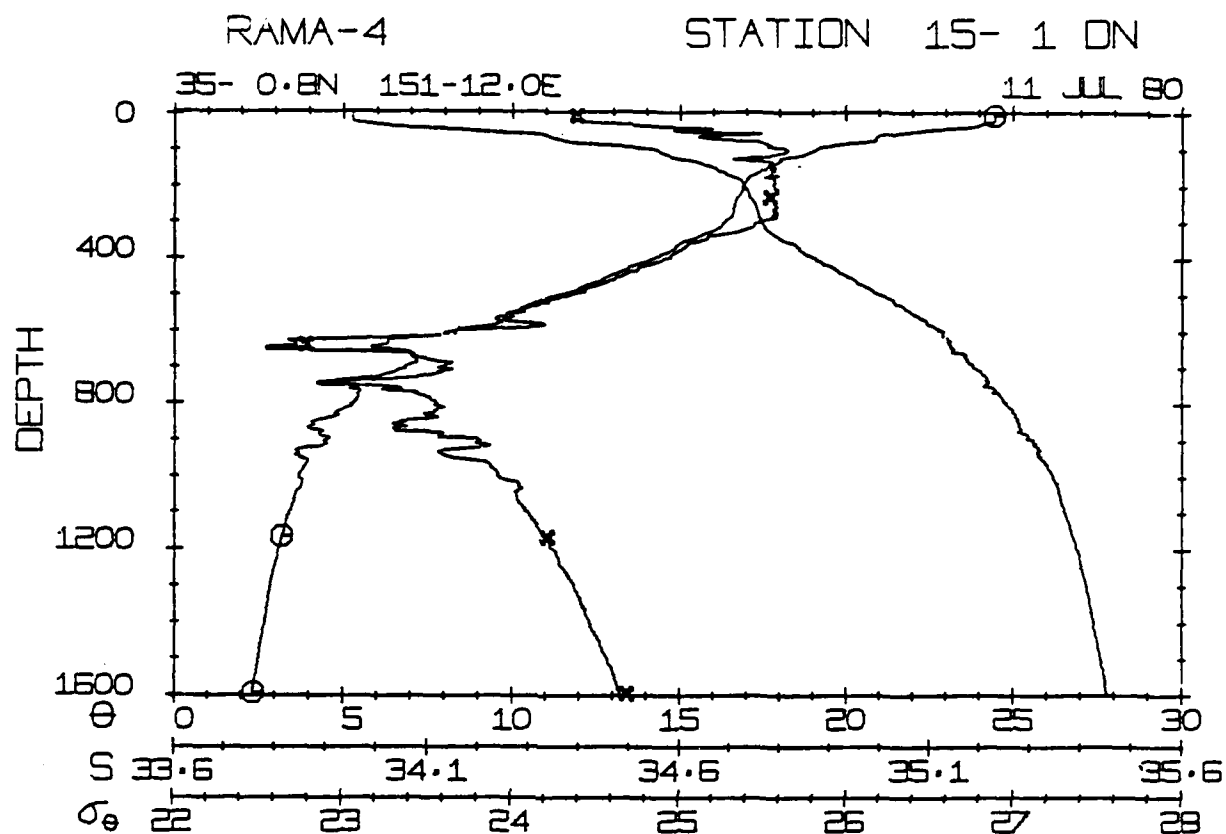
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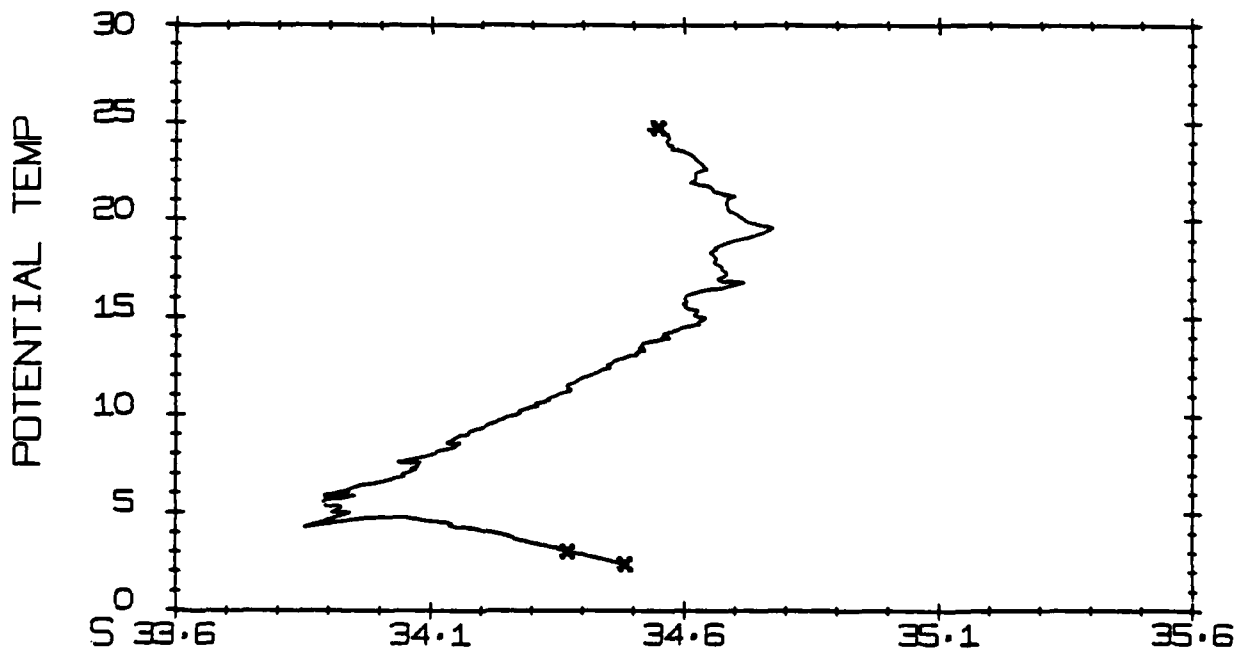
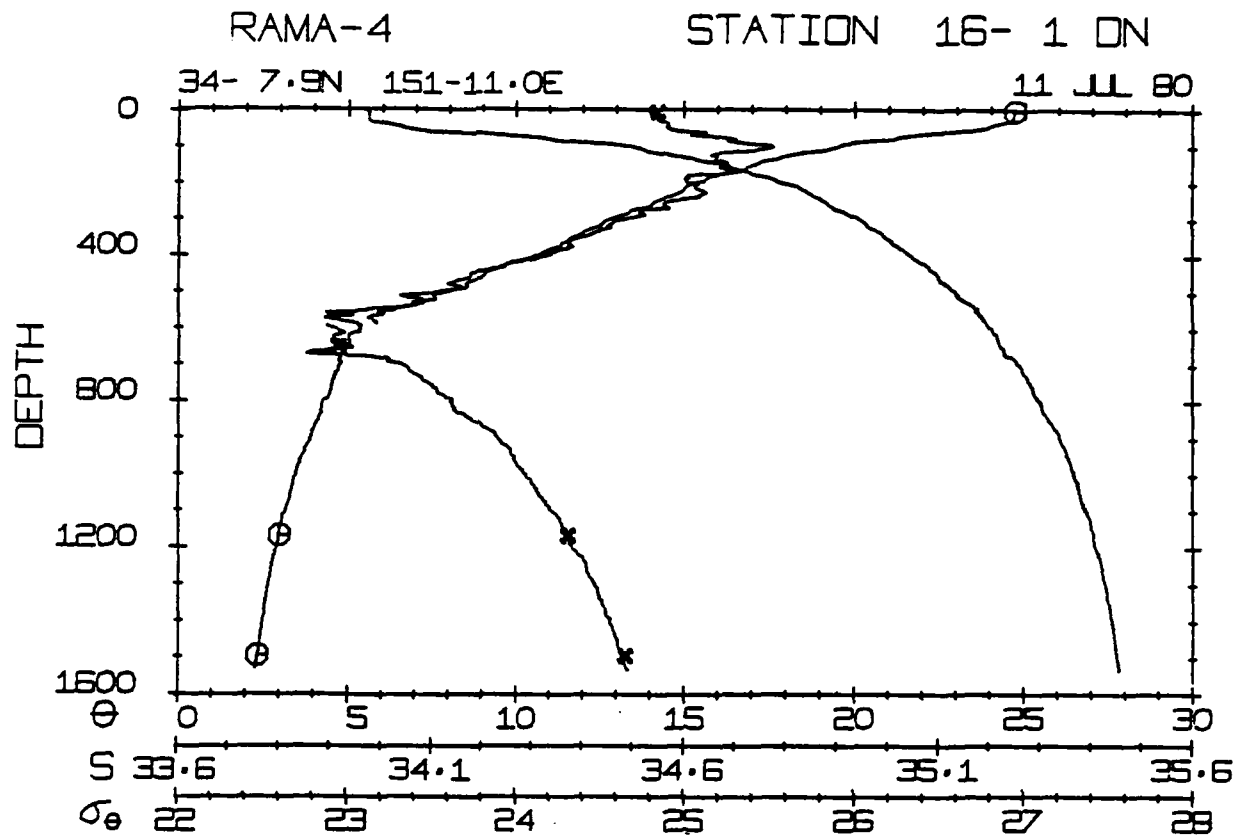
STATION 14- 1 ON

36-11.2N 150-50.0E

11 JUL 80





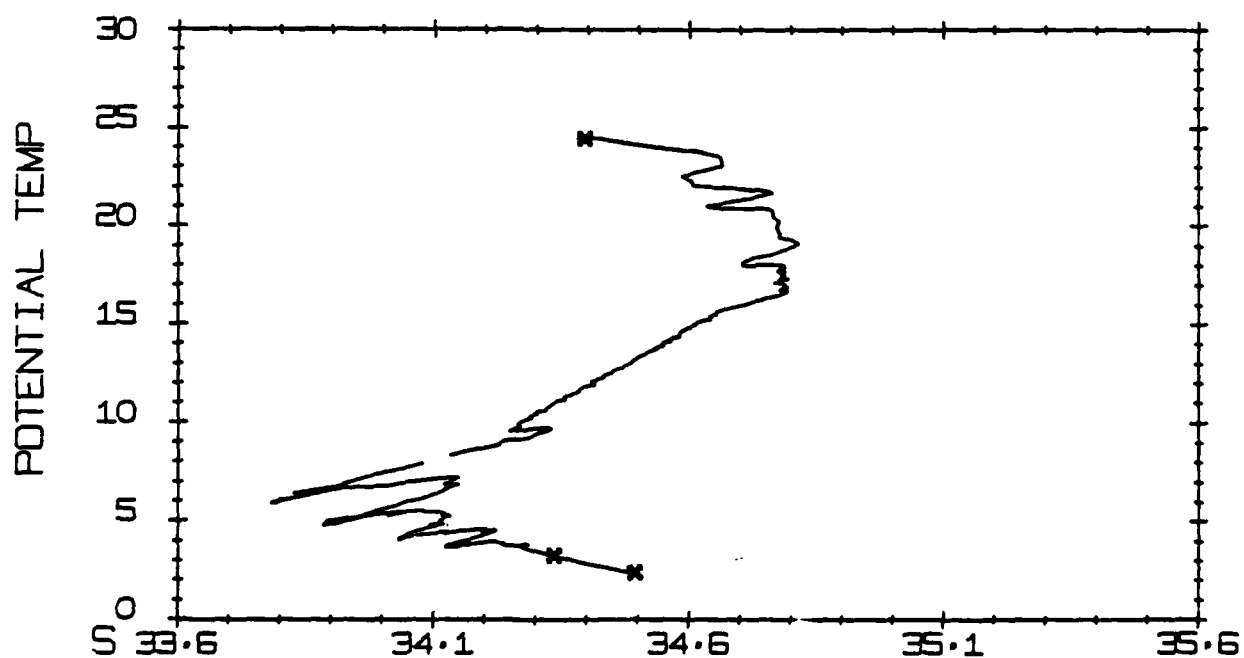
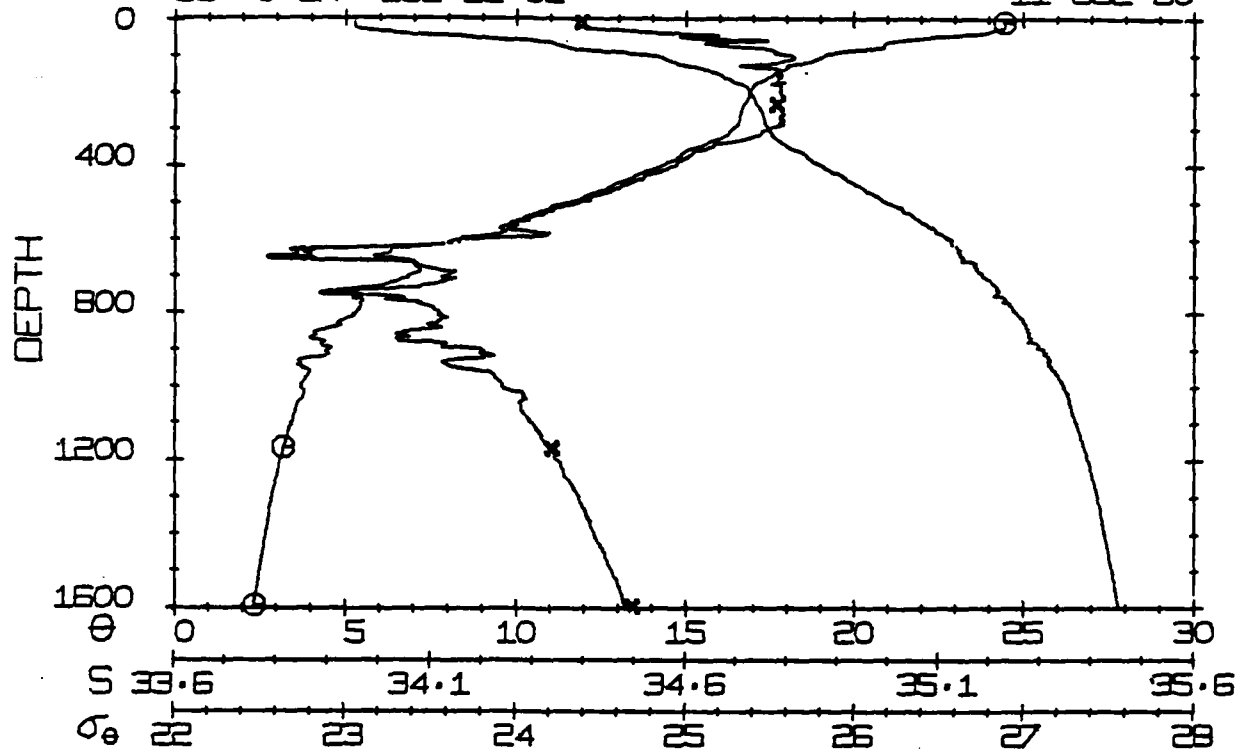


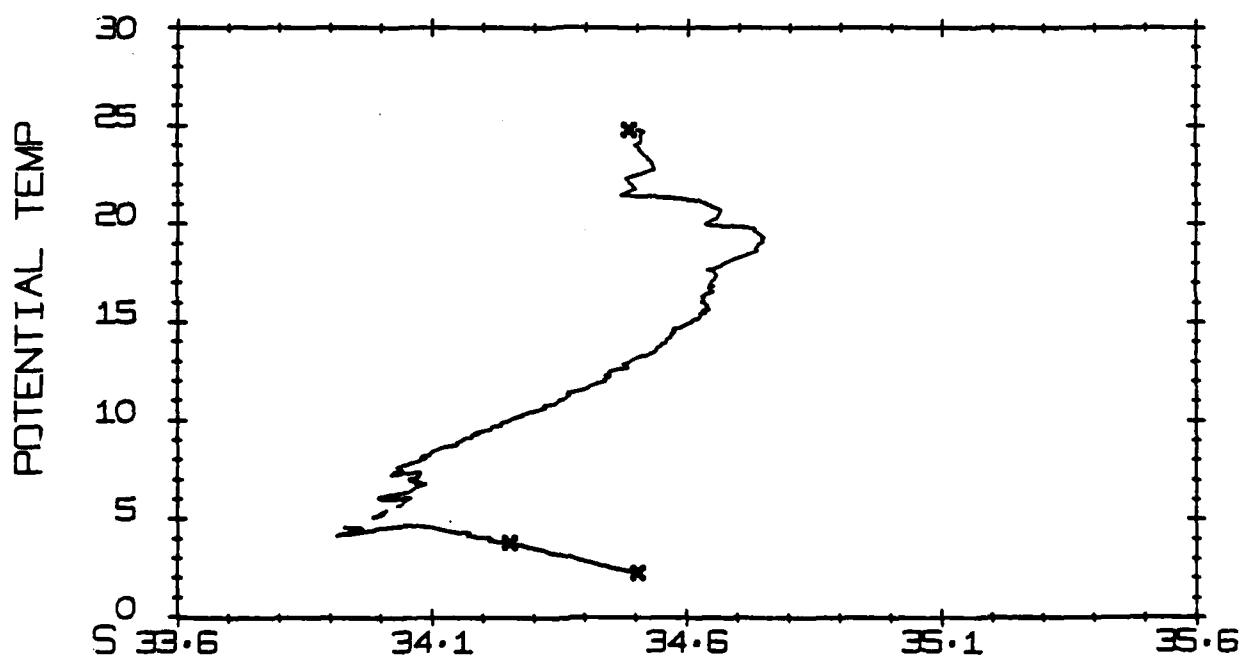
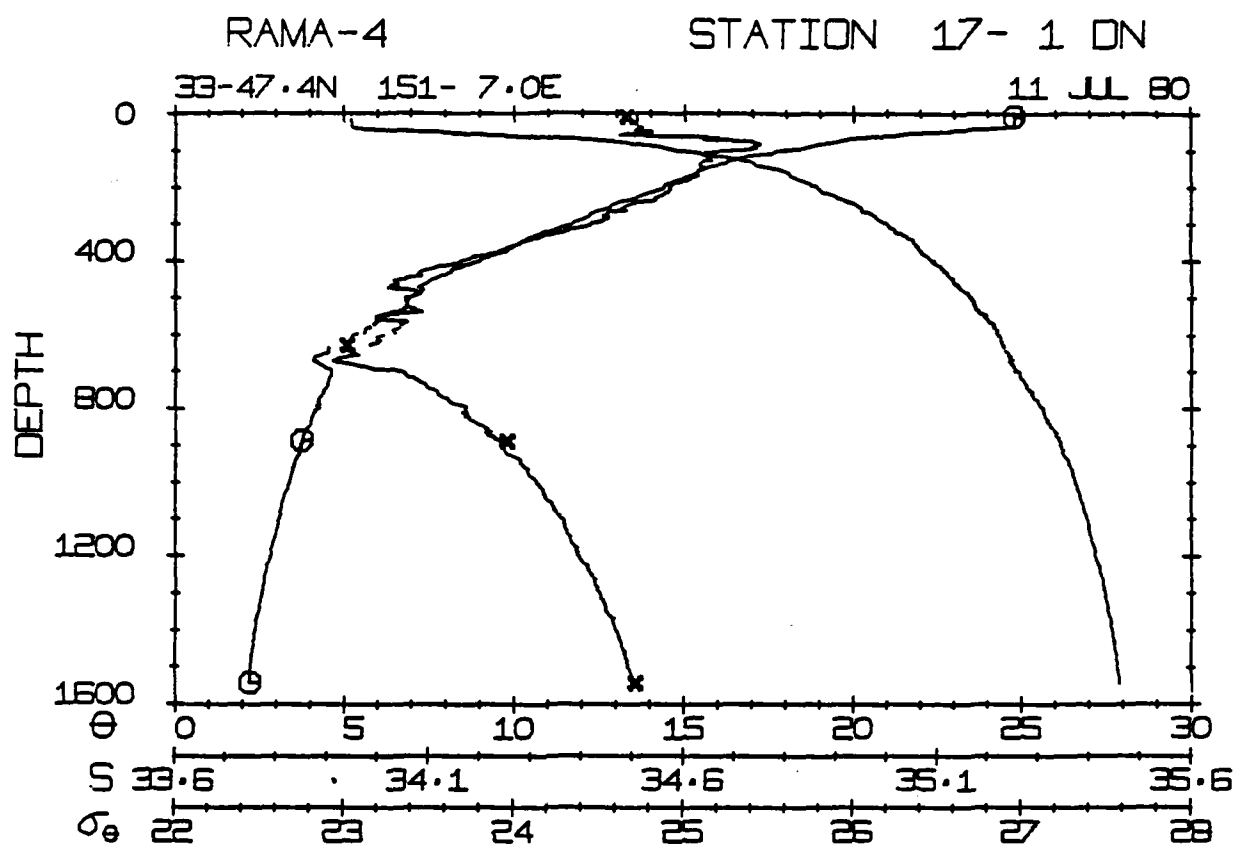
RAMA-4

STATION 15- 1 DN

35- 0.8N 151-12.0E

11 JUL 80



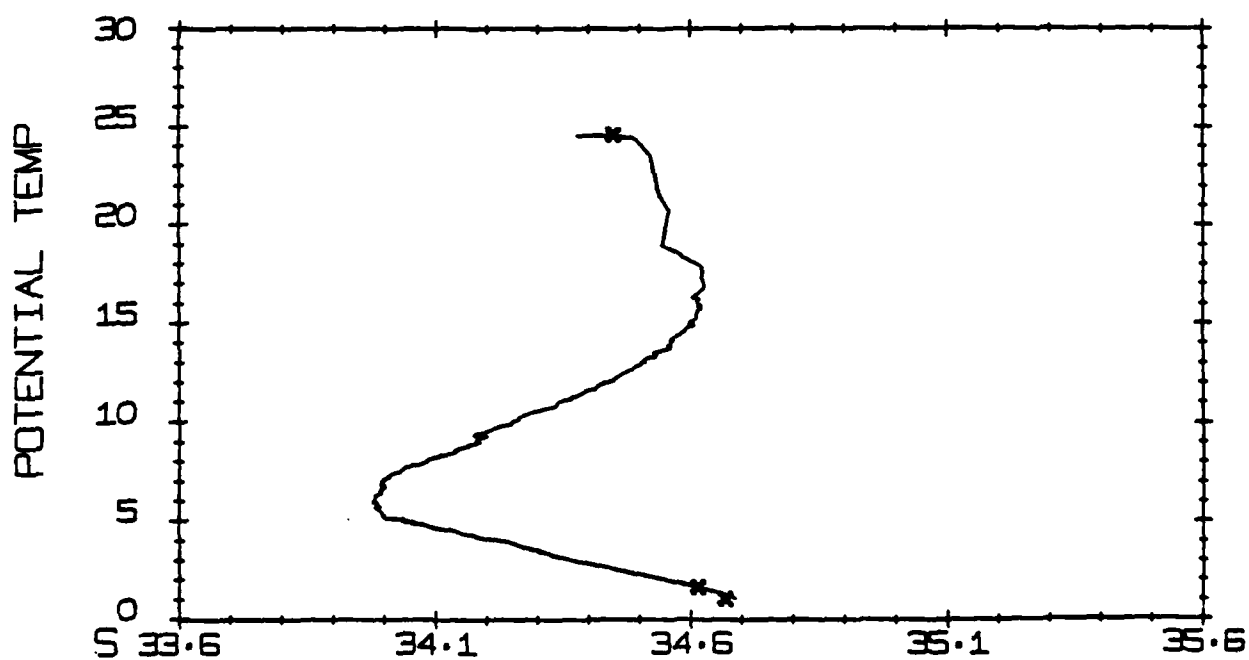
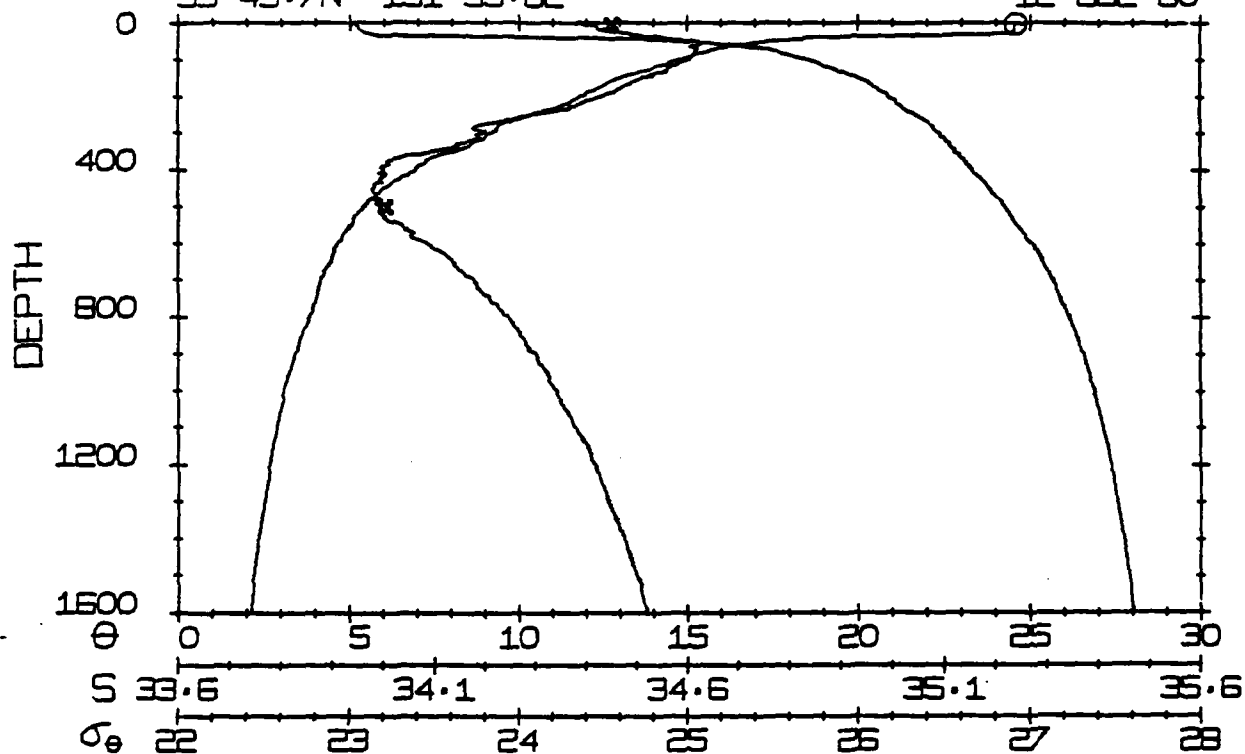


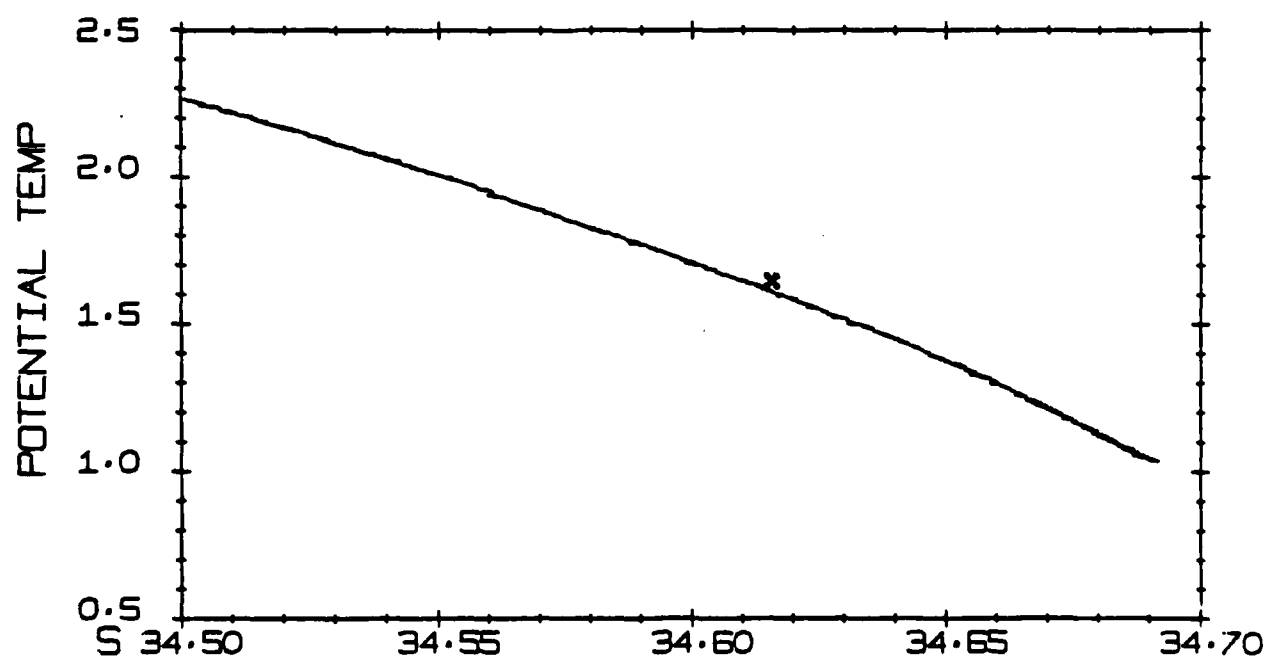
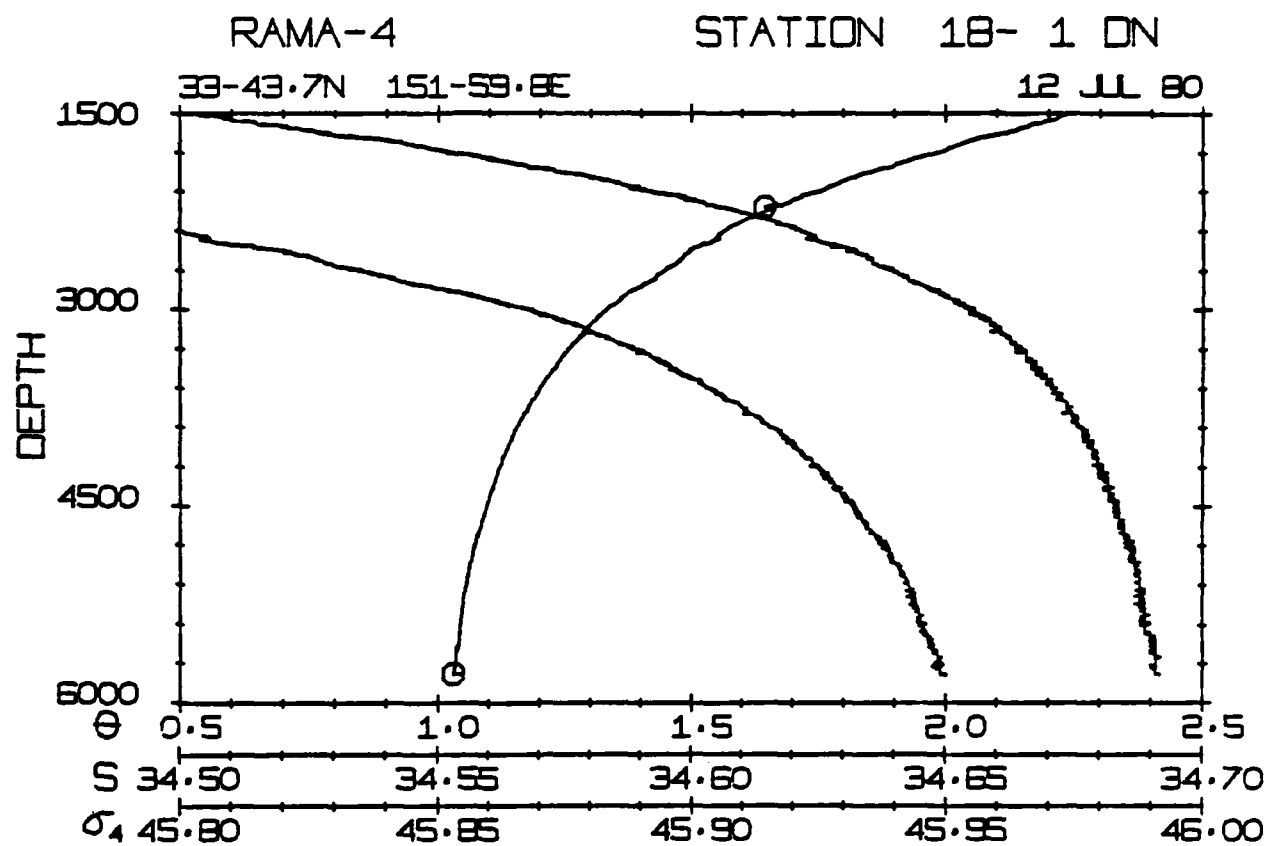
RAMA-4

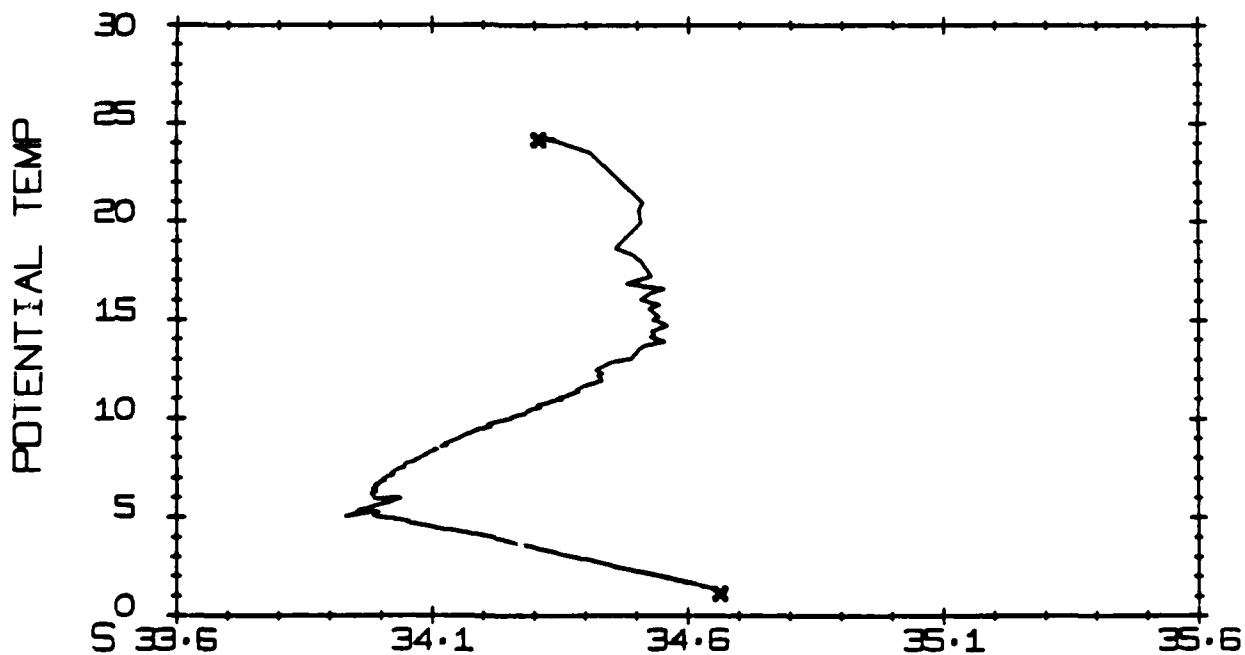
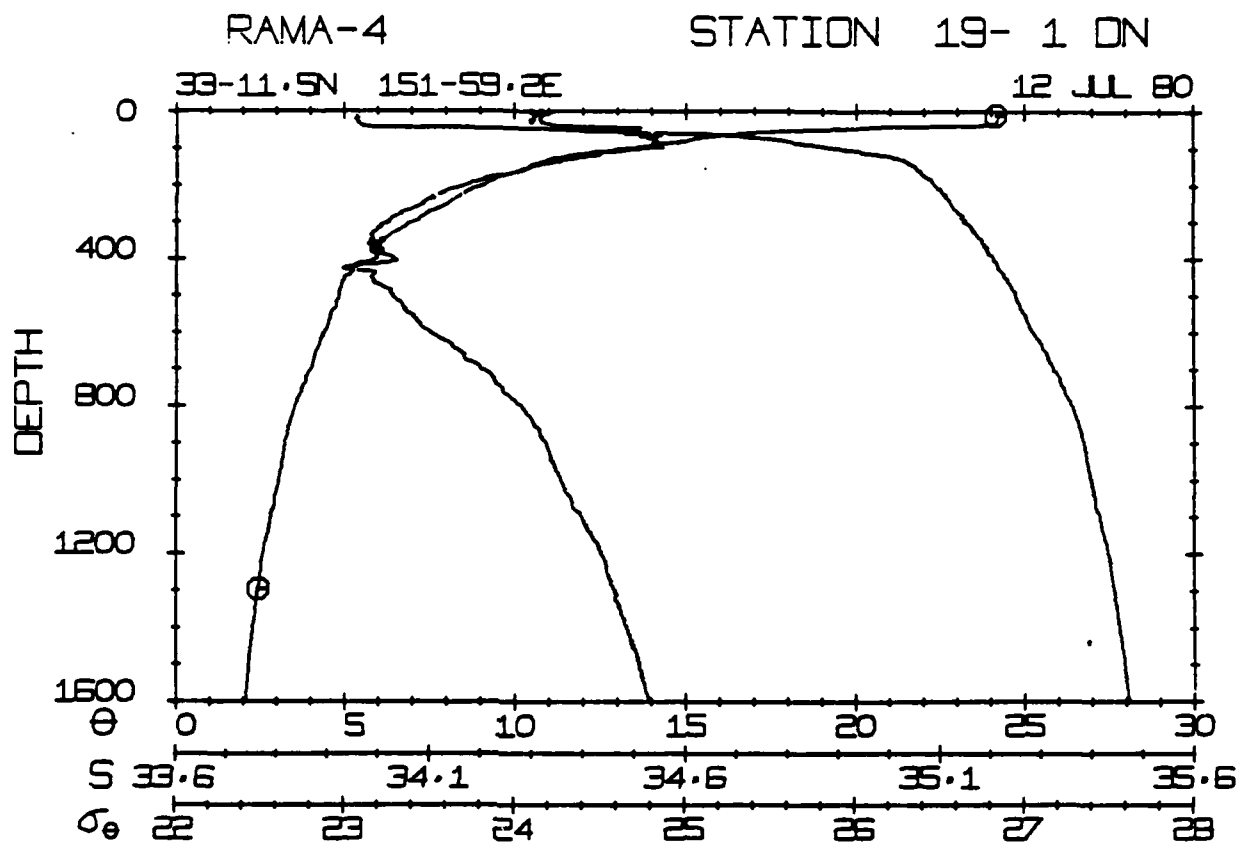
STATION 18- 1 DN

33-43.7N 151-59.8E

12 JUL 80





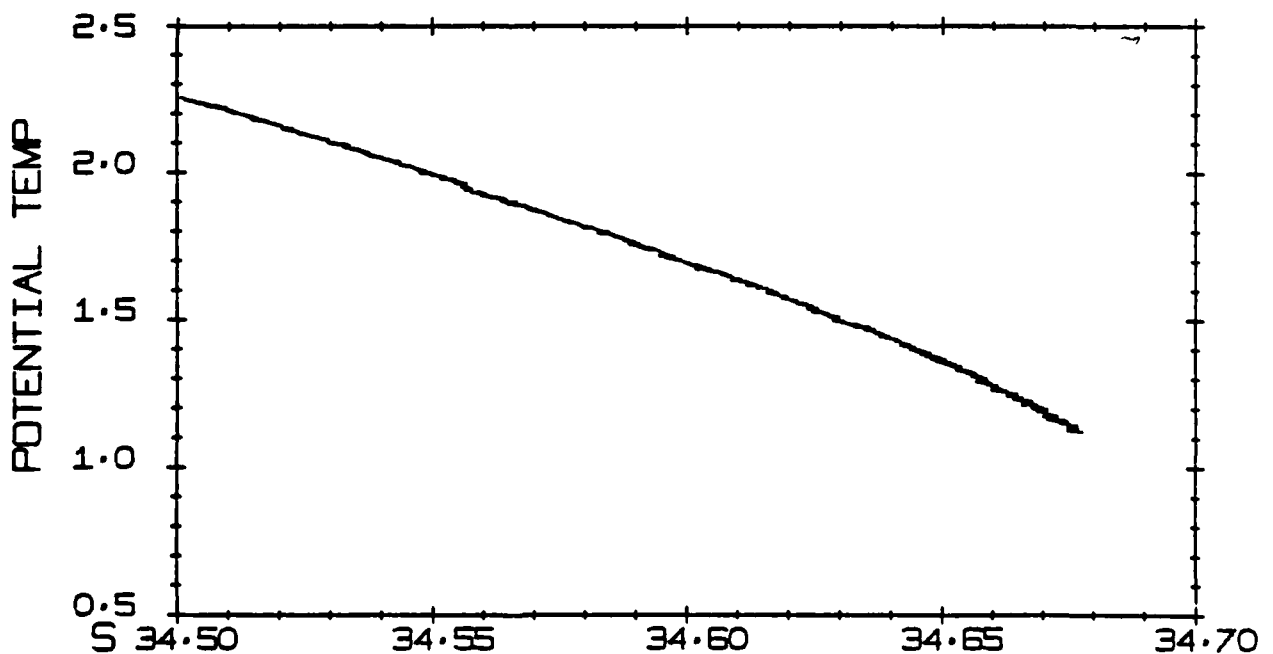
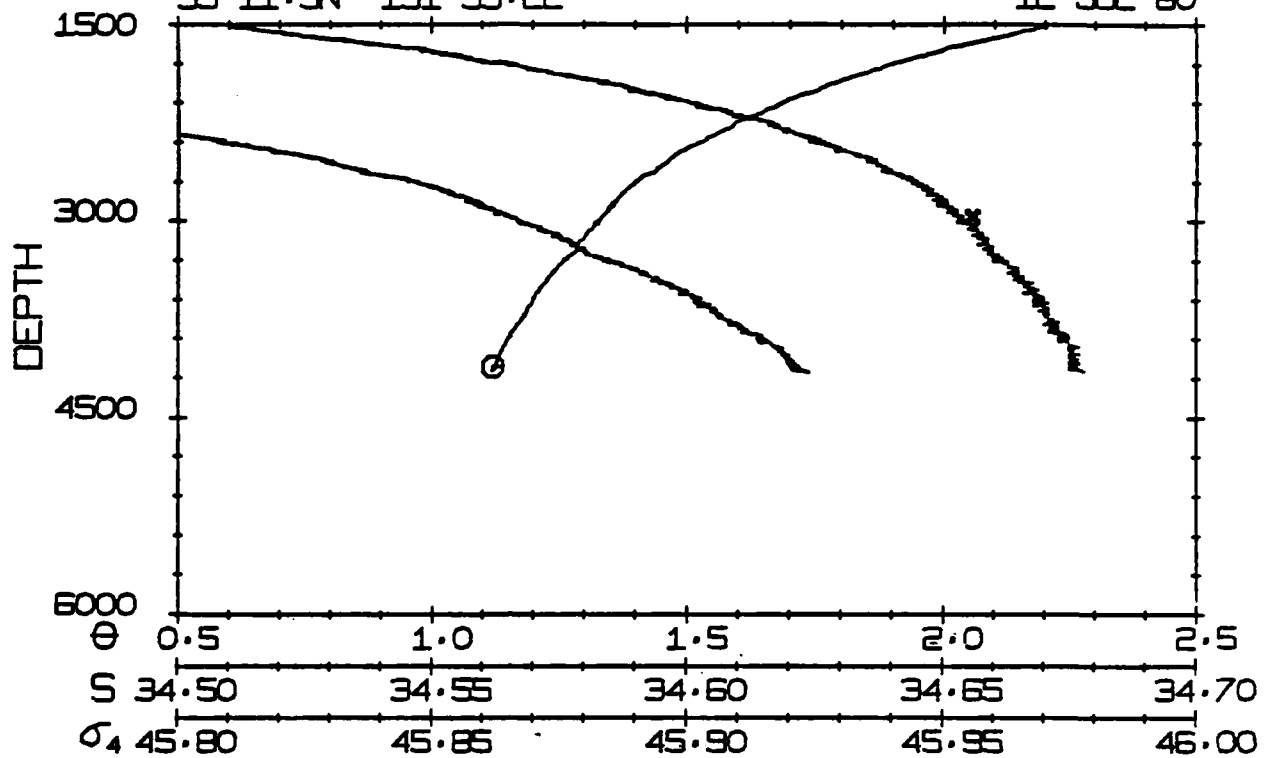


RAMA-4

STATION 19- 1 DN

33-11.5N 151-59.2E

12 JUL 80

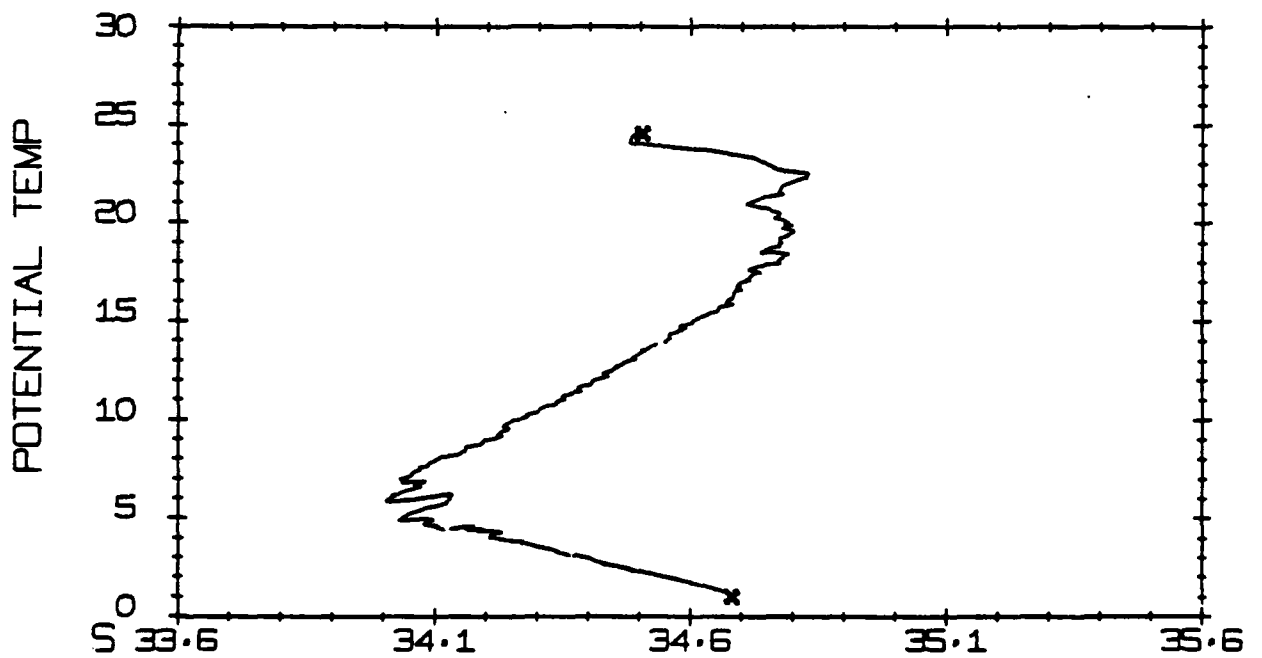
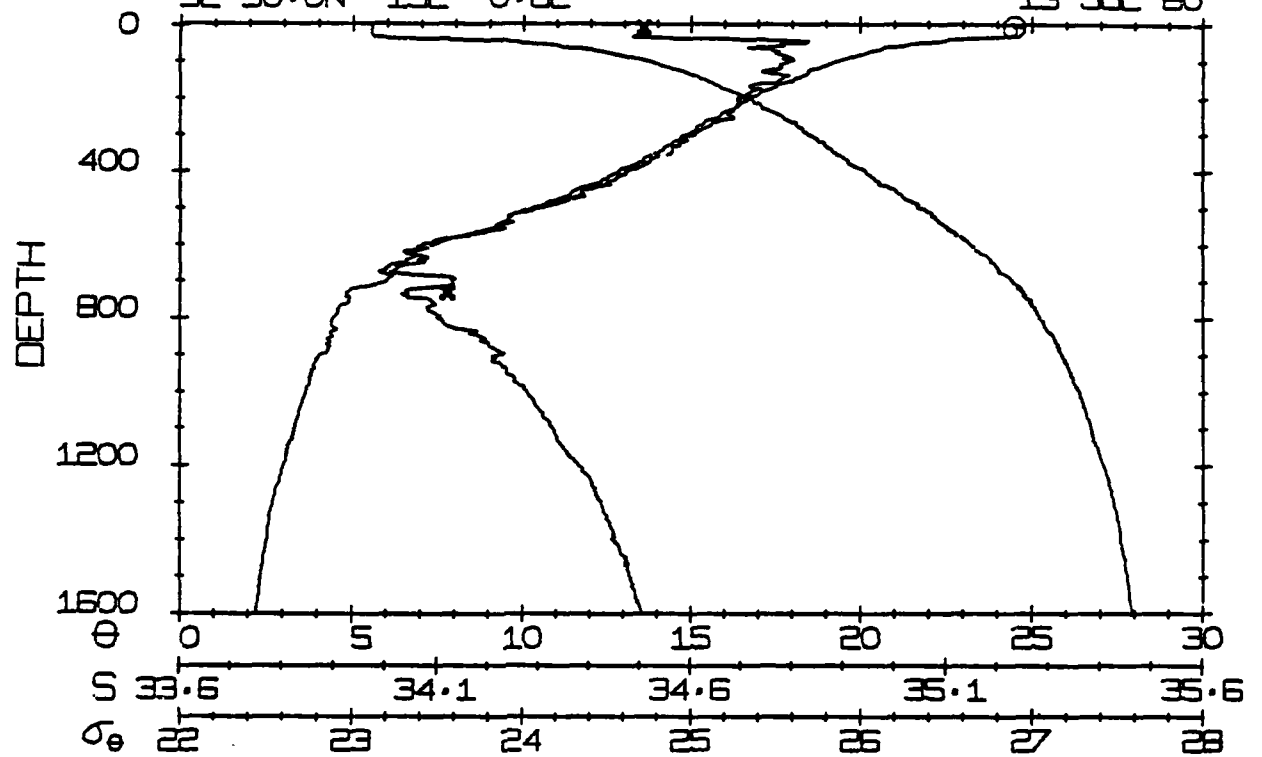


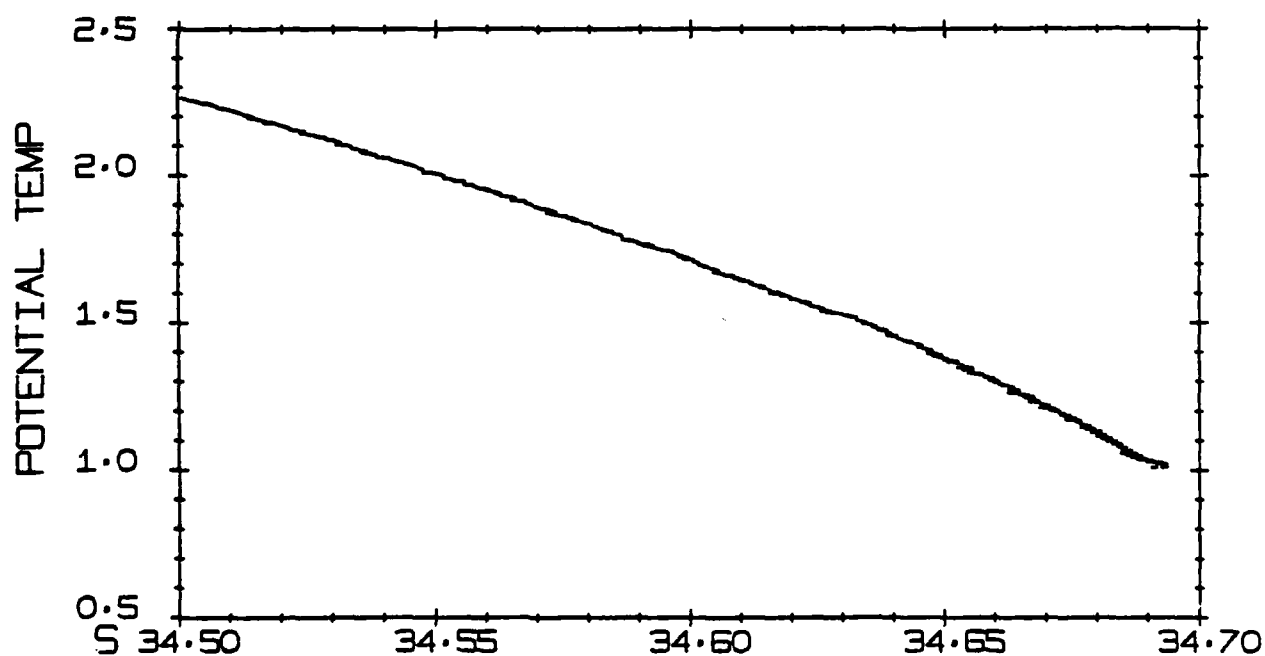
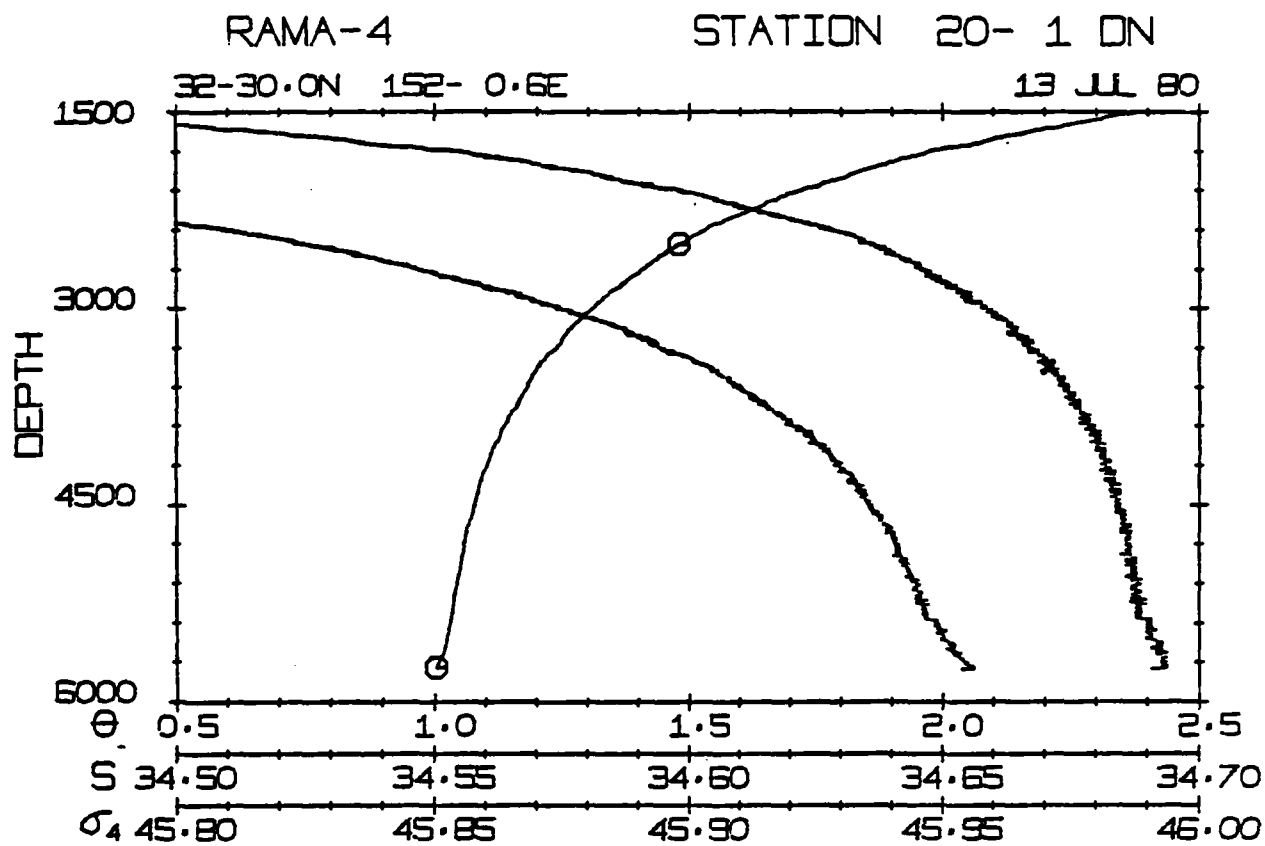
RAMA-4

STATION 20- 1 DN

32-30.0N 152- 0.6E

13 JUL 80



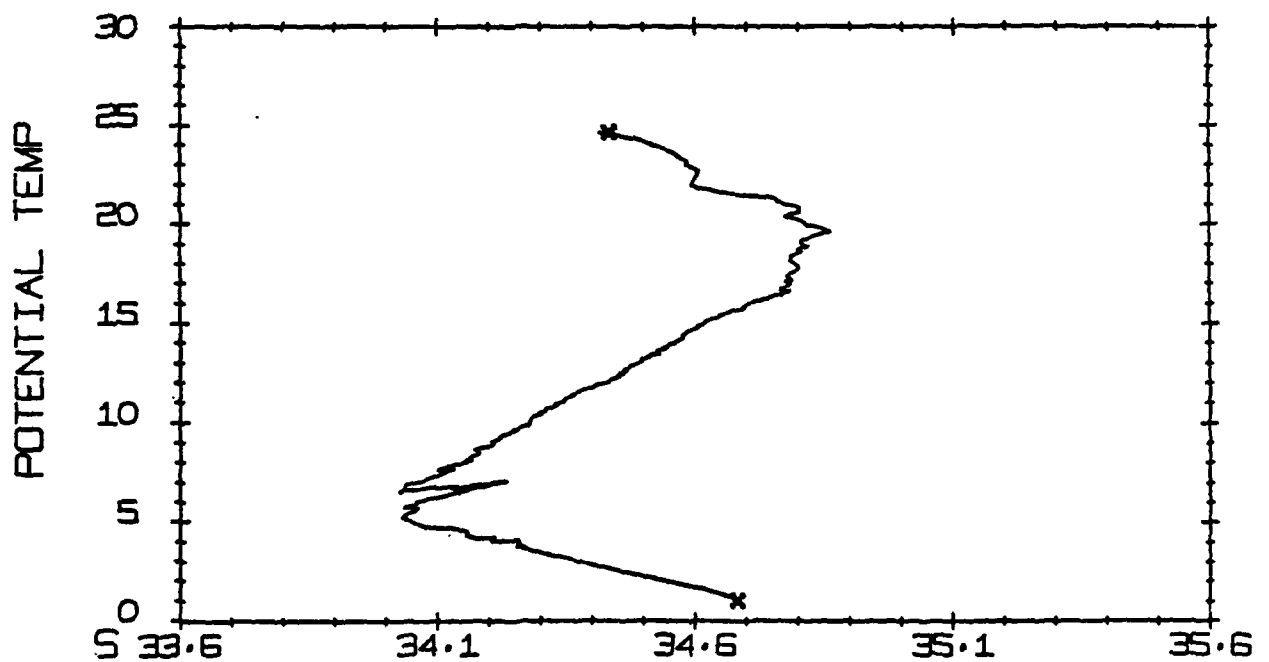
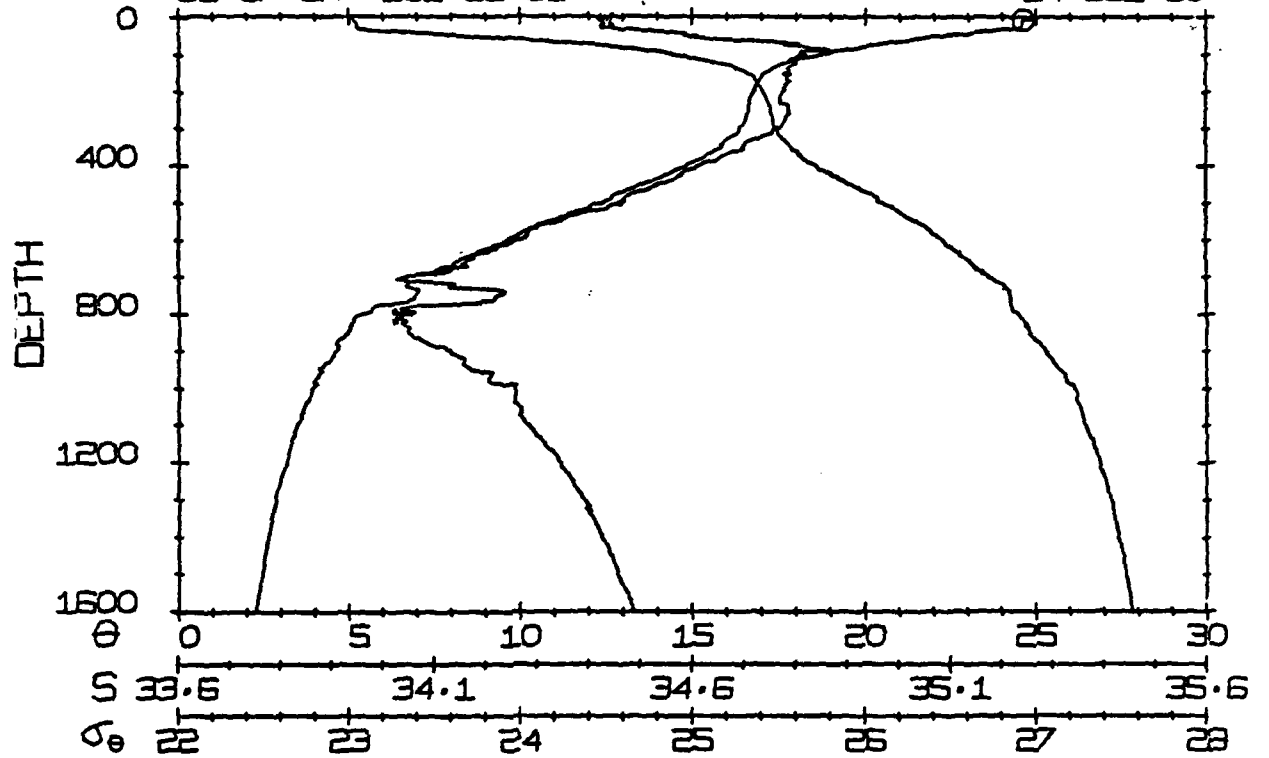


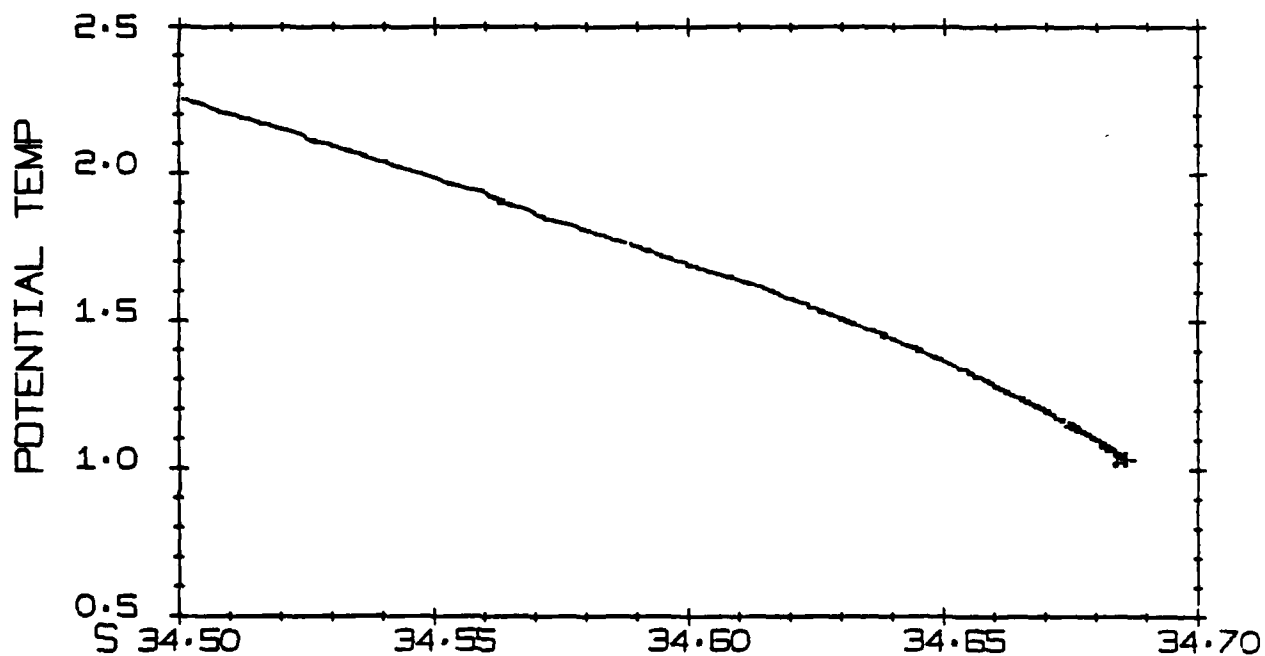
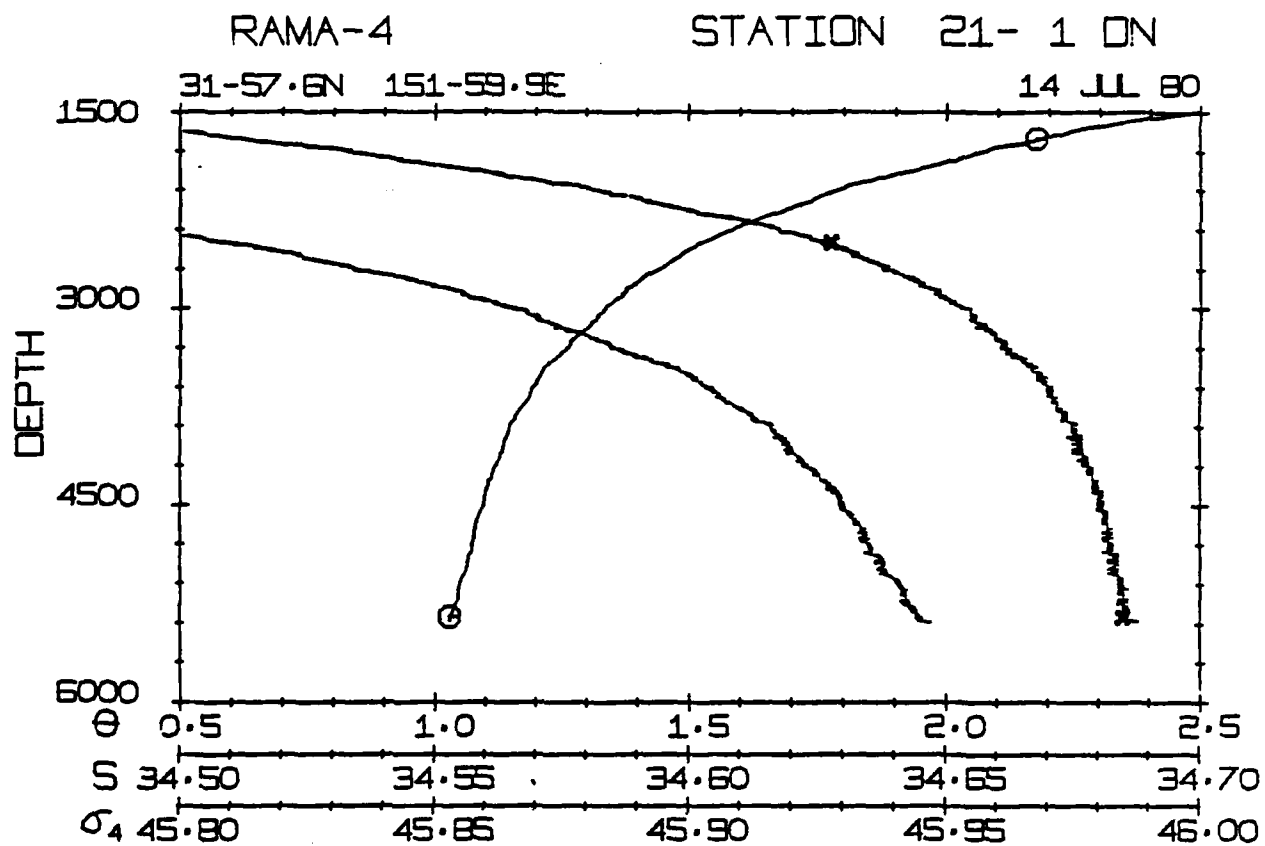
RAMA-4

STATION 21- 1 DN

31-57.6N 151-59.9E

14 JUL 80



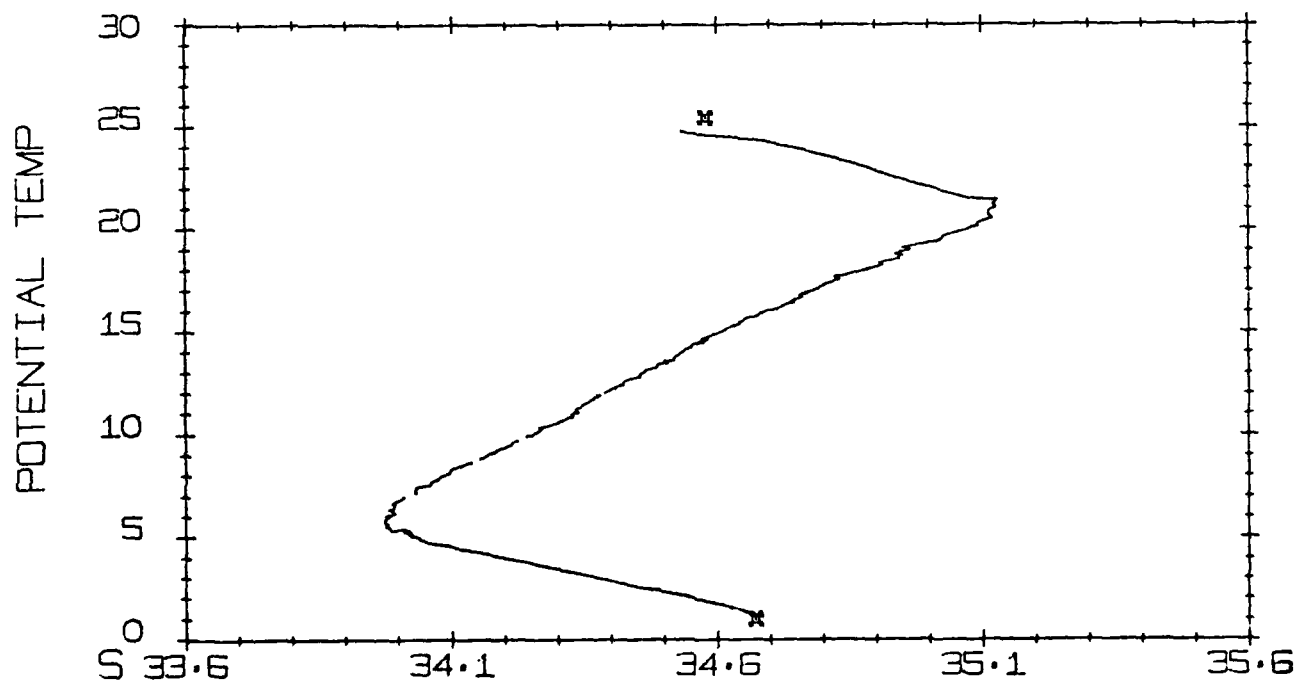
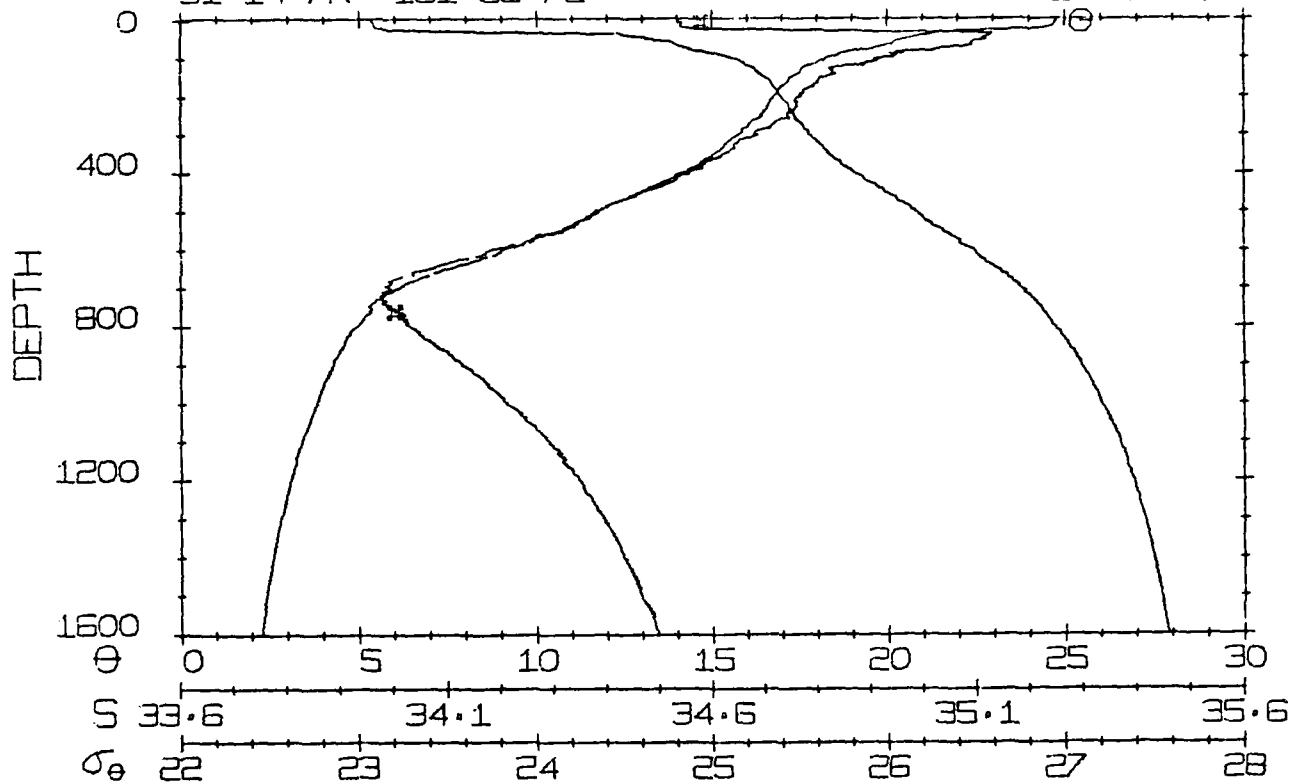


RAMA-4

STATION 22- 1 ON

31-14.7N 151-56.7E

14 JUL 80

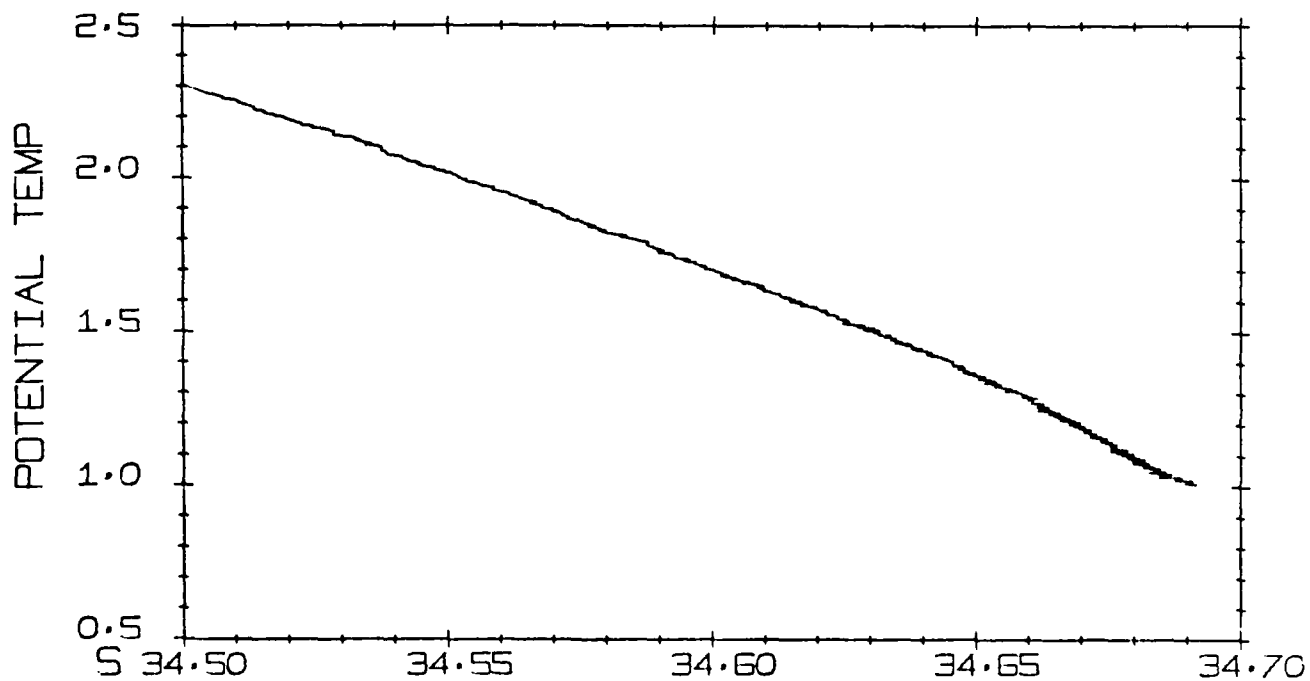
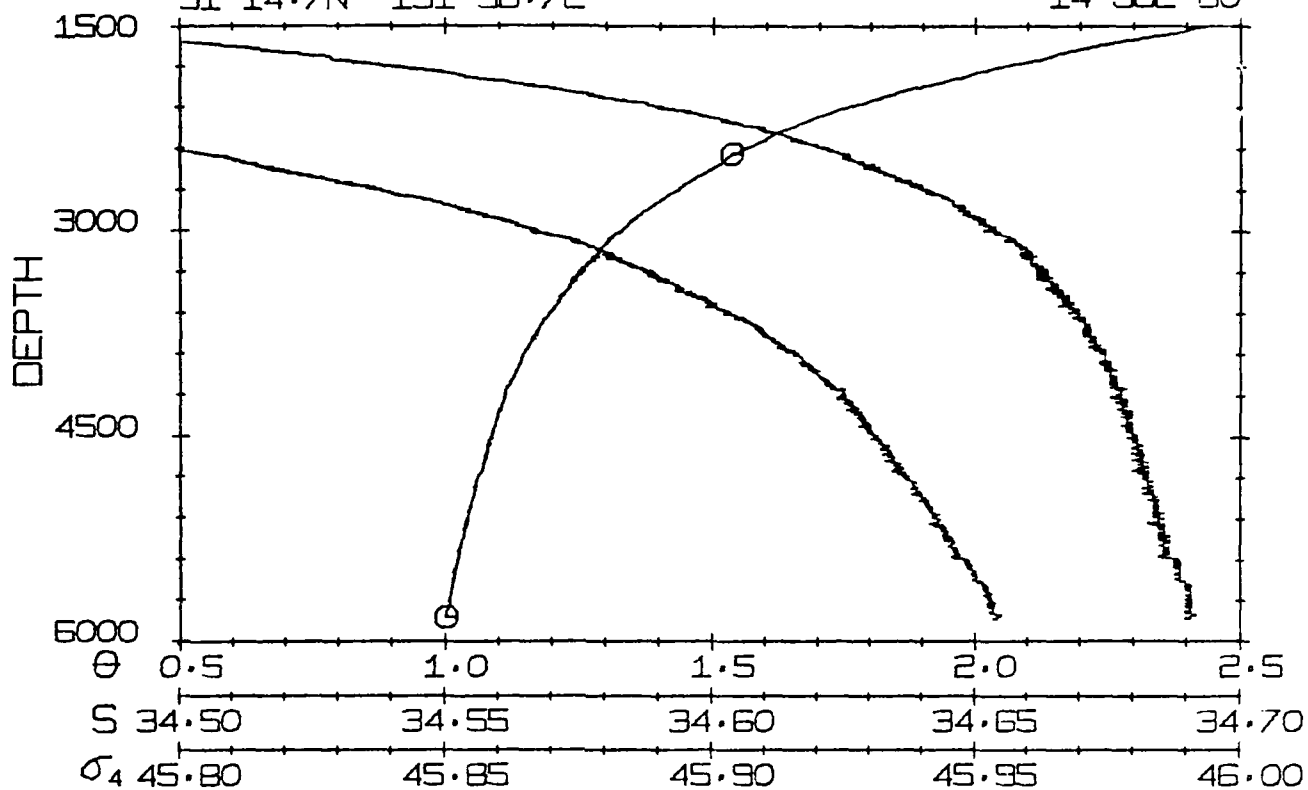


RAMA-4

STATION 22- 1 DN

31-14.7N 151-56.7E

14 JUL 80

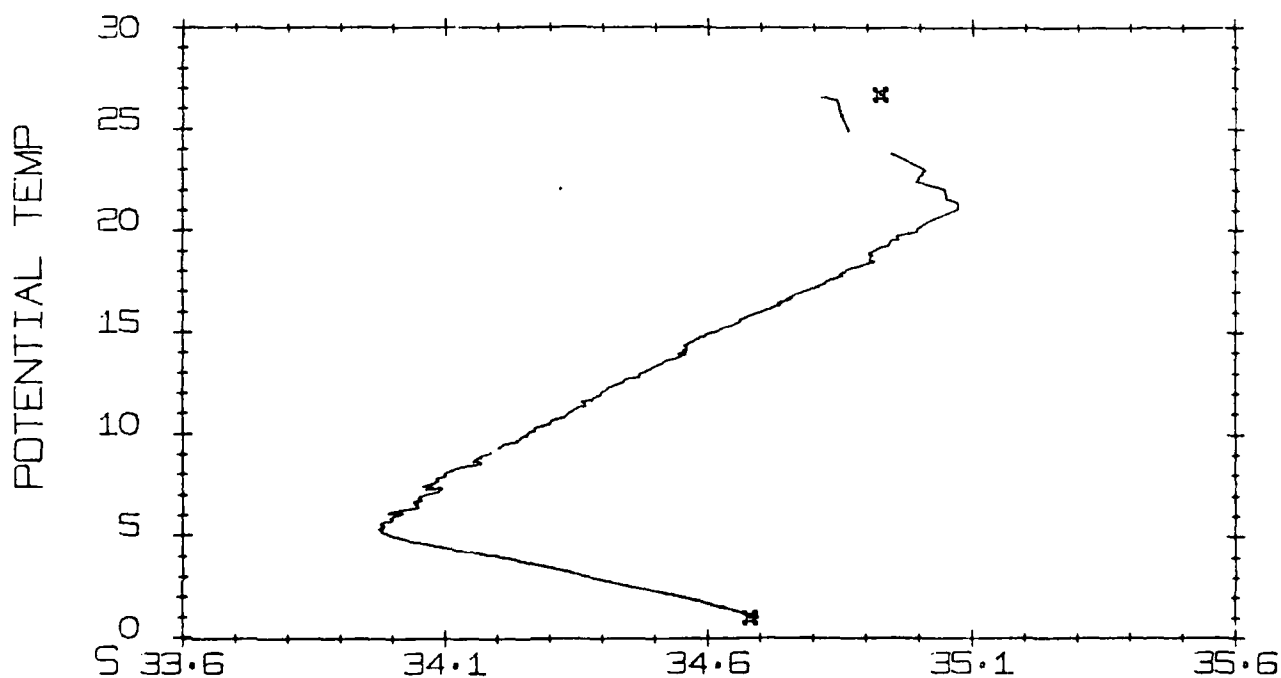
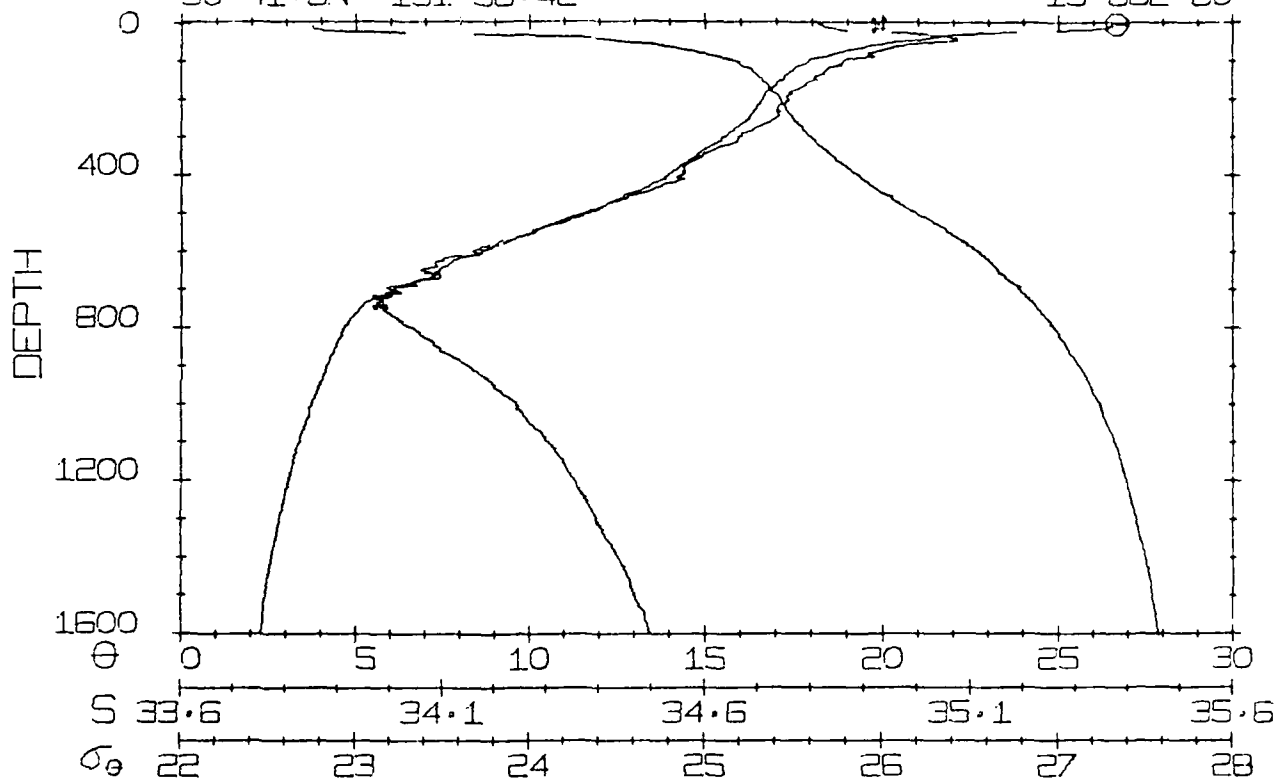


RAMA-4

STATION 23- 1 DN

30-41.8N 151-58.4E

15 JUL 80

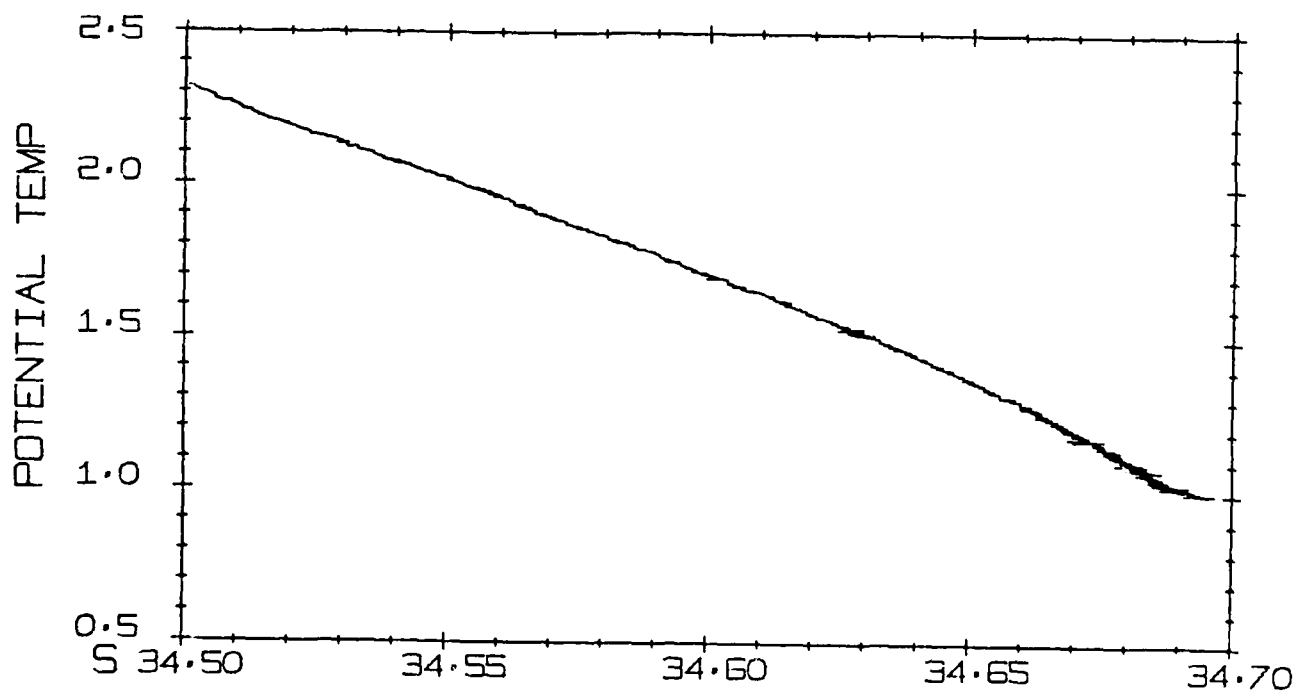
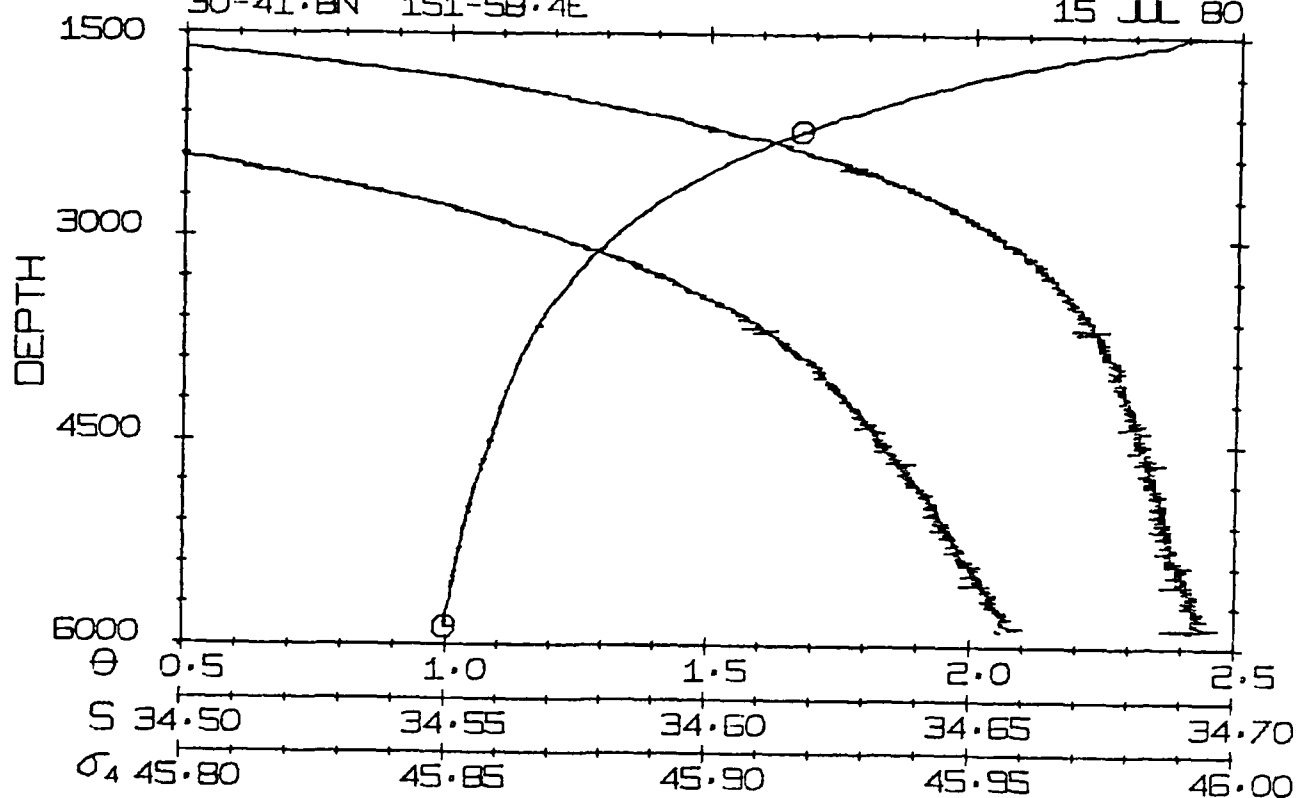


RAMA-4

STATION 23- 1 DN

30-41.8N 151-58.4E

15 JUL 80

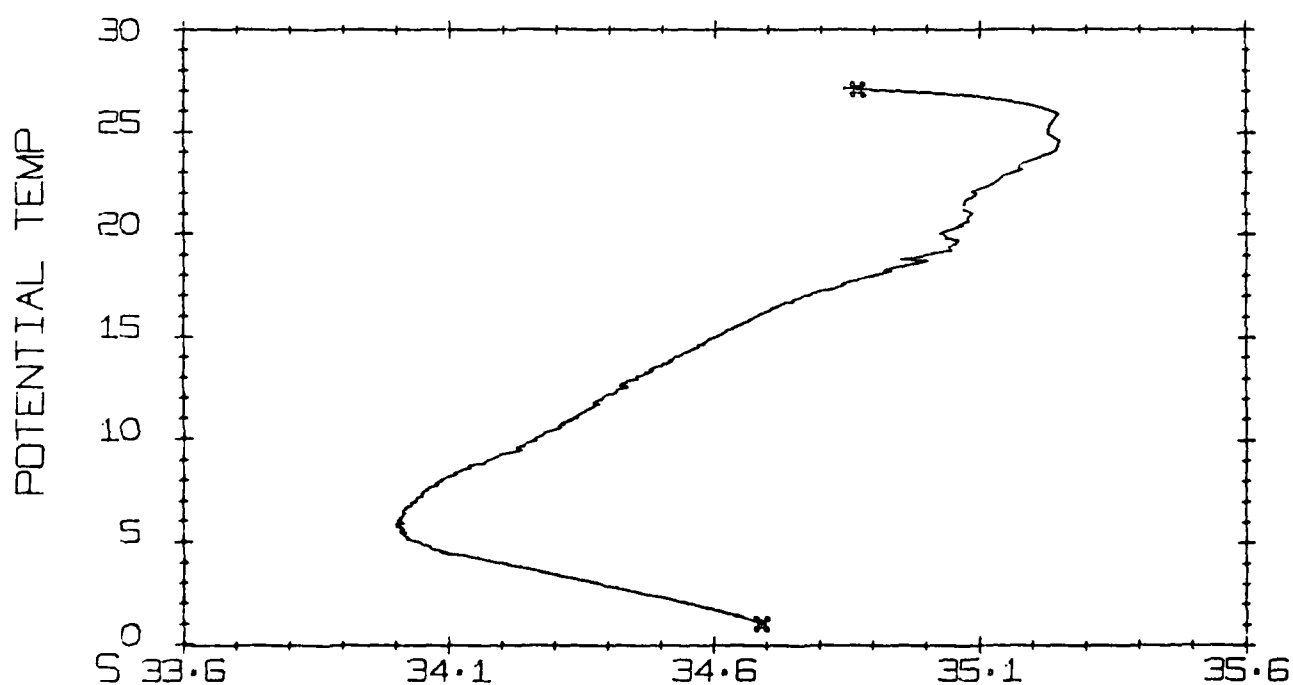
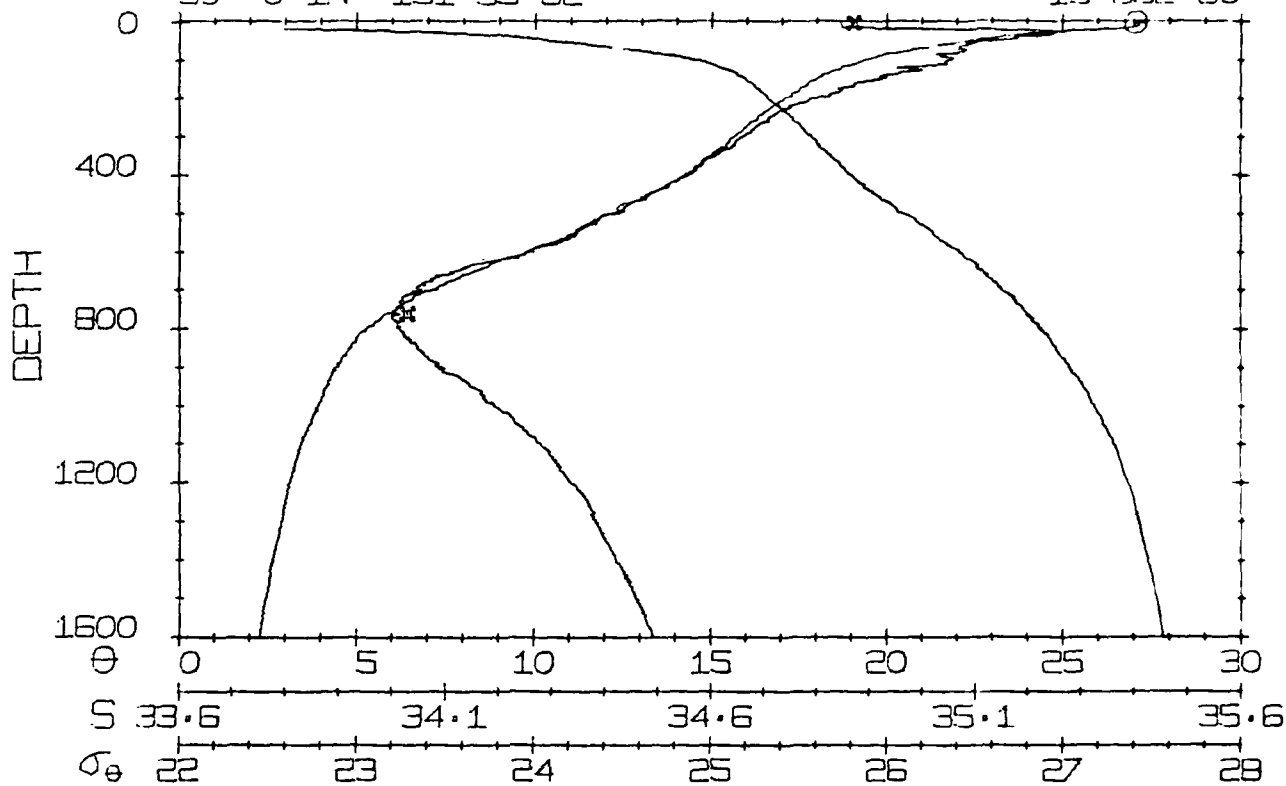


RAMA-4

STATION 24- 1 DN

30- 0.1N 151-59.8E

15 JUL 80

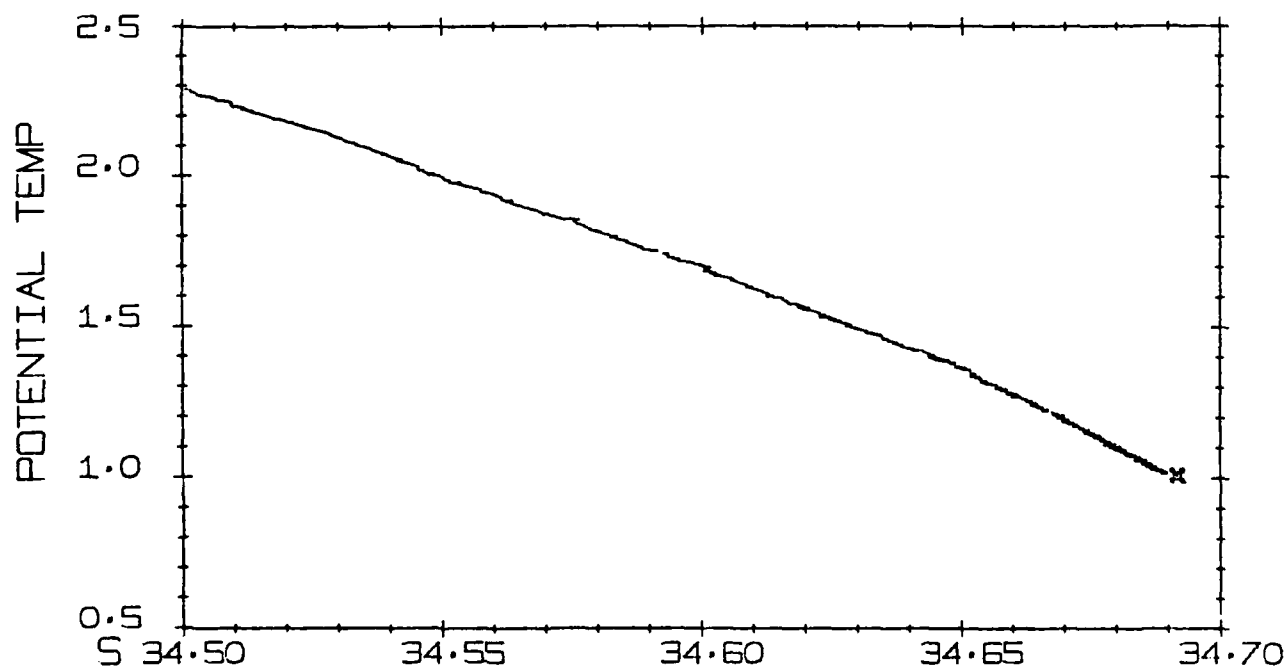
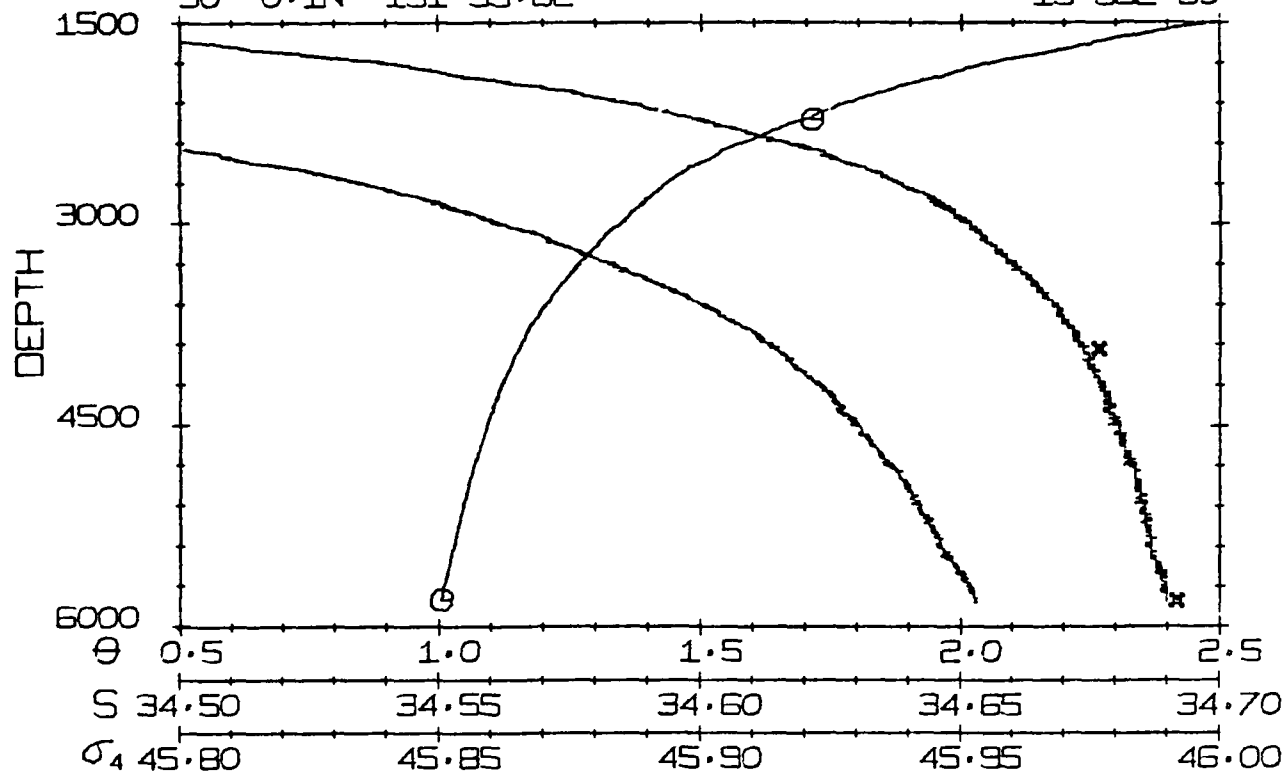


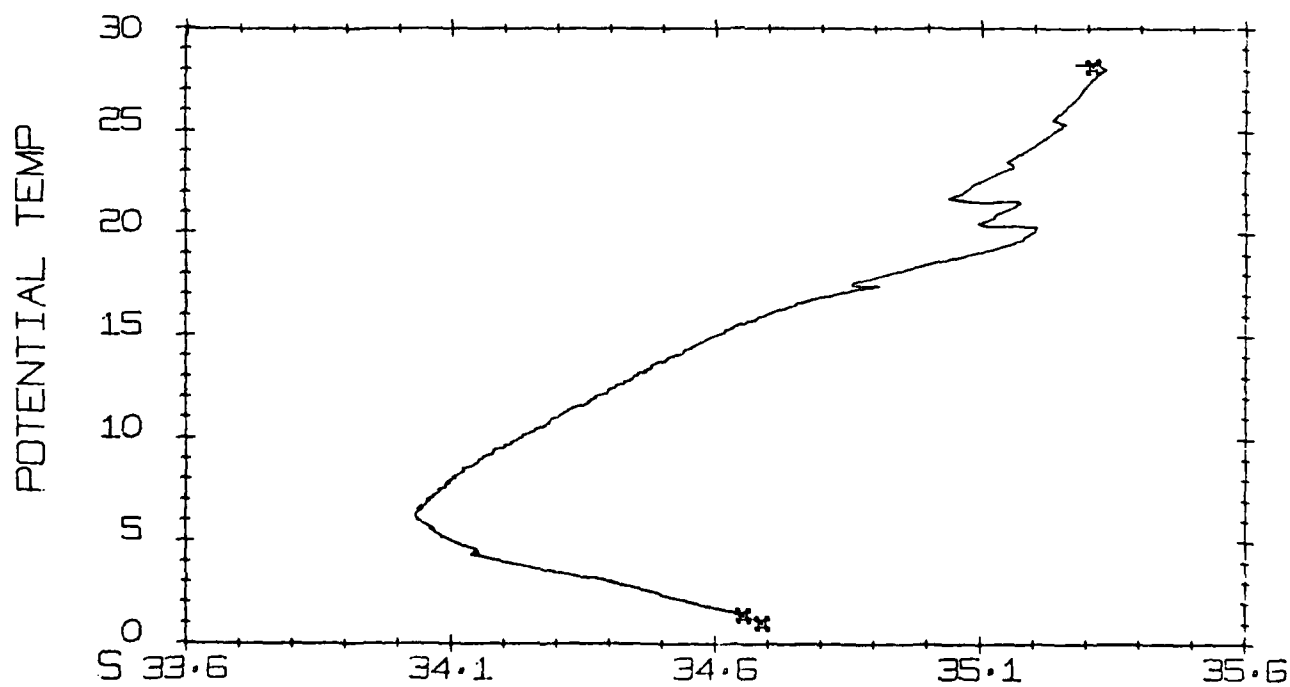
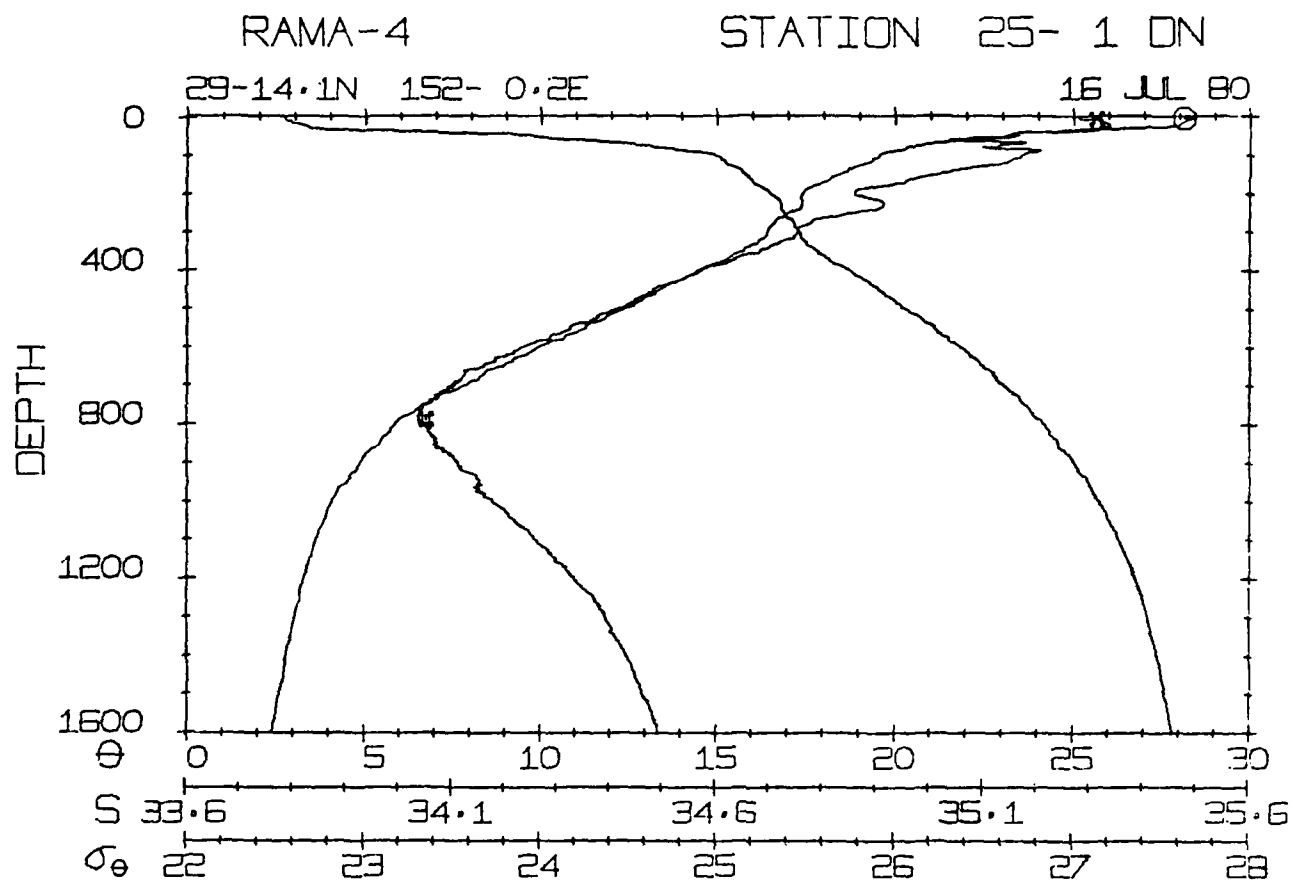
RAMA-4

STATION 24- 1 DN

30- 0.1N 151-59.8E

15 JUL 80



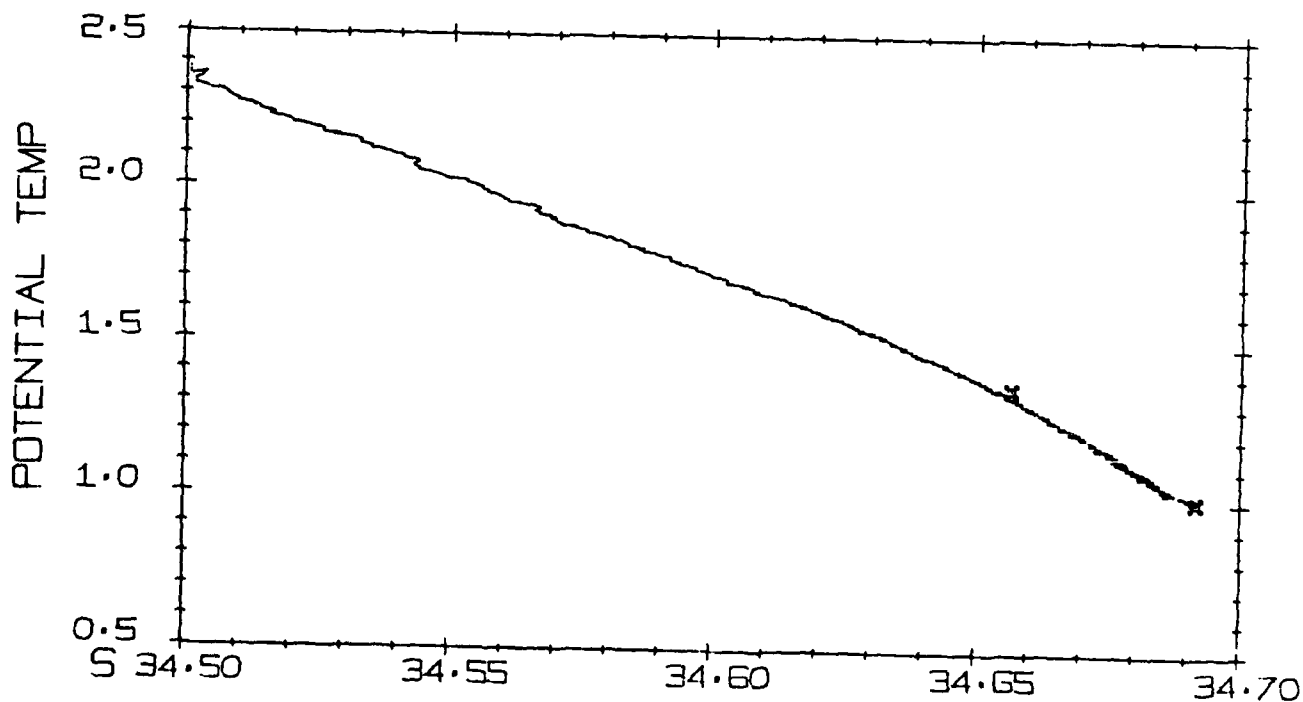
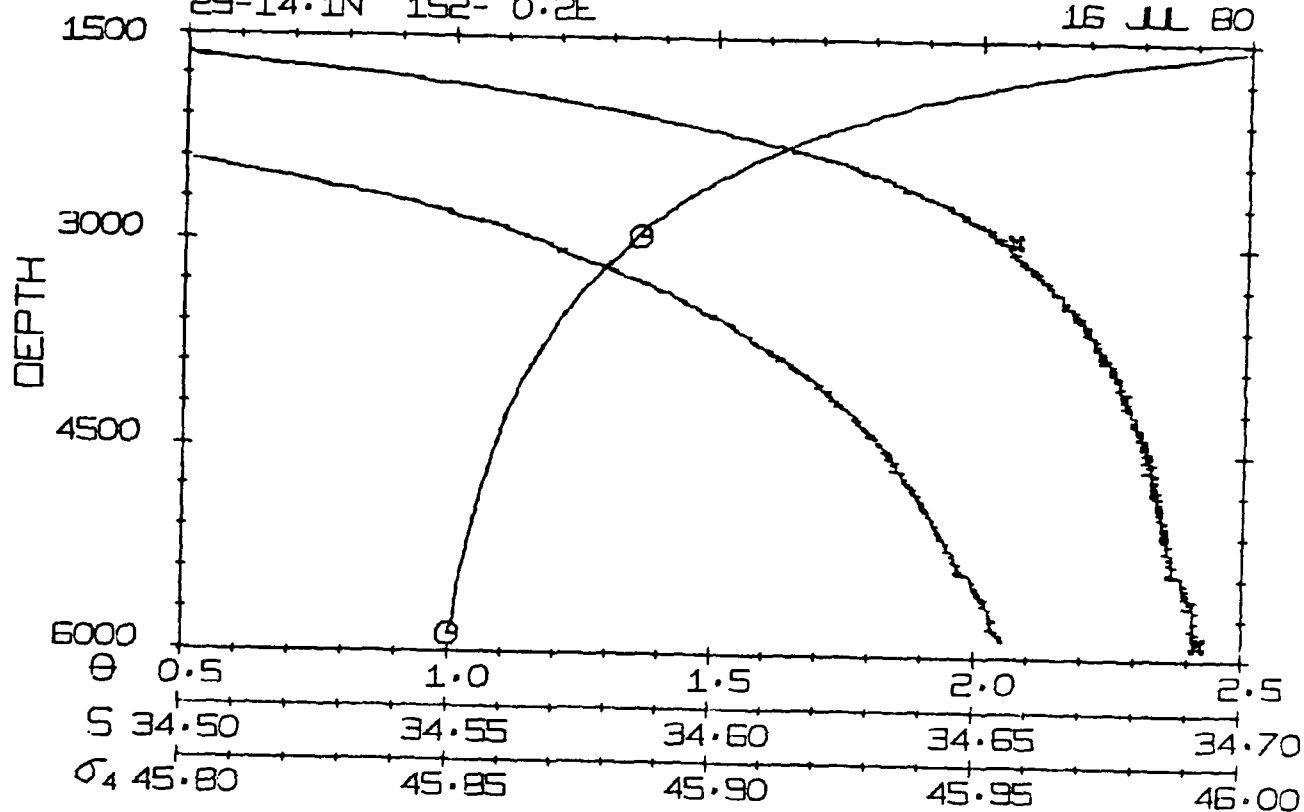


RAMA-4

STATION 25- 1 ON

29-14.1N 152- 0.2E

16 JUL 80

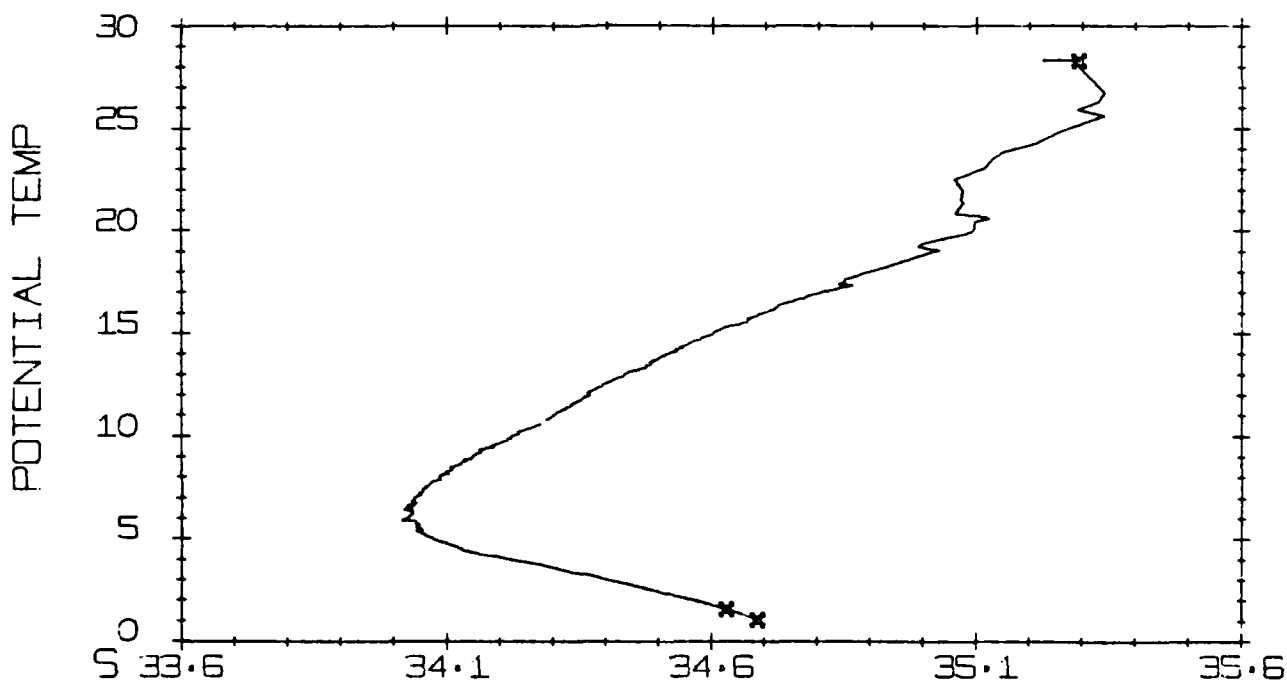
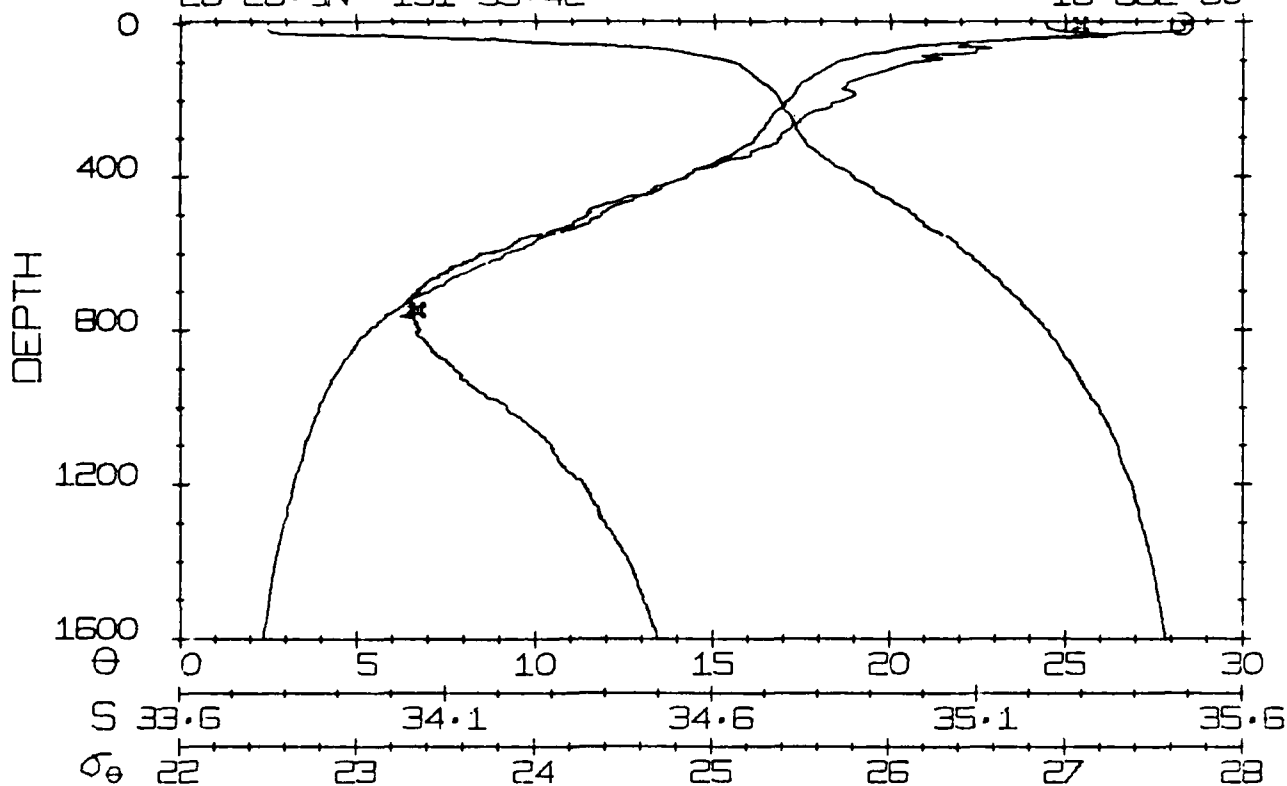


RAMA-4

STATION 26- 1 DN

28-28.9N 151-59.4E

16 JUL 80

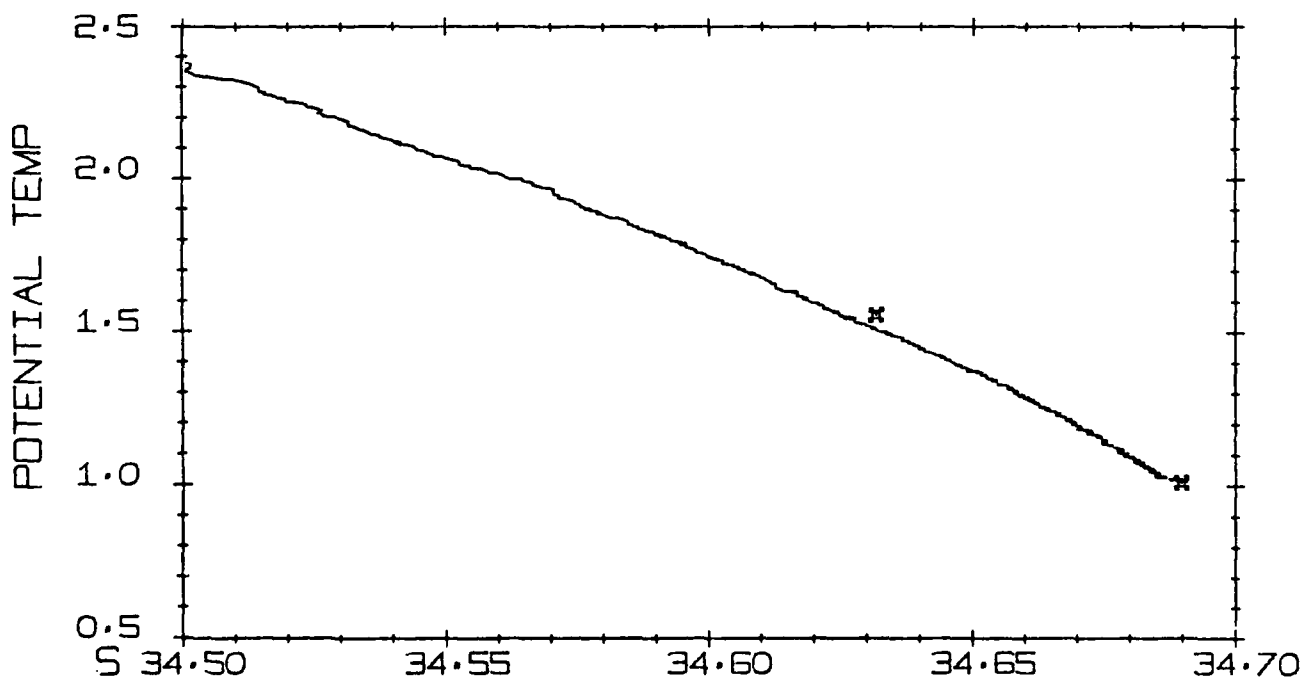
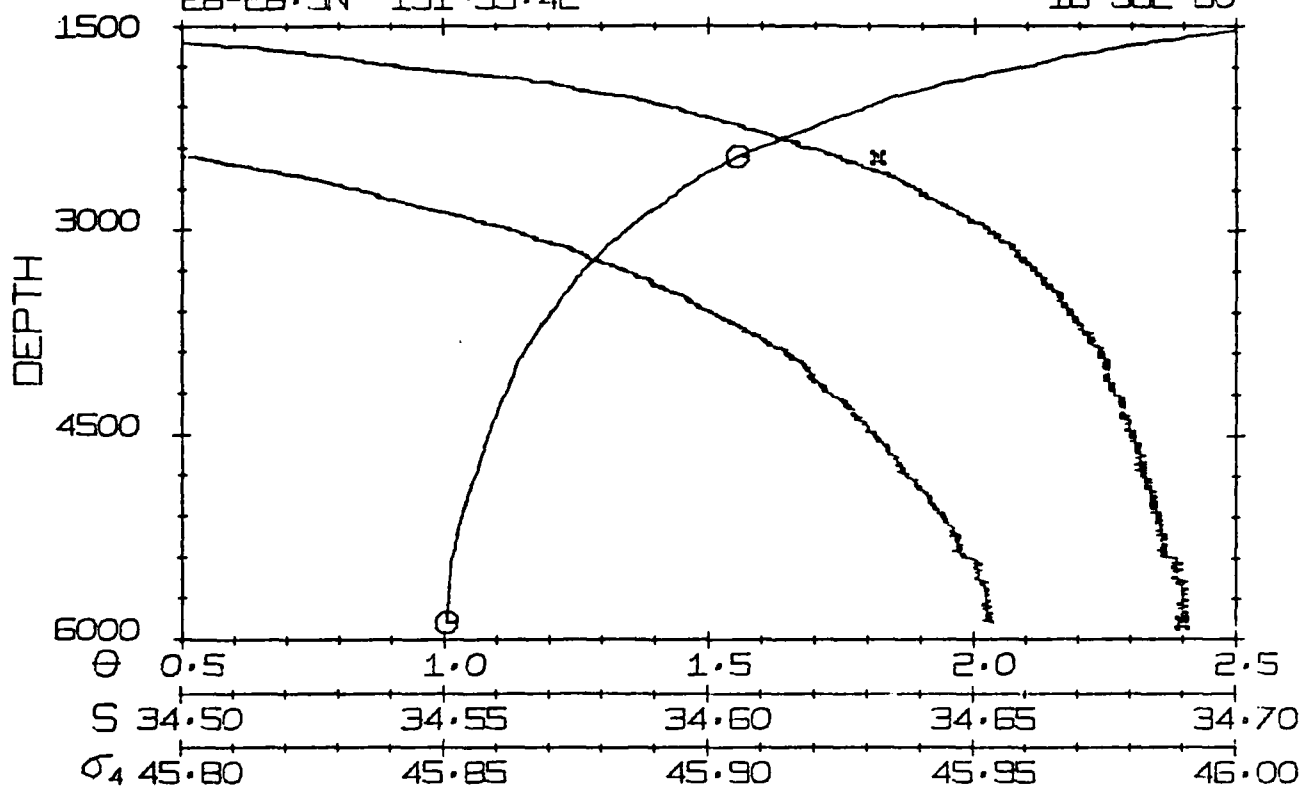


RAMA-4

STATION 26- 1 ON

28-28.9N 151-59.4E

16 JUL 80

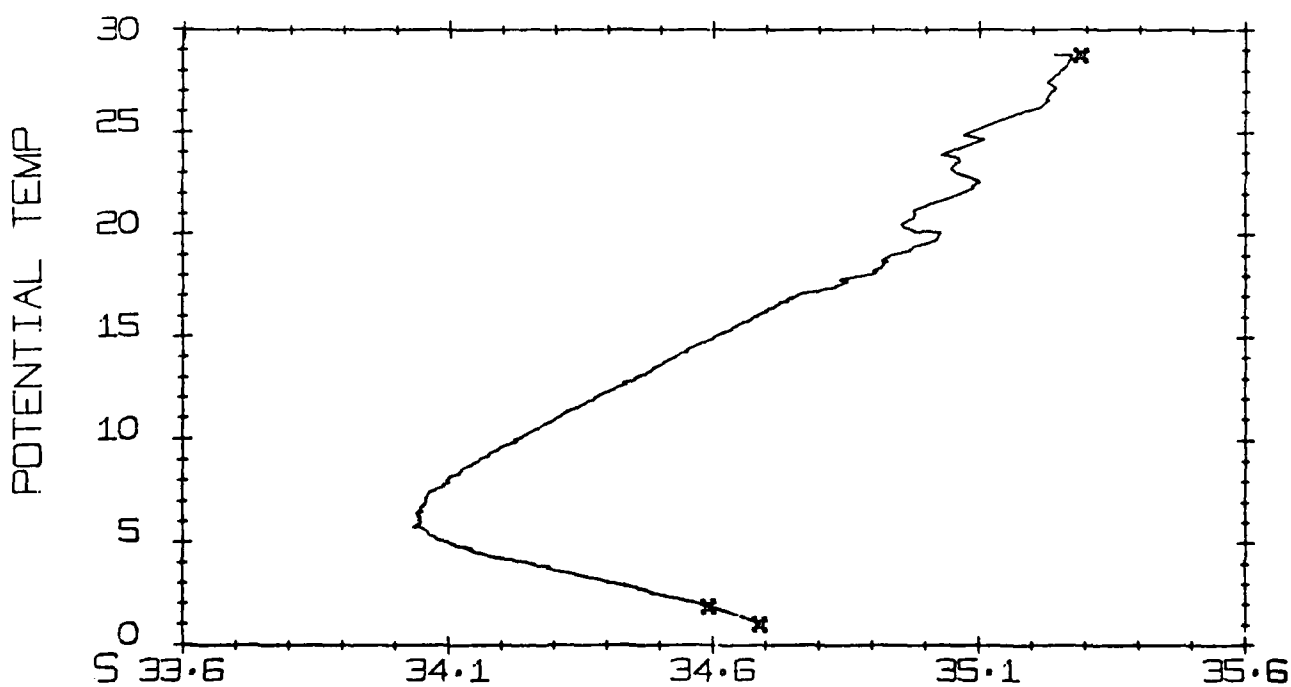
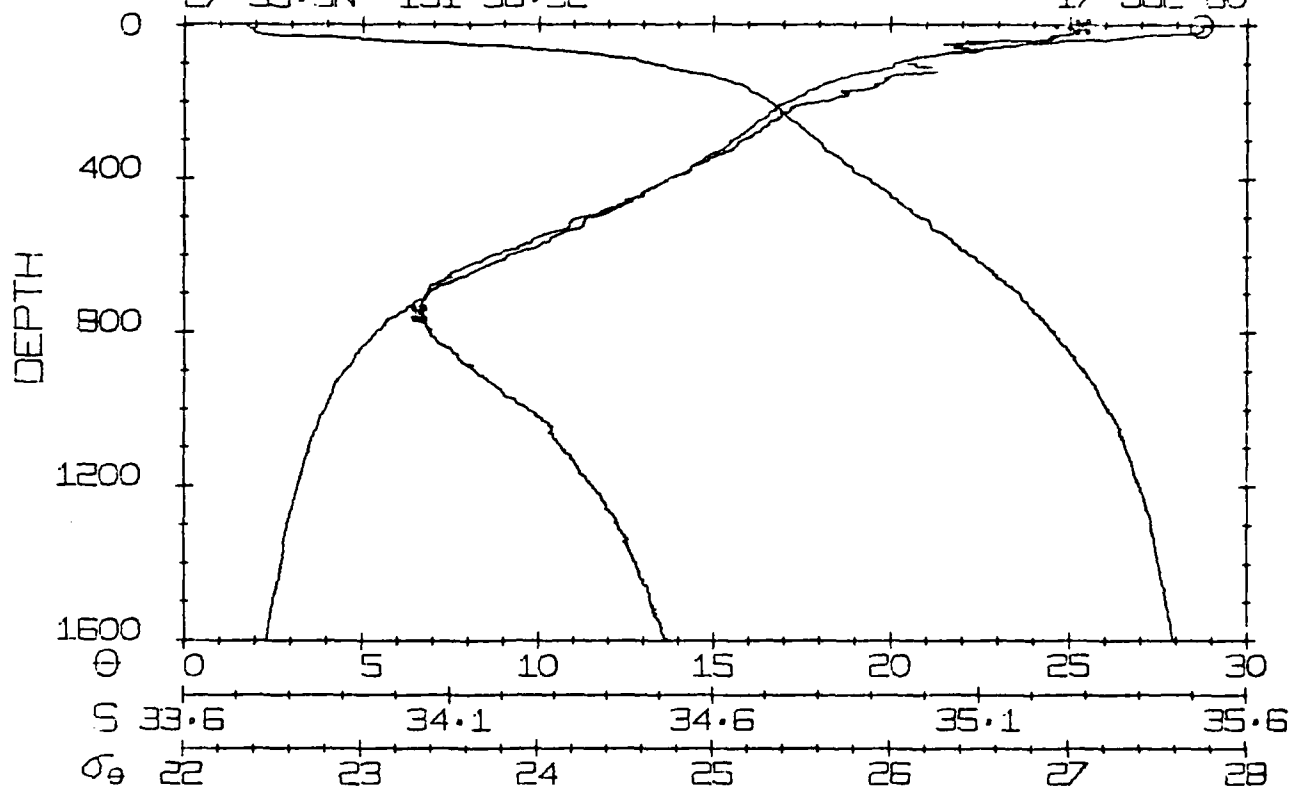


RAMA-4

STATION 27- 2 DN

27-59.5N 151-56.3E

17 JUL 80

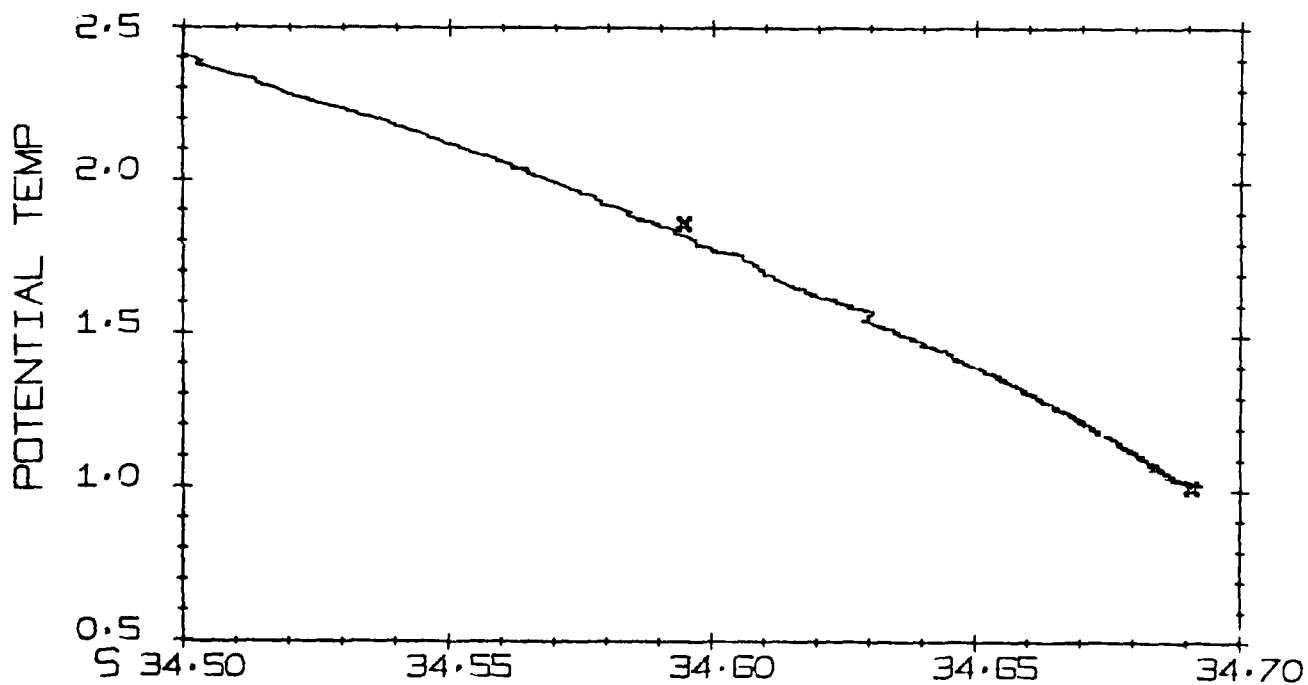
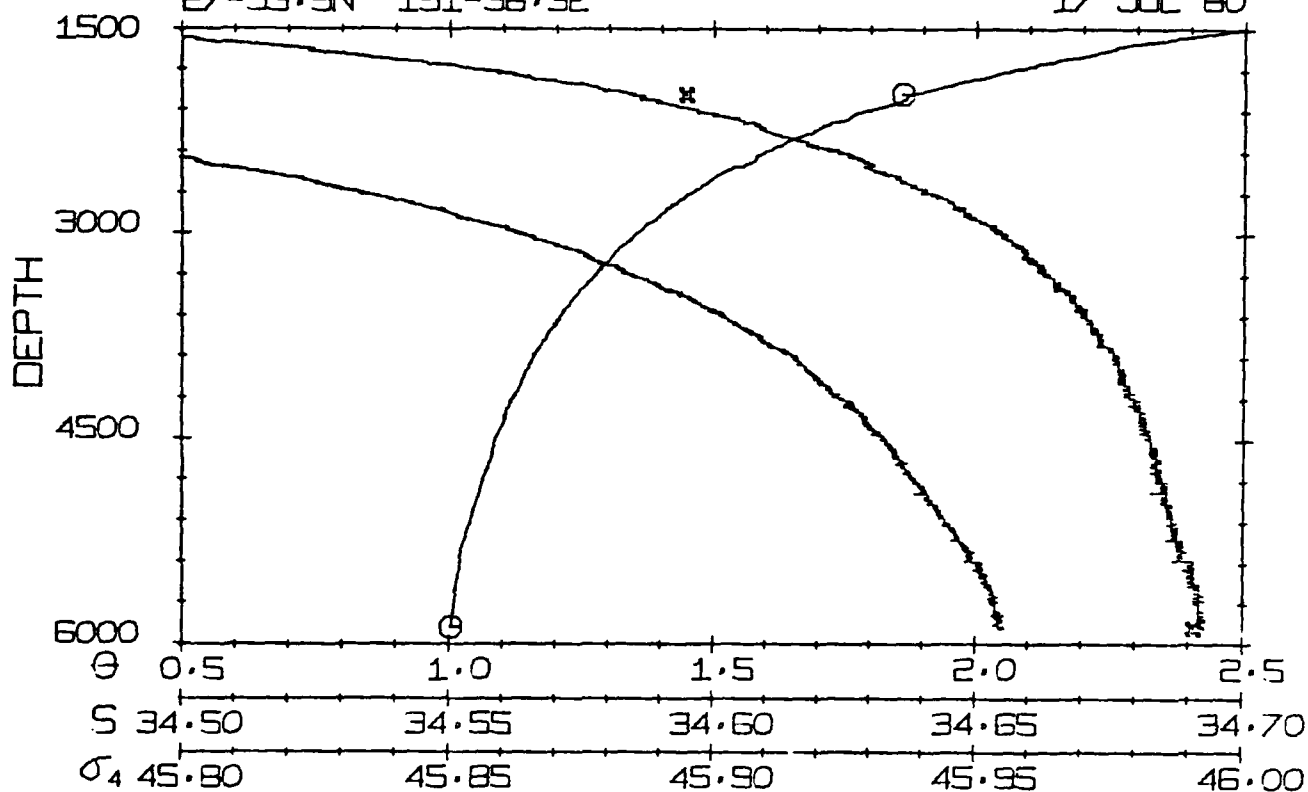


RAMA-4

STATION 27- 2 ON

27-59.5N 151-56.3E

17 JUL 80

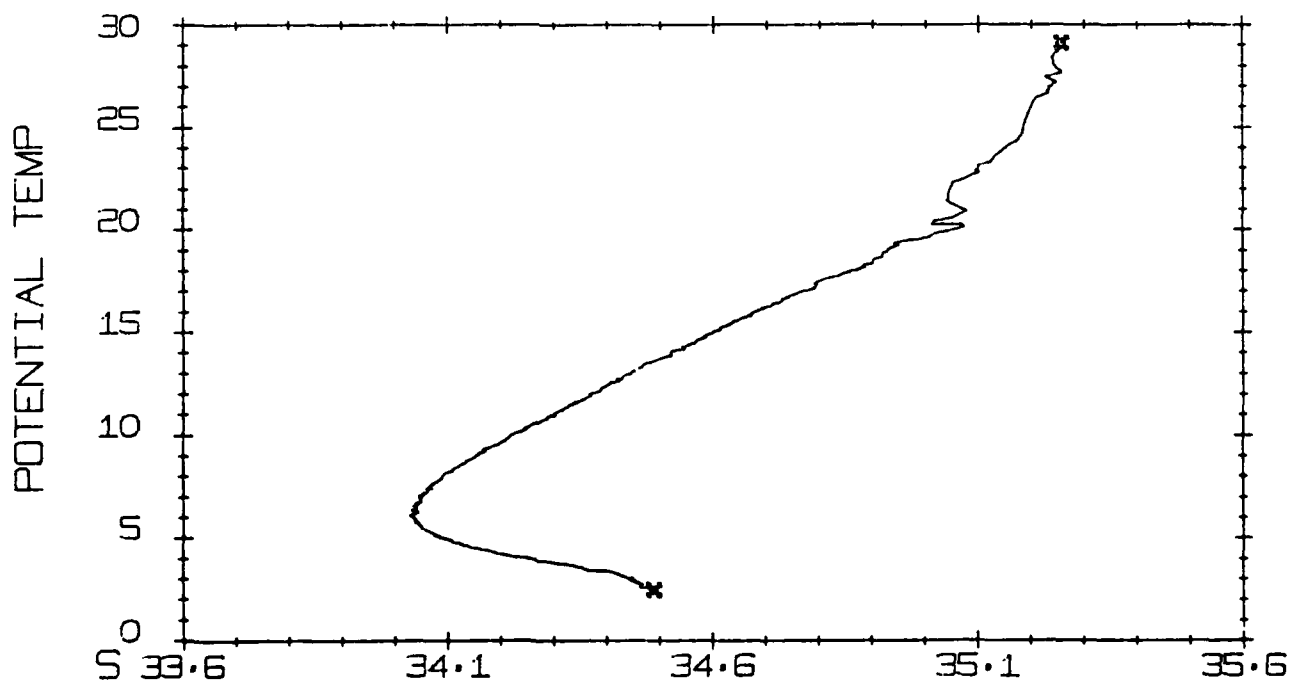
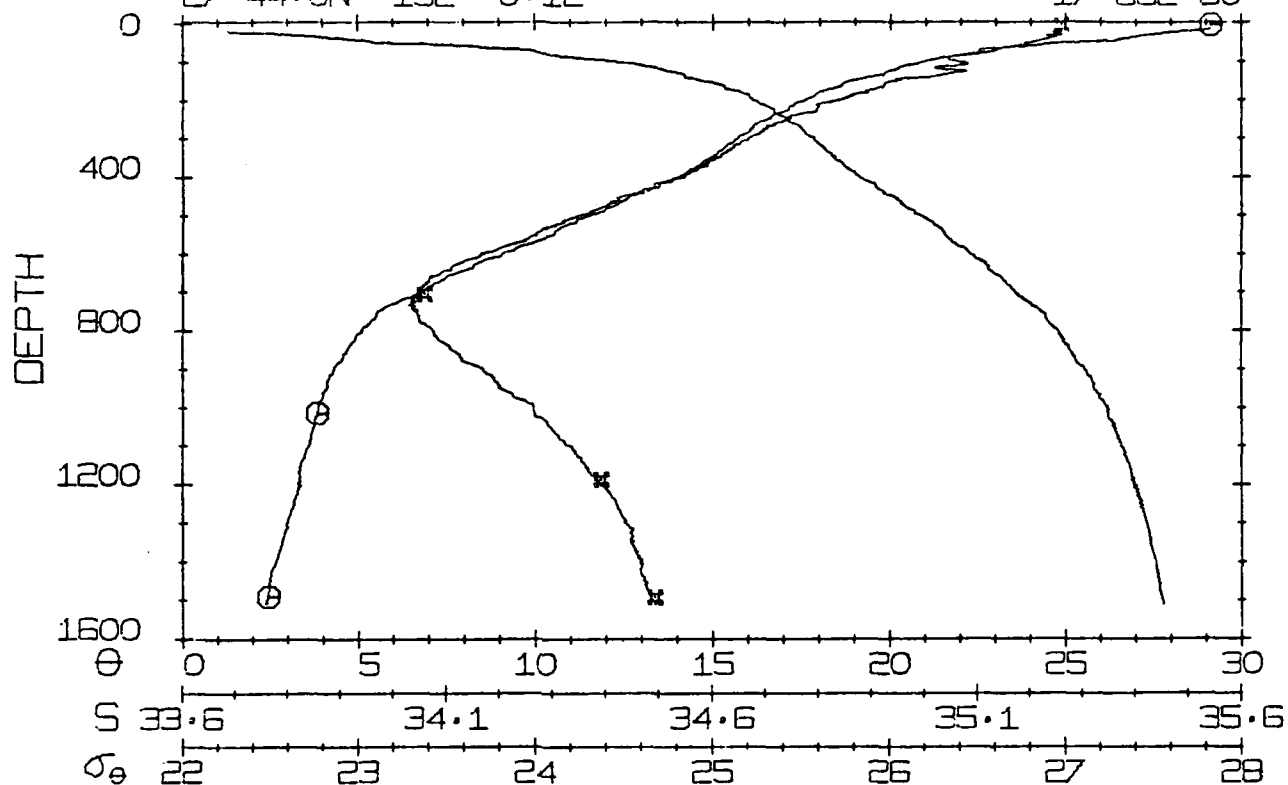


RAMA-4

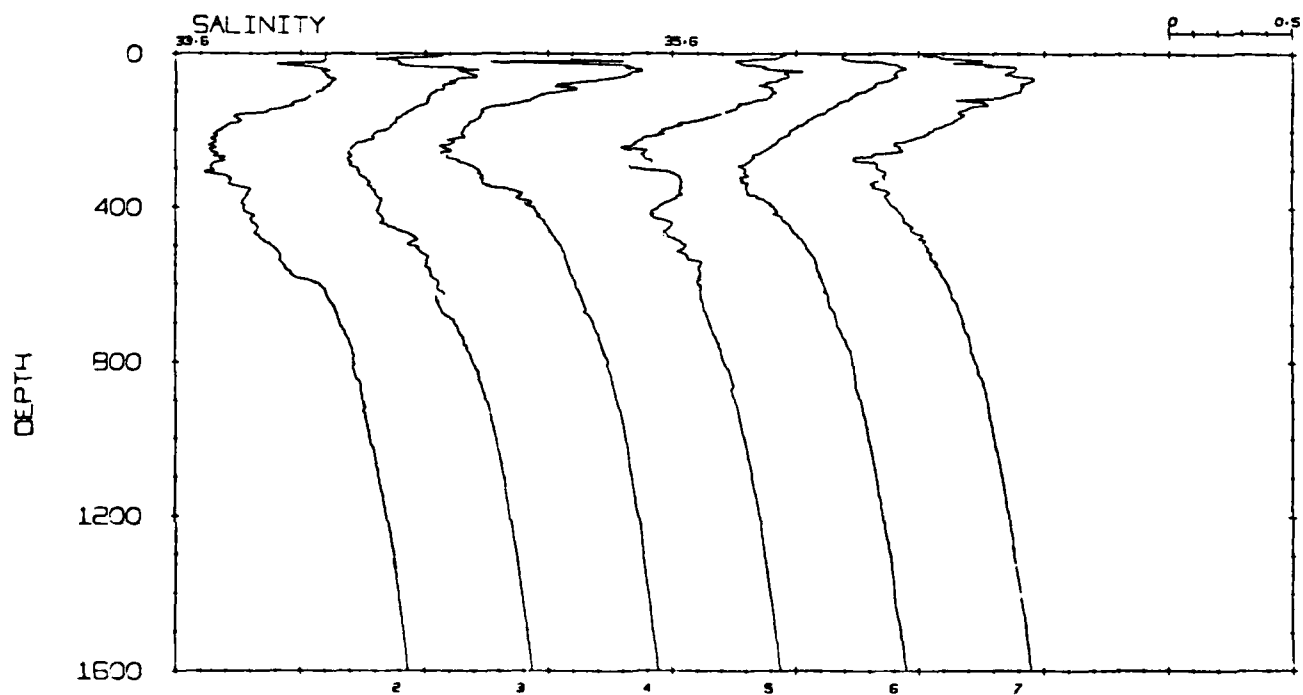
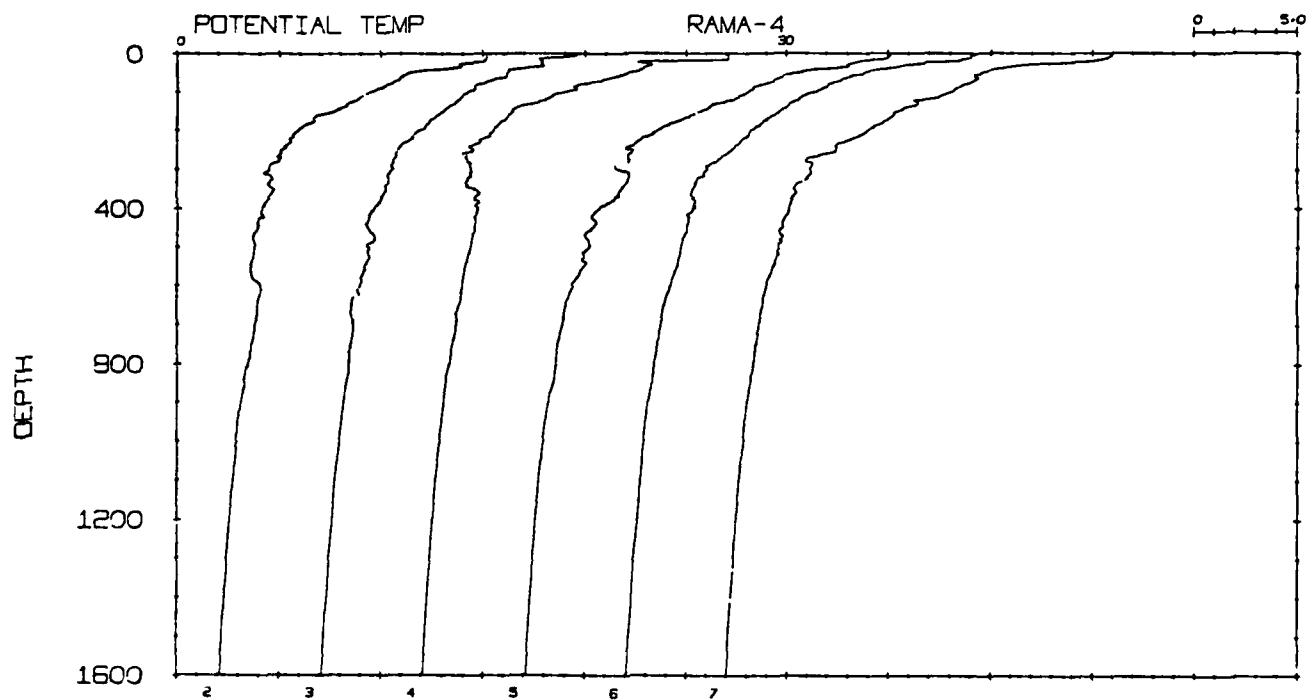
STATION 28- 1 ON

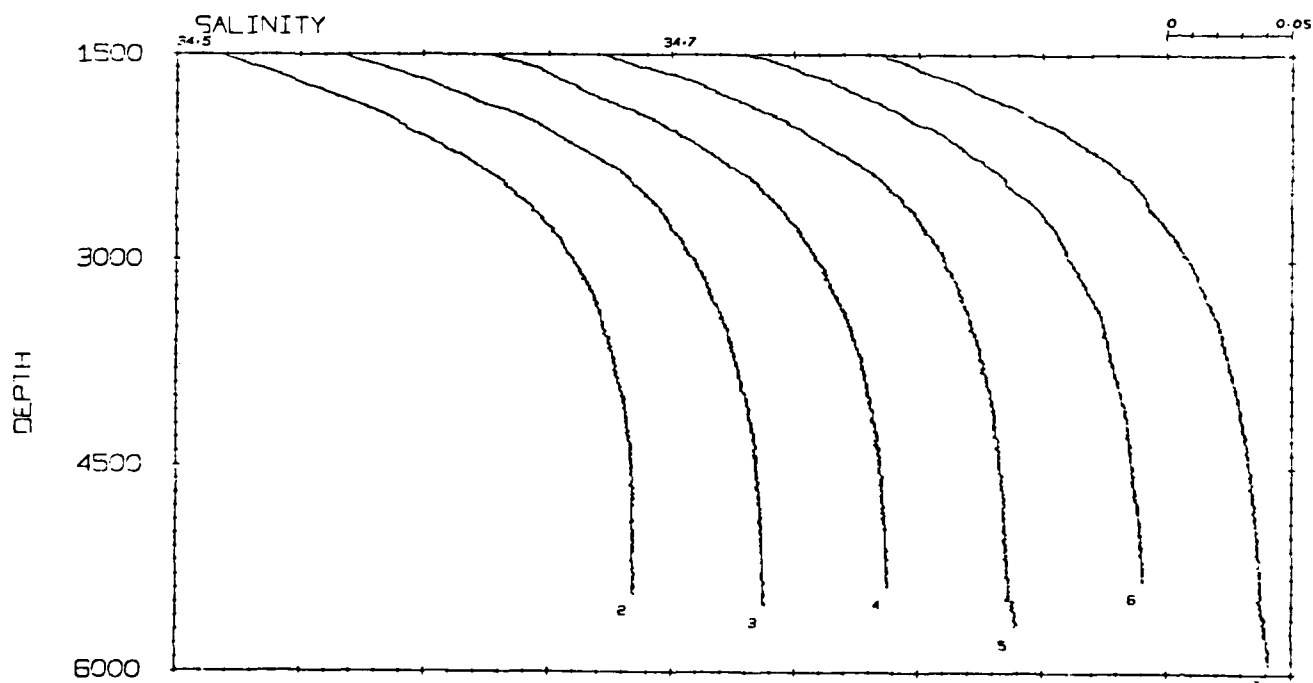
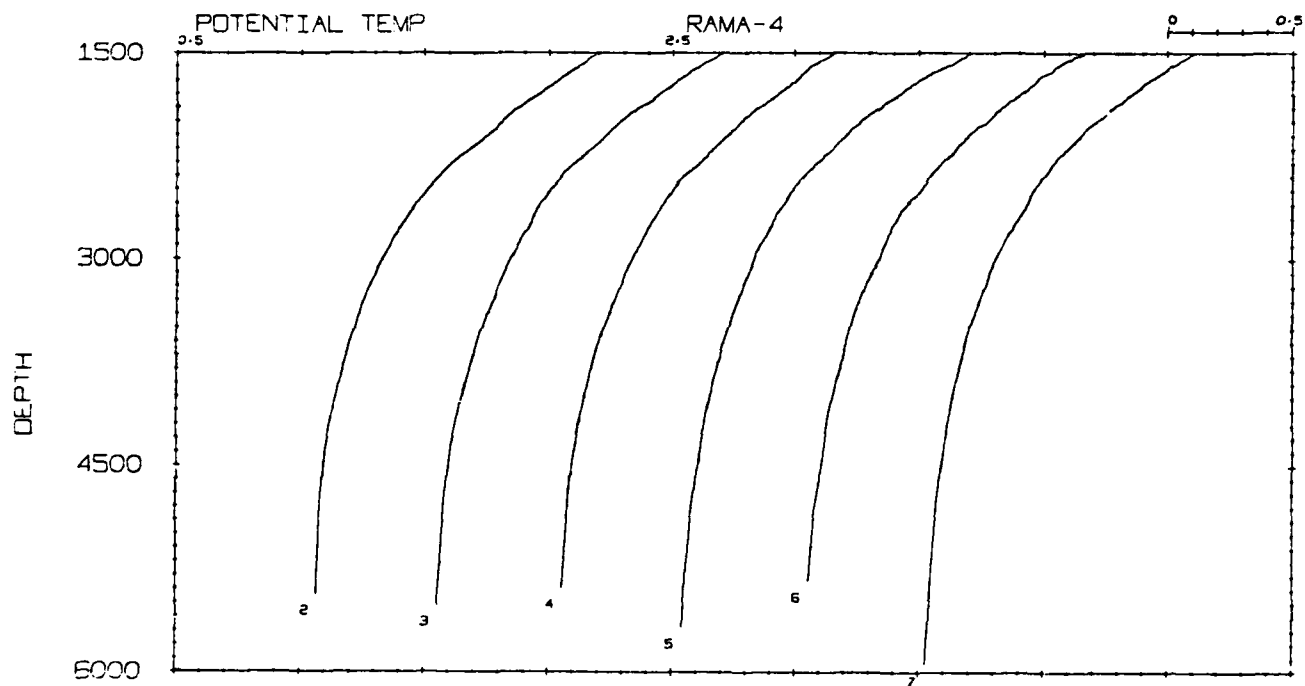
27-44.0N 152- 0.1E

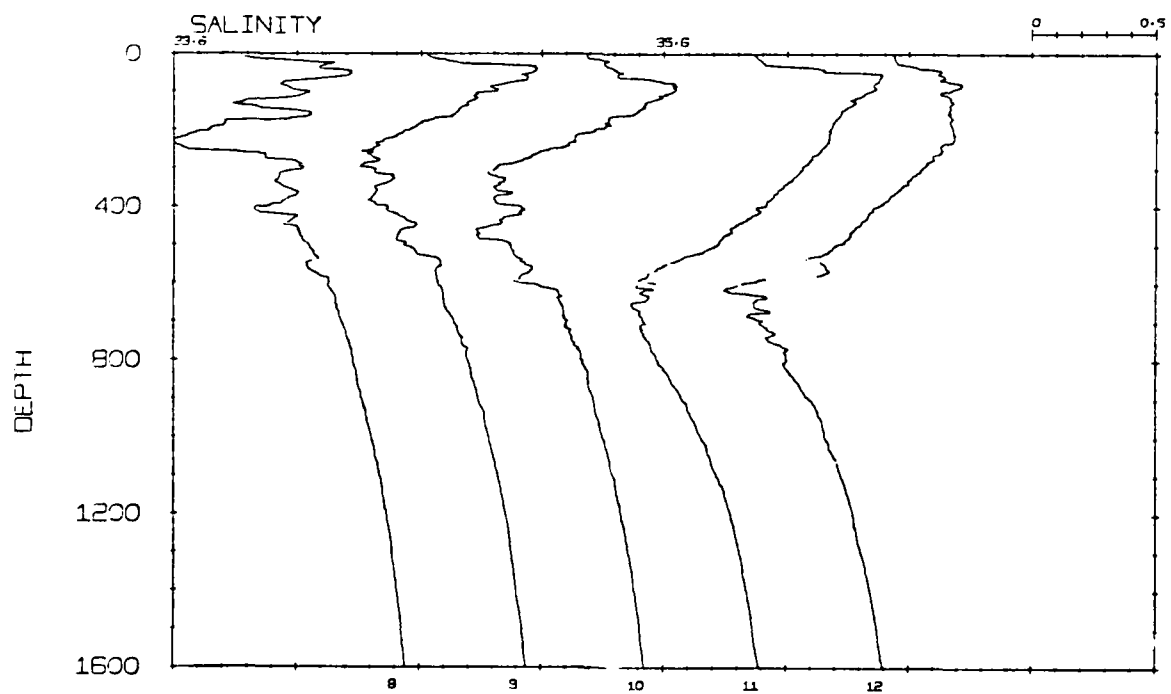
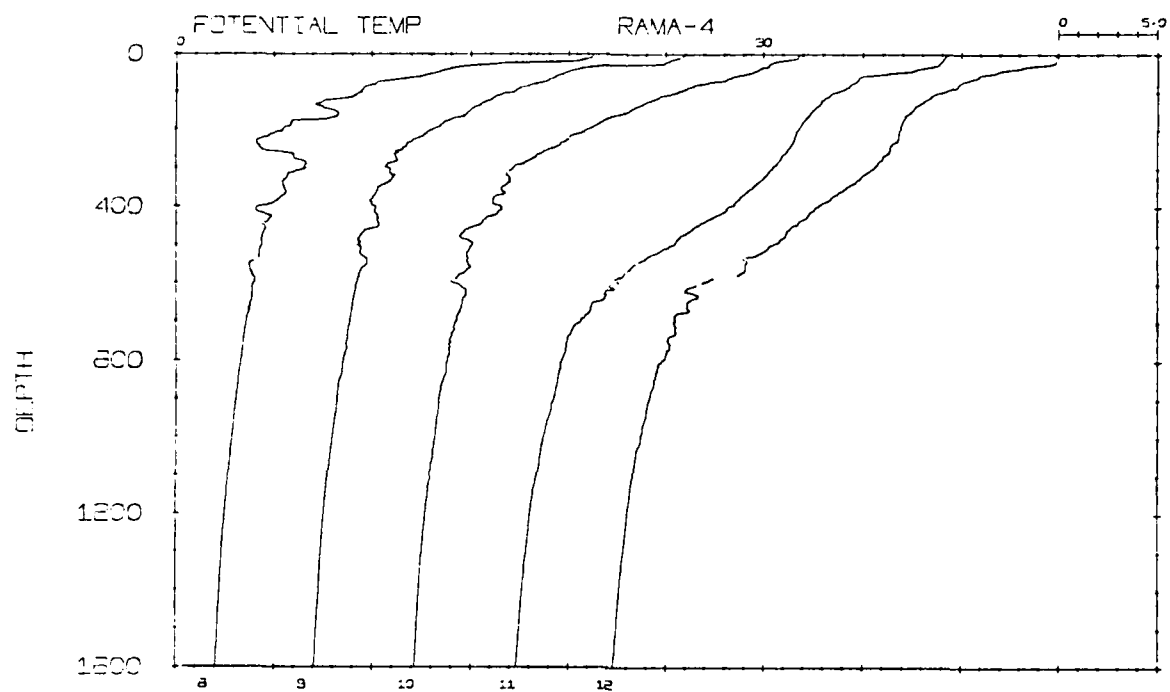
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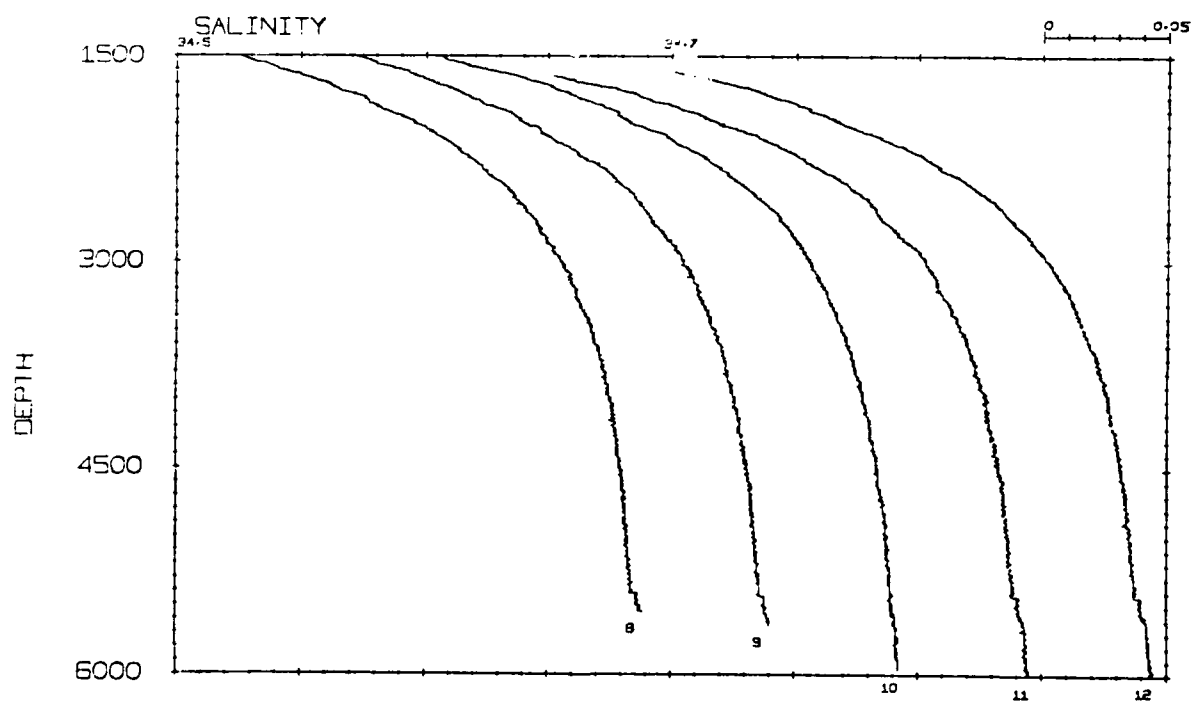
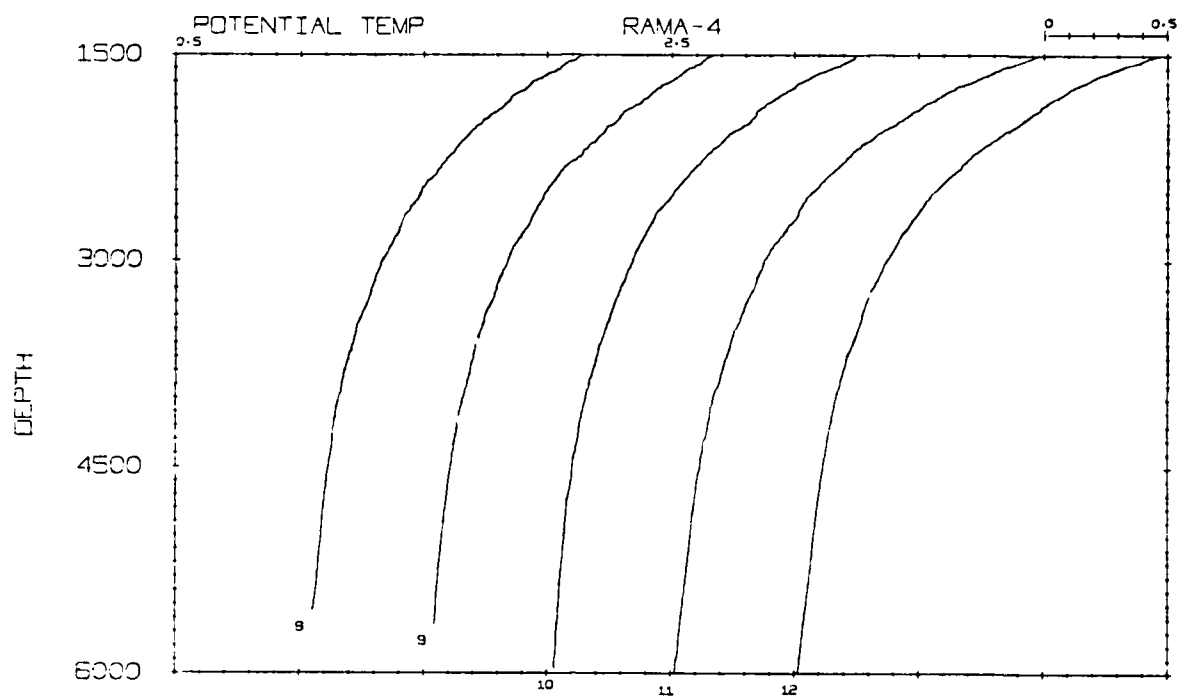


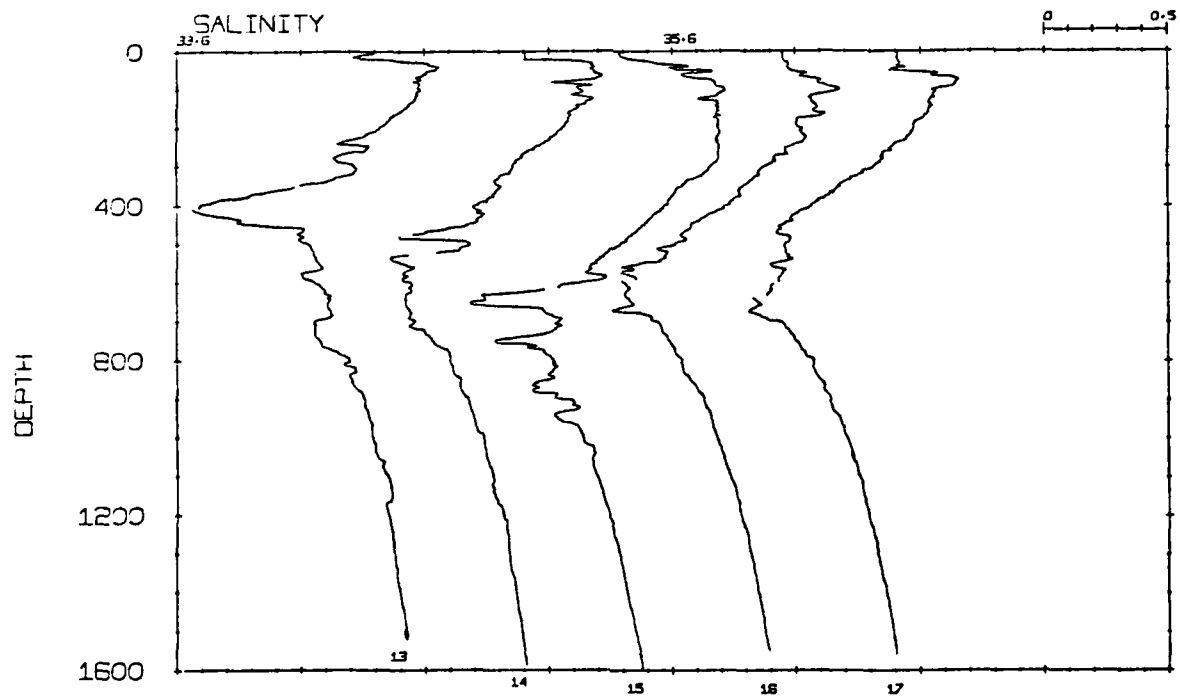
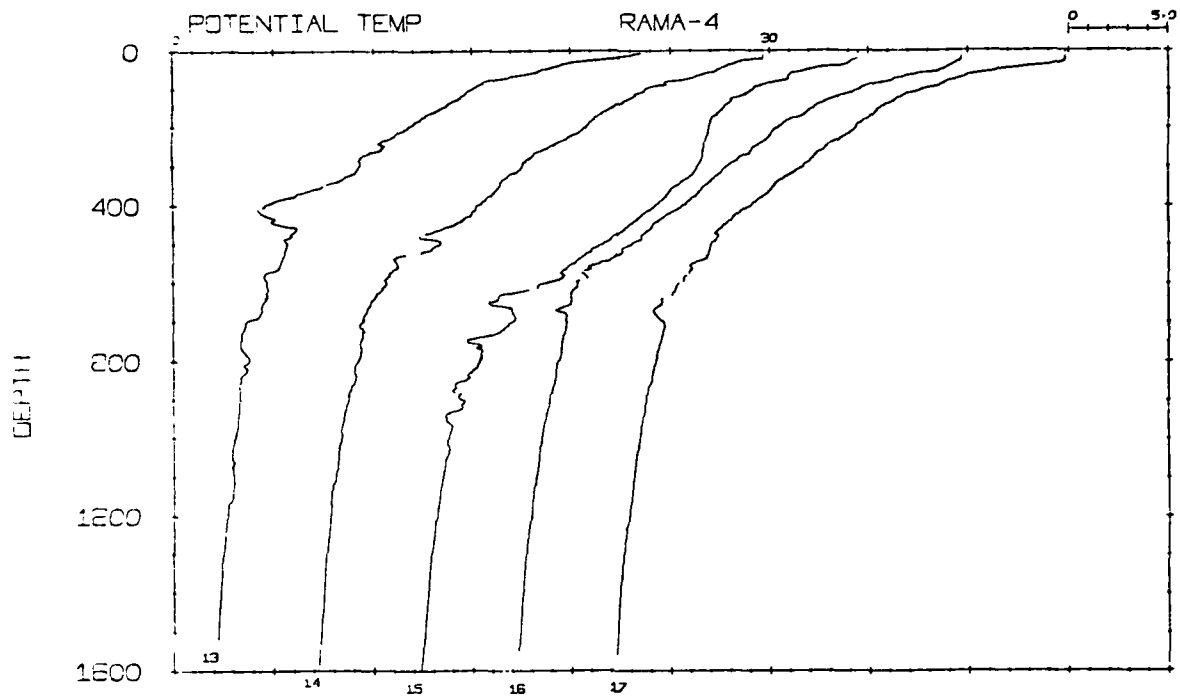
SEQUENTIAL
CTD PLOTS

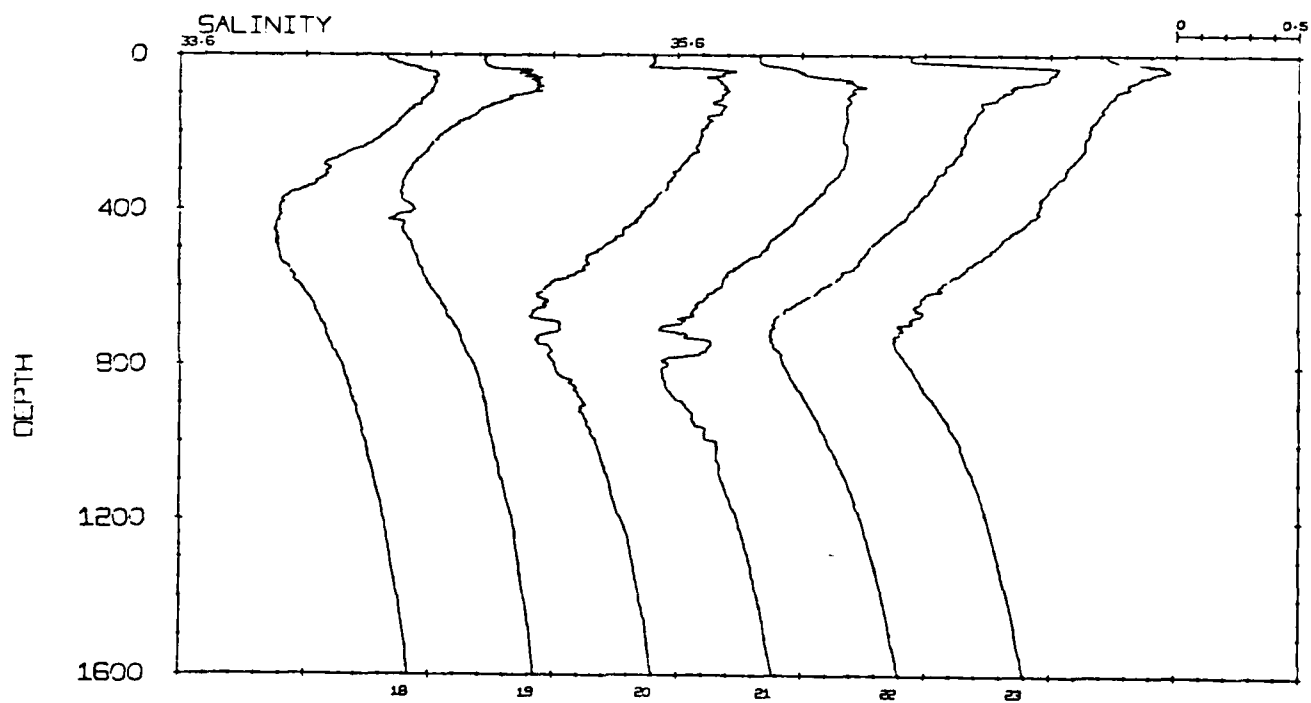
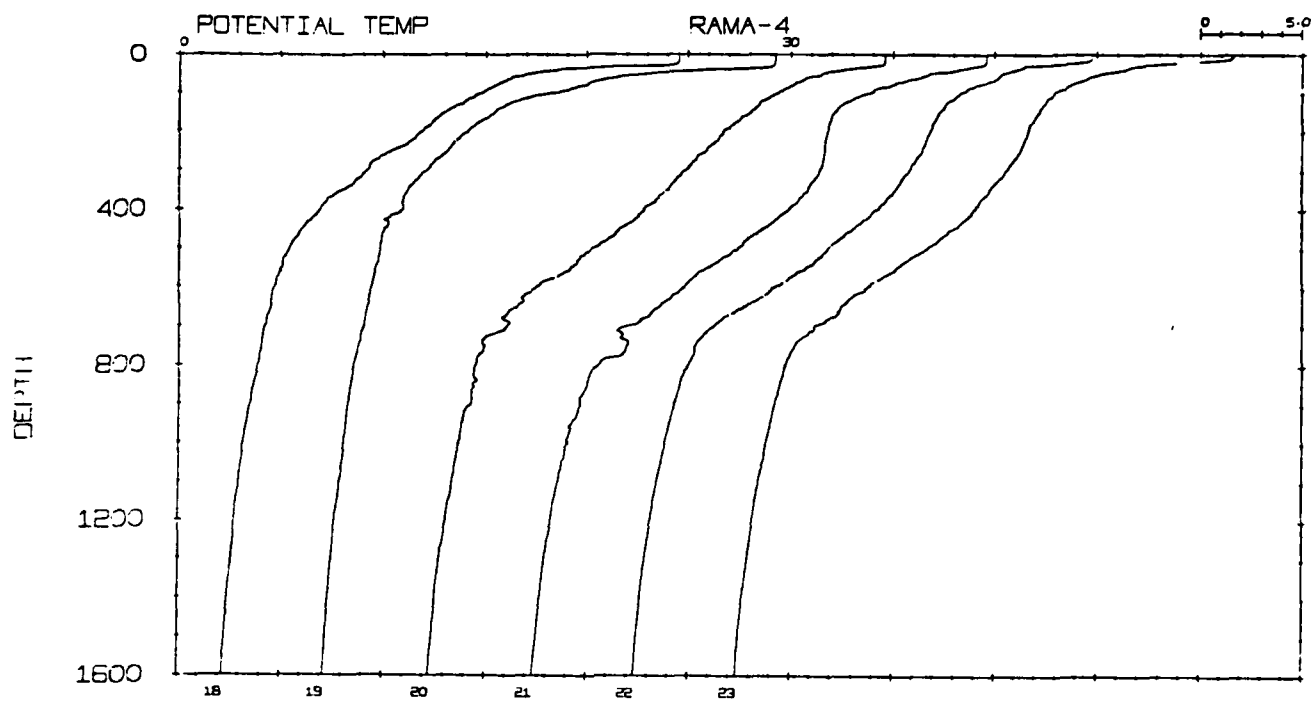


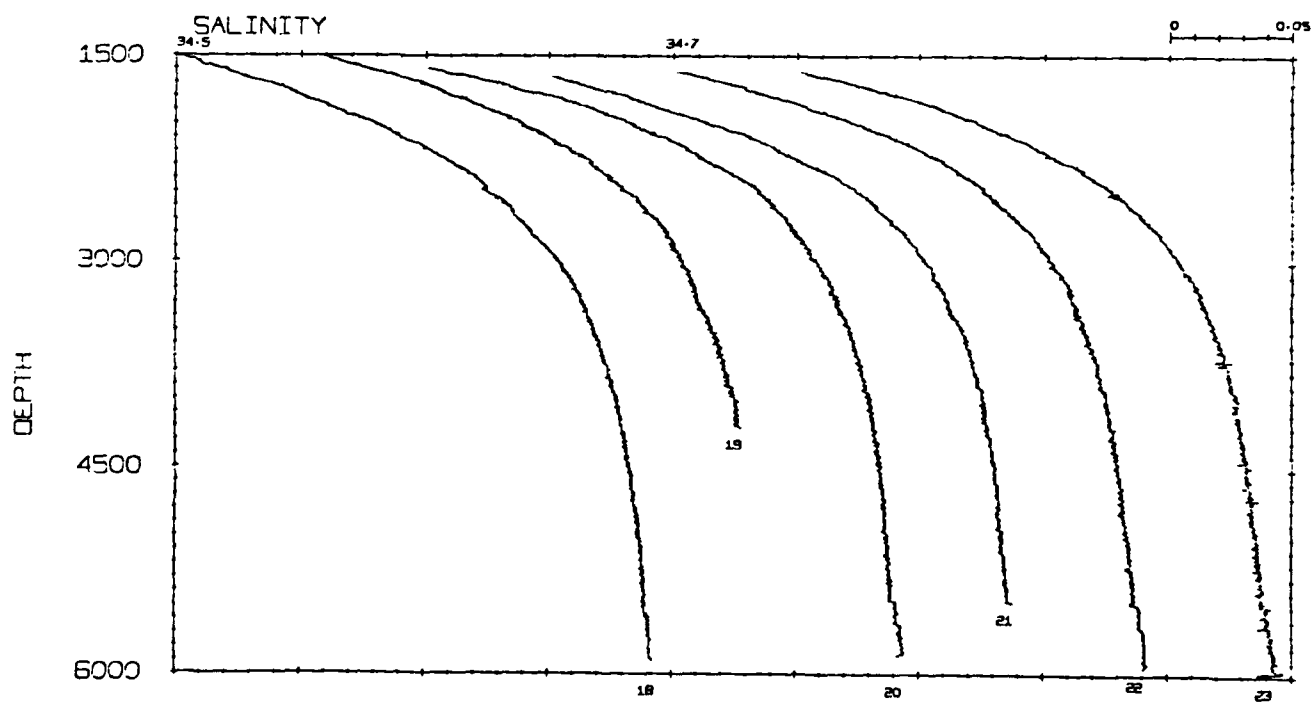
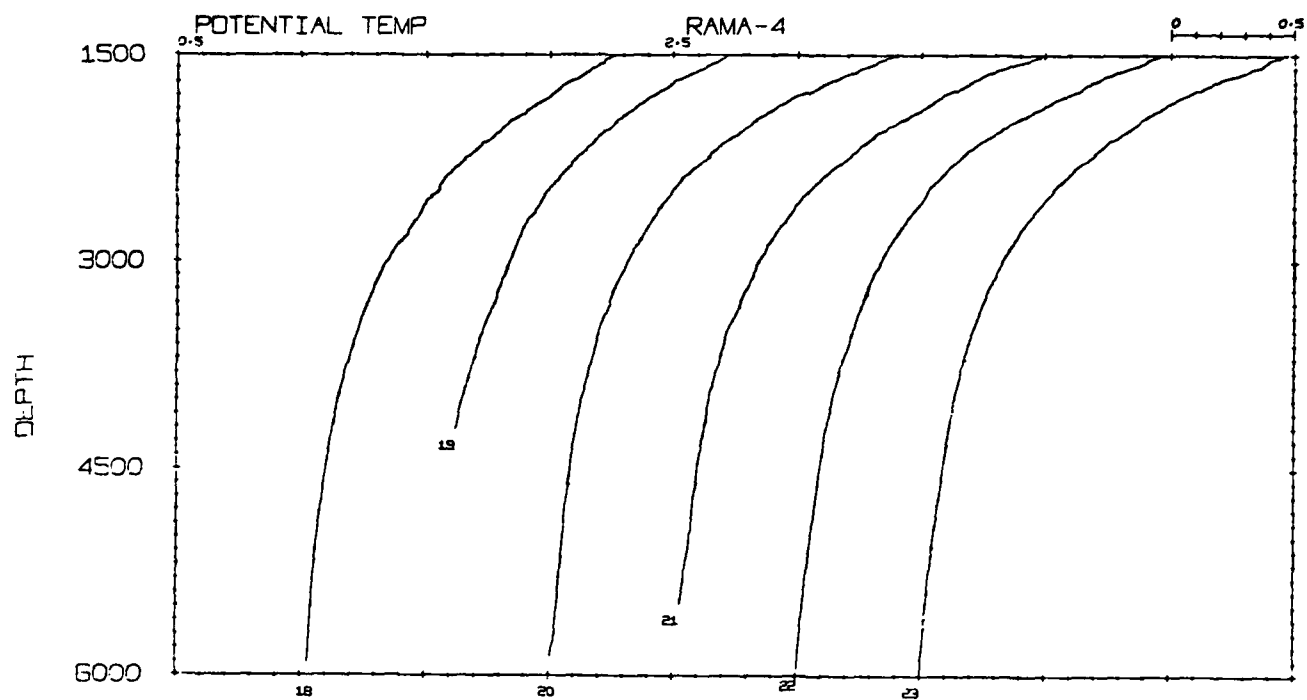


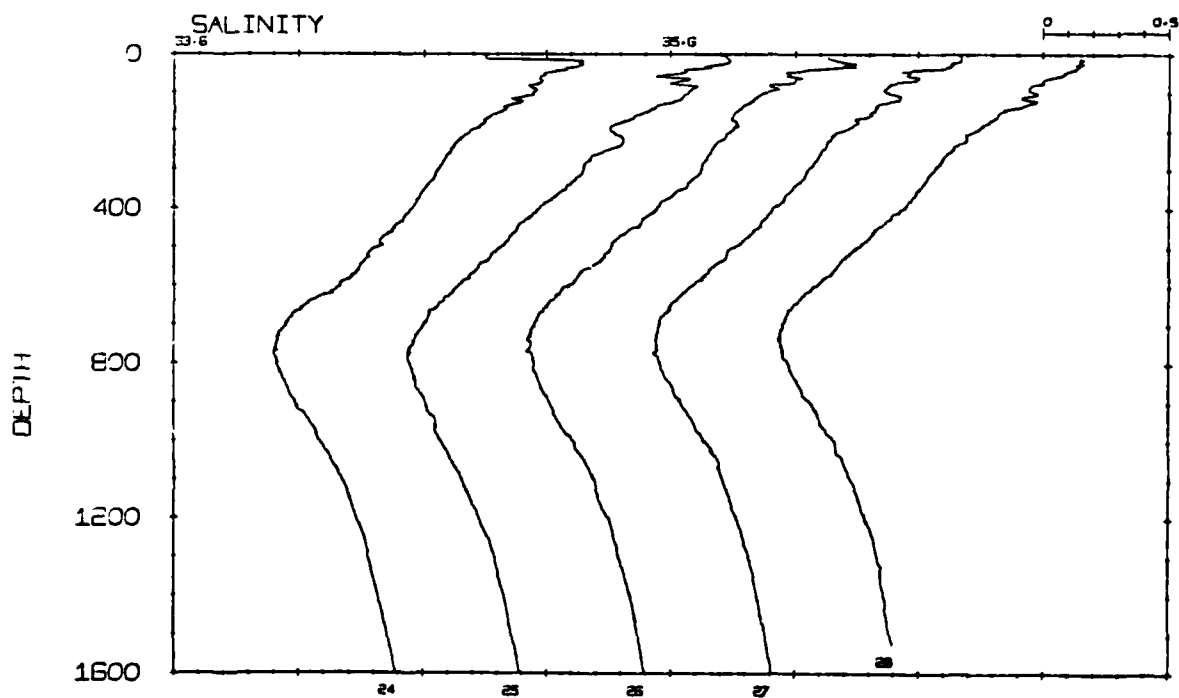
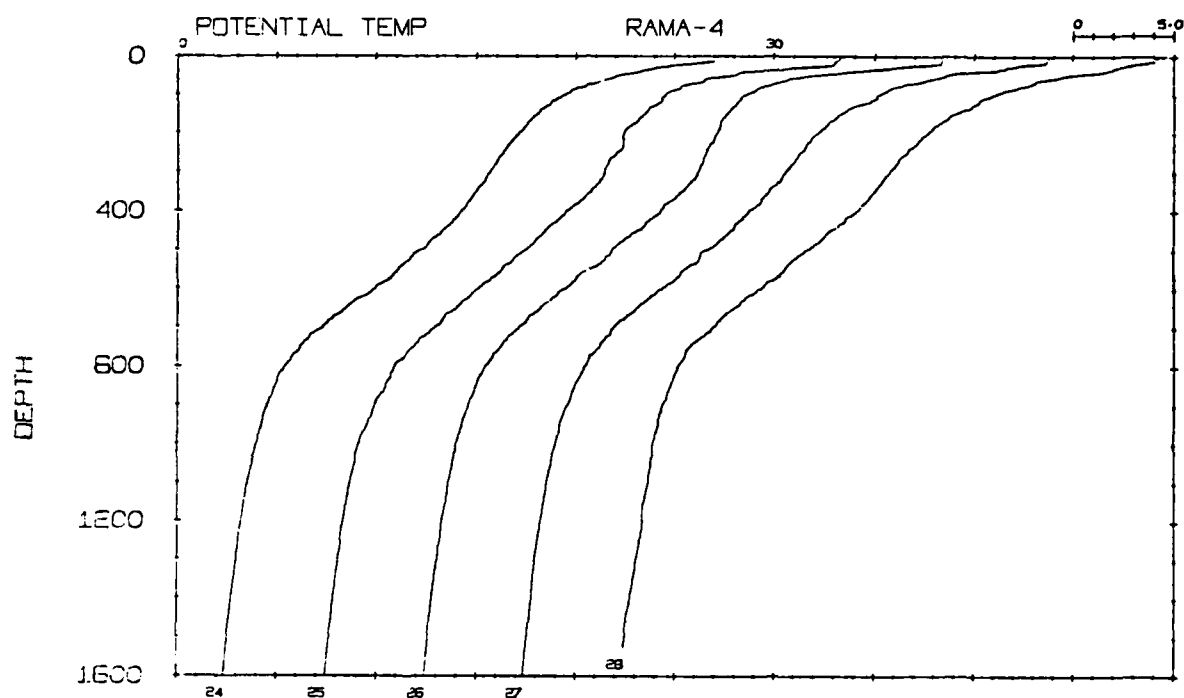


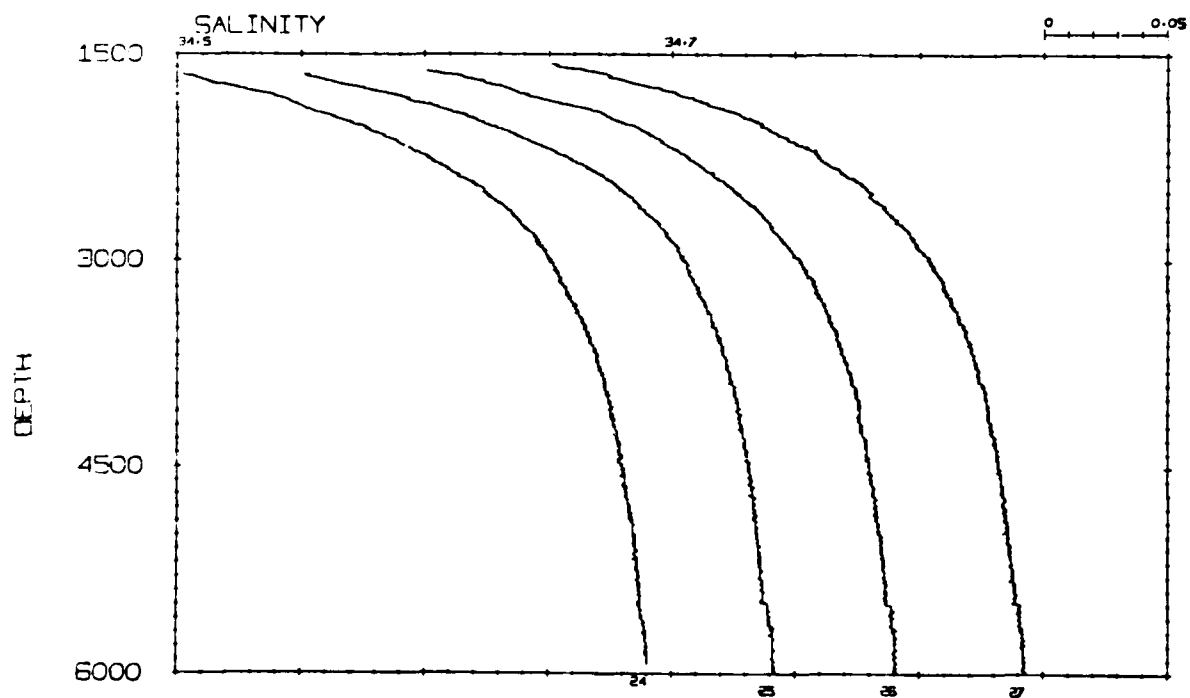
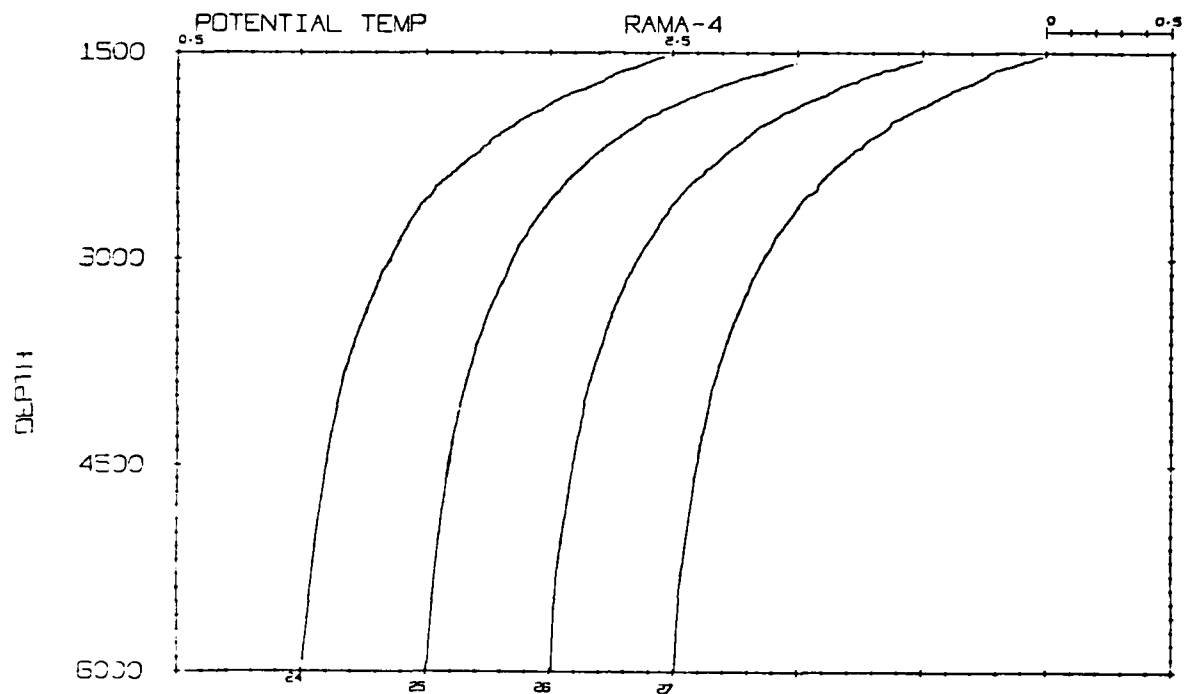












DATE
FILME