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PHYSICAL AND CHEMICAL DATA INDOMED EXPEDITION LEG XIII, 9 NOVEM--ETC(U)
NOV 79 N00014-75-C-0L52
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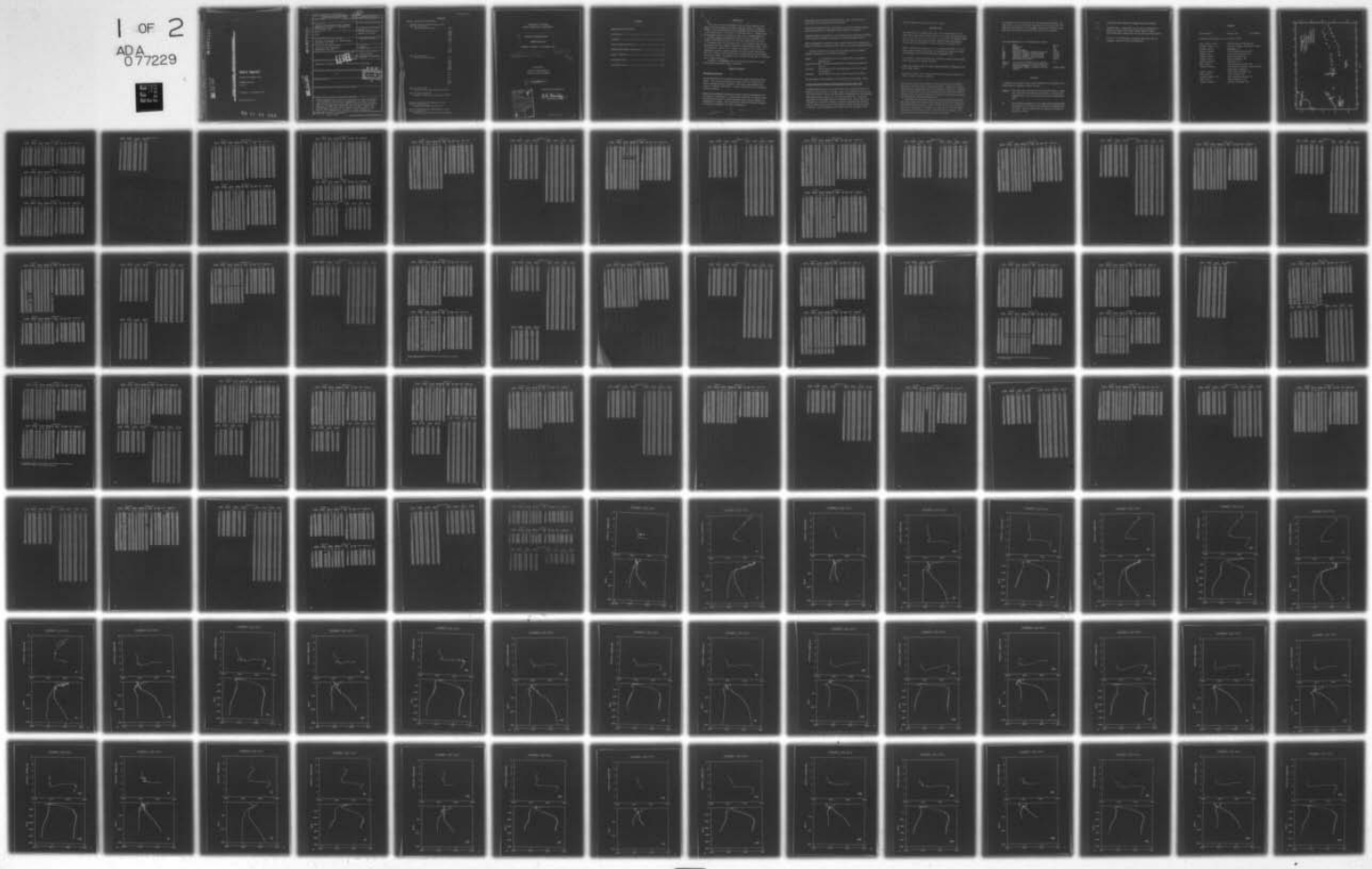

UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL AND CHEMICAL DATA

INDOMED Expedition

Leg XIII

9 November - 22 December 1978

SIO Reference 79-15

Physical and Chemical Data Report INDOMED Expedition Leg XIII SIO R 79-15

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

REPORT DOCUMENTATION PAGE

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19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

Indomed Expedition Leg XIII was carried out from 9 November to 22 December 1978 aboard RV Melville to study the characteristics and flow of the abyssal waters of the southern part of the Argentine Basin and the area between the South Sandwich Islands and the mid-Atlantic Ridge. Forty-two hydrographic stations were occupied with sampling to the bottom for temperature, salinity, oxygen, phosphate,...

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SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

24 October 1979

CORRIGENDA

PHYSICAL AND CHEMICAL DATA REPORTS

1. INDOPAC Expedition (SIO Reference 78-21)
   Page 172, Station 89
   Calcium values should be:

	10.09
	10.09
	10.08
	10.06
	10.04
	9.97
	9.94
	10.02
	10.09
	10.11
	10.15
	10.21
	10.18
	10.19
	10.18

   Page 172, Station 93
   Calcium values should be:

	10.04
	10.05
	10.02
	9.92
	9.98
	9.96
	10.01
	10.06
	10.12
	10.15
	10.18
	10.18
	10.18
	10.18
	10.18

   Page 173, Station 97
   Calcium at 358 meters should read 10.048

   Page 341, Station STD 77U
   Salinity at 2800 meters should read 34.669

2. Climax II Expedition (SIO Reference 75-6)
   Page 53, Station A4 18
   Fifth depth should read 77 (not 7)

3. Burton ISLAND Expedition (SIO Reference 71-15)
   Page 5, Station 11
   Latitude should read 19°56.1S (not 19°65.1S)

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PHYSICAL AND CHEMICAL DATA

INDOMED Expedition

Leg XIII, 9 November to 22 December 1978.

(11) NOV 79

(15) N00014-75-C-0152

(12) 121

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Approved for distribution:

W. A. Nierenberg

W. A. Nierenberg, Director

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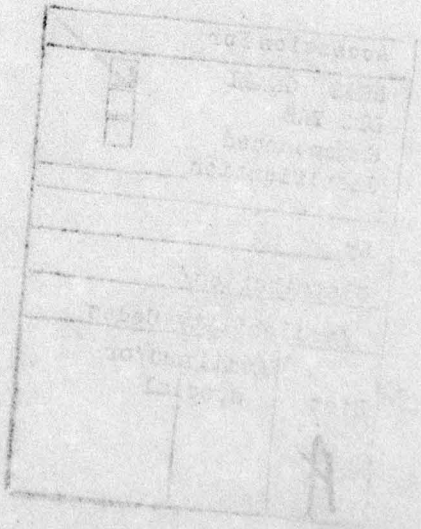
INDOMED Expedition Leg XIII



INTRODUCTION

This report presents hydrographic data for Indomed Expedition Leg XIII. Data from Indomed Legs I, XIV, and XV will appear in subsequent reports. Data from Indomed Legs III through VII have been distributed as GOG Publication No. 145 and will be published later in a GEOSECS atlas. No hydrographic data was collected on other legs of Indomed Expedition.

Indomed Expedition Leg XIII was carried out from 9 November to 22 December 1978 aboard RV Melville to study the characteristics and flow of the abyssal waters of the southern part of the Argentine Basin and the area between the South Sandwich Islands and the mid-Atlantic Ridge. Forty-two hydrographic stations were occupied with sampling to the bottom for temperature, salinity, oxygen, phosphate, silicate, nitrate and nitrite; CTD's were lowered, weather permitting, on stations where the bottom depth was less than 5400m. Free-vehicle current meters were deployed on 9 stations with 7 being recovered.

Leg XIII of Indomed Expedition was sponsored by the Office of Naval Research and the National Science Foundation.

STANDARD PROCEDURES

Hydrographic Cast Data

The observed data have been evaluated using the method described by Klein (1973). This involves consideration of their variation as functions of density or depth and their relations to each other, and comparison with previous or adjacent observations. Vertical sections were also considered in data evaluation.

Temperature was measured using paired deep-sea reversing thermometers and is reported to hundredths of a Celsius degree except for the deepest levels where specially scaled low range thermometers were read and tabulated to thousandths of a degree. Most bottles below 100 meters included unprotected (pressure) thermometers for depth determination.

Water samples were obtained from Nansen bottles hung on the CTD wire in conjunction with CTD lowerings on most stations.

Salinity was determined using a Guildline Autosal (1975) inductive salinometer and a University of Washington (1960) conductive salinometer.

Dissolved oxygen was determined by the Winkler method as modified by Carpenter (1965) using the equipment and procedures outlined by Anderson (1971).

Reactive phosphate was determined using a Hitachi Model 100-10 spectrophotometer by the method of Murphy and Riley (1962) as described by Anderson (1971).

Silicate, nitrite, and nitrate were determined using an automated analyzer consisting of the following components:

Sampler: A. H. Thomas Model 253 Little Dipper with a 20 position sampling rack.

Proportioning Pump: *Technicon*^{R} *AutoAnalyzer*^{R} II *Proportioning pump with* air bar.

Detectors: Hitachi Model 100-10 spectrophotometers with flow through cell adaptors.

Recorders: Hitachi Model 056 two pen recorders with felt tip pens.

The procedures used are basically those described in Atlas et.al. (1971).

In-situ Conductivity/Temperature/Depth/Oxygen Recorder (CDTO) Data

A GEOSECS modified version of the Neil Brown type of CDTO was used on the majority of the stations. The oxygen sensor failed during the cruise so no data was processed. The CTD was calibrated by comparisons with data obtained from Nansen bottles placed on the wire during the CTD casts. After the application of corrections based on the Nansen bottles, the CTD data were averaged over 2.5 decibar intervals. Depth was calculated from the pressure, the mean density of the overlaying water column, and the local value of gravity. The CTD temperature and salinity data are tabulated to the

nearest thousandths for all depths in this report.

TABULATED DATA

The time reported is Greenwich Mean Time. For CTD lowerings it is the "start down" time, and for bottle casts it is the time of messenger release. When more than one bottle cast was lowered on a station the messenger times for the first and last casts are given. Multiple casts, excluding the surface cast, are indicated by a letter following the observed depth.

Station positions were based on satellite navigation and are for the messenger time on single cast stations. On multiple cast stations the deep cast messenger time position was used for hydrographic data.

Bottom depths, determined acoustically, have been corrected using Matthews (1939) tables and are reported in meters.

Weather and dominant waves are coded using the National Oceanographic Data Center (NODC) method.

Data from the sample bottle casts and the CTD lowerings are tabulated followed by computer curves of CTD data.

Data from the bottle casts appears for the most part on even numbered pages but a few casts appear on right hand pages. Temperature, salinity and oxygen are interpolated from the observations on the right. Computed values of thermosteric anomaly are included with the observed levels and computed values of sigma-t, thermosteric anomaly and geopotential anomaly are included with the interpolated levels.

Data from the CTD usually appears on the facing odd numbered pages but on some pages the cruise name and CTD notation have been removed and the tabulated data entered on a left or right hand page with the bottle cast data. Temperature and salinity are tabulated at closer standard intervals than in previous reports. Computed values of sigma-t, thermosteric anomaly and geopotential anomaly are included.

Two computer plots of the data for each CTD lowering are included. The upper plot is a curve of potential temperature versus salinity while the lower plot shows profiles of the in-situ temperature and salinity versus depth with the observed sample bottle data plotted for comparison.

The column headings are to be interpreted as follows:

Z	Depth	Meters
T	Temperature	C^o
S	Salinity	$^o/_{oo}$
O2	Dissolved Oxygen	ml/L
PO4	"Reactive" inorganic phosphate-phosphorus	µg at/L
SIO3	"Reactive" inorganic silicate-silicon	µg at/L
NO2	"Reactive" inorganic nitrite-nitrogen	µg at/L
NO3	"Reactive" inorganic nitrate-nitrogen	µg at/L
DT	δ_T Thermosteric anomaly	cl/ton
SIGT or SIGMA T	$\sigma_t = (\rho_{s,t,0}^{-1})10^3$ where $\rho_{s,t,0}$, is the density the parcel of sea water would have if moved isothermally to the sea surface.	g/L
DD	Geopotential anomaly, referred to the sea surface.	dynamic meters

FOOTNOTES

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

A and B: After depth value indicates successively deeper casts on expedition legs which have multiple cast stations. The upper cast originating at or near the surface has no letter following the depth.

K: Both protected thermometers in the sample bottle malfunctioned. The temperature was inferred from the pressure thermometer and wire depth. For this expedition, the values are believed accurate to $\pm$ 0.05°C.

P: After depth value indicates the Nansen bottles posttripped.

U: Uncertain value. Values which are not used in interpolation because they seem to be in error without apparent reason. CTD station number indicates the up cast data are being reported.

V: Because of time differences, overlapping casts show some differences. Values not used in interpolation.

PERSONNEL

Ship's Captain: Phinney, Alan RV MELVILLE

Personnel Participating in the Collection of Data:

Reid, Joseph L. Prof.	Chief Scientist, Professor, SIO
Antezano, Tarsico J. Dr.	Professor Asociado, University of Chile
Charter, James S.	Programmer, SIO
Costello, James P.	Staff Research Associate, SIO
Graham, Jery B.	Electronics Technician, SIO
Johnson, Frank W.	Marine Technician, SIO
Johnson, Treve L.	Marine Technician, SIO
Mantyla, Arnold W.	Specialist, SIO
Muus, David A.	Staff Research Associate, SIO
Olivera, Ricardo M.	Staff Research Associate, Servicio Hidrografía Naval, Argentina
Schmitt, James A.	Electronics Technician, SIO
Sachs, Neal A.	Staff Volunteer, SIO
Stallard, Martha O. Dr.	Staff Research Associate, SIO
Sweet, Paul R.	Marine Technician, SIO
Witherow, Sharon L.	Resident Technician, SIO

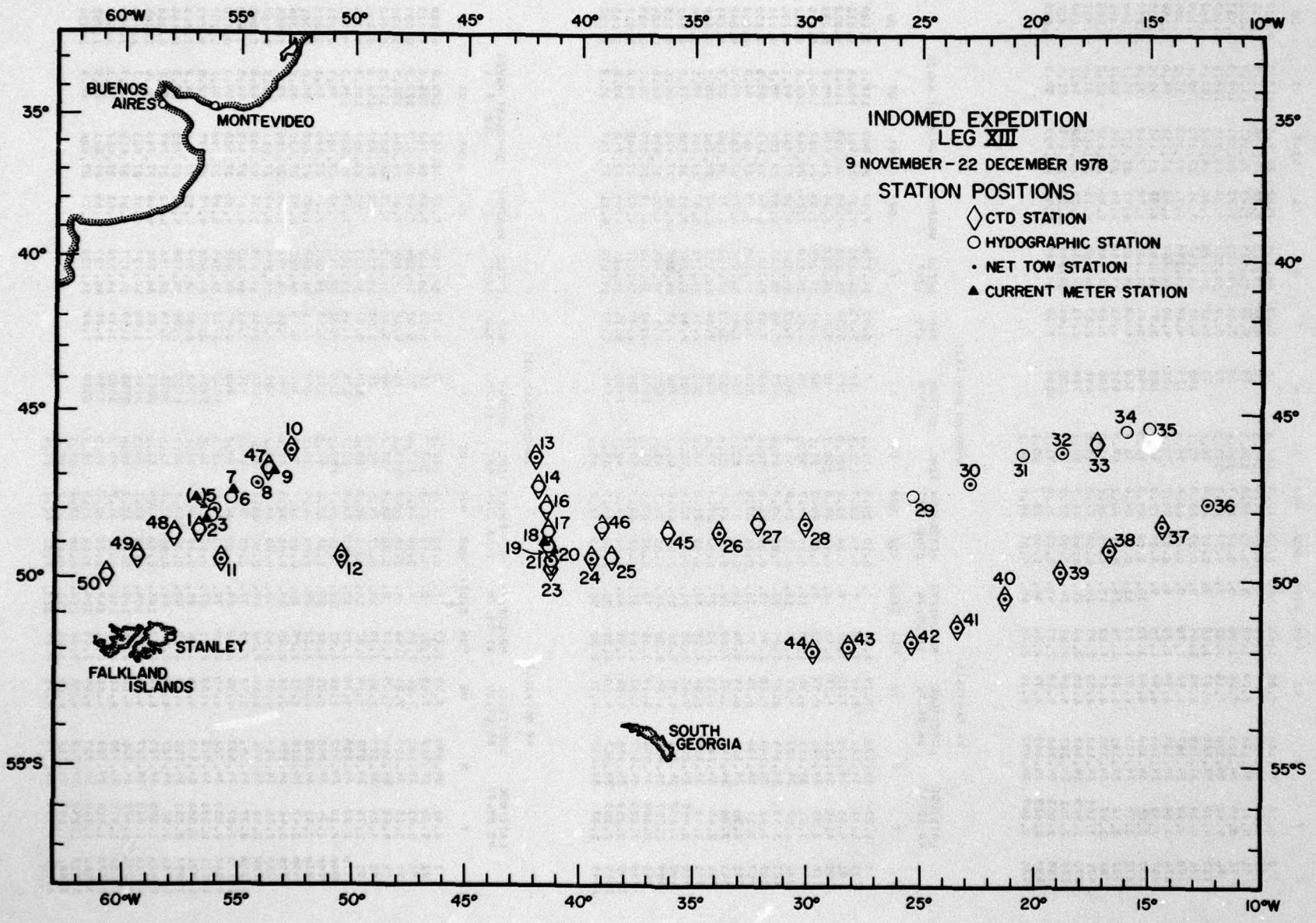

INDOMED EXPEDITION
LEG XIII
9 NOVEMBER - 22 DECEMBER 1978
STATION POSITIONS
CTD STATION
HYDOGRAPHIC STATION
NET TOW STATION
CURRENT METER STATION
BUENOS AIRES
MONTEVIDEO
STANLEY
FALKLAND ISLANDS
SOUTH GEORGIA
60°W
55°
50°
45°
40°
35°
30°
25°
20°
15°
10°W
35°
40°
45°
50°
55°S

FIGURE 1

RV MELVILLE — INDOMED LEG XIII — 1

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DUMINANT WAVES
48 38.2S	56 49.9W	11/14/78	0146 GMT	1093M	290	15KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	5.53	34.104	7.22	1.49	5.	0.13	19.3	113.8	0	5.53	34.104	7.22	26,925	113.8	0.000
30	5.26	34.123		1.45	5.	0.14	19.8	109.3	10	5.42	34.113	7.23	26,946	111.9	0.011
61	5.21	34.126	7.29	1.45	5.	0.15	19.8	108.5	20	5.33	34.119	7.24	26,961	110.4	0.022
76	5.19	34.125	7.26	1.46	5.	0.12	19.7	108.4	30	5.26	34.123	7.25	26,973	109.3	0.033
96	4.62	34.138	7.10	1.62	7.	0.17	21.5	101.3	50	5.23	34.126	7.28	26,978	108.8	0.055
111	4.30	34.165	6.97	1.68	8.	0.19	23.3	96.0	75	5.19	34.126	7.26	26,982	108.4	0.083
126	4.24	34.169	6.93	1.69	9.	0.09	23.5	95.1	100	4.52	34.147	7.06	27,075	99.6	0.109
150	4.12	34.167	6.96	1.70	9.	0.07	23.8	94.0	125	4.24	34.170	6.93	27,123	95.1	0.134
176	4.04	34.164	6.94	1.70	9.	0.02	24.0	93.4	150	4.12	34.167	6.96	27,134	94.0	0.158
207	3.92	34.160	6.99	1.70	9.	0.01	24.0	92.6	200	3.95	34.162	6.98	27,147	92.8	0.205
237	3.85	34.160	6.99	1.72	10.	0.00	24.3	91.9	250	3.81	34.160	6.99	27,160	91.6	0.252
272	3.75	34.158	6.97	1.73	11.	0.00	24.6	91.1	300	3.68	34.161	6.91	27,174	90.3	0.299
322	3.62	34.161	6.85	1.76	13.	0.01	25.2	89.7	400	3.41	34.156	6.64	27,196	88.2	0.391
386	3.47	34.156	6.67	1.83	15.	0.00	26.2	88.7	500	3.03	34.155	6.46	27,230	85.0	0.480
471	3.104	34.153	6.52	1.97	19.	0.00	27.5	85.6	600	2.87	34.180	6.11	27,265	81.6	0.567
570	2.915	34.165	6.25	2.02	24.	0.00	28.9	83.1	700	2.73	34.238	5.59	27,323	76.1	0.650
680	2.761	34.227	5.69	2.21	34.	0.00	31.0	77.1	800	2.65	34.297	5.13	27,377	71.0	0.728
789	2.651	34.288	5.18	2.27	43.	0.00	32.6	71.6	1000	2.59	34.444	4.36	27,499	59.5	0.868
899	2.669	34.369	4.72	2.34	54.	0.00	33.7	65.6							
1020	2.569	34.457	4.30	2.45	65.	0.01	34.6	58.2							

RV MELVILLE — INDOMED LEG XIII — 3

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DUMINANT WAVES
48 15.4S	56 06.9W	11/14/78	0755 GMT	1877M	270	17KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	5.37	34.123	7.19	1.50	7.	0.15	20.5	110.6	0	5.37	34.123	7.19	26,960	110.6	0.000
21	5.33	34.121	7.49	1.48	7.	0.16	20.7	110.3	10	5.35	34.123	7.37	26,961	110.4	0.011
51	4.95	34.123	7.33	1.54	8.	0.16	21.2	105.9	20	5.33	34.122	7.48	26,963	110.3	0.022
91	4.40	34.116	7.18	1.65	8.	0.18	22.8	100.7	30	5.24	34.123	7.44	26,974	109.2	0.033
126	3.95	34.131	6.99	1.72	9.	0.09	24.3	95.1	50	4.97	34.124	7.34	27,007	106.1	0.055
157	3.81	34.141	6.95	1.73	10.	0.04	24.7	93.0	75	4.62	34.119	7.24	27,042	102.8	0.081
192	3.57	34.133	7.14	1.73	10.	0.02	24.6	91.3	100	4.27	34.120	7.13	27,081	99.1	0.106
227	3.45	34.141	6.87	1.84	13.	0.02	25.8	89.6	125	3.96	34.132	6.99	27,122	95.2	0.131
267	3.41	34.149	6.68	1.90	15.	0.01	26.5	88.6	150	3.83	34.141	6.96	27,142	93.3	0.155
307	3.11	34.136	6.75	1.93	16.	0.01	27.0	87.0	200	3.53	34.135	7.09	27,167	90.9	0.202
351	2.90	34.131	6.64	1.94	18.	0.01	27.7	85.5	250	3.44	34.148	6.74	27,187	89.0	0.247
401	2.86	34.149	6.41	2.00	22.	0.01	28.5	83.8	300	3.17	34.140	6.73	27,206	87.3	0.293
461	2.65	34.180	6.10	2.10	27.	0.02	29.8	79.8	400	2.86	34.150	6.42	27,241	83.9	0.380
531	2.43	34.199	5.86	2.18	33.	0.01	31.0	76.6	500	2.51	34.191	5.97	27,304	77.9	0.464
610	2.440	34.254	5.45	2.33	41.	0.01	32.4	72.5	600	2.44	34.247	5.51	27,355	73.0	0.542
699	2.652	34.353	4.82	2.36	51.	0.01	33.8	66.7	700	2.65	34.355	4.82	27,423	66.6	0.615
809	2.507	34.408	4.54	2.50	60.	0.01	34.4	61.4	800	2.53	34.406	4.55	27,475	61.8	0.684
968	2.380	34.498	4.19	2.46	72.	0.01	35.0	53.5	1000	2.37	34.515	4.15	27,575	52.2	0.808
1146	2.328	34.577	4.03	2.44	81.	0.01	34.7	47.2	1200	2.30	34.596	4.02	27,645	45.6	0.917
1345	2.213	34.632	4.00	2.41	87.	0.02	34.2	42.1	1500	2.13	34.661	4.04	27,712	39.3	1.065
1544	2.101	34.667	4.06	2.34	92.	0.00	33.7	38.6	1750	1.97	34.690	4.11	27,748	35.9	1.177
1743	1.97	34.689	4.11	2.32	96.	0.00	33.2	35.9							

RV MELVILLE — INDOMED LEG XIII — 5

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DUMINANT WAVES
48 04.8S	56 07.2W	11/14/78	1443 1726 GMT	3917M	310	17KT	1	310 2 4

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	6.81	34.099	7.23	1.17	1.	0.18	16.0	129.8	0	6.81	34.099	7.23	26,757	129.8	0.000
21	6.35	34.103	7.48	1.21	2.	0.19	16.2	123.7	10	6.59	34.102	7.38	26,788	126.8	0.013
51	5.81	34.101	7.26	1.28	4.	0.18	18.6	117.3	20	6.37	34.104	7.48	26,819	123.9	0.025
91	5.15	34.103	7.20	1.56	6.	0.19	20.6	109.6	30	6.18	34.104	7.44	26,844	121.5	0.038
126	4.62	34.104	7.19	1.67	8.	0.20	22.3	103.8	50	5.83	34.102	7.27	26,887	117.5	0.062
156	3.24	34.077	7.36	1.79	12.	0.27	24.6	92.6	75	5.41	34.103	7.22	26,939	112.6	0.091
191	2.76	34.072	7.26	1.82	14.	0.11	25.7	88.8	100	5.07	34.107	7.20	26,982	108.5	0.119
247p	2.23	34.058	7.30	1.90	15.	0.02	26.5	85.7	125	4.64	34.105	7.19	27,028	104.0	0.145
280p	2.10	34.052	7.00	1.91	16.	0.02	26.7	85.2	150	3.51	34.082	7.33	27,127	94.7	0.171
334p	2.34	34.088	6.81	2.00	20.	0.02	28.0	84.3	200	2.65	34.071	7.27	27,196	88.1	0.217
406p	2.61	34.183	6.02	2.12	29.	0.01	30.1	79.2	250	2.21	34.058	7.27	27,223	85.6	0.261
449p	2.47	34.215	5.71	2.25	35.	0.01	31.4	75.7	300	2.16	34.061	6.93	27,230	85.0	0.304
529p	2.46	34.254	5.36	2.30	40.	0.01	32.3	72.6	400	2.60	34.176	6.09	27,285	79.7	0.388
622p	2.51	34.313	4.97	2.46	48.	0.00	33.4	68.6	500	2.46	34.244	5.47	27,351	73.5	0.467
872p	2.43	34.476	4.18	2.52	69.	0.00	35.2	55.6	600	2.50	34.299	5.06	27,392	69.6	0.541
1015A	2.37	34.551	3.98	2.42	77.	0.00	34.9	49.5	700	2.49	34.365	4.67	27,445	64.5	0.612
1210A	2.27	34.633	4.05	2.39	84.	0.00	34.3	42.5	800	2.45	34.430	4.36	27,500	59.3	0.678
1406A	2.550	34.722	4.45	2.19	72.	0.00	31.3	38.0	1000	2.38	34.544	3.99	27,598	50.1	0.797
1600A	2.593	34.773	4.63	2.04	67.	0.00	29.3	34.5	1200	2.27	34.630	4.05	27,675	42.8	0.902
1793A	2.582	34.803	4.85	1.94	64.	0.00	28.0	32.1	1500	2.57	34.749	4.55	27,745	36.1	1.043
1985A	2.161	34.758	4.52	2.12	83.	0.00	30.4	32.2	1750	2.58	34.798	4.82	27,783	32.5	1.154
2175A	1.90	34.737	4.49	2.21	94.	0.00	31.6	31.8	2000	2.14	34.756	4.52	27,787	32.1	1.260
2362A	1.698	34.725	4.44	2.27	103.	0.00	32.4	31.2	2250	1.81	34.732	4.46	27,793	31.6	1.364
2547A	1.610	34.727	4.50	2.26	104.	0.00	32.1	30.5	2500	1.63	34.727	4.48	27,803	30.7	1.464
2727A	1.499	34.726	4.56	2.29	108.	0.00	32.1	29.8	2750	1.49	34.727	4.57	27,813	29.7	1.562
2905A	1.470	34.730	4.60	2.23	108.	0.00	31.9	29.3	3000	1.44	34.728	4.61	27,817	29.3	1.659
3078A	1.416	34.725	4.62	2.31	109.	0.00	32.2	29.3	3250	1.38	34.727	4.69	27,821	28.9	1.755
3246A	1.384	34.727	4.69	2.25	109.	0.00	31.9	28.9	3500	1.23	34.720	4.70	27,826	28.4	1.850
3411A	1.272	34.722	4.72	2.26	113.	0.00	32.2	28.5							
3568A	1.197	34.718	4.69	2.26	115.	0.00	32.2	28.3							
3683A	1.144	34.719	4.78	2.25	115.	0.00	32.2	27.9							

1

INDOMED LEG XIII CTD

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 38.2S	56 49.9W	11/14/78	0057 GMT

Z	T	S	SIGMA T	DT	DD
0	5.547	34.108	26.927	113.7	0.000
10	5.485	34.107	26.933	113.1	0.011
20	5.255	34.111	26.964	110.2	0.023
30	5.242	34.112	26.966	109.9	0.034
40	5.230	34.112	26.968	109.8	0.045
50	5.223	34.112	26.968	109.7	0.056
75	5.179	34.113	26.974	109.2	0.083
100	4.405	34.142	27.084	98.8	0.109
125	4.212	34.159	27.118	95.5	0.134
150	4.161	34.159	27.124	95.0	0.158
175	4.068	34.157	27.132	94.2	0.182
200	3.982	34.158	27.141	93.3	0.206
225	3.886	34.153	27.148	92.8	0.230
250	3.803	34.153	27.156	92.0	0.253
275	3.733	34.151	27.161	91.5	0.277
300	3.660	34.151	27.168	90.8	0.300
350	3.480	34.144	27.180	89.7	0.346
400	3.377	34.152	27.196	88.1	0.392
450	3.208	34.152	27.212	86.6	0.438
500	3.113	34.153	27.222	85.7	0.482
550	3.000	34.158	27.236	84.4	0.526
600	2.956	34.176	27.254	82.6	0.570
650	2.946	34.213	27.285	79.7	0.613
700	2.758	34.230	27.315	76.9	0.654
750	2.762	34.269	27.346	74.0	0.694
800	2.666	34.286	27.368	71.9	0.732
850	2.705	34.322	27.393	69.5	0.770
900	2.679	34.350	27.418	67.2	0.807
950	2.655	34.387	27.449	64.2	0.842
1000	2.604	34.432	27.489	60.3	0.876
1030	2.579	34.450	27.506	58.8	0.896

RV MELVILLE INDOMED LEG XIII 6

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
47 38.8S	55 04.5W	11/15/78	0100 0741	GMT	5260M	0	14KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	6.33	34.098	7.60	1.20	3.	0.18	16.9	123.8	0	6.33	34.098	7.60	26.820	123.8	0.000
20	5.89	34.088	7.54	1.34	4.	0.17	19.0	119.2	10	6.12	34.092	7.58	26.842	121.7	0.012
51	5.10	34.106	7.33	1.54	8.	0.16	21.6	108.8	20	5.89	34.088	7.54	26.869	119.2	0.024
81	4.23	34.108	7.28	1.66	9.	0.22	23.1	99.5	30	5.65	34.094	7.47	26.902	116.0	0.036
102	3.69	34.105	7.30	1.73	10.	0.31	24.2	94.5	50	5.13	34.106	7.34	26.974	109.2	0.059
127	3.41	34.104	7.23	1.75	11.	0.09	25.0	92.0	75	4.40	34.109	7.29	27.058	101.3	0.085
157	3.39	34.133	7.10	1.76	11.	0.05	25.2	89.7	100	3.73	34.106	7.30	27.124	94.9	0.110
192	3.14	34.119	7.07	1.80	13.	0.03	25.8	88.5	125	3.42	34.105	7.24	27.154	92.2	0.134
226	2.90	34.108	7.07	1.87	15.	0.02	26.6	87.3	150	3.39	34.129	7.13	27.175	90.1	0.157
266	2.73	34.110	6.91	1.89	17.	0.02	27.1	85.7	200	3.08	34.117	7.07	27.195	88.2	0.202
306	2.73	34.126	6.69	1.94	20.	0.02	28.1	84.5	250	2.78	34.109	6.99	27.216	86.3	0.246
351	2.76	34.156	6.30	2.04	23.	0.02	29.1	82.5	300	2.73	34.124	6.73	27.233	84.7	0.290
401	2.607	34.173	6.15	2.08	27.	0.01	30.0	79.9	400	2.61	34.174	6.15	27.282	80.0	0.374
460	2.391	34.206	5.83	2.17	34.	0.02	31.6	75.7	500	2.27	34.224	5.69	27.351	73.4	0.453
530	2.215	34.239	5.57	2.27	40.	0.01	32.5	71.9	600	2.36	34.307	4.97	27.409	67.9	0.526
615A	2.41	34.322	4.84	2.26	50.	0.01	33.8	67.1	700	2.45	34.385	4.62	27.465	62.7	0.595
699	2.452	34.384	4.62	2.41	58.	0.02	34.9	62.7	800	2.48	34.463	4.29	27.525	57.0	0.659
815A	2.48	34.474	4.24	2.43	69.	0.00	35.1	56.2	1000	2.35	34.566	4.07	27.617	48.3	0.774
1012A	2.34	34.569	4.06	2.49	76.	0.00	34.9	47.9	1200	2.57	34.678	4.27	27.688	41.5	0.876
1258A	2.64	34.705	4.35	2.15	68.	0.01	31.5	40.0	1500	2.28	34.713	4.28	27.740	36.6	1.016
1534B	2.23	34.711	4.28	2.22	84.	0.00	32.3	36.3	1750	2.38	34.777	4.68	27.783	32.5	1.125
1781B	2.41	34.787	4.75	1.97	71.	0.01	29.0	31.9	2000	2.41	34.821	5.07	27.816	29.4	1.228
2029B	2.41	34.824	5.09	1.82	65.	0.01	27.3	29.1	2250	2.14	34.804	4.96	27.825	28.5	1.329
2276B	2.10	34.801	4.94	1.94	76.	0.01	28.1	28.4	2500	1.69	34.754	4.69	27.821	28.9	1.426
2523B	1.65	34.750	4.67	2.13	98.	0.01	30.9	29.0	2750	1.43	34.741	4.70	27.828	28.2	1.520
2771B	1.418	34.740	4.70	2.22	106.	0.01	31.6	28.1	3000	1.21	34.731	4.73	27.836	27.4	1.610
3018B	1.190	34.730	4.73	2.23	113.	0.01	32.2	27.4	3250	1.03	34.716	4.81	27.837	27.4	1.697
3264B	1.017	34.715	4.82	2.24	119.	0.00	32.6	27.4	3500	0.85	34.711	4.91	27.844	26.8	1.780
3511B	0.838	34.710	4.91	2.29	122.	0.01	32.6	26.7	3750	0.62	34.698	5.00	27.848	26.4	1.859
3757B	0.610	34.697	5.00	2.29	126.	0.01	33.0	26.4	4000	0.44	34.689	5.10	27.851	26.1	1.933
4003B	0.441	34.688	5.10	2.31	129.	0.01	33.2	26.1	4250	0.34	34.683	5.14	27.853	25.9	2.003
4250B	0.336	34.683	5.14	2.34	131.	0.01	33.3	25.9	4500	0.27	34.680	5.19	27.853	25.9	2.070
4496B	0.274	34.679	5.19	2.38	131.	0.01	33.5	25.9	4750	0.24	34.678	5.18	27.853	25.9	2.137
4741B	0.243	34.677	5.18	2.39	132.	0.01	33.4	25.9	5000	0.24	34.677	5.25	27.853	25.9	2.203
4986B	0.238	34.676	5.25	2.38	133.	0.02	33.6	25.9							
5182B	0.235	34.674	5.23	2.31	132.	0.04	33.5	26.1							

RV MELVILLE INDOMED LEG XIII 8

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
47 16.9S	54 09.8W	11/15/78	1604 1917	GMT	5902M	340	17KT	1	340 4 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	10.79	34.547	6.55	0.60	0.	0.14	6.8	156.0	0	10.79	34.547	6.55	26.480	156.0	0.000
15	10.74	34.551	6.60	0.58	0.	0.15	6.7	154.9	10	10.77	34.550	6.59	26.486	155.5	0.016
30	10.60	34.561	6.62	0.59	0.	0.15	6.8	151.8	20	10.69	34.551	6.61	26.502	154.0	0.031
55	10.88	34.716	6.40	0.61	0.	0.17	6.6	145.1	30	10.60	34.561	6.62	26.525	151.8	0.046
70	10.75	34.732	6.33	0.68	0.	0.20	7.5	141.7	50	10.82	34.685	6.45	26.581	146.4	0.076
85	8.68	34.550	6.24	1.12	2.	0.13	15.2	122.2	75	10.14	34.679	6.29	26.697	135.4	0.112
101	7.06	34.354	6.43	1.34	4.	0.17	18.1	114.0	100	7.14	34.365	6.42	26.920	114.3	0.144
126	6.09	34.279	6.37	1.52	5.	0.11	20.9	107.3	125	6.11	34.280	6.37	26.992	107.5	0.172
151	5.24	34.239	6.20	1.69	8.	0.05	24.2	100.4	150	5.27	34.241	6.21	27.064	100.6	0.198
175	5.05	34.233	6.17	1.72	9.	0.03	24.8	98.8	200	4.69	34.207	6.31	27.104	96.9	0.249
211	4.52	34.193	6.38	1.75	10.	0.01	25.3	96.1	250	4.25	34.182	6.43	27.132	94.2	0.297
275	4.15	34.181	6.47	1.79	12.	0.01	25.8	93.3	300	4.06	34.186	6.40	27.154	92.1	0.345
370	3.77	34.191	6.20	1.90	16.	0.01	27.7	88.8	400	3.50	34.177	6.25	27.204	87.4	0.438
471	2.86	34.147	6.37	2.01	22.	0.01	28.8	84.0	500	2.72	34.151	6.32	27.254	82.7	0.526
589	2.52	34.183	5.99	2.17	29.	0.01	30.6	78.5	600	2.52	34.192	5.93	27.304	77.9	0.609
708	2.55	34.267	5.29	2.31	41.	0.01	32.9	72.4	700	2.55	34.262	5.34	27.358	72.8	0.688
826	2.63	34.351	4.80	2.41	51.	0.01	34.0	66.7	800	2.62	34.334	4.90	27.409	68.0	0.763
879A	2.60	34.387	4.56	2.40	56.	0.00	34.8	63.7	1000	2.48	34.441	4.33	27.506	58.7	0.899
976	2.50	34.425	4.39	2.47	62.	0.00	35.3	60.0	1200	2.62	34.582	4.14	27.607	49.2	1.020
1053A	2.47	34.479	4.21	2.46	68.	0.00	35.6	55.7	1500	2.60	34.667	4.28	27.693	41.1	1.180
1227A	2.65	34.597	4.13	2.38	68.	0.00	34.0	48.2	1750	2.50	34.741	4.41	27.744	36.1	1.300
1425A	2.62	34.666	4.24	2.26	71.	0.00	32.8	42.8	2000	2.49	34.792	4.73	27.786	32.2	1.413
1649A	2.542	34.720	4.36	2.16	73.	0.01	31.5	38.1	2250	2.30	34.799	4.84	27.808	30.2	1.520
1873A	2.46	34.765	4.51	2.02	72.	0.01	30.1	34.0	2500	1.80	34.747	4.96	27.806	30.3	1.623
2096A	2.51	34.808	4.88	1.91	66.	0.01	27.9	31.1	2750	1.55	34.740	4.61	27.819	29.2	1.722
2319A	2.17	34.788	4.82	2.00	77.	0.01	29.0	30.0	3000	1.35	34.736	4.67	27.830	28.0	1.816
2543A	1.72	34.738	4.51	2.17	99.	0.00	31.9	30.4	3250	1.14	34.722	4.75	27.834	27.7	1.906
2766A	1.54	34.739	4.62	2.20	105.	0.01	31.9	29.1	3500	0.94	34.717	4.83	27.843	26.8	1.992
2990A	1.357	34.736	4.67	2.18	108.	0.01	31.7	28.0	3750	0.76	34.708	4.86	27.847	26.4	2.074
3214A	1.169	34.723	4.73	2.21	114.	0.03	32.2	27.8	4000	0.57	34.692	5.00	27.846	26.6	2.151
3436A	0.99	34.717	4.84	2.27	120.	0.01	32.7	27.1	4250	0.41	34.683	5.07	27.848	26.4	2.225
3660A	0.826	34.716	4.81		123.	0.03	32.9	26.2	4500	0.32	34.678	5.12	27.849	26.3	2.295
3883A	0.667	34.695	4.95	2.28	125.	0.02	33.0	26.8	4750	0.27	34.680	5.17	27.854	25.8	2.363
4106A	0.489	34.688	5.04	2.30	128.	0.02	33.2	26.4	5000	0.25	34.672	5.19	27.848	26.4	2.431
4330A	0.378	34.68	5.08	2.31	130.	0.02	33.4	26.4	5250	0.25	34.672	5.18	27.848	26.3	2.498
4552A	0.308	34.677	5.13	2.36	131.	0.02	33.5	26.2	5500	0.26	34.673	5.20	27.848	26.3	2.566
4775A	0.269	34.68	5.17	2.36	131.	0.02	33.3	25.8	5750	0.28	34.671	5.21	27.846	26.6	2.634
4998A	0.251	34.671	5.19	2.35	130.	0.00	33.6	26.4							
5222A	0.249	34.671	5.18	2.32	131.	0.00	33.7	26.4							
5444A	0.258	34.673	5.19	2.30	131.	0.00	33.6	26.2							
5666A	0.274	34.670	5.22	2.33	132.	0.00	33.6	26.6							
5889A	0.294	34.671	5.19	2.31	131.	0.02	33.6	26.6							

RV MELVILLE — INDOMED LEG XIII — 10

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
46 18.0S	52 01.0W	11/16/78	0725 1145 GMT	6068M	340	12KT	1	340 5 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	10.81	34.758	6.38	0.62	0.	0.15	6.6	140.8	0	10.81	34.758	6.38	26.641	140.8	0.000
20	10.80	34.756	6.36	0.62	0.	0.16	6.6	140.8	10	10.81	34.757	6.37	26.641	140.8	0.014
31	10.78	34.753	6.34	0.68	0.	0.17	6.7	140.6	20	10.80	34.756	6.36	26.641	140.8	0.028
56	10.74	34.778	6.27	0.63	0.	0.18	6.8	138.1	30	10.78	34.753	6.34	26.642	140.6	0.042
71	10.33	34.743	6.14	0.77	1.	0.19	9.4	133.8	50	10.75	34.767	6.30	26.658	139.1	0.070
87	9.15	34.614	6.03	1.06	2.	0.05	14.1	124.5	75	10.00	34.702	6.11	26.739	131.5	0.105
102	9.46	34.736	5.87	1.08	3.	0.03	14.7	120.3	100	9.69	34.717	5.89	26.853	120.7	0.137
127	8.96	34.662	6.02	1.10	3.	0.03	15.1	118.1	125	9.03	34.676	6.00	26.879	118.1	0.167
153	8.24	34.551	6.01	1.22	3.	0.03	17.0	115.6	150	8.43	34.566	6.01	26.902	116.0	0.197
178	7.42	34.450	5.90	1.37	5.	0.03	20.0	111.7	200	7.22	34.454	5.80	26.979	108.7	0.255
214	7.14	34.462	5.76	1.44	6.	0.04	21.9	107.0	250	6.19	34.350	5.89	27.037	103.2	0.309
280	5.30	34.245	6.08	1.70	9.	0.02	25.4	100.6	300	4.99	34.220	6.17	27.080	99.1	0.362
377	4.279	34.182	6.43	1.77	11.	0.03	26.5	94.5	400	4.12	34.175	6.42	27.140	93.4	0.461
479	3.729	34.164	6.37	1.89	14.	0.02	28.5	90.5	500	3.67	34.168	6.33	27.180	89.7	0.557
601	3.464	34.189	6.08	1.98	20.	0.02	29.8	86.1	600	3.47	34.190	6.08	27.217	86.2	0.649
723	3.041	34.205	5.87	2.06	27.	0.02	31.3	81.2	700	3.12	34.202	5.91	27.260	82.1	0.738
844	2.924	34.242	5.48	2.18	33.	0.02	32.8	77.4	800	2.95	34.228	5.63	27.295	78.8	0.823
995	2.76	34.312	4.97	2.31	44.	0.02	34.8	70.7	1000	2.76	34.315	4.96	27.382	70.5	0.983
1081A	2.74	34.358	4.78	2.29	50.	0.00	33.6	67.0	1200	2.71	34.420	4.51	27.471	62.1	1.129
1263	2.688	34.452	4.38	2.41	61.	0.02	36.1	59.5	1500	2.83	34.604	4.27	27.605	49.4	1.321
1377A	2.53	34.497	4.18	2.43	72.	0.00	35.4	54.8	1750	2.60	34.657	4.18	27.669	43.4	1.462
1527A	2.90	34.624	4.30	2.25	62.	0.00	32.5	48.3	2000	2.57	34.715	4.36	27.718	38.7	1.593
1674A	2.622	34.633	4.16	2.31	74.	0.00	33.2	45.3	2250	2.59	34.777	4.65	27.765	34.1	1.715
1822A	2.58	34.676	4.23	2.20	75.	0.01	32.5	41.7	2500	2.89	34.783	4.71	27.788	32.1	1.832
1972A	2.54	34.701	4.30	2.22	77.	0.00	31.9	39.5	2750	2.16	34.782	4.74	27.806	30.3	1.943
2119A	2.69	34.770	4.61	2.03	67.	0.00	29.4	35.5	3000	1.93	34.779	4.81	27.822	28.7	2.050
2268A	2.57	34.777	4.66	2.03	70.	0.00	29.2	34.0	3250	1.54	34.745	4.62	27.823	28.7	2.152
2465A	2.43	34.784	4.72	2.02	73.	0.02	28.9	32.3	3500	1.25	34.720	4.70	27.825	28.6	2.248
2661A	2.22	34.780	4.69	2.05	80.	0.00	29.4	31.0	3750	1.02	34.712	4.79	27.833	27.7	2.340
2860A	2.08	34.785	4.81	2.01	82.	0.01	29.0	29.5	4000	0.80	34.702	4.87	27.840	27.2	2.425
3057A	1.86	34.776	4.81	2.06	91.	0.00	29.8	28.5	4250	0.59	34.689	5.01	27.842	26.9	2.506
3255A	1.536	34.743	4.62	2.21	106.	0.01	31.7	28.7	4500	0.46	34.685	5.10	27.846	26.5	2.581
3452A	1.30	34.722	4.68	2.26	114.	0.01	32.3	28.7	4750	0.45	34.678	5.15	27.847	26.4	2.653
3698A	1.065	34.713	4.78	2.26	119.	0.01	32.4	27.9	5000	0.29	34.673	5.18	27.847	26.5	2.723
3945A	0.858	34.705	4.84	2.36	123.	0.01	32.8	27.2	5250	0.28	34.673	5.17	27.848	26.4	2.792
4190A	0.633	34.690	4.98	2.34	127.	0.01	33.1	27.0	5500	0.28	34.673	5.19	27.847	26.4	2.860
4437A	0.494	34.686	5.09	2.49U	131.	0.01	33.2	26.5	5750	0.29	34.670	5.24	27.844	26.7	2.930
4683A	0.373	34.679	5.13	2.38	133.	0.02	33.4	26.4	6000	0.30	34.669	5.21	27.843	26.9	3.000
4930A	0.309	34.673	5.18	2.36	133.	0.00	33.4	26.5							
5175A	0.276	34.672	5.17	2.37	133.	0.01	33.5	26.4							
5421A	0.275	34.673	5.17	2.36	134.	0.01	33.4	26.3							
5715A	0.289	34.669	5.24	2.38	134.	0.00	33.6	26.7							
6009A	0.303	34.668	5.21					26.9							

RV MELVILLE — INDOMED LEG XIII — 11

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 33.9S	55 08.7W	11/17/78	1709 GMT	770M	300	12KT	2	340 3 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	6.15	34.103	7.31	1.21	3.	0.15	18.3	121.2	0	6.15	34.103	7.31	26.848	121.2	0.000
6	6.16	34.101	7.36	1.22	3.	0.15	18.5	121.5	10	6.11	34.103	7.37	26.852	120.8	0.012
31	5.68	34.111	7.40	1.61U	1.	0.13	18.9	115.0	20	5.93	34.106	7.38	26.877	118.4	0.024
57	5.41	34.109	7.36	1.35	4.	0.11	19.1	112.1	30	5.71	34.111	7.40	26.909	115.4	0.036
77	5.29	34.103	7.34	1.33	4.	0.11	19.0	111.2	50	5.46	34.112	7.37	26.938	112.6	0.059
98	4.70	34.124	7.14	1.59	7.	0.12	21.6	103.2	75	5.31	34.106	7.34	26.952	111.3	0.087
123	4.37	34.138	7.00	1.63	9.	0.11	23.3	98.7	100	4.66	34.126	7.12	27.043	102.7	0.114
154	4.14	34.150	7.11	1.67	10.	0.25	23.5	95.5	125	4.35	34.140	7.00	27.088	98.4	0.139
194	4.02	34.160	7.03	1.68	10.	0.08	24.3	93.6	150	4.16	34.150	7.09	27.115	95.8	0.164
235	3.93	34.157	7.04	1.67	10.	0.03	24.3	92.9	200	4.01	34.161	7.03	27.141	93.4	0.212
286	3.82	34.158	7.01	1.67	11.	0.01	24.8	91.8	250	3.90	34.158	7.03	27.149	92.6	0.259
347	3.68	34.151	7.07	1.73	11.	0.01	25.1	91.0	300	3.79	34.157	7.03	27.160	91.6	0.307
418	3.61	34.156	6.79	1.78	14.	0.00	26.2	89.9	400	3.63	34.155	6.87	27.174	90.2	0.400
499	3.37	34.152	6.65	1.84	17.	0.00	27.2	88.0	500	3.37	34.153	6.65	27.198	88.0	0.493
591	3.20	34.172	6.29	1.95	22.	0.00	28.9	85.0	600	3.18	34.177	6.25	27.234	84.6	0.583
641	3.10	34.192	6.04	2.03	27.	0.00	30.0	82.6	700	2.98	34.224	5.77	27.290	79.3	0.669
692	2.99	34.220	5.80	2.12	32.	0.00	31.1	79.6							
743	2.94	34.232	5.64	2.14	34.	0.00	31.7	78.2							

10 — INDOMED LEG XIII CTD — 11

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
46 15.5S	52 43.0W	11/16/78	1058 GMT

Z	T	S	SIGMA T	DT	DD
0	10.830	34.752	26.633	141.5	0.000
10	10.812	34.755	26.638	141.0	0.014
20	10.806	34.754	26.638	141.0	0.028
30	10.781	34.750	26.640	140.9	0.042
40	10.732	34.752	26.650	139.9	0.057
50	10.735	34.764	26.659	139.1	0.071
75	10.619	34.764	26.679	137.1	0.105
100	9.066	34.619	26.830	122.9	0.138
125	9.162	34.689	26.869	119.1	0.169
150	8.387	34.566	26.895	116.6	0.199
175	7.644	34.464	26.927	113.7	0.229
200	7.342	34.479	26.982	108.4	0.257
225	6.823	34.428	27.014	105.4	0.285
250	6.072	34.331	27.037	103.2	0.312
275	5.255	34.240	27.066	100.5	0.338
300	5.008	34.233	27.089	98.3	0.364
350	4.369	34.187	27.124	95.0	0.414
400	4.313	34.203	27.142	93.2	0.463
450	3.823	34.168	27.161	91.4	0.511
500	3.656	34.171	27.185	89.2	0.558
550	3.453	34.169	27.203	87.5	0.604
600	3.450	34.188	27.218	86.1	0.650
650	3.262	34.191	27.238	84.1	0.695
700	3.175	34.203	27.256	82.5	0.739
750	2.968	34.210	27.280	80.1	0.782
800	2.990	34.233	27.297	78.6	0.824
850	2.886	34.251	27.320	76.4	0.865
900	2.893	34.279	27.342	74.3	0.905
950	2.791	34.290	27.360	72.6	0.945
1000	2.777	34.317	27.383	70.5	0.984
1100	2.682	34.348	27.416	67.3	1.059
1200	2.718	34.413	27.464	62.7	1.131
1275	2.673	34.450	27.498	59.5	1.182

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 33.9S	55 48.7W	11/17/78	1633 GMT

Z	T	S	SIGMA T	DT	DD
0	6.251	34.094	26.827	123.1	0.000
10	6.036	34.100	26.860	120.0	0.012
20	5.673	34.109	26.912	115.1	0.024
30	5.618	34.108	26.918	114.5	0.035
40	5.460	34.107	26.936	112.8	0.047
50	5.418	34.110	26.944	112.1	0.058
75	5.163	34.109	26.973	109.3	0.086
100	4.523	34.131	27.063	100.8	0.113
125	4.160	34.151	27.117	95.6	0.137
150	4.084	34.156	27.129	94.5	0.161
175	4.025	34.157	27.136	93.8	0.185
200	3.960	34.156	27.142	93.3	0.209
225	3.900	34.157	27.149	92.6	0.233
250	3.863	34.158	27.153	92.2	0.256
275	3.832	34.159	27.157	91.8	0.280
300	3.769	34.156	27.161	91.4	0.303
350	3.665	34.151	27.168	90.8	0.350
400	3.626	34.157	27.176	90.0	0.397
450	3.470	34.150	27.186	89.1	0.443
500	3.354	34.151	27.196	88.0	0.490
550	3.319	34.164	27.211	86.7	0.535
600	3.188	34.175	27.232	84.7	0.580
650	3.088	34.199	27.261	82.0	0.624
700	2.975	34.225	27.292	79.1	0.666
750	2.946	34.232	27.300	78.3	0.708
775	2.919	34.238	27.307	77.6	0.729

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 26.1S	50 02.3W	11/19/78	2012 0001 GMT	4028M	090	11KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	7.58	34.045	7.28	1.07	2.	0.16	14.5	144.0
51	5.07	34.072	7.38	1.46	6.	0.13	20.7	111.0
102	4.29	34.093	7.13	1.58	9.	0.20	22.7	101.3
137	3.74	34.111	6.99	1.72	12.	0.02	24.6	94.6
172	3.56	34.131	6.93	1.75	13.	0.00	25.3	91.4
213	3.29	34.130	6.89	1.78	15.	0.00	26.1	89.0
253	2.86	34.100	7.05	1.77	16.	0.02	26.2	87.5
294	2.43	34.072	7.12	1.79	17.	0.00	26.5	86.2
315	2.22	34.056	6.81	1.82	17.	0.00	26.6	85.8
376	2.37	34.106	6.66	1.95	23.	0.00	28.4	83.1
452	2.43	34.154	6.12	1.97	28.	0.00	30.0	80.0
508	2.33	34.178	6.01	2.12	32.	0.01	30.6	77.4
583	2.268	34.235	5.57	2.19	40.	0.00	32.4	72.6
660	2.453	34.312	5.01	2.29	50.	0.00	34.1	68.2
761	2.540	34.376	4.60	2.33	59.	0.00	34.8	64.1
863	2.485	34.444	4.33	2.47	66.	0.00	35.3	58.5
965	2.394	34.493	4.15	2.37	72.	0.00	35.4	54.0
1092	2.340	34.555	4.01	2.42	79.	0.00	35.3	48.9
1220	2.257	34.594	3.82	2.40	83.	0.01	34.9	45.3
1347	2.201	34.626	4.00	2.38	87.	0.01	34.6	42.5
1474	2.135	34.652	4.05	2.36	88.	0.00	34.7	40.0
1569A	2.08	34.676	4.04	2.33	93.	0.00	33.8	37.8
1678	2.021	34.690	3.73U	2.24	94.	0.00	34.0	36.2
1773A	1.99	34.694	4.11	2.31	97.	0.00	33.4	35.7
1875A	1.91	34.705	4.14	2.26	99.	0.00	33.1	34.3
1977A	1.79	34.711	4.24	2.23	101.	0.00	33.1	32.9
2079A	1.74	34.715	4.32	2.11	102.	0.00	32.9	32.3
2182A	1.70	34.716	4.39	2.03	104.	0.00	32.8	31.9
2283A	1.49	34.719	4.48	2.13	109.	0.00	33.0	30.2
2385A	1.40	34.719	4.52	2.12	112.	0.00	32.4	29.6
2487A	1.32	34.721	4.57	2.25	114.	0.00	32.7	28.9
2589A	1.26	34.717	4.63	2.24	116.	0.00	32.9	28.8
2691A	1.25	34.716	4.61	2.20	117.	0.00	32.6	28.8
2792A	1.17	34.714	4.68	2.10	119.	0.00	32.6	28.5
2894A	1.062	34.712	4.65	2.18	124.	0.00	32.8	27.9
2996A	1.009	34.709	4.76	2.26	125.	0.00	32.8	27.8
3098A	1.000	34.715	4.78	2.21	124.	0.00	32.9	27.3
3200A	0.979	34.707	4.80	2.33	125.	0.00	32.8	27.8
3301A	0.920	34.705	4.81	2.33	127.	0.00	32.8	27.6
3402A	0.91	34.704	4.83	2.32	123.	0.00	32.8	27.6
3504A	0.892	34.703	4.85	2.28	124.	0.00	32.9	27.6
3605A	0.818	34.699	4.90	2.22	125.	0.00	32.8	27.4
3707A	0.655	34.692	4.94	2.29	127.	0.00	32.9	27.0
3807A	0.563	34.688	5.02	2.28	128.	0.00	33.1	26.8
3908A	0.505	34.686	5.09	2.30	129.	0.00	32.9	26.6
4010A	0.496	34.683	5.02	2.29	129.	0.00	33.3	26.8

Z	T	S	O2	SIGT	DT	DD
0	7.58	34.045	7.28	26.607	144.0	0.000
10	6.95	34.045	7.30	26.695	135.7	0.014
20	6.39	34.048	7.32	26.773	128.3	0.027
30	5.89	34.055	7.34	26.841	121.8	0.040
50	5.10	34.072	7.38	26.950	111.5	0.063
75	4.60	34.086	7.28	27.018	105.0	0.090
100	4.30	34.094	7.14	27.056	101.4	0.116
125	3.91	34.105	7.03	27.106	96.7	0.141
150	3.65	34.121	6.96	27.144	93.1	0.165
200	3.39	34.134	6.90	27.181	89.6	0.212
250	2.89	34.104	7.04	27.202	87.6	0.257
300	2.86	34.067	7.04	27.218	86.1	0.301
400	2.89	34.122	6.49	27.260	82.1	0.387
500	2.85	34.176	6.02	27.306	77.8	0.469
600	2.80	34.253	5.44	27.371	71.5	0.546
700	2.51	34.341	4.82	27.424	66.5	0.619
800	2.53	34.404	4.48	27.473	61.9	0.687
1000	2.38	34.512	4.11	27.572	52.5	0.811
1200	2.27	34.590	3.84	27.648	45.8	0.921
1500	2.12	34.659	4.05	27.711	39.3	1.069
1750	2.00	34.694	4.10	27.748	35.8	1.182
2000	1.78	34.713	4.26	27.781	32.8	1.288
2250	1.56	34.719	4.45	27.801	30.8	1.387
2500	1.31	34.721	4.58	27.821	28.9	1.480
2750	1.21	34.713	4.65	27.822	28.7	1.570
3000	1.01	34.710	4.76	27.833	27.8	1.657
3250	0.95	34.707	4.80	27.835	27.7	1.742
3500	0.89	34.704	4.85	27.835	27.6	1.826
3750	0.61	34.690	4.97	27.842	26.9	1.907
4000	0.50	34.683	5.03	27.843	26.8	1.982

INDOMED LEG XIII CTD

12 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 25.9S	50 31.5W	11/19/78	2300 GMT

Z	T	S	SIGMA T	DT	DD
0	7.564	34.047	26.611	143.6	0.000
10	7.574	34.046	26.609	143.8	0.014
20	6.781	34.044	26.718	133.5	0.028
30	5.831	34.080	26.870	119.1	0.041
40	5.237	34.062	26.927	113.6	0.053
50	5.092	34.076	26.955	111.0	0.064
75	4.684	34.086	27.009	105.9	0.091
100	4.115	34.090	27.074	99.8	0.117
125	3.849	34.108	27.115	95.8	0.142
150	3.616	34.122	27.150	92.6	0.166
175	3.547	34.134	27.166	91.0	0.189
200	3.428	34.129	27.173	90.3	0.212
225	3.348	34.133	27.184	89.3	0.235
250	3.109	34.119	27.195	88.2	0.257
275	2.901	34.112	27.208	87.0	0.280
300	2.487	34.080	27.219	86.0	0.302
350	2.180	34.071	27.237	84.3	0.345
400	2.513	34.138	27.263	81.8	0.387
450	2.422	34.161	27.289	79.4	0.429
500	2.343	34.177	27.308	77.5	0.469
550	2.245	34.206	27.339	74.6	0.509
600	2.301	34.258	27.376	71.1	0.546
650	2.406	34.301	27.402	68.7	0.583
700	2.486	34.329	27.417	67.2	0.619
750	2.533	34.378	27.452	63.8	0.653
800	2.538	34.413	27.480	61.2	0.687
850	2.499	34.441	27.506	58.8	0.719
900	2.449	34.469	27.532	56.3	0.750
950	2.404	34.490	27.553	54.3	0.780
1000	2.380	34.510	27.571	52.6	0.810
1100	2.342	34.563	27.616	48.3	0.866
1200	2.276	34.590	27.643	45.8	0.919
1300	2.233	34.614	27.666	43.6	0.970
1400	2.180	34.640	27.691	41.2	1.019
1500	2.134	34.659	27.710	39.4	1.067
1600	2.073	34.682	27.733	37.2	1.112
1684	2.013	34.695	27.748	35.8	1.149

12 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 26.0S	50 32.3W	11/19/78	1855 GMT

Z	T	S	SIGMA T	DT	DD
0	7.642	34.044	26.598	144.9	0.000
10	7.190	34.049	26.666	138.4	0.014
20	6.171	34.061	26.812	124.6	0.027
30	5.213	34.072	26.938	112.6	0.039
40	4.960	34.068	26.964	110.1	0.050
50	4.798	34.084	26.995	107.2	0.061
75	4.445	34.092	27.040	102.9	0.088
100	4.056	34.091	27.081	99.1	0.113
125	3.743	34.105	27.124	95.0	0.138
150	3.631	34.126	27.151	92.4	0.161
175	3.499	34.127	27.165	91.1	0.185
200	3.325	34.123	27.178	89.8	0.208
225	3.236	34.126	27.189	88.8	0.230
250	3.017	34.120	27.204	87.4	0.253
275	2.621	34.087	27.213	86.6	0.275
300	2.270	34.060	27.221	85.8	0.297
350	2.095	34.061	27.235	84.4	0.340
400	2.382	34.111	27.252	82.8	0.383
450	2.513	34.167	27.286	79.6	0.424
500	2.362	34.183	27.311	77.2	0.465
550	2.253	34.217	27.347	73.8	0.504
600	2.331	34.254	27.370	71.6	0.542
650	2.444	34.299	27.397	69.1	0.578
700	2.446	34.337	27.427	66.2	0.614
750	2.468	34.382	27.461	63.0	0.648
800	2.488	34.416	27.487	60.6	0.681
850	2.516	34.443	27.506	58.8	0.713
900	2.428	34.464	27.530	56.5	0.745
950	2.385	34.494	27.557	53.9	0.775
1000	2.376	34.515	27.575	52.2	0.804
1100	2.341	34.552	27.607	49.1	0.860
1200	2.275	34.594	27.646	45.5	0.913
1300	2.223	34.619	27.671	43.2	0.964
1400	2.160	34.643	27.695	40.9	1.013
1500	2.116	34.668	27.718	38.6	1.060
1600	2.088	34.677	27.728	37.7	1.105
1700	2.025	34.691	27.744	36.2	1.150
1800	1.958	34.699	27.756	35.1	1.193
1900	1.899	34.706	27.766	34.1	1.236
2000	1.783	34.713	27.781	32.7	1.278
2100	1.755	34.716	27.785	32.3	1.318
2200	1.691	34.717	27.791	31.8	1.359
2300	1.499	34.720	27.807	30.2	1.398
2400	1.389	34.720	27.815	29.5	1.435
2500	1.347	34.718	27.817	29.3	1.472
2600	1.292	34.717	27.820	29.1	1.508
2700	1.268	34.717	27.821	28.9	1.544
2800	1.214	34.717	27.825	28.5	1.580
2900	1.001	34.710	27.834	27.7	1.615
3000	1.002	34.710	27.834	27.7	1.649
3100	0.994	34.708	27.833	27.8	1.683
3200	0.958	34.706	27.833	27.8	1.717
3300	0.966	34.707	27.834	27.7	1.751
3400	0.913	34.703	27.834	27.7	1.785
3500	0.897	34.702	27.834	27.7	1.818
3600	0.851	34.701	27.836	27.5	1.852
3700	0.689	34.692	27.839	27.2	1.885
3800	0.593	34.689	27.843	26.9	1.916
3900	0.533	34.686	27.844	26.8	1.946
4000	0.480	34.683	27.845	26.7	1.976
4021	0.480	34.684	27.845	26.6	1.982

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
46 28.0S	41 08.8W	11/21/78	1429 1840 GMT	5673M	100	25KT	6	49

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	9.77	34.536	6.71	0.80	4.	0.11	9.2	140.0	0	9.77	34.536	6.71	26.649	140.0	0.000
42	9.10	34.575	6.68	0.85	4.	0.12	9.6	126.6	10	9.63	34.549	6.70	26.682	136.9	0.014
67	8.65	34.577	6.48	0.91	4.	0.17	11.4	119.7	20	9.47	34.560	6.70	26.717	133.5	0.027
93	8.03	34.488	6.45	1.10	5.	0.15	13.8	117.3	30	9.30	34.570	6.69	26.751	130.3	0.041
123	7.39	34.418	6.35	1.15	6.	0.04	16.3	113.6	50	8.97	34.583	6.61	26.816	124.1	0.066
154	7.21	34.441	6.00	1.40	8.	0.07	18.6	109.5	75	8.46	34.553	6.47	26.873	118.7	0.097
184	6.48	34.360	5.94	1.52	9.	0.05	21.6	106.1	100	7.86	34.467	6.44	26.897	116.5	0.127
215	5.81	34.302	5.91	1.63	11.	0.21	22.7	102.2	125	7.38	34.421	6.33	26.930	113.4	0.156
245	5.25	34.263	5.94	1.63	12.	0.02	24.8	98.7	150	7.24	34.439	6.04	26.965	110.0	0.184
276	4.88	34.235	6.02	1.58	12.	0.04	25.4	96.8	200	6.12	34.328	5.92	27.028	104.1	0.239
316	4.57	34.210	6.27					95.3	250	5.18	34.259	5.95	27.089	98.3	0.291
355	4.12	34.183	6.36	1.65	15.	0.04	26.4	92.8	300	4.69	34.221	6.17	27.114	95.9	0.341
406	3.86	34.175	6.40					90.9	400	3.88	34.176	6.40	27.165	91.0	0.438
457	3.66	34.168	6.44					89.5	500	3.50	34.166	6.38	27.196	88.2	0.531
533	3.38	34.166	6.30	1.93	19.	0.07	27.7	87.1	600	3.20	34.176	6.16	27.232	84.8	0.622
608	3.18	34.177	6.14	2.03	23.	0.01	29.0	84.5	700	2.92	34.199	5.87	27.275	80.7	0.709
709	2.90	34.200	5.84	2.08	28.	0.01	30.2	80.3	800	2.76	34.232	5.57	27.316	76.8	0.792
809	2.75	34.235	5.54	1.98	35.	0.02	31.4	76.4	1000	2.72	34.358	4.72	27.419	67.0	0.946
910	2.76	34.295	5.12	2.25	42.	0.00	32.1	72.0	1200	2.71	34.484	4.26	27.521	57.4	1.084
1011	2.72	34.365	4.68	2.37	51.	0.01	33.4	66.4	1500	2.61	34.602	4.11	27.624	47.6	1.266
1113	2.73	34.424	4.44	2.38	56.	0.01	33.6	62.0	1750	2.64	34.693	4.24	27.694	40.9	1.400
1211A	2.71	34.490	4.24	2.31	65.	0.01	33.8	56.8	2000	2.65	34.757	4.37	27.745	36.1	1.525
1316	2.66	34.531	4.18	2.36	68.	0.01	34.0	53.3	2250	2.57	34.787	4.72	27.775	33.2	1.644
1414A	2.61	34.569	4.09	2.35	71.	0.00	33.4	50.0	2500	2.44	34.810	4.88	27.805	30.4	1.758
1516A	2.61	34.607	4.11	2.05	74.	0.01	33.0	47.2	2750	2.22	34.805	4.94	27.819	29.1	1.867
1619A	2.63	34.643	4.11	2.23	73.	0.01	32.4	44.6	3000	1.91	34.787	4.89	27.830	28.1	1.972
1746A	2.64	34.692	4.24	2.18	73.	0.01	30.6	41.0	3250	1.54	34.747	4.73	27.826	28.5	2.072
1873A	2.62	34.722	4.36	2.10	72.	0.00	30.6	38.6	3500	1.26	34.730	4.79	27.832	27.9	2.168
2001A	2.65	34.758	4.57	1.78	69.	0.00	29.3	36.1	3750	1.01	34.715	4.81	27.837	27.4	2.258
2129A	2.612	34.775	4.65	1.89	69.	0.00	28.8	34.5	4000	0.73	34.700	4.93	27.842	26.9	2.342
2282A	2.560	34.790	4.74	1.95	69.	0.01	28.1	32.9	4250	0.49	34.688	5.13	27.848	26.4	2.419
2435A	2.495	34.809	4.89	1.88	68.	0.00	27.5	30.9	4500	0.34	34.680	5.10	27.850	26.2	2.491
2614A	2.334	34.808	4.87	1.85	73.	0.00	27.5	29.7	4750	0.28	34.675	5.14	27.849	26.2	2.559
2793A	2.186	34.804	4.96	1.83	76.	0.00	27.4	28.9	5000	0.25	34.673	5.18	27.849	26.3	2.627
2998A	1.909	34.787	4.89	1.96	86.	0.00	28.8	28.1	5250	0.25	34.671	5.21	27.848	26.4	2.694
3203A	1.598	34.751	4.75	2.13	101.	0.03	29.9	28.6	5500	0.25	34.669	5.16	27.846	26.5	2.762
3406A	1.349	34.734	4.78	2.18	110.	0.12	30.8	28.1							
3611A	1.157	34.724	4.80	2.29	116.	0.02	31.4	27.6							
3814A	0.933	34.710	4.82	2.25	121.	0.04	30.9	27.3							
4018A	0.716	34.698	4.94	2.31	126.	0.02	32.1	26.9							
4273A	0.471	34.687	5.14	2.33	131.	0.03	32.3	26.3							
4526A	0.329	34.679	5.09	2.37	133.	0.05	31.8	26.2							
4779A	0.275	34.674	5.15	2.35	133.	0.01	32.3	26.3							
5031A	0.247	34.672	5.18	2.31	133.	0.00	32.1	26.3							
5283A	0.245	34.670	5.21	2.37	133.	0.05	32.3	26.4							
5485A	0.254	34.669	5.16	2.35	133.	0.01	32.9	26.5							

INDOMED LEG XIII CTD

13 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
46 28.0S	41 57.6W	11/21/78	1752 GMT

Z	T	S	SIGMA T	DT	DD
0	9.632	34.548	26.681	136.9	0.000
10	9.421	34.565	26.730	132.4	0.013
20	9.245	34.561	26.755	129.9	0.027
30	9.055	34.553	26.780	127.6	0.040
40	9.040	34.572	26.797	125.9	0.052
50	8.876	34.578	26.828	123.0	0.065
75	8.475	34.562	26.878	118.2	0.095
100	8.170	34.537	26.906	115.7	0.125
125	7.488	34.455	26.942	112.2	0.154
150	7.184	34.427	26.963	110.2	0.182
175	6.643	34.374	26.996	107.1	0.210
200	6.166	34.342	27.034	103.5	0.237
225	5.569	34.291	27.068	100.2	0.263
250	5.253	34.272	27.091	98.1	0.289
275	4.971	34.251	27.108	96.5	0.314
300	4.699	34.231	27.122	95.1	0.339
350	4.183	34.194	27.149	92.6	0.387
400	3.891	34.183	27.171	90.6	0.435
450	3.671	34.176	27.187	89.0	0.481
500	3.515	34.175	27.201	87.6	0.527
550	3.301	34.173	27.220	85.9	0.573
600	3.161	34.181	27.240	84.0	0.617
650	3.059	34.199	27.263	81.8	0.661
700	2.928	34.200	27.276	80.6	0.703
750	2.887	34.215	27.292	79.1	0.745
800	2.861	34.244	27.317	76.7	0.787
850	2.793	34.268	27.342	74.3	0.827
900	2.775	34.294	27.365	72.2	0.866
950	2.764	34.321	27.387	70.0	0.905
1000	2.731	34.350	27.413	67.6	0.942
1100	2.733	34.410	27.461	63.1	1.013
1200	2.683	34.469	27.512	58.2	1.081
1300	2.678	34.524	27.556	54.0	1.145
1325	2.682	34.540	27.569	52.8	1.160

13 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
46 28.8S	41 59.3W	11/21/78	1233 GMT

Z	T	S	SIGMA T	DT	DD
0	9.573	34.547	26.690	136.1	0.000
10	9.269	34.550	26.743	131.1	0.013
20	9.236	34.567	26.761	129.3	0.026
30	9.167	34.572	26.777	127.9	0.039
40	8.939	34.565	26.808	124.9	0.052
50	8.739	34.568	26.842	121.7	0.064
75	8.582	34.565	26.864	119.6	0.095
100	8.219	34.533	26.895	116.7	0.125
125	7.577	34.437	26.915	114.8	0.154
150	7.373	34.447	26.952	111.2	0.183
175	6.570	34.360	26.995	107.2	0.211
200	6.089	34.326	27.031	103.8	0.238
225	5.551	34.280	27.062	100.9	0.264
250	5.325	34.267	27.079	99.3	0.290
275	5.042	34.249	27.098	97.5	0.315
300	4.666	34.221	27.118	95.5	0.340
350	4.197	34.190	27.144	93.0	0.389
400	3.940	34.179	27.162	91.4	0.437
450	3.705	34.171	27.180	89.7	0.484
500	3.459	34.169	27.202	87.6	0.530
550	3.248	34.171	27.224	85.5	0.575
600	3.137	34.184	27.244	83.6	0.620
650	2.985	34.194	27.266	81.5	0.663
700	2.896	34.208	27.285	79.7	0.705
750	2.837	34.229	27.307	77.6	0.747
800	2.806	34.255	27.331	75.4	0.787
850	2.789	34.279	27.351	73.4	0.827
900	2.776	34.308	27.376	71.1	0.866
950	2.752	34.341	27.404	68.4	0.903
1000	2.737	34.370	27.428	66.1	0.940
1100	2.734	34.429	27.476	61.6	1.010
1200	2.698	34.480	27.520	57.3	1.077
1300	2.672	34.525	27.558	53.9	1.140
1400	2.632	34.570	27.597	50.1	1.200
1500	2.621	34.608	27.628	47.2	1.257
1600	2.631	34.642	27.655	44.7	1.312
1700	2.655	34.683	27.685	41.8	1.366
1800	2.638	34.705	27.704	40.0	1.417
1900	2.658	34.734	27.726	38.0	1.467
2000	2.664	34.758	27.744	36.2	1.516
2100	2.654	34.772	27.756	35.0	1.565
2200	2.612	34.780	27.766	34.1	1.612
2300	2.564	34.790	27.778	32.9	1.659
2400	2.538	34.803	27.791	31.8	1.705
2500	2.467	34.810	27.803	30.6	1.751
2600	2.352	34.802	27.806	30.3	1.795
2700	2.286	34.807	27.816	29.4	1.839
2800	2.192	34.801	27.819	29.1	1.883
2900	2.061	34.793	27.823	28.7	1.925
3000	1.901	34.780	27.825	28.5	1.967
3100	1.739	34.764	27.825	28.6	2.008
3200	1.605	34.751	27.824	28.6	2.048
3300	1.468	34.741	27.826	28.4	2.087
3400	1.377	34.735	27.828	28.3	2.126
3500	1.274	34.729	27.831	28.0	2.164
3600	1.170	34.723	27.833	27.8	2.201
3700	1.075	34.718	27.835	27.6	2.237
3800	0.956	34.710	27.837	27.4	2.272
3900	0.862	34.704	27.838	27.3	2.306
4000	0.755	34.698	27.840	27.1	2.339
4100	0.635	34.692	27.842	26.9	2.371
4200	0.536	34.687	27.845	26.7	2.402
4300	0.465	34.683	27.846	26.6	2.432
4400	0.387	34.679	27.847	26.5	2.461
4500	0.346	34.676	27.847	26.5	2.489
4600	0.317	34.675	27.848	26.4	2.517
4700	0.293	34.672	27.847	26.5	2.545
4800	0.275	34.670	27.846	26.6	2.572
4900	0.259	34.669	27.846	26.6	2.600
5000	0.250	34.667	27.845	26.7	2.627
5100	0.248	34.666	27.844	26.7	2.654
5200	0.245	34.666	27.844	26.7	2.682
5300	0.247	34.664	27.843	26.9	2.709
5400	0.249	34.663	27.842	27.0	2.736
5500	0.250	34.662	27.841	27.0	2.764

RV MELVILLE — INDOMED LEG XIII — 14

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
47 14.7S	41 00.4W	11/22/78	0300 0707 GMT	5964M	190	18KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	9.38	34.530	6.72	0.73	3.	0.16	8.4	134.3	0	9.38	34.530	6.72	26.709	134.3	0.000
42	9.31	34.568	6.55	0.84	3.	0.19	9.5	130.4	10	9.37	34.531	6.68	26.712	134.0	0.013
72	9.25	34.654	6.45	0.87	4.	0.28	10.2	128.1	20	9.35	34.537	6.64	26.719	133.4	0.027
103	9.13	34.637	6.36	0.88	5.	0.29	10.7	122.5	30	9.33	34.548	6.60	26.730	132.3	0.040
133	9.05	34.633	6.49	0.89	4.	0.21	10.4	121.6	50	9.30	34.595	6.52	26.772	128.3	0.066
174	8.91	34.638	6.25	0.96	5.	0.24	13.0	119.1	75	9.24	34.653	6.44	26.828	123.0	0.098
215	7.62	34.492	5.99	1.33	7.	0.03	19.1	111.3	100	9.14	34.640	6.36	26.833	122.6	0.129
256	6.34	34.353	5.89	1.56	10.	0.02	22.9	104.9	125	9.07	34.634	6.46	26.840	121.9	0.160
306	5.37	34.269	5.95	1.70	12.	0.01	25.3	99.6	150	8.99	34.631	6.42	26.850	121.0	0.191
357	4.62	34.212	6.22	1.78	14.	0.01	26.1	95.7	200	8.16	34.553	6.08	26.919	114.3	0.251
408	4.29	34.196	6.37	1.78	15.	0.01	26.4	93.5	250	6.51	34.372	5.90	27.011	105.7	0.308
459	4.06	34.186	6.41	1.84	15.	0.00	26.6	92.0	300	5.46	34.277	5.94	27.070	100.1	0.362
510	3.862	34.184	6.31	1.87	16.	0.00	27.3	90.2	400	4.32	34.198	6.35	27.136	93.8	0.462
562	3.676	34.183	6.29	1.90	19.	0.00	28.1	88.5	500	3.90	34.185	6.33	27.170	90.6	0.559
637	3.305	34.170	6.28	1.94	22.	0.01	28.7	86.1	600	3.49	34.177	6.28	27.205	87.3	0.652
714	3.066	34.181	6.10	2.01	26.	0.00	29.3	83.2	700	3.10	34.178	6.14	27.242	83.8	0.742
815	2.825	34.225	5.81	2.05	31.	0.02	30.3	77.8	800	2.85	34.218	5.86	27.297	78.6	0.828
943	2.753	34.279	5.21	2.24	43.	0.00	32.9	73.1	1000	2.73	34.312	4.98	27.382	70.5	0.988
1069	2.721	34.354	4.74	2.35	52.	0.00	34.1	67.2	1200	2.72	34.438	4.42	27.484	60.8	1.132
1176A	2.72	34.424	4.46	2.43	59.	0.00	34.1	61.9	1500	2.69	34.582	4.19	27.600	49.8	1.325
1373	2.690	34.524	4.23	2.38	66.	0.00	34.4	54.1	1750	2.63	34.664	4.19	27.672	43.0	1.463
1476A	2.69	34.570	4.20	2.35	68.	0.00	33.5	50.6	2000	2.61	34.724	4.44	27.721	38.4	1.593
1625A	2.71	34.633	4.18	2.29	69.	0.00	32.8	46.0	2250	2.59	34.782	4.74	27.770	33.7	1.715
1774A	2.61	34.669	4.19	2.20	72.	0.00	32.4	42.5	2500	2.57	34.818	5.01	27.800	30.9	1.831
1923A	2.66	34.711	4.41	2.14	70.	0.00	31.1	39.7	2750	2.43	34.810	5.00	27.814	29.5	1.944
2074A	2.56	34.735	4.46	2.13	72.	0.00	30.8	37.1	3000	2.05	34.788	4.88	27.819	29.1	2.053
2223A	2.56	34.772	4.67	2.16	69.	0.00	29.2	34.3	3250	1.68	34.753	4.76	27.820	29.0	2.157
2397A	2.69	34.825	5.05	1.87	58.	0.00	26.6	31.4	3500	1.44	34.741	4.82	27.827	28.3	2.258
2573A	2.46	34.807	4.95	1.92	67.	0.00	27.6	30.8	3750	1.19	34.724	4.86	27.831	27.9	2.353
2771A	2.32	34.811	5.01	1.87	69.	0.00	27.5	29.4	4000	0.96	34.710	4.88	27.836	27.5	2.443
2971A	2.10	34.793	4.89	1.91	77.	0.01	28.4	29.0	4250	0.71	34.695	4.96	27.839	27.2	2.527
3169A	1.788	34.760	4.80	2.11	92.	0.01	30.1	29.2	4500	0.52	34.684	5.06	27.842	26.9	2.606
3368A	1.554	34.745	4.74	2.14	101.	0.01	31.0	28.7	4750	0.39	34.680	5.12	27.847	26.5	2.680
3567A	1.388	34.737	4.86	2.16	105.	0.00	31.0	28.2	5000	0.32	34.674	5.18	27.846	26.6	2.751
3766A	1.177	34.722	4.86	2.19	111.	0.01	31.6	27.9	5250	0.28	34.670	5.21	27.845	26.7	2.821
3965A	0.992	34.712	4.87	2.23	116.	0.01	32.0	27.5	5500	0.28	34.671	5.22	27.846	26.5	2.890
4214A	0.744	34.696	4.94	2.26	121.	0.01	32.4	27.2	5750	0.28	34.667	5.24	27.842	26.9	2.959
4463A	0.544	34.684	5.05	2.30	124.	0.01	32.9	27.0							
4710A	0.409	34.681	5.11	2.32	127.	0.00	32.9	26.5							
4959A	0.329	34.674	5.26U	2.32	128.	0.00	32.8	26.5							
5206A	0.288	34.669	5.21	2.32	129.	0.00	32.9	26.7							
5453A	0.274	34.671	5.21	2.33	130.	0.00	32.8	26.5							
5700A	0.282	34.667	5.26	2.35	130.	0.00	33.0	26.8							
5946A	0.291	34.663	5.15	2.34	130.	0.02	33.0	27.2							

RV MELVILLE — INDOMED LEG XIII — 16

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
47 57.4S	41 06.3W	11/22/78	1415 1741 GMT	5993M	220	16KT	1	220 3 4

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	7.96	34.218	7.01	1.02	1.	0.17	12.1	136.4	0	7.96	34.22	7.01	26.687	136.4	0.000
42	9.12	34.551	6.65	0.82	2.	0.17	9.1	128.7	10	8.86	34.32	6.92	26.709	134.3	0.014
72	8.92	34.547	6.49	0.91	2.	0.21	10.3	126.0	20	8.70	34.42	6.82	26.731	132.3	0.027
103	7.30	34.309	6.69	1.17	3.	0.17	14.3	120.5	30	8.95	34.49	6.74	26.749	130.5	0.040
133	7.28	34.398	6.21	1.33	6.	0.11	17.6	113.6	50	9.07	34.55	6.59	26.775	128.0	0.066
174	5.40	34.202	6.36	1.62	8.	0.10	22.2	105.0	75	8.76	34.52	6.52	26.801	125.5	0.098
215	4.87	34.184	6.48	1.74	10.	0.20	23.1	100.5	100	7.45	34.33	6.68	26.848	121.2	0.129
256	4.78	34.224	6.17	1.78	10.	0.01	24.9	96.5	125	7.29	34.37	6.35	26.907	115.5	0.159
306	4.34	34.195	6.30	1.82	12.	0.01	25.4	94.1	150	6.55	34.32	6.27	26.968	109.7	0.188
357	3.92	34.172	6.41	1.88	13.	0.01	26.3	91.7	200	4.96	34.18	6.46	27.052	101.8	0.242
408	3.68	34.165	6.40	1.89	15.	0.01	26.5	89.9	250	4.79	34.22	6.22	27.102	97.0	0.293
459	3.50	34.169	6.31	1.94	17.	0.01	27.3	88.0	300	4.40	34.20	6.28	27.131	94.3	0.342
510	3.33	34.170	6.23	1.98	20.	0.01	27.7	86.3	400	3.71	34.17	6.40	27.175	90.2	0.438
561	3.19	34.172	6.12	2.02	22.	0.00	28.2	84.9	500	3.36	34.17	6.25	27.212	86.6	0.529
637	2.91	34.191	5.90	2.10	28.	0.00	29.5	81.1	600	3.04	34.18	6.02	27.250	83.1	0.618
714	2.80	34.224	5.60	2.17	33.	0.00	30.9	77.7	700	2.81	34.22	5.66	27.300	78.3	0.703
815	2.74	34.279	5.20	2.28	41.	0.00	32.2	73.0	800	2.74	34.27	5.26	27.348	73.7	0.783
943	2.80	34.364	4.75	2.35	50.	0.00	33.0	67.1	1000	2.74	34.40	4.59	27.448	64.2	0.932
1069	2.64	34.429	4.42	2.38	60.	0.00	33.8	60.9	1200	2.53	34.49	4.22	27.541	55.5	1.064
1227A	2.51	34.50	4.19	2.43	69.	0.00	34.0	54.4	1500	2.48	34.68	4.11	27.662	44.0	1.237
1374	2.44	34.575	4.05	2.42	76.	0.00	34.2	48.2	1750	2.55	34.72	4.31	27.725	38.0	1.363
1527A	2.43	34.53 U	4.13	2.40	71.	0.00	33.6		2000	2.52	34.77	4.61	27.763	34.4	1.482
1675A	2.42	34.61 U	4.13	2.35	72.	0.00	32.5		2250	2.27	34.76	4.62	27.783	32.6	1.595
1823A	2.66	34.75	4.50	2.02	67.	0.00	29.1	36.8	2500	2.30	34.81	4.93	27.818	29.3	1.703
1973A	2.51	34.76	4.56	2.06	72.	0.00	29.2	34.8	2750	1.97	34.79	4.86	27.825	28.5	1.807
2122A	2.55	34.79	4.78	1.97	67.	0.00	27.7	32.8	3000	1.66	34.76	4.78	27.829	28.2	1.907
2271A	2.226	34.76	4.59	2.08	81.	0.00	29.3	32.5	3250	1.34	34.74	4.73	27.831	27.9	2.003
2443A	2.347	34.81	4.94	1.92	69.	0.00	26.8	29.7	3500	1.10	34.72	4.78	27.832	28.0	2.094
2617A	2.150	34.80	4.90	1.95	76.	0.00	27.3	28.9	3750	0.87	34.70	4.86	27.836	27.5	2.181
2815A	1.877	34.78	4.84	2.02	86.	0.00	29.2	28.4	4000	0.67	34.70	4.91	27.847	26.5	2.262
3012A	1.644	34.76	4.78	2.06	88.	0.00	30.0	28.2	4250	0.49	34.69	5.11	27.849	26.3	2.338
3210A	1.379	34.74	4.72	2.18	107.	0.00	31.3	27.9	4500	0.35	34.68	5.12	27.849	26.3	2.410
3407A	1.191	34.72	4.75	2.20	112.	0.00	31.6	28.2	4750	0.28	34.67	5.17	27.846	26.6	2.479
3605A	0.992	34.71	4.82	2.28	119.	0.00	32.1	27.7	5000	0.25	34.67	5.19	27.847	26.4	2.547
3800A	0.830	34.70	4.87	2.27	121.	0.00	32.3	27.4	5250	0.25	34.67	5.21	27.847	26.4	2.615
3997A	0.674	34.70	4.91	2.29	122.	0.00	32.4	26.8	5500	0.25	34.67	5.23	27.847	26.4	2.683
4241A	0.500	34.69	5.11	2.30	126.	0.00	32.7	26.3	5750	0.26	34.67	5.25	27.845	26.7	2.751
4486A	0.355	34.68	5.12	2.32	128.	0.00	32.7	26.2	6000	0.27	34.66	5.21	27.838	27.3	2.821
4729A	0.279	34.67	5.17	2.34	130.	0.00	32.8	26.6							
4972A	0.252	34.67	5.19	2.34	130.	0.02	33.0	26.5							
5214A	0.247	34.67	5.21	2.34	131.	0.00	32.9	26.4							
5455A	0.248	34.67	5.22	2.33	130.	0.02	32.9	26.4							
5693A	0.262	34.67	5.26	2.34	130.	0.02	33.0	26.5							
5933A	0.270	34.66	5.22	2.29	130.	0.03	32.9	27.3							

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LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
47 15.1S	41 49.5W	11/22/78	0622 GMT

Z	T	S	SIGMA T	DT	DD
0	9.370	34.541	26.719	133.3	0.000
10	9.379	34.538	26.715	133.7	0.013
20	9.383	34.538	26.715	133.8	0.027
30	9.320	34.563	26.745	130.9	0.040
40	9.499	34.646	26.780	127.6	0.053
50	9.459	34.646	26.786	126.9	0.066
75	9.167	34.646	26.834	122.4	0.097
100	9.106	34.638	26.838	122.1	0.128
125	9.034	34.631	26.844	121.5	0.159
150	9.070	34.644	26.849	121.1	0.190
175	8.892	34.632	26.868	119.3	0.221
200	8.272	34.575	26.920	114.3	0.251
225	7.476	34.475	26.960	110.6	0.280
250	6.707	34.388	26.999	106.9	0.308
275	6.051	34.324	27.034	103.5	0.336
300	5.567	34.287	27.065	100.5	0.362
350	4.784	34.227	27.110	96.3	0.413
400	4.353	34.200	27.136	93.9	0.463
450	4.087	34.190	27.156	92.0	0.511
500	3.902	34.188	27.173	90.3	0.559
550	3.702	34.188	27.193	88.4	0.606
600	3.529	34.186	27.209	86.9	0.652
650	3.311	34.182	27.227	85.3	0.697
700	3.105	34.182	27.246	83.4	0.742
750	2.962	34.196	27.270	81.2	0.785
800	2.844	34.210	27.292	79.1	0.828
850	2.750	34.228	27.314	76.9	0.869
900	2.786	34.263	27.339	74.6	0.909
950	2.765	34.294	27.365	72.1	0.949
1000	2.736	34.320	27.389	69.9	0.987
1100	2.728	34.383	27.440	65.1	1.061
1200	2.744	34.445	27.488	60.5	1.131
1300	2.705	34.498	27.533	56.2	1.197
1376	2.694	34.532	27.561	53.5	1.244

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LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
47 57.7S	41 33.7W	11/22/78	1651 GMT

Z	T	S	SIGMA T	DT	DD
0	8.153	34.263	26.694	135.8	0.000
10	8.121	34.264	26.699	135.2	0.014
20	8.278	34.309	26.711	134.2	0.027
30	8.658	34.403	26.726	132.7	0.040
40	9.180	34.565	26.769	128.6	0.054
50	9.153	34.572	26.779	127.7	0.066
75	8.064	34.381	26.799	125.7	0.098
100	7.492	34.361	26.868	119.3	0.129
125	7.525	34.424	26.913	115.0	0.159
150	6.293	34.287	26.974	109.2	0.188
175	5.446	34.209	27.019	105.0	0.215
200	4.951	34.186	27.058	101.2	0.241
225	4.876	34.201	27.079	99.3	0.267
250	4.852	34.228	27.103	97.0	0.292
275	4.668	34.222	27.119	95.5	0.317
300	4.498	34.208	27.126	94.7	0.341
350	4.048	34.180	27.152	92.3	0.390
400	3.747	34.174	27.178	89.9	0.437
450	3.556	34.171	27.194	88.3	0.483
500	3.358	34.174	27.216	86.3	0.529
550	3.201	34.178	27.234	84.6	0.573
600	3.050	34.184	27.252	82.8	0.617
650	2.879	34.202	27.282	80.0	0.660
700	2.802	34.224	27.306	77.7	0.701
750	2.768	34.246	27.327	75.7	0.742
800	2.754	34.278	27.354	73.2	0.781
850	2.771	34.318	27.384	70.3	0.820
900	2.805	34.349	27.406	68.3	0.857
950	2.809	34.379	27.429	66.0	0.893
1000	2.676	34.394	27.453	63.8	0.929
1100	2.620	34.445	27.498	59.5	0.996
1200	2.483	34.484	27.541	55.4	1.060
1300	2.501	34.531	27.577	52.0	1.121
1379	2.429	34.562	27.608	49.1	1.167

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
48 38.9S	41 02.3W	11/23/76	0009 0419 GMT	5634M	290	16KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	5.15	33.889	7.74	1.32	6.	0.22	19.3	125.7	0	5.15	33.889	7.74	26.801	125.7	0.000
42	4.00	33.939	7.63	1.52	9.	0.21	21.5	110.0	10	4.87	33.908	7.72	26.847	121.3	0.012
66	3.49	33.930	7.53	1.63	12.	0.21	22.7	105.9	20	4.57	33.923	7.70	26.891	117.0	0.024
92	3.29	33.927	7.31	1.63	12.	0.22	23.1	104.3	30	4.30	33.934	7.67	26.929	113.5	0.036
121	2.24	33.931	7.66	1.78	18.	0.45	25.1	95.4	50	3.81	33.939	7.60	26.984	108.3	0.058
152	1.72	33.941	7.66	1.86	20.	0.16	26.4	90.8	75	3.44	33.930	7.48	27.013	105.5	0.085
181	2.05	34.010	7.42	1.84	18.	0.04	26.3	88.0	100	3.02	33.927	7.39	27.050	102.0	0.111
211	1.70	33.998	7.33	1.88	19.	0.02	27.2	86.4	125	2.16	33.932	7.66	27.128	94.6	0.136
241	1.53	34.000	7.29	1.93	23.	0.02	27.9	85.1	150	1.73	33.941	7.66	27.166	91.0	0.159
271	1.45	34.042	6.91	2.01	27.	0.02	29.3	81.3	200	1.86	34.007	7.35	27.210	86.9	0.204
311	1.59	34.119	6.37	2.10	33.	0.02	31.1	76.4	250	1.49	34.011	7.19	27.239	84.1	0.247
350	1.50	34.159	6.03	2.20	39.	0.02	32.1	72.8	300	1.55	34.100	6.51	27.306	77.7	0.288
400	1.643	34.229	5.55	2.30	47.	0.02	33.4	68.4	400	1.64	34.229	5.55	27.404	68.4	0.362
450	1.896	34.314	5.04	2.38	54.	0.01	34.2	63.8	500	2.10	34.367	4.71	27.479	61.3	0.428
524	2.170	34.385	4.60	2.41	61.	0.01	34.9	60.5	600	2.22	34.437	4.33	27.525	56.9	0.490
599	2.221	34.436	4.33	2.43	68.	0.01	35.2	57.0	700	2.15	34.487	4.23	27.571	52.6	0.548
700	2.151	34.487	4.23	2.45	72.	0.01	35.2	52.6	800	2.24	34.557	4.05	27.619	48.0	0.602
799	2.240	34.556	4.05	2.43	79.	0.02	35.3	48.1	1000	2.24	34.623	4.01	27.671	43.1	0.702
901	2.253	34.591	4.04	2.43	82.	0.01	34.9	45.5	1200	2.19	34.660	4.07	27.706	39.8	0.797
1003	2.241	34.623	4.01	2.38	82.	0.01	34.5	43.0	1500	2.08	34.715	4.25	27.758	34.9	0.928
1106	2.160	34.639	4.09	2.37	86.	0.00	34.2	41.2	1750	1.84	34.718	4.19	27.780	32.9	1.031
1217A	2.19 K	34.663	4.06	2.34	88.	0.00		39.6	2000	1.60	34.716	4.40	27.798	31.0	1.129
1315	2.07	34.673	4.07	2.31	90.	0.00	33.6	37.9	2250	1.61	34.750	4.66	27.823	28.7	1.223
1421A	2.03	34.691	4.09	2.30	95.	0.00	32.5	36.2	2500	1.36	34.734	4.64	27.828	28.2	1.314
1522A	2.10	34.721	4.30	2.23	91.	0.00	31.3	34.5	2750	1.18	34.721	4.71	27.830	28.1	1.402
1625A	2.09	34.735	4.45	2.18	91.	0.00	30.9	33.4	3000	1.02	34.716	4.79	27.837	27.4	1.488
1751A	1.84	34.717	4.19	2.21	100.	0.00	31.6	32.9	3250	0.80	34.706	4.87	27.843	26.8	1.570
1878A	1.72	34.716	4.34	2.25	103.	0.01	31.8	32.1	3500	0.61	34.694	4.95	27.845	26.7	1.648
2005A	1.60	34.719	4.40	2.26	107.	0.00	31.8	31.0	3750	0.46	34.688	5.04	27.849	26.3	1.722
2133A	1.56	34.739	4.49	2.21	107.	0.00	31.6	29.2	4000	0.33	34.681	5.10	27.851	26.1	1.792
2284A	1.62	34.752	4.70	2.12	99.	0.00	30.2	28.6	4250	0.25	34.678	5.17	27.853	25.9	1.859
2438A	1.42	34.738	4.63	2.18	106.	0.01	30.7	28.3	4500	0.21	34.675	5.20	27.853	25.9	1.925
2615A	1.26	34.726	4.67	2.20	112.	0.01	31.3	28.2	4750	0.20	34.672	5.24	27.851	26.1	1.990
2793A	1.16	34.719	4.73	2.20	115.	0.01	31.4	28.0	5000	0.20	34.671	5.24	27.850	26.2	2.056
2996A	1.02	34.716	4.79	2.23	118.	0.01	31.9	27.4	5250	0.21	34.666	5.23	27.846	26.6	2.122
3199A	0.856	34.710	4.84	2.24	119.	0.01	30.8	26.8	5500	0.24	34.669	5.30	27.847	26.5	2.189
3401A	0.662	34.695	4.99	2.26	123.	0.01	32.2	26.8							
3605A	0.566	34.692	4.97	2.27	124.	0.00	32.3	26.5							
3807A	0.422	34.685	5.07	2.30	126.	0.01	32.4	26.2							
4010A	0.323	34.680	5.10	2.31	128.	0.01	32.6	26.1							
4263A	0.245	34.677	5.17	2.35	128.	0.01	32.6	25.9							
4516A	0.209	34.674	5.20	2.32	129.	0.00	32.4	25.9							
4770A	0.202	34.671	5.24	2.33	129.	0.00	32.6	26.1							
5022A	0.195	34.670	5.24	2.31	130.	0.00	32.6	26.2							
5275A	0.209	34.665	5.23	2.31	129.	0.00	32.7	26.6							
5477A	0.24	34.669	5.29	2.32	130.	0.00	32.8	26.5							

INDOMED LEG XIII CTD

17 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 40.1S	41 21.4W	12/23/78	0315 GMT

Z	T	S	SIGMA T	DT	DD
0	5.149	33.893	26.804	125.3	0.000
10	5.137	33.894	26.806	125.1	0.013
20	4.166	33.952	26.943	112.1	0.024
30	3.944	33.946	26.977	108.9	0.035
40	3.832	33.955	26.995	107.2	0.046
50	3.649	33.951	27.010	105.8	0.057
75	3.412	33.936	27.021	104.7	0.083
100	3.109	33.930	27.045	102.5	0.109
125	1.818	33.939	27.159	91.7	0.134
150	1.529	33.944	27.184	89.3	0.157
175	1.832	33.991	27.200	87.8	0.179
200	1.472	33.977	27.214	86.4	0.201
225	1.393	33.985	27.226	85.3	0.222
250	1.324	34.001	27.244	83.6	0.244
275	1.317	34.037	27.273	80.8	0.264
300	1.283	34.072	27.304	78.0	0.284
350	1.578	34.161	27.354	73.2	0.322
400	1.640	34.236	27.410	67.9	0.358
450	1.862	34.306	27.449	64.2	0.392
500	2.006	34.357	27.479	61.4	0.424
550	2.103	34.406	27.510	58.4	0.456
600	2.208	34.449	27.536	55.9	0.485
650	2.149	34.470	27.550	53.9	0.514
700	2.152	34.498	27.580	51.8	0.542
750	2.231	34.537	27.605	49.4	0.570
800	2.238	34.564	27.626	47.4	0.596
850	2.203	34.576	27.638	46.3	0.621
900	2.242	34.598	27.652	44.9	0.646
950	2.231	34.613	27.665	43.7	0.671
1000	2.234	34.626	27.675	42.7	0.695
1100	2.165	34.641	27.693	41.0	0.742
1200	2.129	34.659	27.710	39.4	0.788
1300	2.070	34.677	27.729	37.6	0.832
1316	2.068	34.679	27.731	37.4	0.839

17 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 38.9S	41 22.3W	11/22/78	2340 GMT

Z	T	S	SIGMA T	DT	DD
0	5.191	33.898	26.803	125.4	0.000
10	5.187	33.902	26.807	125.1	0.013
20	5.003	33.895	26.822	123.6	0.025
30	4.419	33.912	26.900	116.2	0.037
40	4.095	33.927	26.946	111.8	0.048
50	3.919	33.941	26.976	109.1	0.060
75	3.491	33.936	27.014	105.4	0.086
100	3.262	33.937	27.036	103.3	0.113
125	1.829	33.939	27.158	91.8	0.137
150	2.431	34.046	27.196	88.1	0.160
175	2.042	34.023	27.209	86.9	0.182
200	1.838	34.018	27.221	85.8	0.204
225	1.833	34.045	27.243	83.7	0.225
250	1.935	34.070	27.255	82.6	0.246
275	1.993	34.113	27.285	79.7	0.267
300	1.846	34.126	27.306	77.7	0.287
350	1.473	34.142	27.346	73.9	0.325
400	1.567	34.207	27.392	69.6	0.361
450	1.991	34.309	27.442	64.9	0.396
500	2.189	34.372	27.476	61.6	0.428
550	2.134	34.393	27.497	59.6	0.460
600	2.140	34.427	27.524	57.1	0.490
650	2.178	34.458	27.546	55.0	0.520
700	2.150	34.483	27.568	52.9	0.549
750	2.182	34.518	27.593	50.5	0.576
800	2.288	34.552	27.612	48.7	0.603
850	2.238	34.560	27.622	47.7	0.629
900	2.253	34.587	27.643	45.8	0.655
950	2.251	34.597	27.651	45.0	0.680
1000	2.247	34.619	27.669	43.3	0.704
1100	2.171	34.637	27.689	41.4	0.752
1200	2.131	34.658	27.709	39.5	0.798
1300	2.085	34.671	27.723	38.2	0.843
1400	2.058	34.692	27.742	36.4	0.887
1500	2.125	34.728	27.766	34.2	0.929
1600	1.987	34.719	27.778	33.8	0.970
1700	2.028	34.741	27.784	32.4	1.011
1800	1.791	34.716	27.782	32.6	1.051
1900	1.709	34.719	27.791	31.8	1.091
2000	1.635	34.720	27.797	31.2	1.130
2100	1.565	34.721	27.803	30.6	1.168
2200	1.696	34.752	27.818	29.2	1.206
2300	1.608	34.750	27.823	28.7	1.243
2400	1.488	34.741	27.825	28.6	1.280
2500	1.406	34.738	27.828	28.2	1.316
2600	1.306	34.728	27.828	28.3	1.352
2700	1.221	34.725	27.831	28.0	1.387
2800	1.165	34.722	27.832	27.8	1.422
2900	1.085	34.717	27.834	27.7	1.457
3000	1.008	34.714	27.837	27.5	1.490
3100	0.946	34.712	27.839	27.2	1.524
3200	0.874	34.709	27.841	27.0	1.557
3300	0.805	34.706	27.843	26.8	1.589
3400	0.697	34.698	27.844	26.8	1.620
3500	0.620	34.694	27.845	26.6	1.651
3600	0.577	34.692	27.846	26.5	1.681
3700	0.528	34.690	27.847	26.4	1.711
3800	0.426	34.685	27.849	26.2	1.740
3900	0.381	34.681	27.849	26.3	1.768
4000	0.324	34.680	27.851	26.1	1.796
4100	0.290	34.678	27.851	26.0	1.823
4200	0.267	34.675	27.850	26.1	1.850
4300	0.249	34.675	27.851	26.0	1.877
4400	0.232	34.673	27.851	26.1	1.904
4500	0.219	34.671	27.850	26.2	1.930
4600	0.207	34.670	27.850	26.2	1.957
4700	0.201	34.668	27.848	26.3	1.983
4800	0.200	34.667	27.848	26.4	2.009
4900	0.192	34.666	27.847	26.4	2.036
5000	0.192	34.665	27.846	26.5	2.062
5100	0.199	34.664	27.845	26.6	2.089
5200	0.205	34.664	27.845	26.7	2.116
5300	0.210	34.662	27.843	26.8	2.142
5400	0.222	34.661	27.842	27.0	2.169
5500	0.234	34.661	27.841	27.0	2.197

LATITUDE 49 08. S | LONGITUDE 41 01. W | MO/DAY/YR 11/23/78 | MESSENGER TIME 1058 1446 GMT | BOTTOM 5207M | WIND 290 | SPEED 23KT | WEATHER 2 | DOMINANT WAVES 290 5 5

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	I	S	O2	SIGT	DT	DD
0	5.28	34.011	7.78	1.24	2.	0.18	17.7	117.9	0	5.28	34.011	7.78	26.882	117.9	0.000
42	4.40	34.023	7.42	1.55	8.	0.17	21.6	107.6	10	5.09	34.008	7.70	26.901	116.1	0.012
67	3.78	34.067	7.18	1.68	11.	0.67	23.4	98.3	20	4.89	34.009	7.62	26.925	113.9	0.023
93	3.43	34.114	7.01	1.78	13.	0.03	25.6	91.5	30	4.67	34.013	7.53	26.952	111.3	0.035
123	3.28	34.126	6.78	1.82	13.	0.02	26.5	89.2	50	4.19	34.036	7.34	27.022	104.6	0.056
154	3.00	34.119	6.76	1.89	17.	0.00	27.2	87.3	75	3.65	34.084	7.12	27.116	95.8	0.081
184	2.29	34.065	7.12	1.87	18.	0.00	26.9	85.6	100	3.39	34.121	6.95	27.170	90.6	0.105
214	2.16	34.070	7.00	1.96	19.	0.00	27.8	84.2	125	3.27	34.128	6.78	27.186	89.1	0.127
244	2.52	34.125	6.52	2.01	23.	0.00	28.6	82.9	150	3.05	34.123	6.76	27.203	87.5	0.150
275	2.57	34.149	6.32	2.06	26.	0.00	29.1	81.5	200	2.22	34.069	7.06	27.231	84.9	0.193
316	2.50	34.169	6.09	2.09	30.	0.00	30.3	79.4	250	2.53	34.131	6.47	27.255	82.6	0.236
356	2.27	34.179	5.99	2.15	33.	0.00	30.8	76.8	300	2.53	34.162	6.17	27.280	80.2	0.277
407	2.00	34.201	5.78	2.24	39.	0.01	31.9	73.1	400	2.02	34.196	5.83	27.349	73.7	0.356
458	2.43	34.305	5.00	2.33	49.	0.00	33.6	68.9	500	2.42	34.338	4.77	27.429	66.0	0.428
534	2.42	34.361	4.70	2.39	56.	0.00	34.2	64.2	600	2.47	34.425	4.40	27.495	59.8	0.494
611	2.47	34.434	4.36	2.43	64.	0.00	34.8	59.1	700	2.29	34.476	4.21	27.551	54.5	0.554
712	2.26	34.480	4.20	2.46	72.	0.00	35.3	54.0	800	2.29	34.537	4.04	27.600	49.9	0.610
812	2.29	34.544	4.03	2.45	77.	0.00	34.9	49.4	1000	2.43	34.634	4.10	27.664	43.6	0.714
913	2.55	34.629	4.16	2.30	72.	0.00	33.1	45.0	1200	2.45	34.710	4.31	27.723	38.1	0.808
936A	2.61	34.642	4.18	2.30	70.	0.00	32.7	44.5	1500	2.26	34.750	4.49	27.772	33.5	0.938
1013	2.37	34.630	4.08	2.32	79.	0.00	33.7	43.5	1750	2.09	34.769	4.63	27.801	30.8	1.039
1139A	2.20	34.652	4.04	2.38	86.	0.00	34.0	40.5	2000	1.92	34.771	4.72	27.816	29.4	1.136
1241A	2.61	34.746	4.49	2.08	68.	0.00	30.2	36.6	2250	1.62	34.756	4.73	27.827	28.3	1.229
1343A	2.43	34.745	4.44	2.07	74.	0.01	30.6	35.3	2500	1.31	34.738	4.74	27.834	27.7	1.318
1470A	2.29	34.749	4.48	2.10	78.	0.00	30.6	33.8	2750	1.03	34.714	4.66	27.835	27.6	1.404
1595A	2.19	34.756	4.53	2.12	78.	0.00	30.6	32.5	3000	0.80	34.704	4.83	27.842	26.9	1.485
1724A	2.08	34.762	4.59	2.10	83.	0.00	30.4	31.2	3250	0.65	34.696	4.91	27.844	26.8	1.562
1851A	2.12	34.789	4.77	2.01	77.	0.00	29.0	29.5	3500	0.46	34.686	5.00	27.848	26.4	1.636
2004A	1.91	34.770	4.72	2.08	86.	0.00	29.8	29.4	3750	0.33	34.679	5.07	27.849	26.3	1.707
2155A	1.77	34.770	4.70	2.04	89.	0.00	30.0	28.3	4000	0.28	34.679	5.12	27.852	26.0	1.775
2333A	1.482	34.744	4.68	2.15	102.	0.01	31.3	28.3	4250	0.21	34.676	5.17	27.854	25.8	1.841
2512A	1.302	34.736	4.74	2.19	108.	0.00	31.5	27.7	4500	0.16	34.673	5.18	27.854	25.8	1.905
2715A	1.066	34.715	4.64	2.25	119.	0.00	32.8	27.7	4750	0.16	34.672	5.22	27.853	25.9	1.969
2919A	0.854	34.708	4.80	2.26	122.	0.00	32.9	27.0	5000	0.16	34.671	5.28	27.852	26.0	2.033
3121A	0.723	34.699	4.87	2.29	124.	0.00	32.9	26.9							
3325A	0.611	34.693	4.93	2.32	125.	0.00	32.9	26.7							
3529A	0.432	34.684	5.01	2.30	126.	0.01	32.9	26.3							
3731A	0.356	34.678	5.07	2.34	127.	0.00	33.2	26.3							
3983A	0.280	34.678	5.12	2.34	128.	0.00	33.2	26.0							
4235A	0.209	34.675	5.17	2.33	129.	0.00	33.0	25.8							
4488A	0.161	34.672	5.18	2.34	130.	0.01	33.1	25.8							
4739A	0.162	34.671	5.15U	2.34	131.	0.01	33.2	25.9							
4991A	0.158	34.670	5.28	2.33	130.	0.00	33.0	26.0							
5190A	0.114	34.663	5.34	2.30	129.	0.01	32.9	26.3							

19 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 07.5S	41 21.4W	11/23/78	1408 GMT

Z	T	S	SIGMA T	DT	DD
0	5.251	34.012	26.886	117.6	0.000
10	5.209	34.015	26.893	116.8	0.012
20	5.231	34.014	26.890	117.2	0.023
30	5.196	34.013	26.893	116.9	0.035
40	4.524	34.026	26.979	108.7	0.046
50	4.325	34.023	26.999	106.9	0.057
75	3.602	34.087	27.123	95.1	0.083
100	3.380	34.125	27.175	90.2	0.106
125	3.213	34.125	27.190	88.7	0.129
150	2.980	34.113	27.202	87.6	0.151
175	2.372	34.071	27.221	85.8	0.173
200	2.490	34.100	27.234	84.5	0.194
225	2.494	34.113	27.244	83.6	0.216
250	2.570	34.132	27.253	82.7	0.237
275	2.556	34.139	27.260	82.1	0.258
300	2.550	34.164	27.280	80.2	0.278
350	2.285	34.180	27.315	76.9	0.318
400	2.072	34.205	27.352	73.4	0.357
450	2.422	34.300	27.400	68.9	0.398
500	2.499	34.350	27.433	65.7	0.438
550	2.463	34.381	27.461	63.0	0.462
600	2.481	34.432	27.500	59.3	0.494
650	2.463	34.459	27.523	57.1	0.525
700	2.277	34.475	27.551	54.5	0.555
750	2.304	34.515	27.581	51.7	0.588
800	2.306	34.548	27.607	49.2	0.610
850	2.410	34.582	27.626	47.4	0.637
900	2.562	34.627	27.649	45.3	0.662
950	2.590	34.643	27.659	44.3	0.687
1000	2.394	34.631	27.666	43.6	0.712
1022	2.267	34.621	27.669	43.4	0.723

19 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 08. S	41 21. W	11/23/78	0917 GMT

Z	T	S	SIGMA T	DT	DD
0	5.252	34.009	26.884	117.8	0.000
10	5.254	34.006	26.881	118.0	0.012
20	5.245	34.009	26.884	117.7	0.024
30	5.157	34.014	26.899	116.3	0.035
40	4.726	34.043	26.971	109.5	0.047
50	4.220	34.023	27.010	105.8	0.057
75	3.555	34.096	27.135	94.0	0.083
100	3.385	34.123	27.173	90.4	0.106
125	3.221	34.124	27.189	88.8	0.128
150	3.001	34.118	27.204	87.4	0.151
175	2.414	34.074	27.220	85.9	0.173
200	2.494	34.098	27.232	84.7	0.194
225	2.592	34.109	27.243	84.7	0.216
250	2.522	34.114	27.243	83.7	0.237
275	2.432	34.124	27.258	82.2	0.258
300	2.458	34.145	27.273	80.9	0.279
350	2.275	34.176	27.313	77.1	0.319
400	2.225	34.216	27.349	73.7	0.358
450	2.399	34.268	27.376	71.1	0.395
500	2.490	34.338	27.424	66.5	0.430
550	2.453	34.365	27.449	64.2	0.465
600	2.373	34.398	27.482	61.1	0.497
650	2.435	34.452	27.520	57.5	0.529
700	2.286	34.473	27.549	54.7	0.559
750	2.330	34.509	27.574	52.3	0.587
800	2.282	34.534	27.598	50.1	0.615
850	2.454	34.579	27.620	48.0	0.642
900	2.601	34.619	27.639	46.2	0.668
950	2.606	34.640	27.655	44.6	0.693
1000	2.318	34.618	27.662	44.0	0.718
1100	2.226	34.645	27.691	41.2	0.766
1200	2.613	34.734	27.730	37.6	0.812
1300	2.348	34.716	27.738	36.8	0.856
1400	2.337	34.739	27.757	35.0	0.900
1500	2.219	34.740	27.768	34.0	0.942
1600	2.213	34.755	27.780	32.8	0.983
1700	2.075	34.752	27.789	32.0	1.024
1800	2.119	34.778	27.806	30.3	1.064
1900	2.188	34.801	27.819	29.1	1.103
2000	1.894	34.767	27.815	29.5	1.141
2100	1.836	34.771	27.823	28.7	1.179
2200	1.755	34.770	27.828	28.2	1.216
2300	1.548	34.747	27.825	28.5	1.253
2400	1.409	34.738	27.828	28.2	1.289
2500	1.342	34.740	27.835	27.6	1.325
2600	1.145	34.717	27.830	28.1	1.359
2700	1.090	34.718	27.834	27.7	1.394
2800	0.998	34.714	27.837	27.4	1.427
2900	0.884	34.709	27.841	27.1	1.460
3000	0.801	34.702	27.840	27.1	1.492
3100	0.750	34.703	27.844	26.7	1.523
3200	0.668	34.698	27.845	26.6	1.554
3300	0.603	34.695	27.847	26.5	1.584
3400	0.541	34.691	27.847	26.4	1.614
3500	0.433	34.685	27.849	26.3	1.643
3600	0.412	34.684	27.849	26.2	1.671
3700	0.367	34.681	27.850	26.2	1.699
3800	0.311	34.679	27.851	26.1	1.726
3900	0.291	34.677	27.851	26.1	1.754
4000	0.258	34.676	27.852	26.0	1.781
4100	0.239	34.677	27.853	25.8	1.807
4200	0.220	34.676	27.854	25.8	1.833
4300	0.193	34.675	27.854	25.8	1.859
4400	0.164	34.674	27.855	25.7	1.885
4500	0.161	34.672	27.854	25.8	1.910
4600	0.163	34.671	27.853	25.9	1.936
4700	0.165	34.670	27.852	26.0	1.961
4800	0.170	34.670	27.852	26.0	1.987
4900	0.172	34.669	27.851	26.1	2.013
5000	0.160	34.667	27.850	26.2	2.039
5100	0.137	34.665	27.849	26.2	2.064
5200	0.115	34.664	27.850	26.2	2.090

RV MELVILLE — INDOMED LEG XIII

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 26. S	41 06. W	11/23/78	1934 2322 GMT	4227M	240	18KT	2	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	3.95	33.954	7.99	1.40	6.	0.21	20.1	108.4	0	3.95	33.954	7.99	26.983	108.4	0.000
52	2.85	33.943	7.91	1.63	11.	0.21	22.7	99.3	10	3.69	33.948	7.98	27.004	106.4	0.011
93	2.65	33.968	7.63	1.72	14.	0.19	23.8	95.8	20	3.48	33.944	7.96	27.025	104.4	0.021
134	2.09	34.025	7.51	1.82	17.	0.05	26.2	87.1	30	3.21	33.942	7.94	27.044	102.6	0.032
175	1.57	34.006	7.54	1.83	19.	0.03	26.7	84.9	50	2.86	33.944	7.91	27.076	99.6	0.052
226	2.10	34.105	6.84	2.01	24.	0.02	28.5	81.1	75	2.72	33.955	7.75	27.098	97.4	0.077
246	2.07	34.130	6.56	2.05	27.	0.02	29.3	79.0	100	2.57	33.980	7.60	27.132	94.3	0.101
287	1.95	34.151	6.35	2.12	31.	0.01	30.2	76.5	125	2.23	34.015	7.52	27.187	89.0	0.124
328	1.90	34.170	6.29	2.17	34.	0.01	30.6	74.7	150	1.83	34.018	7.52	27.220	85.9	0.146
368	1.89	34.208	5.77	2.22	39.	0.01	31.6	71.8	200	1.80	34.050	7.25	27.248	83.3	0.188
419	1.86	34.247	5.51	2.29	46.	0.02	32.6	68.6	250	2.06	34.134	6.53	27.296	78.7	0.229
470	2.28	34.356	4.66	2.40	55.	0.01	33.6	63.5	300	1.93	34.157	6.33	27.324	76.0	0.268
536	2.331	34.414	4.54	2.42	62.	0.01	34.1	59.5	400	1.87	34.233	5.62	27.389	69.9	0.343
613	2.358	34.475	4.29	2.45	68.	0.01	34.4	55.1	500	2.30	34.386	4.61	27.477	61.5	0.410
715	2.315	34.532	3.81	2.45	74.	0.01	34.4	50.5	600	2.36	34.466	4.34	27.537	55.8	0.472
816	2.252	34.574	4.01	2.42	79.	0.01	34.1	46.8	700	2.32	34.525	3.86	27.587	51.1	0.529
918	2.200	34.608	4.02	2.39	82.	0.01	33.9	43.8	800	2.26	34.570	3.96	27.627	47.3	0.582
1020	2.148	34.636	4.08	2.39	85.	0.02	33.5	41.3	1000	2.16	34.632	4.07	27.686	41.8	0.680
1122	2.086	34.662	4.10	2.35	88.	0.02	33.3	38.9	1200	2.05	34.677	4.12	27.730	37.6	0.770
1224	2.041	34.679	4.13	2.35	90.	0.01	33.0	37.2	1500	1.83	34.717	4.19	27.780	32.9	0.894
1325	1.969	34.691	3.97	2.31	93.	0.00	32.6	35.8	1750	1.65	34.730	4.23	27.804	30.5	0.989
1412A	1.89	34.708	3.87	2.26	95.	0.00	32.6	33.9	2000	1.40	34.721	4.48	27.815	29.5	1.080
1505	1.827	34.716	4.21	2.28	97.	0.00	32.3	32.8	2250	1.21	34.720	4.49	27.828	28.2	1.167
1564A	1.77	34.714	4.25	2.26	98.	0.00	32.4	32.6	2500	0.96	34.715	4.50	27.840	27.1	1.250
1639A	1.75	34.732	4.31	2.26	99.	0.01	32.5	30.9	2750	0.79	34.706	4.77	27.843	26.8	1.329
1716A	1.68		4.15	2.22	100.	0.01	32.3		3000	0.72	34.703	4.79	27.845	26.6	1.406
1796A	1.60		4.36	2.31	103.	0.00	32.2		3250	0.71	34.701	4.74	27.844	26.7	1.483
1867A	1.52	34.724	4.33	2.26	107.	0.00	32.1	30.1	3500	0.68	34.697	4.98	27.843	26.8	1.561
1943A	1.43		4.56	2.27	108.	0.00	32.1								
2019A	1.39	34.721	4.44	2.28	110.	0.01	32.2	29.4							
2094A	1.32		4.45	2.29	111.	0.01	32.0								
2172A	1.26	34.721	4.65	2.26	113.	0.01	32.0	28.5							
2246A	1.21	34.720	4.48	2.25	115.	0.00	32.1	28.3							
2322A	1.123	34.720	4.62	2.28	117.	0.01	32.1	27.7							
2398A	1.058	34.715	4.47	2.28	117.	0.01	32.1	27.7							
2474A	0.991		4.37	2.27	118.	0.00	32.2								
2549A	0.912	34.714	4.77	2.29	119.	0.01	32.1	26.9							
2651A	0.855	34.708	4.76	2.28	121.	0.01	32.3	27.0							
2752A	0.794	34.705	4.77	2.26	121.	0.02	32.3	26.8							
2854A	0.781	34.704	4.170	2.26	121.	0.01	32.3	26.8							
2955A	0.736	34.700	4.74	2.29	123.	0.02	32.3	26.9							
3055A	0.704	34.705	4.85	2.28	121.	0.00	32.0	26.3							
3207A	0.709	34.700	4.72	2.28	122.	0.00	32.3	26.7							
3360A	0.716	34.700	4.83	2.28	121.	0.00	32.2	26.8							
3511A	0.675	34.696	4.99	2.28	123.	0.00	32.2	26.8							
3663A	0.679	34.696	4.96	2.26	123.	0.02	31.9	26.8							

RV MELVILLE — INDOMED LEG XIII

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 41.8S	41 07.8W	11/24/78	0406 GMT	1839M	270	18KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	3.81	33.944	7.87	1.46	8.	0.21	20.8	107.8	0	3.81	33.944	7.87	26.989	107.8	0.000
25	3.78	33.944	7.87	1.47	8.	0.22	21.0	107.5	10	3.80	33.945	7.87	26.990	107.7	0.011
51	3.09	33.959	7.68	1.63	12.	0.20	22.8	100.1	20	3.79	33.948	7.87	26.991	107.6	0.022
76	3.00	33.958	7.59	1.68	13.	0.20	23.2	99.5	30	3.65	33.948	7.84	27.007	106.1	0.032
102	2.49	33.991	7.35	1.79	16.	0.16	25.1	92.8	50	3.12	33.960	7.69	27.067	100.4	0.053
132	1.76	33.994	7.51	1.85	18.	0.03	26.3	87.1	75	3.00	33.959	7.59	27.077	99.5	0.078
173	1.62	34.009	7.41	1.91	20.	0.02	27.0	85.0	100	2.54	33.989	7.36	27.141	93.4	0.102
214	2.10	34.120	6.58	2.08	27.	0.01	29.2	80.0	125	1.91	33.996	7.46	27.196	88.2	0.125
254	1.85	34.147	6.28	2.1	32.	0.01	30.5	76.1	150	1.70	34.005	7.47	27.219	85.9	0.147
305	1.90	34.197	5.75	2.22	38.	0.01	31.6	72.7	200	1.94	34.082	6.84	27.263	81.8	0.189
356	2.06	34.243	5.36	2.29	44.	0.01	32.3	70.4	250	1.89	34.147	6.29	27.319	76.5	0.229
433	2.21	34.383	4.84	2.41	54.	0.01	33.7	64.7	300	1.90	34.194	5.80	27.356	73.0	0.267
509	2.34	34.414	4.40	2.44	63.	0.01	34.5	59.6	400	2.15	34.294	5.05	27.416	67.3	0.339
611	2.32	34.479	4.14	2.46	71.	0.01	34.6	54.5	500	2.33	34.406	4.44	27.491	60.1	0.405
713	2.262	34.556	4.03	2.46	78.	0.00	34.4	48.2	600	2.32	34.473	4.16	27.545	55.0	0.465
813	2.207	34.605	3.97	2.45	83.	0.00	33.9	44.1	700	2.27	34.547	4.04	27.609	49.0	0.520
942	2.145	34.641	3.97	2.41	86.	0.01	33.6	40.9	800	2.21	34.601	3.97	27.656	44.5	0.571
1069	2.070	34.668	4.05	2.39	89.	0.01	33.1	38.3	1000	2.11	34.655	4.00	27.708	39.6	0.664
1196	1.971	34.686	4.15	2.35	92.	0.01	32.8	36.2	1200	1.97	34.687	4.15	27.745	36.1	0.750
1322	1.854	34.702	4.16	2.30	96.	0.01	32.4	34.1	1500	1.71	34.718	4.30	27.790	31.9	0.869
1475	1.731	34.716	4.28	2.29	99.	0.00	32.1	32.2	1750	1.52	34.724	4.42	27.809	30.1	0.962
1627	1.611	34.722	4.39	2.24	102.	0.00	31.8	30.8							
1829	1.469	34.722	4.44	2.24	107.	0.00	31.8	29.9							

INDOMED LEG XIII CTD

21 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 26.0S	41 17.0W	11/23/78	2235 GMT

Z	T	S	SIGMA T	DT	DD
0	3.966	33.950	26.978	108.8	0.000
10	3.972	33.947	26.975	109.1	0.011
20	3.969	33.948	26.976	109.0	0.022
30	3.897	33.952	26.987	108.0	0.033
40	3.665	33.951	27.009	105.9	0.043
50	3.295	33.952	27.045	102.5	0.054
75	2.795	33.949	27.088	98.4	0.079
100	2.694	33.968	27.112	96.1	0.104
125	2.425	34.000	27.160	91.6	0.127
150	2.054	34.025	27.210	86.9	0.150
175	1.645	34.008	27.227	85.2	0.171
200	1.904	34.050	27.241	83.9	0.193
225	2.072	34.085	27.256	82.4	0.214
250	2.146	34.118	27.277	80.5	0.234
275	2.033	34.139	27.302	78.1	0.254
300	1.979	34.147	27.315	77.1	0.274
350	1.909	34.177	27.342	74.3	0.312
400	1.764	34.218	27.386	70.1	0.349
450	1.993	34.302	27.436	65.4	0.384
500	2.340	34.385	27.474	61.8	0.417
550	2.353	34.420	27.501	59.2	0.448
600	2.378	34.441	27.516	57.8	0.479
650	2.361	34.484	27.552	54.5	0.509
700	2.323	34.512	27.577	52.0	0.537
750	2.298	34.536	27.598	50.0	0.565
800	2.276	34.562	27.621	47.9	0.591
850	2.265	34.573	27.630	47.0	0.617
900	2.215	34.600	27.656	44.5	0.642
950	2.193	34.616	27.671	43.2	0.666
1000	2.165	34.630	27.684	41.9	0.690
1100	2.090	34.661	27.715	39.0	0.736
1200	2.044	34.677	27.731	37.4	0.779
1300	2.005	34.686	27.742	36.4	0.822
1400	1.907	34.700	27.761	34.6	0.864
1500	1.826	34.709	27.774	33.4	0.904

25

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 42.1S	41 17.5W	11/24/78	0252 GMT

Z	T	S	SIGMA T	DT	DD
0	3.838	33.950	26.991	107.6	0.000
10	3.847	33.948	26.988	107.8	0.011
20	3.840	33.948	26.989	107.8	0.022
30	3.836	33.948	26.990	107.7	0.032
40	3.660	33.950	27.009	105.9	0.043
50	3.139	33.963	27.068	100.3	0.053
75	3.019	33.964	27.080	99.2	0.078
100	2.771	33.980	27.115	95.9	0.103
125	1.951	34.005	27.202	87.6	0.126
150	1.663	34.004	27.222	85.7	0.148
175	1.682	34.026	27.239	84.1	0.169
200	2.159	34.115	27.273	80.8	0.190
225	2.005	34.139	27.305	77.9	0.210
250	1.850	34.154	27.329	75.6	0.229
275	1.843	34.170	27.342	74.3	0.248
300	1.929	34.208	27.366	72.1	0.267
350	2.146	34.279	27.405	68.3	0.303
400	2.245	34.328	27.437	65.4	0.337
450	2.359	34.394	27.480	61.2	0.370
500	2.357	34.428	27.507	58.7	0.401
550	2.317	34.459	27.535	56.0	0.431
600	2.309	34.503	27.571	52.6	0.460
650	2.244	34.532	27.599	49.9	0.487
700	2.271	34.558	27.618	48.1	0.513
750	2.249	34.581	27.638	46.2	0.539
800	2.232	34.604	27.658	44.4	0.563
850	2.199	34.619	27.673	43.0	0.587
900	2.180	34.632	27.685	41.8	0.611
950	2.147	34.645	27.698	40.6	0.634
1000	2.125	34.655	27.707	39.7	0.656
1100	2.069	34.672	27.726	38.0	0.700
1200	1.977	34.691	27.748	35.8	0.742
1300	1.882	34.704	27.766	34.2	0.783
1400	1.794	34.715	27.781	32.7	0.822
1500	1.709	34.720	27.792	31.7	0.860
1600	1.648	34.725	27.800	30.9	0.897
1700	1.550	34.728	27.810	30.0	0.934
1800	1.475	34.727	27.815	29.5	0.969
1839	1.478	34.726	27.814	29.6	0.983

21 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 26. S	41 16. W	11/23/78	1817 GMT

Z	T	S	SIGMA T	DT	DD
0	4.038	33.959	26.978	108.9	0.000
10	3.998	33.952	26.976	109.0	0.011
20	3.966	33.949	26.977	108.9	0.022
30	3.281	33.912	27.045	105.4	0.033
40	3.055	33.912	27.035	103.4	0.043
50	3.009	33.921	27.047	102.3	0.053
75	2.950	33.949	27.074	99.7	0.079
100	2.821	33.961	27.095	97.7	0.103
125	2.631	33.977	27.124	95.0	0.128
150	2.070	34.024	27.208	87.1	0.151
175	1.862	34.017	27.218	86.1	0.172
200	1.710	34.031	27.241	83.9	0.194
225	2.087	34.101	27.268	81.5	0.215
250	2.117	34.129	27.288	79.5	0.235
275	2.005	34.140	27.305	77.8	0.255
300	1.873	34.146	27.320	76.4	0.274
350	1.701	34.163	27.347	73.9	0.313
400	1.781	34.243	27.405	68.4	0.349
450	2.185	34.325	27.439	65.1	0.383
500	2.313	34.376	27.469	62.3	0.416
550	2.357	34.424	27.504	59.0	0.448
600	2.375	34.467	27.537	55.8	0.478
650	2.312	34.489	27.560	53.7	0.507
700	2.297	34.523	27.588	51.0	0.535
750	2.291	34.548	27.608	49.1	0.562
800	2.267	34.572	27.630	47.1	0.588
850	2.244	34.590	27.646	45.5	0.613
900	2.213	34.601	27.657	44.4	0.638
950	2.204	34.618	27.667	43.5	0.662
1000	2.185	34.626	27.679	42.3	0.686
1100	2.124	34.655	27.708	39.7	0.732
1200	2.044	34.680	27.734	37.2	0.776
1300	1.972	34.692	27.749	35.7	0.818
1400	1.918	34.700	27.760	34.7	0.860
1500	1.836	34.707	27.772	33.6	0.900
1600	1.775	34.714	27.782	32.6	0.940
1700	1.668	34.719	27.794	31.5	0.978
1800	1.588	34.721	27.802	30.8	1.016
1900	1.472	34.723	27.812	29.8	1.052
2000	1.396	34.721	27.816	29.4	1.088
2100	1.328	34.721	27.820	29.0	1.124
2200	1.224	34.720	27.827	28.4	1.158
2300	1.155	34.717	27.829	28.2	1.192
2400	1.076	34.715	27.833	27.8	1.226
2500	0.985	34.713	27.837	27.4	1.259
2600	0.879	34.709	27.841	27.0	1.291
2700	0.821	34.707	27.843	26.8	1.322
2800	0.807	34.706	27.843	26.8	1.353
2900	0.745	34.703	27.845	26.7	1.384
3000	0.717	34.701	27.845	26.7	1.415
3100	0.727	34.701	27.844	26.7	1.446
3200	0.725	34.700	27.844	26.8	1.477
3300	0.718	34.699	27.843	26.8	1.508
3400	0.687	34.697	27.843	26.8	1.539
3500	0.684	34.696	27.843	26.9	1.570
3600	0.678	34.696	27.843	26.8	1.602
3678	0.673	34.696	27.844	26.8	1.626

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 30.6S	39 08.0W	11/24/78	1331 1748 GMT	4059M	320	27KT	1	320 8 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	2.69	33.878	8.48	1.19	2.	0.26	17.8	102.9	0	2.69	33.878	8.48	27.041	102.9	0.000
33	2.45	33.878	8.41	1.24	2.	0.28	18.6	101.0	10	2.62	33.879	8.46	27.046	102.4	0.010
63	1.71	33.880	8.12	1.47	4.	0.33	20.6	95.4	20	2.55	33.879	8.44	27.052	101.8	0.020
94	1.60	33.881	8.00	1.48	5.	0.34	20.9	94.6	30	2.47	33.879	8.42	27.059	101.2	0.031
124	0.83	33.928	7.94	1.89	22.	0.25	25.8	86.2	50	2.02	33.880	8.25	27.095	97.8	0.051
154	0.47	34.036	7.32	2.14	39.	0.14	29.8	75.9	75	1.67	33.880	8.06	27.121	95.2	0.075
184	0.89	34.203	6.10	2.29	52.	0.13	32.5	65.6	100	1.46	33.887	7.99	27.142	93.3	0.098
215	1.18	34.307	5.41	2.40	61.	0.10	33.8	59.5	125	0.81	33.932	7.93	27.221	85.8	0.121
256	1.44	34.405	4.88	2.47	69.	0.06	34.5	53.7	150	0.48	34.020	7.44	27.310	77.3	0.141
306	1.63	34.485	4.65	2.47	75.	0.02	34.5	48.9	200	1.05	34.264	5.69	27.472	62.0	0.176
367	1.76	34.544	4.33	2.44	81.	0.03	34.4	45.4	250	1.41	34.394	4.93	27.552	54.4	0.205
438	1.84	34.599	4.28	2.42	84.	0.01	33.9	41.8	300	1.61	34.478	4.67	27.605	49.4	0.232
518	1.817	34.634	4.31	2.37	88.	0.00	33.5	39.0	400	1.81	34.573	4.31	27.666	43.6	0.280
610	1.839	34.673	4.29	2.34	93.	0.00	33.0	36.2	500	1.83	34.628	4.30	27.709	39.5	0.323
712	1.790	34.690	4.32	2.33	95.	0.00	32.7	34.5	600	1.84	34.670	4.29	27.742	36.4	0.363
813	1.690	34.700	4.41	2.29	97.	0.00	32.5	33.1	700	1.80	34.690	4.31	27.760	34.7	0.402
885A	1.66	34.709	4.33	2.27	96.	0.00	32.4	32.2	800	1.70	34.699	4.40	27.775	33.2	0.439
1044	1.462	34.713	4.60	2.29	103.	0.00	32.1	30.5	1000	1.52	34.714	4.52	27.800	30.9	0.510
1137A	1.40		4.52						1200	1.38	34.719	4.54	27.814	29.5	0.577
1262A	1.37	34.722		2.26	107.	0.01	32.1	29.2	1500	1.07	34.712	4.69	27.831	28.0	0.675
1389A	1.15	34.712	4.60	2.25	109.	0.01	32.1	28.5	1750	0.80	34.703	4.86	27.840	27.1	0.751
1514A	1.06	34.712	4.70	2.26	114.	0.00	32.2	27.9	2000	0.64	34.694	4.92	27.844	26.8	0.825
1640A	0.92	34.710	4.77	2.27	115.	0.01	32.1	27.2	2250	0.49	34.689	4.97	27.848	26.3	0.897
1765A	0.79	34.701	4.87	2.26	118.	0.00	32.2	27.1	2500	0.39	34.684	4.99	27.850	26.2	0.966
1892A	0.70	34.698	4.86	2.26	120.	0.00	32.4	26.8	2750	0.27	34.678	5.14	27.851	26.0	1.034
2018A	0.63	34.693	4.93	2.26	120.	0.00	32.3	26.8	3000	0.18	34.674	5.20	27.854	25.8	1.100
2144A	0.54	34.690	4.98	2.29	122.	0.01	32.4	26.5	3250	0.08	34.671	5.27	27.857	25.5	1.163
2270A	0.48	34.688	4.97	2.28	122.	0.01	32.4	26.3							
2399A	0.43	34.684	5.03	2.31	123.	0.01	32.4	26.3							
2526A	0.379	34.683	4.99	2.32	123.	0.01	32.6	26.1							
2654A	0.323	34.680	5.13	2.31	124.	0.00	32.5	26.1							
2782A	0.259	34.676	5.14	2.31	125.	0.00	32.6	26.0							
2911A	0.218	34.675	5.21	2.32	125.	0.00	32.6	25.9							
3040A	0.163	34.673	5.20	2.30	127.	0.01	32.6	25.8							
3148A	0.118	34.672	5.25	2.32	128.	0.01	32.6	25.6							
3278A	0.071	34.670	5.27	2.34	129.	0.01	32.6	25.5							
3409A	0.043	34.672	5.25	2.32	130.	0.01	32.7	25.2							

24 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 30.6S	39 29.4W	11/24/78	1708 GMT

Z	T	S	SIGMA T	DT	DD
0	2.723	33.879	27.038	103.1	0.000
10	2.716	33.877	27.037	103.2	0.010
20	2.698	33.876	27.038	103.1	0.021
30	2.660	33.876	27.041	102.8	0.031
40	2.484	33.877	27.057	101.3	0.041
50	2.135	33.878	27.086	98.6	0.051
75	1.678	33.884	27.125	94.9	0.075
100	1.585	33.885	27.133	94.2	0.099
125	0.969	33.919	27.201	87.7	0.122
150	0.442	33.997	27.295	78.7	0.143
175	0.770	34.163	27.410	67.9	0.161
200	1.069	34.271	27.477	61.5	0.177
225	1.295	34.343	27.520	57.5	0.192
250	1.425	34.396	27.553	54.5	0.206
275	1.550	34.446	27.584	51.4	0.220
300	1.634	34.478	27.604	49.5	0.233
350	1.726	34.531	27.639	46.1	0.257
400	1.796	34.570	27.665	43.7	0.280
450	1.836	34.604	27.689	41.4	0.303
500	1.820	34.625	27.707	39.7	0.324
550	1.877	34.650	27.723	38.2	0.344
600	1.849	34.672	27.743	36.3	0.364
650	1.836	34.683	27.753	35.4	0.384
700	1.805	34.687	27.758	34.9	0.403
750	1.776	34.694	27.766	34.1	0.421
800	1.740	34.699	27.773	33.5	0.440
850	1.674	34.704	27.782	32.7	0.458
900	1.644	34.708	27.787	32.1	0.476
950	1.569	34.709	27.793	31.5	0.494
1000	1.522	34.712	27.799	31.0	0.511
1053	1.455	34.712	27.804	30.5	0.529

24 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 30.7S	39 27.9W	11/24/78	1207 GMT

Z	T	S	SIGMA T	DT	DD
0	2.643	33.874	27.041	102.8	0.000
10	2.624	33.876	27.045	102.5	0.010
20	2.603	33.876	27.046	102.4	0.021
30	2.517	33.877	27.054	101.6	0.031
40	2.377	33.878	27.067	100.4	0.041
50	1.934	33.875	27.099	97.4	0.051
75	1.698	33.884	27.124	95.0	0.075
100	1.630	33.883	27.128	94.6	0.099
125	0.887	33.932	27.217	86.2	0.121
150	0.458	34.027	27.319	76.5	0.142
175	0.795	34.172	27.415	67.4	0.160
200	1.116	34.291	27.490	60.3	0.176
225	1.313	34.356	27.531	56.4	0.190
250	1.429	34.402	27.558	53.9	0.204
275	1.552	34.445	27.583	51.4	0.218
300	1.624	34.479	27.605	49.4	0.231
350	1.729	34.531	27.639	46.2	0.255
400	1.776	34.560	27.659	44.3	0.278
450	1.842	34.596	27.682	42.0	0.301
500	1.830	34.617	27.700	40.4	0.322
550	1.822	34.634	27.714	39.0	0.343
600	1.870	34.655	27.728	37.8	0.364
650	1.865	34.670	27.740	36.6	0.384
700	1.847	34.682	27.752	35.4	0.403
750	1.785	34.694	27.765	34.2	0.422
800	1.744	34.699	27.772	33.5	0.441
850	1.664	34.699	27.778	33.0	0.459
900	1.631	34.706	27.786	32.2	0.477
950	1.608	34.709	27.790	31.8	0.495
1000	1.551	34.712	27.797	31.2	0.512
1100	1.421	34.711	27.806	30.4	0.546
1200	1.396	34.720	27.815	29.5	0.580
1300	1.268	34.716	27.821	29.0	0.613
1400	1.134	34.711	27.826	28.5	0.645
1500	1.046	34.710	27.831	28.0	0.677
1600	0.982	34.707	27.833	27.8	0.708
1700	0.902	34.705	27.836	27.5	0.739
1800	0.806	34.700	27.838	27.3	0.770
1900	0.707	34.698	27.843	26.8	0.800
2000	0.632	34.695	27.845	26.6	0.829
2100	0.579	34.691	27.845	26.6	0.858
2200	0.526	34.688	27.846	26.6	0.886
2300	0.481	34.687	27.848	26.4	0.915
2400	0.429	34.684	27.848	26.3	0.943
2500	0.380	34.681	27.849	26.3	0.970
2600	0.333	34.680	27.851	26.1	0.998
2700	0.291	34.678	27.851	26.0	1.025
2800	0.254	34.679	27.854	25.8	1.051
2900	0.206	34.676	27.854	25.7	1.077
3000	0.162	34.675	27.856	25.6	1.103
3100	0.132	34.672	27.855	25.7	1.128
3200	0.109	34.672	27.857	25.6	1.153
3300	0.068	34.672	27.859	25.4	1.178
3400	0.042	34.671	27.859	25.3	1.202
3500	0.016	34.670	27.860	25.2	1.226
3600	-0.013	34.673	27.864	24.9	1.249
3700	-0.056	34.671	27.864	24.8	1.272
3800	-0.081	34.668	27.863	24.9	1.295
3900	-0.114	34.666	27.863	24.9	1.317
4000	-0.177	34.665	27.866	24.7	1.338
4043	-0.181	34.665	27.866	24.7	1.347

RV MELVILLE — INDOMED LEG XIII — 25

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 26.3S	38 08.4W	11/24/78	2326 0245	GMT	4643M	270	25KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	2.61	33.856	8.38	1.16	2.	0.27	17.4	103.9	0	2.61	33.856	8.38	27.030	103.9	0.000
26	2.59	33.854	8.65	1.17	2.	0.27	17.5	103.9	10	2.60	33.857	8.53	27.030	103.9	0.010
52	1.06	33.830	8.42	1.49	8.	0.25	21.6	95.0	20	2.59	33.856	8.63	27.030	103.9	0.021
78	0.76	33.840	8.30	1.65	11.	0.24	22.7	92.4	30	2.36	33.849	8.63	27.043	102.6	0.031
105	0.91	33.881	8.12	1.56	6.	0.24	21.6	90.2	50	1.18	33.832	8.44	27.117	95.7	0.051
135	0.59	33.877	8.12	1.65	12.	0.24	22.9	88.7	75	0.79	33.842	8.31	27.150	92.6	0.075
155	0.50	33.977	7.46	2.08	30.	0.19	28.0	80.6	100	0.88	33.875	8.15	27.171	90.6	0.097
175	0.57	34.044	7.02	2.19	40.	0.12	29.8	75.9	125	0.71	33.881	8.12	27.185	89.2	0.120
207	0.90	34.170	6.12	2.32	50.	0.09	32.3	68.2	150	0.51	33.951	7.64	27.254	82.7	0.141
247	1.40	34.311	5.23	2.44	60.	0.06	34.1	60.6	200	0.81	34.143	6.32	27.390	69.8	0.180
297	1.74	34.411	4.63	2.47	68.	0.04	35.1	55.3	250	1.43	34.320	5.18	27.491	60.2	0.212
358	1.83	34.472	4.40	2.50	74.	0.04	35.1	51.4	300	1.74	34.415	4.61	27.545	55.1	0.242
439	1.90	34.536	4.22	2.51	79.	0.02	35.0	47.0	400	1.87	34.508	4.29	27.609	49.0	0.295
519	1.96	34.589	4.13	2.47	84.	0.02	34.4	43.4	500	1.95	34.579	4.14	27.660	44.2	0.344
610	1.94	34.627	4.10	2.43	89.	0.02	34.2	40.4	600	1.94	34.625	4.10	27.697	40.7	0.388
711	1.91	34.661	4.16	2.36	91.	0.02	34.1	37.6	700	1.91	34.659	4.15	27.726	37.9	0.431
811	1.89	34.684	4.16	2.37	95.	0.01	33.2	35.7	800	1.89	34.682	4.16	27.747	35.9	0.471
905A	1.86	34.702	4.16	2.35	93.	0.00	32.9	34.1	1000	1.80	34.711	4.21	27.778	33.0	0.548
1063	1.74	34.713	4.25	2.33	100.	0.01	32.6	32.4	1200	1.60	34.714	4.35	27.795	31.4	0.621
1211A	1.59	34.714	4.36	2.33	99.	0.00	32.5	31.3	1500	1.80	34.786	4.79	27.837	27.4	0.725
1364A	1.82	34.767	4.71	2.11	85.	0.00	29.8	28.9	1750	1.35	34.738	4.71	27.831	27.9	0.809
1517A	1.80	34.787	4.80	2.00	82.	0.01	28.8	27.3	2000	1.04	34.722	4.66	27.841	27.0	0.890
1670A	1.49	34.747	4.75	2.18	97.	0.00	30.9	28.1	2250	0.84	34.708	4.79	27.843	26.9	0.967
1824A	1.24	34.732	4.68	2.24	106.	0.00	31.6	27.6	2500	0.65	34.703	4.83	27.850	26.2	1.042
1979A	1.06	34.724	4.66	2.28	111.	0.00	32.1	27.0	2750	0.44	34.702	5.01	27.861	25.2	1.112
2132A	0.927	34.711	4.72	2.29	116.	0.00	32.3	27.2	3000	0.31	34.683	5.03	27.854	25.8	1.180
2284A	0.810	34.707	4.81	2.30	118.	0.01	32.5	26.8	3250	0.20	34.678	5.13	27.856	25.6	1.245
2439A	0.687	34.703	4.83	2.33	119.	0.00	32.5	26.3	3500	0.14	34.675	5.11	27.857	25.5	1.309
2592A	0.592	34.701	4.82	2.33	119.	0.03	32.8	26.0	3750	0.09	34.672	5.21	27.856	25.6	1.371
2746A	0.447	34.701	5.01	2.35	123.	0.01	32.9	25.1	4000	0.05	34.669	5.26	27.856	25.6	1.432
2898A	0.362	34.687	4.99	2.32	126.	0.01	33.0	25.7	4250	-0.01	34.665	5.28	27.857	25.5	1.492
3051A	0.279	34.680	5.05	2.33	128.	0.01	33.0	25.8	4500	-0.12	34.659	5.45	27.857	25.5	1.548
3204A	0.218	34.678	5.11	2.34	128.	0.01	33.0	25.7							
3356A	0.175	34.676	5.15	2.35	128.	0.00	33.0	25.6							
3507A	0.135	34.674	5.11	2.35	129.	0.01	33.0	25.5							
3661A	0.111	34.672	5.21	2.35	130.	0.01	33.1	25.6							
3811A	0.080	34.670	5.21	2.34	131.	0.01	33.1	25.6							
3963A	0.052	34.668	5.26	2.35	130.	0.00	33.0	25.6							
4113A	0.029	34.667	5.26	2.35	130.	0.00	32.9	25.5							
4264A	-0.016	34.664	5.29	2.32	130.	0.00	32.9	25.5							
4412A	-0.075	34.660	5.40	2.32	130.	0.00	32.8	25.6							
4602A	-0.179	34.656	5.48	2.29	130.	0.02	32.6	25.4							

RV MELVILLE — INDOMED LEG XIII — 26

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
48 41.8S	33 02.6W	11/26/78	0047 0524	GMT	5542M	270	30KT	5	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	3.39	33.873	8.01	1.37	2.	0.25	18.6	109.3	0	3.39	33.873	8.01	26.973	109.3	0.000
38	3.29	33.875	8.03	1.39	2.	0.25	19.9	108.2	10	3.37	33.875	8.01	26.976	109.0	0.011
73	1.67	33.847	8.09	1.64	7.	0.27	21.7	97.6	20	3.34	33.875	8.02	26.979	108.8	0.022
104	1.13	33.864	8.02	1.70	13.	0.27	23.6	92.8	30	3.31	33.876	8.03	26.982	108.5	0.033
139	1.18	33.979	7.46	1.91	20.	0.18	26.5	84.4	50	2.76	33.862	8.06	27.020	104.8	0.054
155	1.30	34.002	7.31	1.93	22.	0.10	27.4	83.4	75	1.61	33.848	8.09	27.100	97.3	0.079
175	1.46	34.044	7.02	2.02	24.		28.8	81.3	100	1.16	33.860	8.03	27.141	93.4	0.103
194	1.52	34.072	6.80	2.06	27.		29.4	79.5	125	1.16	33.939	7.70	27.204	87.4	0.126
226	1.44	34.100	6.62	2.12	31.	0.06	30.2	76.9	150	1.26	33.996	7.36	27.244	83.6	0.147
266	1.72	34.170	6.11	2.20	37.	0.05	31.6	73.5	200	1.50	34.078	6.76	27.293	79.0	0.188
317	1.96	34.239	5.50	2.30	45.	0.04	32.9	70.0	250	1.59	34.142	6.33	27.337	74.8	0.227
377	2.177	34.316	5.02	2.38	53.	0.04	34.1	65.7	300	1.89	34.216	5.69	27.376	71.1	0.264
458	2.047	34.365	4.77	2.44	63.	0.04	34.6	61.0	400	2.15	34.332	4.93	27.447	64.4	0.333
560	2.265	34.472	4.27	2.47	70.	0.03	35.0	54.6	500	2.13	34.412	4.55	27.512	58.2	0.396
642A	2.23	34.494	4.17	2.41	71.	0.02	34.6	52.7	600	2.25	34.483	4.20	27.559	53.7	0.455
737	2.199	34.574	4.08	2.45	81.	0.04	35.0	46.4	700	2.21	34.546	4.12	27.613	48.5	0.509
789A	2.21	34.567	3.99	2.38	79.	0.01	34.7	47.0	800	2.21	34.571	3.99	27.632	46.8	0.561
1017	2.075	34.652	4.08	2.38	88.	0.04	33.9	39.5	1000	2.09	34.644	4.07	27.701	40.3	0.657
1186A	2.01	34.684	4.70	2.26	89.	0.02	32.9	36.6	1200	2.02	34.689	4.70	27.743	36.3	0.744
1385A	2.19	34.753	4.71	2.09	79.	0.01	30.4	32.8	1500	2.21	34.778	4.77	27.798	31.1	0.865
1584A	2.23	34.791	4.81	1.95	72.	0.01	28.4	30.2	1750	2.08	34.778	4.78	27.813	29.7	0.962
1780A	1.98	34.773	4.78	2.03	81.	0.01	29.2	29.6	2000	1.68	34.747	4.67	27.819	29.1	1.055
1977A	1.65	34.748	4.67	2.13	94.	0.01	30.6	29.1	2250	1.41	34.739	4.74	27.828	28.3	1.144
2174A	1.48	34.742	4.71	2.14	98.	0.03	30.8	28.4	2500	1.17	34.741	4.76	27.847	26.5	1.230
2370A	1.30	34.732	4.77	2.19	104.	0.01	31.2	28.0	2750	0.93	34.714	4.78	27.841	27.0	1.311
2566A	1.102	34.742	4.75	2.22	111.	0.01	31.9	25.9	3000	0.74	34.701	4.88	27.842	26.9	1.390
2762A	0.92	34.711	4.78	2.24	115.	0.02	32.2	27.1	3250	0.55	34.691	4.97	27.846	26.5	1.466
2957A	0.773	34.702	4.87	2.23	116.	0.03	32.2	26.9	3500	0.39	34.685	5.06	27.851	26.1	1.537
3151A	0.627	34.693	4.93	2.28	121.	0.01	32.4	26.8	3750	0.28	34.683	5.12	27.856	25.6	1.605
3344A	0.476	34.688	5.00	2.30	125.	0.03	32.8	26.3	4000	0.21	34.686	5.15	27.862	25.1	1.670
3535A	0.323	34.682	5.11	2.31	126.	0.02	32.9	25.9	4250	0.17	34.684	5.19	27.862	25.0	1.732
3721A	0.224	34.685		2.32	128.	0.02	33.0	25.2	4500	0.16	34.672	5.29	27.853	25.9	1.795
4207A	0.177	34.686 E	5.17	2.32	130.	0.02	33.0	24.8	4750	0.17	34.670	5.24	27.851	26.1	1.859
4491A	0.157	34.671 E	5.29	2.32	130.	0.03	33.4	25.9	5000	0.18	34.668	5.24	27.849	26.3	1.924
4772A	0.168	34.669	5.23	2.33	130.	0.03	33.1	26.1	5250	0.18	34.666	5.24	27.847	26.5	1.990
5051A	0.180	34.667	5.25	2.33	131.	0.03	33.1	26.3							
5328A	0.185	34.664	5.23	2.29	130.	0.02	33.1	26.6							

E) SALINITY SAMPLES AT 4207 AND 4491 METERS APPEAR TO HAVE BEEN REVERSED. THEY ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.

25 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 27.2S	38 39.0W	11/25/78	0202 GMT

Z	T	S	SIGMA T	DT	DD
0	2.661	33.856	27.025	104.3	0.000
10	2.466	33.849	27.036	103.3	0.010
20	2.483	33.852	27.037	103.2	0.021
30	2.404	33.848	27.041	102.9	0.031
40	1.959	33.832	27.063	100.8	0.041
50	1.156	33.826	27.115	95.9	0.051
75	0.795	33.847	27.154	92.1	0.075
100	0.771	33.874	27.178	89.9	0.097
125	0.876	33.890	27.184	89.3	0.120
150	0.558	33.973	27.270	81.2	0.141
175	0.605	34.057	27.334	75.1	0.161
200	0.892	34.168	27.406	68.3	0.179
225	1.256	34.275	27.468	62.4	0.195
250	1.498	34.340	27.503	59.0	0.210
275	1.649	34.380	27.524	57.0	0.225
300	1.775	34.420	27.547	54.9	0.239
350	1.825	34.466	27.580	51.8	0.267
400	1.873	34.508	27.610	48.9	0.293
450	1.913	34.545	27.636	46.4	0.317
500	1.924	34.573	27.658	44.4	0.341
550	1.993	34.607	27.680	42.3	0.364
600	1.997	34.625	27.694	41.0	0.386
650	2.000	34.645	27.709	39.5	0.408
700	1.898	34.646	27.718	38.7	0.429
750	1.910	34.668	27.735	37.1	0.449
775	1.902	34.670	27.737	36.9	0.459

25 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 26. S	38 38. W	11/24/78	2144 GMT

Z	T	S	SIGMA T	DT	DD
0	2.779	33.858	27.017	105.2	0.000
10	2.777	33.857	27.016	105.2	0.011
20	2.721	33.859	27.023	104.6	0.021
30	2.737	33.859	27.021	104.7	0.032
40	1.882	33.867	27.097	97.6	0.042
50	1.656	33.878	27.122	95.2	0.051
75	1.473	33.882	27.138	93.6	0.075
100	1.068	33.876	27.161	91.5	0.098
125	1.074	33.899	27.179	89.8	0.121
150	0.511	33.978	27.276	80.5	0.142
175	0.609	34.067	27.342	74.3	0.161
200	1.018	34.206	27.428	66.1	0.179
225	1.255	34.274	27.467	62.4	0.195
250	1.444	34.330	27.499	59.4	0.211
275	1.673	34.386	27.527	56.8	0.225
300	1.768	34.417	27.545	55.1	0.240
350	1.863	34.480	27.588	51.0	0.267
400	1.894	34.510	27.610	48.9	0.293
450	1.955	34.547	27.635	46.6	0.317
500	1.941	34.576	27.659	44.5	0.341
550	1.989	34.606	27.679	42.4	0.364
600	1.927	34.619	27.694	40.9	0.386
650	1.934	34.636	27.707	39.7	0.408
700	1.918	34.655	27.724	38.1	0.429
750	1.905	34.668	27.735	37.1	0.449
800	1.904	34.682	27.746	36.0	0.469
850	1.860	34.689	27.755	35.1	0.489
900	1.868	34.699	27.763	34.4	0.508
950	1.892	34.702	27.766	34.1	0.527
1000	1.804	34.707	27.774	33.4	0.546
1100	1.666	34.704	27.782	32.6	0.583
1200	1.601	34.712	27.794	31.5	0.619
1300	1.842	34.764	27.817	29.3	0.655
1400	1.983	34.797	27.832	27.9	0.690
1500	1.803	34.780	27.833	27.8	0.724
1600	1.678	34.767	27.832	27.9	0.758
1700	1.384	34.733	27.826	28.4	0.792
1800	1.288	34.729	27.830	28.1	0.826
1900	1.129	34.717	27.831	28.0	0.858
2000	1.044	34.714	27.834	27.7	0.891
2100	0.957	34.709	27.836	27.5	0.923
2200	0.879	34.707	27.839	27.2	0.954
2300	0.807	34.704	27.841	27.0	0.985
2400	0.722	34.701	27.844	26.7	1.015
2500	0.658	34.696	27.844	26.7	1.045
2600	0.598	34.695	27.847	26.4	1.075
2700	0.479	34.689	27.849	26.2	1.103
2800	0.421	34.686	27.850	26.1	1.132
2900	0.357	34.684	27.853	25.9	1.159
3000	0.290	34.679	27.852	26.0	1.186
3100	0.246	34.678	27.854	25.8	1.213
3200	0.211	34.677	27.855	25.7	1.239
3300	0.180	34.675	27.855	25.7	1.264
3400	0.158	34.672	27.854	25.8	1.290
3500	0.144	34.672	27.855	25.7	1.315
3600	0.122	34.673	27.857	25.5	1.341
3700	0.106	34.671	27.856	25.6	1.365
3800	0.080	34.670	27.856	25.6	1.390
3900	0.064	34.667	27.855	25.7	1.415
4000	0.052	34.665	27.854	25.8	1.439
4100	0.033	34.664	27.854	25.8	1.463
4200	0.004	34.669	27.860	25.3	1.487
4300	-0.025	34.667	27.860	25.3	1.510
4400	-0.067	34.666	27.861	25.1	1.533
4500	-0.145	34.661	27.861	25.2	1.555
4600	-0.176	34.660	27.862	25.1	1.576
4618	-0.179	34.659	27.861	25.1	1.580

26

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 43.5S	33 56.9W	11/26/78	0432 GMT

Z	T	S	SIGMA T	DT	DD
0	3.432	33.873	26.969	109.6	0.000
10	3.420	33.878	26.974	109.2	0.011
20	3.423	33.878	26.974	109.2	0.022
30	3.424	33.878	26.974	109.2	0.033
40	2.945	33.866	27.009	105.9	0.044
50	2.005	33.854	27.077	99.5	0.054
75	1.754	33.861	27.101	97.1	0.079
100	1.155	33.854	27.137	93.7	0.102
125	1.148	33.940	27.207	87.1	0.125
150	1.341	34.011	27.251	83.0	0.146
175	1.359	34.038	27.271	81.0	0.167
200	1.556	34.093	27.301	78.2	0.187
225	1.512	34.119	27.325	75.9	0.206
250	1.386	34.132	27.345	74.1	0.225
275	1.605	34.168	27.358	72.8	0.244
300	1.890	34.219	27.377	71.0	0.262
350	2.101	34.289	27.417	67.2	0.297
400	2.184	34.333	27.445	64.5	0.331
450	2.141	34.360	27.470	62.1	0.364
500	2.099	34.403	27.508	58.6	0.395
550	2.234	34.457	27.540	55.5	0.425
600	2.306	34.494	27.564	53.3	0.453
650	2.291	34.526	27.591	50.7	0.481
700	2.197	34.555	27.622	47.8	0.507
750	2.204	34.574	27.636	46.4	0.533
800	2.181	34.594	27.654	44.7	0.557
850	2.126	34.615	27.675	42.7	0.581
900	2.145	34.635	27.690	41.4	0.605
950	2.143	34.646	27.699	40.5	0.627
1000	2.085	34.650	27.707	39.8	0.650
1026	2.088	34.658	27.713	39.2	0.661

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
48 25.5S	32 03.8W	11/26/78	1424 1537 GMT	5237M	290	15KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	4.98	33.962	7.51	1.43	7.	0.23	19.7	118.3	0	4.98	33.962	7.51	26.878	118.3	0.000
21	4.94	33.958	7.58	1.43	7.	0.24	19.9	118.2	10	4.97	33.962	7.56	26.879	118.3	0.012
47	4.83	33.961	7.47	1.43	6.	0.17	19.8	116.8	20	4.94	33.960	7.58	26.879	118.2	0.024
72	4.79	33.960	7.33	1.45	7.	0.22	19.7	116.4	30	4.90	33.960	7.56	26.884	117.7	0.035
93	4.02	33.964	7.34	1.59	10.	0.22	21.5	108.3	50	4.85	33.962	7.45	26.895	116.7	0.059
113	3.87	33.966	7.33	1.62	11.	0.25	22.0	106.7	75	4.68	33.961	7.33	26.910	115.3	0.088
133	3.43	33.963	7.40	1.70	13.	0.32	22.9	102.8	100	3.95	33.967	7.34	26.992	107.5	0.116
164	2.05	33.919	7.63	1.83	18.	0.15	26.0	94.9	125	3.64	33.967	7.36	27.023	104.6	0.143
205	1.97	33.988	7.25	1.90	20.	0.05	27.0	89.0	150	2.66	33.935	7.54	27.088	98.4	0.169
245	1.53	34.043	6.87	2.05	27.	0.04	29.0	81.8	200	1.98	33.982	7.32	27.180	89.7	0.216
276	1.52	34.113	6.42	2.19	34.	0.03	30.8	76.4	250	1.53	34.057	6.80	27.274	80.8	0.259
306	1.76	34.171	6.00	2.22	37.	0.04	31.4	73.7	300	1.71	34.161	6.08	27.344	74.1	0.298
357	1.92	34.226	5.50	2.33	44.	0.03	32.6	70.5	400	2.04	34.276	5.18	27.411	67.7	0.370
429	2.10	34.307	5.01	2.41	52.	0.02	33.6	65.8	500	2.15	34.375	4.68	27.481	61.1	0.437
510	2.15	34.383	4.64	2.46	61.	0.03	34.4	60.5	600	2.26	34.446	4.31	27.529	56.6	0.498
612	2.27	34.453	4.28	2.48	65.	0.03	34.7	56.1	700	2.32	34.517	4.13	27.581	51.6	0.556
714	2.32	34.526	4.11	2.46	73.	0.03	34.7	51.0	800	2.29	34.562	3.95	27.619	48.0	0.609
830A	2.28	34.573	3.92	2.46	78.	0.01	34.7	47.1	1000	2.35	34.656	4.02	27.689	41.4	0.709
916	2.29	34.619	4.06	2.40	81.	0.03	33.6	43.7	1200	2.05	34.668	4.00	27.723	38.2	0.799
1033A	2.37	34.666	4.01	2.33	78.	0.03	33.0	40.8	1500	1.89	34.709	4.19	27.769	33.8	0.926
1135A	2.11	34.698	4.00	2.38	80.	0.00	33.8	39.3	1750	1.84	34.742	4.47	27.799	31.0	1.024
1237A	2.04	34.674	4.00	2.34	91.	0.03	33.7	37.6	2000	1.63	34.739	4.55	27.812	29.8	1.119
1339A	2.00	34.691	4.15	2.35	91.	0.04	33.2	36.0	2250	1.46	34.742	4.67	27.827	28.3	1.210
1491A	1.888	34.707	4.17	2.35	97.	0.03	33.0	34.0	2500	1.26	34.729	4.69	27.831	28.0	1.298
1644A	1.892	34.736	4.48	2.21	92.	0.02	31.6	31.8	2750	1.04	34.717	4.77	27.837	27.4	1.383
1803A	1.793	34.740	4.46	2.24	94.	0.00	31.4	30.8	3000	0.84	34.709	4.86	27.843	26.8	1.464
1904A	1.678	34.733	4.48	2.25	99.	0.00	31.8	30.5	3250	0.62	34.696	4.95	27.846	26.6	1.542
2154A	1.570	34.747	4.67	2.15	98.	0.01	31.2	28.7	3500	0.47	34.689	5.00	27.850	26.2	1.615
2358A	1.342	34.735	4.68	2.21	105.	0.00	31.7	28.0	3750	0.34	34.683	5.09	27.852	26.0	1.685
2561A	1.229	34.726	4.69	2.24	109.	0.00	32.0	28.0	4000	0.26	34.677	5.18	27.852	26.0	1.753
2765A	1.023	34.716	4.78	2.30	114.	0.00	32.4	27.4	4250	0.20	34.675	5.22	27.853	25.9	1.819
2967A	0.873	34.711	4.84	2.29	116.	0.00	32.4	26.8	4500	0.17	34.673	5.19	27.853	25.9	1.883
3222A	0.641	34.696	4.95	2.31	121.	0.02	32.9	26.6	4750	0.16	34.670	5.21	27.852	26.0	1.947
3474A	0.481	34.689	4.99	2.30	124.	0.03	33.0	26.2	5000	0.13	34.669	5.31	27.853	25.9	2.011
3728A	0.351	34.683	5.08	2.39U	127.	0.02	33.2	26.0							
3981A	0.269	34.677	5.17	2.41U	128.	0.02	33.3	26.0							
4234A	0.200	34.674	5.22	2.39U	130.	0.02	33.3	25.9							
4486A	0.171	34.672	5.19	2.41U	130.	0.00	33.3	25.9							
4739A	0.159	34.669	5.20	2.41U	131.	0.00	33.3	26.0							
4990A	0.128	34.669	5.31	2.40U	131.	0.00	33.4	25.9							
5191A	0.112	34.661	5.26	2.41U	129.	0.02	33.1	26.4							

27 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 25.9S	32 09.7W	11/26/78	1757 GMT

Z	T	S	SIGMA T	DT	DD
0	5.002	33.956	26.871	119.0	0.000
10	4.998	33.957	26.872	118.9	0.012
20	4.998	33.957	26.872	118.9	0.024
30	4.938	33.960	26.881	118.0	0.036
40	4.833	33.966	26.898	116.4	0.047
50	4.823	33.966	26.899	116.3	0.059
75	4.223	33.971	26.968	109.8	0.088
100	3.858	33.972	27.006	106.1	0.115
125	2.920	33.949	27.077	99.5	0.141
150	2.083	33.930	27.132	94.3	0.165
175	1.911	33.945	27.157	91.9	0.188
200	2.003	33.992	27.187	89.0	0.211
225	1.701	34.000	27.216	86.2	0.233
250	1.529	34.051	27.270	81.2	0.254
275	1.423	34.087	27.306	77.7	0.274
300	1.784	34.172	27.348	73.6	0.294
350	1.867	34.221	27.381	70.6	0.330
400	2.084	34.291	27.420	66.9	0.365
450	2.130	34.336	27.452	63.9	0.399
500	2.147	34.382	27.488	60.5	0.431
550	2.250	34.422	27.511	58.3	0.462
600	2.265	34.462	27.542	55.4	0.492
650	2.234	34.494	27.570	52.7	0.521
700	2.317	34.530	27.592	50.6	0.548
750	2.289	34.555	27.614	48.5	0.575
800	2.247	34.577	27.635	46.5	0.601
850	2.245	34.607	27.659	44.2	0.625
900	2.282	34.623	27.669	43.3	0.650
921	2.296	34.630	27.673	42.9	0.660

27 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 25.5S	32 13.6W	11/26/78	1252 GMT

Z	T	S	SIGMA T	DT	DD
0	4.891	33.957	26.884	117.7	0.000
10	4.842	33.956	26.889	117.3	0.012
20	4.823	33.956	26.891	117.1	0.023
30	4.790	33.954	26.893	116.9	0.035
40	4.789	33.955	26.894	116.8	0.047
50	4.779	33.954	26.894	116.8	0.059
75	3.935	33.933	26.968	109.8	0.087
100	3.921	33.977	27.004	106.4	0.114
125	2.892	33.935	27.068	100.3	0.140
150	2.051	33.920	27.126	94.8	0.165
175	2.118	33.954	27.148	92.7	0.189
200	2.099	33.979	27.170	90.7	0.212
225	1.395	33.960	27.206	87.2	0.234
250	1.339	33.994	27.237	84.3	0.256
275	1.397	34.100	27.318	76.6	0.276
300	1.676	34.161	27.347	73.8	0.295
350	1.817	34.214	27.379	70.8	0.332
400	2.095	34.296	27.423	66.6	0.367
450	2.141	34.338	27.453	63.8	0.400
500	2.162	34.380	27.485	60.8	0.432
550	2.330	34.447	27.525	57.0	0.463
600	2.235	34.467	27.548	54.8	0.493
650	2.268	34.489	27.563	53.3	0.521
700	2.334	34.529	27.590	50.8	0.549
750	2.289	34.548	27.609	49.0	0.576
800	2.268	34.561	27.621	47.9	0.602
850	2.242	34.581	27.639	46.2	0.628
900	2.292	34.599	27.649	45.2	0.653
950	2.298	34.625	27.669	43.3	0.677
1000	2.359	34.648	27.683	42.0	0.701
1100	2.160	34.657	27.706	39.8	0.748
1200	2.076	34.669	27.722	38.2	0.792
1300	2.003	34.686	27.742	36.4	0.836
1400	2.006	34.704	27.756	35.1	0.878
1500	1.907	34.707	27.766	34.1	0.919
1600	1.875	34.720	27.779	32.9	0.959
1700	1.904	34.743	27.795	31.4	0.998
1800	1.802	34.737	27.798	31.1	1.037
1900	1.769	34.747	27.809	30.1	1.075
2000	1.605	34.735	27.812	29.8	1.112
2100	1.605	34.748	27.822	28.8	1.149
2200	1.511	34.743	27.825	28.6	1.185
2300	1.401	34.737	27.828	28.3	1.221
2400	1.302	34.730	27.829	28.1	1.256
2500	1.260	34.730	27.832	27.8	1.291
2600	1.154	34.723	27.834	27.7	1.326
2700	1.055	34.720	27.838	27.3	1.359
2800	0.984	34.716	27.840	27.1	1.392
2900	0.896	34.711	27.841	27.0	1.425
3000	0.823	34.708	27.844	26.8	1.457
3100	0.736	34.702	27.844	26.7	1.488
3200	0.677	34.698	27.845	26.7	1.519
3300	0.590	34.695	27.848	26.4	1.549
3400	0.529	34.690	27.847	26.4	1.578
3500	0.475	34.690	27.851	26.1	1.607
3600	0.413	34.685	27.850	26.2	1.636
3700	0.360	34.684	27.852	26.0	1.664
3800	0.326	34.683	27.853	25.8	1.691
3900	0.288	34.681	27.854	25.8	1.718
4000	0.261	34.680	27.855	25.7	1.745
4100	0.219	34.678	27.855	25.7	1.771
4200	0.202	34.677	27.856	25.7	1.797
4300	0.186	34.676	27.856	25.6	1.822
4400	0.183	34.674	27.854	25.8	1.848
4500	0.172	34.673	27.854	25.8	1.874
4600	0.170	34.672	27.853	25.9	1.899
4700	0.163	34.670	27.852	26.0	1.925
4800	0.155	34.668	27.851	26.1	1.951
4900	0.141	34.669	27.852	26.0	1.976
5000	0.126	34.667	27.852	26.0	2.001
5100	0.102	34.665	27.851	26.1	2.026
5200	0.113	34.665	27.851	26.1	2.051
5218	0.116	34.664	27.850	26.2	2.056

RV MELVILLE — INDOMED LEG XIII — 28

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
48 27.4S	30 09.2W	11/27/78	0508	0925 GMT	5058M	320	20KT	6	49

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	5.47	34.051	7.51	1.27	2.	0.19	17.8	117.1	0	5.47	34.051	7.51	26.891	117.1	0.000
26	5.30	34.063	7.51	1.34	2.	0.19	18.2	114.3	10	5.41	34.050	7.51	26.896	116.6	0.012
62	4.28	34.074	7.09	1.63	9.	0.18	22.4	102.6	20	5.34	34.056	7.51	26.909	115.3	0.023
93	3.16	34.025	7.22	1.73	12.	0.18	24.3	95.8	30	5.22	34.067	7.46	26.933	113.1	0.035
124	3.65	34.125	6.92	1.76	12.	0.10	25.0	92.6	50	4.69	34.075	7.22	27.000	106.8	0.057
155	3.29	34.108	6.83	1.80	14.	0.07	25.6	90.7	75	3.73	34.047	7.14	27.078	99.3	0.083
185	3.09	34.111	6.96	1.85	15.	0.03	26.3	88.7	100	3.24	34.047	7.16	27.125	94.9	0.107
216	2.73	34.096	6.94	1.87	17.	0.03	26.6	86.8	125	3.64	34.126	6.92	27.149	92.6	0.131
246	2.38	34.080	6.96	1.91	19.	0.03	27.2	85.2	150	3.87	34.115	6.84	27.167	90.9	0.154
287	2.57	34.126	6.60	1.98	22.	0.02	28.3	83.2	200	2.93	34.106	6.95	27.201	87.7	0.199
338	2.58	34.156	6.31	2.07	26.	0.02	29.4	81.0	250	2.89	34.085	6.93	27.230	85.0	0.243
399	2.691	34.224	5.77	2.19	34.	0.02	31.1	76.8	300	2.57	34.134	6.52	27.284	82.7	0.286
470	2.563	34.267	5.36	2.29	40.	0.02	32.2	72.5	400	2.69	34.226	5.76	27.317	76.7	0.367
552	2.493	34.330	4.95	2.35	49.	0.02	33.5	67.2	500	2.52	34.290	5.20	27.382	70.5	0.443
643	2.623	34.408	4.58	2.40	57.	0.01	34.1	62.3	600	2.56	34.374	4.75	27.446	64.5	0.514
736	2.479	34.448	4.17	2.44	64.	0.04	34.3	58.1	700	2.54	34.434	4.31	27.496	59.7	0.580
844	2.487	34.517	4.17	2.44	69.	0.02	34.4	53.0	800	2.48	34.489	4.17	27.545	55.0	0.641
911A	2.54	34.560	4.14	2.32	71.	0.01	33.8	50.1	1000	2.53	34.593	4.15	27.624	47.6	0.754
1050	2.517	34.609	4.15	2.35	73.	0.02	33.4	46.2	1200	2.54	34.682	4.26	27.694	41.0	0.856
1102A	2.50	34.633	4.13	2.30	75.	0.01	32.9	44.3	1500	2.37	34.755	4.45	27.767	34.0	0.991
1197A	2.54	34.68	4.26	2.22	73.	0.00	31.9	41.1	1750	2.34	34.777	4.69	27.787	32.2	1.096
1293A	2.53	34.70	4.29	2.12	73.	0.01	31.1	39.5	2000	2.17	34.783	4.78	27.806	30.4	1.199
1388A	2.39	34.713	4.33	2.19	77.	0.01	31.3	37.4	2250	1.88	34.779	4.77	27.826	28.4	1.298
1530A	2.37	34.766	4.49	2.10	76.	0.01	30.4	33.2	2500	1.47	34.741	4.51	27.825	28.5	1.391
1672A	2.37	34.770	4.61	2.03	74.	0.00	29.3	32.9	2750	1.25	34.727	4.73	27.830	28.1	1.481
1814A	2.31	34.781	4.74	2.00	75.	0.02	29.0	31.6	3000	1.04	34.718	4.81	27.838	27.3	1.568
1955A	2.21	34.783	4.77	2.00	77.	0.01	28.8	30.6	3250	0.81	34.707	4.88	27.843	26.8	1.650
2144A	2.03	34.78	4.80	2.03	82.	0.00	29.2	29.5	3500	0.60	34.694	4.96	27.845	26.6	1.727
2334A	1.75	34.775	4.72	2.10	94.	0.00	30.2	27.8	3750	0.40	34.684	5.09	27.849	26.3	1.800
2520A	1.443	34.736	4.49	2.19	104.	0.01	31.4	28.6	4000	0.28	34.678	5.14	27.852	26.0	1.869
2708A	1.282	34.728	4.71	2.21	110.	0.01	31.5	28.1	4250	0.20	34.674	5.18	27.853	25.9	1.935
2896A	1.144	34.722	4.77	2.23	114.	0.00	31.5	27.7	4500	0.17	34.671	5.20	27.852	26.0	2.000
3130A	0.909	34.713	4.86	2.24	119.	0.01	32.1	26.9	4750	0.16	34.670	5.26	27.851	26.1	2.065
3365A	0.722	34.700	4.90	2.25	122.	0.02	32.4	26.8	5000	0.17	34.668	5.21	27.850	26.2	2.129
3600A	0.511	34.688	5.01	2.32	126.	0.01	32.6	26.5							
3834A	0.352	34.681	5.12	2.33	128.	0.01	32.6	26.1							
4069A	0.251	34.676	5.14	2.33	130.	0.02	32.6	26.0							
4305A	0.190	34.673	5.19	2.32	131.	0.00	32.8	25.9							
4539A	0.173	34.670	5.20	2.32	131.	0.00	32.7	26.0							
4775A	0.163	34.669	5.26	2.32	131.	0.00	32.9	26.1							
4964A	0.168	34.668	5.22	2.32	130.	0.02	32.9	26.2							

RV MELVILLE — INDOMED LEG XIII — 29

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
47 38.7S	25 01.1W	11/27/78	1517	1850 GMT	4526M	310	28KT	1	310 10 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	4.36	33.977	7.360	1.51	6.	0.24	20.5	110.7	0	4.36	33.977	7.51	26.958	110.7	0.000
32	4.34	33.979	7.52	1.53	6.	0.24	20.7	110.4	10	4.36	33.978	7.51	26.959	110.5	0.011
67	4.29	33.985	7.50	1.52	6.	0.26	20.8	109.4	20	4.35	33.979	7.52	26.960	110.6	0.022
101	3.14	34.043	7.13	1.81	13.	0.12	25.0	94.2	30	4.34	33.980	7.52	26.962	110.4	0.033
131	3.03	34.081	7.07	1.81	15.	0.05	25.6	90.4	50	4.31	33.983	7.51	26.967	109.9	0.055
161	2.97	34.098	7.00	1.87	15.	0.05	26.1	88.6	75	4.02	33.997	7.41	27.009	105.9	0.082
191	2.89	34.114	6.71	1.98	19.	0.04	27.2	86.7	100	3.17	34.042	7.14	27.127	94.7	0.108
222	2.69	34.125	6.57	2.00	21.	0.04	27.9	84.2	125	3.05	34.080	7.07	27.169	90.7	0.131
252	2.49	34.136	6.36	2.05	25.	0.04	29.0	81.8	150	2.99	34.094	7.04	27.185	89.2	0.154
281	2.45	34.163	6.10	2.13	29.	0.03	30.1	79.4	200	2.84	34.119	6.67	27.218	86.0	0.198
312	2.31	34.169	6.00	2.16	30.	0.03	30.5	77.9	250	2.50	34.136	6.38	27.261	82.0	0.241
351	2.00	34.162	6.04	2.18	33.	0.04	30.8	76.1	300	2.48	34.170	6.02	27.299	78.4	0.282
391	2.23	34.218	5.58	2.27	38.	0.04	31.9	73.6	400	2.24	34.225	5.52	27.354	73.1	0.359
441	2.28	34.257	5.29	2.32	43.	0.03	32.7	71.0	500	2.36	34.314	4.93	27.416	67.3	0.431
500	2.36	34.314	4.93	2.36	50.	0.04	33.6	67.3	600	2.44	34.395	4.52	27.473	61.9	0.499
574	2.42	34.372	4.62	2.43	56.	0.03	34.5	63.4	700	2.48	34.474	4.20	27.533	56.2	0.561
648	2.47	34.435	4.36	2.45	62.	0.03	34.7	59.0	800	2.46	34.526	4.13	27.576	52.1	0.620
717A	2.48	34.485	4.16	2.50	69.	0.00	34.9	55.3	1000	2.38	34.613	4.04	27.652	44.9	0.727
796	2.46	34.523	4.13	2.46	70.	0.04	34.7	52.3	1200	2.30	34.679	4.14	27.712	39.3	0.823
891A	2.43	34.568	4.08	2.46	75.	0.00	34.5	48.6	1500	2.23	34.742	4.44	27.768	34.0	0.954
1065A	2.35	34.635	4.02	2.30	79.	0.02	33.6	42.9	1750	2.07	34.761	4.59	27.797	31.2	1.056
1239A	2.285	34.689	4.19	2.28	80.	0.00	32.6	38.3	2000	1.77	34.753	4.64	27.814	29.6	1.152
1414A	2.264	34.727	4.37	2.19	80.	0.00	31.1	35.3	2250	1.45	34.737	4.63	27.824	28.7	1.244
1587A	2.185	34.752	4.50	2.16	81.	0.00	30.4	32.8	2500	1.18	34.722	4.66	27.831	28.0	1.332
1762A	2.056	34.762	4.59	2.11	83.	0.00	30.1	31.1	2750	0.91	34.707	4.76	27.837	27.4	1.415
1935A	1.834	34.755	4.64	2.16	90.	0.00	30.4	29.9	3000	0.70	34.698	4.86	27.843	26.9	1.494
2109A	1.651	34.749	4.64	2.13	96.	0.01	30.7	29.1	3250	0.49	34.689	5.00	27.848	26.4	1.569
2281A	1.404	34.733	4.63	2.25	104.	0.01	31.4	28.6	3500	0.34	34.680	5.18	27.849	26.2	1.639
2456A	1.217	34.724	4.65	2.27	110.	0.01	31.9	28.0	3750	0.23	34.677	5.12	27.853	25.8	1.706
2630A	1.058	34.714	4.70	2.28	114.	0.01	32.0	27.8	4000	0.15	34.671	5.15	27.853	25.9	1.771
2803A	0.853	34.704	4.79	2.32	118.	0.01	32.6	27.3	4250	0.11	34.670	5.21	27.854	25.8	1.834
2976A	0.721	34.698	4.85	2.31	121.	0.01	32.7	26.9							
3150A	0.555	34.692	4.90	2.31	123.	0.01	32.9	26.4							
3322A	0.450														
3495A	0.340	34.679	5.18	2.34	127.	0.01	32.9	26.2							
3669A	0.261	34.676	5.09	2.34	129.	0.01	33.0	26.0							
3842A	0.193	34.676	5.16	2.36	130.	0.02	33.0	25.7							
4015A	0.145	34.670	5.15	2.35	130.	0.00	32.9	25.9							
4187A	0.112	34.670	5.21	2.36	132.	0.00	32.9	25.7							
4359A	0.108	34.667	5.20	2.33	129.	0.01	32.9	25.9							

28 INDOMED LEG XIII CTD

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 28.3S	30 05.5W	11/27/78	0835 GMT

Z	T	S	SIGMA T	DT	DD
0	5.430	34.040	26.887	117.5	0.000
10	5.437	34.039	26.901	116.1	0.012
20	5.421	34.061	26.905	115.8	0.023
30	5.267	34.056	26.919	114.4	0.035
40	5.180	34.053	26.927	113.7	0.046
50	4.386	34.020	26.990	107.7	0.057
75	3.894	34.088	27.095	97.8	0.083
100	3.388	34.075	27.134	94.0	0.107
125	3.644	34.126	27.150	92.5	0.131
150	3.476	34.133	27.172	90.4	0.154
175	2.909	34.088	27.189	88.9	0.177
200	2.906	34.108	27.205	87.3	0.199
225	2.860	34.116	27.215	86.3	0.221
250	3.066	34.154	27.227	85.2	0.243
275	3.022	34.169	27.243	83.7	0.264
300	2.945	34.174	27.254	82.7	0.286
350	2.654	34.180	27.284	79.8	0.327
400	2.647	34.217	27.314	76.9	0.368
450	2.627	34.250	27.342	74.3	0.407
500	2.528	34.274	27.370	71.7	0.444
550	2.549	34.321	27.406	68.3	0.481
600	2.529	34.364	27.442	64.9	0.516
650	2.630	34.416	27.475	61.6	0.549
700	2.548	34.431	27.494	60.0	0.581
750	2.498	34.461	27.522	57.3	0.613
800	2.502	34.502	27.554	54.2	0.643
850	2.455	34.527	27.577	52.0	0.672
900	2.494	34.556	27.598	50.1	0.700
950	2.604	34.588	27.614	48.5	0.727
1000	2.545	34.593	27.623	47.7	0.754
1050	2.520	34.610	27.639	46.2	0.780

RV MELVILLE — INDOMED LEG XIII — 30

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
47 11.8S	22 06.0W	11/29/78	0921 1255 GMT	4440M	300	20KT	1	310 10 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	5.68	34.026	7.26	1.35	6.	0.19	19.2	121.4
20	5.65	34.050	7.35	1.39	6.	0.20	19.3	119.2
51	5.61	34.048		1.41	6.	0.19	19.4	118.9
71	5.60	34.048	7.22	1.38	6.	0.20	19.4	118.8
102	5.01	34.121	6.74	1.56	8.	0.17	21.5	106.7
132	4.28	34.163	6.76	1.75	11.	0.03	24.9	95.9
168	4.09	34.163	6.68	1.80	12.	0.02	25.6	94.0
204	3.94	34.165	6.60	1.83	13.	0.01	26.1	92.4
243	3.66	34.154	6.75	1.84	14.	0.01	26.2	90.6
293	3.46	34.159	6.52	1.92	17.	0.01	27.3	88.3
353	3.13	34.153	6.50	1.95	20.	0.00	28.0	85.9
413	2.906	34.166	6.30	2.07	24.	0.01	29.1	82.9
483	2.643	34.179	6.06	2.14	29.	0.01	30.2	79.8
553	2.541	34.214	5.76	2.23	35.	0.00	31.4	76.3
632	2.590	34.280	5.26	2.34	43.	0.00	32.8	71.7
712	2.608	34.334	4.88	2.35	50.	0.00	33.7	67.8
801	2.620	34.400	4.54	2.43	57.	0.00	34.3	62.9
885A	2.60	34.461	4.33	2.39	63.	0.00	34.7	58.1
1003	2.539	34.506	4.14	2.44	68.	0.01	34.8	54.2
1085A	2.50	34.558	4.08	2.38	72.	0.00	34.3	50.0
1233A	2.46	34.623	4.11	2.33	75.	0.00	33.7	44.7
1383A	2.50	34.689	4.21E	2.15	74.	0.00	32.1	40.1
1532A	2.43	34.715	4.36E	2.18	75.	0.00	31.5	37.5
1681A	2.44	34.755	4.51	2.09	73.	0.00	30.1	34.6
1830A	2.38	34.782	4.65	2.02	72.	0.00	29.4	32.1
1978A	2.35	34.794	4.85	1.97	69.	0.00	28.6	30.9
2127A	2.17	34.788	4.80	1.99	75.	0.00	28.8	30.0
2274A	2.02	34.784	4.82	2.00	80.	0.00	29.2	29.1
2424A	1.80	34.769	4.85	2.07	87.	0.00	29.9	28.6
2574A	1.602	34.750	4.71	2.14	95.	0.00	30.9	28.7
2722A	1.374	34.733	4.63	2.20	104.	0.01	31.5	28.4
2870A	1.218	34.724	4.73	2.25	108.	0.00	32.0	28.0
3019A	1.068	34.715	4.80	2.26	113.	0.00	32.1	27.8
3167A	0.920	34.710	4.79	2.26	115.	0.01	32.3	27.2
3315A	0.737	34.698	4.89	2.30	119.	0.00	32.6	27.0
3462A	0.643	34.694	4.95	2.32	120.	0.00	32.6	26.8
3611A	0.547	34.689	5.02	2.33	122.	0.00	32.7	26.6
3757A	0.418	34.684	5.05	2.32	125.	0.00	32.7	26.3
3905A	0.288	34.679	5.17	2.35	127.	0.00	33.0	26.0
4052A	0.213	34.676	5.24	2.52U	128.	0.00	32.9	25.8
4150A	0.173	34.670	5.20	2.33	129.	0.02	32.9	26.0

Z	T	S	O2	SIGT	DT	DD
0	5.68	34.026	7.26	26.846	121.4	0.000
10	5.66	34.042	7.31	26.859	120.1	0.012
20	5.65	34.050	7.35	26.868	119.2	0.024
30	5.64	34.050	7.32	26.869	119.1	0.036
50	5.61	34.049	7.27	26.871	118.9	0.060
75	5.55	34.057	7.15	26.885	117.6	0.090
100	5.06	34.116	6.77	26.990	107.7	0.118
125	4.43	34.157	6.76	27.092	98.0	0.144
150	4.19	34.164	6.73	27.124	95.0	0.169
200	3.96	34.166	6.60	27.149	92.6	0.216
250	3.63	34.155	6.73	27.174	90.2	0.263
300	3.42	34.159	6.52	27.197	88.1	0.309
400	2.95	34.164	6.35	27.244	83.6	0.397
500	2.60	34.187	6.00	27.293	79.0	0.481
600	2.56	34.253	5.47	27.350	73.6	0.560
700	2.61	34.327	4.93	27.405	68.4	0.635
800	2.62	34.400	4.54	27.462	62.9	0.704
1000	2.54	34.506	4.14	27.553	54.3	0.832
1200	2.46	34.611	4.10	27.643	45.7	0.945
1500	2.45	34.710	4.33	27.725	38.0	1.093
1750	2.41	34.768	4.57	27.774	33.3	1.205
2000	2.33	34.794	4.85	27.801	30.8	1.311
2250	2.05	34.785	4.81	27.817	29.2	1.413
2500	1.70	34.759	4.79	27.824	28.6	1.511
2750	1.34	34.731	4.64	27.827	28.3	1.604
3000	1.09	34.717	4.79	27.833	27.8	1.692
3250	0.81	34.704	4.84	27.840	27.1	1.776
3500	0.62	34.693	4.97	27.844	26.7	1.854
3750	0.42	34.685	5.05	27.849	26.3	1.928
4000	0.24	34.677	5.23	27.854	25.8	1.996

RV MELVILLE — INDOMED LEG XIII — 31

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
46 20. S	20 00. W	11/30/78	0514 0917 GMT	3972M	250	28KT	2	260 10 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
2	6.27	34.140	7.11	1.30	5.	0.25	17.8	119.9
27	6.28	34.139	7.15	1.32	5.	0.25	18.0	120.1
53	6.29	34.140	7.08	1.33	5.	0.25	18.0	120.2
82	6.20	34.137	7.09	1.34	6.	0.26	18.3	119.3
113	5.74	34.116	7.10	1.42	7.	0.26	19.3	115.3
143	5.21	34.128	7.06	1.51	8.	0.22	20.4	108.4
173	4.38	34.126	7.12	1.62	9.	0.03	22.5	99.7
203	4.23	34.117	7.19	1.64	10.	0.02	22.7	98.9
237	4.10	34.128	6.96	1.73	11.	0.02	24.1	96.8
272	3.92	34.155	6.59	1.84	14.	0.02	26.2	93.0
312	3.61	34.157	6.53	1.89	16.	0.01	27.1	89.9
351	3.48	34.160	6.43	1.94	18.	0.01	27.7	88.5
400	3.28	34.160	6.32	1.96	20.	0.02	28.3	86.6
459	2.97	34.163	6.20	2.06	24.	0.02	29.3	83.7
528	2.71	34.184	5.96	2.15	30.	0.01	30.5	79.9
605	2.58	34.216	5.66	2.22	35.	0.02	31.6	76.5
692	2.65	34.291	5.11	2.33	44.	0.01	33.1	71.4
765A	2.65							
881	2.63	34.426	4.44	2.45	60.	0.01	35.2	61.0
964A	2.59	34.456	4.25	2.67U	62.	0.03	34.6	58.4
1063A	2.57							
1162A	2.56	34.591	4.00	2.32	70.	0.00	33.9	48.0
1312A	2.536	34.635	4.09	2.33	72.	0.00	32.9	44.4
1462A	2.528	34.678	4.20	2.27	72.	0.00	32.1	41.1
1609A	2.475	34.712	4.31	2.21	73.	0.00	31.4	38.1
1759A	2.426	34.745	4.46	2.14	73.	0.00	30.5	35.2
1908A	2.336	34.755	4.50	2.13	74.	0.00	30.0	33.8
2056A	2.275	34.771	4.64	2.06	74.	0.00	29.4	32.1
2205A	2.153	34.774	4.69	2.07	77.	0.00	29.3	30.9
2355A	2.098	34.787	4.77	2.00	77.	0.00	28.8	29.5
2503A	1.922	34.778	4.75	2.06	84.	0.01	29.1	28.8
2650A	1.684	34.757	4.72	2.14	92.	0.01	30.1	28.7
2798A	1.459	34.739	4.68	2.21	101.	0.00	31.1	28.5
2945A	1.287	34.730	4.70	2.20	107.	0.01	31.5	28.0
3091A	1.126	34.722	4.75	2.26	111.	0.01	31.7	27.6
3239A	0.995	34.713	4.79	2.28	114.	0.01	32.0	27.4
3385A	0.847	34.705	4.82	2.30	117.	0.01	32.2	27.1
3529A	0.696	34.696	4.90	2.31	120.	0.02	32.2	26.9

Z	T	S	O2	SIGT	DT	DD
0	6.27	34.140	7.11	26.861	119.9	0.000
10	6.27	34.140	7.12	26.860	120.0	0.012
20	6.28	34.140	7.14	26.859	120.1	0.024
30	6.28	34.140	7.14	26.859	120.1	0.036
50	6.29	34.141	7.09	26.859	120.1	0.060
75	6.22	34.139	7.09	26.866	119.5	0.090
100	5.96	34.125	7.10	26.888	117.4	0.120
125	5.55	34.121	7.08	26.935	112.8	0.149
150	5.00	34.129	7.07	27.007	106.1	0.177
200	4.25	34.119	7.19	27.082	98.9	0.229
250	4.04	34.139	6.81	27.120	95.4	0.279
300	3.70	34.159	6.55	27.170	90.6	0.327
400	3.28	34.160	6.32	27.212	86.6	0.418
500	2.80	34.175	6.07	27.267	81.5	0.505
600	2.58	34.214	5.68	27.317	76.7	0.587
700	2.65	34.299	5.07	27.378	70.9	0.664
800	2.65	34.376	4.66	27.440	65.0	0.737
1000	2.58	34.481	4.18	27.530	56.5	0.869
1200	2.55	34.606	4.01	27.632	46.9	0.985
1500	2.52	34.688	4.23	27.700	40.3	1.139
1750	2.43	34.743	4.45	27.752	35.4	1.257
2000	2.30	34.765	4.59	27.781	32.7	1.368
2250	2.14	34.778	4.72	27.805	30.4	1.474
2500	1.93	34.778	4.75	27.822	28.8	1.575
2750	1.53	34.745	4.69	27.825	28.6	1.673
3000	1.22	34.727	4.72	27.832	27.8	1.764
3250	0.98	34.713	4.79	27.837	27.4	1.851
3500	0.73	34.698	4.88	27.842	27.0	1.933

E) OXYGEN SAMPLES AT 1383 AND 1532 METERS APPEAR TO HAVE BEEN REVERSED. THEY ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.

RV MELVILLE — INDOMED LEG XIII — 32

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
46 13.8S	18 05.5W	11/30/78	1634	2047 GMT	3841M	280	20KT	2	280 7 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	7.13	34.206	7.01	1.19	4.	0.22	15.8	125.9	0	7.13	34.206	7.01	26.797	125.9	0.000
32	7.14	34.206	7.00	1.19	4.	0.22	15.9	126.1	10	7.13	34.207	7.01	26.797	126.0	0.013
62	7.13	34.209	6.89	1.19	4.	0.21	15.9	125.7	20	7.14	34.207	7.00	26.797	126.0	0.025
93	6.87	34.211	6.90	1.24	4.	0.23	16.3	122.2	30	7.14	34.207	7.00	26.796	126.1	0.038
123	6.03	34.260	6.93	1.33	5.	0.09	18.1	108.0	50	7.13	34.209	6.93	26.798	125.9	0.063
148P	5.44	34.228	6.92	1.41	6.	0.03	19.6	103.5	75	7.07	34.210	6.89	26.809	124.9	0.095
181P	5.01	34.195	6.92	1.52	7.	0.01	21.3	101.2	100	6.70	34.225	6.91	26.871	119.0	0.126
213P	4.64	34.201	6.63	1.65	10.	0.01	23.2	96.8	125	5.98	34.259	6.93	26.992	107.5	0.154
245P	4.32	34.188	6.47	1.75	11.	0.01	24.8	94.4	150	5.41	34.226	6.92	27.036	103.3	0.181
285P	3.904	34.168	6.50	1.83	13.	0.01	26.1	91.8	200	4.78	34.198	6.76	27.086	98.5	0.233
325P	3.665	34.161	6.58	1.85	14.	0.01	26.6	90.1	250	4.26	34.186	6.47	27.133	94.1	0.282
365P	3.424	34.157	6.47	1.90	16.	0.01	27.2	88.2	300	3.80	34.165	6.54	27.165	91.1	0.329
425P	3.221	34.155	6.38	1.94	19.	0.01	27.8	86.5	400	3.30	34.156	6.42	27.206	87.2	0.421
486P	2.972	34.165	6.17	2.02	23.	0.00	29.1	83.6	500	2.92	34.169	6.12	27.251	82.9	0.509
546P	2.781	34.182	5.96	2.11	27.	0.01	30.1	80.7	600	2.70	34.203	5.79	27.298	78.5	0.593
606P	2.700	34.205	5.77	2.15	31.	0.00	30.8	78.3	700	2.66	34.261	5.35	27.348	73.7	0.673
666P	2.656	34.240	5.50	2.23	36.	0.00	31.9	75.3	800	2.66	34.322	4.91	27.396	69.1	0.749
825P	2.657	34.337	4.81	2.35	49.	0.01	33.8	67.9	1000	2.63	34.460	4.20	27.509	58.5	0.887
937A	2.67	34.422	4.39	2.35	58.	0.00	34.5	61.6	1200	2.58	34.561	4.05	27.595	50.4	1.009
1109A	2.57	34.516	4.00	2.37	69.	0.00	34.6	53.7	1500	2.52	34.675	4.27	27.689	41.4	1.170
1232A	2.58	34.575	4.07	2.29	71.	0.00	33.8	49.3	1750	2.68	34.767	4.66	27.750	35.7	1.291
1356A	2.55	34.625	4.18	2.29	73.	0.00	33.2	45.3	2000	2.46	34.782	4.76	27.780	32.7	1.404
1479A	2.50	34.664	4.23	2.25	75.	0.00	32.7	41.9	2250	2.22	34.781	4.74	27.800	30.9	1.513
1603A	2.65	34.721	4.48	2.12	67.	0.00	30.9	38.9	2500	1.94	34.772	4.79	27.816	29.4	1.616
1726A	2.68	34.760	4.64	2.01	65.	0.00	29.5	36.2	2750	1.65	34.754	4.76	27.824	28.7	1.715
1850A	2.63	34.783	4.73	1.97	65.	0.00	28.7	34.0	3000	1.27	34.722	4.74	27.825	28.6	1.809
1972A	2.48	34.779	4.74	1.97	70.	0.00	28.9	33.1	3250	1.03	34.712	4.83	27.833	27.8	1.898
2071A	2.42	34.790	4.79	1.96	71.	0.00	28.6	31.8	3500	0.74	34.698	4.92	27.840	27.1	1.982
2169A	2.311	34.782	4.76	1.98	75.	0.00	28.9	31.5	3750	0.57	34.689	5.05	27.843	26.8	2.059
2293A	2.177	34.781	4.74	1.97	78.	0.00	28.8	30.5							
2439A	2.004	34.774	4.77	2.02	83.	0.00	29.3	29.8							
2587A	1.846	34.769	4.80	2.04	88.	0.01	29.6	29.0							
2734A	1.676	34.757	4.76	2.07	94.	0.00	30.0	28.6							
2882A	1.481	34.732	4.75	2.18	105.	0.00	31.3	28.8							
3028A	1.242	34.720	4.74	2.22	110.	0.00	31.6	28.5							
3175A	1.089	34.714	4.81	2.24	114.	0.00	31.9	28.0							
3323A	0.960	34.708	4.84	2.24	118.	0.01	32.2	27.6							
3468A	0.774	34.699	4.90	2.26	120.	0.00	31.9	27.2							
3615A	0.646	34.692	4.98	2.28	122.	0.00	32.3	26.9							
3763A	0.566	34.688	5.06	2.25	123.	0.00	32.3	26.8							

RV MELVILLE — INDOMED LEG XIII — 33

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME		BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
45 58.4S	17 09.0W	12/ 1/78	0511	1406 GMT	3507M	240	20KT	1	230 9 9

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	7.06	34.215	7.00	1.19	4.	0.21	16.5	124.3	0	7.06	34.215	7.00	26.814	124.3	0.000
26	7.04	34.215	7.01	1.18	4.	0.21	16.6	124.1	10	7.05	34.216	7.00	26.816	124.2	0.012
52	7.05	34.215	6.92	1.14	4.	0.19	16.6	124.2	20	7.04	34.216	7.01	26.817	124.1	0.025
81	7.02	34.222	6.87	1.14	4.	0.18	16.6	123.3	30	7.04	34.216	7.00	26.817	124.1	0.037
111	6.68	34.304	6.66	1.30	5.	0.10	18.0	112.8	50	7.05	34.216	6.93	26.816	124.2	0.062
141	5.87	34.252	6.88	1.36	6.	0.03	19.3	106.7	75	7.03	34.221	6.88	26.823	123.5	0.094
170	5.52	34.227	6.95	1.42	6.	0.01	20.2	104.5	100	6.85	34.278	6.72	26.892	117.0	0.124
200	5.05	34.202	6.83	1.51	8.	0.01	21.6	101.1	125	6.30	34.286	6.75	26.972	109.4	0.153
229	4.59	34.199	6.33	1.72	11.	0.01	25.6	96.4	150	5.74	34.244	6.90	27.009	105.9	0.180
259	4.25	34.182	6.37	1.77	12.	0.00	26.7	94.2	200	5.05	34.202	6.83	27.060	101.1	0.233
298	3.97	34.171	6.39	1.84	14.	0.01	27.3	92.2	250	4.34	34.189	6.86	27.127	94.7	0.283
338	3.78	34.164	6.41	1.88	14.	0.01	27.4	90.9	300	3.96	34.171	6.39	27.154	92.2	0.331
388	3.59	34.163	6.36	1.83	16.	0.02	27.8	89.2	400	3.54	34.164	6.36	27.189	88.8	0.424
447	3.36	34.165	6.33	1.96	19.	0.02	28.6	87.0	500	3.14	34.168	6.20	27.231	84.9	0.514
516	3.08	34.169	6.14	2.00	22.	0.01	29.6	84.2	600	2.90	34.201	5.79	27.278	80.3	0.600
595	2.92	34.199	5.80	2.12	29.	0.00	31.0	80.6	700	2.69	34.243	5.44	27.331	75.3	0.682
683	2.68	34.228	5.53	2.16	35.	0.00	32.1	76.4	800	2.70	34.309	4.96	27.383	70.5	0.759
777	2.71	34.303	5.02	2.30	44.	0.00	33.6	71.0	1000	2.64	34.433	4.38	27.487	60.6	0.901
875A	2.66	34.327	4.81	2.21U	48.	0.00	34.4	68.7	1200	2.56	34.528	4.14	27.570	52.8	1.027
975	2.64	34.416	4.44	2.38	58.	0.00	34.9	61.8	1500	2.51	34.645	4.19	27.667	43.5	1.195
1073A	2.626								1750	2.52	34.727	4.37	27.732	37.3	1.319
1172A	2.550	34.511	4.15	2.36	68.	0.00	35.4	53.9	2000	2.54	34.788	4.71	27.775	33.2	1.435
1321A	2.613	34.593	4.12	2.35	70.	0.00	34.7	48.2	2250	2.37	34.795	4.82	27.799	30.7	1.545
1472A	2.515	34.635	4.18	2.33	74.	0.00	34.1	44.3	2500	2.04	34.782	4.78	27.816	29.3	1.650
1617A	2.488	34.683	4.21	2.26	75.	0.00	33.2	40.4	2750	1.70	34.757	4.71	27.822	28.8	1.750
1764A	2.525	34.733	4.40	2.10	71.	0.01	31.4	36.9	3000	1.36	34.731	4.69	27.826	28.4	1.846
1917A	2.554	34.772	4.61	2.01	68.	0.00	30.1	34.2	3250	1.12	34.722	4.81	27.835	27.6	1.936
2066A	2.515	34.790	4.76	1.98	67.	0.00	29.5	32.5	3500	1.00	34.735	4.81	27.854	25.8	2.021
2166A	2.454	34.794	4.74	1.96	69.	0.02	29.0	31.7							
2235B	2.395	34.799	4.82	1.97	69.	0.00	29.0	30.9							
2336B	2.236	34.795	4.82	1.97	73.	0.00	29.4	29.9							
2438B	2.111	34.788	4.77	1.99	77.	0.00	29.6	29.5							
2540B	1.987	34.779	4.79	2.04	82.	0.00	30.2	29.3							
2693B	1.821	34.769	4.75	2.09	89.	0.00	30.8	28.8							
2845B	1.509	34.739	4.66	2.22	101.	0.00	32.4	28.8							
2998B	1.360	34.731	4.69	2.22	106.	0.00	32.6	28.4							
3151B	1.213	34.725	4.77	2.24	110.	0.00	32.8	27.9							
3303B	1.076	34.720	4.82	2.25	112.	0.00	33.0	27.4							
3456B	1.017	34.732	4.81	2.23	115.	0.02	33.2	26.1							

33 INDOMED LEG XIII CTD

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
45 58.5S	17 19.2W	12/01/78	1250 GMT

Z	T	S	SIGMA T	DT	DD
0	7.118	34.211	26.803	125.4	0.000
10	7.105	34.215	26.808	124.9	0.013
20	7.107	34.215	26.808	125.0	0.025
30	7.090	34.215	26.810	124.6	0.038
40	7.079	34.214	26.811	124.7	0.050
50	7.067	34.214	26.812	124.5	0.063
75	6.975	34.212	26.824	123.5	0.094
100	6.719	34.262	26.898	116.4	0.124
125	6.380	34.332	26.998	106.9	0.153
150	6.050	34.302	27.017	105.1	0.179
175	5.657	34.271	27.042	102.8	0.206
200	5.390	34.264	27.069	100.2	0.232
225	4.669	34.198	27.100	97.3	0.257
250	4.380	34.190	27.125	94.9	0.282
275	4.142	34.177	27.140	93.5	0.306
300	3.937	34.170	27.155	92.0	0.330
350	3.685	34.162	27.174	90.2	0.377
400	3.464	34.161	27.195	88.2	0.425
450	3.331	34.165	27.211	86.7	0.468
500	3.096	34.168	27.235	84.4	0.515
550	2.964	34.179	27.256	82.5	0.556
600	2.920	34.204	27.280	80.2	0.598
650	2.842	34.230	27.308	77.6	0.640
700	2.732	34.245	27.329	75.5	0.680
750	2.729	34.281	27.358	72.8	0.719
800	2.711	34.314	27.386	70.1	0.757
850	2.695	34.341	27.409	68.0	0.794
900	2.678	34.376	27.438	65.2	0.830
950	2.676	34.405	27.462	63.0	0.865
1000	2.660	34.433	27.485	60.7	0.899
1100	2.593	34.483	27.531	56.4	0.963
1200	2.565	34.537	27.577	52.1	1.024
1300	2.608	34.577	27.605	49.4	1.082
1400	2.565	34.609	27.634	46.6	1.138
1500	2.519	34.640	27.663	43.9	1.192
1600	2.502	34.678	27.694	40.9	1.243
1700	2.528	34.717	27.723	38.2	1.292
1800	2.520	34.743	27.745	36.1	1.340
1900	2.556	34.772	27.765	34.2	1.386
2000	2.539	34.786	27.777	33.0	1.431
2100	2.472	34.794	27.789	31.9	1.475
2200	2.414	34.795	27.795	31.4	1.519
2300	2.333	34.799	27.805	30.4	1.562
2400	2.188	34.791	27.811	29.9	1.605
2500	2.032	34.781	27.816	29.4	1.646
2600	1.940	34.772	27.816	29.4	1.687
2700	1.814	34.765	27.820	29.0	1.728
2800	1.630	34.747	27.819	29.1	1.767
2900	1.471	34.737	27.823	28.7	1.806
3000	1.377	34.733	27.826	28.4	1.844
3100	1.274	34.728	27.830	28.1	1.880
3200	1.145	34.721	27.833	27.8	1.916
3300	1.075	34.720	27.837	27.4	1.951
3400	1.037	34.717	27.837	27.4	1.986
3464	1.022	34.717	27.838	27.3	2.008

RV MELVILLE — INDOMED LEG XIII

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
45 34.4S	15 07.6W	12/ 1/78	2356 0344 GMT	3553M	230	27KT	1	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	6.53	34.160	7.15	1.27	5.	0.21	17.5	121.6
21	6.51	34.161	7.11	1.28	5.	0.21	17.8	121.3
53	6.51	34.159	7.05	1.29	5.	0.21	17.8	121.5
78	6.30	34.167	7.02	1.31	5.	0.24	17.9	118.3
104	6.04	34.172	7.06	1.34	6.	0.23	18.4	114.7
139	5.29	34.140	7.14	1.44	7.	0.29	19.8	108.4
165	4.66	34.105	7.17	1.55	8.	0.29	21.7	104.2
206	4.26	34.091	7.12	1.62	9.	0.02	22.9	101.1
246	4.47	34.186	6.32	1.77	11.	0.02	25.5	96.1
287	4.01	34.173	6.34	1.86	14.	0.02	27.3	92.5
338	3.55	34.158	6.40	1.93	16.	0.01	27.9	89.2
384	3.321	34.155	6.39	1.97	18.	0.01	28.5	87.4
423	3.098	34.153	6.28	2.01	20.	0.01	29.0	85.6
485	2.864	34.156	6.17	2.04	24.	0.01	30.0	83.3
561	2.714	34.195	5.76	2.15	30.	0.02	31.4	79.2
637	2.675	34.247	5.42	2.28	37.	0.01	32.7	74.9
714	2.680	34.298	5.09	2.32	44.	0.01	33.6	71.1
815	2.645	34.368	4.76	2.42	53.	0.01	34.8	65.5
844A	2.65	34.372	4.59	2.28U	52.	0.00	33.6	65.2
941	2.626V	34.439 V	4.35V	2.43	61.	0.01	35.2	
942A	2.59	34.433	4.34	2.42	60.	0.01	34.6	60.1
1039A	2.59	34.486	4.35	2.40	65.	0.01	34.2	56.1
1137A	2.56	34.544	4.09	2.39	70.	0.01	34.2	51.5
1283A	2.52	34.607	4.11	2.34	74.	0.00	33.5	46.4
1430A	2.53	34.662	4.16	2.25	74.	0.00	32.4	42.3
1577A	2.52	34.708	4.34	2.17	73.	0.00	31.5	38.8
1724A	2.53	34.746	4.50	2.09	71.	0.00	30.2	36.0
1870A	2.466	34.766	4.59	2.05	71.	0.00	29.7	34.0
2018A	2.420	34.790	4.73	1.97	70.	0.00	28.7	31.8
2165A	2.269	34.789	4.82	1.99	75.	0.00	29.0	30.7
2313A	2.178	34.790	4.71	2.00	76.	0.00	28.9	29.9
2459A	2.005	34.780	4.80	2.01	83.	0.00	29.5	29.3
2608A	1.777	34.763	4.80	2.09	90.	0.00	30.0	28.9
2758A		34.754	4.43U	2.10	96.	0.00	30.5	
2907A	1.449	34.745	4.65	2.13	101.	0.00	30.9	28.0
3057A	1.353	34.740	4.81	2.17	103.	0.01	31.2	27.6
3210A	1.290	34.733		2.18	105.	0.01	31.2	27.8
3360A	1.257	34.735	4.88	2.19	107.	0.00	31.5	27.5
3463A	1.239	34.730	4.82	2.18	107.	0.02	31.4	27.7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	6.53	34.160	7.15	26.843				121.6
10	6.52	34.162	7.13	26.845				121.5
20	6.51	34.162	7.11	26.846				121.3
30	6.51	34.161	7.09	26.846				121.4
50	6.51	34.160	7.06	26.845				121.4
75	6.33	34.167	7.02	26.874				118.7
100	6.09	34.173	7.05	26.910				115.3
125	5.62	34.157	7.11	26.955				111.0
150	5.01	34.125	7.16	27.003				106.5
200	4.28	34.089	7.13	27.055				101.5
250	4.44	34.188	6.32	27.116				95.7
300	3.88	34.170	6.36	27.161				91.5
400	3.23	34.154	6.35	27.212				86.6
500	2.82	34.162	6.10	27.255				82.6
600	2.68	34.222	5.58	27.314				76.9
700	2.68	34.290	5.15	27.369				71.8
800	2.65	34.360	4.82	27.428				66.1
1000	2.59	34.466	4.35	27.517				57.7
1200	2.54	34.574	4.10	27.607				49.1
1500	2.53	34.686	4.24	27.698				40.6
1750	2.52	34.750	4.52	27.750				35.6
2000	2.43	34.787	4.71	27.787				32.0
2250	2.22	34.790	4.76	27.807				30.2
2500	1.94	34.775	4.80	27.818				29.2
2750	1.60	34.753	4.70	27.826				28.5
3000	1.37	34.742	4.74	27.834				27.7
3250	1.28	34.734	4.85	27.834				27.7
3500	1.23	34.729	4.81	27.833				27.8

INDOMED LEG XIII CTD

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
34 S 45 32.9S	15 56.3W	12/02/78	0250 GMT

Z	T	S	SIGMA T	DT	DD
0	6.527	34.163	26.846	121.4	0.000
10	6.533	34.158	26.841	121.8	0.012
20	6.534	34.158	26.841	121.8	0.024
30	6.534	34.158	26.841	121.8	0.037
40	6.533	34.159	26.842	121.7	0.049
50	6.509	34.159	26.845	121.5	0.061
75	6.362	34.164	26.868	119.2	0.091
100	6.069	34.170	26.911	115.2	0.121
125	5.364	34.141	26.975	109.1	0.149
150	4.605	34.097	27.027	104.2	0.176
175	4.341	34.095	27.054	101.6	0.203
200	4.257	34.101	27.068	100.3	0.228
225	4.473	34.161	27.092	98.0	0.254
250	4.429	34.193	27.122	95.2	0.278
275	4.156	34.181	27.142	93.3	0.302
300	3.872	34.169	27.161	91.4	0.326
350	3.530	34.160	27.188	88.9	0.373
400	3.236	34.156	27.213	86.6	0.418
450	2.983	34.155	27.235	84.4	0.462
500	2.824	34.162	27.255	82.6	0.505
550	2.735	34.187	27.283	79.9	0.547
600	2.703	34.219	27.311	77.2	0.588
650	2.685	34.257	27.343	74.2	0.628
700	2.682	34.299	27.377	71.0	0.666
750	2.679	34.324	27.397	69.1	0.703
800	2.661	34.362	27.429	66.1	0.739
850	2.626	34.390	27.454	63.7	0.774
900	2.609	34.416	27.476	61.6	0.808
950	2.612	34.444	27.498	59.5	0.841

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
34 D 45 34.9S	15 58.0W	12/01/78	2230 GMT

Z	T	S	SIGMA T	DT	DD
0	6.594	34.160	26.834	122.5	0.000
10	6.562	34.161	26.839	122.0	0.012
20	6.566	34.160	26.838	122.1	0.024
30	6.495	34.161	26.848	121.1	0.037
40	6.487	34.161	26.849	121.0	0.049
50	6.471	34.162	26.852	120.7	0.061
75	6.272	34.168	26.883	117.8	0.091
100	5.819	34.177	26.948	111.7	0.120
125	4.976	34.120	27.003	106.4	0.148
150	4.645	34.117	27.038	103.1	0.174
175	4.502	34.132	27.066	100.5	0.200
200	4.605	34.177	27.090	98.2	0.225
225	4.412	34.183	27.116	95.7	0.250
250	4.298	34.189	27.133	94.1	0.274
275	4.042	34.176	27.149	92.6	0.298
300	3.803	34.165	27.165	91.1	0.322
350	3.478	34.157	27.191	88.7	0.368
400	3.257	34.156	27.211	86.7	0.413
450	3.049	34.156	27.230	84.9	0.458
500	2.834	34.162	27.254	82.6	0.501
550	2.821	34.189	27.277	80.5	0.543
600	2.707	34.221	27.312	77.1	0.585
650	2.682	34.257	27.343	74.2	0.624
700	2.675	34.291	27.371	71.6	0.663
750	2.674	34.335	27.406	68.2	0.700
800	2.664	34.360	27.427	66.3	0.736
850	2.641	34.391	27.454	63.7	0.770
900	2.612	34.419	27.478	61.4	0.804
950	2.591	34.443	27.499	59.4	0.837
1000	2.606	34.476	27.524	57.0	0.869
1100	2.587	34.518	27.559	53.7	0.930
1200	2.587	34.577	27.607	49.2	0.989
1300	2.531	34.608	27.636	46.4	1.044
1400	2.540	34.646	27.666	43.6	1.097
1500	2.531	34.675	27.689	41.4	1.148
1600	2.511	34.700	27.711	39.3	1.197
1700	2.541	34.729	27.732	37.4	1.245
1800	2.517	34.755	27.755	35.2	1.292
1900	2.473	34.770	27.770	33.7	1.337
2000	2.435	34.782	27.783	32.5	1.381
2100	2.332	34.781	27.791	31.8	1.424
2200	2.257	34.785	27.800	30.9	1.467
2300	2.160	34.785	27.808	30.1	1.509
2400	2.043	34.779	27.813	29.7	1.550
2500	1.922	34.770	27.815	29.4	1.591
2600	1.790	34.761	27.818	29.2	1.631
2700	1.662	34.756	27.824	28.6	1.670
2800	1.546	34.750	27.828	28.3	1.708
2900	1.446	34.744	27.830	28.0	1.746
3000	1.383	34.738	27.830	28.1	1.783
3100	1.332	34.736	27.832	27.9	1.820
3200	1.293	34.734	27.833	27.8	1.856
3300	1.279	34.733	27.833	27.8	1.893
3400	1.248	34.731	27.834	27.7	1.930
3500	1.237	34.729	27.833	27.8	1.966
3523	1.235	34.730	27.834	27.7	1.975

RV MELVILLE — INDOMED LEG XIII

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
45 28.9S	14 07.2W	12/ 2/78	0947 1156 GMT	2454M	210	30KT	1	210 9 10

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
2	5.85	34.085	7.27	1.34	6.	0.22	19.0	119.0	0	5.85	34.085	7.27	26.871	119.0	0.000
22	5.85	34.084	7.30	1.35	6.	0.21	19.2	119.0	10	5.85	34.086	7.29	26.871	119.0	0.012
53	5.85	34.084	7.27	1.35	6.	0.21	19.2	119.0	20	5.85	34.085	7.30	26.870	119.0	0.024
77	5.76	34.104	7.18	1.36	6.	0.23	19.3	116.5	30	5.85	34.085	7.29	26.870	119.0	0.036
103	4.77	34.097	7.20	1.53	8.	0.34	21.4	105.9	50	5.85	34.085	7.27	26.870	119.0	0.060
137	4.19	34.085	7.14	1.63	10.	0.03	23.3	100.9	75	5.77	34.101	7.19	26.893	116.9	0.089
163	4.23	34.111	6.98	1.68	10.	0.00	24.1	99.3	100	4.90	34.099	7.20	26.995	107.2	0.118
203	4.05	34.127	6.82	1.76	12.	0.00	25.3	96.3	125	4.41	34.088	7.16	27.051	101.9	0.144
241	3.76	34.152	6.60	1.80	14.	0.00	27.3	91.7	150	4.21	34.100	7.06	27.071	100.0	0.170
281	3.46	34.152	6.52	1.91	17.	0.00	28.2	88.9	200	4.07	34.127	6.83	27.107	96.6	0.219
331	3.12	34.149	6.44	1.99	20.	0.00	29.2	86.1	250	3.69	34.154	6.57	27.167	90.9	0.267
375	2.89	34.157	6.22	2.04	24.	0.00	30.0	83.5	300	3.32	34.151	6.50	27.200	87.8	0.313
415	2.76	34.162	6.13	2.08	26.	0.05	30.3	82.0	400	2.80	34.161	6.16	27.255	82.5	0.400
463	2.64	34.176	6.01	2.15	29.	0.00	31.2	80.0	500	2.58	34.189	5.87	27.297	78.5	0.484
522	2.55	34.197	5.78	2.17	33.	0.00	32.0	77.7	600	2.52	34.243	5.44	27.345	74.0	0.563
589A	2.50	34.234	5.51	2.24	37.	0.00	31.9	74.5	700	2.59	34.342	4.81	27.418	67.1	0.637
647	2.61	34.284	5.13	2.31	43.	0.00	33.9	71.6	800	2.58	34.416	4.43	27.478	61.4	0.705
688A	2.59	34.330	4.87	2.37	49.	0.00	33.7	67.9	1000	2.54	34.517	4.15	27.563	53.4	0.830
787A	2.576	34.407	4.46	2.43	58.	0.00	34.2	62.0	1200	2.53	34.595	4.10	27.625	47.5	0.944
886A	2.569	34.463	4.27	2.43	64.	0.00	34.6	57.7	1500	2.45	34.705	4.28	27.720	38.6	1.096
985A	2.535	34.511	4.16	2.44	68.	0.00	34.4	53.8	1750	2.39	34.757	4.64	27.767	34.0	1.210
1086A	2.538	34.548	4.11	2.41	71.	0.00	34.4	51.0	2000	2.29	34.786	4.77	27.799	31.0	1.316
1185A	2.531	34.586	4.10	2.38	72.	0.00	34.1	48.1	2250	2.10	34.788	4.82	27.815	29.5	1.419
1309A	2.500	34.642	4.12	2.33	75.	0.00	33.2	43.6							
1433A	2.462	34.675	4.18	2.29	76.	0.00	32.5	40.8							
1557A	2.436	34.726	4.37	2.20	75.	0.00	31.3	36.7							
1683A	2.417	34.750	4.55E	2.12	74.	0.00	30.7	34.8							
1806A	2.365	34.763	4.70E	2.09	74.	0.02	30.5	33.4							
1930A	2.353	34.780	4.75	2.05	72.	0.00	29.4	32.0							
2053A	2.229	34.789 F	4.78	2.02	75.	0.00	29.1	30.3							
2177A	2.144	34.787	4.80	2.01	78.	0.02	29.1	29.8							
2300A	2.055	34.786	4.83	2.02	81.	0.00	30.0	29.2							
2422A	1.775	34.768	4.87	2.08	90.	0.00	30.0	28.5							

RV MELVILLE — INDOMED LEG XIII

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
47 46.2S	12 07.3W	12/ 3/78	0957 1236 GMT	2879M	270	25KT	1	260 8 8

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	4.11	33.884	7.69	1.45	5.	0.27	20.3	115.2	0	4.11	33.884	7.69	26.911	115.2	0.000
26	4.10	33.883	7.66	1.46	5.	0.27	20.7	115.2	10	4.11	33.885	7.68	26.911	115.2	0.012
52	4.10	33.882	7.63	1.46	5.	0.17	20.5	115.3	20	4.10	33.885	7.67	26.911	115.2	0.023
77	4.10	33.884	7.57	1.45	5.	0.27	20.7	115.1	30	4.10	33.884	7.66	26.911	115.2	0.035
103	3.85	33.891	7.51	1.54	8.	0.35	21.2	112.2	50	4.10	33.888	7.63	26.910	115.3	0.058
134	3.33	33.941	7.45	1.65	11.	0.41	23.4	103.6	75	4.10	33.895	7.58	26.912	115.1	0.087
145p	3.092	33.952	7.49	1.69	12.	0.27	24.1	100.7	100	3.89	33.891	7.52	26.938	112.7	0.115
178p	2.888	33.992	7.35	1.74	13.	0.06	24.9	95.9	125	3.50	33.927	7.47	27.004	106.3	0.143
214p	2.941	34.087	6.75	1.89	17.	0.06	27.7	89.2	150	3.06	33.961	7.47	27.073	99.8	0.169
254p	2.711	34.125	6.52	1.97	20.	0.06	29.0	84.4	200	2.92	34.051	6.99	27.158	91.8	0.217
303p	2.377	34.132	6.35	2.07	24.	0.03	30.0	81.2	250	2.74	34.125	6.53	27.232	84.8	0.262
368p	2.236	34.161	6.10	2.15	30.	0.04	31.4	77.9	300	2.40	34.133	6.36	27.268	81.4	0.304
471p	2.336	34.233	5.44	2.28	39.	0.04	33.3	73.3	400	2.25	34.182	5.91	27.319	76.5	0.385
666A	2.45	34.407	4.44	2.32	60.	0.02	34.5	61.0	500	2.36	34.260	5.26	27.372	71.5	0.461
766A	2.43	34.479	4.15	2.43	68.	0.02	34.9	55.4	600	2.43	34.349	4.73	27.437	65.3	0.532
865A	2.42	34.533	4.06	2.41	73.	0.02	34.7	51.2	700	2.45	34.434	4.32	27.504	59.0	0.598
963A	2.43	34.585	4.08	2.37	75.	0.02	34.2	47.4	800	2.42	34.499	4.10	27.558	53.9	0.659
1062A	2.46	34.635	4.14	2.29	76.	0.02	33.5	43.8	1000	2.45	34.606	4.10	27.641	45.9	0.768
1162A	2.37	34.653	4.13	2.27	79.	0.01	33.2	41.7	1200	2.36	34.663	4.15	27.694	40.9	0.867
1262A	2.34	34.679	4.19	2.24	80.	0.02	32.7	39.5	1500	2.24	34.730	4.46	27.758	34.9	1.003
1411A	2.29	34.712	4.33	2.21	81.	0.01	32.0	36.6	1750	2.16	34.764	4.60	27.791	31.7	1.107
1558A	2.212	34.741	4.57	2.14	82.	0.01	31.3	33.8	2000	1.91	34.764	4.76	27.812	29.8	1.206
1707A	2.180	34.760	4.58	2.09	81.	0.01	30.5	32.2	2250	1.64	34.755	4.70	27.825	28.5	1.300
1857A	2.097	34.770	4.67	2.05	81.	0.01	30.0	30.8	2500	1.35	34.738	4.69	27.829	28.2	1.390
2004A	1.901	34.764	4.76	2.06	87.	0.02	30.3	29.7	2750	1.03	34.719	4.81	27.838	27.3	1.476
2152A	1.719	34.756	4.71	2.09	94.	0.02	30.8	29.0							
2300A	1.603	34.754	5.07U	2.11	97.	0.02	30.9	28.4							
2448A	1.412	34.745	4.69	2.19	102.	0.02	31.6	28.5							
2595A	1.226	34.729	4.68	2.20	109.	0.02	32.1	27.7							
2744A	1.041	34.719	4.81	2.22	114.	0.02	32.2	27.3							
2842A	0.941	34.713	4.83	2.22	117.	0.02	32.5	27.1							

E) OXYGEN SAMPLES AT 1683 AND 1806 METERS APPEAR TO HAVE BEEN REVERSED. THEY ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.
F) AN ERROR OF -1 OHM, .058 PPT, HAS BEEN ASSUMED FOR THIS VALUE.

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
48 29.8S	14 07.1W	12/ 4/78	0442 0803 GMT	3471M	280	8KT	1	250 4 8

Z	T	S		O2	PO4	SIO3	NO2	NO3	DT
0	5.45	34.04		7.31	1.40	5.	0.24	19.7	117.7
41	5.43	34.03		7.33	1.41	5.	0.25	19.9	118.2
81	5.45	34.04		7.29	1.39	5.	0.24	19.9	117.7
103	5.15	34.09		7.15	1.50	8.	0.31	20.9	110.6
138	4.31	34.13	U	7.16	1.62	9.	0.03	28.4	
164	4.07	34.105		7.21	1.63	10.	0.03	28.9	98.2
194	3.91	34.120		6.89	1.74	12.	0.02	25.9	95.5
229	3.59	34.136		6.67	1.86	15.	0.02	27.5	91.3
280	3.43	34.157		6.52	1.93	17.	0.02	28.6	88.2
326	3.24	34.156		6.39	1.97	19.	0.03	29.4	86.6
397	2.85	34.149		6.32	2.04	23.	0.03	30.5	83.8
428	2.72	34.155		6.24	2.07	25.	0.05	31.0	82.2
473	2.60	34.174		5.99	2.13	29.	0.02	32.1	79.8
534	2.60	34.221		5.60	2.22	35.	0.03	33.4	76.3
555A	2.54	34.233		5.43	2.25	38.	0.00	32.4	74.9
560	2.60	34.237		5.50	2.25	37.	0.02	33.8	75.0
616	2.60	34.273		5.22	2.29	42.	0.03	34.6	72.3
657A	2.59	34.317		4.92	2.33	49.	0.00	34.1	68.9
758A	2.60	34.390		4.45	2.32	58.	0.01	34.7	63.5
860A	2.58	34.460		4.27	2.42	65.	0.00	35.2	58.0
962A	2.533	34.507		4.14	2.44	69.	0.00	35.3	54.1
1064A	2.521	34.557		4.08	2.44	73.	0.00	34.9	50.2
1216A	2.493	34.618		4.09	2.37	75.	0.00	34.3	45.4
1368A	2.469	34.669		4.18	2.28	76.	0.01	33.0	41.3
1520A	2.427	34.708		4.30	2.20	77.	0.01	32.2	38.0
1673A	2.390	34.738		4.44	2.15	77.	0.01	31.1	35.5
1824A	2.356	34.763		4.60	2.05	76.	0.00	30.7	33.3
1975A	2.215	34.772		4.63	2.05	79.	0.01	29.8	31.5
2127A	2.057	34.770		4.68	2.09	84.	0.03	29.9	30.5
2277A	1.936	34.769		4.99U	2.08	87.	0.01	30.1	29.6
2428A	1.682	34.750		4.65	2.10	96.	0.03	31.2	29.2
2579A	1.505	34.743		4.67	2.18	102.	0.01	31.7	28.5
2729A	1.343	34.738		4.76	2.20	106.	0.00	31.9	27.8
2878A	1.221	34.732		4.78	2.22	109.	0.01	32.1	27.4
3028A	1.086	34.728		4.79	2.22	113.	0.03	32.4	26.9
3177A	0.974	34.720		4.85	2.26	116.	0.00	32.5	26.8
3325A	0.898	34.711		4.87	2.26	118.	0.00	32.9	27.0
3424A	0.755	34.699		4.88	2.29	121.	0.01	33.1	27.0

Z	DT	DD
0	5.45	34.040	7.31	26.885	117.7	0.000
10	5.45	34.039	7.31	26.883	117.8	0.012
20	5.44	34.036	7.32	26.882	117.9	0.024
30	5.44	34.034	7.32	26.881	118.1	0.035
50	5.43	34.033	7.32	26.880	118.1	0.059
75	5.45	34.040	7.30	26.884	117.8	0.089
100	5.20	34.085	7.17	26.948	111.6	0.116
125	4.61	34.089	7.16	27.019	105.0	0.145
150	4.17	34.094	7.18	27.070	100.1	0.171
200	3.85	34.124	6.84	27.126	94.8	0.221
250	3.51	34.147	6.60	27.180	89.7	0.268
300	3.35	34.159	6.46	27.203	87.5	0.313
400	2.84	34.150	6.31	27.243	83.6	0.401
500	2.60	34.195	5.83	27.300	78.3	0.484
600	2.60	34.261	5.30	27.353	73.1	0.563
700	2.59	34.351	4.68	27.425	66.3	0.636
800	2.60	34.421	4.35	27.481	61.1	0.704
1000	2.53	34.527	4.11	27.571	52.6	0.829
1200	2.50	34.613	4.09	27.642	45.8	0.940
1500	2.43	34.704	4.26	27.721	38.4	1.089
1750	2.38	34.752	4.53	27.763	34.3	1.203
2000	2.19	34.772	4.64	27.795	31.3	1.309
2250	1.96	34.770	4.67	27.812	29.8	1.411
2500	1.59	34.747	4.66	27.821	28.9	1.508
2750	1.32	34.738	4.77	27.833	27.7	1.600
3000	1.11	34.729	4.79	27.841	27.0	1.687
3250	0.94	34.717	4.86	27.843	26.9	1.770

37 S INDOMED LEG XIII CTD

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 29.5S	14 25.8W	12/04/78	0733 GMT

Z	T	S	SIGMA T	DT	DD
0	5.458	34.006	26.857	120.3	0.000
10	5.453	34.007	26.858	120.2	0.012
20	5.451	34.007	26.858	120.2	0.024
30	5.451	34.007	26.858	120.2	0.036
40	5.452	34.007	26.858	120.2	0.048
50	5.452	34.006	26.857	120.3	0.060
75	5.450	34.006	26.858	120.2	0.091
100	5.222	34.007	26.885	117.6	0.120
125	4.678	34.147	27.058	101.2	0.148
150	4.254	34.116	27.080	99.2	0.174
175	4.030	34.101	27.091	98.1	0.199
200	3.869	34.125	27.127	94.7	0.223
225	3.612	34.138	27.163	91.3	0.247
250	3.586	34.157	27.180	89.6	0.270
275	3.437	34.157	27.195	88.3	0.293
300	3.315	34.157	27.206	87.2	0.315
350	3.126	34.159	27.226	85.4	0.359
400	2.811	34.152	27.248	83.2	0.403
450	2.689	34.168	27.272	81.0	0.445
500	2.592	34.198	27.304	77.9	0.486
550	2.600	34.240	27.337	74.8	0.526
600	2.597	34.267	27.358	72.8	0.564
622	2.609	34.285	27.372	71.5	0.581

37 D INDOMED LEG XIII CTD

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 30.3S	14 28.2W	12/04/78	0246 GMT

Z	T	S	SIGMA T	DT	DD
0	5.376	33.996	26.859	120.2	0.000
10	5.376	33.996	26.859	120.2	0.012
20	5.376	33.996	26.859	120.2	0.024
30	5.380	33.997	26.859	120.1	0.036
40	5.386	33.997	26.858	120.2	0.048
50	5.403	34.000	26.859	120.2	0.060
75	5.405	33.999	26.858	120.2	0.090
100	5.381	34.035	26.889	117.3	0.120
125	4.654	34.096	27.021	104.8	0.148
150	4.349	34.125	27.077	99.5	0.174
175	4.155	34.116	27.090	98.2	0.199
200	3.999	34.116	27.106	96.7	0.224
225	3.849	34.130	27.133	94.2	0.249
250	3.606	34.139	27.164	91.2	0.272
275	3.475	34.154	27.189	88.9	0.295
300	3.398	34.158	27.199	87.9	0.318
350	3.161	34.159	27.222	85.7	0.362
400	2.803	34.153	27.250	83.1	0.406
450	2.649	34.167	27.274	80.7	0.448
500	2.525	34.185	27.299	78.4	0.489
550	2.595	34.229	27.328	75.6	0.529
600	2.600	34.268	27.359	72.7	0.568
650	2.600	34.311	27.393	69.5	0.605
700	2.603	34.349	27.423	66.6	0.641
750	2.602	34.383	27.451	64.0	0.675
800	2.612	34.422	27.481	61.2	0.709
850	2.601	34.452	27.506	58.8	0.741
900	2.548	34.478	27.531	56.4	0.773
950	2.547	34.510	27.557	54.0	0.803
1000	2.535	34.543	27.584	51.4	0.832
1100	2.529	34.584	27.617	48.2	0.888
1200	2.507	34.624	27.651	45.0	0.941
1300	2.494	34.656	27.678	42.5	0.992
1400	2.471	34.690	27.707	39.7	1.041
1500	2.432	34.717	27.727	37.8	1.088
1600	2.411	34.730	27.744	36.2	1.134
1700	2.388	34.749	27.761	34.6	1.178
1800	2.366	34.762	27.773	33.5	1.222
1900	2.290	34.770	27.786	32.3	1.265
2000	2.232	34.775	27.795	31.4	1.307
2100	2.102	34.769	27.800	30.9	1.349
2200	1.999	34.766	27.806	30.3	1.389
2300	1.923	34.766	27.812	29.8	1.429
2400	1.745	34.757	27.819	29.1	1.469
2500	1.602	34.748	27.822	28.8	1.507
2600	1.494	34.742	27.825	28.5	1.544
2700	1.420	34.741	27.830	28.1	1.581
2800	1.289	34.737	27.836	27.5	1.617
2900	1.209	34.731	27.837	27.4	1.652
3000	1.102	34.727	27.841	27.1	1.686
3100	1.031	34.721	27.841	27.1	1.720
3200	0.991	34.718	27.841	27.0	1.754
3300	0.916	34.714	27.843	26.9	1.787
3400	0.770	34.706	27.845	26.6	1.819
3463	0.716	34.703	27.846	26.5	1.839

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 10.2S	16 04.1W	12/ 4/78	2149 0125 GMT	4079M	250	16KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	4.33	33.887	7.61	1.46	6.	0.23	20.8	117.2
36	4.20	33.881	7.60	1.49	6.	0.23	21.1	116.3
72	4.08	33.874	7.55	1.52	7.	0.24	21.4	115.7
103	3.14	33.872	7.58	1.65	13.	0.26	22.9	107.1
123	3.16	33.958	7.47	1.69	15.	0.26	24.4	100.8
144	2.72	33.990	7.38	1.80	16.	0.05	26.3	94.7
165	2.65	34.029	7.24	1.84	17.	0.02	26.9	91.2
185	2.64	34.062	6.98	1.90	18.	0.01	27.8	88.6
206	2.47	34.070	6.85	1.95	20.	0.00	28.5	86.6
246	2.21	34.116	6.51	2.03	26.	0.00	30.3	81.1
287	2.09	34.138	6.30	2.12	30.	0.01	31.4	78.6
328	2.05	34.166	6.10	2.18	34.	0.01	32.1	76.2
367	2.056	34.210	5.71	2.25	40.	0.00	33.2	72.9
407	2.222	34.279	5.25	2.32	47.	0.01	34.4	68.9
468	2.265	34.333	4.95	2.39	54.	0.00	35.4	65.1
533	2.358	34.397	4.54	2.43	61.	0.00	36.0	61.0
610	2.389	34.450	4.36	2.44	66.	0.01	36.3	57.2
682A	2.39	34.505	4.18	2.37	72.	0.00	35.5	53.1
811	2.422	34.571	4.10	2.42	75.	0.00	35.8	48.4
937A	2.49	34.630	4.13	2.29	75.	0.00	34.0	44.4
1064A	2.41	34.653	4.13	2.24	78.	0.00	33.5	42.1
1217A	2.29	34.697	4.26	2.22	81.	0.00	32.8	37.8
1371A	2.24	34.731	4.40	2.16	81.	0.00	31.9	34.8
1522A	2.18	34.749	4.52	2.08	82.	0.00	31.1	33.0
1675A	2.02	34.751	4.57	2.09	86.	0.00	31.2	31.6
1826A	1.93	34.763	4.67	2.11	87.	0.00	30.6	30.0
1979A	1.73	34.751	4.65	2.15	94.	0.00	31.2	29.5
2132A	1.53	34.741	4.67	2.19	101.	0.00	31.8	28.8
2284A	1.364	34.732	4.68	2.20	107.	0.01	32.2	28.4
2437A	1.216	34.723	4.70	2.21	111.	0.02	32.3	28.1
2590A	1.027	34.715	4.75	2.26	115.	0.01	32.7	27.5
2743A	0.88	34.707	4.81	2.29	119.	0.00	32.8	27.2
2895A	0.722	34.698	4.86	2.30	121.	0.00	33.1	26.9
3047A	0.633	34.698	4.92	2.30	123.	0.00	33.3	26.4
3200A	0.533	34.689	4.95	2.32	124.	0.00	33.3	26.5
3352A	0.413	34.683	5.09	2.33	125.	0.01	33.4	26.3
3505A	0.327	34.683	5.09	2.33	128.	0.02	33.7	25.9
3683A	0.269	34.678	5.13	2.30	128.	0.00	33.4	25.9
3860A	0.200	34.674	5.20	2.31	129.	0.00	33.6	25.9
4064A	0.121	34.675	5.27	2.30	132.	0.01	33.7	25.4

Z	T	S	SIGMA T	DT	DD
0	4.346	33.882	26.884	117.7	0.000
10	4.362	33.881	26.882	117.9	0.012
20	4.316	33.881	26.887	117.5	0.024
30	4.203	33.876	26.895	116.7	0.035
40	4.199	33.879	26.898	116.5	0.047
50	4.195	33.876	26.896	116.6	0.059
75	3.906	33.870	26.921	114.3	0.088
100	3.328	33.946	27.037	103.2	0.115
125	2.505	33.948	27.112	96.1	0.140
150	2.404	33.986	27.151	92.5	0.164
175	2.539	34.046	27.187	89.0	0.187
200	2.331	34.074	27.227	85.2	0.209
225	2.198	34.097	27.256	82.5	0.230
250	2.143	34.122	27.280	80.2	0.251
275	2.055	34.137	27.299	78.4	0.271
300	2.104	34.159	27.313	77.1	0.290
350	2.028	34.198	27.350	73.6	0.329
400	2.187	34.273	27.397	69.1	0.365
450	2.276	34.327	27.433	65.7	0.400
500	2.347	34.379	27.469	62.3	0.433
550	2.389	34.416	27.495	59.8	0.465
600	2.399	34.445	27.517	57.7	0.496
650	2.386	34.487	27.552	54.4	0.526
700	2.407	34.509	27.568	52.9	0.554
750	2.384	34.537	27.592	50.6	0.582
800	2.420	34.567	27.613	48.6	0.609
820	2.436	34.580	27.622	47.8	0.620

38 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 10.3S	16 42.8W	12/05/78	0047 GMT

Z	T	S	SIGMA T	DT	DD
0	4.33	33.887	26.890	117.2	0.000
10	4.29	33.887	26.893	116.9	0.012
20	4.26	33.885	26.895	116.7	0.023
30	4.22	33.883	26.898	116.5	0.035
50	4.15	33.880	26.902	116.1	0.058
75	3.98	33.871	26.913	115.0	0.087
100	3.22	33.869	26.985	108.2	0.115
125	3.12	33.964	27.069	100.2	0.142
150	2.70	34.005	27.140	93.5	0.166
200	2.53	34.069	27.206	87.2	0.212
250	2.19	34.120	27.274	80.8	0.254
300	2.07	34.146	27.305	77.9	0.295
400	2.19	34.268	27.392	69.6	0.370
500	2.81	34.366	27.461	63.1	0.438
600	2.69	34.444	27.517	57.7	0.502
700	2.89	34.516	27.574	52.3	0.560
800	2.42	34.568	27.612	48.7	0.615
1000	2.46	34.644	27.670	43.2	0.717
1200	2.80	34.693	27.722	38.5	0.810
1500	2.19	34.748	27.776	33.2	0.939
1750	1.98	34.757	27.801	30.8	1.038
2000	1.70	34.750	27.816	29.4	1.133
2250	1.40	34.734	27.826	28.5	1.224
2500	1.14	34.720	27.832	27.8	1.311
2750	0.87	34.707	27.839	27.2	1.393
3000	0.66	34.698	27.846	26.6	1.471
3250	0.49	34.688	27.847	26.5	1.545
3500	0.43	34.684	27.853	25.9	1.615
3750	0.24	34.677	27.853	25.9	1.682
4000	0.15	34.675	27.857	25.6	1.746

38 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 10.3S	16 43.3W	12/04/78	2005 GMT

Z	T	S	SIGMA T	DT	DD
0	4.431	33.873	26.868	119.2	0.000
10	4.405	33.875	26.873	118.8	0.012
20	4.161	33.873	26.897	116.5	0.024
30	4.135	33.868	26.896	116.7	0.035
40	4.131	33.873	26.900	116.2	0.047
50	4.116	33.870	26.899	116.3	0.059
75	3.656	33.897	26.967	109.9	0.087
100	3.292	33.956	27.049	102.1	0.114
125	2.806	33.979	27.111	96.2	0.139
150	2.511	33.988	27.143	93.2	0.163
175	2.476	34.027	27.177	89.9	0.186
200	2.343	34.063	27.217	86.2	0.208
225	2.258	34.109	27.261	82.0	0.229
250	2.084	34.115	27.279	80.3	0.250
275	2.061	34.139	27.300	78.3	0.270
300	1.967	34.151	27.317	76.7	0.290
350	2.064	34.214	27.360	72.6	0.327
400	2.188	34.267	27.392	69.5	0.364
450	2.196	34.304	27.421	66.8	0.399
500	2.298	34.358	27.456	63.5	0.433
550	2.386	34.407	27.488	60.5	0.465
600	2.387	34.439	27.513	58.1	0.496
650	2.410	34.471	27.537	55.8	0.526
700	2.384	34.500	27.562	53.4	0.555
750	2.370	34.529	27.587	51.1	0.584
800	2.427	34.562	27.608	49.1	0.611
850	2.373	34.582	27.629	47.1	0.637
900	2.434	34.604	27.641	46.0	0.663
950	2.489	34.626	27.654	44.7	0.688
1000	2.418	34.633	27.666	43.6	0.713
1100	2.394	34.660	27.689	41.4	0.761
1200	2.320	34.688	27.718	38.7	0.808
1300	2.224	34.706	27.740	36.6	0.852
1400	2.239	34.730	27.758	34.9	0.895
1500	2.176	34.740	27.771	33.6	0.936
1600	2.078	34.742	27.781	32.7	0.977
1700	2.106	34.766	27.798	31.1	1.017
1800	1.912	34.753	27.803	30.7	1.056
1900	1.857	34.757	27.810	29.9	1.095
2000	1.707	34.747	27.814	29.6	1.132
2100	1.596	34.742	27.819	29.2	1.169
2200	1.464	34.734	27.821	28.9	1.206
2300	1.338	34.726	27.824	28.7	1.242
2400	1.241	34.722	27.827	28.3	1.277
2500	1.119	34.717	27.832	27.9	1.311
2600	1.022	34.712	27.834	27.7	1.344
2700	0.920	34.707	27.837	27.4	1.377
2800	0.829	34.703	27.839	27.2	1.409
2900	0.723	34.697	27.841	27.0	1.441
3000	0.662	34.696	27.844	26.7	1.471
3100	0.601	34.692	27.845	26.7	1.502
3200	0.533	34.689	27.846	26.5	1.531
3300	0.450	34.686	27.849	26.3	1.560
3400	0.383	34.682	27.849	26.2	1.588
3500	0.334	34.681	27.851	26.0	1.616
3600	0.303	34.680	27.852	26.0	1.643
3700	0.250	34.677	27.853	25.9	1.670
3800	0.220	34.676	27.854	25.8	1.696
3900	0.167	34.673	27.854	25.8	1.722
4000	0.123	34.671	27.855	25.7	1.747
4074	0.117	34.672	27.856	25.6	1.766

RV MELVILLE — INDOMED LEG XIII

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 47.4S	18 04.0W	12/ 9/78	1421 1928 GMT	4263M	270	21KT	5	270 4 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	3.70	33.868	7.64	1.54	8.	0.23	21.8	112.5
11	3.69	33.867	7.71	1.55	8.	0.24	22.2	112.5
52	3.63	33.870	7.68	1.57	8.	0.23	22.1	111.7
82	3.58	33.883	7.61	1.58	9.	0.23	22.3	110.2
118	2.91	33.987	7.41	1.78	14.	0.14	25.9	96.5
144	2.77	34.014	7.29	1.83	15.	0.01	26.6	93.3
185	2.58	34.078	6.89	1.93	19.	0.01	28.2	86.9
216	2.38	34.095	6.71	2.02	22.	0.00	29.3	84.0
267	2.04	34.125	6.47	2.17	28.	0.00	30.7	79.2
328	1.95	34.164	6.08	2.22	34.	0.00	32.1	75.6
368	2.06	34.219	5.61	2.29	40.	0.00	33.6	72.2
419	2.12	34.265	5.28	2.35	46.	0.00	34.4	69.2
479	2.29	34.337	4.81	2.43	54.	0.00	35.4	65.0
480A	2.27	34.331	4.82	2.37	53.	0.00	34.0	65.3
541	2.32	34.389	4.57	2.47	59.	0.00	36.0	61.3
631A	2.33	34.446	4.29	2.46	66.	0.00	35.4	57.1
782A	2.23	34.524	4.03	2.38	74.	0.01	35.1	50.4
934A	2.286	34.609	4.05	2.42	79.	0.00	34.1	44.4
1085A	2.259	34.667	4.12	2.34	81.	0.00	33.2	39.8
1237A	2.180	34.695	4.21	2.22	84.	0.00	32.6	37.1
1389A	2.097	34.720	4.32	2.24	86.	0.01	31.9	34.5
1540A	2.041	34.744	4.47	2.17	86.	0.00	31.2	32.3
1692A	1.991	34.755	4.57	2.12	85.	0.01	30.6	31.1
1895A	1.818	34.756	4.67	2.14	91.	0.00	30.5	29.7
2097A	1.545	34.738	4.61	2.17	100.	0.00	31.3	29.2
2301A	1.314	34.727	4.64	2.18	107.	0.00	31.8	28.4
2504A	1.099	34.716	4.72	2.26	114.	0.01	32.3	27.9
2707A	0.908	34.706	4.79	2.29	118.	0.01	32.6	27.4
2911A	0.736	34.696	4.84	2.27	121.	0.02	32.8	27.2
3113A	0.565	34.690	4.93	2.32	124.	0.02	33.0	26.6
3317A	0.438	34.682	5.02	2.33	126.	0.02	33.3	26.5
3521A	0.319	34.677	5.06	2.32	128.	0.02	33.5	26.3
3726B	0.241	34.680	5.12	2.33	129.	0.00	33.0	25.6
3930B	0.133	34.671	5.23	2.33	132.	0.00	33.1	25.8
4133B	0.051	34.671	5.30	2.38	134.	0.00	33.2	25.3
4235B	0.029	34.662	5.29	2.37	134.	0.01	33.1	25.9

Z	T	S	O2	SIGT	DT	DD
0	3.70	33.868	7.64	26.940	112.5	0.000
10	3.69	33.868	7.70	26.940	112.5	0.011
20	3.68	33.868	7.70	26.940	112.4	0.023
30	3.66	33.868	7.70	26.942	112.3	0.034
50	3.63	33.871	7.68	26.947	111.8	0.056
75	3.59	33.881	7.63	26.960	110.6	0.084
100	3.25	33.934	7.52	27.034	103.5	0.111
125	2.86	33.997	7.38	27.120	95.4	0.136
150	2.74	34.025	7.23	27.152	92.3	0.160
200	2.49	34.089	6.79	27.225	85.4	0.205
250	2.14	34.116	6.55	27.275	80.7	0.247
300	1.99	34.148	6.29	27.312	77.2	0.287
400	2.10	34.250	5.39	27.385	70.3	0.362
500	2.29	34.351	4.74	27.451	64.0	0.431
600	2.33	34.428	4.38	27.510	58.4	0.495
700	2.28	34.483	4.14	27.557	53.9	0.555
800	2.23	34.535	4.03	27.602	49.6	0.610
1000	2.27	34.638	4.08	27.681	42.2	0.711
1200	2.20	34.691	4.19	27.729	37.6	0.803
1500	2.05	34.739	4.43	27.780	32.8	0.928
1750	1.95	34.756	4.61	27.802	30.7	1.027
2000	1.68	34.747	4.64	27.815	29.4	1.121
2250	1.37	34.730	4.63	27.824	28.6	1.212
2500	1.10	34.717	4.72	27.832	27.9	1.298
2750	0.87	34.704	4.80	27.837	27.4	1.380
3000	0.66	34.694	4.88	27.842	26.9	1.459
3250	0.48	34.685	4.99	27.846	26.6	1.533
3500	0.33	34.678	5.06	27.849	26.3	1.603
3750	0.23	34.680	5.13	27.856	25.6	1.670
4000	0.10	34.671	5.26	27.856	25.5	1.734
4250	0.03	34.661	5.29	27.852	26.0	1.795

39 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 47.9S	18 54.0W	12/05/78	1856 GMT

Z	T	S	SIGMA T	DT	DD
0	3.701	33.867	26.939	112.6	0.000
10	3.701	33.866	26.938	112.7	0.011
20	3.693	33.867	26.939	112.5	0.023
30	3.692	33.867	26.940	112.5	0.034
40	3.697	33.867	26.939	112.5	0.045
50	3.698	33.867	26.939	112.5	0.056
75	3.639	33.868	26.945	111.9	0.085
100	3.735	34.010	27.049	102.1	0.111
125	2.998	34.006	27.115	95.8	0.136
150	2.830	34.027	27.147	92.8	0.160
175	2.381	34.039	27.195	88.3	0.183
200	2.464	34.088	27.227	85.2	0.205
225	2.255	34.101	27.255	82.6	0.226
250	2.117	34.117	27.278	80.4	0.247
275	2.022	34.133	27.298	78.4	0.267
300	1.939	34.145	27.315	76.9	0.287
350	2.063	34.205	27.353	73.3	0.325
400	2.098	34.256	27.391	69.7	0.361
450	2.231	34.313	27.426	66.4	0.396
500	2.314	34.359	27.456	63.5	0.430
545	2.320	34.394	27.483	60.9	0.459

39 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 48.9S	18 54.3W	12/05/78	1250 GMT

Z	T	S	SIGMA T	DT	DD
0	3.712	33.859	26.931	113.3	0.000
10	3.657	33.865	26.941	112.3	0.011
20	3.647	33.863	26.943	112.2	0.023
30	3.620	33.865	26.945	112.0	0.034
40	3.609	33.864	26.945	111.9	0.045
50	3.589	33.868	26.950	111.5	0.056
75	3.579	33.870	26.953	111.2	0.084
100	3.540	33.878	26.963	110.3	0.112
125	3.054	33.974	27.085	98.7	0.138
150	2.295	33.965	27.143	93.2	0.162
175	2.161	34.009	27.189	88.9	0.185
200	2.236	34.063	27.226	85.3	0.207
225	2.188	34.094	27.254	82.6	0.229
250	2.034	34.106	27.276	80.6	0.249
275	2.006	34.131	27.298	78.5	0.269
300	2.009	34.161	27.322	76.2	0.289
350	2.018	34.205	27.356	73.0	0.327
400	2.106	34.253	27.388	70.0	0.364
450	2.236	34.303	27.417	67.2	0.399
500	2.301	34.343	27.444	64.6	0.433
550	2.332	34.377	27.468	62.3	0.466
600	2.350	34.425	27.505	58.8	0.498
650	2.362	34.458	27.531	56.4	0.528
700	2.280	34.482	27.557	54.0	0.558
750	2.229	34.503	27.578	52.0	0.586
800	2.278	34.538	27.602	49.7	0.613
850	2.298	34.570	27.625	47.4	0.640
900	2.306	34.592	27.642	45.8	0.665
950	2.301	34.613	27.659	44.2	0.690
1000	2.314	34.638	27.678	42.4	0.715
1100	2.278	34.667	27.704	40.0	0.761
1200	2.251	34.688	27.723	38.2	0.806
1300	2.236	34.712	27.744	36.2	0.850
1400	2.175	34.729	27.762	34.5	0.892
1500	2.121	34.736	27.772	33.5	0.934
1600	2.078	34.746	27.784	32.4	0.974
1700	2.007	34.752	27.794	31.4	1.014
1800	1.927	34.752	27.801	30.9	1.053
1900	1.844	34.753	27.808	30.2	1.092
2000	1.748	34.750	27.813	29.7	1.130
2100	1.587	34.739	27.816	29.4	1.167
2200	1.464	34.732	27.819	29.1	1.203
2300	1.335	34.724	27.822	28.8	1.239
2400	1.209	34.719	27.827	28.3	1.274
2500	1.117	34.714	27.829	28.1	1.309
2600	1.021	34.707	27.830	28.1	1.342
2700	0.923	34.704	27.834	27.7	1.376
2800	0.810	34.699	27.837	27.4	1.408
2900	0.751	34.695	27.838	27.3	1.439
3000	0.657	34.692	27.841	27.0	1.470
3100	0.570	34.688	27.843	26.8	1.501
3200	0.512	34.686	27.845	26.6	1.530
3300	0.445	34.683	27.847	26.5	1.559
3400	0.384	34.681	27.849	26.3	1.587
3500	0.332	34.679	27.850	26.2	1.615
3600	0.276	34.678	27.852	26.0	1.642
3700	0.232	34.675	27.852	26.0	1.669
3800	0.180	34.674	27.854	25.8	1.695
3900	0.144	34.670	27.853	25.9	1.720
4000	0.101	34.669	27.855	25.7	1.745
4100	0.069	34.668	27.855	25.7	1.770
4200	0.039	34.666	27.855	25.7	1.794
4257	0.030	34.663	27.853	25.8	1.808

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
50 35.7S	21 08.3W	12/ 6/78	1113 1505 GMT	4509M	290	28KT	2	290 6 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
0	3.29	33.854	7.75	1.51	8.	0.28	21.7	109.8
51	3.24	33.853	7.77	1.53	8.	0.28	21.9	109.5
76	3.21	33.861	7.74	1.53	7.	0.27	21.7	108.6
102	3.14	33.859	7.77	1.53	8.	0.28	21.9	108.1
127	2.12	33.913	7.66	1.75	17.	0.16	25.9	95.8
148	2.04	33.948	7.55	1.84	18.	0.07	26.8	92.6
173	2.01	34.011	7.19	1.90	21.	0.02	27.9	87.6
210	1.99	34.083	6.75	2.02	26.	0.02	29.7	82.0
255	1.82	34.136	6.37	2.13	32.	0.02	31.2	76.7
311	1.76	34.187	5.89	2.21	40.	0.01	32.8	72.5
367	2.08	34.272	5.26	2.36	48.	0.00	34.2	68.3
418	2.36	34.340	4.83	2.41	54.	0.00	35.2	65.1
480	2.315	34.374	4.66	2.44	59.	0.01	35.5	62.4
552	2.393	34.439	4.37	2.46	65.	0.01	35.6	58.1
633	2.396	34.508	4.14	2.47	71.	0.01	35.6	52.9
714	2.393	34.551	4.12	2.44	74.	0.00	35.3	49.6
805A	2.38	34.589	4.05	2.33	76.	0.00	34.9	46.7
916	2.299	34.626	4.11	2.34	80.	0.00	34.6	43.2
1009A	2.30	34.656	4.14	2.22	80.	0.00	33.9	41.0
1163A	2.31	34.702	4.17	2.16	80.	0.00	32.7	37.6
1316A	2.21	34.731	4.40	2.15	81.	0.00	31.8	34.6
1470A	2.14	34.744	4.52	2.10	83.	0.00	31.4	33.1
1624A	2.03	34.754	4.56	2.07	86.	0.01	31.1	31.5
1777A	1.91	34.760	4.64	2.09	88.	0.00	30.9	30.1
1931A	1.75	34.752	4.65	2.08	94.	0.00	31.1	29.6
2085A	1.56	34.740	4.62	2.10	101.	0.00	31.9	29.1
2238A	1.38	34.729	4.65	2.14	107.	0.01	32.4	28.7
2392A	1.254	34.725	4.70	2.17	110.	0.00	32.6	28.2
2545A	1.119	34.718	4.70	2.20	113.	0.00	32.6	27.8
2747A	0.921	34.711	4.80	2.24	117.	0.01	33.1	27.1
2949A	0.751	34.698	4.91	2.26	121.	0.00	33.4	27.1
3150A	0.603	34.692	4.93	2.23	123.	0.01	33.6	26.7
3350A	0.481	34.690	5.02	2.29	124.	0.00	33.6	26.2
3550A	0.372	34.680	5.11	2.30	127.	0.00	33.8	26.3
3750A	0.272	34.676	5.15	2.32	129.	0.00	33.9	26.1

40 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
50 35.3S	21 17.3W	12/06/78	1440 GMT

Z	T	S	SIGMA T	DT	DD
0	3.280	33.860	26.973	109.3	0.000
10	3.282	33.855	26.969	109.7	0.011
20	3.274	33.856	26.971	109.5	0.022
30	3.271	33.855	26.970	109.6	0.033
40	3.274	33.855	26.970	109.6	0.044
50	3.279	33.855	26.969	109.6	0.055
75	3.236	33.855	26.973	109.3	0.082
100	3.181	33.854	26.978	108.9	0.110
125	2.679	33.878	27.041	102.8	0.136
150	2.032	33.940	27.144	93.1	0.161
175	1.944	33.990	27.190	88.7	0.184
200	1.969	34.058	27.243	83.7	0.206
225	1.937	34.112	27.288	79.4	0.226
250	1.894	34.142	27.316	76.8	0.246
275	1.859	34.172	27.342	74.3	0.265
300	1.767	34.193	27.366	72.1	0.284
350	2.014	34.265	27.405	68.4	0.319
400	2.317	34.337	27.438	65.2	0.354
450	2.307	34.373	27.467	62.4	0.387
500	2.286	34.401	27.491	60.1	0.418
550	2.379	34.446	27.520	57.5	0.449
600	2.380	34.491	27.556	54.1	0.479
650	2.360	34.517	27.578	52.0	0.507
700	2.361	34.541	27.597	50.1	0.534
750	2.400	34.579	27.624	47.6	0.561
800	2.384	34.595	27.638	46.2	0.586
850	2.371	34.608	27.650	45.2	0.611
900	2.297	34.623	27.668	43.4	0.636
926	2.287	34.632	27.676	42.7	0.648

Z	T	S	O2	SIGT	DT	DD
0	3.29	33.854	7.75	26.968	109.8	0.000
10	3.28	33.855	7.75	26.968	109.7	0.011
20	3.27	33.855	7.76	26.969	109.7	0.022
30	3.26	33.855	7.76	26.970	109.6	0.033
50	3.24	33.854	7.77	26.971	109.5	0.055
75	3.21	33.862	7.74	26.980	108.6	0.082
100	3.15	33.860	7.77	26.985	108.2	0.110
125	2.20	33.909	7.67	27.104	96.9	0.135
150	2.04	33.954	7.52	27.153	92.2	0.159
200	2.00	34.067	6.86	27.247	83.3	0.203
250	1.84	34.132	6.41	27.311	77.2	0.244
300	1.77	34.179	5.99	27.354	73.2	0.282
400	2.26	34.320	4.96	27.428	66.2	0.353
500	2.34	34.392	4.58	27.479	61.3	0.419
600	2.39	34.482	4.21	27.547	54.9	0.480
700	2.39	34.545	4.12	27.597	50.1	0.536
800	2.38	34.588	4.05	27.632	46.8	0.589
1000	2.30	34.654	4.14	27.691	41.2	0.686
1200	2.29	34.711	4.22	27.738	36.8	0.776
1500	2.12	34.747	4.53	27.781	32.7	0.901
1750	1.98	34.758	4.63	27.806	30.3	0.999
2000	1.67	34.747	4.64	27.816	29.3	1.093
2250	1.37	34.729	4.65	27.824	28.7	1.183
2500	1.16	34.721	4.70	27.831	27.9	1.270
2750	0.92	34.711	4.80	27.840	27.1	1.353
3000	0.71	34.697	4.92	27.841	27.0	1.432
3250	0.54	34.691	4.97	27.847	26.4	1.508
3500	0.40	34.683	5.09	27.849	26.3	1.580
3750	0.27	34.676	5.15	27.851	26.1	1.648

40 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
50 35.9S	21 14.4W	12/06/78	0938 GMT

Z	T	S	SIGMA T	DT	DD
0	3.296	33.854	26.967	109.9	0.000
10	3.273	33.853	26.968	109.7	0.011
20	3.269	33.853	26.969	109.7	0.022
30	3.270	33.853	26.969	109.7	0.033
40	3.270	33.853	26.969	109.7	0.044
50	3.266	33.853	26.969	109.7	0.055
75	3.190	33.852	26.975	109.1	0.082
100	3.070	33.852	26.986	108.1	0.110
125	1.996	33.915	27.126	94.8	0.135
150	1.962	33.974	27.176	90.1	0.158
175	1.926	34.030	27.224	85.5	0.180
200	2.091	34.090	27.259	82.2	0.202
225	2.013	34.120	27.289	79.4	0.222
250	1.999	34.141	27.307	77.7	0.242
275	1.917	34.158	27.327	75.8	0.261
300	1.924	34.178	27.342	74.3	0.280
350	2.112	34.255	27.389	69.9	0.317
400	2.242	34.315	27.426	66.3	0.352
450	2.303	34.369	27.465	62.7	0.385
500	2.261	34.400	27.493	60.0	0.417
550	2.373	34.452	27.525	57.0	0.448
600	2.440	34.491	27.551	54.6	0.477
650	2.445	34.518	27.572	52.5	0.506
700	2.425	34.536	27.588	51.0	0.534
750	2.397	34.560	27.609	49.0	0.561
800	2.400	34.586	27.630	47.0	0.587
850	2.374	34.609	27.650	45.1	0.612
900	2.297	34.616	27.662	44.0	0.637
950	2.291	34.633	27.676	42.6	0.661
1000	2.305	34.654	27.692	41.2	0.684
1100	2.300	34.682	27.715	39.0	0.730
1200	2.257	34.701	27.733	37.2	0.774
1300	2.257	34.725	27.753	35.4	0.817
1400	2.164	34.735	27.768	33.9	0.859
1500	2.125	34.745	27.779	32.9	0.899
1600	2.034	34.753	27.793	31.6	0.939
1700	1.961	34.757	27.802	30.7	0.978
1800	1.893	34.756	27.806	30.3	1.016
1900	1.786	34.752	27.812	29.8	1.054
2000	1.686	34.749	27.817	29.3	1.091
2100	1.530	34.735	27.817	29.3	1.128
2200	1.410	34.728	27.820	29.0	1.164
2300	1.299	34.723	27.824	28.6	1.200
2400	1.227	34.723	27.829	28.2	1.235
2500	1.134	34.718	27.831	27.9	1.269
2600	1.037	34.713	27.834	27.7	1.303
2700	0.939	34.709	27.837	27.4	1.336
2800	0.850	34.704	27.839	27.2	1.368
2900	0.785	34.700	27.840	27.2	1.399
3000	0.709	34.696	27.841	27.0	1.431
3100	0.649	34.692	27.842	27.0	1.461
3200	0.585	34.687	27.842	27.0	1.492
3300	0.524	34.687	27.845	26.6	1.522
3400	0.466	34.684	27.846	26.5	1.551
3500	0.390	34.681	27.848	26.3	1.579
3600	0.340	34.680	27.850	26.2	1.607
3700	0.285	34.677	27.851	26.1	1.634
3800	0.254	34.676	27.852	26.0	1.661
3900	0.204	34.673	27.852	26.0	1.687
4000	0.157	34.673	27.855	25.7	1.713
4100	0.114	34.670	27.855	25.7	1.738
4200	0.084	34.667	27.854	25.8	1.763
4300	0.052	34.666	27.855	25.7	1.788
4400	0.030	34.666	27.856	25.6	1.812
4477	-0.006	34.668	27.859	25.3	1.830

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
51 20.0S	25 01.0W	12/ 7/78	0507 0841 GMT	4837M	050	11KT	4	520 5 8

Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	3.09	33.824	7.84	1.51	10.	0.26	21.5	110.3	0	3.09	33.824	7.84	26.962	110.3	0.000
26	2.96	33.833	7.75	1.53	8.	0.23	21.6	108.6	10	3.05	33.828	7.80	26.968	109.8	0.011
52	2.76	33.846	7.74	1.57	9.	0.26	22.0	105.9	20	3.00	33.832	7.76	26.976	109.0	0.022
77	2.60	33.848	7.78	1.61	10.	0.26	22.3	104.5	30	2.94	33.837	7.75	26.985	108.1	0.033
103	2.51	33.850	7.70	1.63	12.	0.27	22.7	103.6	50	2.78	33.847	7.74	27.007	106.1	0.054
133	2.15	33.864	7.71	1.69	14.	0.26	24.0	99.8	75	2.61	33.849	7.78	27.023	104.5	0.081
164	1.35	33.901	7.63	1.90	24.	0.11	27.6	91.4	100	2.52	33.851	7.71	27.032	103.7	0.107
194	1.24	33.944	7.46	1.96	25.	0.09	28.5	87.4	125	2.28	33.860	7.71	27.059	101.1	0.133
225	1.33	34.014	7.12	2.03	29.	0.05	29.5	82.7	150	1.70	33.883	7.68	27.122	95.2	0.157
266	1.49	34.101	6.47	2.14	33.	0.01	31.3	77.1	200	1.25	33.958	7.41	27.213	86.5	0.203
318	1.59	34.160	6.04	2.22	38.	0.00	32.5	73.3	250	1.43	34.071	6.72	27.292	79.1	0.245
379	1.82	34.264	5.28	2.35	49.	0.00	34.6	67.0	300	1.56	34.143	6.18	27.340	74.5	0.283
419	1.86	34.304	5.05	2.40	54.	0.01	35.3	64.3	400	1.84	34.286	5.13	27.434	65.6	0.355
460	1.57	34.331	5.04	2.43	61.	0.01	35.8	60.2	500	1.64	34.384	4.80	27.528	56.7	0.417
551	1.87	34.455	4.44	2.46	72.	0.01	36.4	52.9	600	1.93	34.496	4.28	27.596	50.3	0.473
653	1.95	34.528	4.18	2.48	79.	0.00	36.3	48.0	700	1.98	34.556	4.13	27.639	46.1	0.524
754	2.01	34.582	4.10	2.44	83.	0.00	35.8	44.3	800	2.05	34.603	4.09	27.671	43.1	0.572
863A	2.08	34.624	4.07	2.42	84.	0.01	34.7	41.7	1000	1.99	34.660	4.13	27.721	38.4	0.662
1015A	1.98	34.662	4.14	2.35	89.	0.00	34.4	38.1	1200	1.96	34.704	4.22	27.759	34.8	0.745
1166A	1.98	34.696	4.16	2.26	91.	0.00	33.9	35.5	1500	1.84	34.740	4.52	27.797	31.1	0.862
1317A	1.89	34.723	4.44	2.23	92.	0.00	32.7	32.8	1750	1.64	34.745	4.64	27.817	29.2	0.954
1467A	1.85	34.737	4.50	2.18	92.	0.00	31.8	31.4	2000	1.42	34.730	4.67	27.828	28.2	1.041
1668A	1.732	34.747	4.62	2.14	93.	0.00	31.4	29.8	2250	1.09	34.718	4.75	27.834	27.7	1.125
1867A	1.482	34.740	4.65	2.18	102.	0.01	31.9	28.6	2500	0.92	34.714	4.81	27.842	26.9	1.205
2068A	1.238	34.725	4.69	2.20	109.	0.01	32.6	28.1	2750	0.75	34.700	4.88	27.842	27.0	1.283
2268A	1.078	34.717	4.76	2.22	113.	0.01	32.7	27.7	3000	0.56	34.693	4.95	27.847	26.5	1.359
2467A	0.938	34.716	4.80	2.24	117.	0.01	33.1	26.9	3250	0.45	34.686	5.01	27.848	26.3	1.431
2668A	0.817	34.703	4.86	2.25	120.	0.01	33.2	27.1	3500	0.30	34.680	5.10	27.852	26.0	1.500
2867A	0.651	34.695	4.90	2.27	122.	0.01	33.3	26.8	3750	0.16	34.674	5.21	27.855	25.7	1.566
3066A	0.525	34.691	4.97	2.31	125.	0.01	33.5	26.3	4000	0.09	34.670	5.25	27.855	25.7	1.628
3265A	0.443	34.685	5.01	2.32	126.	0.01	33.7	26.3	4250	0.05	34.669	5.31	27.856	25.6	1.689
3463A	0.323	34.680	5.08	2.30	129.	0.01	33.8	26.1	4500	0.03	34.665	5.34	27.854	25.8	1.749
3661A	0.196	34.676	5.18	2.32	131.	0.01	33.8	25.7	4750	-0.01	34.662	5.36	27.855	25.7	1.809
3860A	0.125	34.671	5.24	2.32	133.	0.00	33.8	25.7							
4058A	0.080	34.668	5.26	2.32	133.	0.00	33.8	25.7							
4256A	0.049	34.668	5.31	2.30	133.	0.02	33.7	25.6							
4453A	0.025	34.664	5.33	2.30	133.	0.00	33.7	25.7							
4601A	0.040	34.664	5.35	2.32	133.	0.00	33.7	25.8							
4750A	-0.007	34.662	5.36	2.28	132.	0.00	33.7	25.7							

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INDOMED LEG XIII CTD

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LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
51 22. S	23 19. W	12/07/78	0804 GMT

Z	T	S	SIGMA T	DT	DD
0	3.090	33.826	26.964	110.2	0.000
10	3.083	33.829	26.967	109.9	0.011
20	3.032	33.832	26.974	109.2	0.022
30	2.949	33.844	26.991	107.6	0.033
40	2.864	33.847	27.001	106.7	0.044
50	2.782	33.849	27.009	105.9	0.054
75	2.681	33.852	27.021	104.8	0.081
100	2.560	33.854	27.032	103.7	0.107
125	2.481	33.856	27.041	102.9	0.133
150	1.992	33.874	27.094	97.6	0.158
175	1.408	33.904	27.160	91.5	0.182
200	1.288	33.932	27.191	88.6	0.204
225	1.241	33.984	27.236	84.4	0.226
250	1.453	34.061	27.283	79.9	0.247
275	1.520	34.115	27.321	76.3	0.266
300	1.579	34.152	27.347	73.9	0.285
350	1.725	34.234	27.402	68.7	0.322
400	1.788	34.295	27.446	64.5	0.356
450	1.590	34.342	27.498	59.5	0.387
500	1.727	34.401	27.535	56.0	0.417
550	1.871	34.464	27.575	52.2	0.445
600	1.904	34.495	27.597	50.2	0.472
650	1.945	34.534	27.625	47.5	0.498
700	1.986	34.553	27.637	46.4	0.523
750	2.008	34.578	27.655	44.6	0.547
800	2.030	34.606	27.676	42.7	0.571
850	1.999	34.620	27.689	41.4	0.593
900	1.990	34.639	27.705	39.9	0.616
950	1.971	34.657	27.721	38.4	0.637

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
51 19.4S	23 23.4W	12/07/78	0317 GMT

Z	T	S	SIGMA T	DT	DD
0	2.857	33.845	27.000	106.8	0.000
10	2.847	33.848	27.003	106.5	0.011
20	2.836	33.848	27.004	106.4	0.021
30	2.813	33.849	27.007	106.1	0.032
40	2.756	33.851	27.013	105.5	0.043
50	2.725	33.852	27.017	105.2	0.053
75	2.715	33.853	27.018	105.0	0.079
100	2.704	33.854	27.020	104.8	0.106
125	2.630	33.855	27.027	104.2	0.132
150	2.490	33.859	27.042	102.8	0.158
175	1.808	33.894	27.124	95.0	0.183
200	1.257	33.957	27.213	86.5	0.206
225	1.339	34.029	27.264	81.7	0.227
250	1.432	34.060	27.284	79.9	0.247
275	1.553	34.112	27.317	76.7	0.267
300	1.582	34.156	27.350	73.6	0.286
350	1.710	34.221	27.393	69.5	0.322
400	1.966	34.308	27.443	64.8	0.357
450	2.073	34.372	27.485	60.7	0.389
500	2.016	34.407	27.518	57.6	0.419
550	1.955	34.440	27.549	54.7	0.449
600	2.042	34.492	27.584	51.4	0.476
650	2.068	34.518	27.603	49.6	0.503
700	2.082	34.550	27.627	47.3	0.529
750	2.084	34.577	27.648	45.3	0.554
800	2.064	34.597	27.666	43.6	0.578
850	2.045	34.611	27.679	42.4	0.601
900	2.029	34.640	27.703	40.1	0.624
950	2.013	34.655	27.716	38.8	0.646
1000	2.000	34.666	27.726	37.9	0.667
1100	1.989	34.692	27.748	35.9	0.709
1200	1.959	34.704	27.760	34.7	0.750
1300	1.933	34.719	27.774	33.4	0.789
1400	1.886	34.733	27.789	32.0	0.828
1500	1.811	34.740	27.800	30.9	0.866
1600	1.705	34.739	27.807	30.2	0.903
1700	1.618	34.739	27.814	29.6	0.939
1800	1.529	34.734	27.816	29.4	0.974
1900	1.435	34.731	27.821	28.9	1.010
2000	1.367	34.729	27.824	28.6	1.045
2100	1.254	34.723	27.827	28.3	1.079
2200	1.204	34.720	27.828	28.2	1.113
2300	1.125	34.719	27.833	27.8	1.147
2400	1.048	34.715	27.835	27.6	1.180
2500	0.960	34.712	27.838	27.3	1.213
2600	0.876	34.706	27.839	27.2	1.245
2700	0.787	34.703	27.842	26.9	1.276
2800	0.698	34.699	27.844	26.7	1.307
2900	0.613	34.694	27.846	26.6	1.337
3000	0.560	34.691	27.846	26.5	1.366
3100	0.485	34.688	27.848	26.3	1.395
3200	0.418	34.685	27.850	26.2	1.424
3300	0.379	34.684	27.851	26.1	1.452
3400	0.315	34.681	27.852	25.9	1.479
3500	0.274	34.679	27.853	25.9	1.506
3600	0.221	34.677	27.854	25.7	1.532
3700	0.198	34.675	27.854	25.8	1.558
3800	0.158	34.674	27.856	25.7	1.584
3900	0.123	34.672	27.856	25.6	1.609
4000	0.088	34.671	27.857	25.5	1.634
4100	0.070	34.670	27.857	25.5	1.658
4200	0.062	34.669	27.857	25.5	1.682
4300	0.058	34.668	27.856	25.6	1.706
4400	0.039	34.668	27.857	25.5	1.730
4500	0.015	34.665	27.856	25.6	1.754
4600	-0.001	34.667	27.858	25.4	1.778
4700	-0.019	34.665	27.858	25.5	1.801
4764	-0.028	34.665	27.858	25.4	1.816

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
51 48.4S	25 00.0W	12/ 7/78	1952 2329 GMT	3390M	18U	16KT	6	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	2.87	33.831	7.82	1.51	9.	0.26	21.4	108.0	0	2.87	33.831	7.82	26,987	108.0	0.000
11	2.86	33.830	7.86	1.53	10.	0.27	21.6	107.9	10	2.86	33.832	7.86	26,987	107.9	0.011
52	2.77	33.846	7.79	1.55	9.	0.25	21.9	106.0	20	2.84	33.834	7.84	26,991	107.6	0.022
103	2.70	33.847	7.71	1.57	10.	0.27	22.0	105.3	30	2.82	33.838	7.83	26,996	107.1	0.032
133	1.54	33.910	7.54	1.85	22.	0.12	27.0	92.0	50	2.77	33.846	7.79	27,007	106.1	0.054
168	1.30	34.001	7.13	2.04	28.	0.04	29.2	83.5	75	2.74	33.848	7.77	27,011	105.7	0.080
204	1.38	34.081	6.61	2.10	33.	0.03	30.5	77.9	100	2.70	33.848	7.72	27,014	105.4	0.107
255	1.78	34.217	5.57	2.28	43.	0.02	33.2	70.3	125	1.85	33.890	7.60	27,116	95.7	0.132
305	1.89	34.265	5.27	2.34	49.	0.01	34.0	67.5	150	1.42	33.964	7.36	27,207	87.2	0.155
356	1.99	34.336	4.88	2.40	57.	0.00	35.1	62.8	200	1.87	34.074	6.67	27,299	78.4	0.197
407	2.12	34.410	4.35	2.44	65.	0.00	35.6	58.2	250	1.74	34.206	5.66	27,378	71.0	0.234
457	2.13	34.453	4.35	2.47	69.	0.00	35.6	55.0	300	1.69	34.263	5.29	27,412	67.7	0.269
533	2.229	34.510	4.24	2.45	74.	0.01	35.6	51.5	400	2.10	34.402	4.41	27,506	58.8	0.334
606A	2.20	34.541	4.04	2.31U	76.	0.01	35.7	48.9	500	2.19	34.488	4.30	27,568	52.8	0.392
660	2.202	34.582	4.04	2.43	80.	0.03	35.3	45.8	600	2.20	34.538	4.05	27,607	49.1	0.446
708A	2.16	34.591	4.04	2.38	81.	0.00	35.6	44.8	700	2.17	34.591	4.04	27,652	44.9	0.496
809A	2.20	34.636	4.04	2.36	83.	0.00	34.9	41.7	800	2.19	34.632	4.04	27,683	42.0	0.543
911A	2.16	34.663	4.08	2.28	85.	0.01	34.4	39.3	1000	2.14	34.689	4.14	27,733	37.2	0.632
1019A	2.13	34.694	4.16	2.27	85.	0.01	33.6	36.8	1200	2.04	34.724	4.28	27,769	33.9	0.713
1216A	2.03	34.725	4.29	2.13	88.	0.00	32.6	33.7	1500	1.93	34.754	4.55	27,802	30.7	0.829
1368A	1.98	34.743	4.48	2.15	88.	0.01	31.9	31.9	1750	1.71	34.752	4.66	27,817	29.3	0.921
1520A	1.92	34.755	4.56	2.11	88.	0.01	31.6	30.6	2000	1.58	34.736	4.70	27,828	28.3	1.009
1673A	1.788	34.755	4.71	2.07	90.	0.01	31.2	29.6	2250	1.10	34.718	4.73	27,834	27.7	1.094
1824A	1.624	34.748	4.61	2.13	96.	0.02	31.3	29.0	2500	0.85	34.707	4.81	27,841	27.0	1.174
1977A	1.408	34.737	4.70	2.16	103.	0.00	32.4	28.3	2750	0.68	34.697	4.87	27,844	26.8	1.251
2130A	1.24 K	34.726	4.69	2.20	109.	0.00	32.7	28.0	3000	0.52	34.689	4.98	27,847	26.5	1.325
2281A	1.065	34.716	4.74	2.24	113.	0.00	32.9	27.7	3250	0.37	34.682	5.08	27,850	26.2	1.396
2435A	0.895	34.709	4.79	2.27	117.	0.00	33.2	27.1							
2588A	0.794	34.703	4.83	2.27	119.	0.00	33.4	27.0							
2740A	0.682	34.697	4.87	2.27	121.	0.00	33.4	26.8							
2893A	0.587	34.692	4.93	2.27	123.	0.02	33.4	26.6							
3047A	0.487	34.687	5.00	2.27	125.	0.01	33.6	26.4							
3201A	0.406	34.683	5.03	2.29	126.	0.01	33.7	26.3							
3303A	0.326	34.679	5.15	2.11U	126.	0.02	33.8	26.2							

42 S

INDOMED LEG XIII CTD

42 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
51 48.2S	25 21.1W	12/07/78	2258 GMT

Z	T	S	SIGMA T	DT	DD
0	2.854	33.852	26.990	107.7	0.000
10	2.837	33.835	26.993	107.4	0.011
20	2.759	33.847	27.010	105.8	0.021
30	2.736	33.848	27.013	105.6	0.032
40	2.735	33.848	27.013	105.5	0.043
50	2.736	33.848	27.013	105.6	0.053
75	2.734	33.850	27.014	105.4	0.080
100	2.687	33.850	27.018	105.0	0.106
125	2.384	33.860	27.052	101.9	0.132
150	1.370	33.946	27.197	88.1	0.156
175	1.308	34.018	27.259	82.2	0.177
200	1.372	34.072	27.297	78.5	0.197
225	1.521	34.142	27.343	74.2	0.217
250	1.695	34.199	27.376	71.1	0.235
275	1.833	34.236	27.395	69.3	0.253
300	1.953	34.277	27.419	67.0	0.270
350	2.000	34.337	27.463	62.8	0.303
400	2.087	34.406	27.512	58.2	0.334
450	2.185	34.457	27.544	55.1	0.364
500	2.178	34.493	27.574	52.3	0.392
550	2.283	34.530	27.595	50.4	0.419
600	2.253	34.555	27.617	48.2	0.445
650	2.212	34.586	27.645	45.6	0.470
679	2.185	34.595	27.655	44.7	0.484

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
51 48.7S	25 19.4W	12/07/78	1840 GMT

Z	T	S	SIGMA T	DT	DD
0	2.947	33.881	26.981	108.6	0.000
10	2.916	33.839	26.990	107.7	0.011
20	2.821	33.848	27.005	106.3	0.022
30	2.799	33.851	27.010	105.8	0.032
40	2.789	33.852	27.011	105.7	0.043
50	2.785	33.852	27.012	105.7	0.053
75	2.777	33.852	27.012	105.6	0.080
100	2.667	33.847	27.018	105.1	0.106
125	2.278	33.865	27.064	100.7	0.132
150	1.424	33.951	27.197	88.1	0.156
175	1.386	34.022	27.256	82.4	0.177
200	1.432	34.081	27.300	78.3	0.197
225	1.552	34.152	27.349	73.7	0.217
250	1.683	34.192	27.371	71.5	0.235
275	1.861	34.243	27.399	68.9	0.253
300	1.896	34.273	27.420	66.9	0.270
350	1.980	34.350	27.475	61.7	0.303
400	2.083	34.400	27.507	58.7	0.334
450	2.113	34.440	27.537	55.9	0.363
500	2.166	34.478	27.563	53.4	0.392
550	2.190	34.508	27.585	51.3	0.419
600	2.205	34.540	27.609	49.0	0.446
650	2.196	34.563	27.628	47.2	0.471
700	2.182	34.586	27.648	45.3	0.496
750	2.202	34.614	27.668	43.4	0.520
800	2.220	34.634	27.683	42.0	0.543
850	2.212	34.654	27.700	40.4	0.566
900	2.178	34.665	27.711	39.3	0.588
950	2.137	34.681	27.727	37.8	0.610
1000	2.155	34.697	27.738	36.7	0.631
1100	2.106	34.712	27.754	35.2	0.672
1200	2.038	34.722	27.768	34.0	0.712
1300	2.006	34.737	27.782	32.6	0.752
1400	1.964	34.746	27.793	31.6	0.790
1500	1.932	34.751	27.799	31.0	0.828
1600	1.848	34.756	27.810	30.0	0.865
1700	1.759	34.754	27.815	29.5	0.902
1800	1.646	34.749	27.820	29.0	0.938
1900	1.502	34.740	27.823	28.7	0.973
2000	1.378	34.733	27.826	28.4	1.008
2100	1.271	34.727	27.829	28.1	1.042
2200	1.164	34.721	27.832	27.9	1.076
2300	1.036	34.715	27.835	27.5	1.109
2400	0.933	34.710	27.838	27.3	1.141
2500	0.853	34.707	27.841	27.0	1.173
2600	0.778	34.702	27.842	27.0	1.204
2700	0.708	34.699	27.844	26.8	1.235
2800	0.637	34.696	27.846	26.6	1.265
2900	0.575	34.691	27.845	26.6	1.294
3000	0.520	34.690	27.848	26.4	1.324
3100	0.460	34.686	27.848	26.4	1.352
3200	0.397	34.684	27.850	26.2	1.380
3300	0.322	34.681	27.852	26.0	1.408

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
51 54.9S	28 05.9W	12/ 8/78	1421 1828 GMT	4748M			1	49

Z	T	S	O2	PO4	SIO3	NO2	NO3	UT	Z	T	S	O2	SIGT	UT	DD
1	2.59	33.864	7.90	1.39	6.	0.16	20.5	103.2	0	2.59	33.864	7.90	27.038	103.2	0.000
53	2.32	33.887	7.85	1.48	6.	0.18	21.2	99.3	10	2.54	33.868	7.89	27.044	102.6	0.010
73	2.22	33.902	7.83	1.48	7.	0.21	21.6	97.4	20	2.49	33.871	7.88	27.051	101.9	0.021
94	2.18	33.908	7.86	1.50	7.	0.22	21.9	96.7	30	2.44	33.875	7.87	27.058	101.2	0.031
109	1.83	33.914	7.65	2.06	29.	0.17	29.2	93.7	50	2.34	33.886	7.85	27.076	99.6	0.051
124	0.97	33.987	7.29	2.06	29.	0.17	29.3	82.5	75	2.22	33.903	7.83	27.099	97.4	0.075
145	0.86	34.032	7.08	2.10	36.	0.15	30.3	78.4	100	2.09	33.908	7.80	27.113	96.1	0.100
176	1.45	34.160	6.02	2.25	41.	0.02	32.4	72.4	125	0.96	33.993	7.28	27.260	82.1	0.122
217	1.79	34.269	5.29	2.33	51.	0.02	34.2	66.4	150	0.93	34.052	6.92	27.310	77.4	0.142
258	1.92	34.338	4.87	2.42	59.	0.00	35.4	62.2	200	1.69	34.232	5.53	27.402	68.7	0.179
307	1.97	34.408	4.52	2.47	67.	0.00	36.1	57.2	250	1.91	34.327	4.94	27.462	62.9	0.212
368	2.04	34.466	4.32	2.50	72.	0.00	36.1	53.3	300	1.97	34.400	4.56	27.516	57.9	0.243
429	2.13	34.526	4.12	2.47	77.	0.02	36.0	49.5	400	2.09	34.499	4.21	27.585	51.3	0.299
490	2.15	34.566	4.07	2.48	80.	0.01	35.7	46.6	500	2.15	34.573	4.07	27.639	46.2	0.350
560	2.15	34.598	4.08	2.44	82.	0.04	35.0	44.2	600	2.16	34.613	4.08	27.670	43.2	0.397
641	2.17	34.626	4.07	2.36	83.	0.01	34.8	42.2	700	2.10	34.646	4.07	27.701	40.2	0.442
732	2.06	34.655	4.07	2.36	87.	0.01	34.3	39.2	800	2.02	34.672	4.09	27.729	37.6	0.485
813	2.01	34.674	4.09	2.32	89.	0.00	34.4	37.4	1000	1.83	34.698	4.21	27.764	34.3	0.565
909A	1.94	34.702	4.11	2.24	92.		33.8	34.7	1200	1.89	34.739	4.46	27.792	31.6	0.640
1020	1.82	34.697	4.24	2.30	94.	0.01	33.6	34.2	1500	1.52	34.735	4.62	27.817	29.2	0.748
1114A	1.93	34.727	4.35	2.19	92.		32.6	32.8	1750	1.29	34.727	4.64	27.828	28.3	0.832
1265A	1.86	34.745	4.53	2.13	92.		31.8	30.9	2000	0.99	34.708	4.71	27.833	27.8	0.914
1418A	1.53	34.727	4.55	2.22	101.		32.6	29.9	2250	0.75	34.698	4.85	27.839	27.2	0.992
1572A	1.51	34.741	4.67	2.14	101.		32.0	28.7	2500	0.58	34.689	4.79	27.843	26.8	1.066
1725A	1.323	34.729	4.63	2.20	108.		32.4	28.3	2750	0.46	34.683	4.93	27.846	26.6	1.139
1877A	1.124	34.717	4.70	2.24	114.		32.8	28.0	3000	0.34	34.678	5.00	27.848	26.4	1.209
2030A	0.954	34.706	4.72	2.27	118.		33.1	27.7	3250	0.25	34.672	5.05	27.849	26.3	1.277
2184A	0.807	34.699	4.85	2.25	121.		33.3	27.4	3500	0.19	34.671	5.15	27.851	26.1	1.343
2387A	0.654	34.694	4.86	2.29	124.		33.5	26.8	3750	0.12	34.668	5.16	27.852	26.0	1.407
2590A	0.528	34.685	4.76	2.29	126.		33.9	26.8	4000	0.06	34.667	5.25	27.854	25.8	1.469
2793A	0.44	34.682	4.98	2.29	127.		33.8	26.5	4250	-0.04	34.661	5.37	27.855	25.7	1.529
2997A	0.340	34.677	4.67U	2.29	129.		34.1	26.4	4500	-0.21	34.655	5.60	27.858	25.4	1.584
3201A	0.261	34.672	5.01	2.29	130.		34.1	26.3	4750	-0.37	34.643	5.73	27.857	25.5	1.634
3402A	0.209	34.671	5.15	2.29	131.		34.1	26.1							
3606A	0.168	34.670	5.14	2.30	131.		34.1	26.0							
3809A	0.107	34.666	5.17	2.30	132.		34.2	26.0							
3961A	0.079	34.667	5.22	2.32	133.		34.1	25.8							
4114A	0.013	34.663	5.33	2.31	131.		34.1	25.8							
4214A	-0.024	34.662	5.35	2.30	130.		33.0	25.7							
4314A	-0.083	34.658	5.42	2.30	129.		32.9	25.7							
4416A	-0.135	34.658	5.50	2.28	128.		33.1	25.4							
4567A	-0.272	34.651	5.67	2.29	126.		32.0U	25.3							
4719A	-0.351	34.644	5.72	2.28	124.		33.0	25.5							

43 S

INDOMED LEG XIII CTD

43 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
51 54.6S	28 08.8W	12/06/78	1747 GMT

Z	T	S	SIGMA T	DT	DD
0	2.649	33.866	27.034	103.5	0.000
10	2.565	33.863	27.039	103.0	0.010
20	2.535	33.862	27.041	102.9	0.021
30	2.456	33.869	27.053	101.7	0.031
40	2.368	33.880	27.069	100.2	0.041
50	2.323	33.887	27.078	99.3	0.051
75	2.229	33.901	27.097	97.6	0.076
100	2.181	33.907	27.106	96.7	0.100
125	0.962	33.996	27.264	81.8	0.122
150	1.156	34.100	27.334	75.0	0.142
175	1.592	34.202	27.386	70.2	0.160
200	1.912	34.266	27.413	67.6	0.178
225	1.827	34.292	27.441	65.0	0.194
250	1.947	34.340	27.470	62.2	0.211
275	1.995	34.380	27.498	59.5	0.226
300	1.986	34.412	27.524	57.0	0.241
350	2.041	34.457	27.556	54.0	0.269
400	2.083	34.488	27.577	52.0	0.297
450	2.101	34.531	27.610	48.9	0.323
500	2.151	34.567	27.635	46.5	0.348
550	2.146	34.586	27.651	45.1	0.372
600	2.167	34.603	27.662	43.9	0.396
650	2.160	34.624	27.680	42.3	0.419
700	2.041	34.631	27.695	40.9	0.442
750	2.071	34.656	27.713	39.2	0.463
800	2.042	34.665	27.722	38.3	0.485
850	1.990	34.675	27.734	37.1	0.505
900	1.959	34.685	27.745	36.2	0.526
950	1.901	34.687	27.751	35.6	0.546
1000	1.833	34.691	27.759	34.8	0.565
1025	1.810	34.692	27.762	34.5	0.575

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
51 55.5S	28 05.0W	12/08/78	1246 GMT

Z	T	S	SIGMA T	DT	DD
0	2.980	33.846	26.990	107.7	0.000
10	2.949	33.846	26.992	107.5	0.011
20	2.962	33.845	26.990	107.7	0.022
30	2.940	33.846	26.993	107.4	0.032
40	2.936	33.847	26.994	107.3	0.043
50	2.813	33.852	27.009	105.9	0.054
75	2.328	33.874	27.067	100.4	0.080
100	1.116	33.968	27.231	84.8	0.103
125	1.160	34.033	27.280	80.2	0.123
150	1.338	34.105	27.326	75.8	0.143
175	1.524	34.172	27.367	72.0	0.162
200	1.719	34.235	27.405	68.5	0.179
225	1.824	34.278	27.430	66.0	0.196
250	1.881	34.329	27.466	62.6	0.213
275	2.030	34.372	27.489	60.4	0.228
300	2.019	34.398	27.510	58.3	0.243
350	2.026	34.447	27.549	54.7	0.272
400	2.058	34.489	27.580	51.7	0.300
450	2.178	34.537	27.609	49.0	0.326
500	2.082	34.552	27.629	47.1	0.351
550	2.106	34.576	27.646	45.5	0.376
600	2.103	34.602	27.667	43.5	0.399
650	2.111	34.623	27.683	42.0	0.422
700	2.080	34.638	27.697	40.6	0.445
750	2.047	34.649	27.709	39.5	0.466
800	2.155	34.671	27.718	38.7	0.488
850	2.078	34.681	27.732	37.4	0.509
900	1.943	34.680	27.742	36.4	0.529
950	1.953	34.696	27.754	35.3	0.549
1000	1.888	34.696	27.759	34.8	0.569
1100	1.961	34.728	27.779	32.9	0.608
1200	1.915	34.742	27.794	31.5	0.645
1300	1.737	34.733	27.800	30.9	0.682
1400	1.631	34.729	27.805	30.4	0.718
1500	1.628	34.743	27.816	29.4	0.753
1600	1.502	34.734	27.818	29.2	0.788
1700	1.391	34.729	27.822	28.8	0.822
1800	1.227	34.717	27.824	28.6	0.856
1900	1.100	34.711	27.828	28.3	0.889
2000	0.995	34.705	27.830	28.0	0.921
2100	0.906	34.699	27.831	28.0	0.954
2200	0.817	34.696	27.834	27.6	0.985
2300	0.754	34.693	27.836	27.5	1.016
2400	0.674	34.690	27.839	27.3	1.047
2500	0.585	34.685	27.840	27.1	1.077
2600	0.535	34.683	27.841	27.0	1.106
2700	0.492	34.681	27.842	26.9	1.135
2800	0.423	34.678	27.844	26.8	1.164
2900	0.373	34.676	27.845	26.6	1.192
3000	0.335	34.673	27.845	26.7	1.220
3100	0.298	34.672	27.846	26.5	1.248
3200	0.260	34.671	27.848	26.4	1.275
3300	0.234	34.670	27.848	26.4	1.302
3400	0.212	34.669	27.849	26.3	1.328
3500	0.183	34.668	27.849	26.2	1.354
3600	0.169	34.668	27.850	26.2	1.381
3700	0.130	34.664	27.849	26.3	1.406
3800	0.115	34.665	27.851	26.1	1.432
3900	0.098	34.664	27.851	26.1	1.457
4000	0.068	34.663	27.851	26.0	1.482
4100	0.032	34.661	27.852	26.0	1.507
4200	-0.029	34.661	27.855	25.7	1.531
4300	-0.085	34.659	27.856	25.6	1.554
4400	-0.134	34.658	27.858	25.4	1.576
4500	-0.185	34.656	27.859	25.3	1.597
4600	-0.319	34.653	27.863	25.0	1.618
4700	-0.358	34.652	27.864	24.9	1.637
4732	-0.354	34.651	27.863	25.0	1.643

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
52 01.1S	29 05.6W	12/ 9/78	0234 0531 GMT	2868M	040	25KT	5	

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	1.67	33.993	8.05	1.49	20.	0.27	23.5	86.5	0	1.67	33.993	8.05	27.213	86.5	0.000
26	1.65	33.994	8.02	1.51	20.	0.26	23.8	86.3	10	1.66	33.995	8.04	27.214	86.5	0.009
53	1.57	34.000	8.08	1.54	21.	0.26	23.8	85.3	20	1.65	33.995	8.03	27.215	86.4	0.017
78	1.41	34.012	8.04	1.56	23.	0.26	24.3	83.4	30	1.64	33.996	8.03	27.216	86.2	0.026
104	0.88	34.039	7.92	1.81	35.	0.25	26.5	78.0	50	1.58	34.000	8.07	27.224	85.5	0.043
124	0.19	34.088	7.80	2.08	50.	0.23	29.1	70.5	75	1.44	34.011	8.04	27.243	83.7	0.064
145	0.27	34.193	6.95	2.20	61.	0.14	32.3	62.9	100	0.99	34.034	7.94	27.292	79.1	0.085
165	0.17	34.218	6.81	2.23	64.	0.12	32.5	60.5	125	0.19	34.095	7.76	27.387	70.1	0.103
195	1.08	34.363	5.43	2.34	70.	0.05	34.5	54.6	150	0.23	34.201	6.91	27.471	62.1	0.120
236	1.42	34.455	4.87	2.38	76.	0.03	35.1	49.8	200	1.15	34.379	5.31	27.558	53.8	0.149
287	1.62	34.524	4.50	2.38	81.	0.02	35.2	45.9	250	1.49	34.478	4.74	27.614	48.6	0.175
357	1.68	34.584	4.44	2.36	86.	0.01	34.7	41.8	300	1.64	34.538	4.49	27.651	45.1	0.199
439	1.770	34.645	4.26	2.33	88.	0.02	34.3	38.6	400	1.73	34.615	4.34	27.705	39.9	0.243
519	1.742	34.663	4.33	2.30	92.	0.01	33.8	36.2	500	1.75	34.657	4.31	27.738	36.8	0.283
594A	1.55	34.681	4.30	2.25	94.	0.01	34.0	33.5	600	1.55	34.683	4.30	27.773	33.4	0.320
715	1.574	34.698	4.42	2.26	98.	0.01	32.9	32.4	700	1.57	34.698	4.40	27.784	32.4	0.355
794A	1.54	34.706	4.43	2.25	98.	0.01	33.4	31.6	800	1.53	34.707	4.44	27.794	31.5	0.390
894A	1.39	34.706	4.150	2.24	103.	0.01	33.4	30.5	1000	1.34	34.715	4.67	27.814	29.5	0.457
994A	1.35	34.715	4.67	2.23	105.	0.01	33.1	29.6	1200	1.12	34.712	4.68	27.826	28.4	0.521
1145A	1.17	34.711	4.66	2.23	109.	0.01	33.2	28.7	1500	0.89	34.711	4.74	27.841	26.9	0.613
1295A	1.05	34.712	4.71	2.23	113.	0.00	33.0	27.9	1750	0.58	34.690	4.94	27.883	26.8	0.686
1445A	0.932	34.712	4.73	2.22	115.	0.01	33.0	27.1	2000	0.46	34.688	4.94	27.889	26.2	0.756
1594A	0.795	34.706	4.78	2.25	118.	0.01	33.1	26.8	2250	0.32	34.682	5.04	27.852	26.0	0.824
1744A	0.585	34.689	4.94	2.27	121.	0.00	33.5	26.8	2500	0.18	34.675	5.16	27.854	25.8	0.890
1896A	0.553	34.692	4.95	2.28	121.	0.01	33.4	26.4	2750	0.08	34.670	5.22	27.856	25.6	0.953
2047A	0.412	34.685	4.94	2.29	123.	0.01	33.6	26.2							
2196A	0.346	34.682	5.02	2.29	125.	0.01	33.6	26.0							
2348A	0.271	34.679	5.07	2.30	126.	0.01	33.6	25.9							
2499A	0.182	34.674	5.16	2.30	127.	0.01	33.6	25.8							
2649A	0.113	34.671	5.23	2.28	127.	0.02	33.6	25.7							
2800A	0.060	34.668	5.22	2.28	130.	0.02	33.5	25.6							

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
52 01.9S	29 45.0W	12/09/78	0449 GMT

Z	T	S	SIGMA T	DT	DD
0	1.689	33.989	27.209	87.0	0.000
10	1.664	33.994	27.214	86.4	0.009
20	1.661	33.995	27.215	86.3	0.017
30	1.646	33.997	27.218	86.1	0.026
40	1.554	34.004	27.230	84.9	0.035
50	1.526	34.007	27.235	84.5	0.043
75	1.364	34.018	27.255	82.6	0.064
100	0.797	34.047	27.315	76.9	0.084
125	0.167	34.125	27.413	67.6	0.102
150	0.198	34.212	27.482	61.1	0.118
175	0.449	34.282	27.524	57.1	0.133
200	1.116	34.374	27.557	54.0	0.147
225	1.368	34.440	27.592	50.6	0.160
250	1.539	34.484	27.615	48.4	0.172
275	1.590	34.508	27.631	46.9	0.185
300	1.632	34.535	27.649	45.2	0.196
350	1.687	34.583	27.684	41.9	0.219
400	1.784	34.624	27.709	39.5	0.240
450	1.768	34.640	27.723	38.2	0.260
500	1.718	34.654	27.738	36.8	0.280
550	1.738	34.671	27.750	35.6	0.299
600	1.682	34.680	27.762	34.5	0.318
650	1.671	34.691	27.771	33.6	0.336
700	1.590	34.697	27.782	32.6	0.354
718	1.576	34.698	27.784	32.4	0.360

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
52 01.0S	29 45.3W	12/09/78	0124 GMT

Z	T	S	SIGMA T	DT	DD
0	1.771	33.992	27.205	87.3	0.000
10	1.754	33.991	27.205	87.3	0.009
20	1.742	33.993	27.208	87.0	0.017
30	1.590	33.996	27.221	85.8	0.026
40	1.568	34.003	27.228	85.1	0.035
50	1.518	34.007	27.235	84.4	0.043
75	1.405	34.014	27.249	83.2	0.064
100	0.950	34.022	27.285	79.7	0.085
125	0.557	34.068	27.346	73.9	0.104
150	0.383	34.173	27.440	65.0	0.121
175	0.371	34.260	27.511	58.3	0.137
200	0.952	34.347	27.546	55.0	0.151
225	1.323	34.429	27.587	51.1	0.164
250	1.558	34.488	27.617	48.2	0.177
275	1.633	34.513	27.632	46.8	0.189
300	1.637	34.534	27.648	45.3	0.201
350	1.684	34.588	27.688	41.5	0.223
400	1.684	34.618	27.712	39.2	0.244
450	1.698	34.644	27.732	37.4	0.264
500	1.681	34.658	27.744	36.2	0.283
550	1.691	34.672	27.755	35.2	0.302
600	1.664	34.685	27.767	34.0	0.320
650	1.649	34.695	27.776	33.2	0.338
700	1.592	34.696	27.781	32.7	0.356
750	1.608	34.705	27.787	32.1	0.374
800	1.552	34.708	27.794	31.5	0.391
850	1.428	34.705	27.800	30.9	0.408
900	1.433	34.714	27.807	30.2	0.425
950	1.403	34.716	27.811	29.9	0.441
1000	1.348	34.716	27.815	29.5	0.458
1100	1.212	34.712	27.821	28.9	0.490
1200	1.078	34.709	27.828	28.3	0.521
1300	1.013	34.708	27.831	27.9	0.552
1400	0.972	34.712	27.837	27.4	0.583
1500	0.859	34.706	27.840	27.1	0.613
1600	0.778	34.703	27.842	26.9	0.642
1700	0.692	34.700	27.846	26.6	0.672
1800	0.569	34.688	27.843	26.8	0.700
1900	0.547	34.691	27.847	26.5	0.729
2000	0.458	34.685	27.849	26.3	0.757
2100	0.384	34.683	27.850	26.2	0.784
2200	0.344	34.681	27.851	26.1	0.811
2300	0.294	34.678	27.851	26.1	0.838
2400	0.242	34.678	27.854	25.8	0.865
2500	0.177	34.673	27.854	25.8	0.891
2600	0.155	34.672	27.854	25.8	0.916
2700	0.100	34.669	27.855	25.7	0.942
2800	0.064	34.669	27.857	25.6	0.966
2845	0.068	34.668	27.855	25.7	0.978

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER	TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
48 44.8S	36 00.0W	12/11/78	0230	0649 GMT	5386M	240	32KT	1	240 7 7

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	5.08	34.026	7.31	1.41	4.	0.21	19.9	114.6	0	5.08	34.026	7.31	26.917	114.6	0.000
62	5.06	34.027	7.32	1.43	4.	0.21	20.2	114.3	10	5.08	34.027	7.31	26.917	114.6	0.011
92	4.21	34.130	6.86	1.71	9.	0.08	24.5	97.7	20	5.07	34.028	7.31	26.918	114.5	0.023
122	4.04	34.136	6.92	1.73	10.	0.03	24.7	95.6	30	5.07	34.028	7.31	26.919	114.5	0.034
153	3.95	34.140	6.85	1.72	11.	0.05	24.9	94.4	50	5.06	34.028	7.32	26.920	114.4	0.057
193	3.64	34.138	6.89	1.79	13.	0.03	25.5	91.6	75	4.68	34.073	7.11	26.998	106.9	0.085
224	3.35	34.123	6.99	1.81	12.	0.03	25.9	90.1	100	4.16	34.133	6.88	27.101	97.1	0.111
266	3.42	34.153	6.60	1.87	17.	0.02	27.4	88.4	125	4.03	34.138	6.91	27.119	95.4	0.135
306	3.24	34.156	6.46	1.94	20.	0.02	27.8	86.6	150	3.96	34.141	6.86	27.129	94.5	0.159
357	3.01	34.157	6.39	1.98	22.	0.02	28.7	84.5	200	3.56	34.135	6.92	27.164	91.2	0.206
418	2.76	34.166	6.17	2.07	27.	0.01	29.9	81.7	250	3.38	34.141	6.77	27.187	89.0	0.252
485	2.52	34.196	5.89	2.17	33.	0.01	31.3	77.5	300	3.27	34.158	6.47	27.210	86.9	0.297
562	2.50	34.242	5.50	2.25	40.	0.01	32.3	73.9	400	2.83	34.163	6.24	27.254	82.6	0.384
638	2.53	34.295	5.13	2.33	46.	0.01	33.4	70.1	500	2.52	34.206	5.82	27.316	76.7	0.467
714	2.48	34.345	4.83	2.37	54.	0.01	34.4	65.9	600	2.52	34.269	5.31	27.366	72.0	0.544
790	2.64	34.430	4.42	2.41	60.	0.01	34.9	60.8	700	2.48	34.335	4.89	27.422	66.7	0.617
865	2.59	34.465	4.29	2.44	65.	0.01	35.1	57.7	800	2.63	34.435	4.39	27.489	60.3	0.684
940	2.50	34.497	4.18	2.44	69.	0.01	35.3	54.6	1000	2.47	34.535	4.11	27.583	51.5	0.807
1014	2.46	34.540	4.10	2.45	73.	0.01	35.1	51.0	1200	2.36	34.612	4.04	27.653	44.8	0.915
1056A	2.52	34.542	4.12	2.34	71.	0.01	34.9	51.3	1500	2.45	34.728	4.36	27.739	36.7	1.060
1209	2.34	34.617	4.03	2.44	81.	0.01	34.6	44.2	1750	2.27	34.746	4.47	27.768	33.9	1.170
1247A	2.32	34.630	4.02	2.39	84.	0.00	34.6	43.1	2000	2.23	34.780	4.72	27.799	31.1	1.276
1343A	2.31	34.667	4.14	2.32	84.	0.00	33.7	40.2	2250	1.79	34.744	4.50	27.804	30.6	1.378
1440A	2.25	34.680	4.04	2.18	86.	0.01	33.5	38.8	2500	1.58	34.749	4.73	27.824	28.6	1.474
1535A	2.56	34.755	4.55	2.07	71.	0.00	30.3	35.6	2750	1.28	34.727	4.68	27.828	28.3	1.565
1678A	2.227	34.725	4.35	2.19	85.	0.00	32.0	35.2	3000	1.04	34.716	4.78	27.836	27.5	1.653
1822A	2.347	34.771	4.63	2.06	77.	0.00	30.1	32.6	3250	0.77	34.698	4.86	27.838	27.3	1.735
1967A	2.241	34.776	4.69	2.05	79.	0.00	29.6	31.4	3500	0.58	34.689	4.92	27.843	26.8	1.813
2110A	2.180	34.784	4.76	1.99	78.	0.00	29.2	30.3	3750	0.40	34.681	5.05	27.847	26.4	1.886
2301A	1.643	34.728	4.42	2.20	104.	0.01	32.4	30.6	4000	0.28	34.674	5.12	27.848	26.3	1.956
2493A	1.587	34.749	4.73	2.13	98.	0.00	31.1	28.6	4250	0.23	34.674	5.16	27.851	26.1	2.023
2686A	1.337	34.724	4.65	2.21	102.	0.00	32.4	28.8	4500	0.18	34.670	5.20	27.850	26.1	2.088
2878A	1.175	34.731	4.76	2.22	112.	0.01	32.1	27.2	4750	0.17	34.667	5.20	27.849	26.3	2.153
3071A	0.952	34.706	4.79	2.28	119.	0.00	32.8	27.7	5000	0.08	34.663	5.34	27.851	26.1	2.217
3312A	0.720	34.695	4.88	2.31	123.	0.00	33.0	27.1	5250	0.03	34.651	5.35	27.844	26.7	2.278
3555A	0.540	34.687	4.94	2.31	126.	0.00	33.3	26.7							
3796A	0.371	34.679	5.07	2.35	129.	0.00	33.5	26.4							
4040A	0.270	34.673	5.13	2.36	130.	0.00	33.5	26.3							
4284A	0.220	34.673	5.16	2.33	131.	0.01	33.5	26.0							
4530A	0.181	34.669	5.21	2.36	131.	0.00	33.5	26.2							
4777A	0.172	34.666	5.20	2.35	131.	0.00	33.1	26.3							
5026A	0.064	34.662	5.36	2.35	130.	0.00	33.4	26.1							
5224A	0.030	34.652	5.35	2.30	127.	0.01	33.2	26.7							

45 S

INDOMED LEG XIII CTD

45 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 42.7S	36 08.7W	12/11/78	0609 GMT

Z	T	S	SIGMA T	DT	DD
0	5.092	34.020	26.911	115.2	0.000
10	5.087	34.022	26.913	115.0	0.012
20	5.088	34.021	26.912	115.1	0.023
30	5.087	34.021	26.912	115.1	0.035
40	5.080	34.022	26.914	114.9	0.046
50	5.081	34.022	26.914	114.9	0.058
75	4.303	34.119	27.077	99.4	0.085
100	4.106	34.143	27.109	96.4	0.109
125	4.007	34.157	27.122	95.2	0.133
150	3.915	34.137	27.132	94.3	0.157
175	3.655	34.135	27.156	91.9	0.181
200	3.411	34.122	27.169	90.7	0.204
225	3.473	34.148	27.184	89.3	0.227
250	3.396	34.151	27.194	88.4	0.250
275	3.265	34.148	27.204	87.4	0.272
300	3.135	34.149	27.217	86.2	0.294
350	2.991	34.156	27.235	84.4	0.338
400	2.810	34.167	27.260	82.1	0.381
450	2.463	34.172	27.294	78.9	0.422
500	2.361	34.203	27.327	75.7	0.462
550	2.678	34.272	27.355	73.0	0.501
600	2.666	34.296	27.376	71.1	0.539
650	2.446	34.309	27.405	68.4	0.575
700	2.490	34.343	27.428	66.1	0.611
750	2.497	34.386	27.462	62.9	0.645
800	2.612	34.435	27.491	60.2	0.678
850	2.579	34.455	27.510	58.4	0.710
900	2.623	34.487	27.532	56.3	0.741
950	2.485	34.492	27.548	54.8	0.771
1000	2.460	34.527	27.577	52.0	0.801
1100	2.523	34.586	27.619	48.0	0.857
1200	2.367	34.602	27.645	45.6	0.910
1225	2.348	34.608	27.652	45.0	0.923

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 45.8S	36 10.2W	12/11/78	0020 GMT

Z	T	S	SIGMA T	DT	DD
0	5.217	34.026	26.901	116.1	0.000
10	5.218	34.026	26.901	116.1	0.012
20	5.222	34.029	26.903	116.0	0.023
30	5.228	34.031	26.904	115.9	0.035
40	5.231	34.031	26.903	115.9	0.046
50	5.232	34.032	26.904	115.8	0.058
75	5.068	34.042	26.929	113.5	0.087
100	4.226	34.130	27.094	97.8	0.114
125	4.102	34.134	27.110	96.3	0.138
150	3.969	34.135	27.124	94.9	0.162
175	3.720	34.128	27.144	93.1	0.186
200	3.553	34.136	27.167	90.9	0.210
225	3.492	34.145	27.180	89.7	0.233
250	3.438	34.152	27.191	88.7	0.255
275	3.312	34.152	27.203	87.5	0.278
300	3.208	34.154	27.214	86.5	0.300
350	2.978	34.164	27.243	83.7	0.344
400	2.557	34.151	27.269	81.2	0.386
450	2.489	34.181	27.299	78.4	0.427
500	2.413	34.216	27.333	75.1	0.467
550	2.700	34.279	27.359	72.7	0.505
600	2.499	34.295	27.389	69.8	0.542
650	2.517	34.339	27.423	66.7	0.578
700	2.494	34.368	27.448	64.3	0.613
750	2.642	34.428	27.483	61.0	0.646
800	2.571	34.444	27.502	59.2	0.678
850	2.654	34.482	27.525	57.0	0.710
900	2.553	34.500	27.548	54.8	0.740
950	2.454	34.503	27.559	53.8	0.770
1000	2.460	34.532	27.581	51.6	0.799
1100	2.420	34.571	27.616	48.3	0.855
1200	2.346	34.607	27.651	45.0	0.908
1300	2.330	34.643	27.681	42.2	0.958
1400	2.349	34.684	27.712	39.2	1.006
1500	2.445	34.719	27.732	37.3	1.052
1600	2.627	34.774	27.760	34.7	1.098
1700	2.195	34.725	27.758	34.9	1.142
1800	2.309	34.764	27.779	32.9	1.185
1900	2.341	34.780	27.789	31.9	1.227
2000	2.349	34.799	27.804	30.5	1.269
2100	2.222	34.791	27.808	30.1	1.310
2200	1.784	34.729	27.793	31.5	1.351
2300	1.715	34.740	27.807	30.2	1.391
2400	1.715	34.752	27.817	29.3	1.429
2500	1.529	34.736	27.818	29.2	1.468
2600	1.389	34.727	27.821	28.9	1.505
2700	1.343	34.727	27.824	28.6	1.541
2800	1.246	34.725	27.829	28.1	1.577
2900	1.170	34.725	27.835	27.6	1.613
3000	1.061	34.717	27.835	27.5	1.647
3100	0.916	34.705	27.835	27.6	1.681
3200	0.872	34.706	27.839	27.2	1.714
3300	0.757	34.700	27.841	27.0	1.746
3400	0.674	34.695	27.843	26.9	1.777
3500	0.579	34.689	27.844	26.8	1.808
3600	0.548	34.684	27.844	26.8	1.838
3700	0.425	34.681	27.846	26.5	1.867
3800	0.366	34.681	27.850	26.2	1.895
3900	0.319	34.677	27.849	26.3	1.923
4000	0.306	34.678	27.851	26.1	1.950
4100	0.251	34.674	27.850	26.1	1.977
4200	0.217	34.673	27.852	26.0	2.004
4300	0.198	34.671	27.851	26.1	2.030
4400	0.186	34.671	27.852	26.0	2.056
4500	0.180	34.671	27.852	26.0	2.082
4600	0.169	34.670	27.852	26.0	2.108
4700	0.164	34.668	27.850	26.1	2.133
4800	0.164	34.667	27.850	26.2	2.159
4900	0.120	34.665	27.850	26.1	2.185
5000	0.071	34.662	27.851	26.1	2.210
5100	0.054	34.660	27.850	26.2	2.234
5200	0.020	34.657	27.849	26.3	2.259
5245	0.013	34.658	27.850	26.1	2.269

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
48 36.0S	39 05.1W	12/12/78	1411 1750 GMT	5407M	250	30KT	2	250 8 7

Z	T	S		O2	PO4	SIO3	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	3.18	33.838			1.32	1.	0.19	19.7	110.1	0	3.18	33.838		26.965	110.1	0.000
21	3.18	33.837		8.14	1.34	1.	0.20	19.9	110.1	10	3.18	33.839		26.965	110.1	0.011
47	3.18	33.837		7.97	1.35	1.	0.19	19.9	110.1	20	3.18	33.838		26.964	110.1	0.022
73	3.09	33.852		7.91	1.37	2.	0.20	20.2	108.2	30	3.18	33.838	8.07	26.964	110.1	0.033
99	2.55	33.920		7.71	1.66	12.	0.19	23.8	98.6	50	3.17	33.840	7.96	26.967	109.9	0.055
129	1.98	33.952		7.64	1.80	16.	0.16	25.9	91.9	75	3.06	33.858	7.89	26.991	107.6	0.082
165	1.63	33.984		7.46	1.86	18.	0.10	27.3	87.0	100	2.53	33.923	7.71	27.089	98.3	0.108
206	1.83	34.052		7.00	1.94	22.	0.02	28.5	83.2	125	2.05	33.951	7.65	27.150	92.5	0.132
257	1.83	34.105		6.56	2.05	28.	0.01	30.3	79.2	150	1.72	33.971	7.55	27.191	88.7	0.155
307	1.76	34.143		6.32	2.12	33.	0.00	31.5	75.8	200	1.79	34.043	7.07	27.243	83.7	0.198
358	1.90	34.196		5.85	2.19	39.	0.00	32.6	72.8	250	1.83	34.099	6.61	27.285	79.7	0.240
408	2.07	34.253		5.39	2.24	45.	0.00	33.7	69.7	300	1.77	34.139	6.35	27.322	76.2	0.279
459	2.154			5.12	2.24	45.	0.01	33.2		400	2.04	34.245	5.46	27.386	70.2	0.354
510	2.244	34.329		4.87	2.35	54.	0.01	34.9	65.3	500	2.23	34.323	4.91	27.433	65.7	0.424
560	2.162	34.320	U	4.74	2.34	55.	0.00	34.8		600	2.25	34.396	4.59	27.490	60.3	0.489
610	2.276	34.406		4.55	2.41	63.	0.04	35.6	59.7	700	2.34	34.485	4.23	27.554	54.2	0.550
661	2.357	34.450		4.37	2.43	67.	0.00	35.9	57.0	800	2.29	34.529	4.11	27.593	50.6	0.606
735A	2.30	34.511		4.12	2.37	73.	0.00	36.0	51.9	1000	2.24	34.604	4.02	27.656	44.5	0.710
836	2.287	34.533		4.10	2.43	76.	0.00	36.1	50.2	1200	2.15	34.652	4.00	27.704	40.1	0.806
939A	2.26	34.582		4.03	2.39	81.	0.01	35.7	46.2	1500	1.93	34.693	4.14	27.753	35.8	0.938
1091A	2.20	34.626		4.01	2.36	86.	0.00	35.4	42.5	1750	1.79	34.713	4.20	27.779	32.8	1.040
1244A	2.10	34.659		3.99	2.18U	89.	0.01	34.7	39.2	2000	1.60	34.717	4.41	27.797	31.1	1.138
1447A	1.96	34.688		4.14	2.28	94.	0.00	34.2	35.9	2250	1.41	34.719	4.54	27.813	29.7	1.232
1650A	1.85	34.706		4.15	2.19	99.	0.00	33.9	33.8	2500	1.23	34.719	4.59	27.825	28.5	1.322
1852A	1.73	34.719		4.28	2.23	102.	0.00	33.7	31.9	2750	1.02	34.710	4.75	27.832	27.9	1.407
2054A	1.55	34.716		4.45	2.21	105.	0.00	33.4	30.9	3000	0.90	34.710	4.78	27.840	27.1	1.490
2256A	1.41	34.719		4.54	2.21	109.	0.00	33.4	29.7	3250	0.70	34.699	4.94	27.844	26.7	1.569
2457A	1.27	34.720		4.55	2.20	114.	0.00	33.4	28.7	3500	0.52	34.691	5.02	27.848	26.4	1.645
2647A	1.10	34.715		4.74	2.19	116.	0.01	33.4	28.0	3750	0.39	34.687	5.09	27.853	25.9	1.716
2848A	0.956	34.706		4.76	2.19	119.	0.01	33.7	27.7	4000	0.27	34.678	5.14	27.853	25.9	1.784
3047A	0.879	34.711		4.79	2.21	120.	0.01	33.4	26.9	4250	0.24	34.676	5.19	27.852	26.0	1.851
3247A	0.705	34.699		4.94	2.24	123.	0.00	33.7	26.8	4500	0.19	34.674	5.23	27.853	25.9	1.916
3494A	0.527	34.690		5.02	2.25	126.	0.00	34.0	26.4	4750	0.18	34.672	5.19	27.852	26.0	1.981
3741A	0.396	34.687		5.09	2.25	129.	0.01	34.2	25.9	5000	0.18	34.670	5.29	27.850	26.1	2.046
3987A	0.268	34.678		5.14	2.29	131.	0.00	34.1	25.9	5250	0.16	34.666	5.32	27.848	26.3	2.111
4233A	0.240	34.675		5.18	2.30	131.	0.00	33.5	26.0							
4478A	0.194	34.673		5.24	2.29	131.	0.01	34.0	25.9							
4721A	0.184	34.671		5.18	2.28	132.	0.00	34.1	26.0							
4963A	0.180	34.669		5.28	2.28	132.	0.00	34.2	26.2							
5156A	0.175	34.669		5.31	2.29	131.	0.00	34.2	26.1							
5400A	0.157	34.663		5.32	2.27	130.	0.02	34.1	26.5							

INDOMED LEG XIII CTD

46 S

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 36.0S	39 01.3W	12/12/78	1657 GMT

Z	T	S	SIGMA T	DT	DD
0	3.172	33.835	26.963	110.2	0.000
10	3.167	33.839	26.967	109.9	0.011
20	3.171	33.838	26.966	110.0	0.022
30	3.151	33.839	26.969	109.7	0.033
40	3.140	33.841	26.971	109.5	0.044
50	3.139	33.841	26.971	109.5	0.055
75	3.140	33.840	26.970	109.6	0.082
100	2.802	33.894	27.044	102.6	0.109
125	2.112	33.936	27.134	94.0	0.134
150	1.660	33.960	27.187	89.0	0.157
175	1.829	34.017	27.221	85.8	0.179
200	1.677	34.027	27.240	84.0	0.200
225	1.803	34.068	27.263	81.8	0.221
250	1.850	34.100	27.285	79.7	0.241
275	1.828	34.126	27.308	77.6	0.261
300	1.797	34.149	27.329	75.6	0.281
350	1.920	34.209	27.367	71.9	0.318
400	2.083	34.266	27.400	68.8	0.354
450	2.139	34.300	27.423	66.7	0.389
500	2.268	34.350	27.452	63.9	0.423
550	2.188	34.376	27.479	61.3	0.455
600	2.247	34.417	27.507	58.6	0.487
650	2.363	34.461	27.533	56.2	0.517
700	2.335	34.484	27.554	54.3	0.546
750	2.319	34.508	27.574	52.3	0.575
800	2.296	34.527	27.591	50.7	0.603
847	2.286	34.549	27.610	48.9	0.628

46 D

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 36.2S	39 04.4W	12/12/78	1221 GMT

Z	T	S	SIGMA T	DT	DD
0	3.120	33.833	26.967	109.9	0.000
10	3.116	33.835	26.969	109.7	0.011
20	3.106	33.835	26.969	109.6	0.022
30	3.088	33.836	26.972	109.4	0.033
40	3.085	33.837	26.973	109.3	0.044
50	3.054	33.839	26.977	108.9	0.055
75	2.965	33.849	26.993	107.4	0.082
100	2.167	33.881	27.086	98.6	0.108
125	1.454	33.907	27.160	91.6	0.132
150	1.807	33.999	27.208	87.0	0.154
175	1.909	34.046	27.238	84.2	0.176
200	1.911	34.072	27.258	82.3	0.197
225	2.049	34.107	27.276	80.6	0.217
250	1.672	34.088	27.289	79.4	0.237
275	1.797	34.138	27.320	76.4	0.257
300	1.732	34.147	27.332	75.3	0.276
350	1.894	34.197	27.359	72.7	0.314
400	1.963	34.240	27.389	69.9	0.350
450	2.103	34.294	27.421	66.9	0.385
500	2.261	34.346	27.450	64.1	0.419
550	2.293	34.387	27.480	61.3	0.452
600	2.266	34.421	27.509	58.5	0.483
650	2.300	34.450	27.529	56.5	0.514
700	2.288	34.478	27.553	54.3	0.543
750	2.317	34.507	27.574	52.4	0.572
800	2.298	34.530	27.593	50.5	0.599
850	2.301	34.546	27.606	49.3	0.626
900	2.292	34.565	27.622	47.8	0.653
950	2.273	34.585	27.639	46.1	0.679
1000	2.266	34.602	27.654	44.8	0.704
1100	2.220	34.629	27.679	42.4	0.753
1200	2.144	34.645	27.698	40.6	0.800
1300	2.089	34.661	27.715	39.0	0.846
1400	2.033	34.679	27.734	37.2	0.890
1500	1.972	34.693	27.750	35.7	0.934
1600	1.906	34.704	27.764	34.3	0.975
1700	1.837	34.710	27.774	33.4	1.016
1800	1.775	34.715	27.783	32.5	1.056
1900	1.665	34.711	27.788	32.1	1.096
2000	1.575	34.714	27.797	31.2	1.135
2100	1.519	34.719	27.805	30.4	1.173
2200	1.435	34.717	27.810	30.0	1.210
2300	1.375	34.720	27.816	29.4	1.246
2400	1.279	34.717	27.821	29.0	1.282
2500	1.234	34.719	27.825	28.5	1.318
2600	1.152	34.714	27.827	28.4	1.353
2700	1.060	34.709	27.829	28.2	1.387
2800	0.963	34.705	27.832	27.9	1.421
2900	0.896	34.702	27.834	27.7	1.454
3000	0.891	34.709	27.840	27.1	1.487
3100	0.806	34.702	27.840	27.1	1.519
3200	0.733	34.703	27.845	26.6	1.550
3300	0.652	34.699	27.847	26.5	1.581
3400	0.566	34.692	27.847	26.5	1.611
3500	0.504	34.690	27.849	26.3	1.640
3600	0.448	34.689	27.851	26.1	1.669
3700	0.390	34.686	27.852	26.0	1.697
3800	0.350	34.684	27.853	25.9	1.725
3900	0.304	34.681	27.853	25.9	1.752
4000	0.257	34.679	27.854	25.8	1.779
4100	0.246	34.680	27.855	25.7	1.805
4200	0.244	34.677	27.853	25.9	1.831
4300	0.221	34.676	27.854	25.8	1.858
4400	0.196	34.675	27.854	25.8	1.884
4500	0.186	34.672	27.852	26.0	1.909
4600	0.182	34.671	27.852	26.0	1.935
4700	0.183	34.672	27.853	25.9	1.961
4800	0.179	34.671	27.852	26.0	1.987
4900	0.177	34.671	27.852	26.0	2.013
5000	0.180	34.669	27.850	26.2	2.039
5100	0.179	34.668	27.850	26.2	2.065
5200	0.168	34.666	27.849	26.3	2.091
5300	0.153	34.665	27.849	26.3	2.117
5400	0.112	34.663	27.849	26.3	2.142

RV MELVILLE INDOMED LEG XIII 47

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
46 50.0S	53 04.6W	12/16/78	2113 GMT	6054M	320	22KT	1	330 5 6

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	12.16	34.932	6.73	0.49	0.	0.17	4.5	151.8
51	11.65	34.946	6.25	0.54	0.	0.21	5.3	141.6
101	11.52	34.941	6.14	0.61	1.	0.24	5.7	139.6
151	10.34	34.925	5.85	1.00	3.	0.02	12.7	120.5
201	8.75	34.660	5.79	1.17	5.	0.01	16.8	115.0
251	7.02	34.441	5.78	1.53	7.	0.01	21.6	107.0
300	5.56	34.272	6.03	1.68	9.	0.01	24.4	101.6
401	4.46	34.197	6.36	1.80	12.	0.01	26.1	95.2
499	3.95	34.182	6.45	1.82	14.	0.01	26.8	91.2
649	3.35	34.179	6.22	1.99	20.	0.00	29.3	85.8
798	2.85	34.213	5.79	2.13	31.	0.00	31.5	78.9
998	2.72	34.315	5.02	2.31	46.	0.00	34.0	70.1
1199	2.778	34.442	4.45	2.42	57.	0.00	34.9	61.0
1398	2.695	34.524	4.22	2.39	65.	0.00	35.2	54.1
1599	2.700	34.621	4.25	2.31	68.	0.00	33.9	46.8
1798	2.690	34.689	4.36	2.21	69.	0.00	32.5	41.6
1999	2.664	34.740	4.55	2.10	68.	0.00	30.9	37.6
2200	2.519	34.762	4.64	2.08	72.	0.00	30.4	34.7
2400	2.450	34.784	4.80	1.99	71.	0.00	29.5	32.5
2602	2.249	34.780	4.82	2.01	77.	0.00	29.7	31.2
2802	2.075	34.776	4.89	2.04	82.	0.00	29.8	30.1
3004	1.878	34.761	4.79	2.10	90.	0.00	30.7	29.8
3257	1.581	34.737	4.82	2.21	104.	0.00	32.0	29.1
3507	1.292	34.724	4.86	2.23	111.	0.00	32.5	28.5

Z	T	S	O2	SIGT	DT	DD
0	12.16	34.932	6.73	26.524	151.8	0.000
10	12.04	34.936	6.62	26.550	149.4	0.015
20	11.92	34.939	6.50	26.576	146.9	0.030
30	11.82	34.942	6.41	26.598	144.9	0.045
50	11.66	34.946	6.26	26.631	141.7	0.073
75	11.59	34.944	6.19	26.642	140.6	0.109
100	11.52	34.941	6.14	26.652	139.7	0.145
125	11.04	34.949	6.00	26.747	130.7	0.179
150	10.37	34.926	5.86	26.850	120.9	0.211
200	8.78	34.667	5.79	26.911	115.1	0.272
250	7.05	34.446	5.78	26.996	107.1	0.330
300	5.56	34.272	6.03	27.054	101.6	0.384
400	4.46	34.198	6.36	27.121	95.2	0.486
500	3.95	34.183	6.45	27.164	91.2	0.583
600	3.53	34.178	6.33	27.202	87.6	0.677
700	3.15	34.187	6.09	27.245	83.5	0.768
800	2.85	34.215	5.78	27.294	78.8	0.854
1000	2.72	34.317	5.01	27.387	70.0	1.015
1200	2.78	34.443	4.45	27.483	61.0	1.157
1500	2.70	34.576	4.24	27.595	50.3	1.349
1750	2.69	34.676	4.33	27.676	42.7	1.490
2000	2.66	34.741	4.55	27.730	37.5	1.619
2250	2.50	34.769	4.68	27.766	34.1	1.740
2500	2.36	34.783	4.81	27.790	31.8	1.856
2750	2.12	34.777	4.88	27.805	30.4	1.967
3000	1.88	34.761	4.79	27.812	29.8	2.074
3250	1.54	34.739	4.82	27.818	29.2	2.177
3500	1.30	34.725	4.86	27.825	28.5	2.275

RV MELVILLE INDOMED LEG XIII 48

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
48 48.0S	57 02.8W	12/18/78	0450 GMT	741M	330	14KT		

Z	T	S	O2	PO4	SIO3	NO2	NO3	DT
1	7.70	34.039	7.93	1.07	1.	0.18	15.1	146.1
22	7.62	34.054		1.07	1.	0.17	15.4	143.9
42	7.01	34.096		1.20	1.	0.15	16.5	132.6
62	6.27	34.110	6.98	1.30	2.	0.14	17.6	122.1
77	5.85	34.114	6.85	1.30	3.	0.11	17.4	116.8
103	4.82	34.132	7.09	1.55	9.	0.16	21.0	103.6
123	4.63	34.136	7.07	1.56	9.	0.20	21.8	101.5
144	4.39	34.157	6.92	1.61	10.	0.15	23.4	97.5
174	4.27	34.168	6.91	1.62	11.	0.03	23.9	95.4
205	4.15	34.169	6.90	1.65	11.	0.03	24.3	94.2
245	3.96	34.164	6.89	1.65	12.	0.02	25.0	92.7
276	3.90	34.161	6.89	1.70	13.	0.02	25.1	92.3
327	3.785	34.155	6.89	1.72	14.	0.02	25.5	91.2
393	3.554	34.149	6.88	1.75	15.	0.03	26.0	90.0
469	3.202	34.137	6.78	1.84	18.	0.02	27.3	87.7
550	3.044	34.155	6.44	1.94	22.	0.01	28.7	84.9
630	3.017	34.184	6.13	1.98	27.	0.02	29.9	82.5
711	2.952	34.215	5.81	2.09	32.	0.01	31.1	79.6

Z	T	S	O2	SIGT	DT	DD
0	7.70	34.039	7.93	26.585	146.1	0.000
10	7.67	34.047	7.75	26.595	145.1	0.015
20	7.63	34.054	7.56	26.606	144.1	0.029
30	7.42	34.072	7.39	26.651	139.8	0.043
50	6.71	34.105	7.11	26.774	128.1	0.070
75	5.91	34.115	6.86	26.887	117.5	0.101
100	4.93	34.131	7.05	27.017	105.2	0.129
125	4.61	34.139	7.06	27.059	101.1	0.155
150	4.36	34.162	6.92	27.104	96.9	0.180
200	4.17	34.170	6.90	27.131	94.3	0.229
250	3.95	34.164	6.89	27.149	92.6	0.277
300	3.83	34.159	6.89	27.157	91.8	0.324
400	3.52	34.148	6.88	27.179	89.8	0.418
500	3.12	34.142	6.66	27.212	86.6	0.509
600	3.02	34.173	6.25	27.246	83.4	0.598
700	2.96	34.212	5.85	27.282	80.1	0.684

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
46 50.0S	53 43.0W	12/16/78	1956 GMT

Z	T	S	SIGMA T	DT	DD
0	12.219	34.926	26.508	153.3	0.000
10	12.192	34.933	26.519	152.3	0.015
20	12.069	34.932	26.542	150.1	0.030
30	11.901	34.929	26.572	147.3	0.045
40	11.702	34.939	26.617	143.0	0.060
50	11.681	34.941	26.623	142.5	0.074
75	11.658	34.940	26.626	142.1	0.110
100	11.081	34.951	26.742	131.2	0.145
125	10.627	34.917	26.797	125.9	0.178
150	10.302	34.882	26.827	123.1	0.210
175	9.741	34.796	26.856	120.3	0.241
200	8.900	34.677	26.902	116.0	0.272
225	8.242	34.590	26.936	112.8	0.301
250	7.692	34.530	26.971	109.4	0.330
275	6.338	34.354	27.021	104.7	0.358
300	5.736	34.287	27.045	102.5	0.385
350	4.910	34.221	27.091	98.1	0.437
400	4.506	34.201	27.120	95.4	0.487
450	4.166	34.184	27.143	93.2	0.536
500	3.989	34.184	27.161	91.4	0.585
550	3.838	34.185	27.177	89.9	0.632
600	3.654	34.185	27.196	88.2	0.679
650	3.436	34.182	27.215	86.4	0.725
700	3.270	34.190	27.237	84.3	0.770
750	3.051	34.199	27.264	81.7	0.814
800	2.958	34.219	27.289	79.4	0.857
850	2.849	34.239	27.314	76.9	0.899
900	2.732	34.253	27.336	74.9	0.939
950	2.787	34.289	27.359	72.6	0.979
1000	2.786	34.326	27.389	69.8	1.017
1100	2.776	34.374	27.428	66.1	1.092
1200	2.727	34.423	27.472	62.0	1.163
1300	2.703	34.481	27.520	57.4	1.230
1400	2.666	34.522	27.556	54.0	1.294
1500	2.708	34.565	27.586	51.1	1.355
1600	2.710	34.618	27.629	47.1	1.414
1700	2.690	34.649	27.655	44.6	1.470
1800	2.595	34.670	27.680	42.3	1.524
1900	2.714	34.719	27.709	39.6	1.576
2000	2.652	34.730	27.723	38.2	1.627
2100	2.654	34.760	27.747	36.0	1.676
2200	2.468	34.748	27.753	35.3	1.725
2300	2.458	34.764	27.767	34.0	1.772
2400	2.466	34.782	27.780	32.8	1.819
2500	2.400	34.785	27.788	32.0	1.865
2600	2.209	34.765	27.788	32.0	1.910
2700	2.153	34.770	27.797	31.2	1.955
2800	2.057	34.771	27.805	30.4	1.999
2900	1.990	34.769	27.809	30.0	2.042
3000	1.856	34.758	27.811	29.9	2.084
3100	1.708	34.746	27.813	29.7	2.126
3200	1.591	34.742	27.818	29.2	2.167
3300	1.496	34.736	27.820	29.0	2.207
3400	1.402	34.731	27.823	28.7	2.246
3500	1.307	34.727	27.827	28.4	2.285
3563	1.250	34.725	27.829	28.2	2.308

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
48 48.0S	57 52.8W	12/18/78	0413 GMT

Z	T	S	SIGMA T	DT	DD
0	7.738	33.027	25.787	222.0	0.000
10	7.701	33.971	26.532	151.2	0.019
20	7.347	34.047	26.642	140.7	0.033
30	7.065	34.078	26.706	134.6	0.047
40	6.818	34.092	26.751	130.4	0.060
50	6.628	34.098	26.781	127.5	0.073
75	5.641	34.113	26.919	114.4	0.104
100	4.756	34.137	27.042	102.8	0.131
125	4.495	34.149	27.080	99.2	0.157
150	4.348	34.164	27.108	96.5	0.182
175	4.272	34.170	27.121	95.3	0.206
200	4.178	34.170	27.131	94.4	0.230
225	4.064	34.168	27.141	93.4	0.254
250	3.984	34.165	27.147	92.8	0.278
275	3.924	34.164	27.152	92.3	0.302
300	3.807	34.160	27.161	91.5	0.325
350	3.674	34.155	27.170	90.6	0.372
400	3.554	34.153	27.180	89.7	0.419
450	3.306	34.143	27.196	88.2	0.465
500	3.127	34.144	27.213	86.5	0.510
550	3.051	34.161	27.234	84.6	0.554
600	3.009	34.180	27.253	82.8	0.598
650	2.990	34.195	27.267	81.5	0.641
700	2.957	34.214	27.285	79.8	0.684
714	2.949	34.221	27.291	79.2	0.695

RV MELVILLE — INDOMED LEG XIII — 49

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 24.9S	59 05.6W	12/10/78	1241 GMT	388M	320	16KT	0	320 3 5

Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
0	9.54	33.825	6.97	0.79	1.	0.16	9.9	189.0	0	9.54	33.825	6.97	26.133	189.0	0.000
20	8.51	33.828	7.05	0.68	1.	0.16	10.4	173.3	10	8.91	33.826	7.01	26.233	179.5	0.018
41	8.39	33.837	6.88	0.64	1.	0.16	10.6	170.9	20	8.51	33.828	7.05	26.299	173.3	0.036
62	8.57	33.888	7.05	1.00	3.	0.17	14.1	142.5	30	8.45	33.834	6.96	26.311	172.1	0.053
77	8.49	33.903	6.88	1.48	6.	0.19	18.8	126.2	50	7.69	33.854	6.96	26.440	159.9	0.087
103	8.17	33.999	6.85	1.55	6.	0.15	20.5	117.6	75	5.61	33.928	6.91	26.776	128.0	0.123
123	5.01	34.034	6.83	1.58	7.	0.12	21.5	113.2	100	5.21	34.002	6.85	26.882	117.9	0.154
144	4.88	34.051	6.78	1.68	9.	0.11	22.5	110.6	125	5.00	34.037	6.83	26.935	112.9	0.183
173	4.77	34.068	6.78	1.65	9.	0.11	23.0	108.1	150	4.85	34.056	6.78	26.965	110.0	0.211
204	4.65	34.095	6.79	1.67	10.	0.08	23.6	104.8	200	4.66	34.093	6.79	27.016	105.2	0.266
244	4.55	34.115	6.87	1.66	10.	0.06	23.7	102.3	250	4.52	34.119	6.87	27.052	101.8	0.319
275	4.42	34.128	6.87	1.67	10.	0.06	24.1	100.0	300	4.36	34.139	6.70	27.085	98.6	0.370
326	4.34	34.146	6.51	1.85	14.	0.17	25.2	97.8							
372	4.35	34.147	6.50	1.88	14.	0.17	25.3	97.8							

RV MELVILLE — INDOMED LEG XIII — 50

LATITUDE	LONGITUDE	MO/DAY/YR	MESSENGER TIME	BOTTOM	WIND	SPEED	WEATHER	DOMINANT WAVES
49 56. S	60 08. W	12/10/78	1921 GMT	164M	310	15KT	0	330 3 5

Z	T	S	O2	PO4	SI03	NO2	NO3	DT	Z	T	S	O2	SIGT	DT	DD
1	10.55	33.765	7.98	0.57	0.	0.14	4.7	209.7	0	10.55	33.765	7.98	25.915	209.7	0.000
11	9.81	33.750	7.75	0.63	0.	0.12	5.8	198.8	10	9.88	33.753	7.77	26.019	199.9	0.020
32	8.46	33.745	7.18	0.69	1.	0.07	6.2	178.7	20	9.16	33.746	7.41	26.132	189.2	0.040
42	8.12	33.746	7.50	1.02	1.	0.16	12.1	173.7	30	8.56	33.746	7.20	26.226	180.2	0.058
57	6.77	33.749	7.39	1.24	3.	0.21	14.6	155.4	50	7.45	33.745	7.44	26.389	164.7	0.093
72	5.65	33.800	6.46	1.58	6.	0.11	20.4	138.0	75	5.62	33.806	6.45	26.679	137.2	0.131
88	5.48	33.825	6.41	1.61	8.	0.09	21.6	134.1	100	5.47	33.828	6.39	26.714	133.9	0.165
109	5.46	33.827	6.38	1.69	7.	0.09	21.7	133.8	125	5.40	33.829	6.25	26.723	133.0	0.199
124	5.41	33.828	6.26	1.71	6.	0.12	20.9	133.1	150	5.16	33.835	6.15	26.757	129.8	0.232
145	5.20	33.834	6.17	1.82	6.	0.11	20.8	130.3							

49 — INDOMED LEG XIII CTD — 50

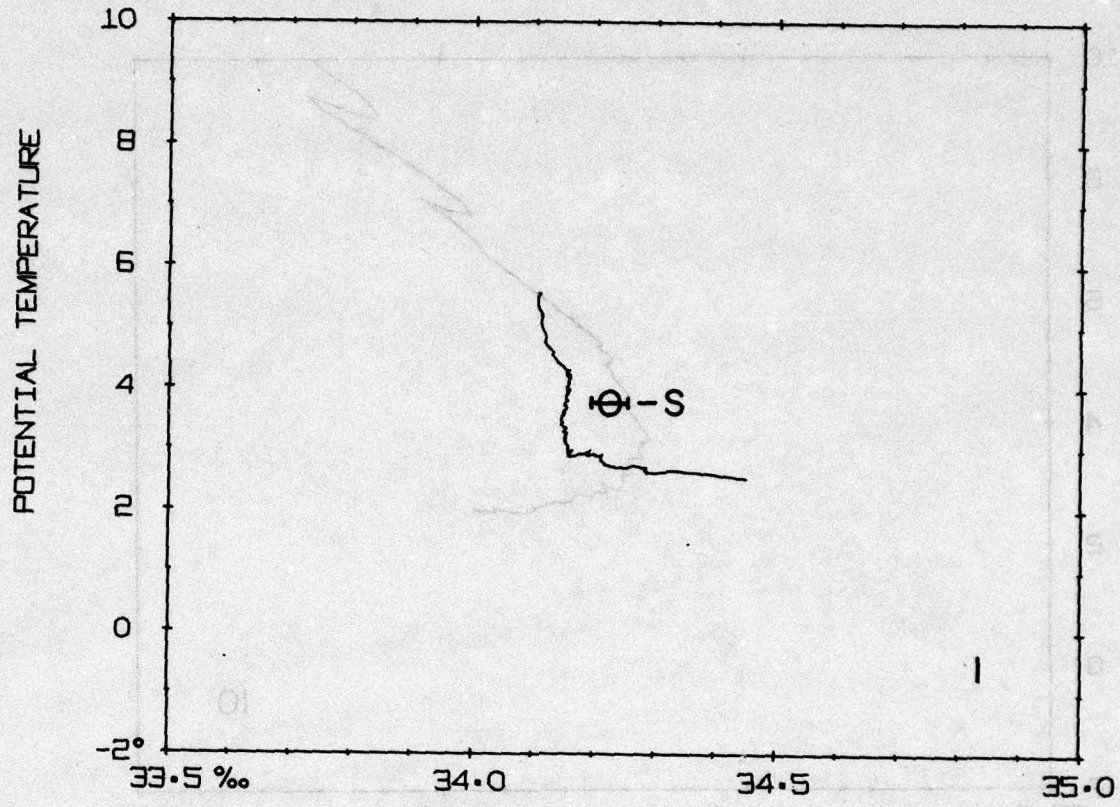
LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 24.9S	59 25.6W	12/10/78	1218 GMT

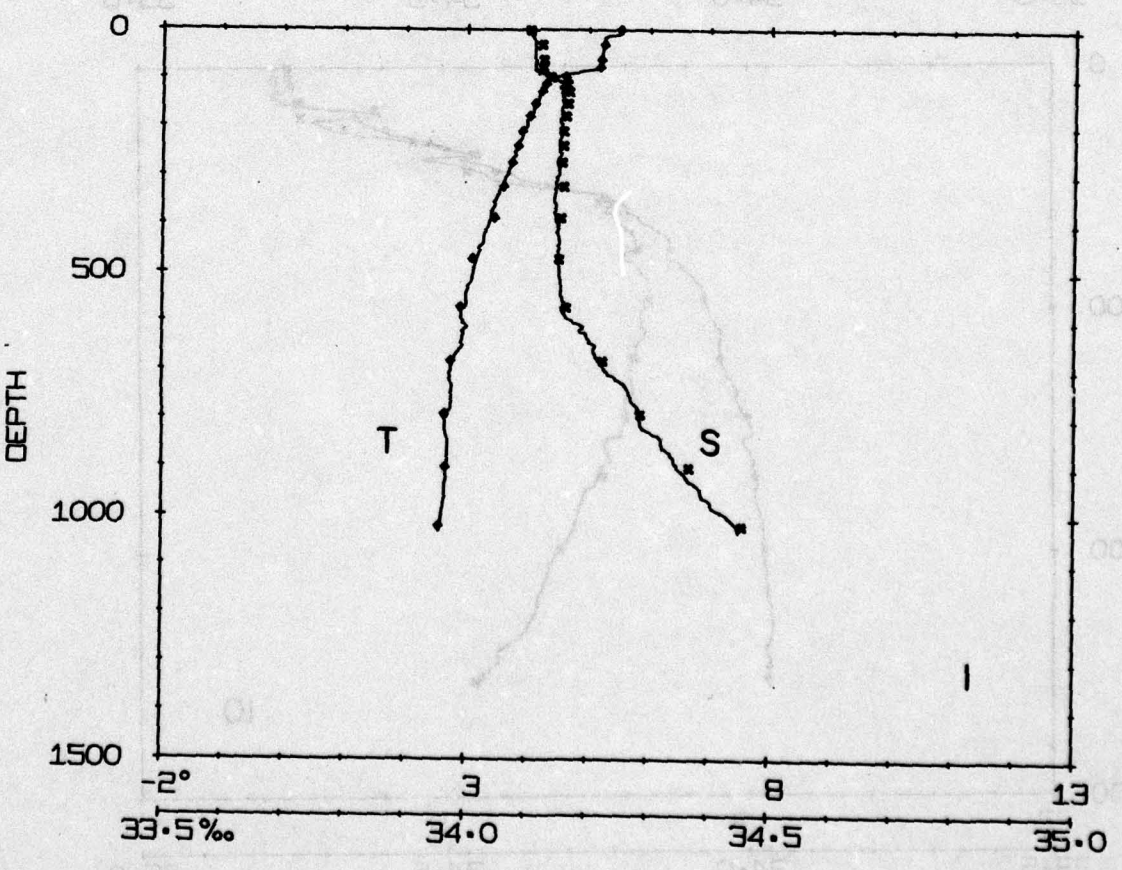
Z	T	S	SIGMA T	DT	DD
0	9.528	33.821	26.132	189.1	0.000
10	9.511	33.822	26.135	188.6	0.019
20	8.592	33.838	26.294	173.7	0.037
30	8.405	33.836	26.321	171.1	0.054
40	8.391	33.841	26.327	170.6	0.071
50	8.360	33.843	26.334	170.0	0.089
75	5.572	33.926	26.780	127.6	0.126
100	5.191	33.982	26.874	118.7	0.157
125	5.041	34.034	26.928	113.6	0.186
150	4.886	34.053	26.961	110.5	0.215
175	4.809	34.070	26.983	108.4	0.243
200	4.719	34.087	27.006	106.1	0.270
225	4.640	34.101	27.026	104.3	0.297
250	4.555	34.116	27.047	102.3	0.323
275	4.437	34.128	27.070	100.1	0.349
300	4.368	34.140	27.091	98.1	0.375
350	4.340	34.149	27.096	97.7	0.425
372	4.351	34.150	27.096	97.6	0.447

LATITUDE	LONGITUDE	MO/DAY/YR	START TIME
49 56. S	60 08. W	12/10/78	1907 GMT

Z	T	S	SIGMA T	DT	DD
0	10.487	33.760	25.922	209.0	0.000
10	9.577	33.740	26.061	195.9	0.020
20	8.718	33.744	26.203	182.4	0.039
30	8.450	33.743	26.242	178.7	0.057
40	8.221	33.741	26.275	175.6	0.075
50	7.548	33.733	26.367	166.8	0.092
75	5.542	33.808	26.684	136.6	0.130
100	5.473	33.827	26.714	133.9	0.164
125	5.351	33.828	26.724	132.9	0.198
144	5.214	33.836	26.751	130.3	0.223

INDOMED LEG XIII





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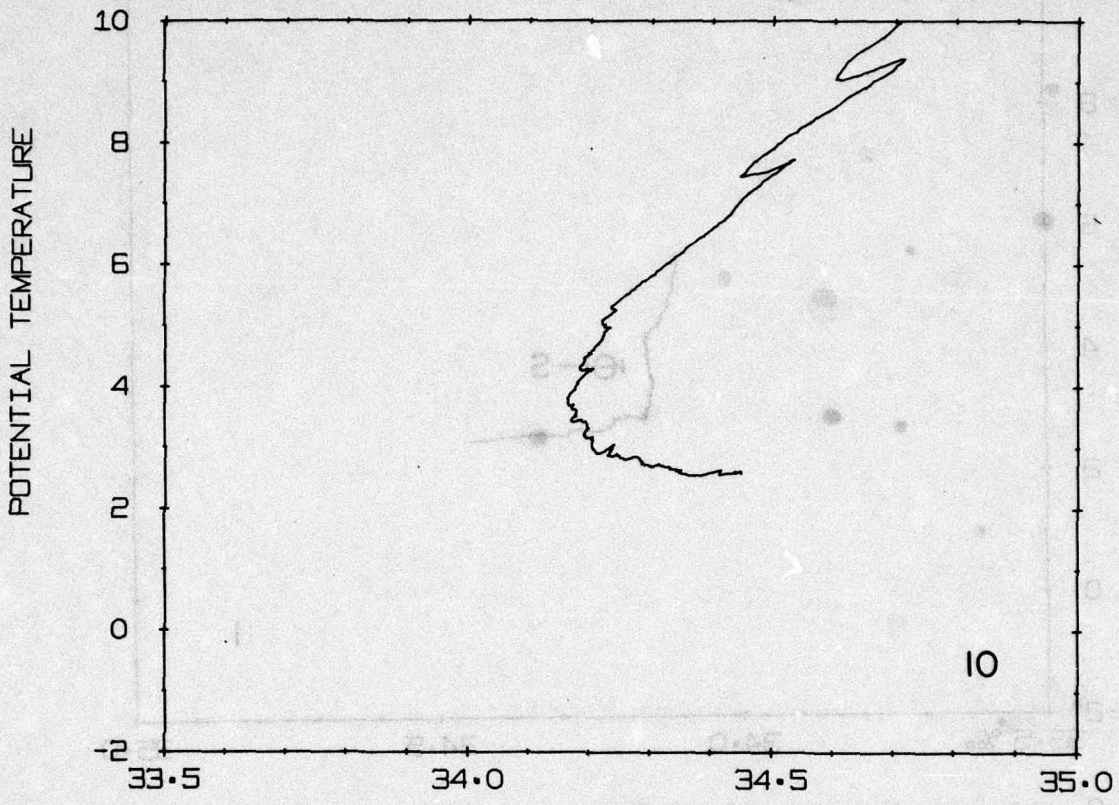

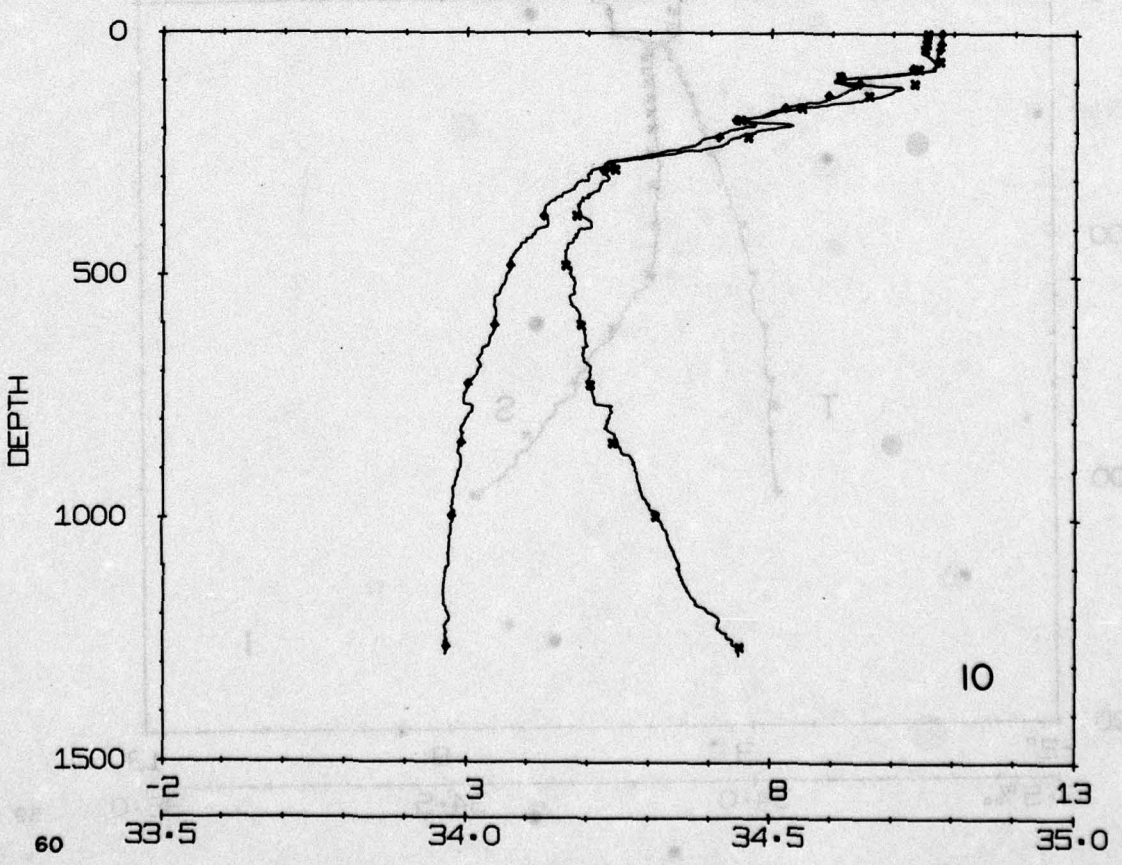

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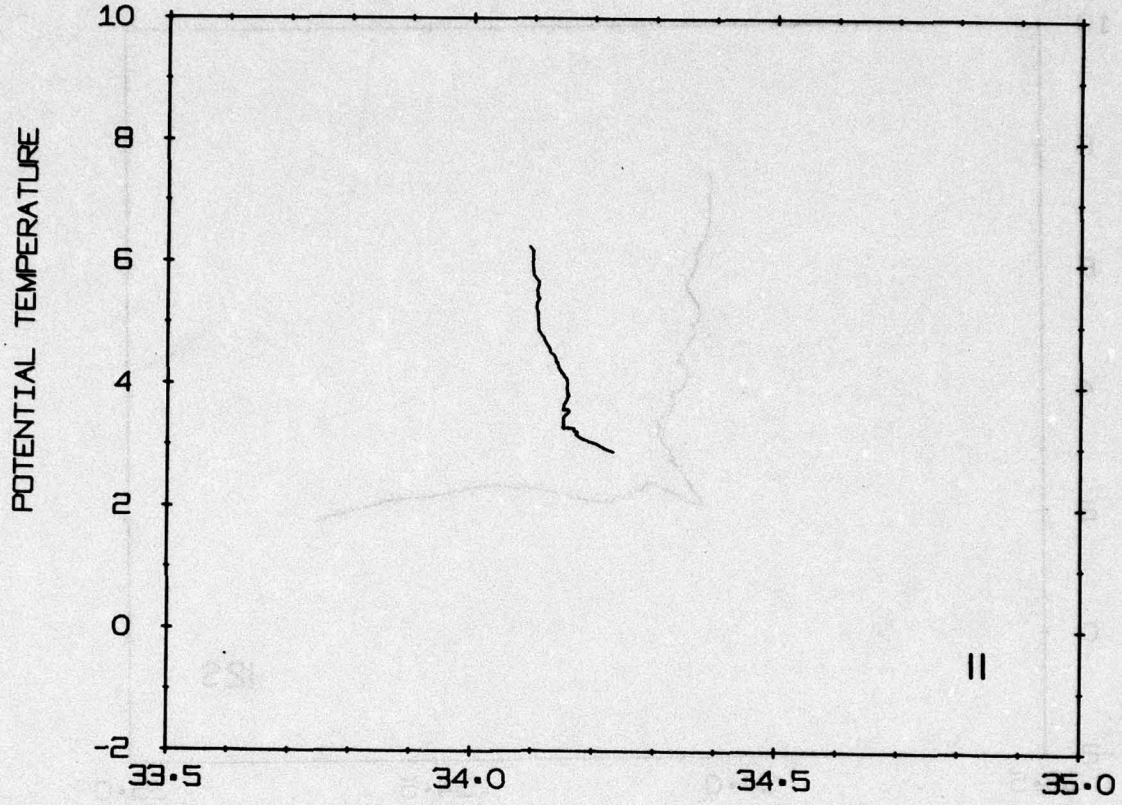

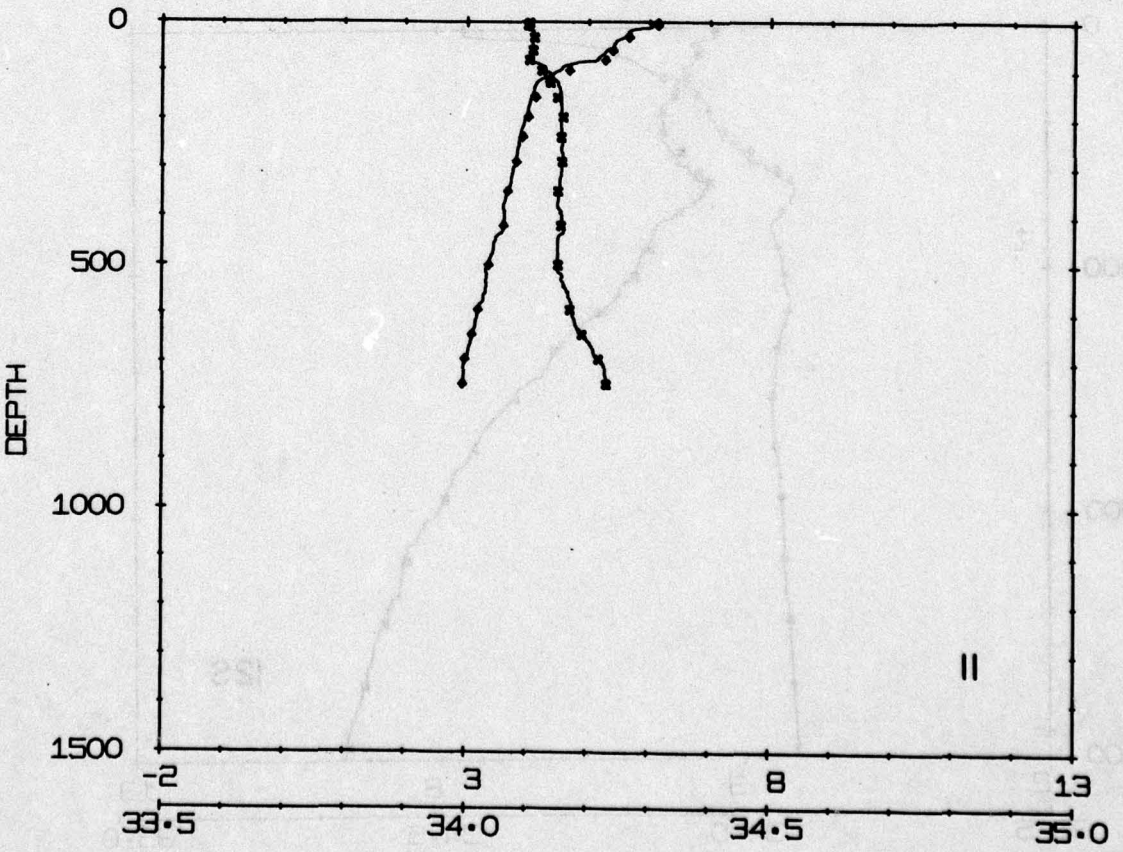

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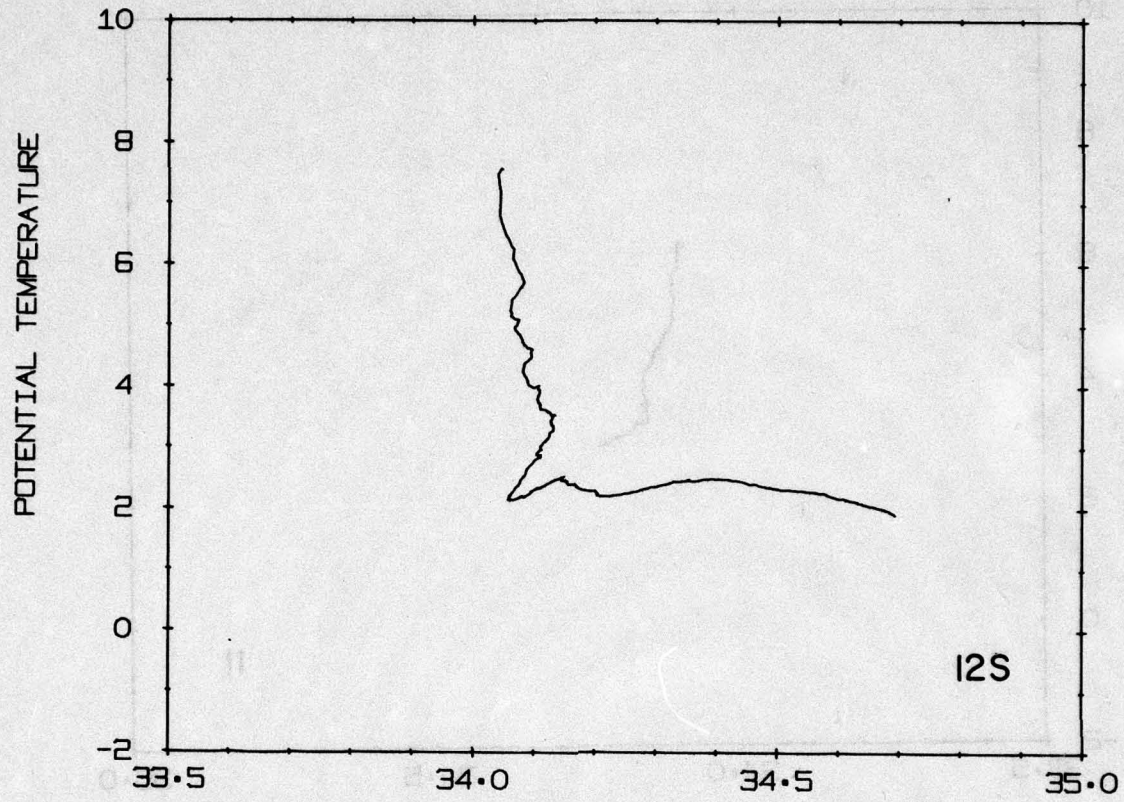

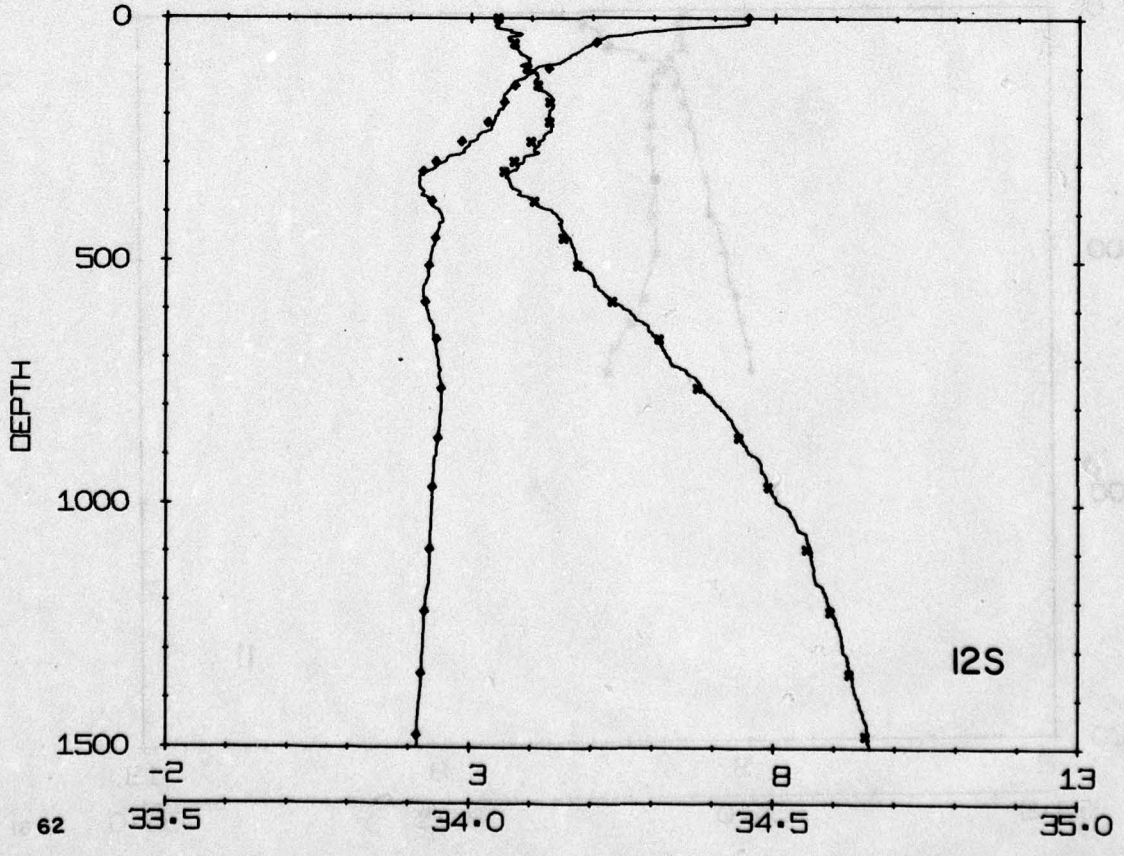

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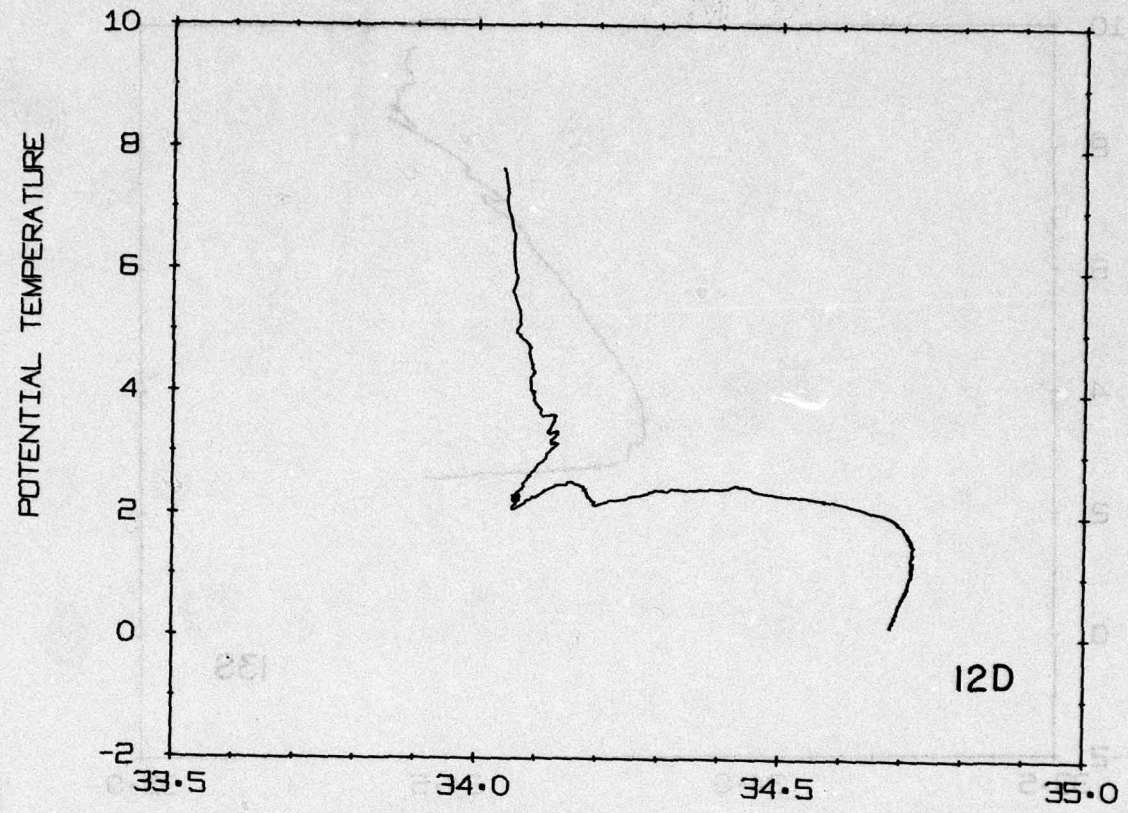

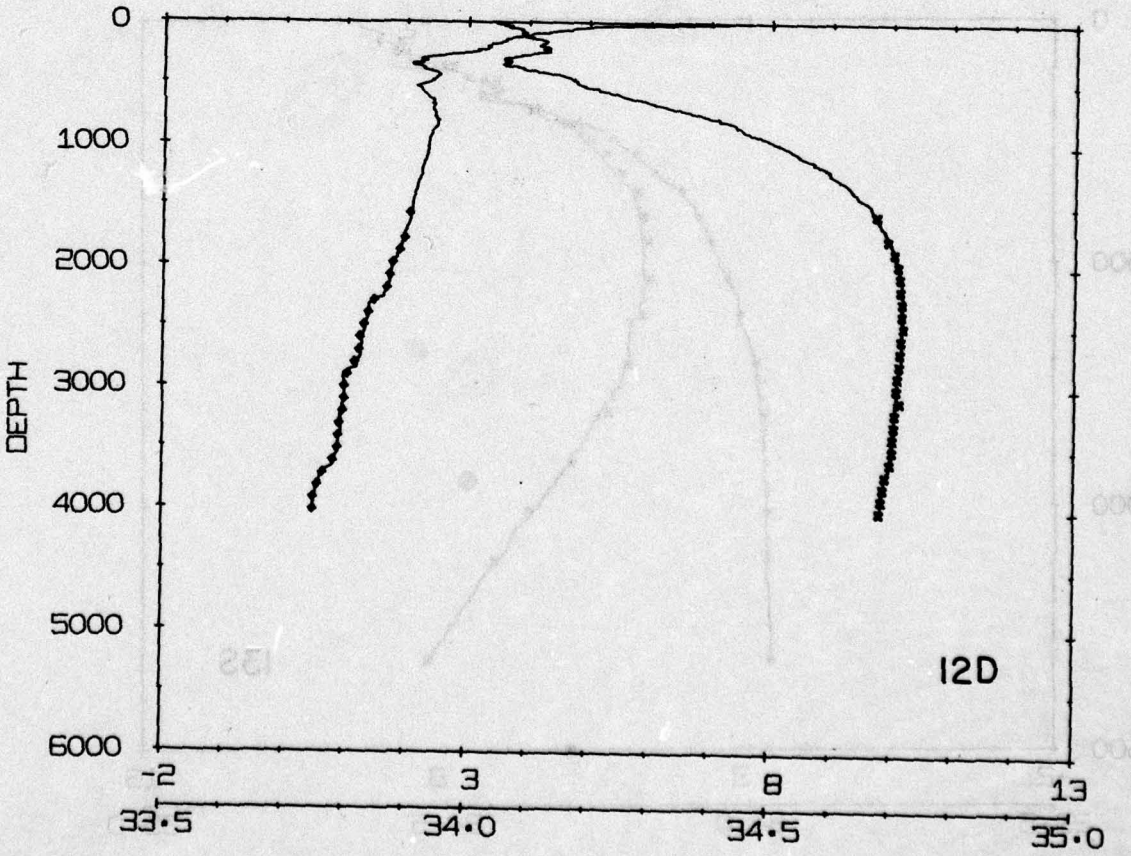

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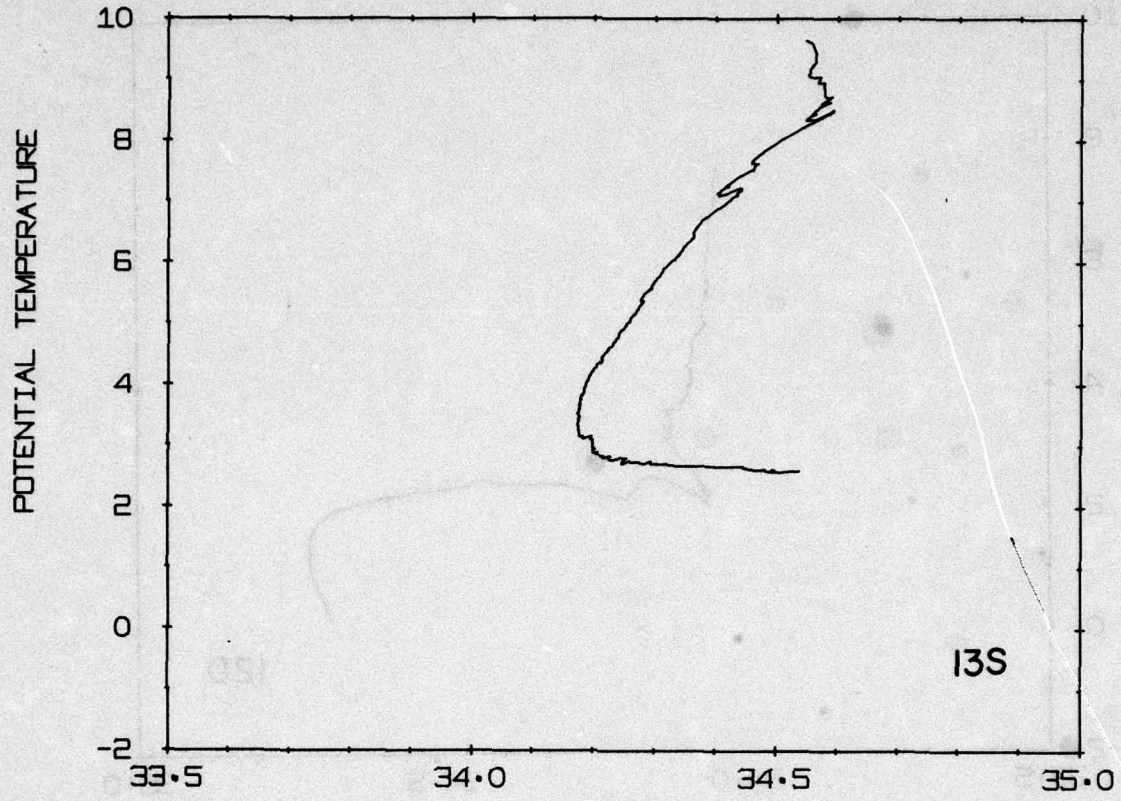

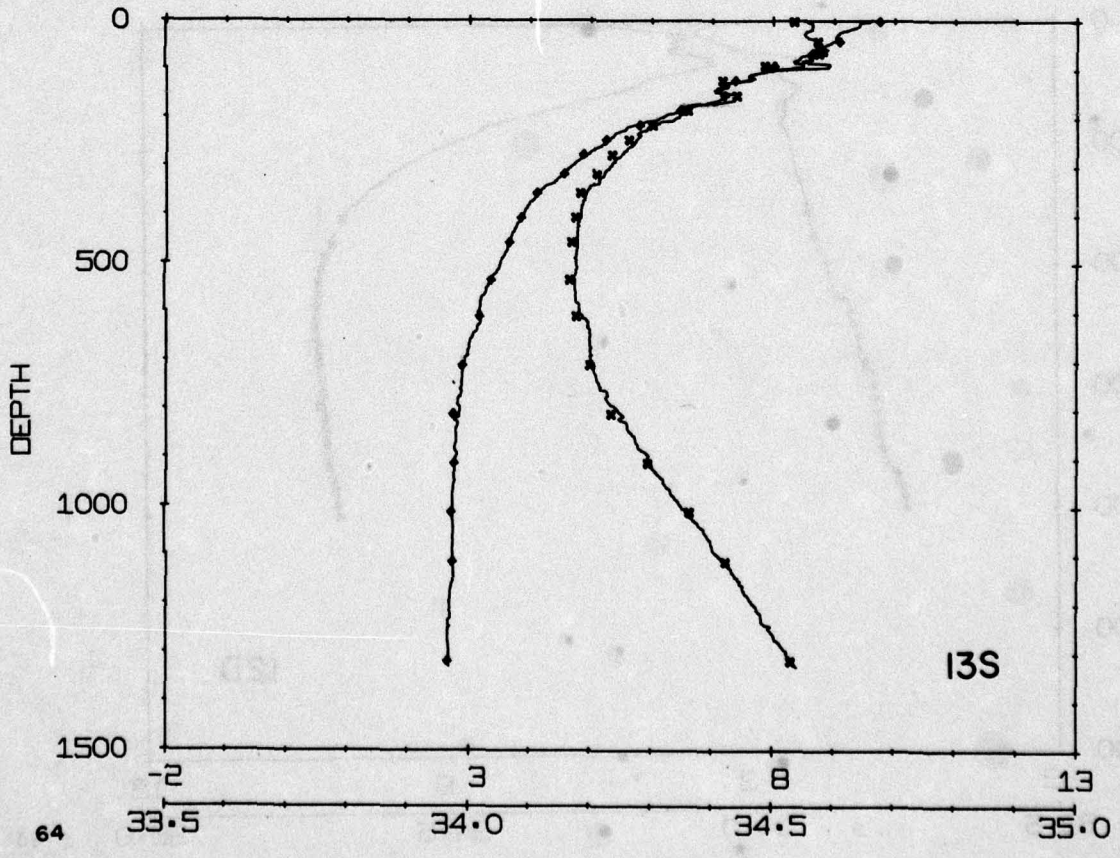

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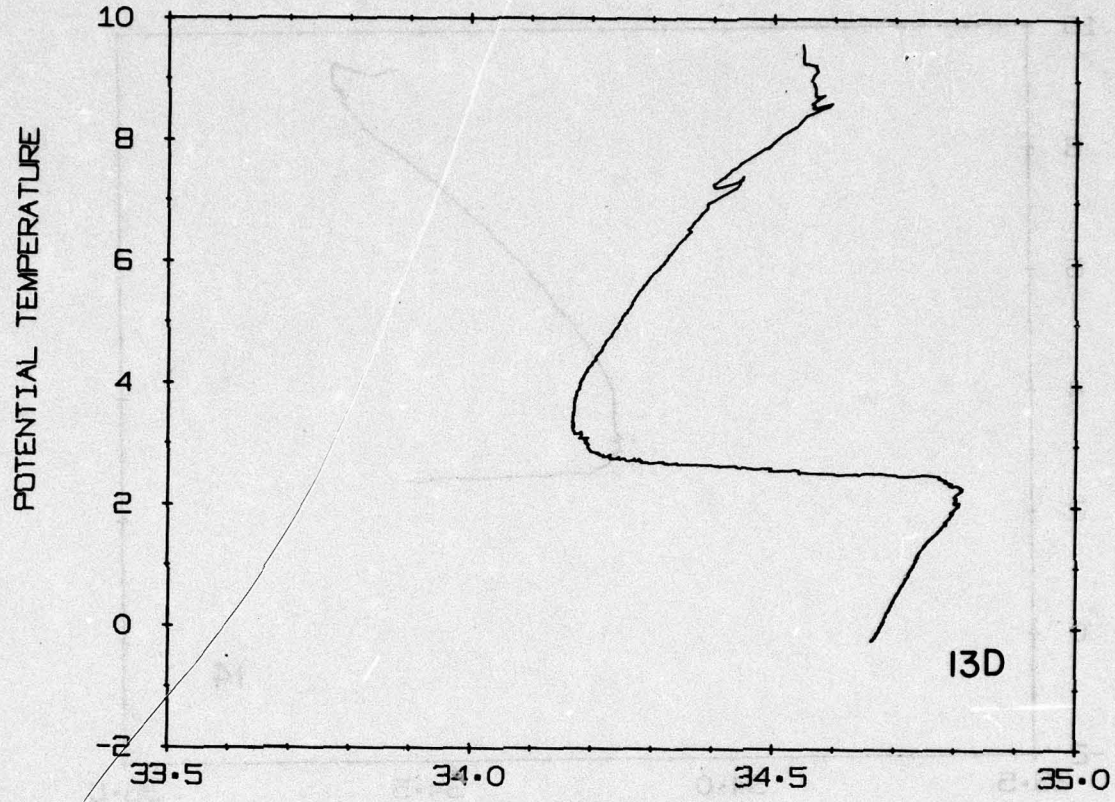

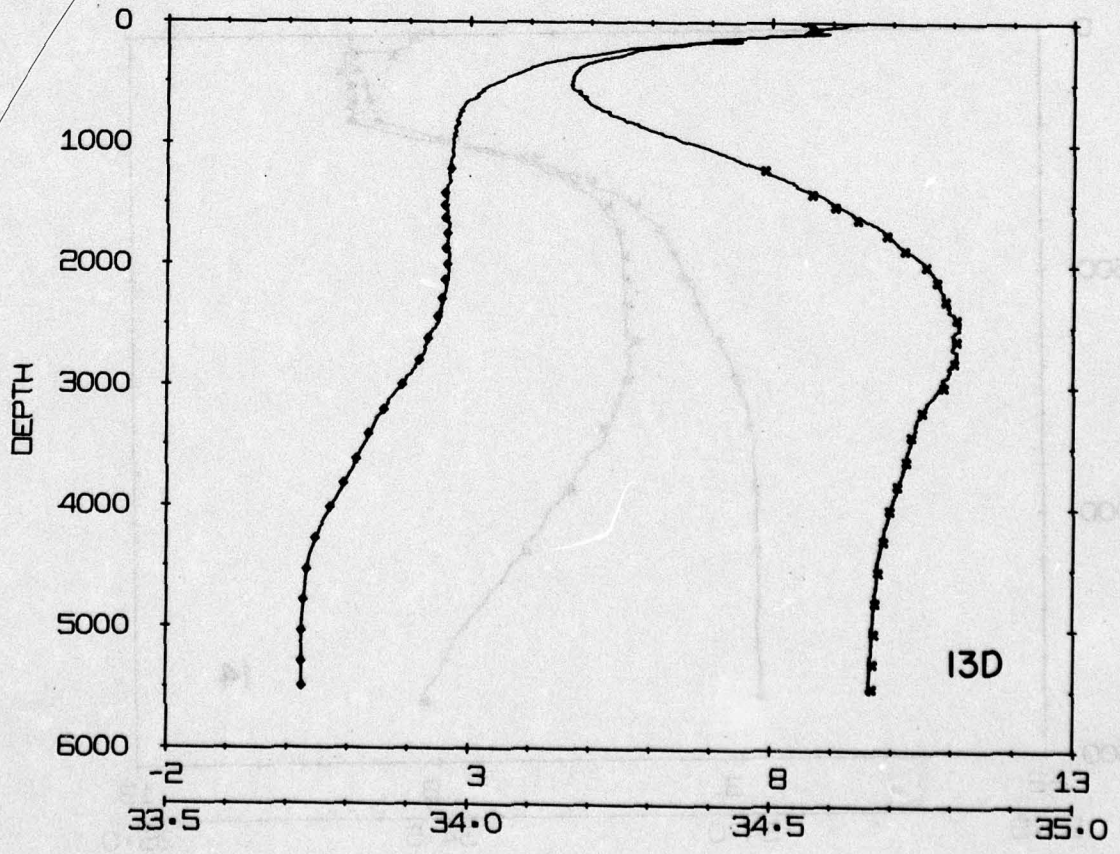

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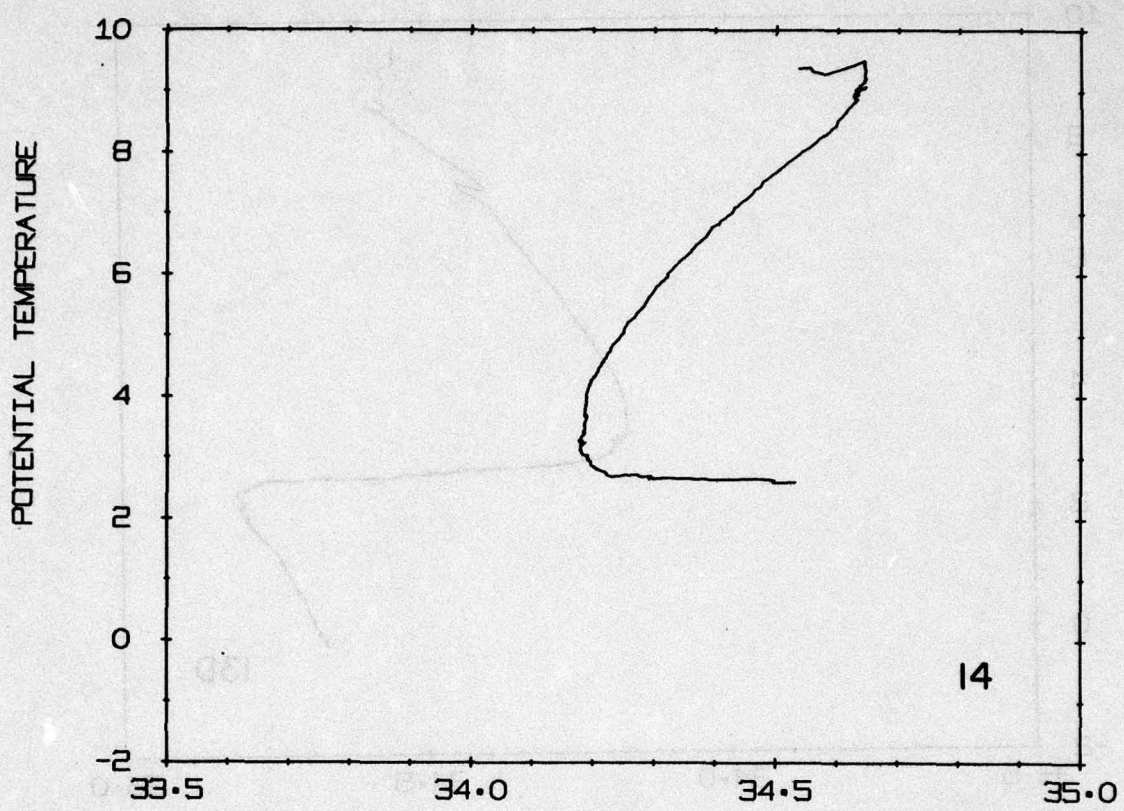

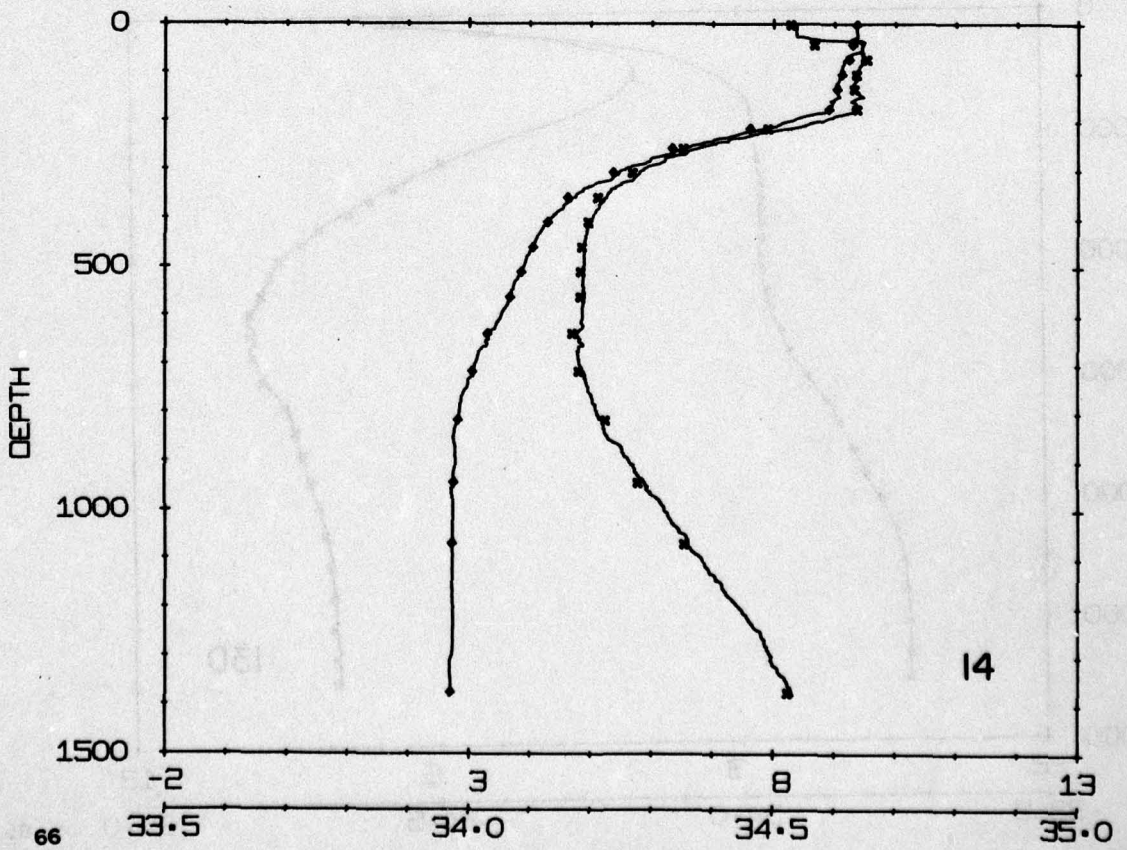

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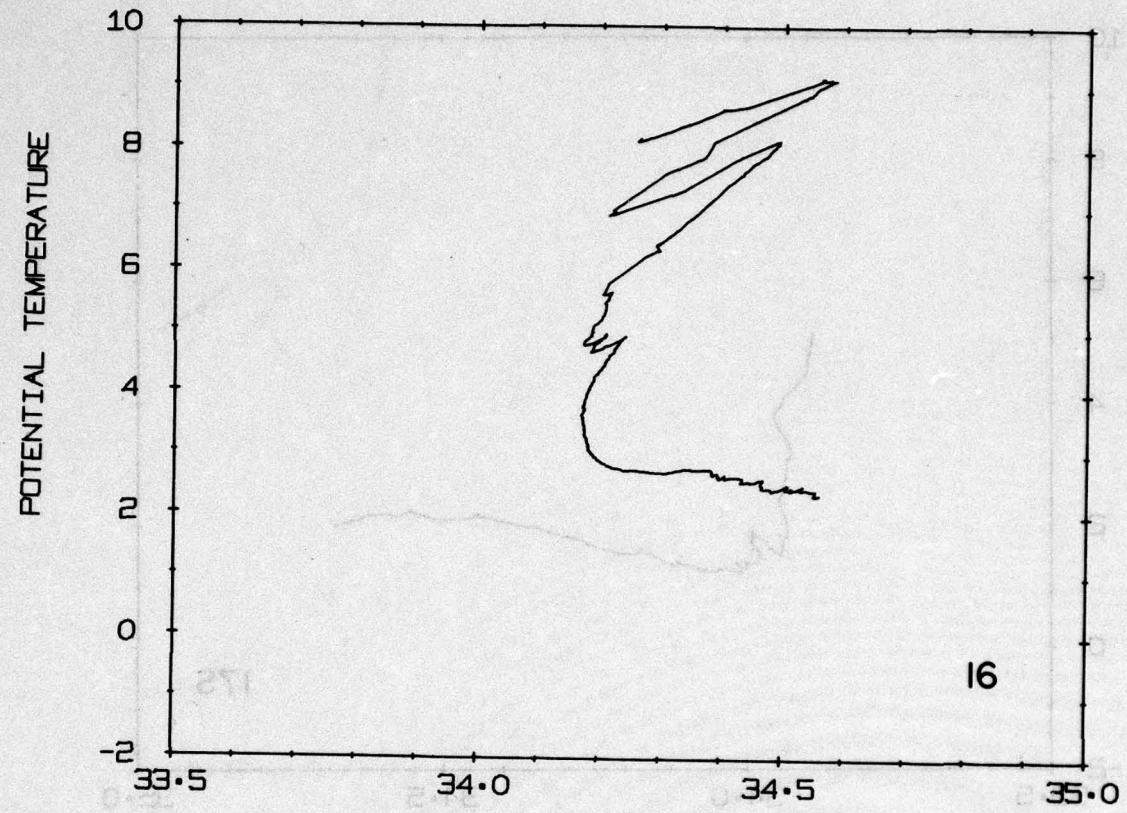

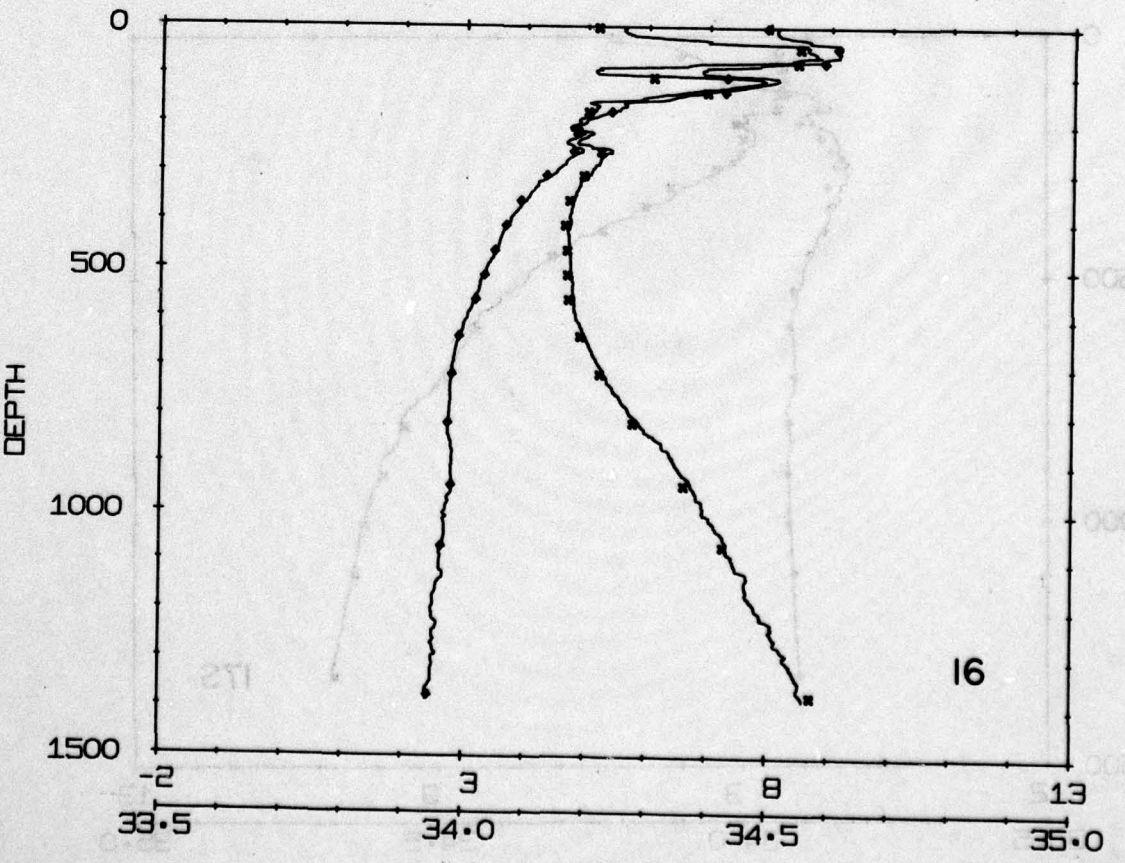

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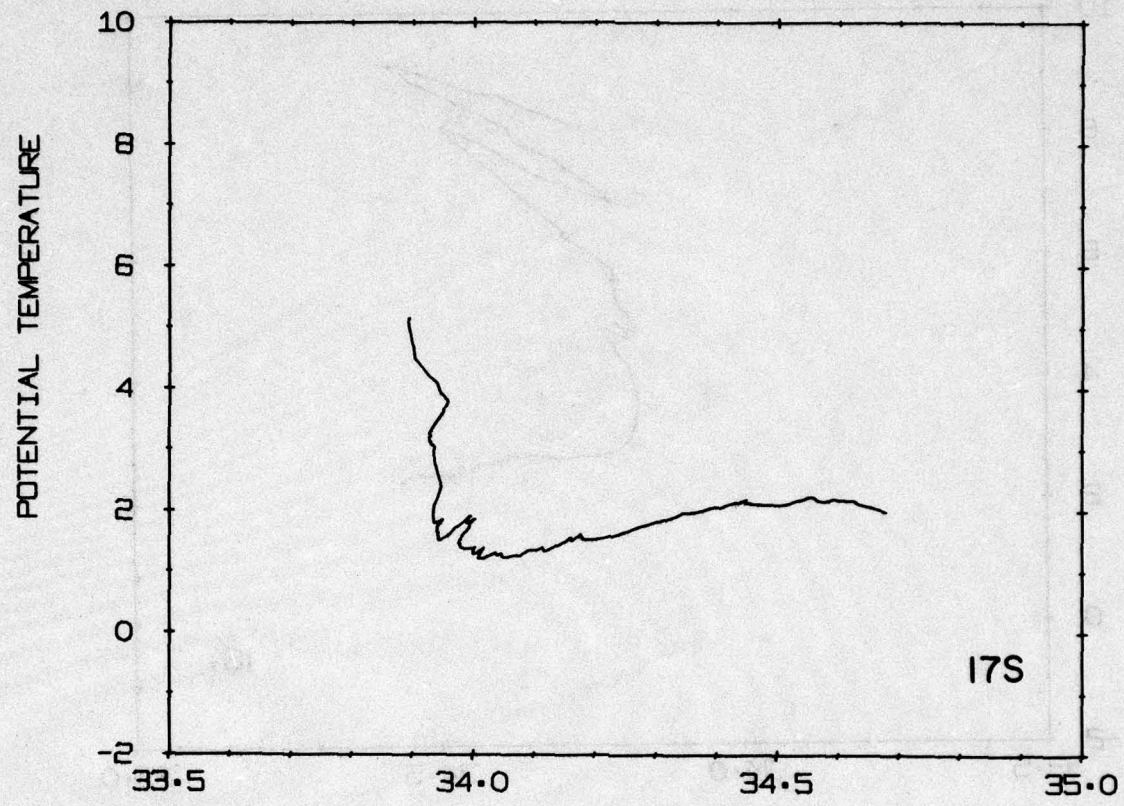

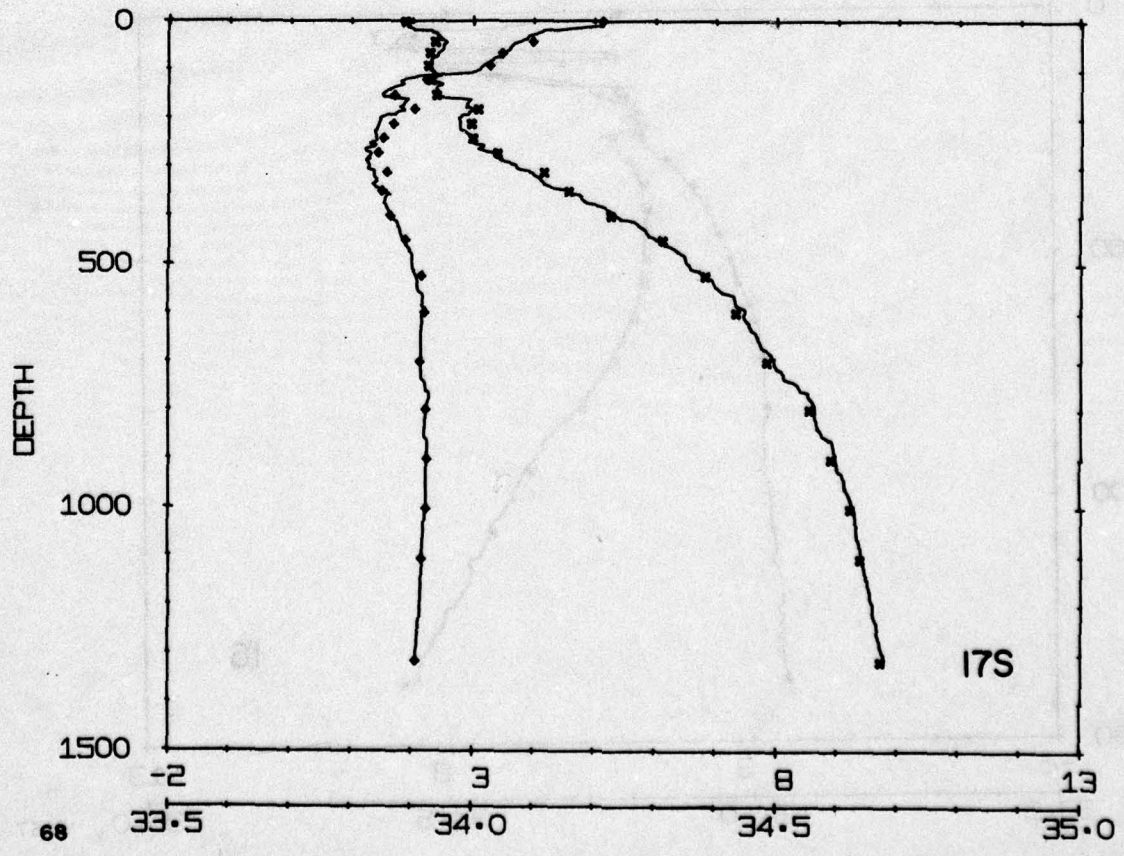

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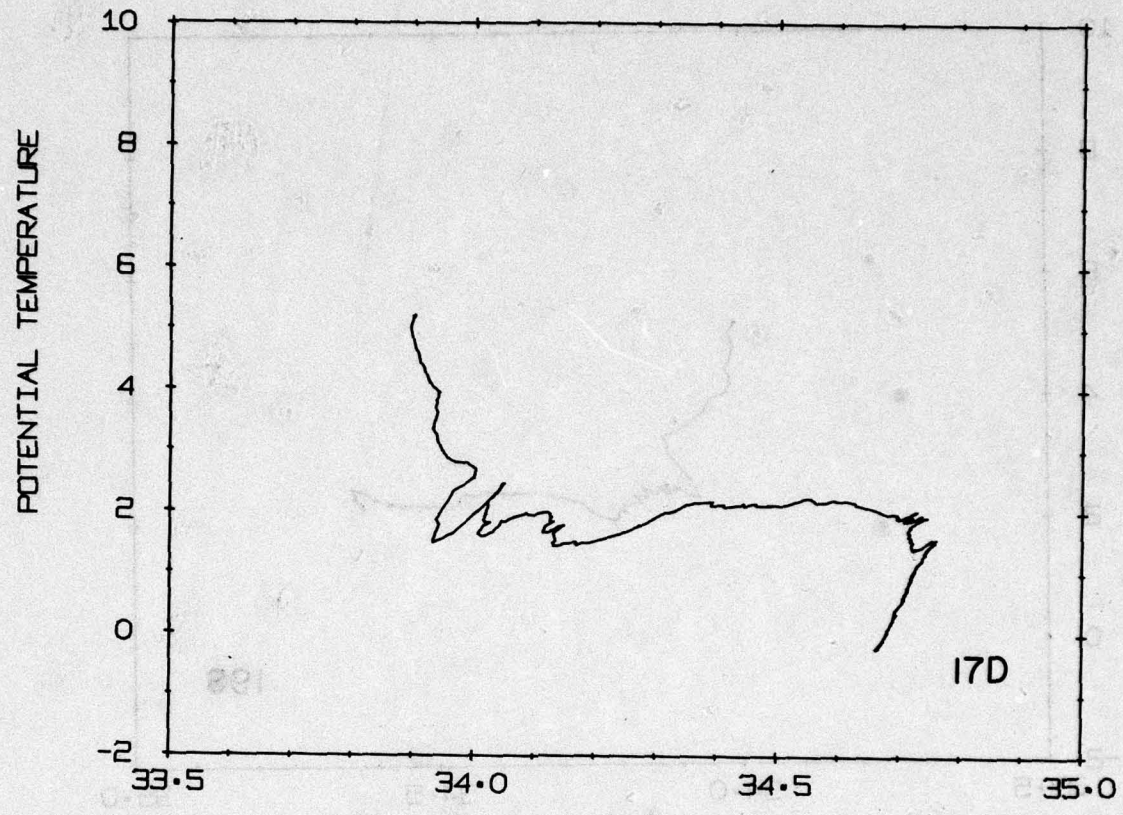

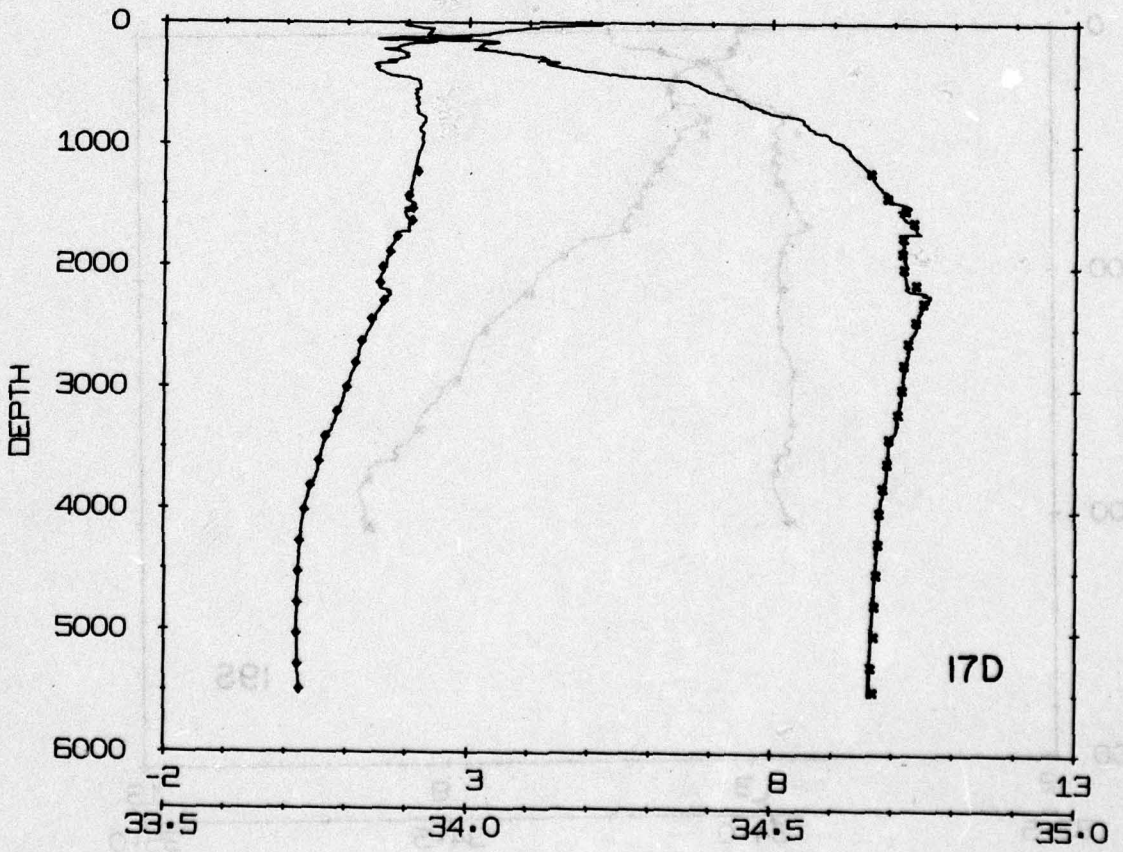

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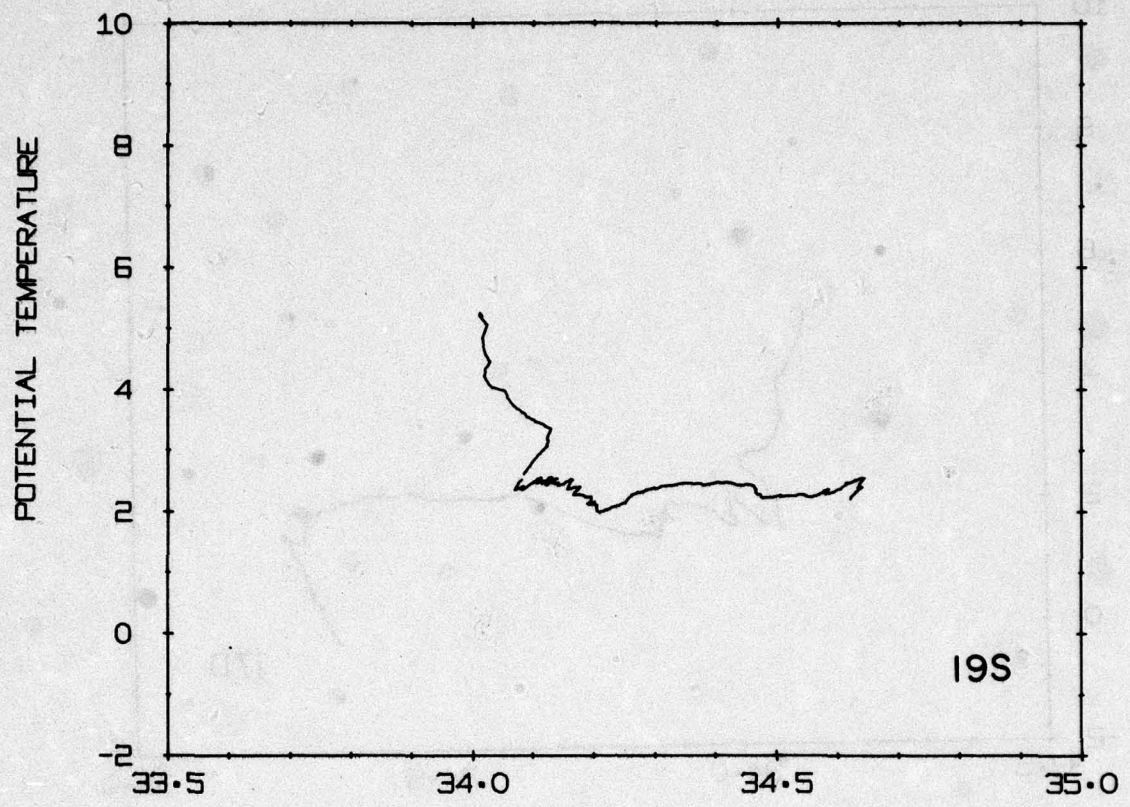

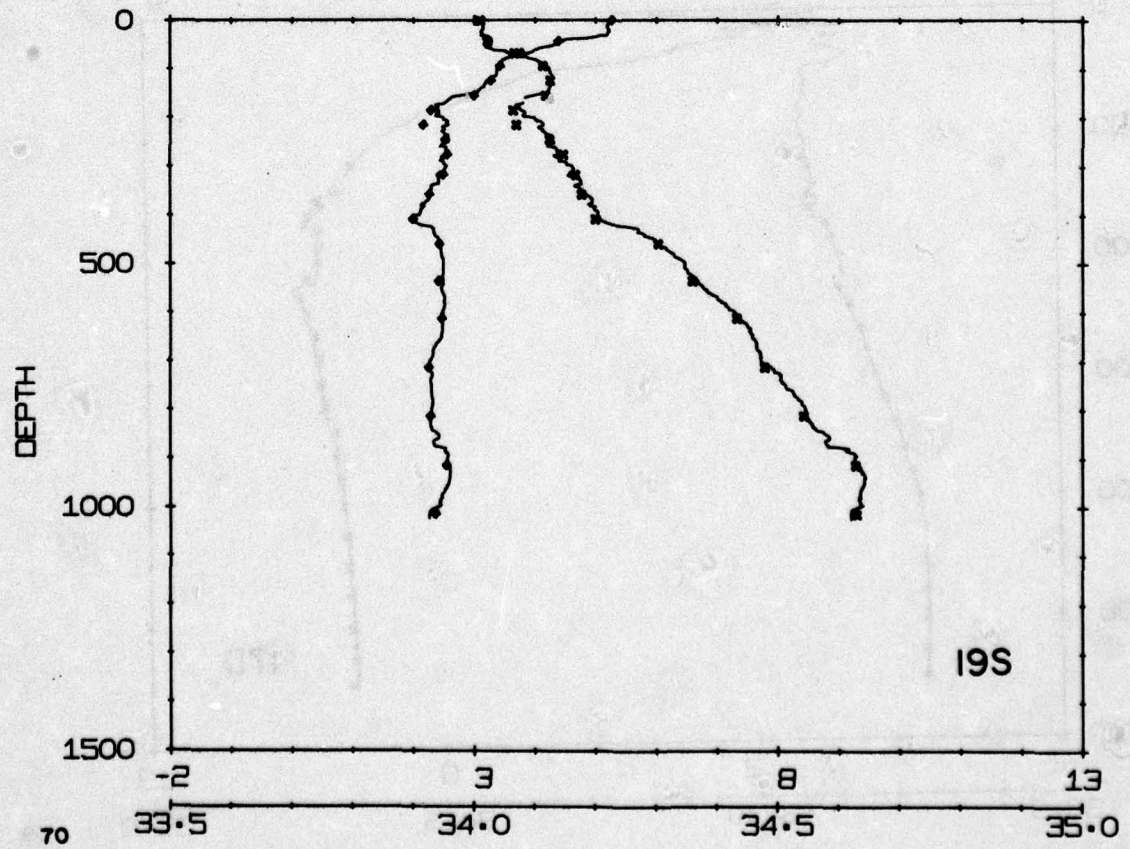

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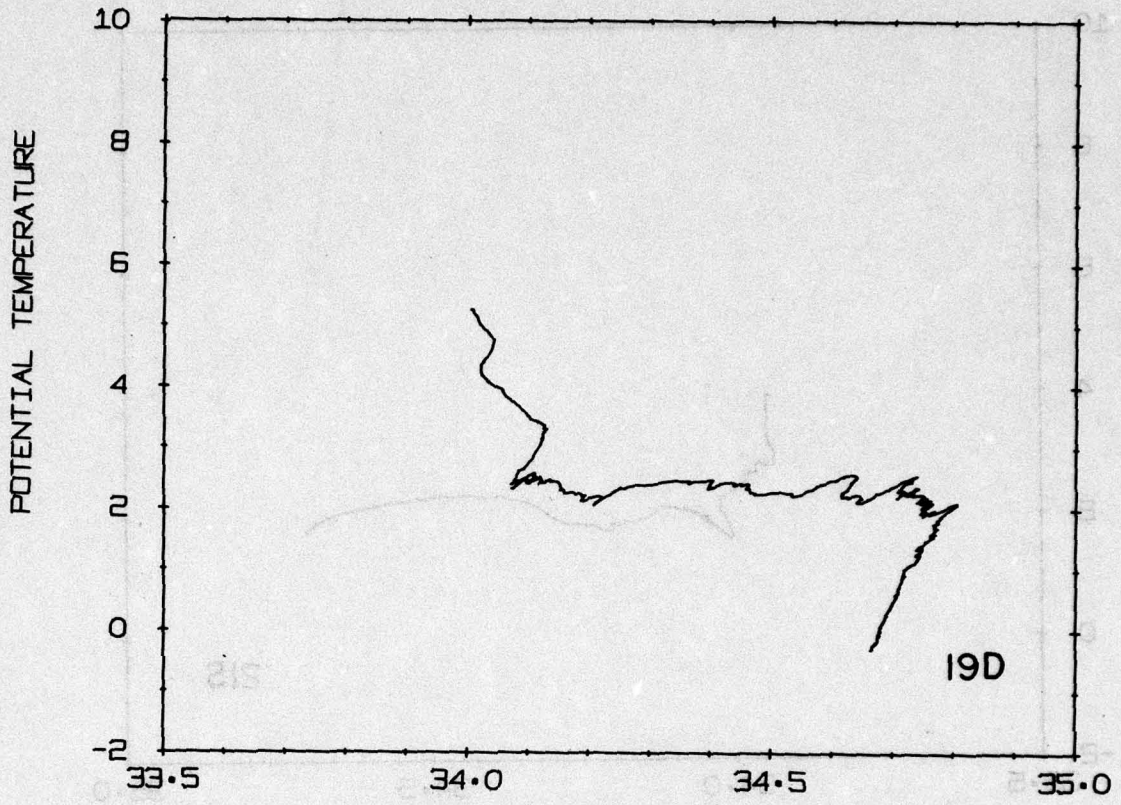

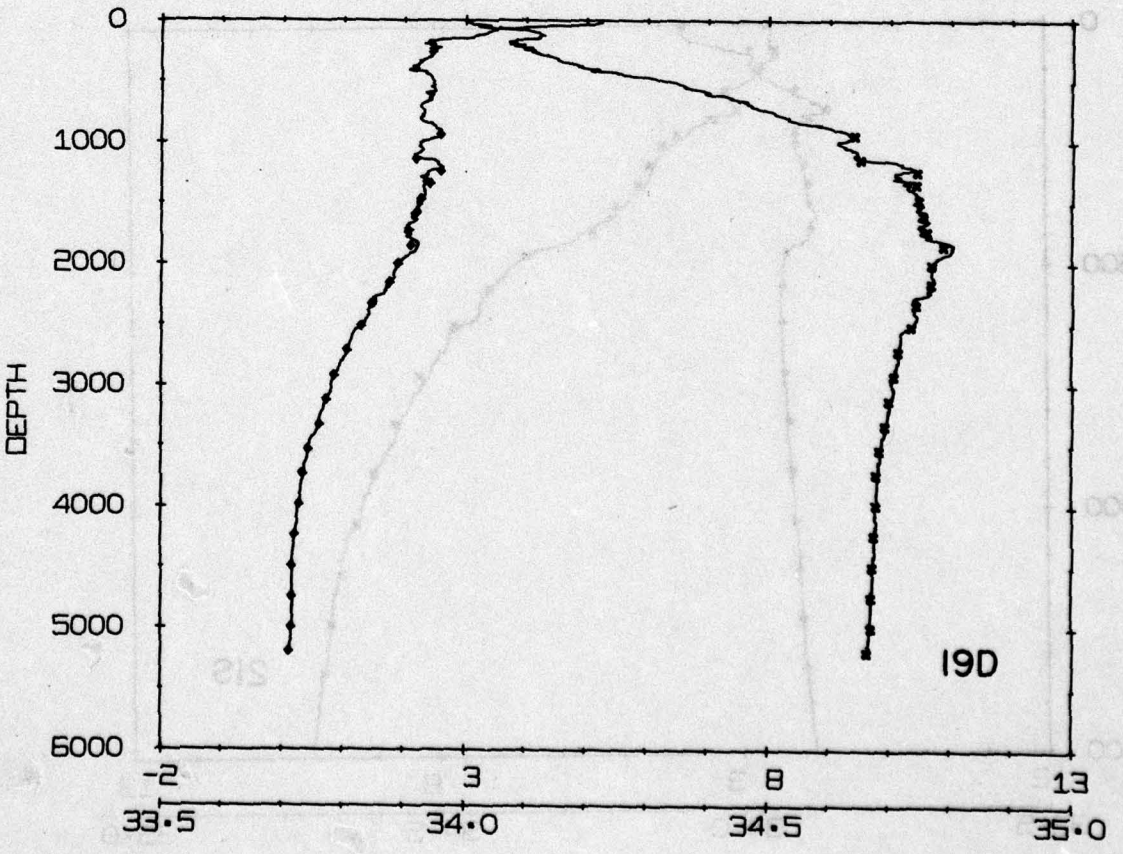

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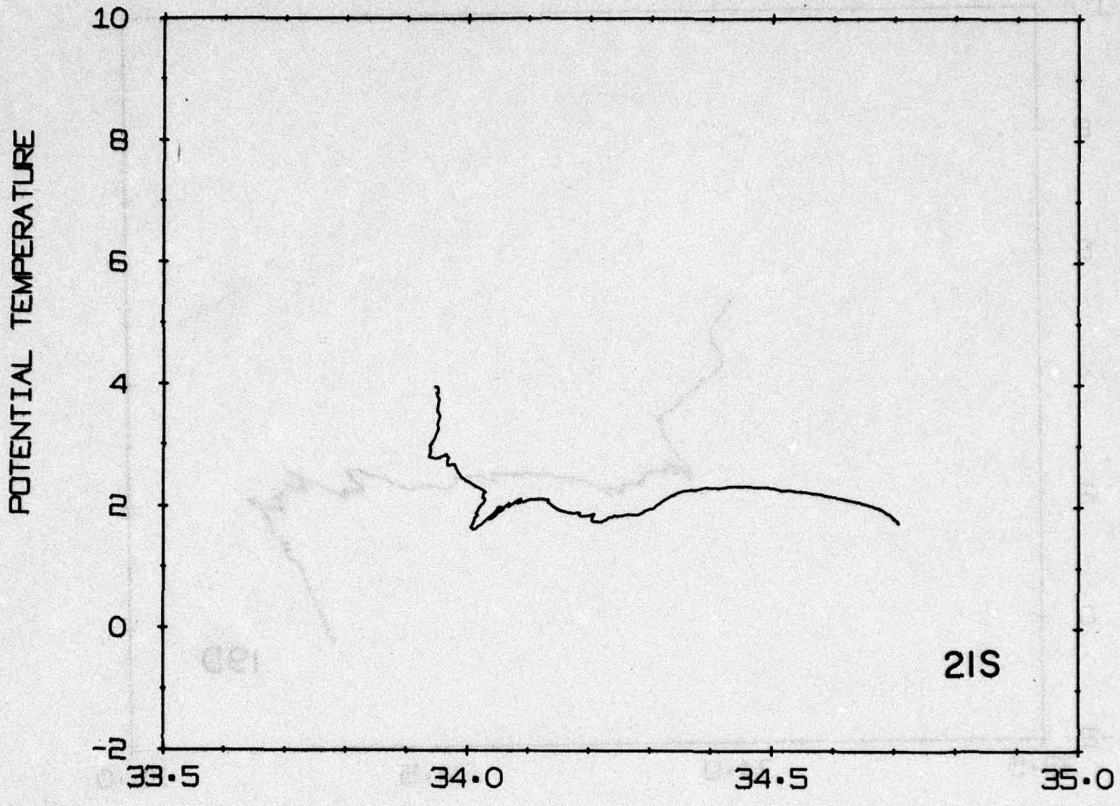

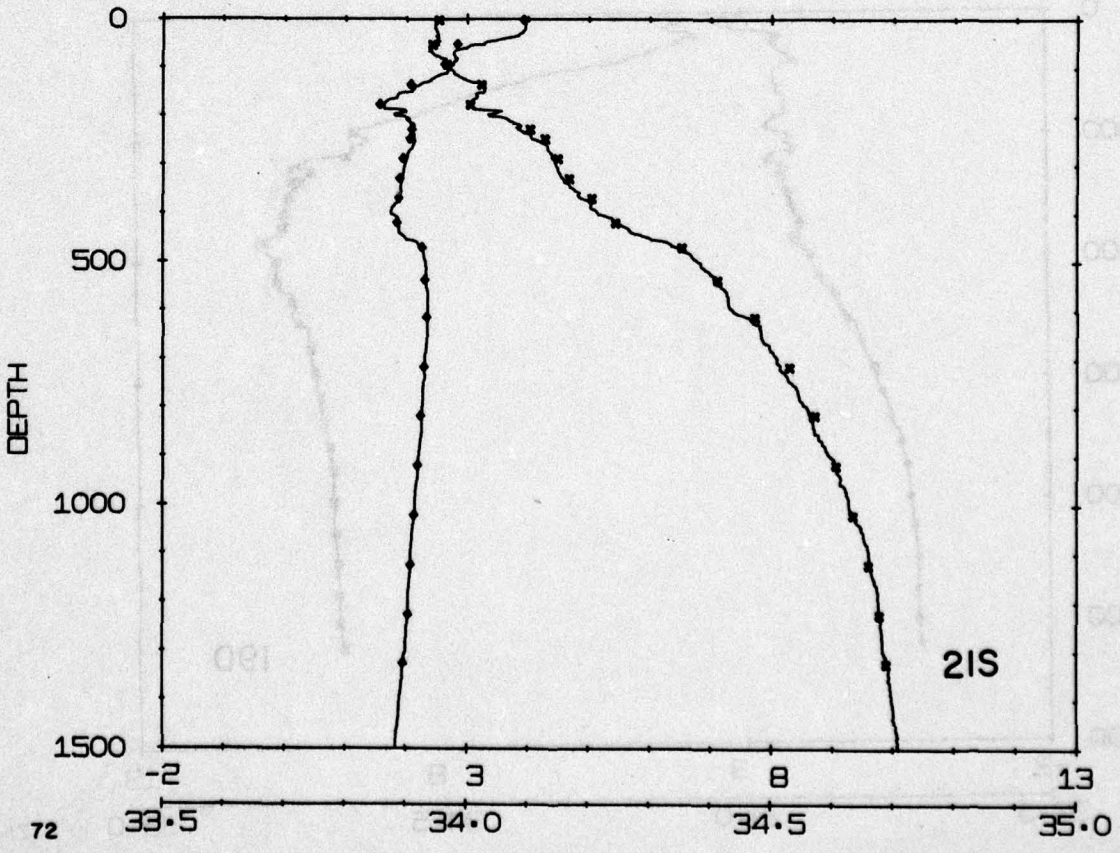

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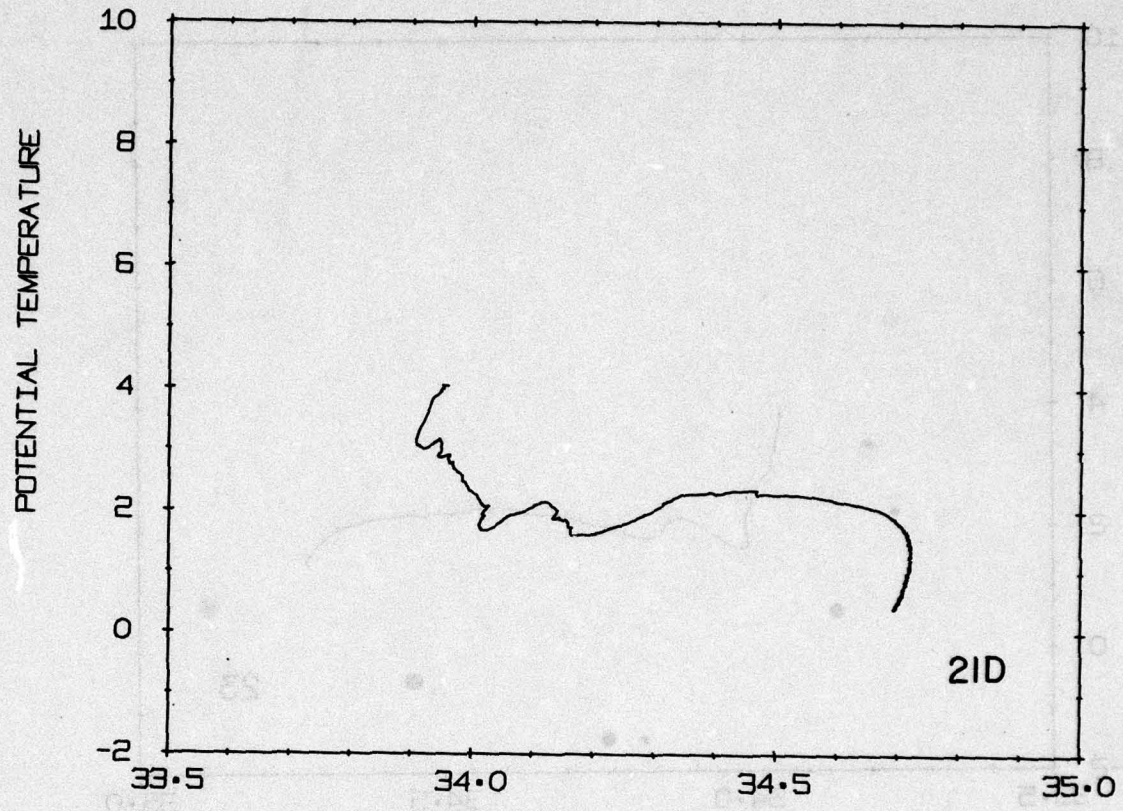

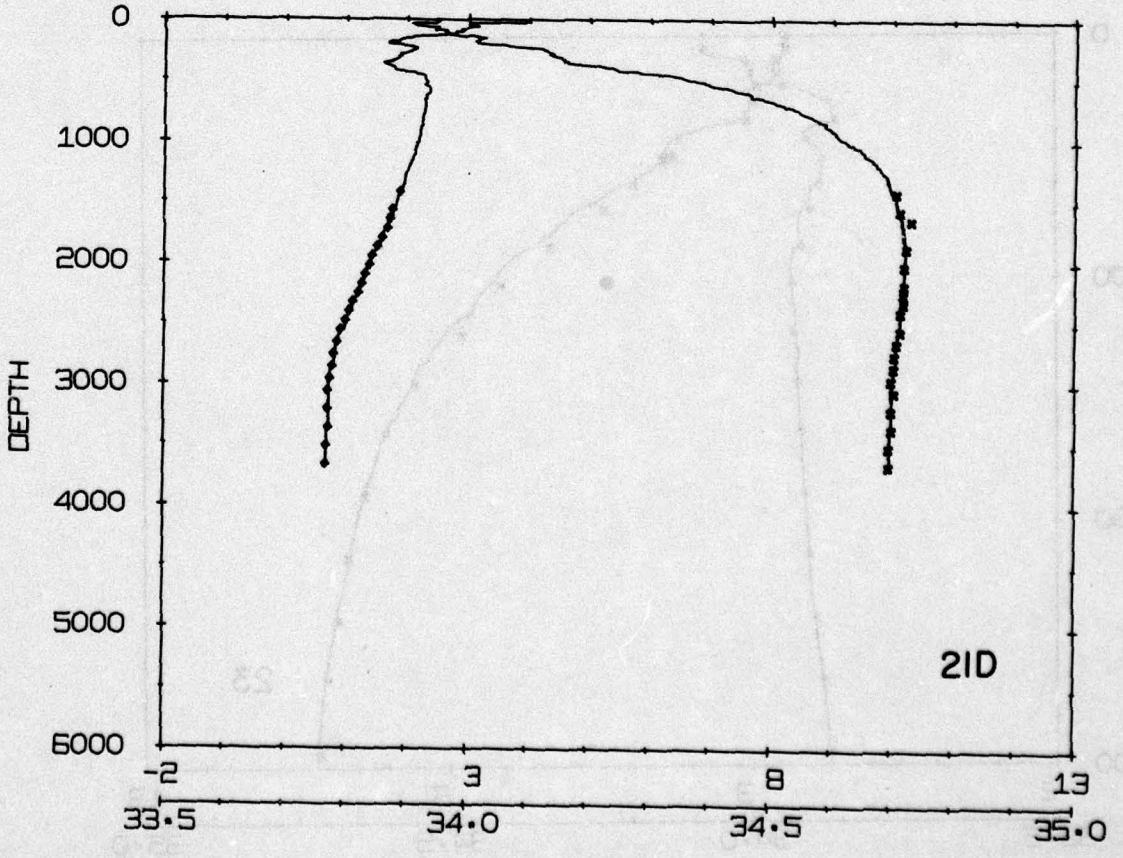

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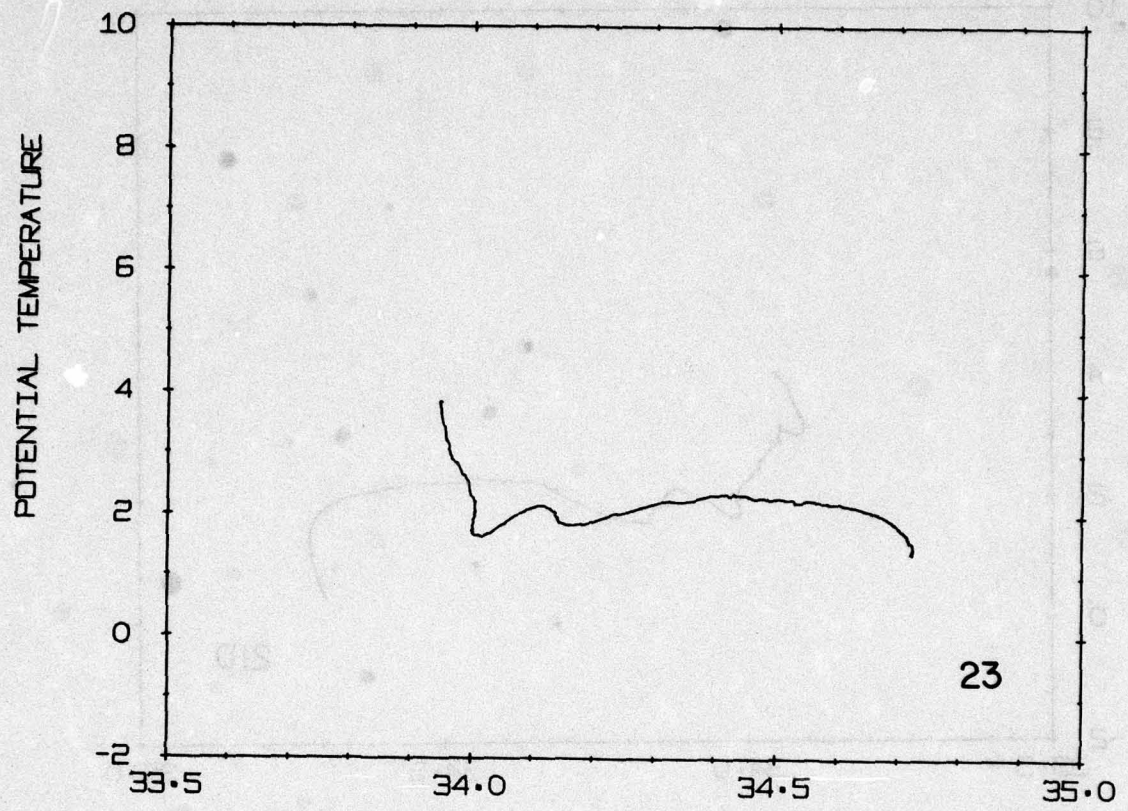

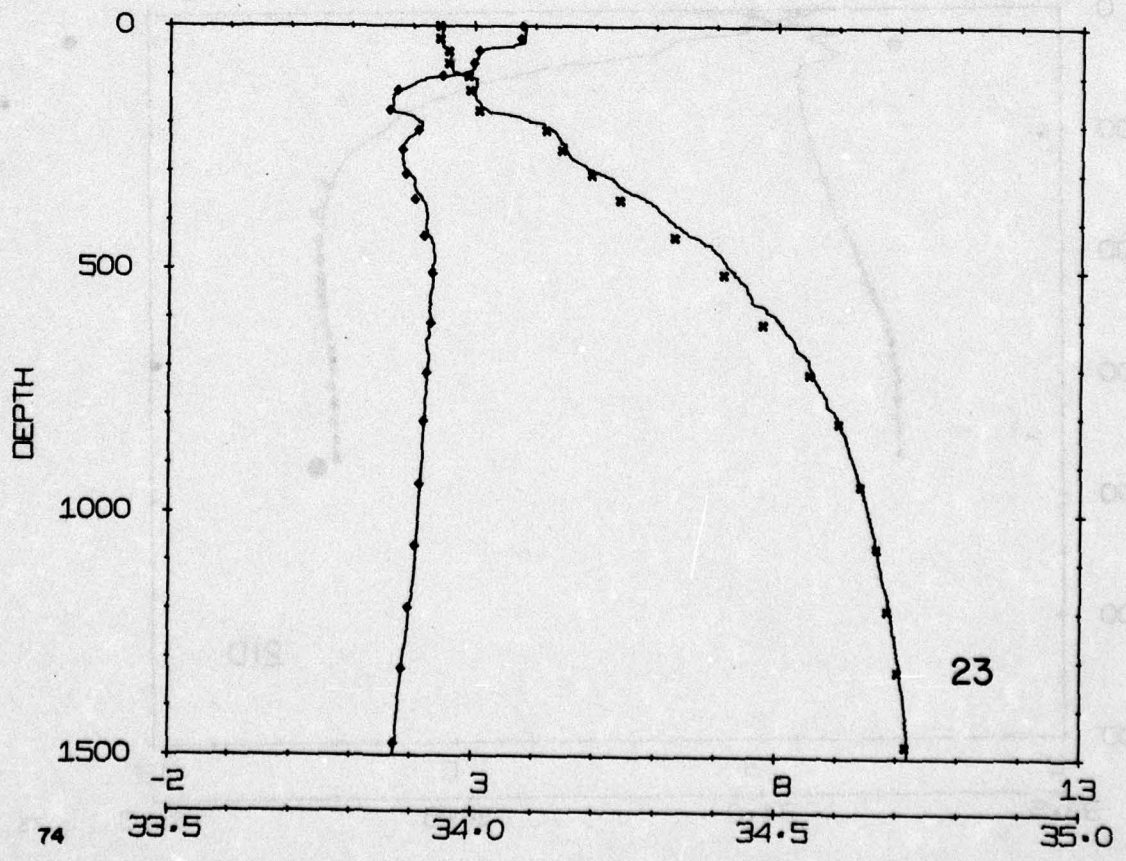

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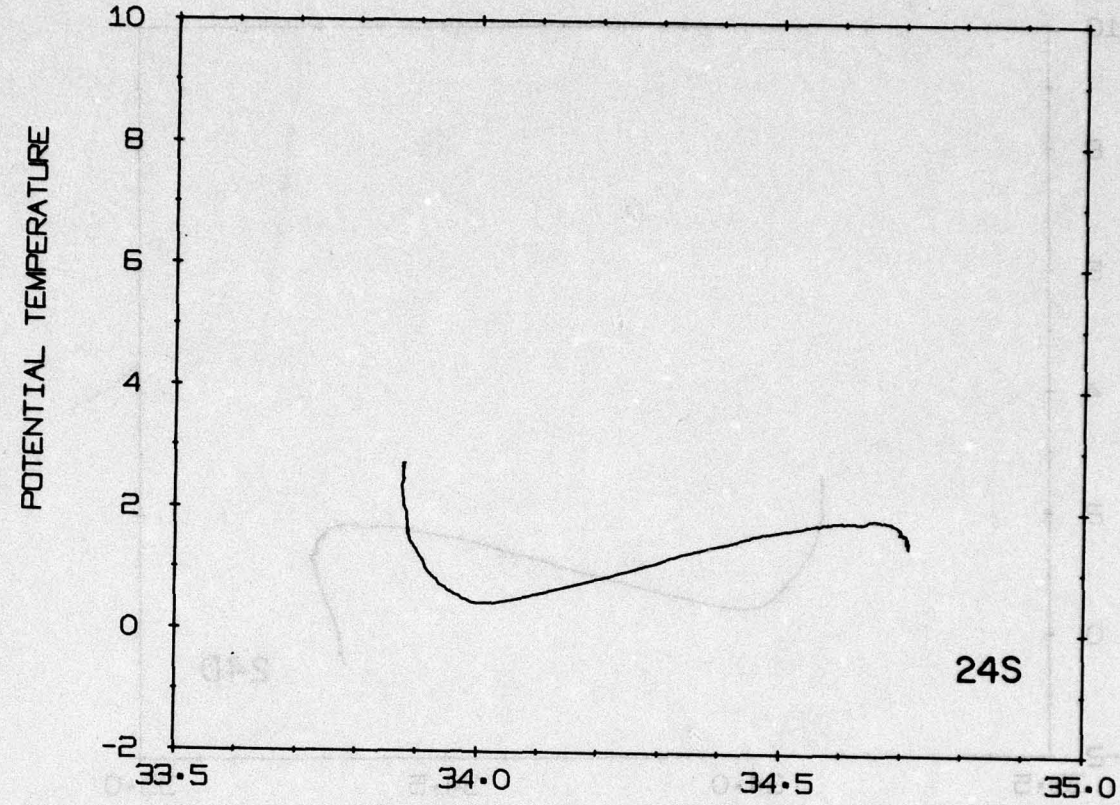

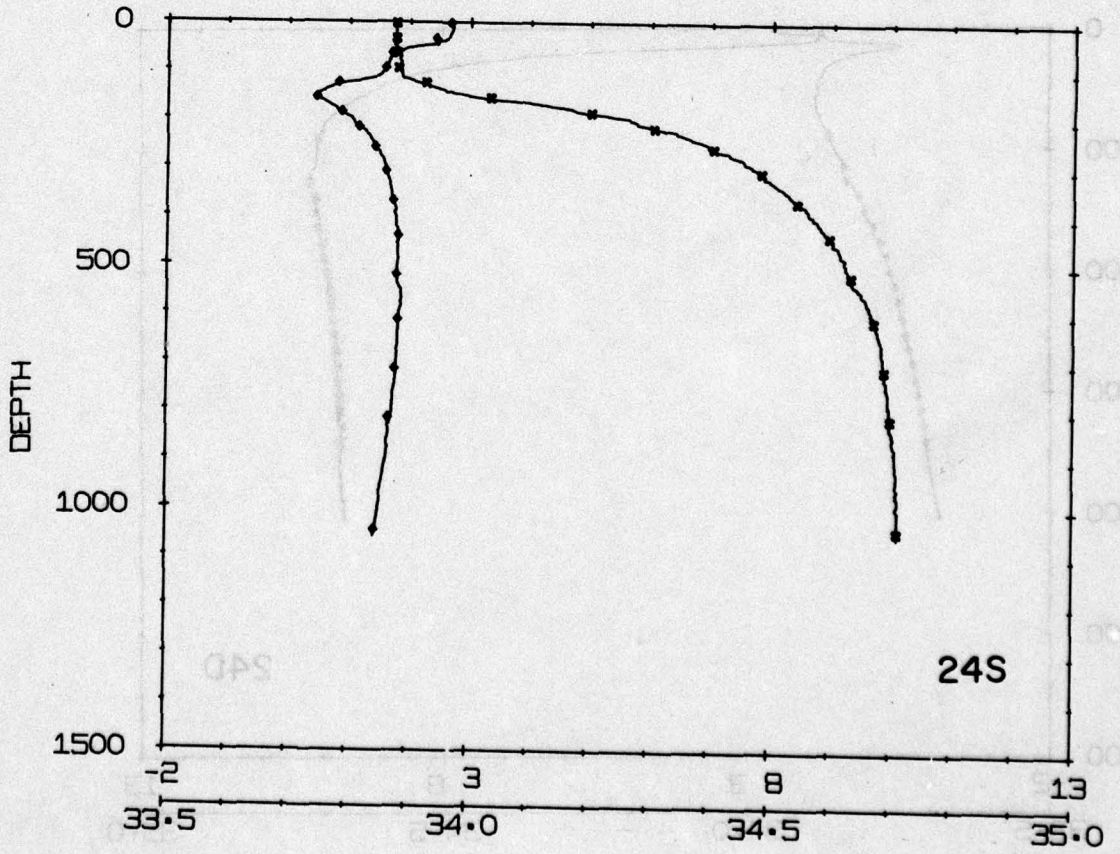

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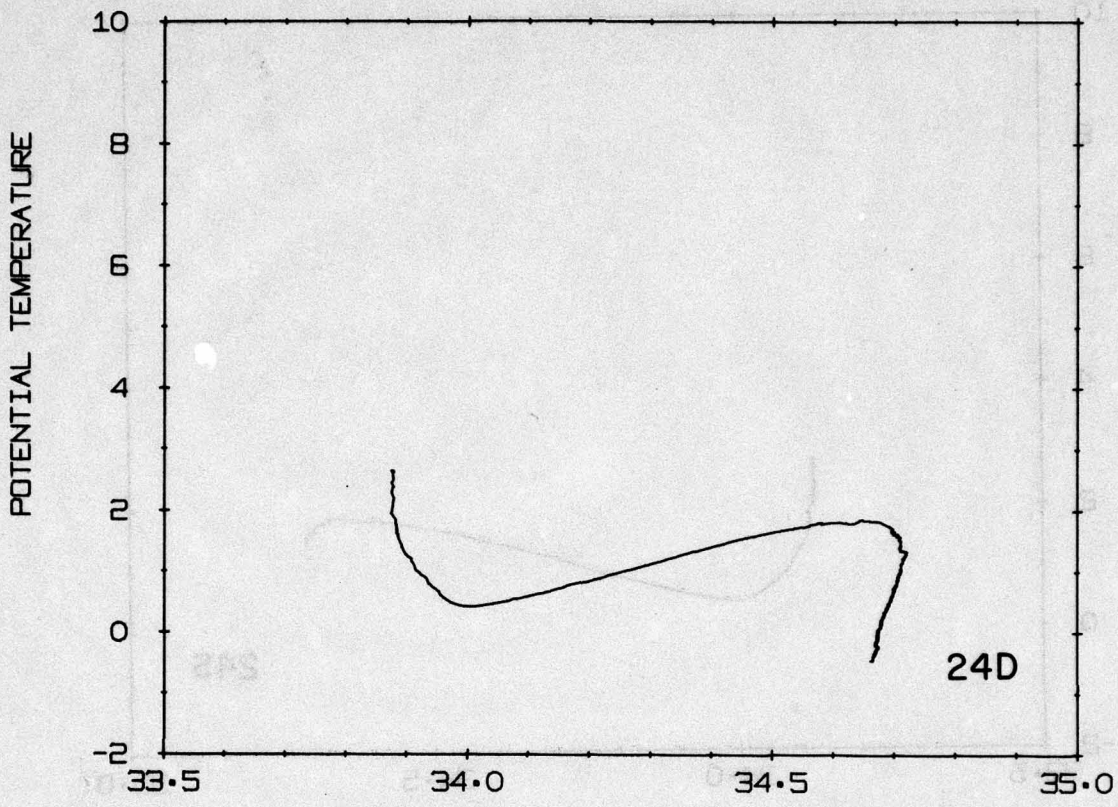

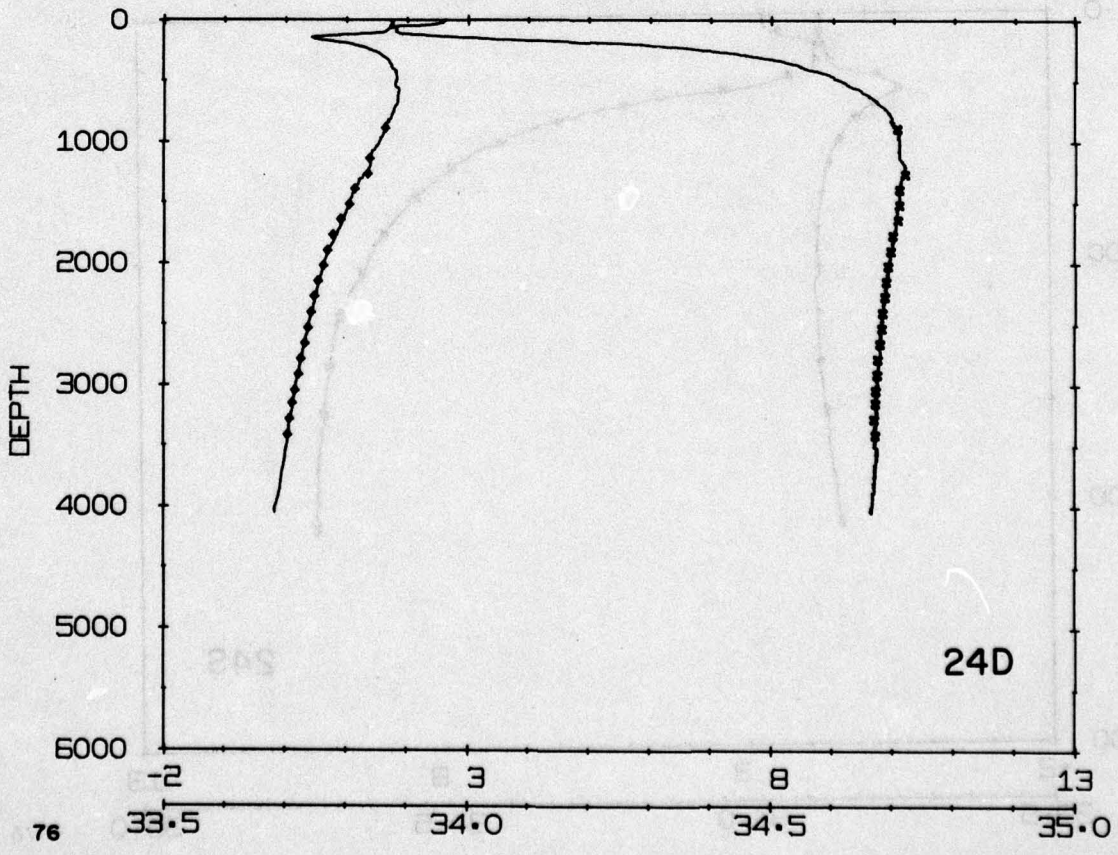

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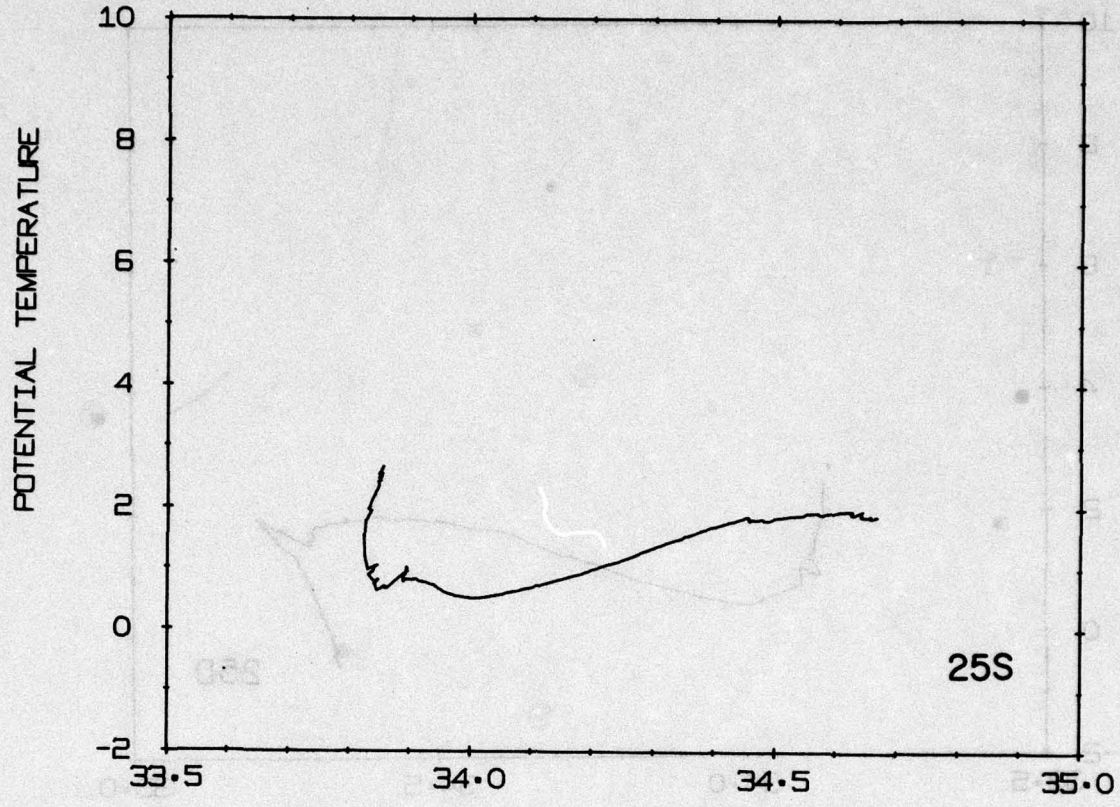

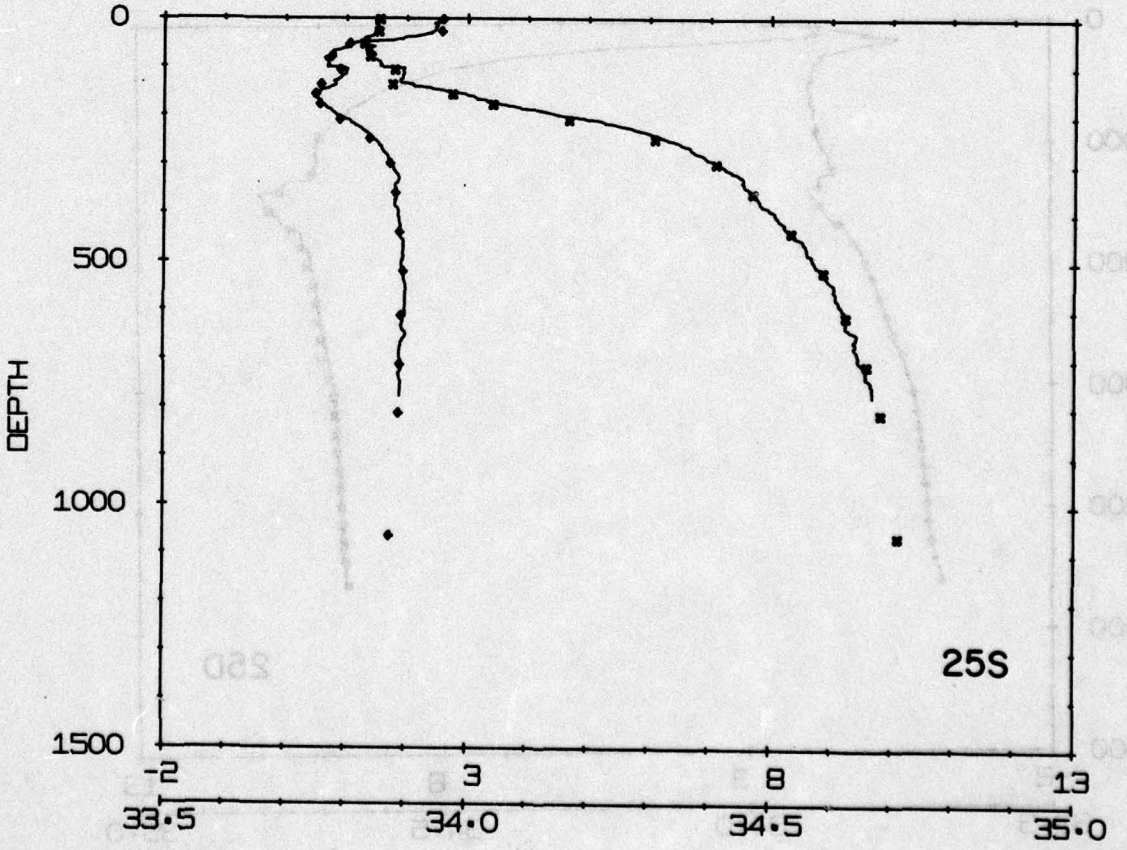

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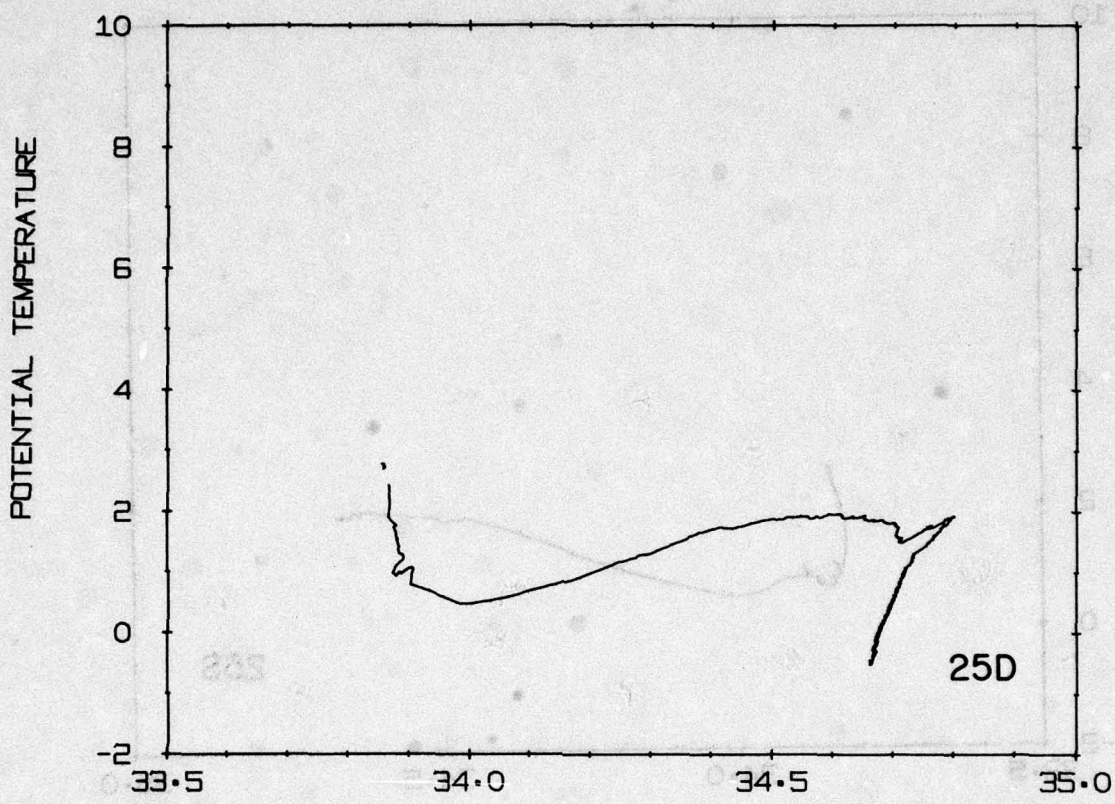

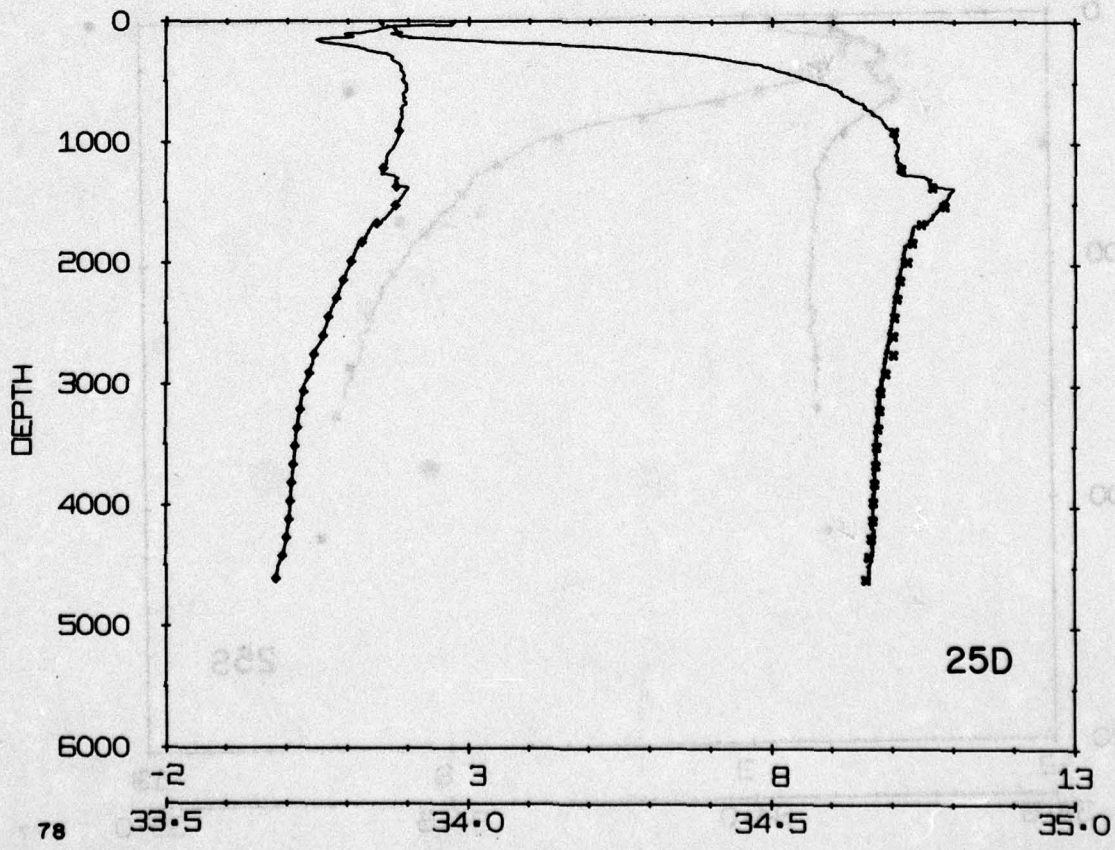

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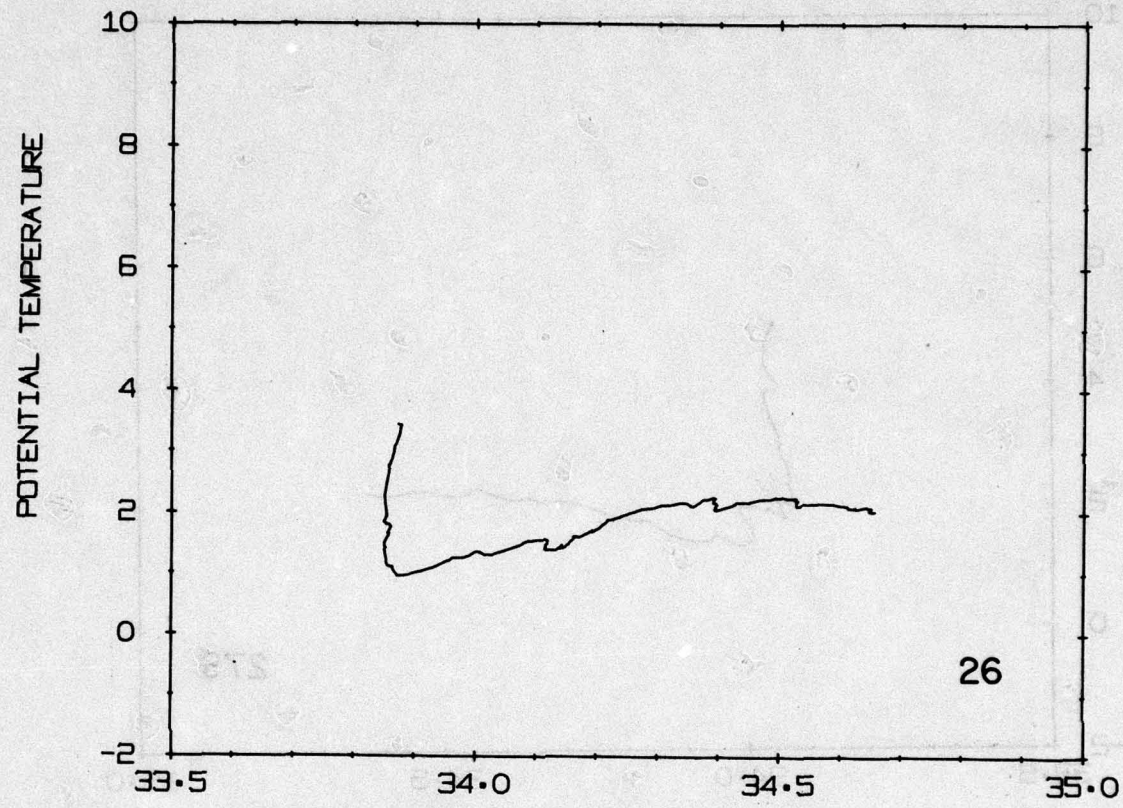

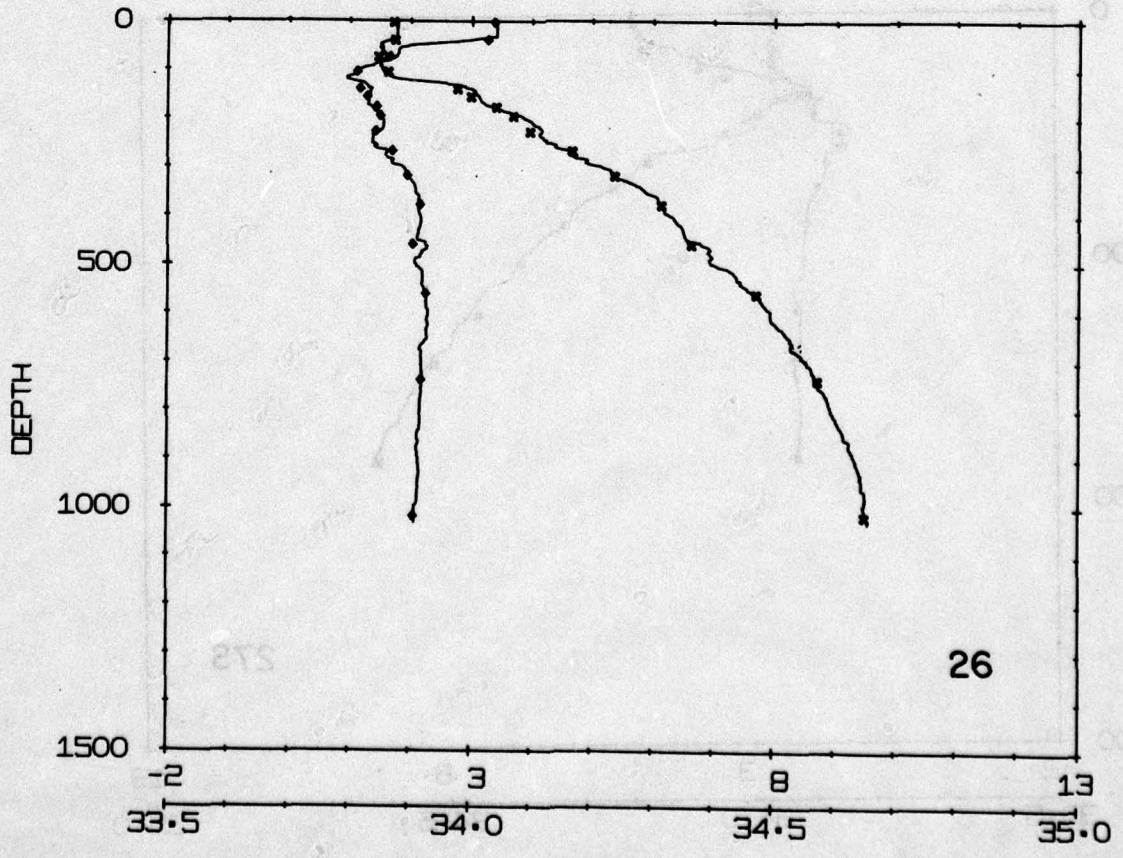

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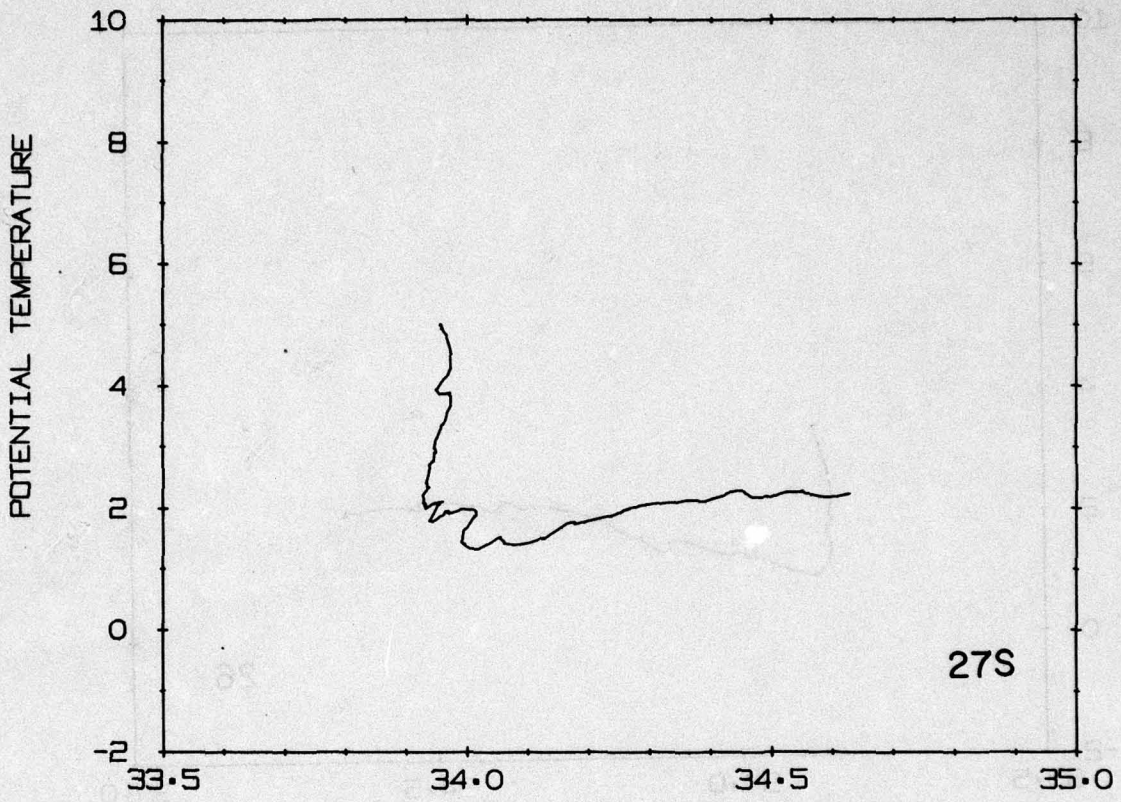

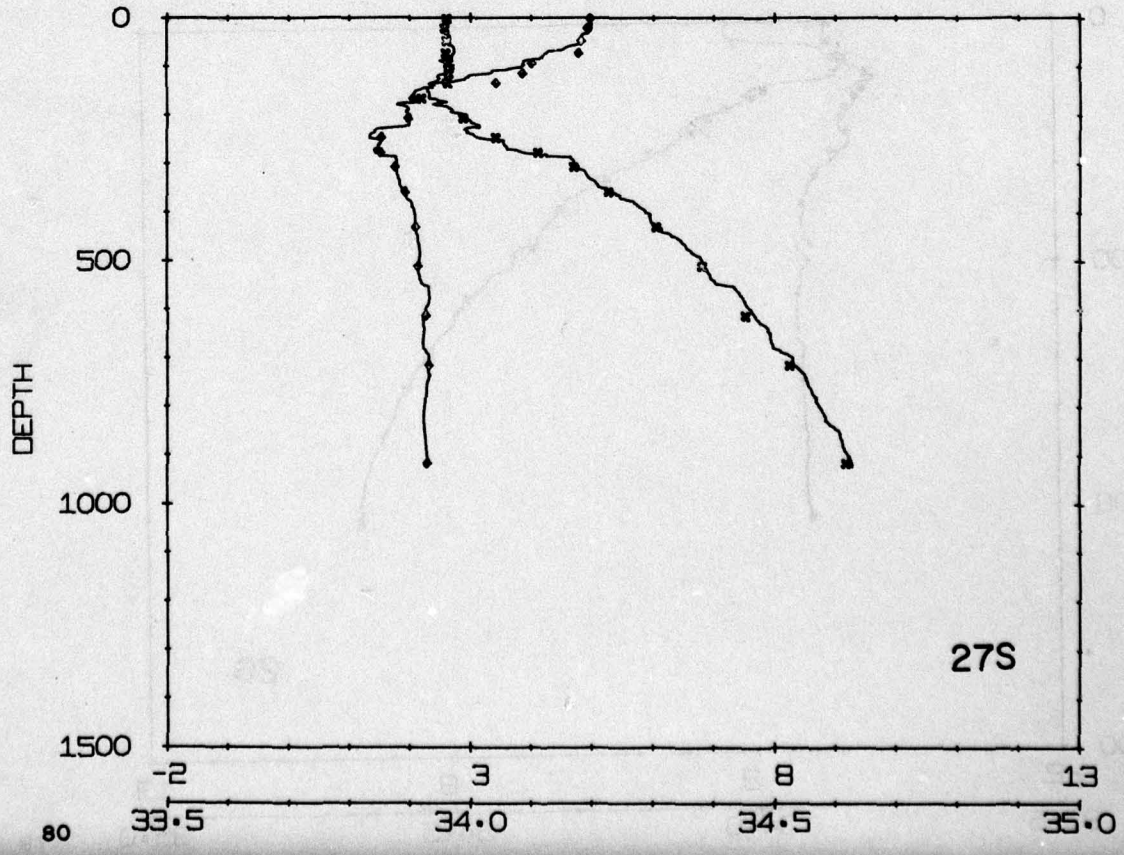

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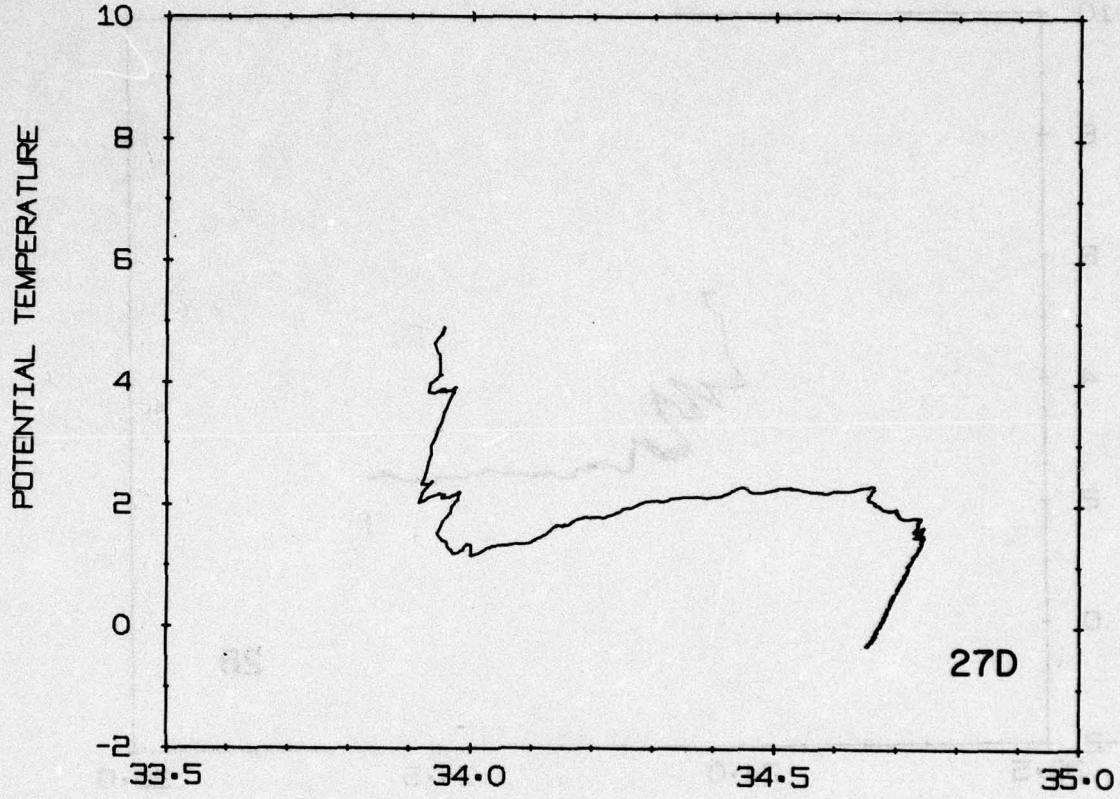

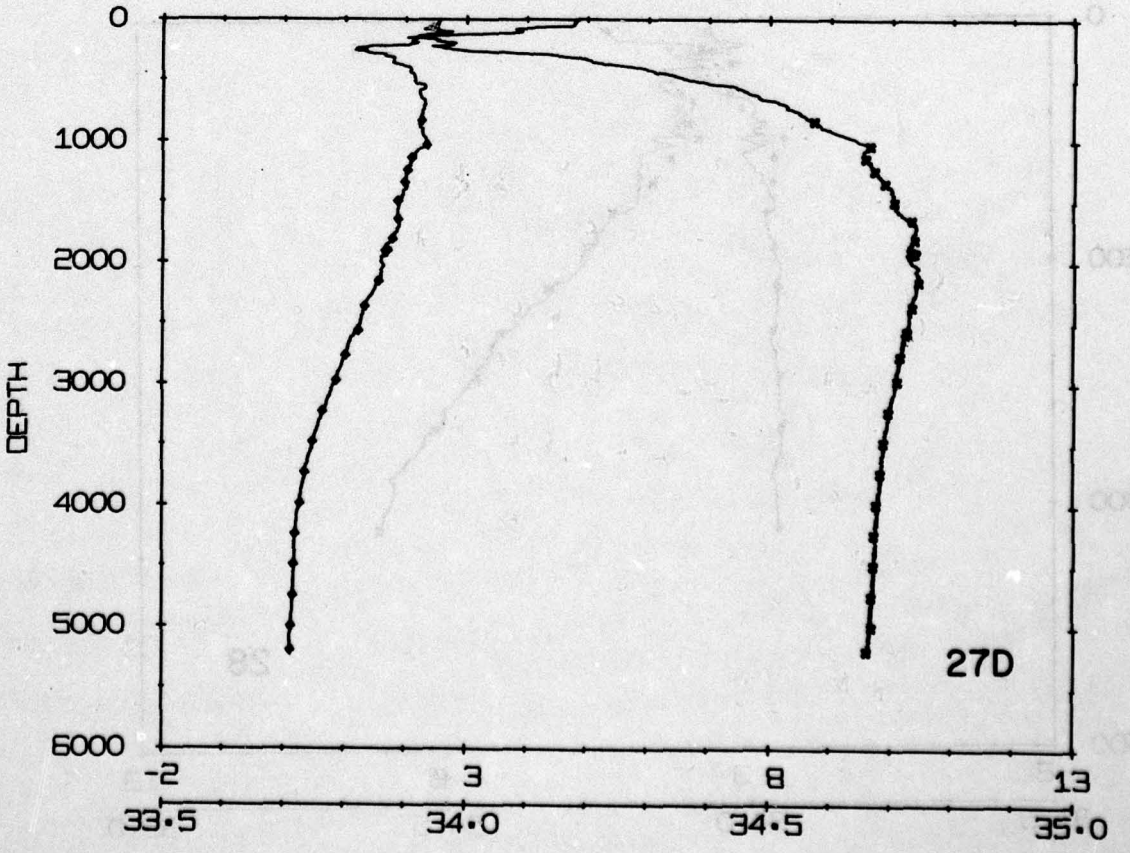

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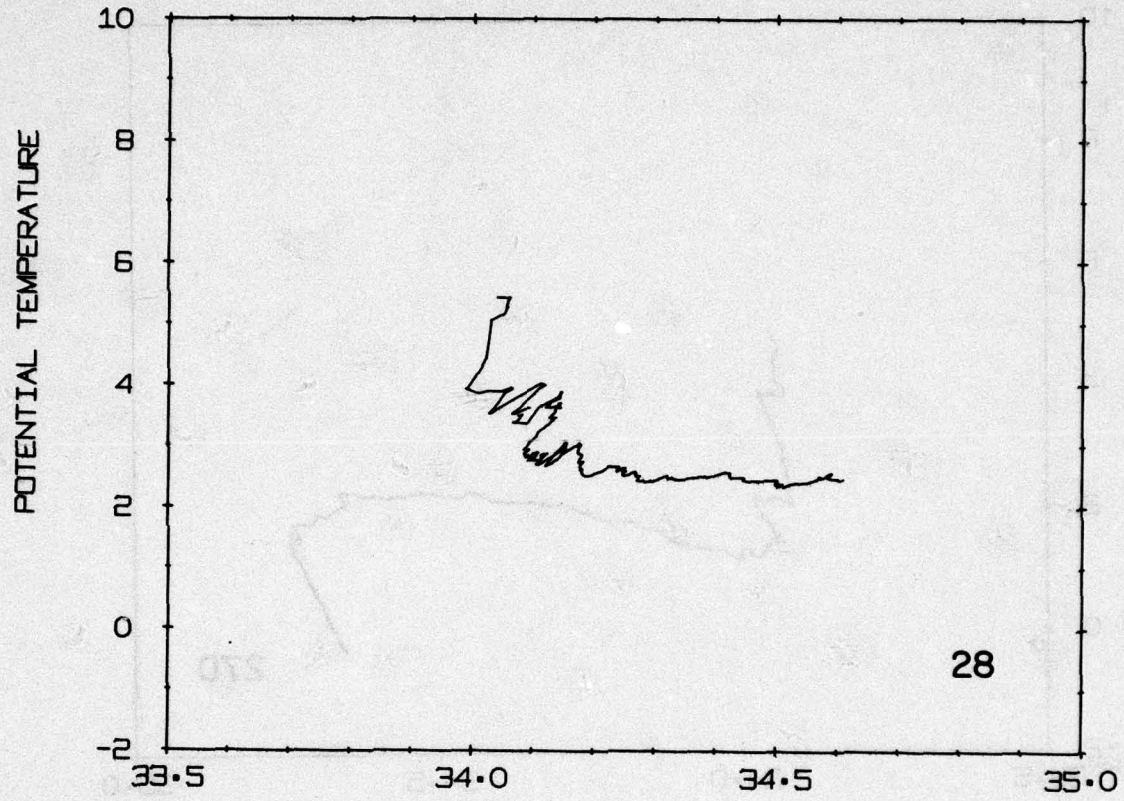

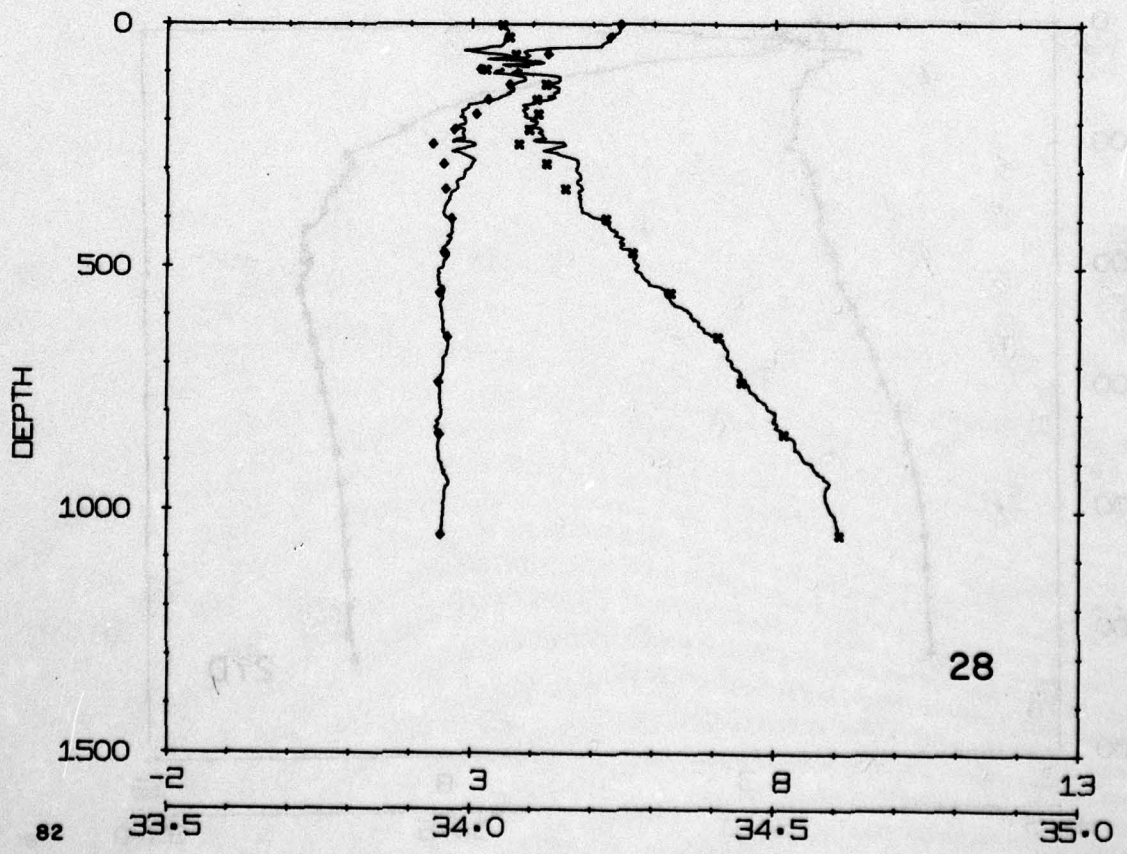

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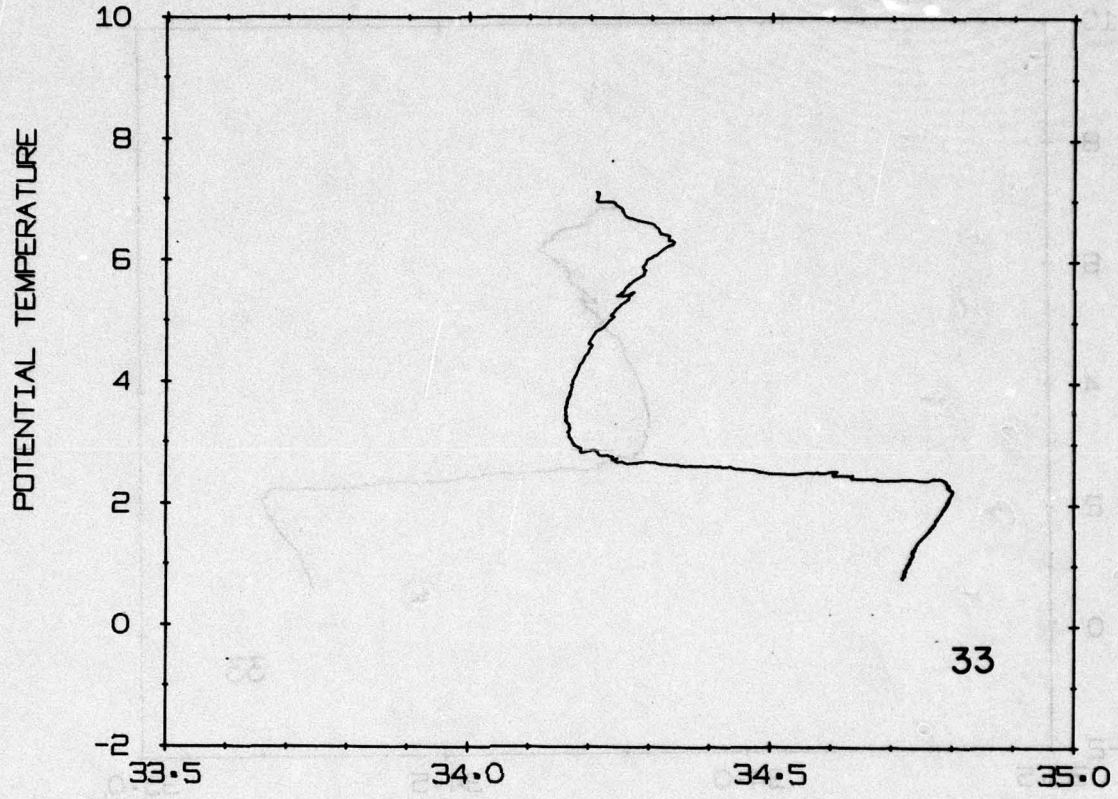

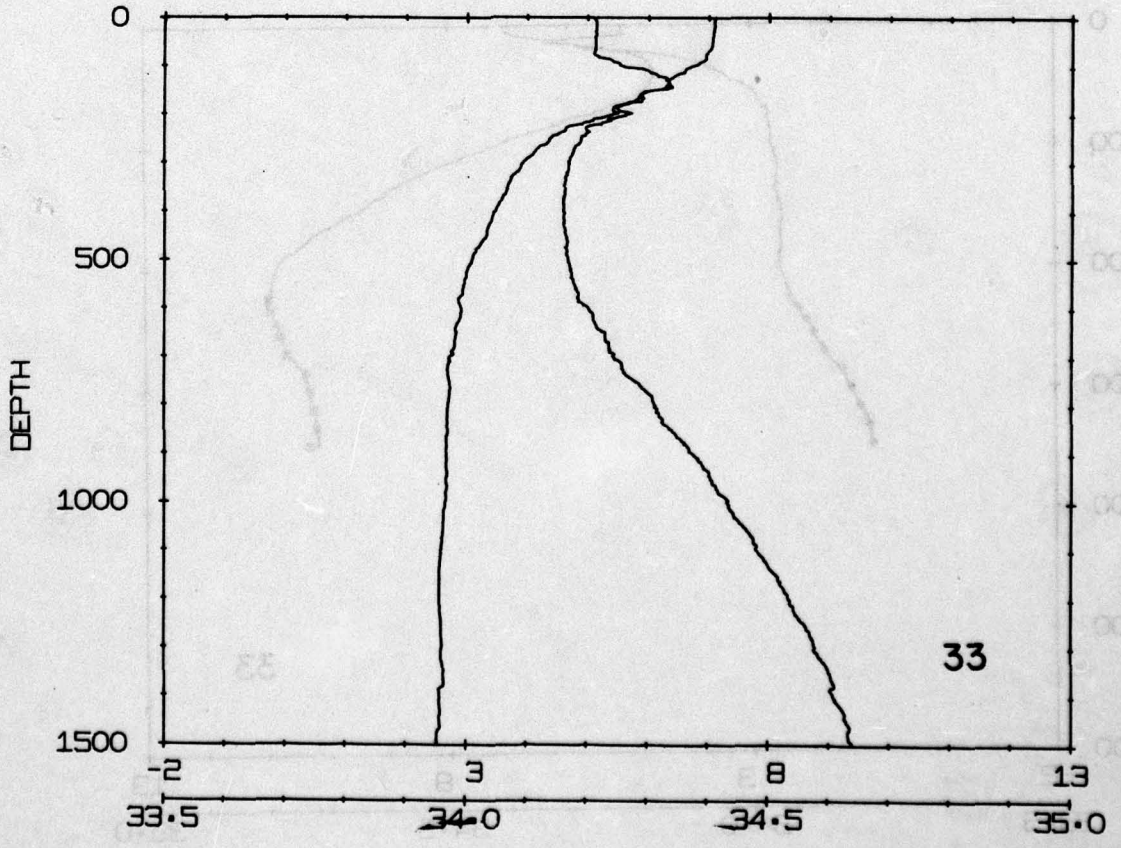

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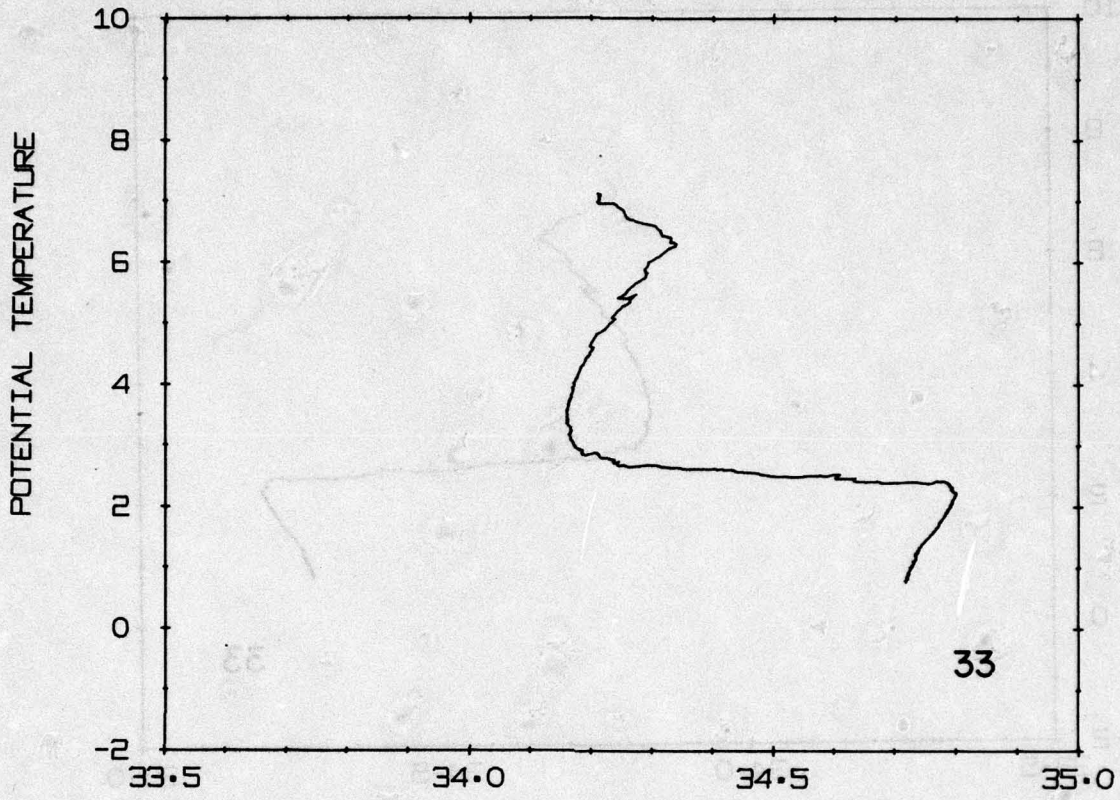

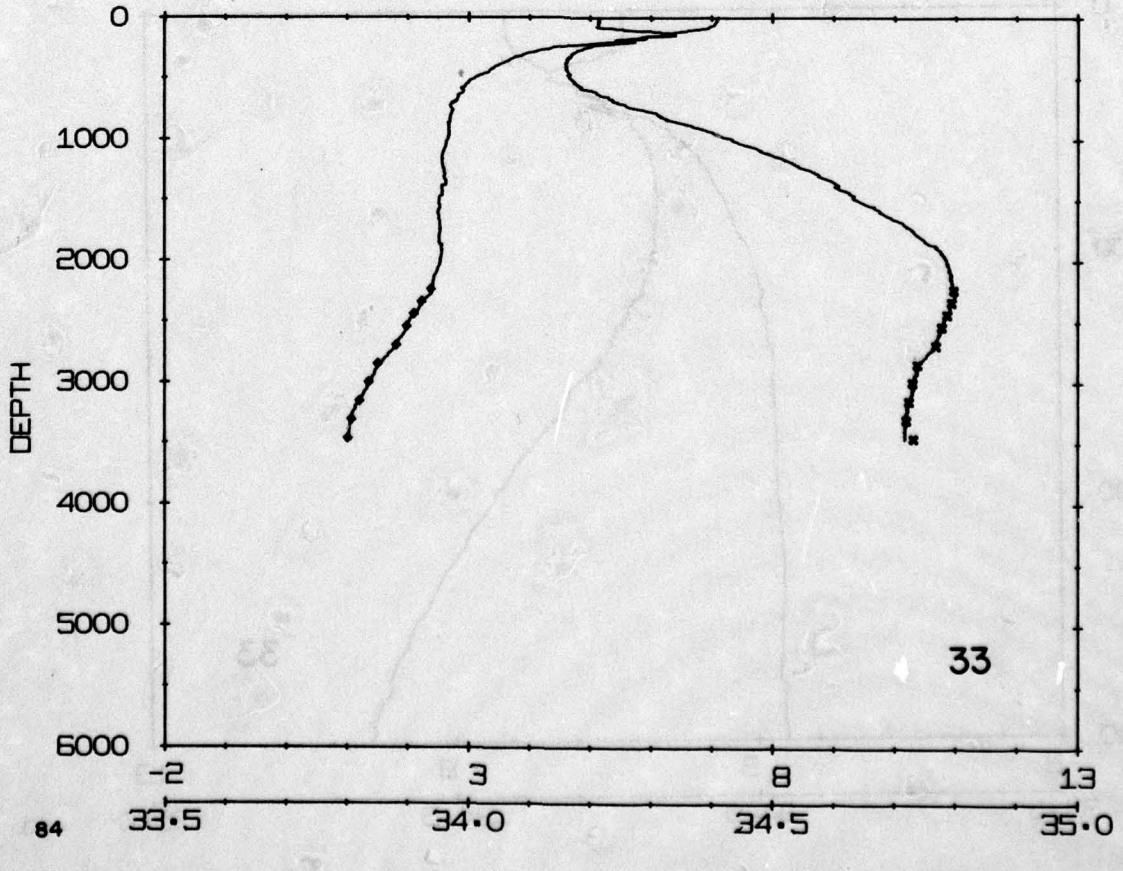

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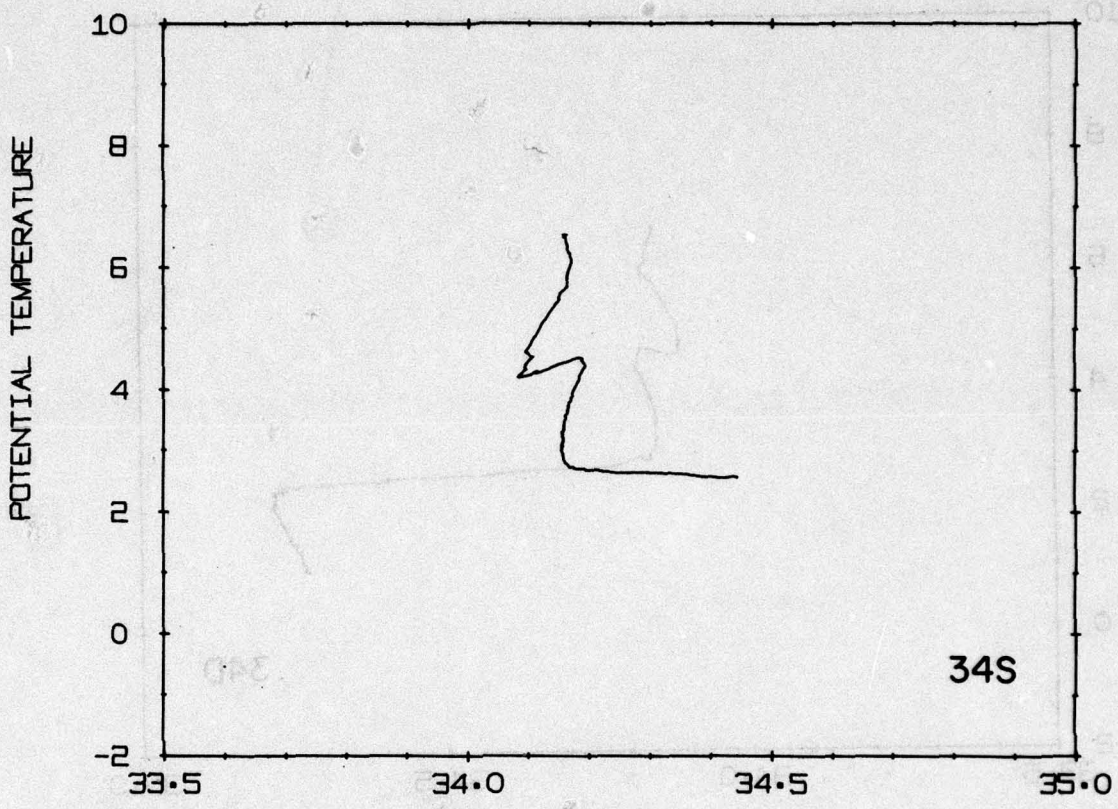

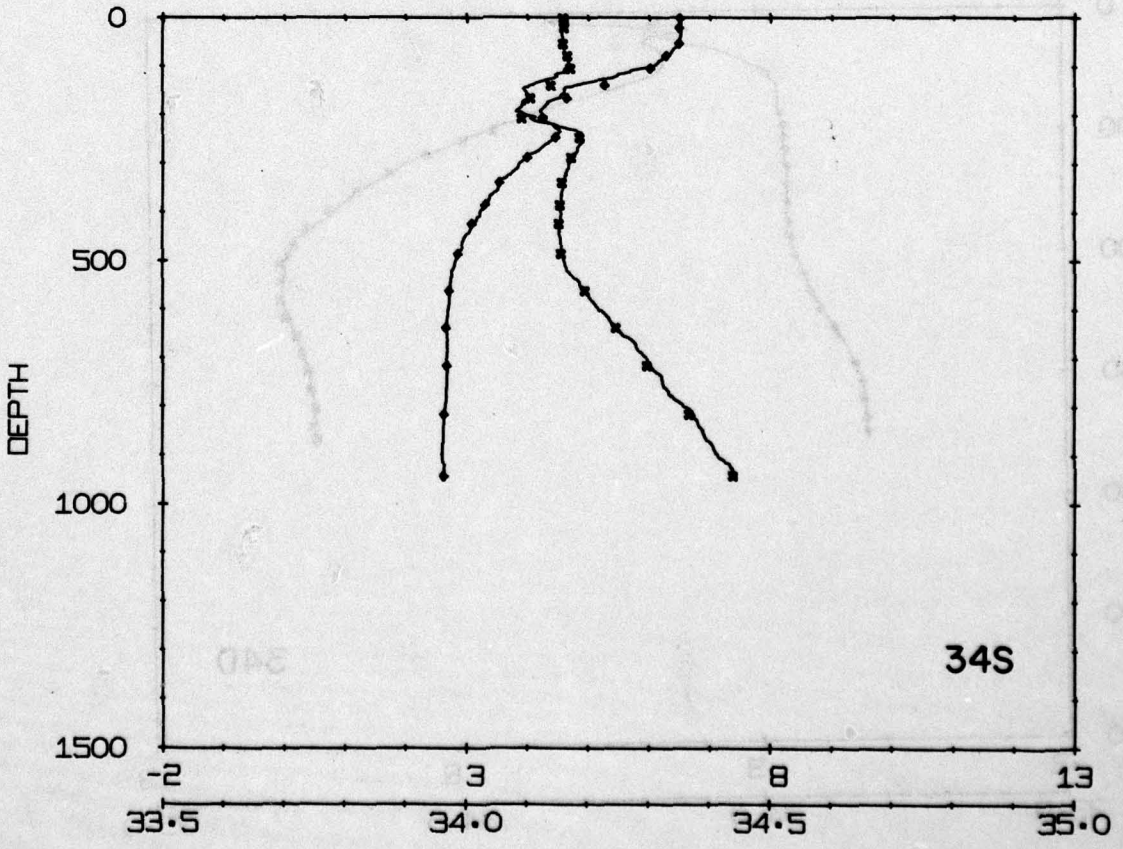

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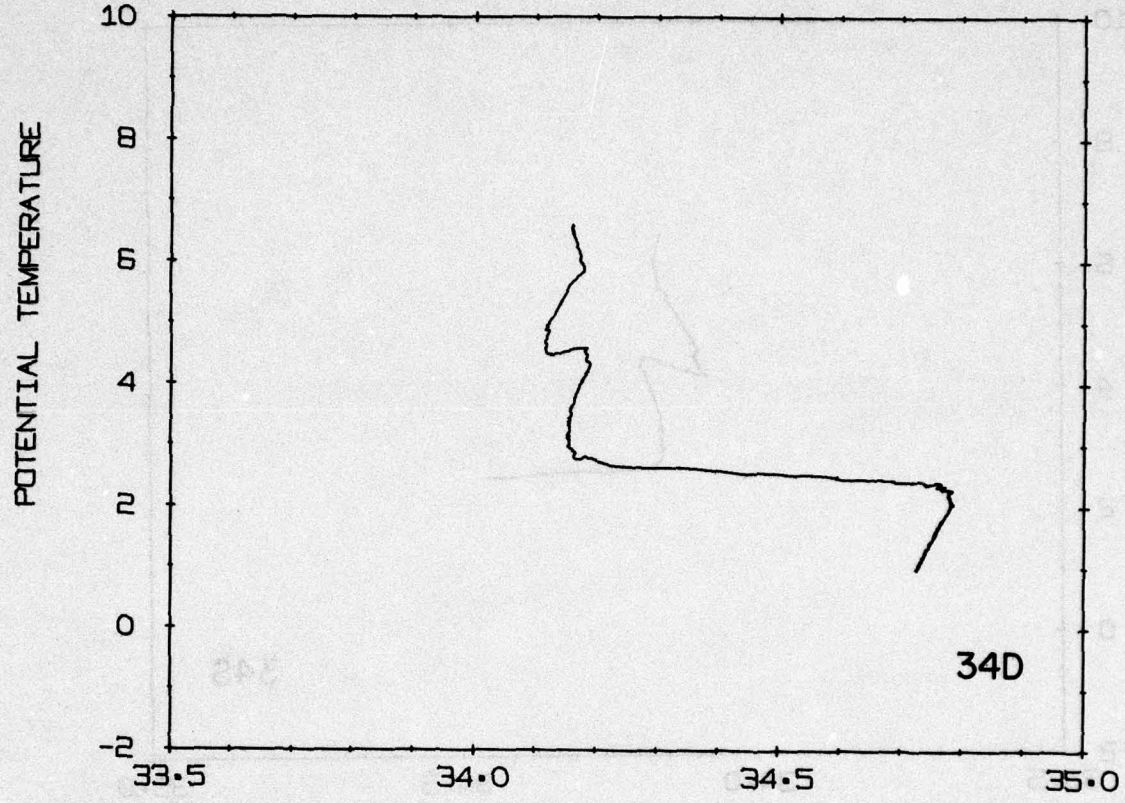

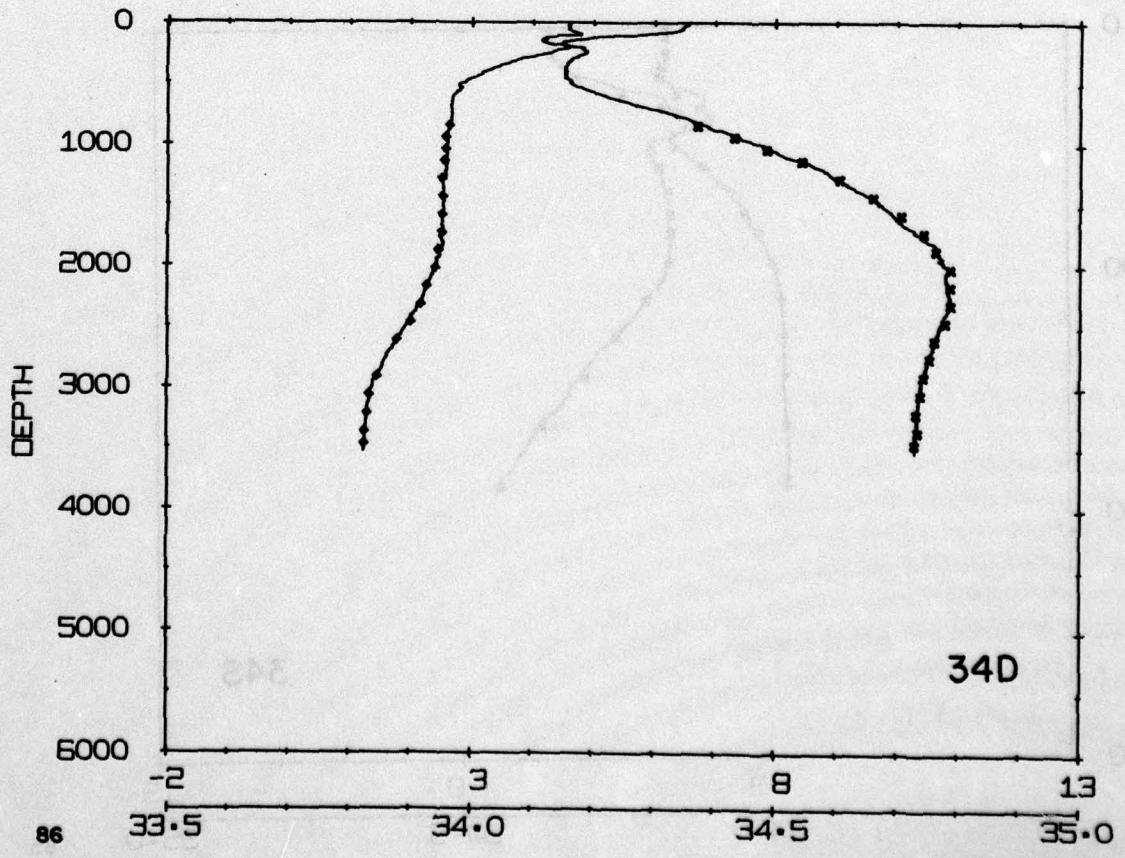

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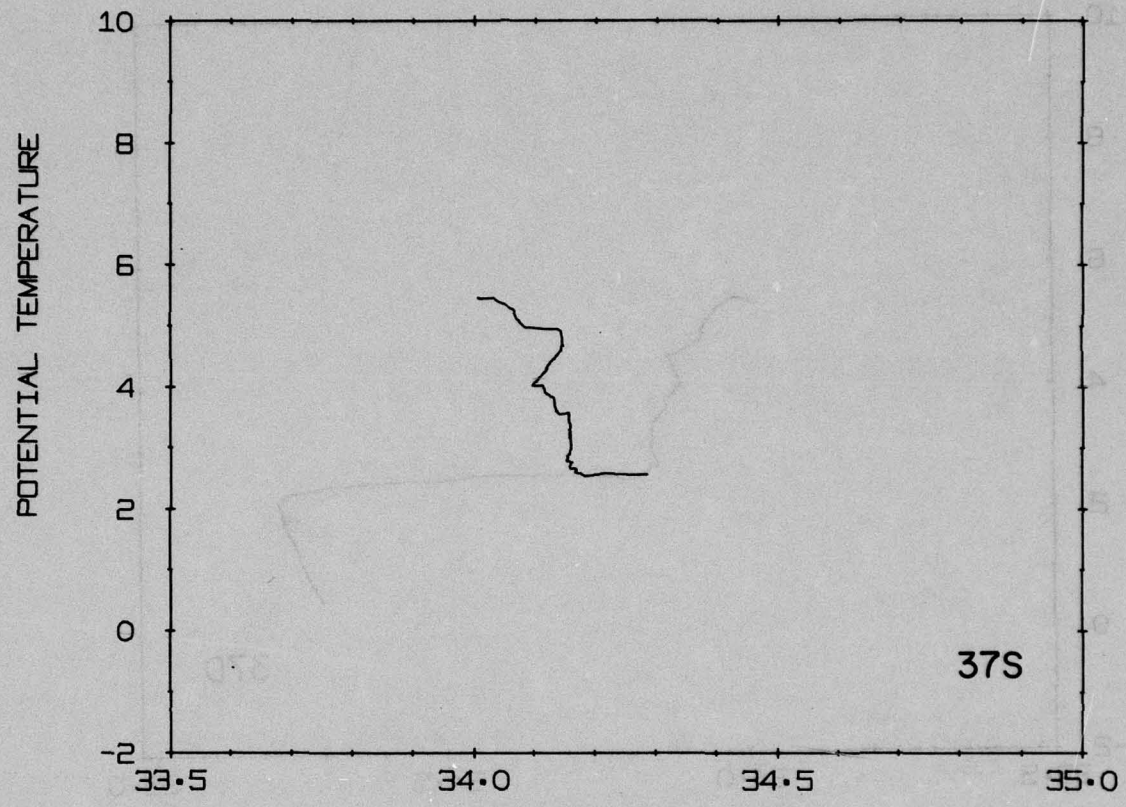

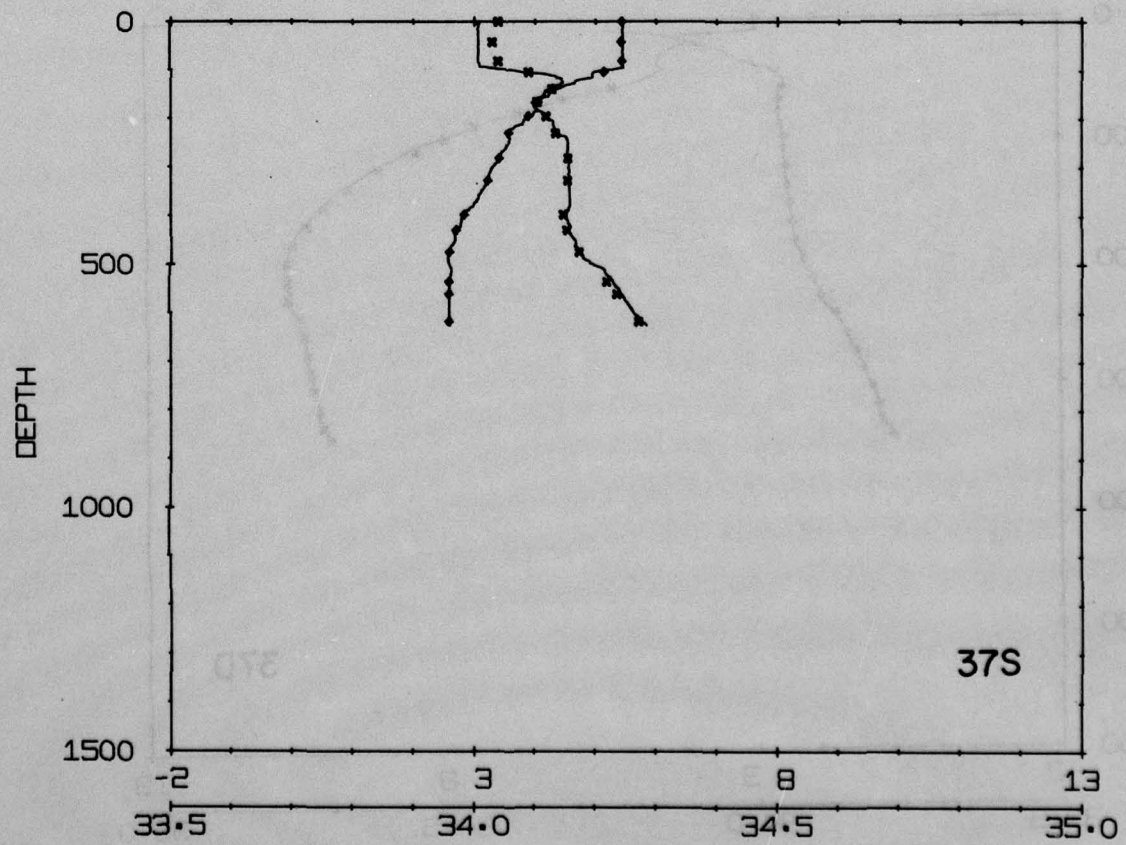

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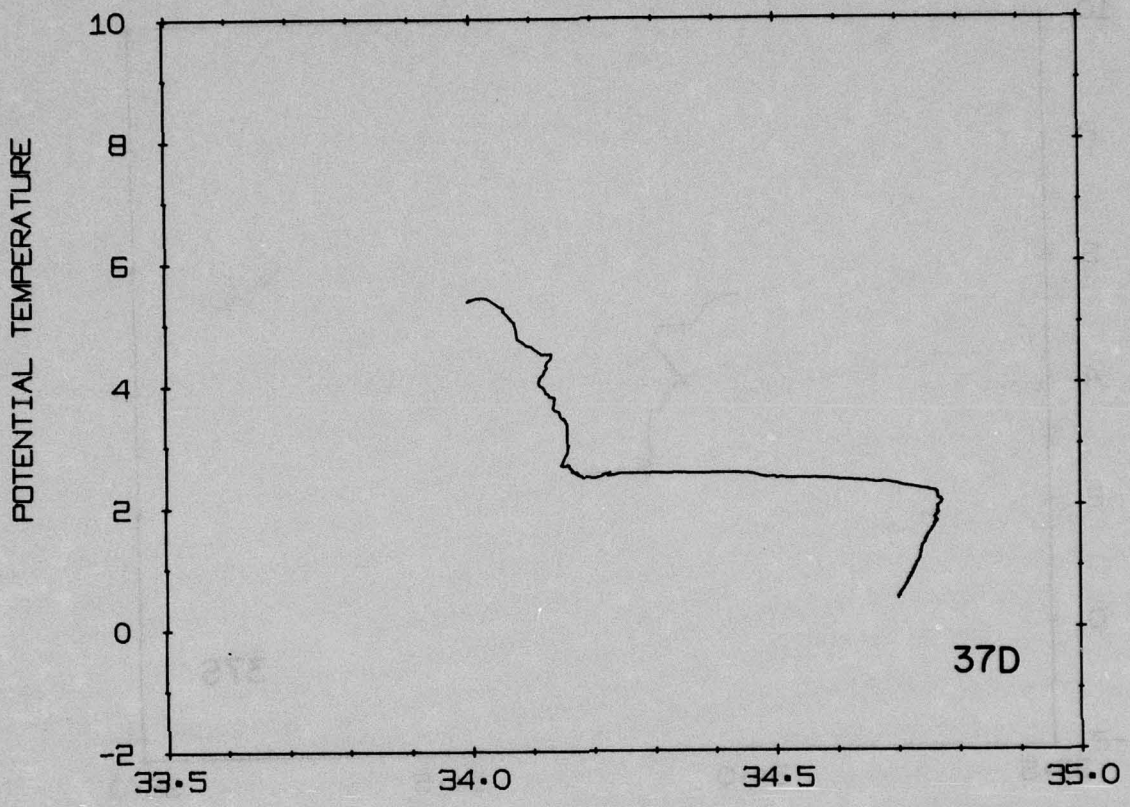

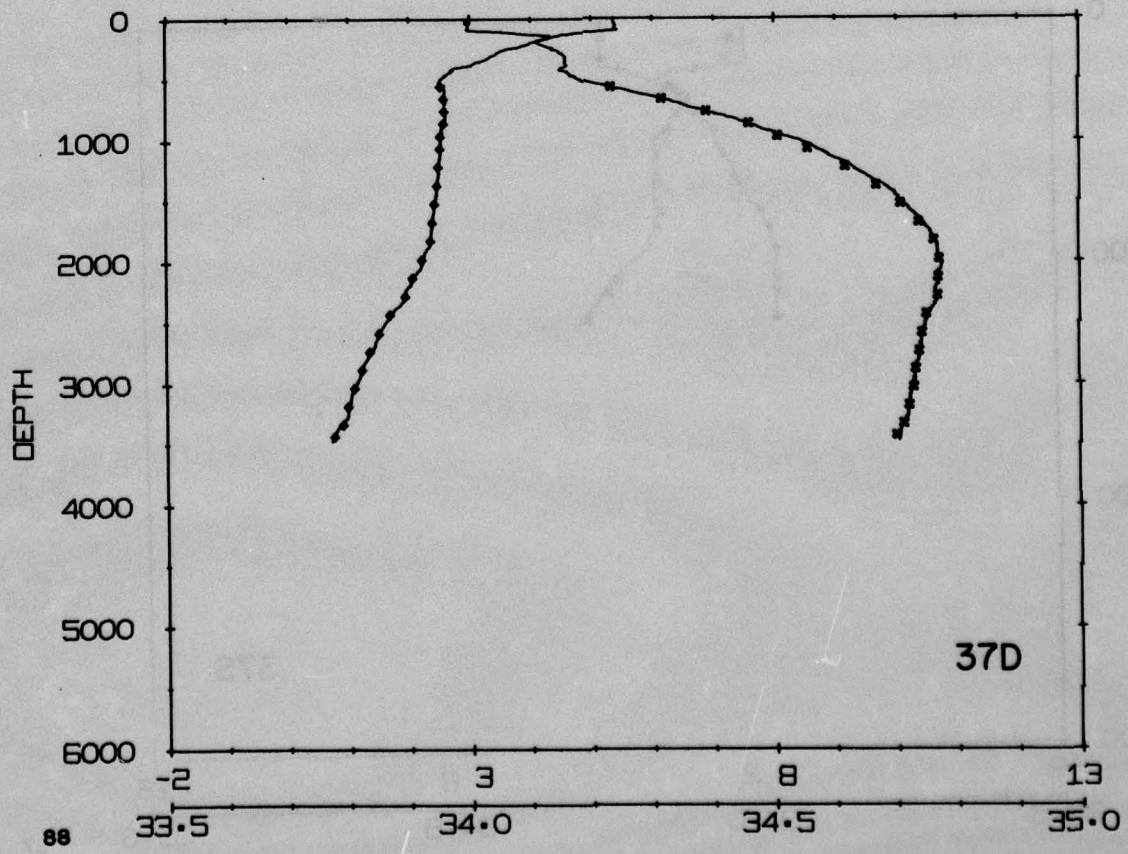

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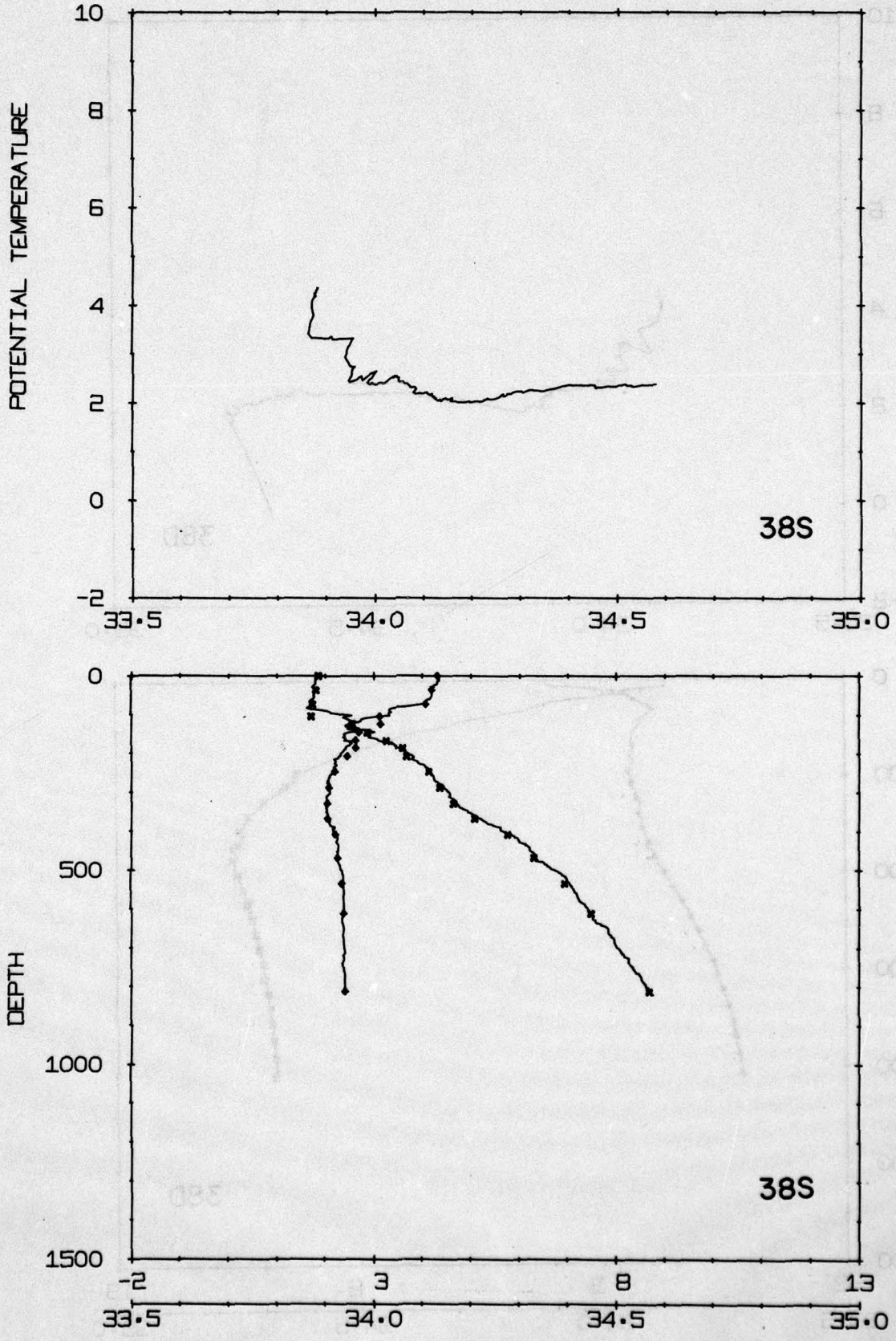

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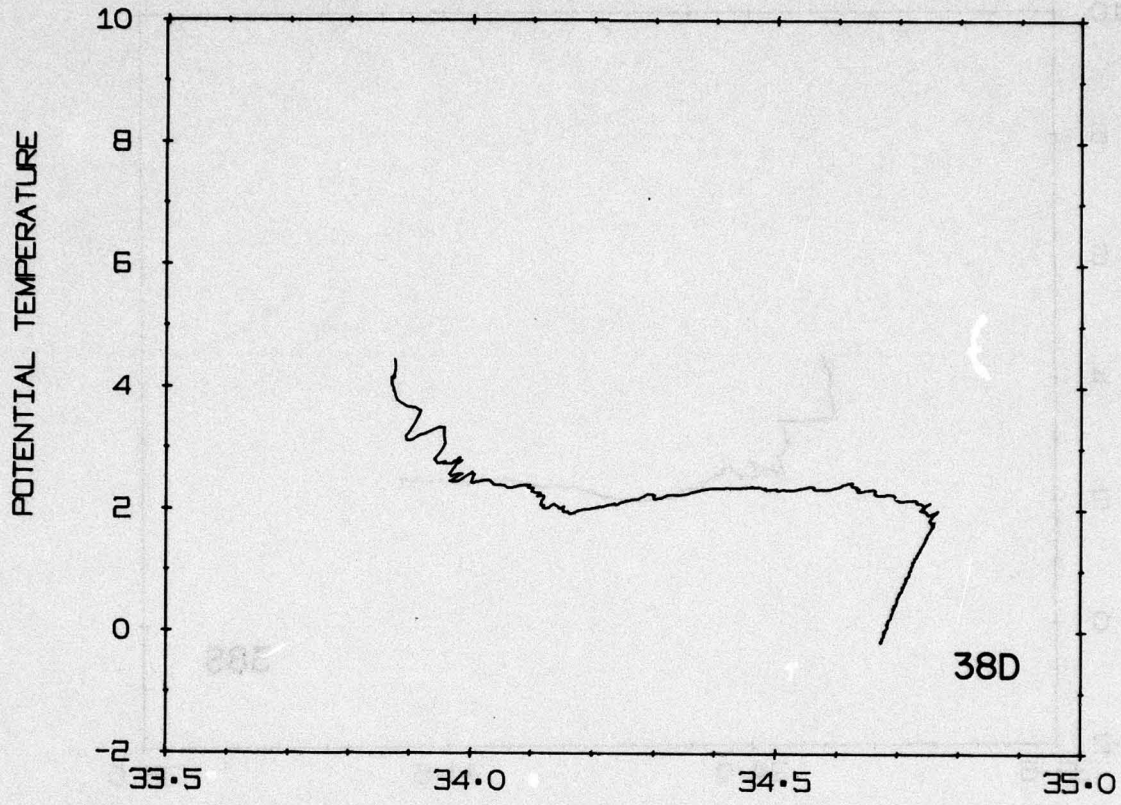

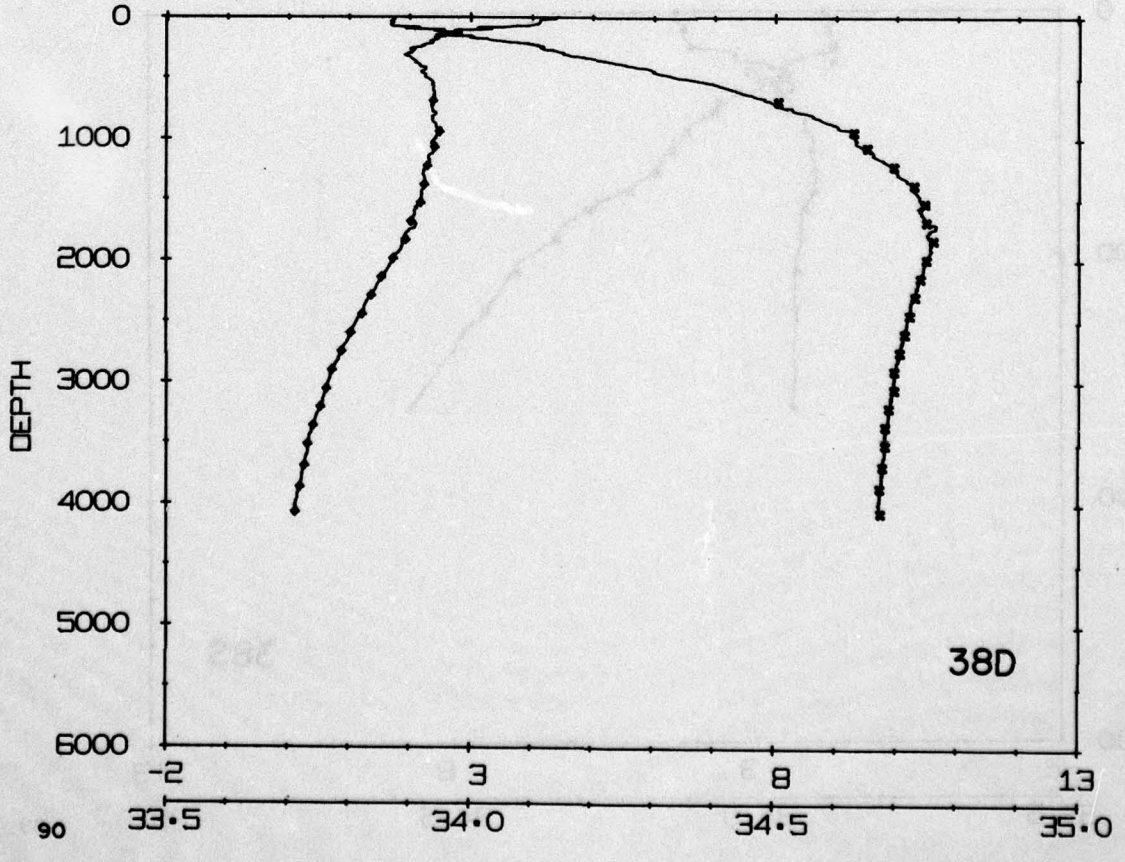

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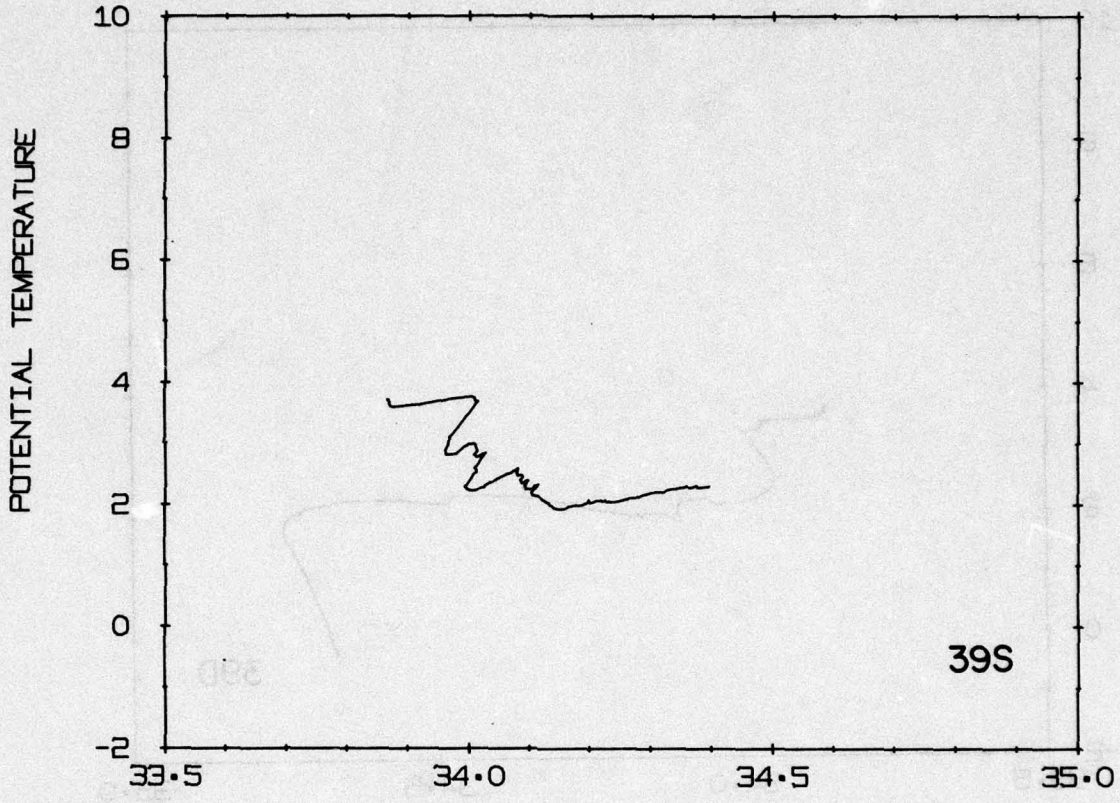

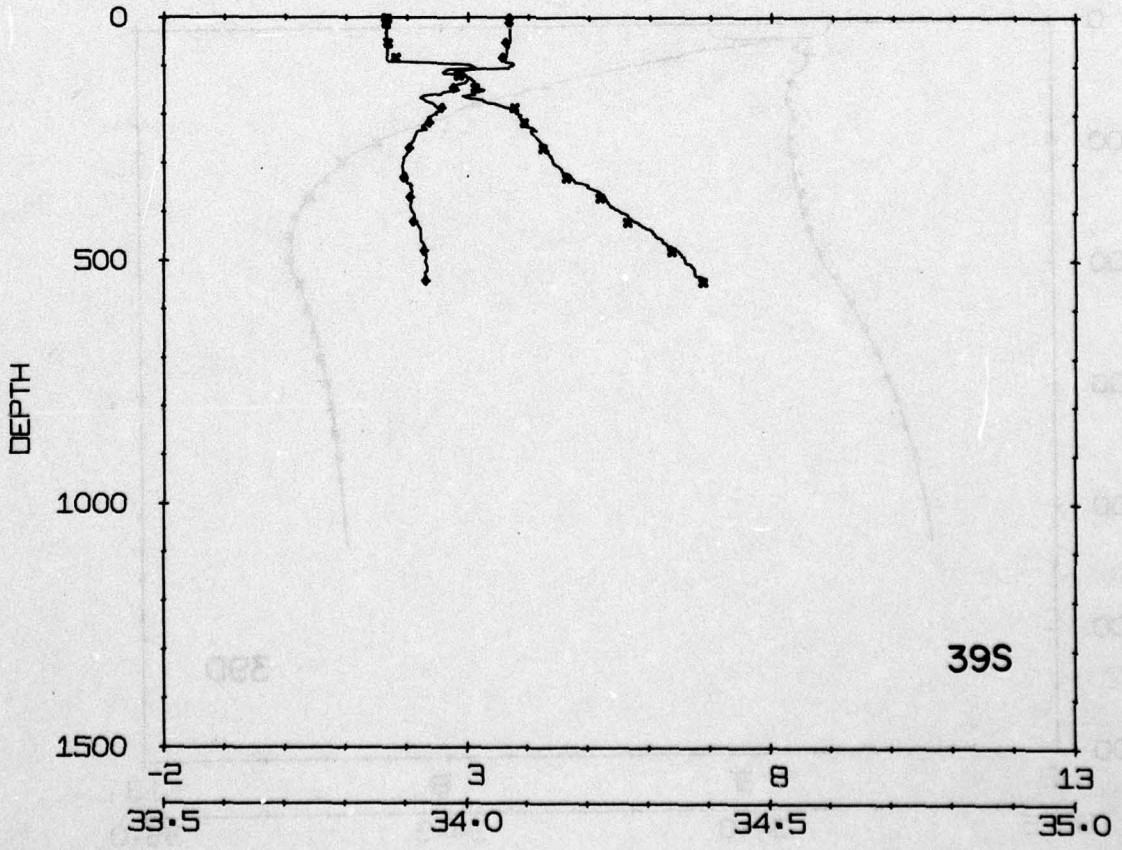

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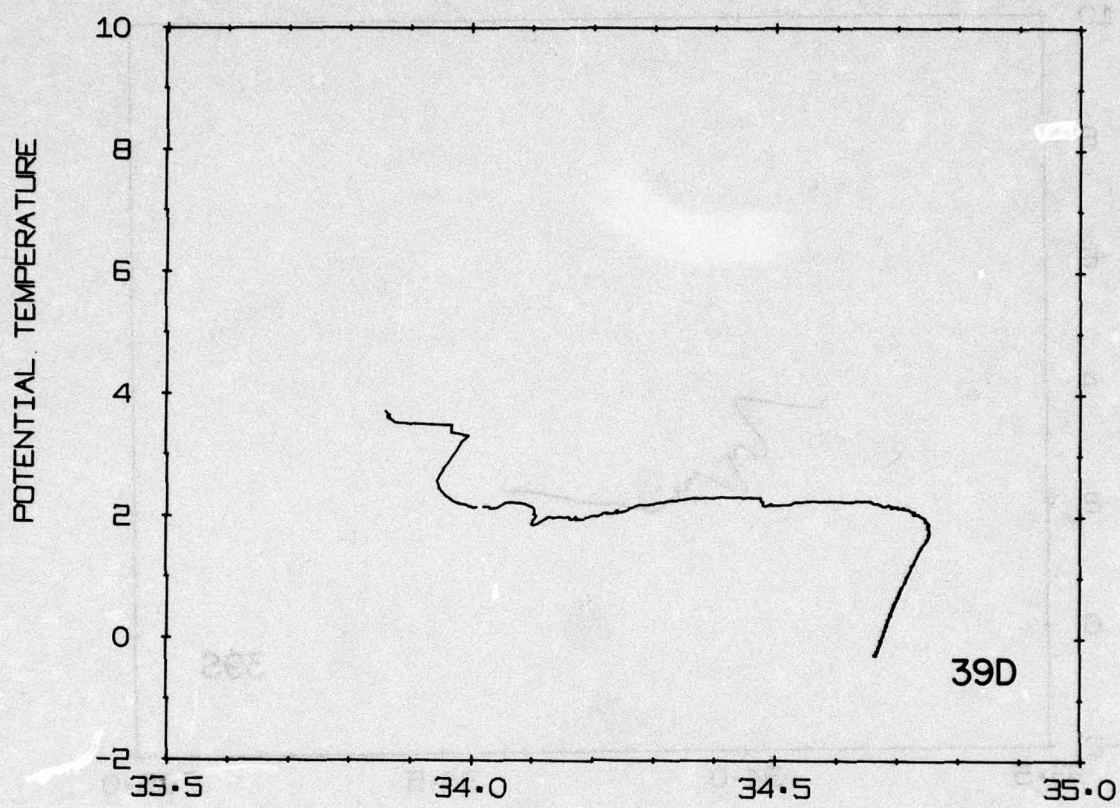

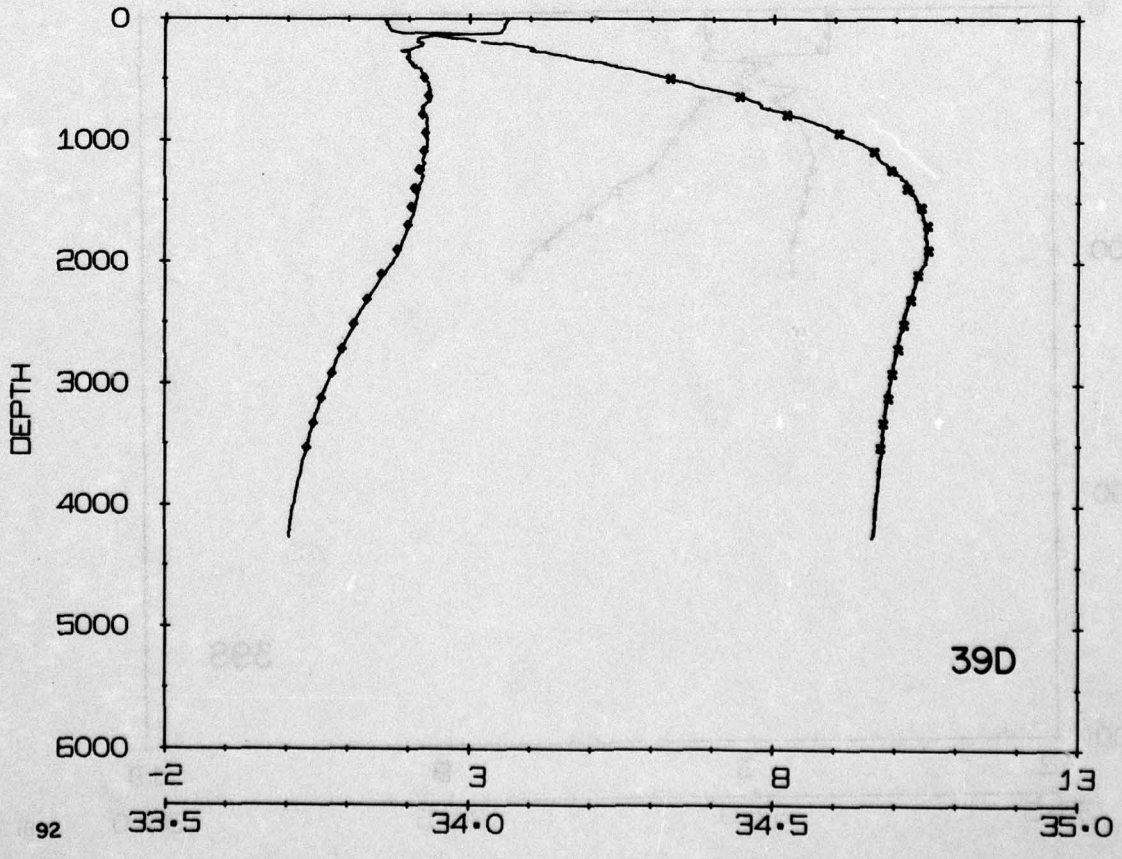

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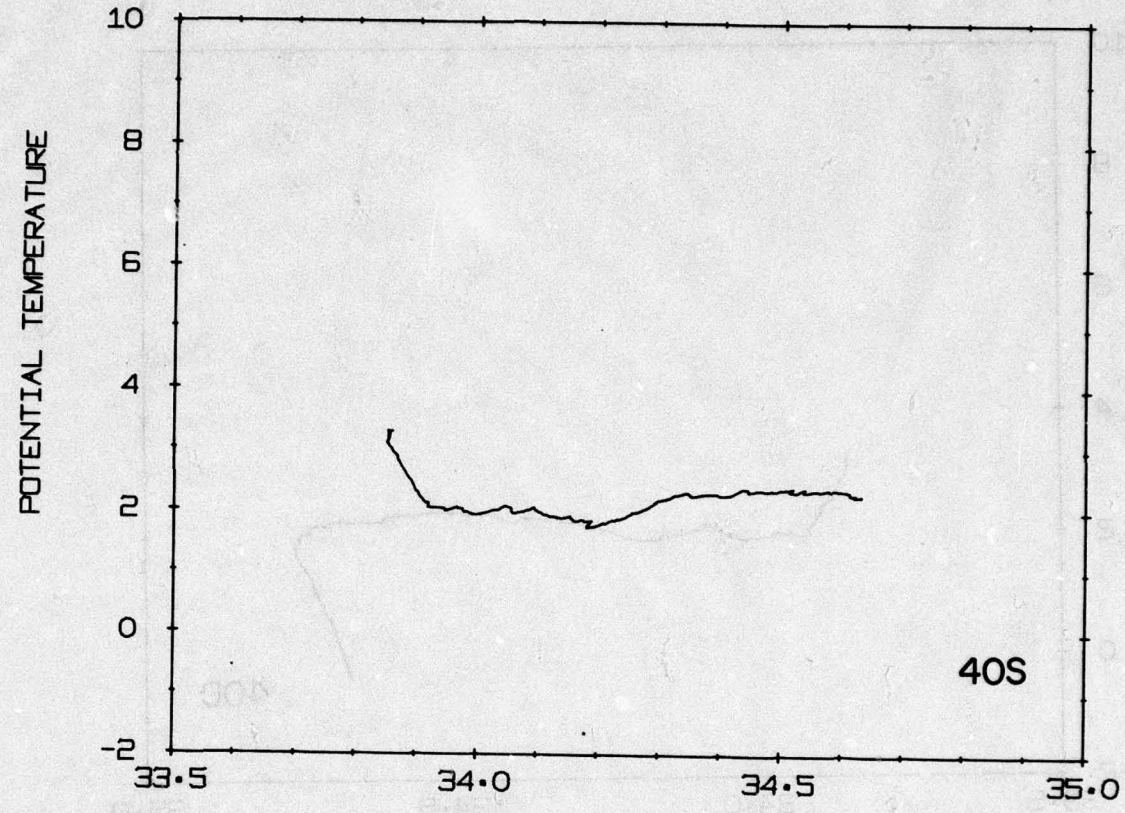

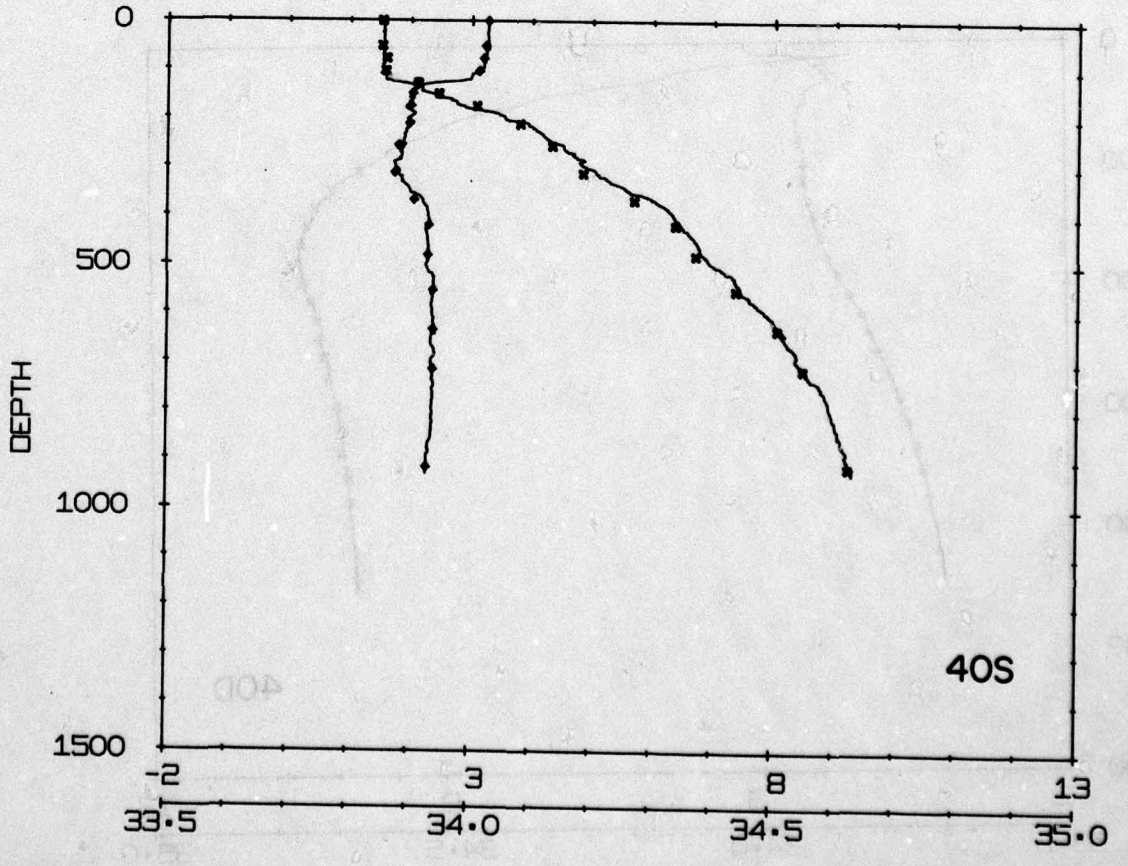

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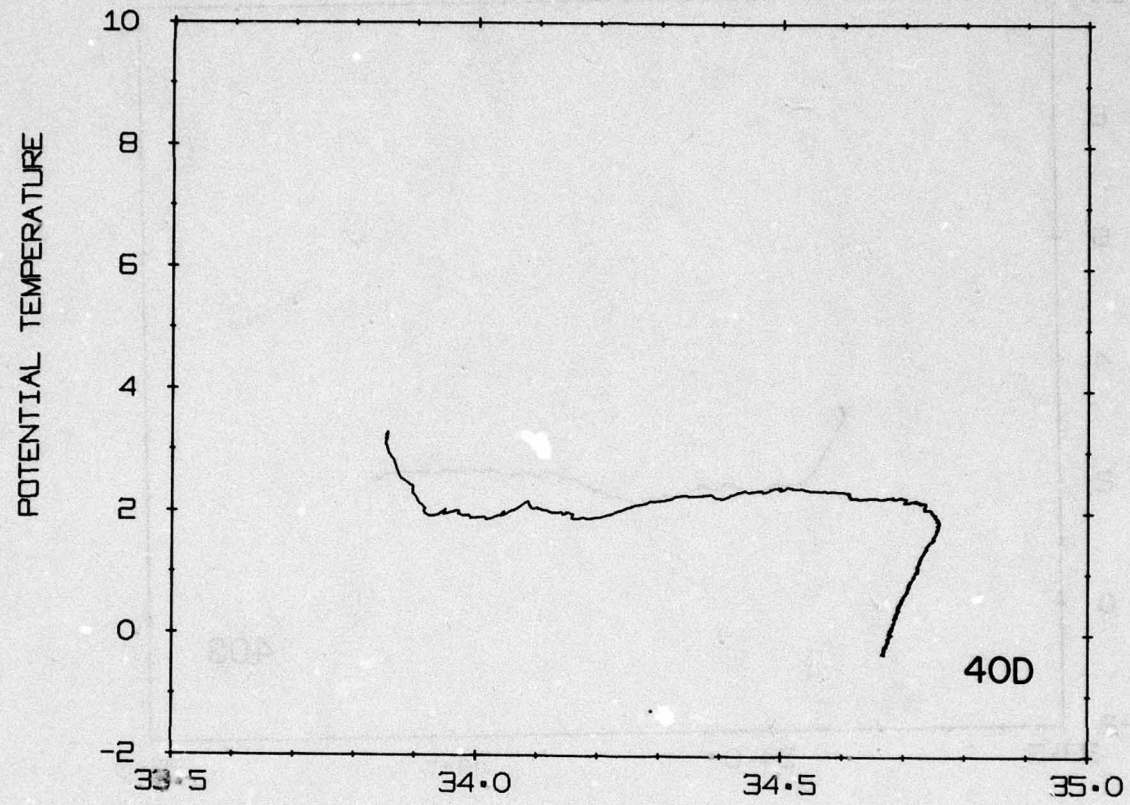

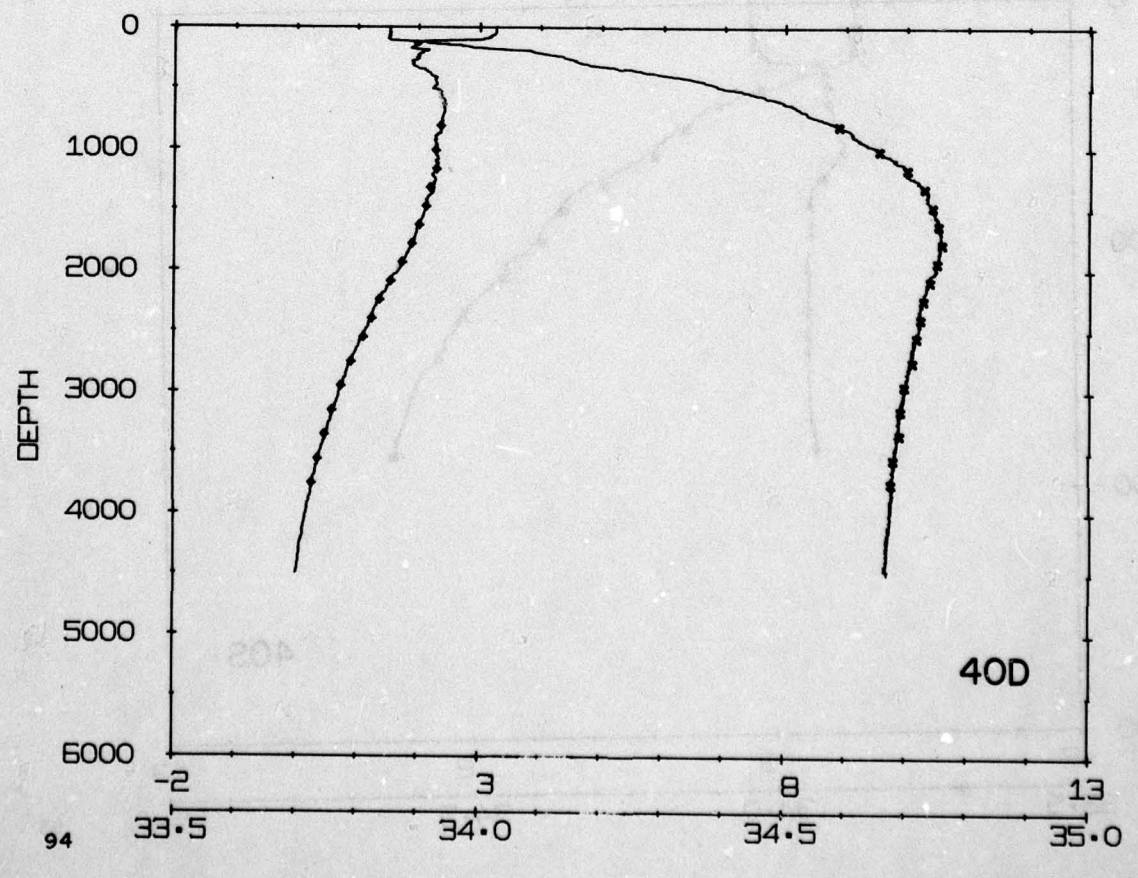

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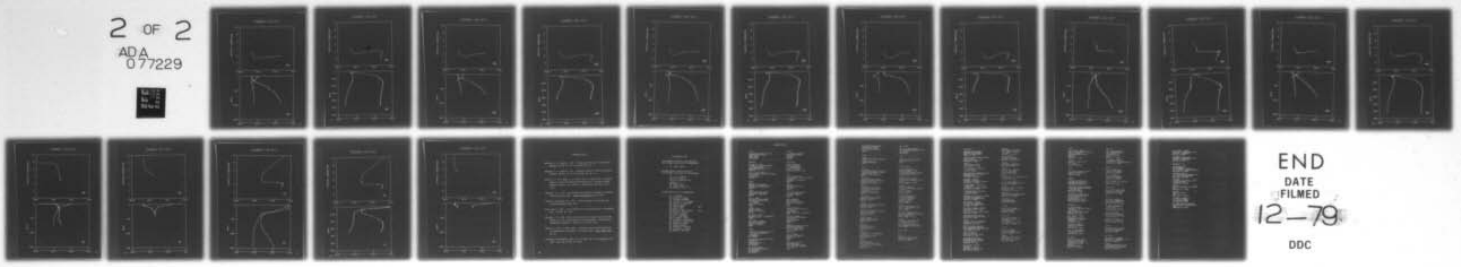

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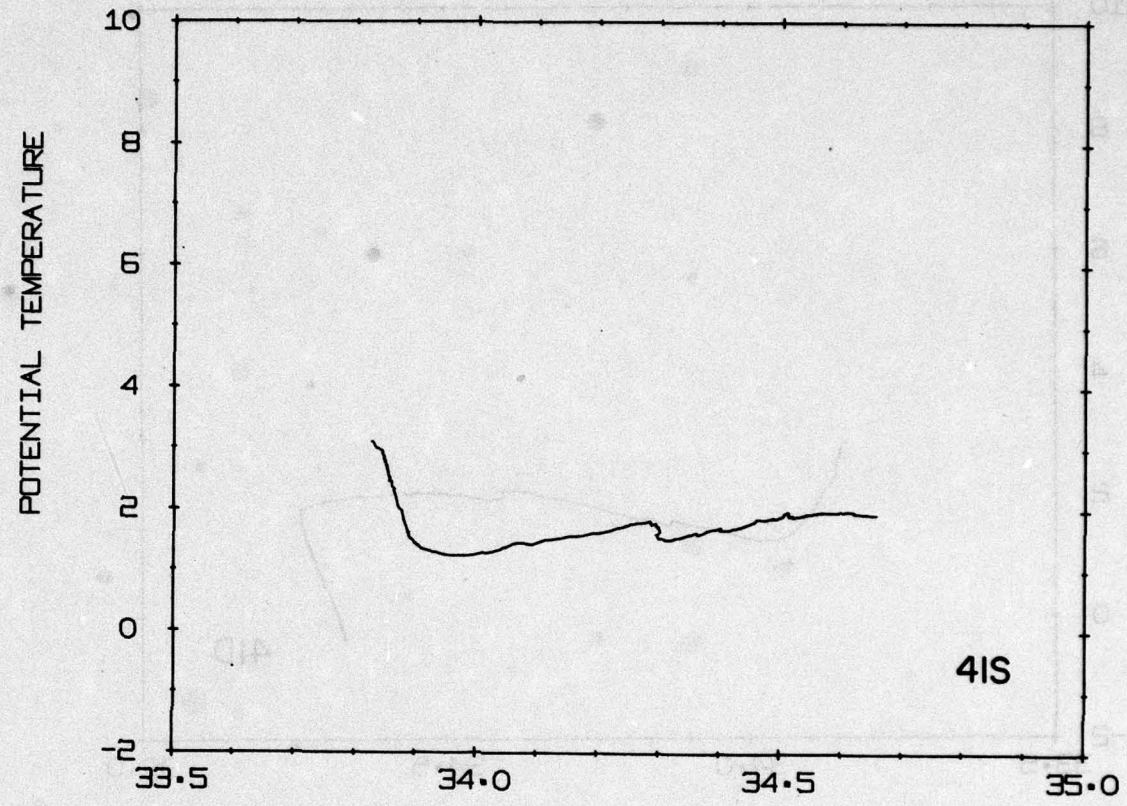

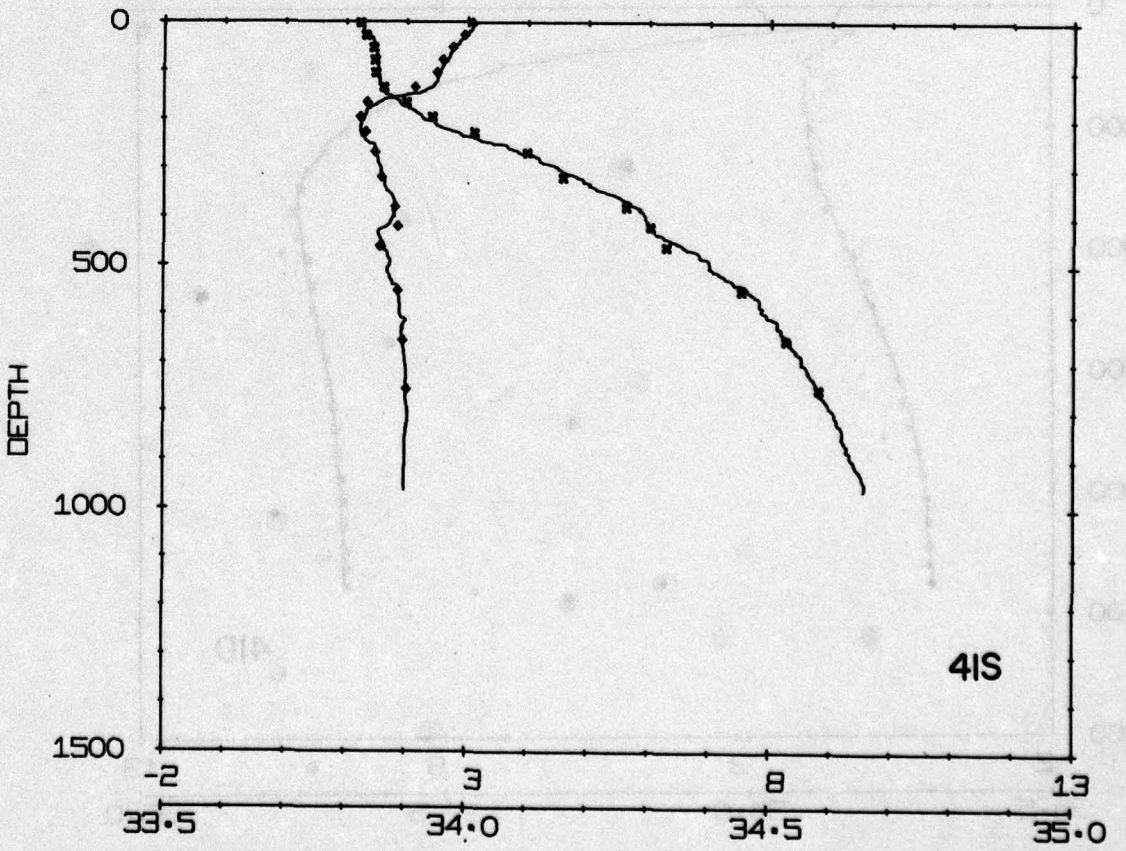

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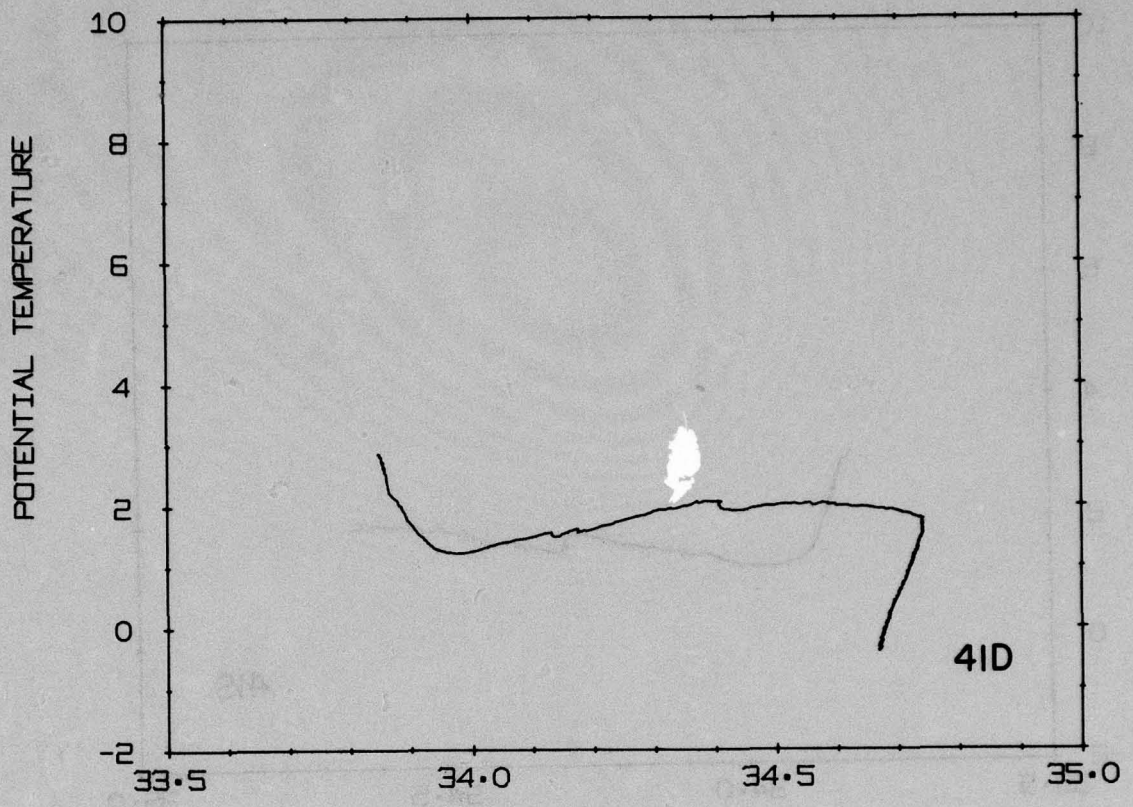

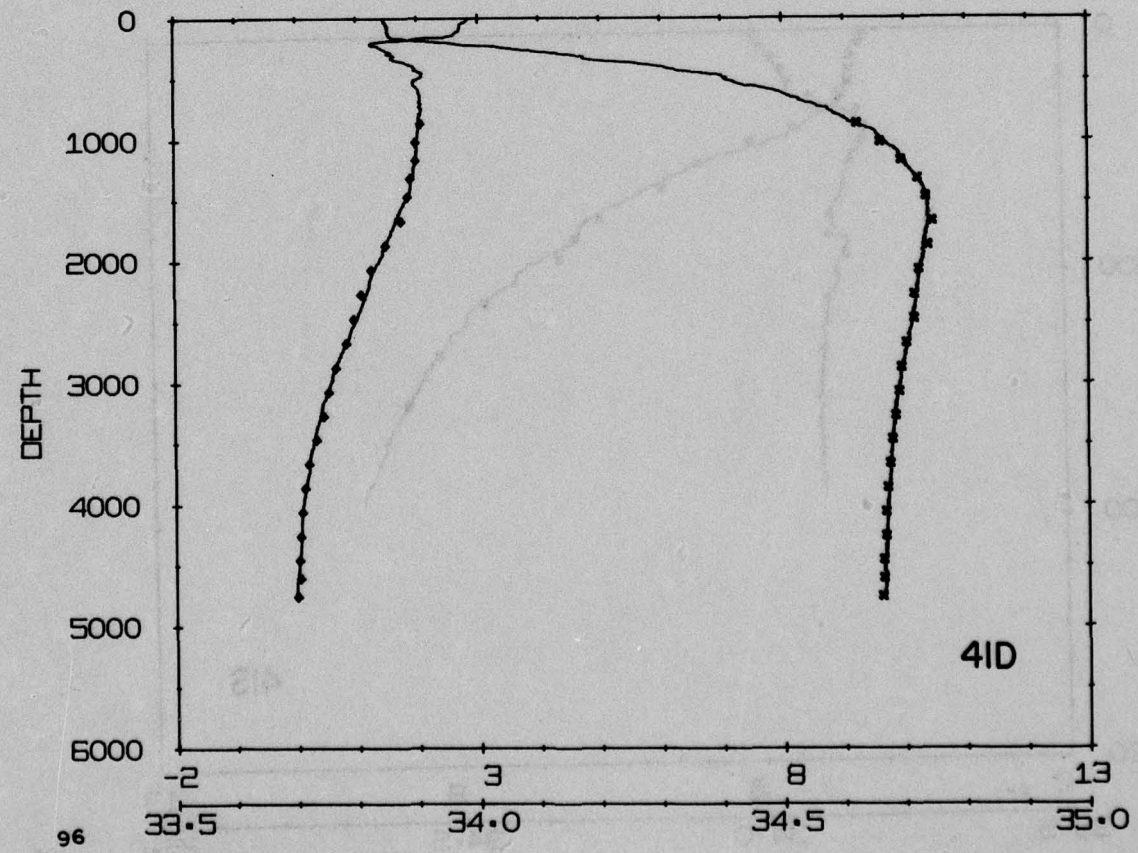

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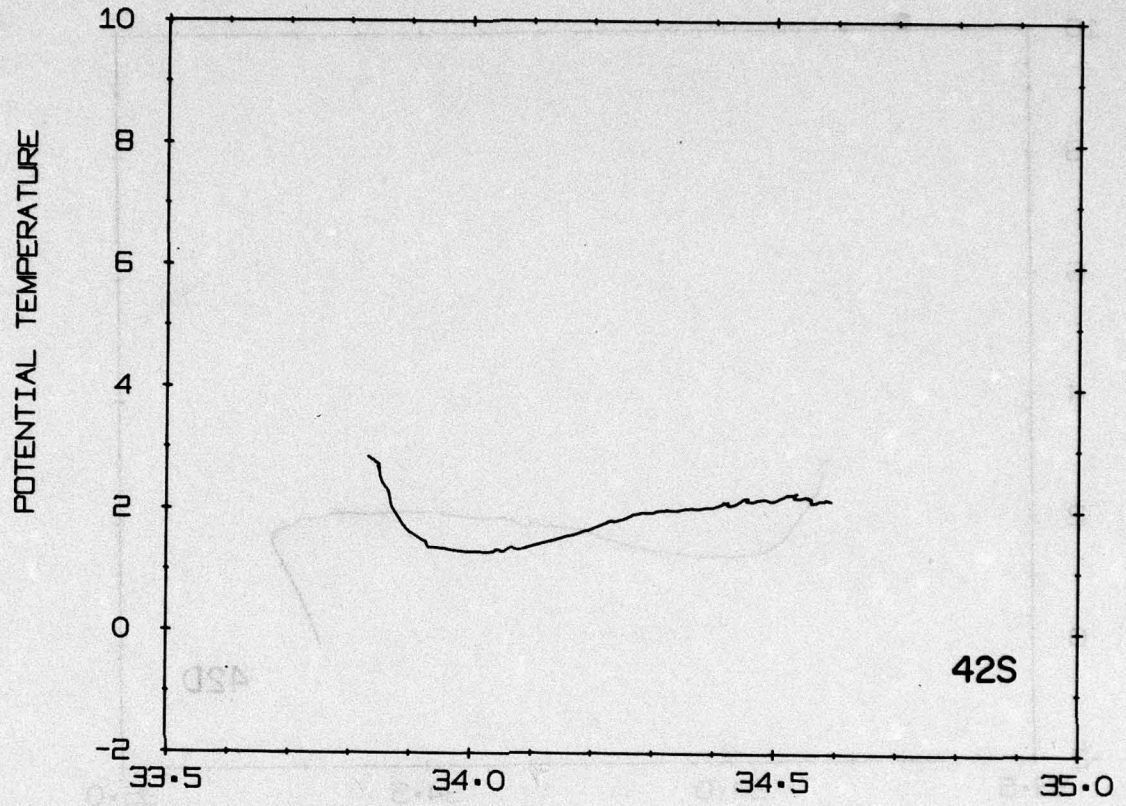

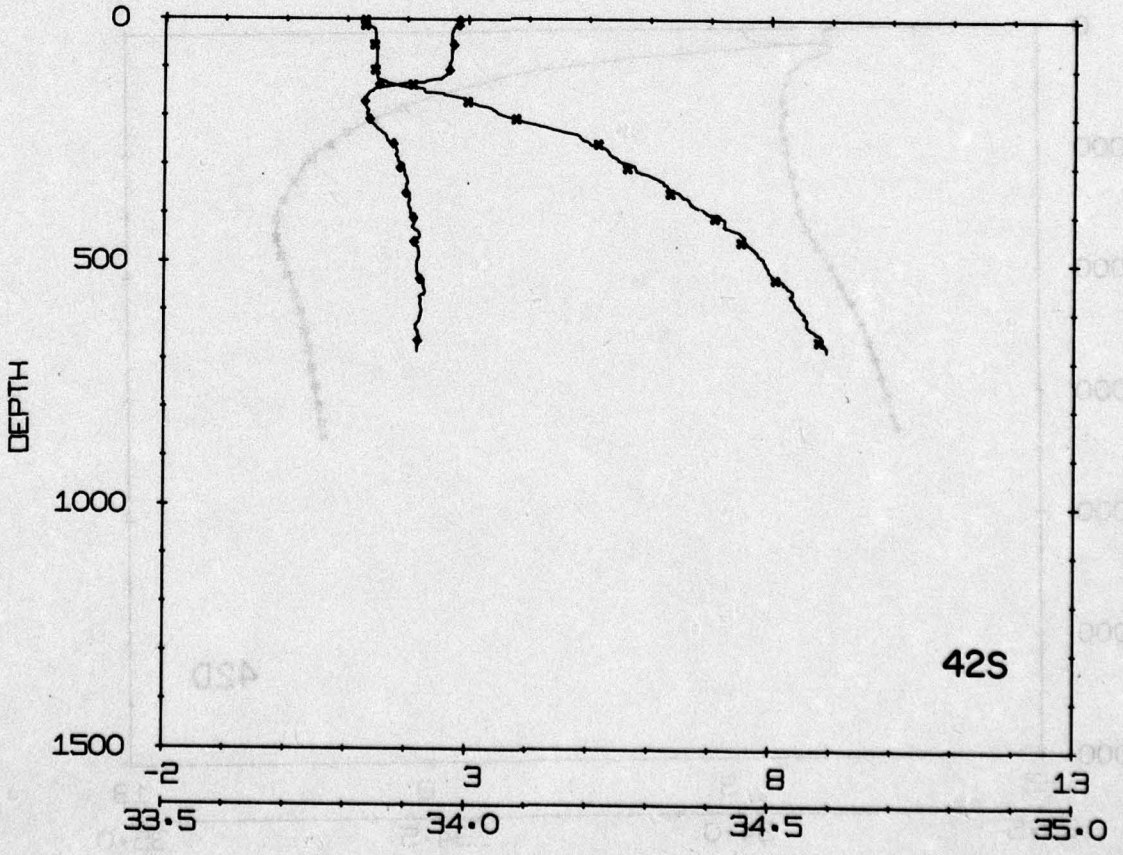

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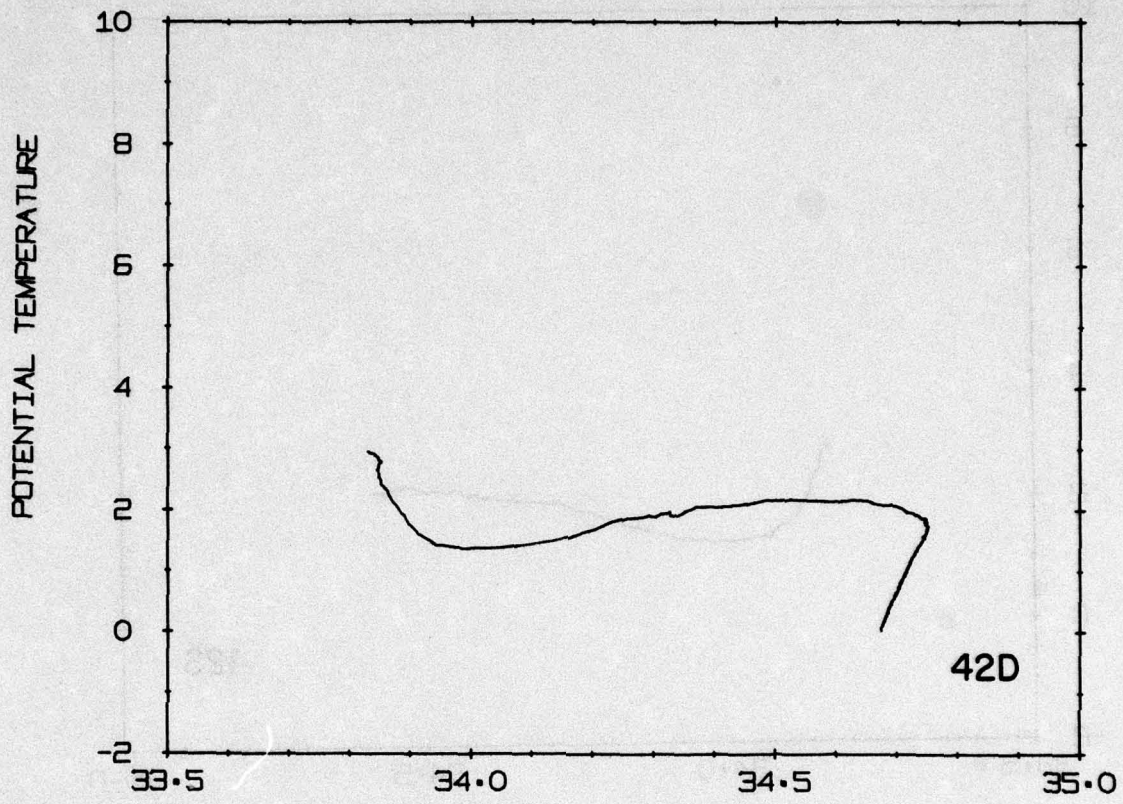

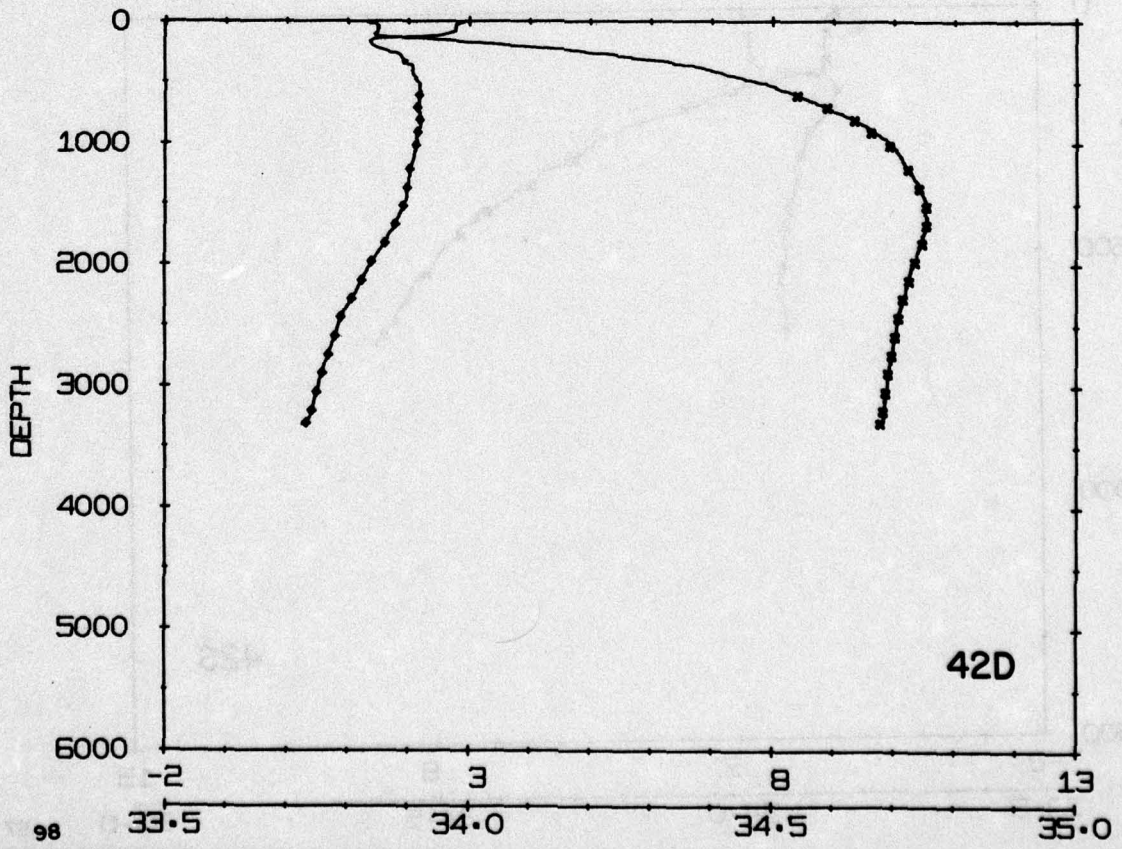

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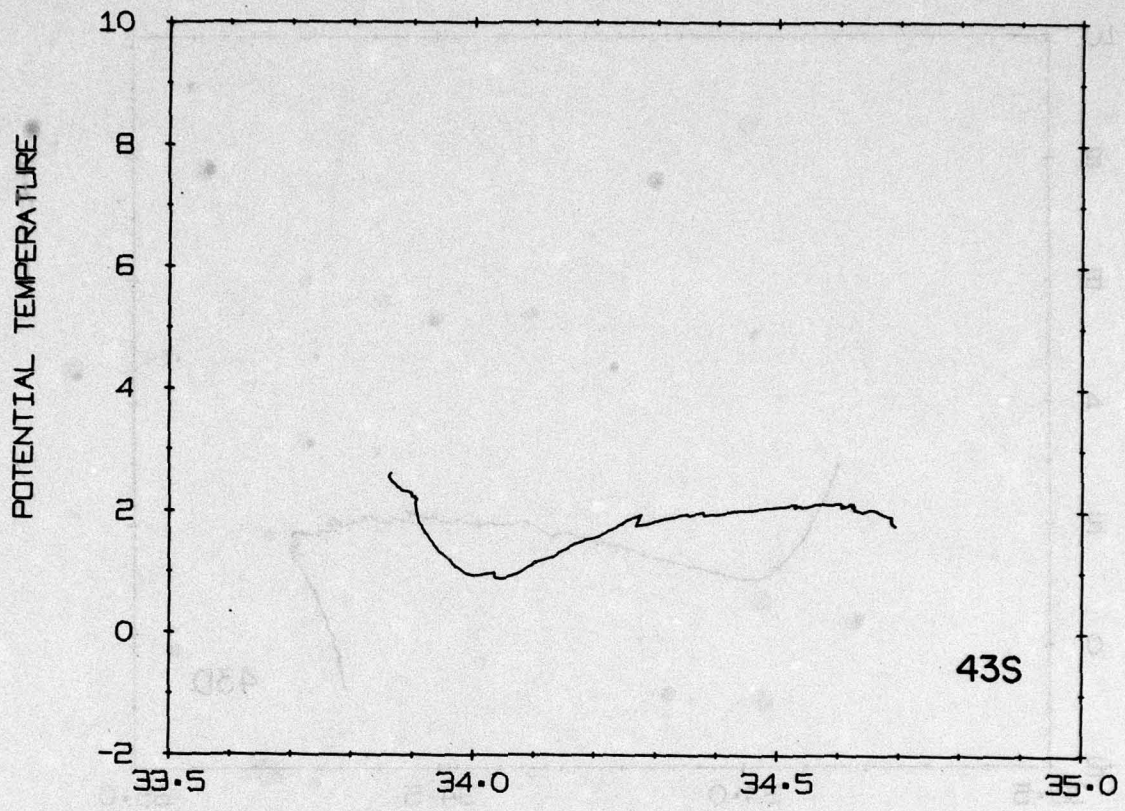

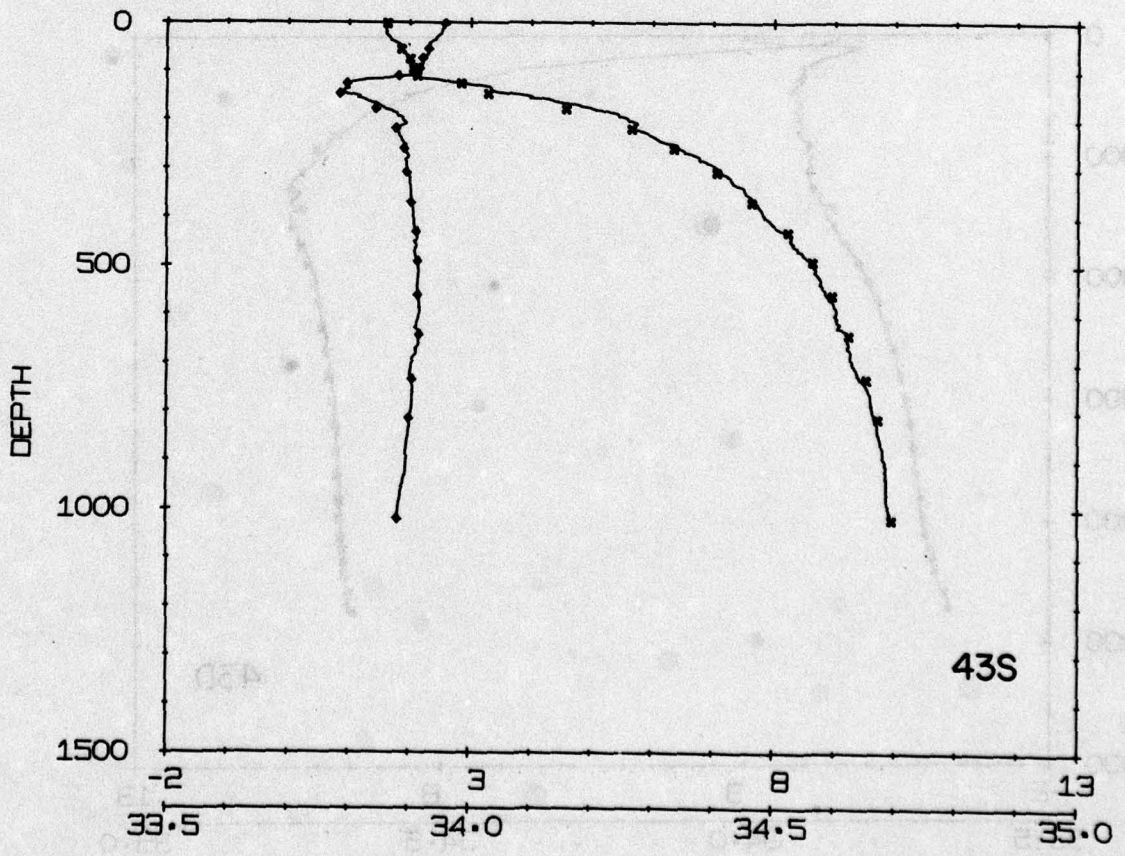

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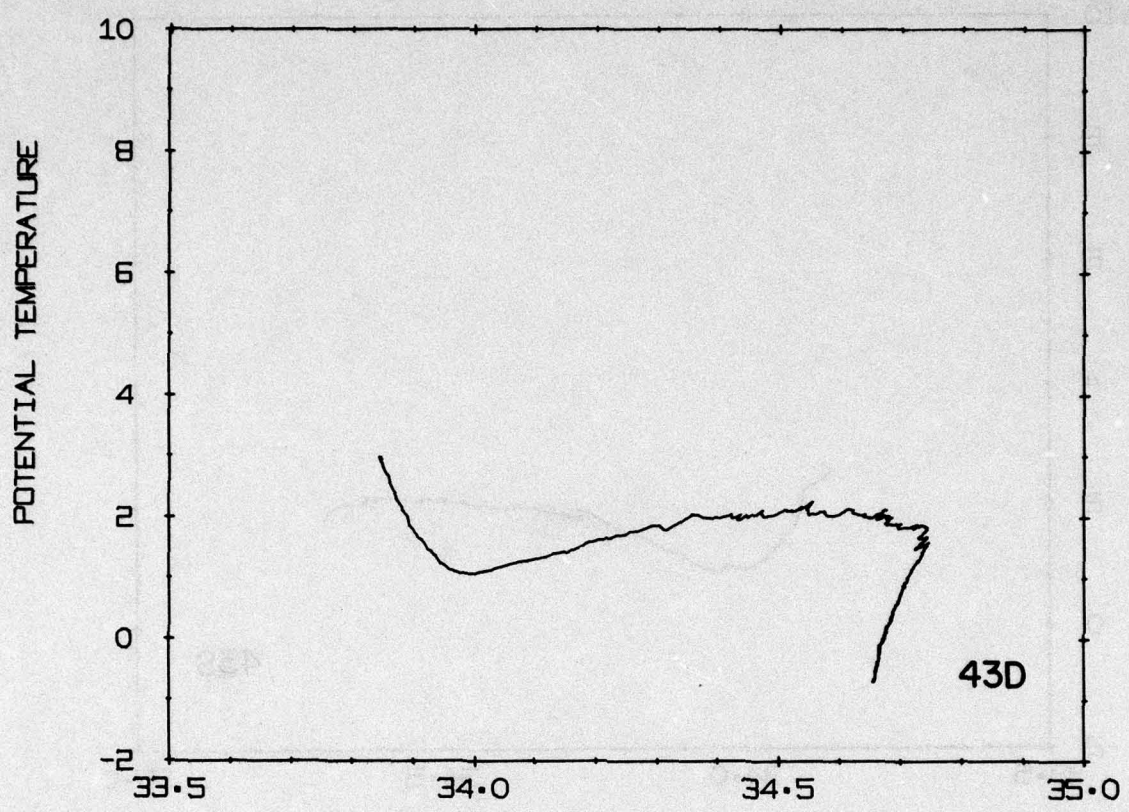

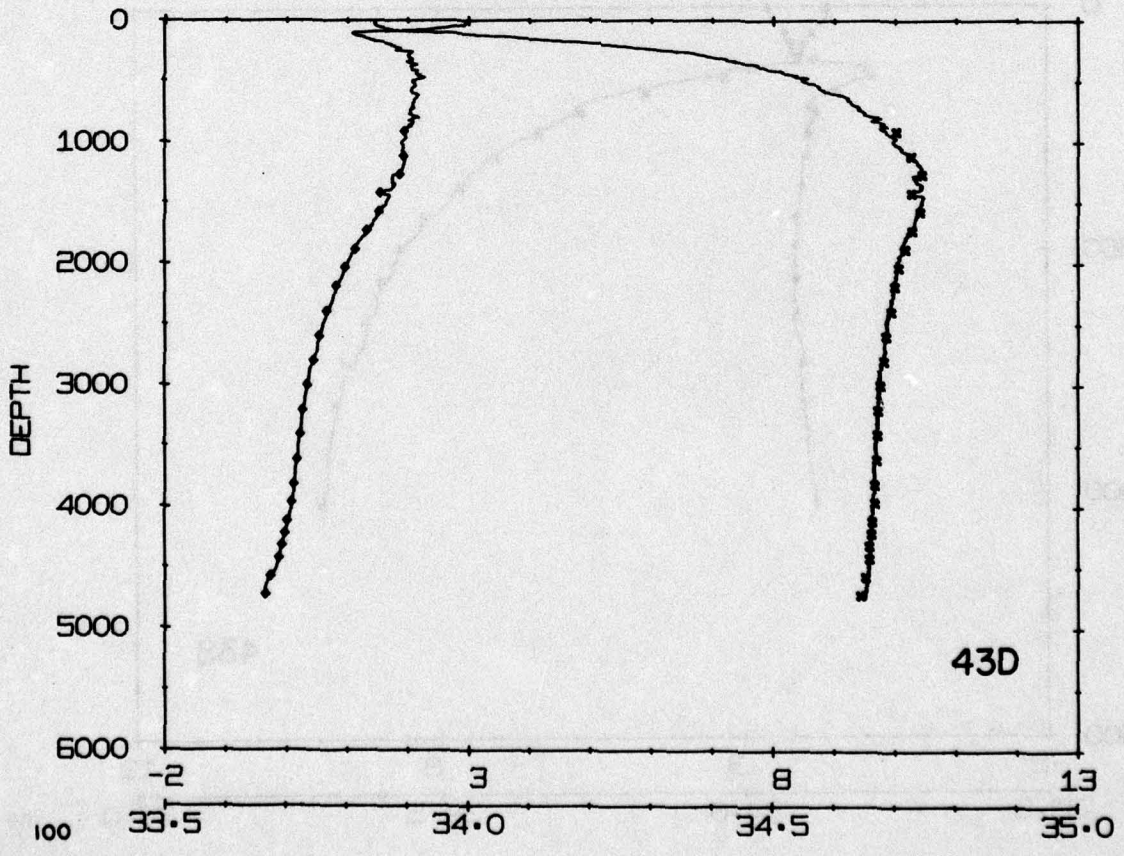

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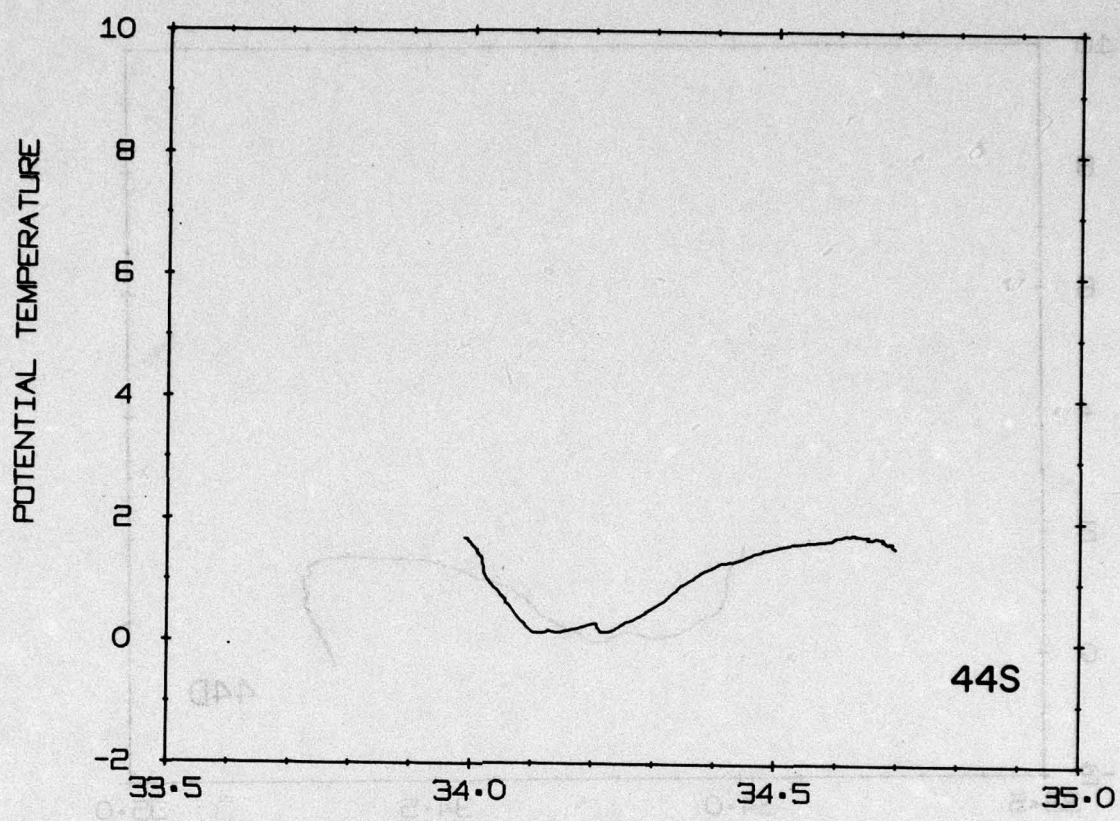

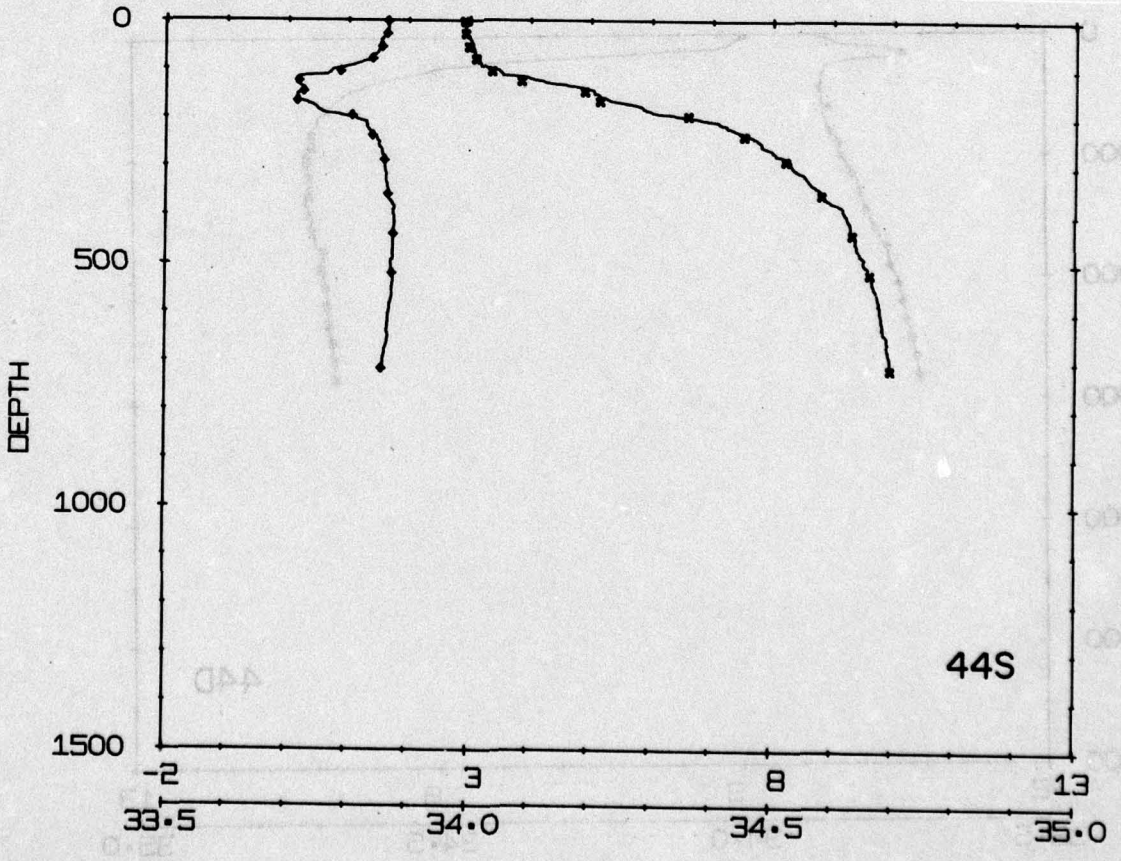

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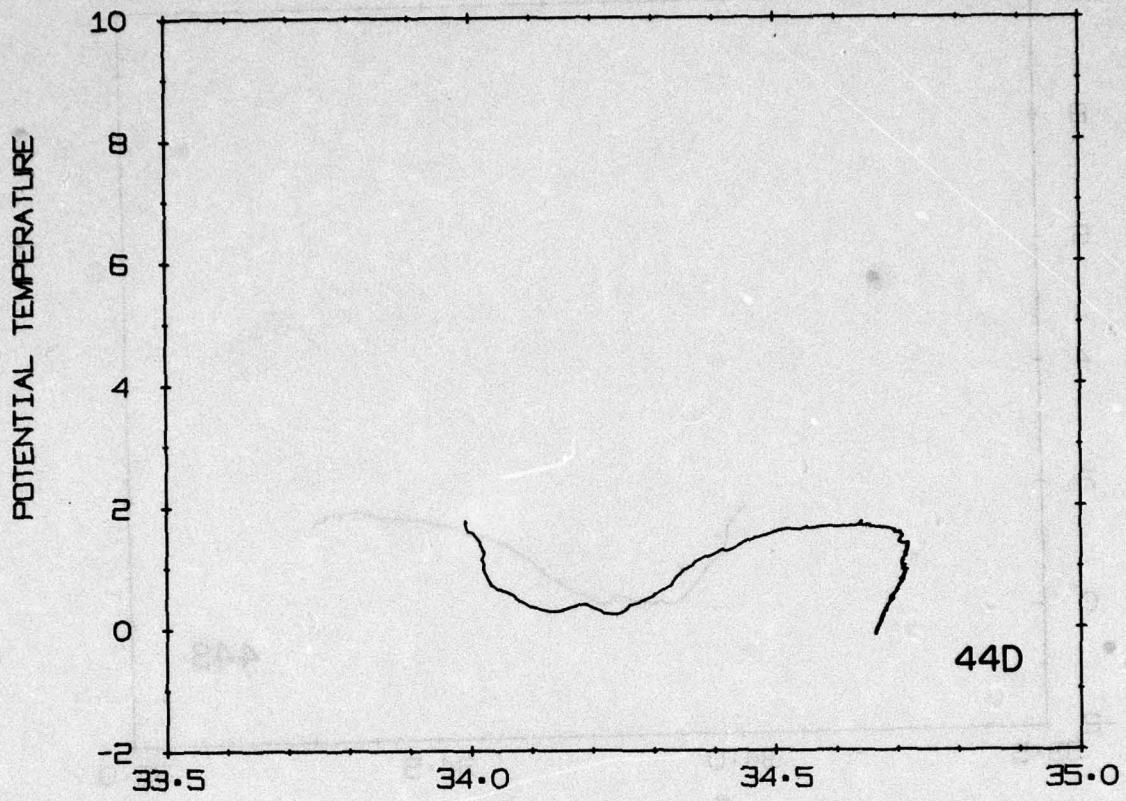

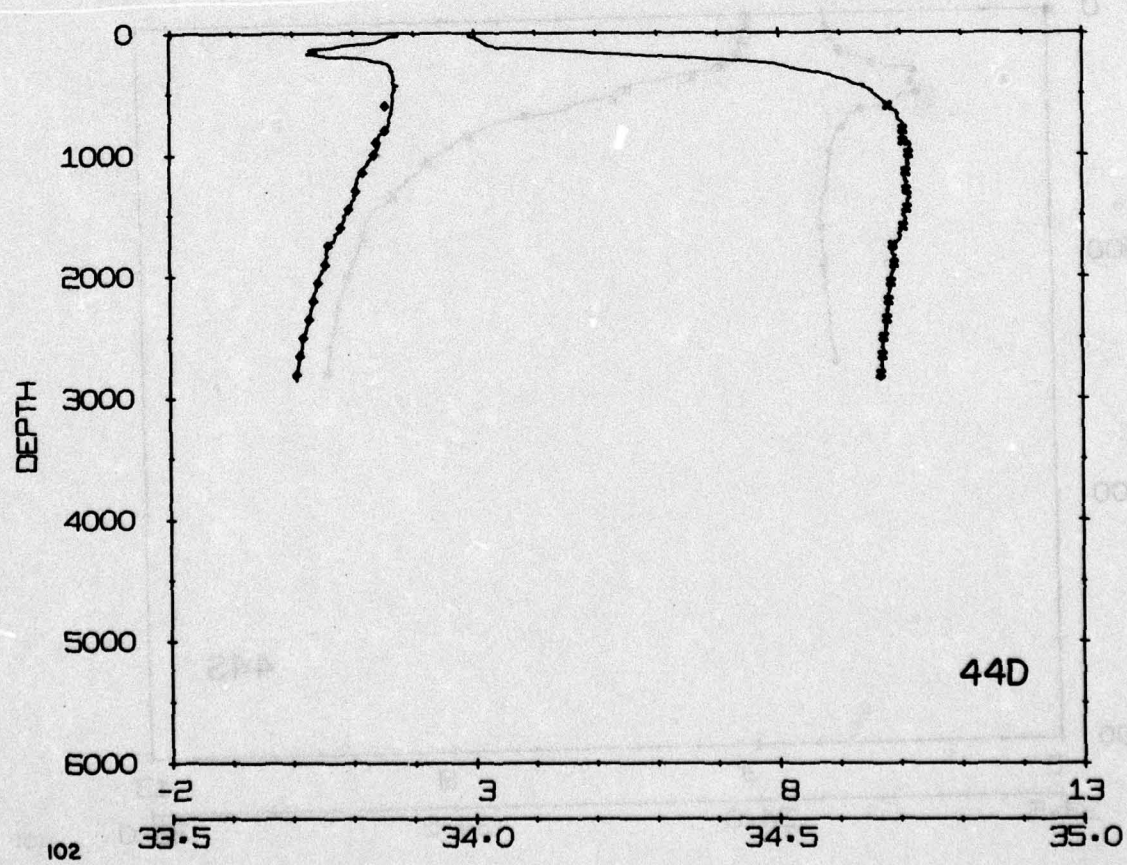

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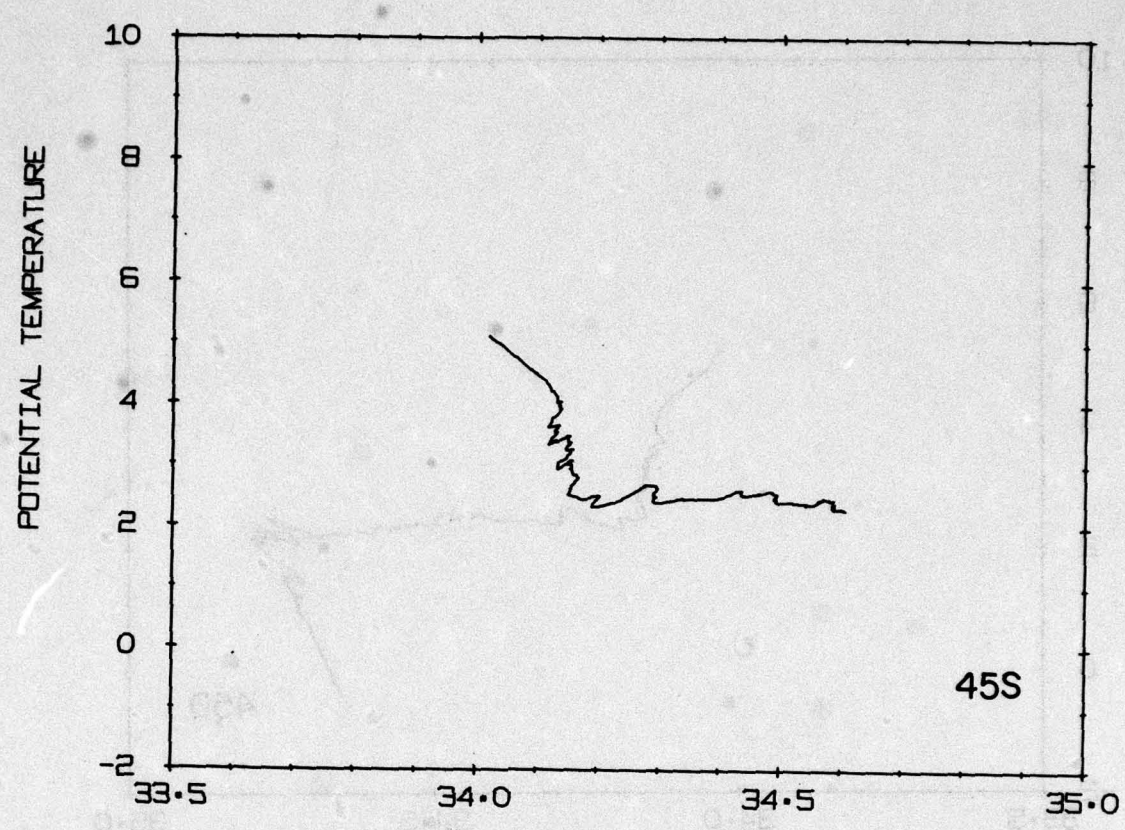

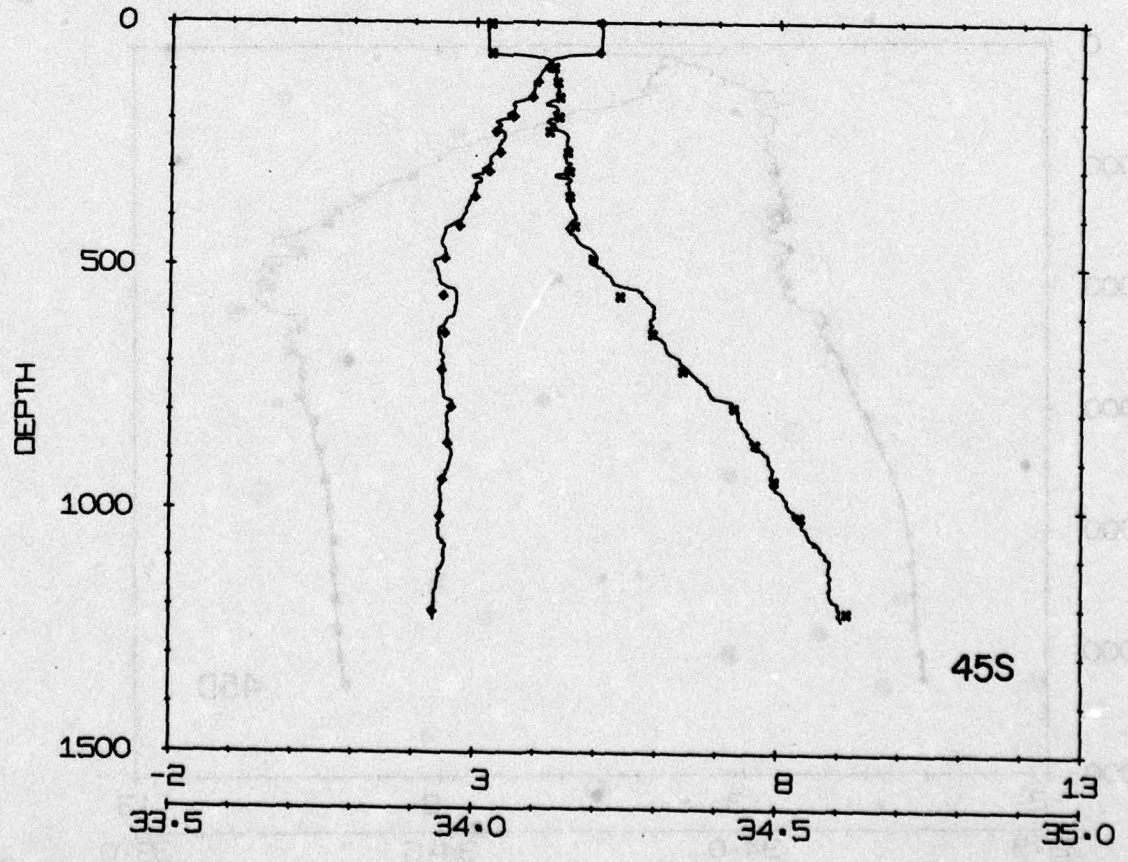

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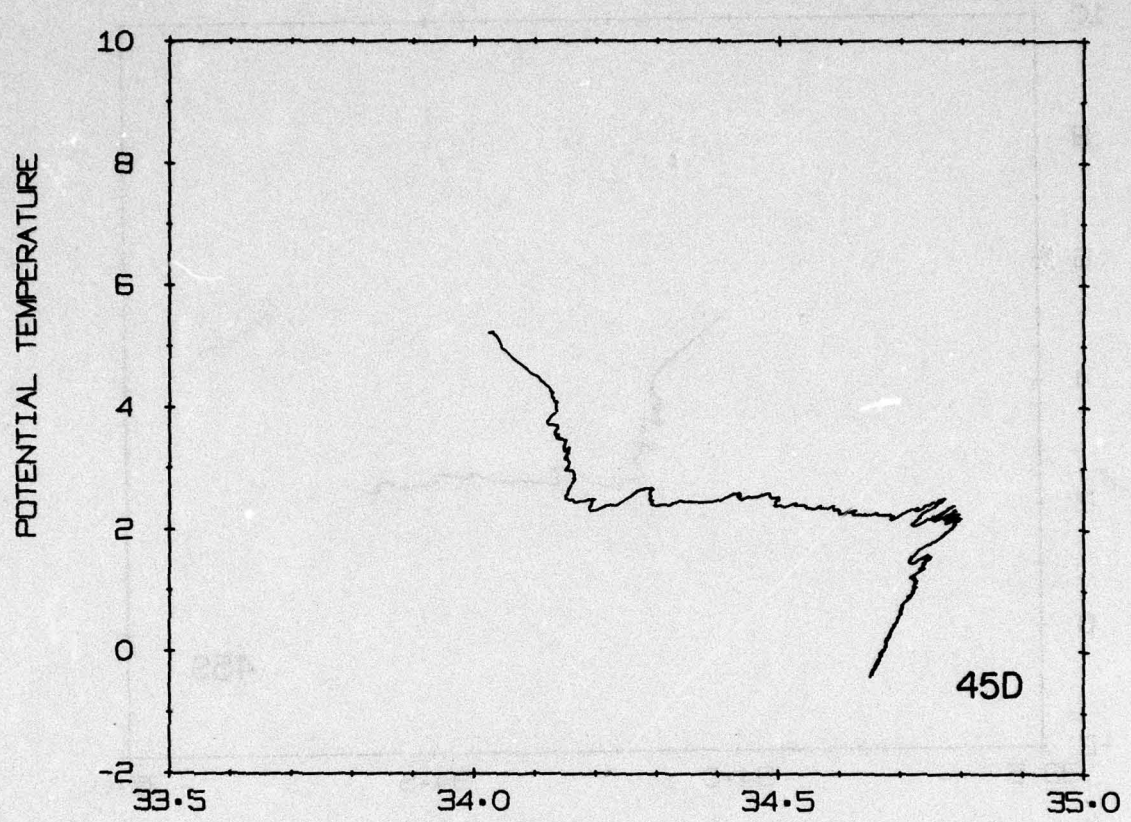

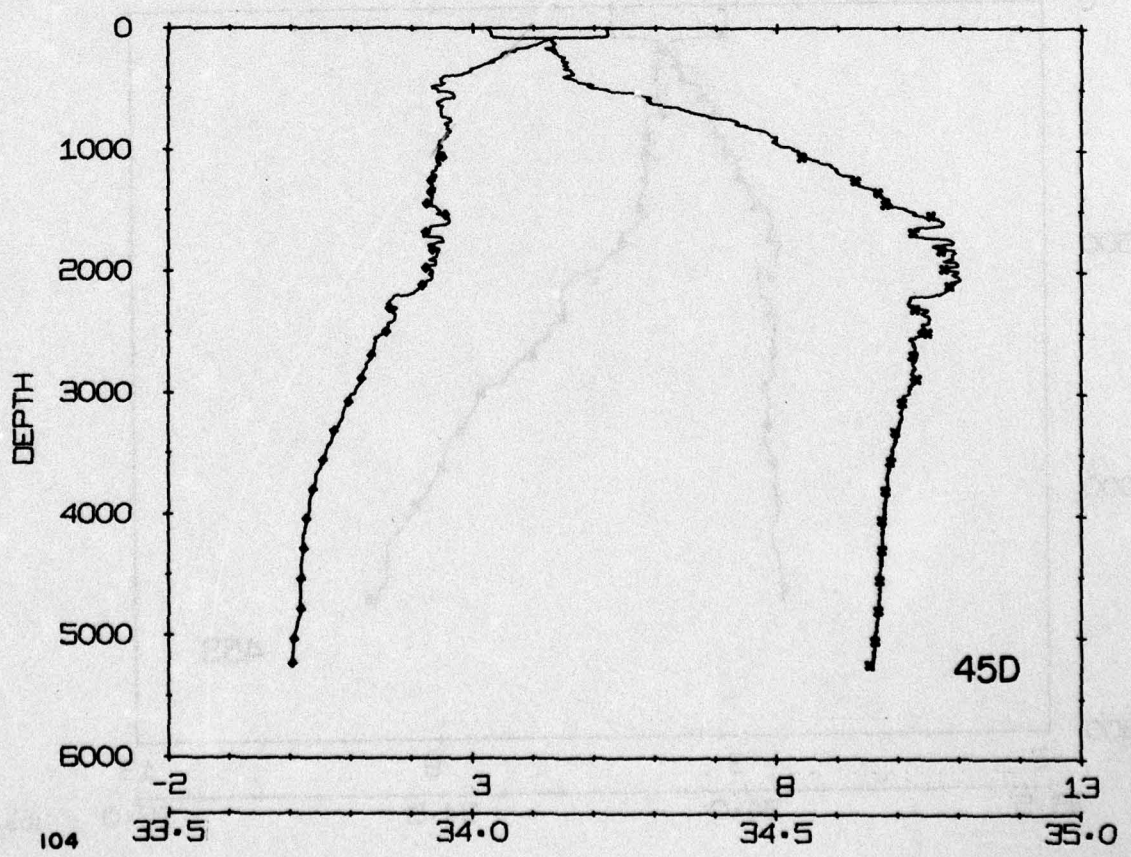

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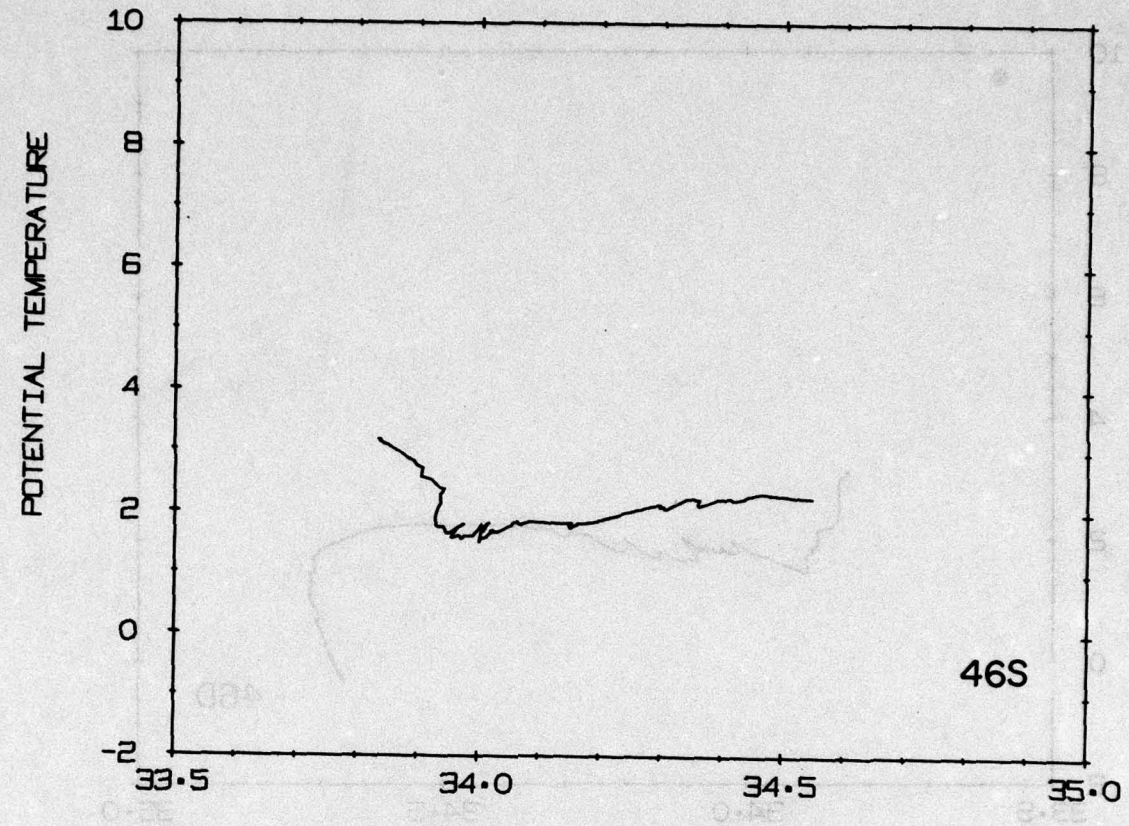

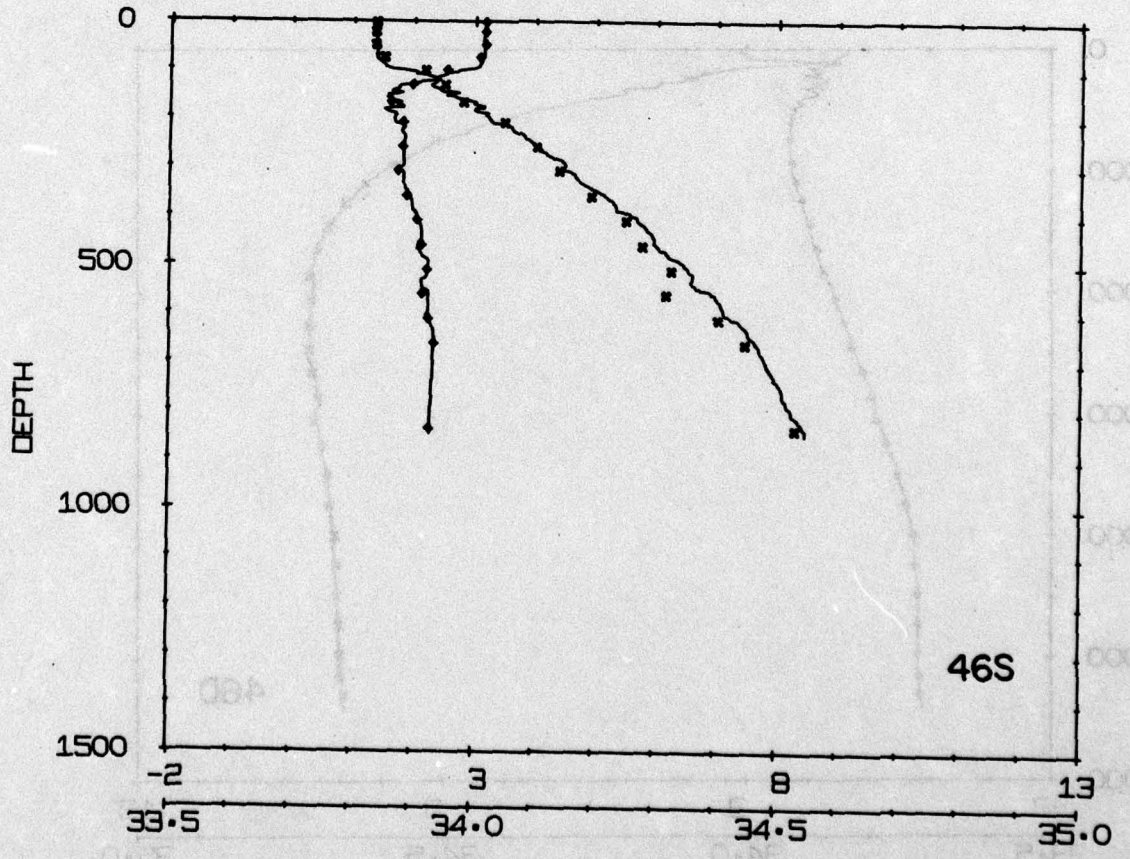

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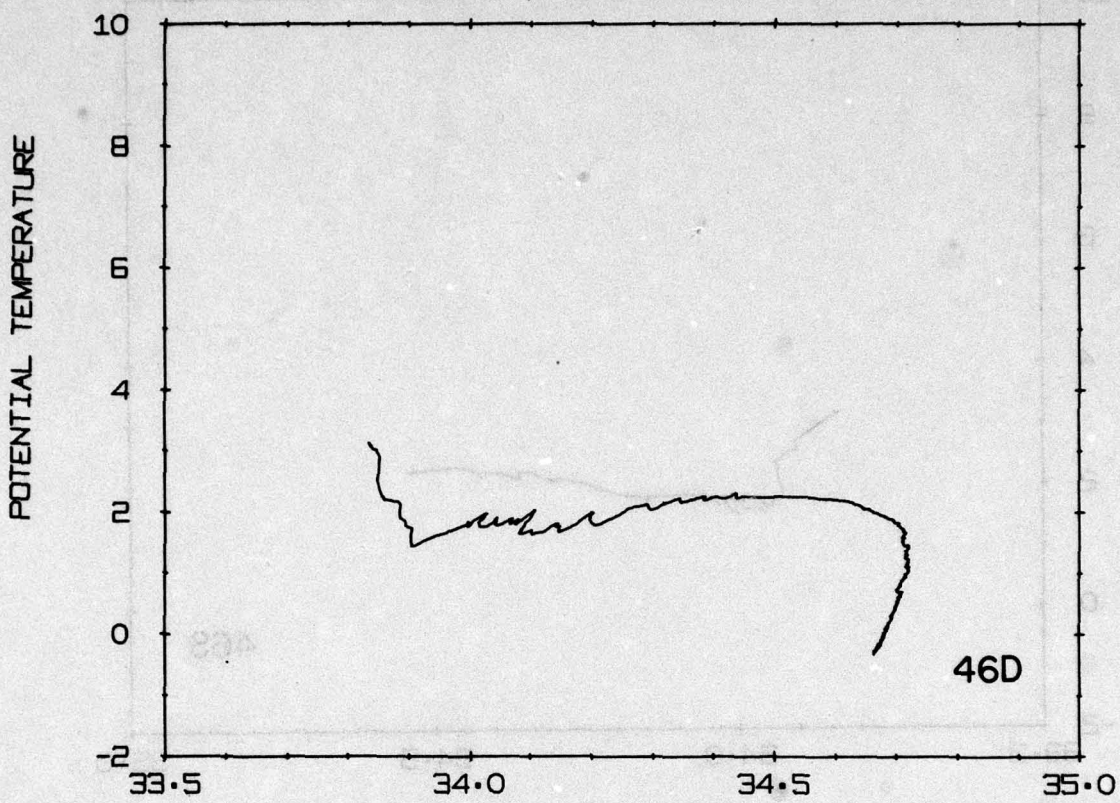

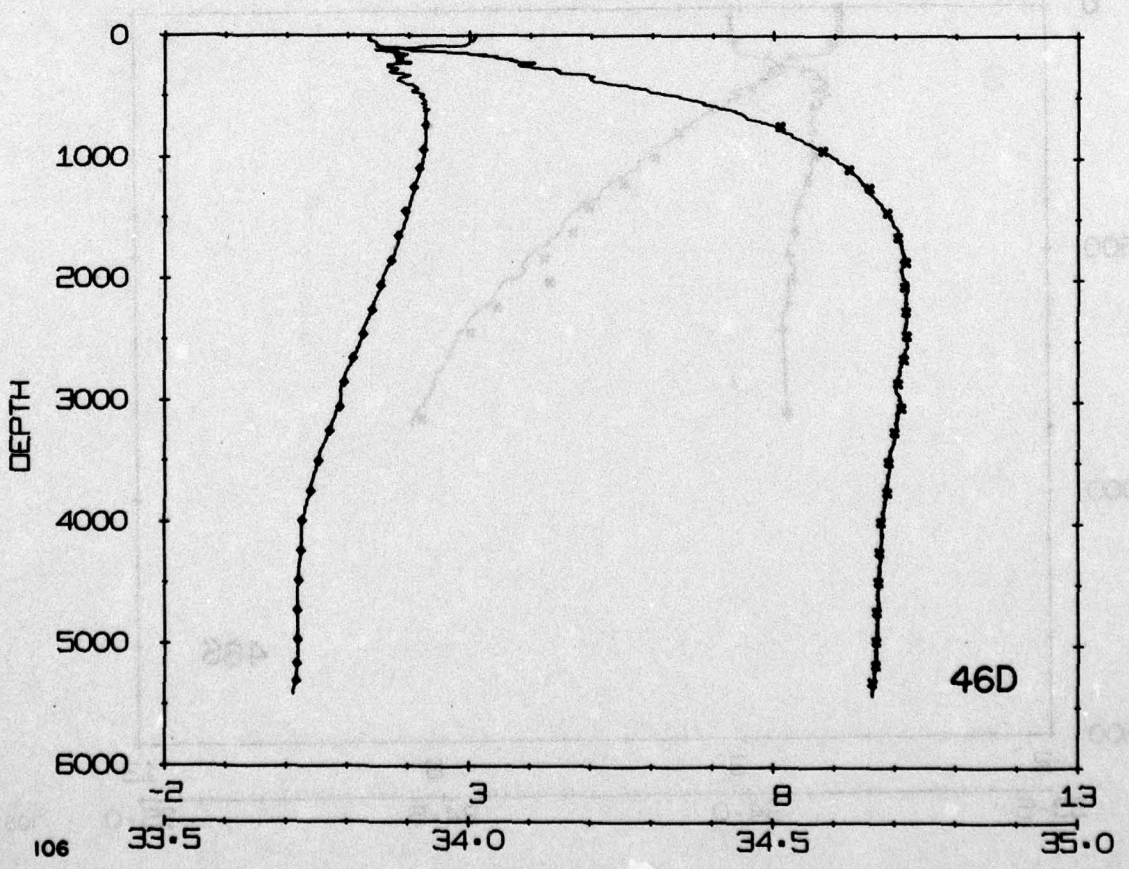

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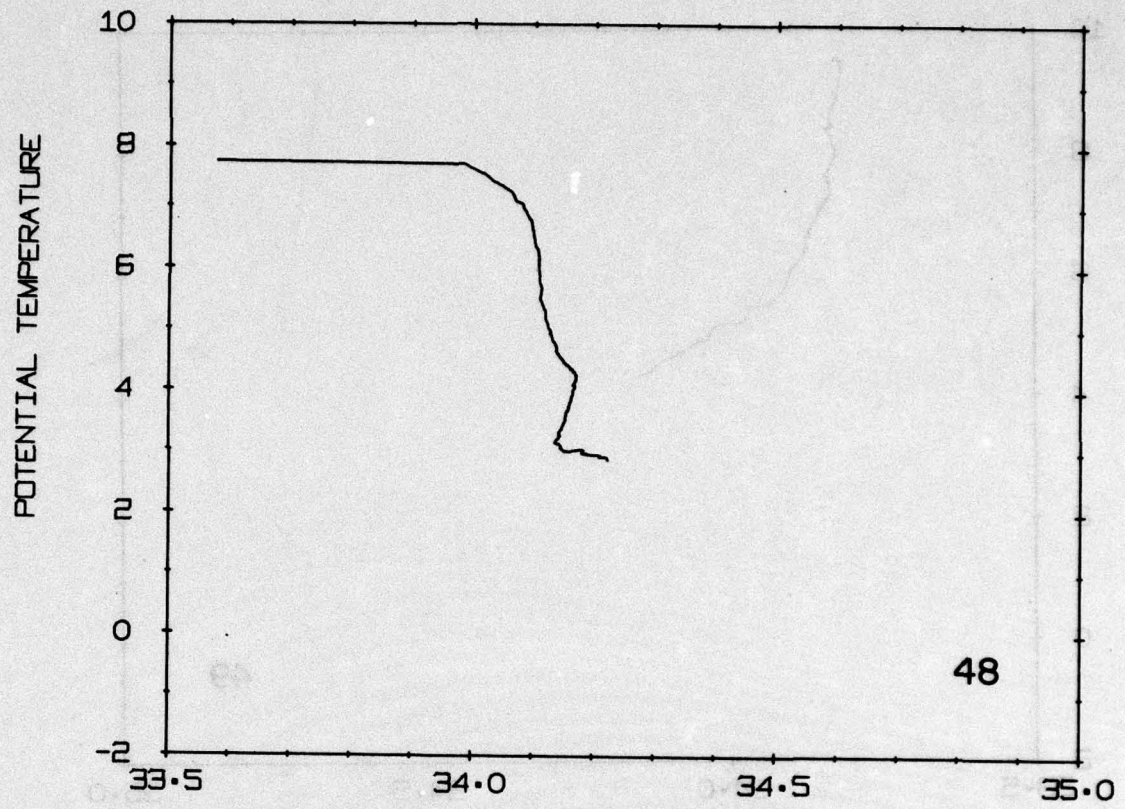

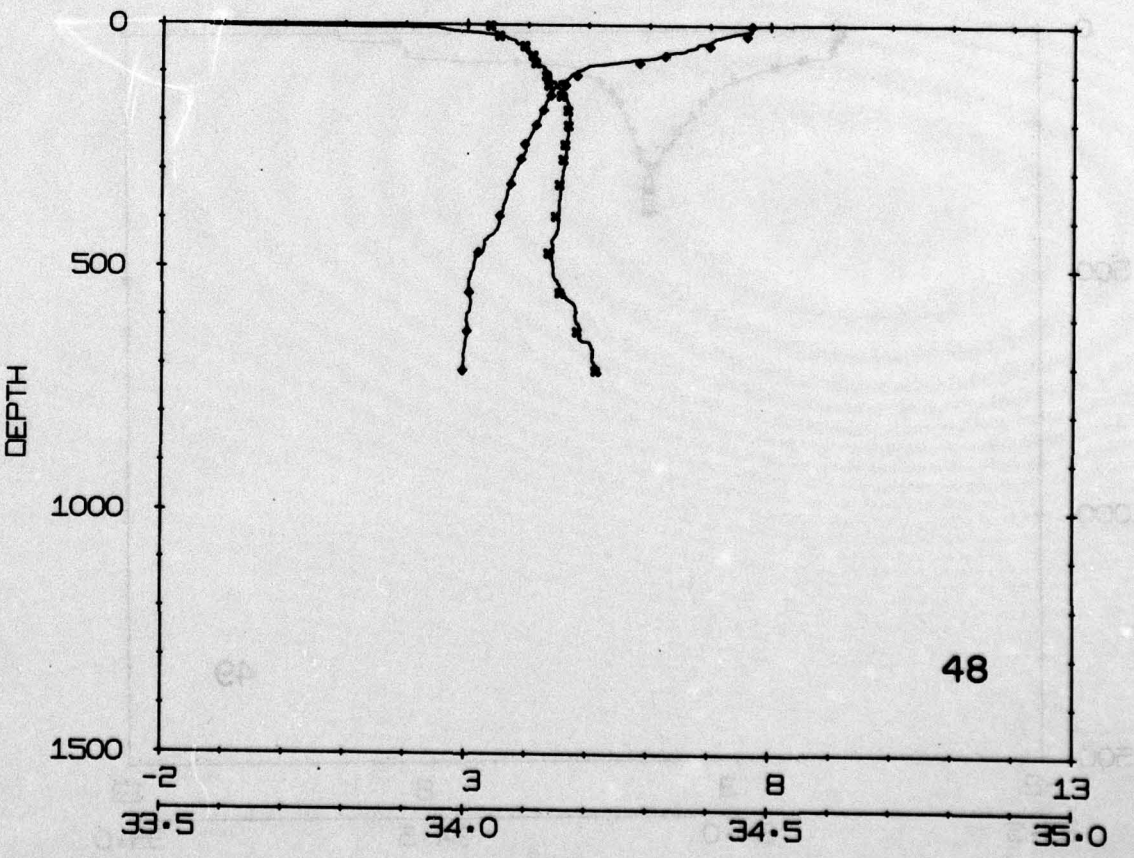

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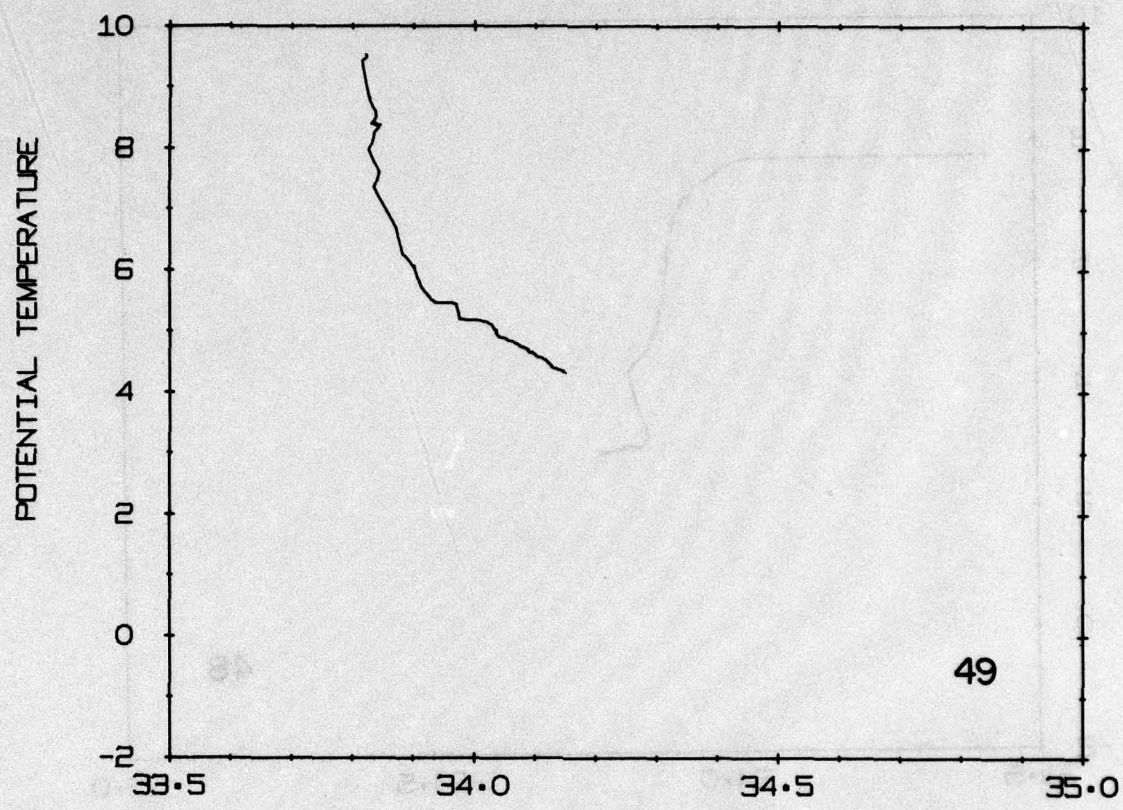

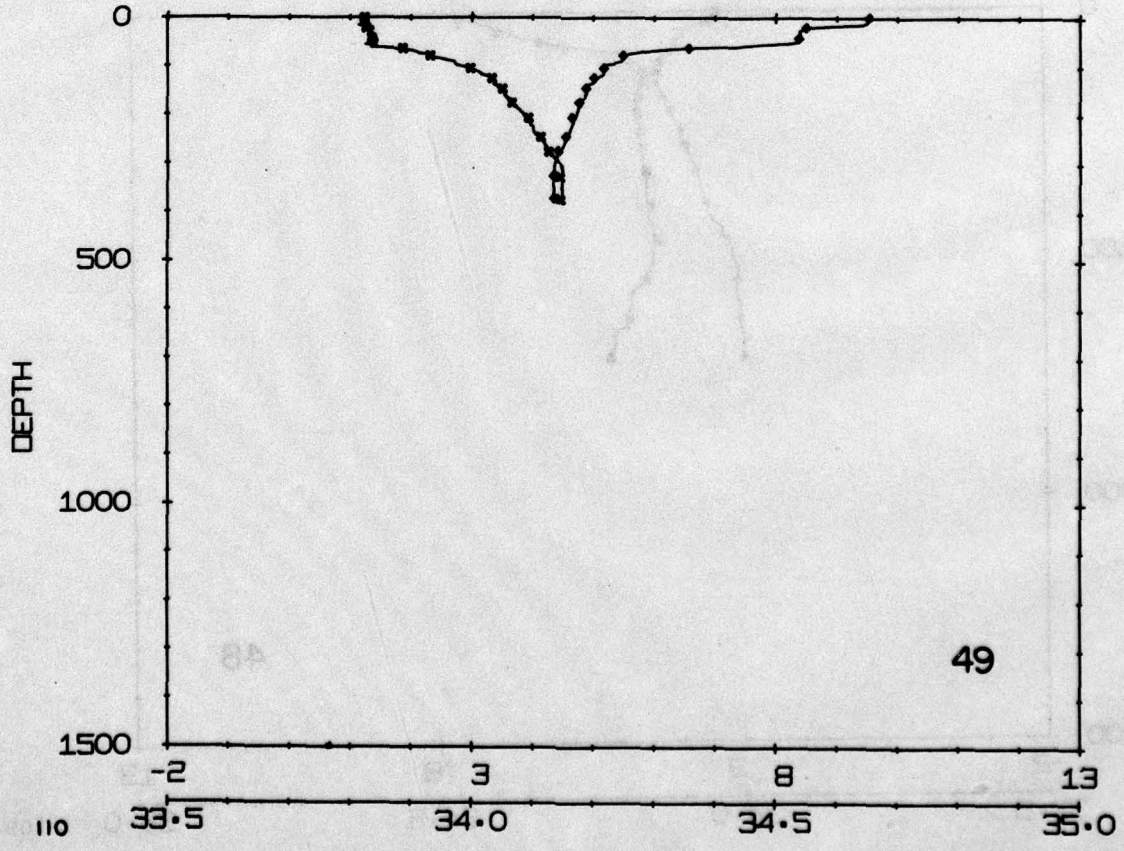

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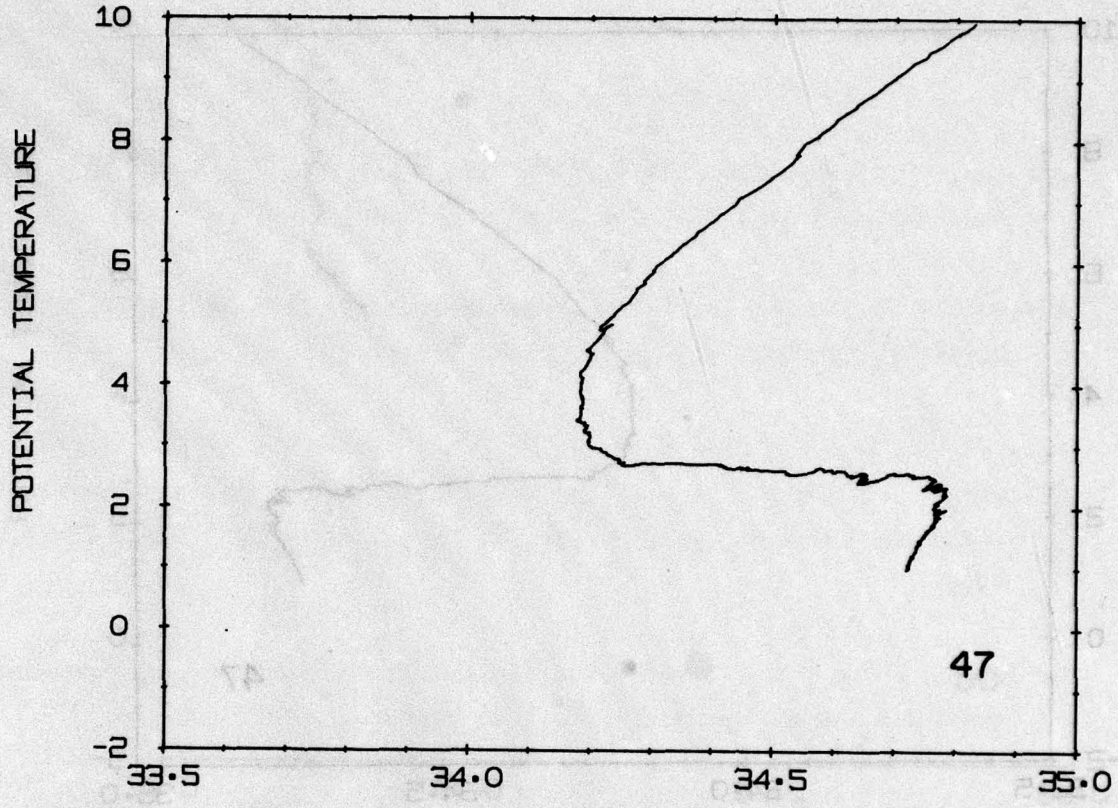

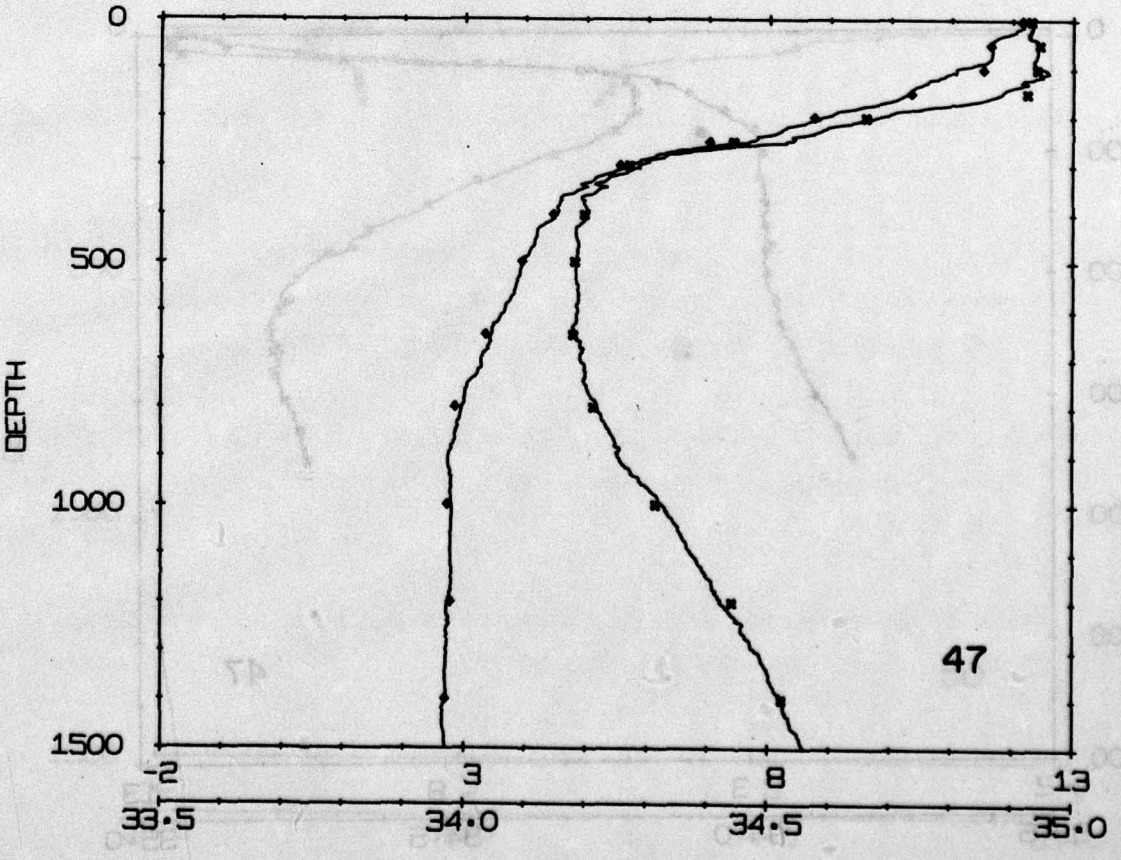

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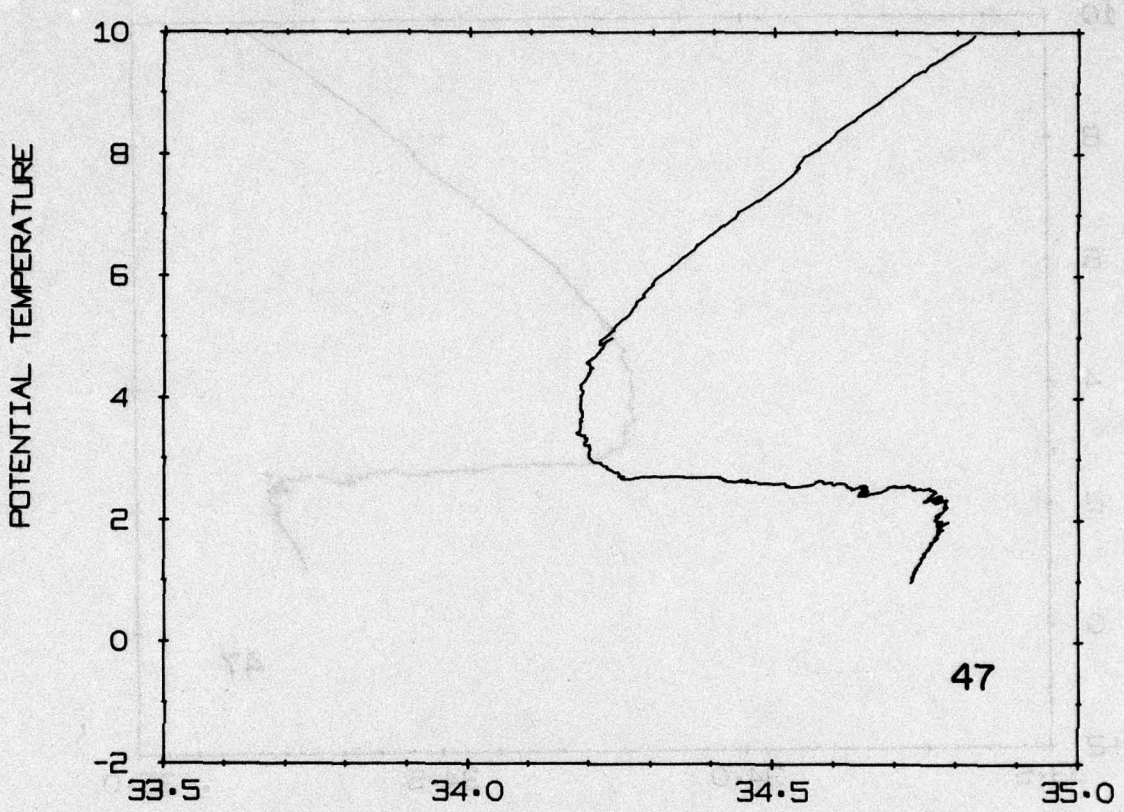

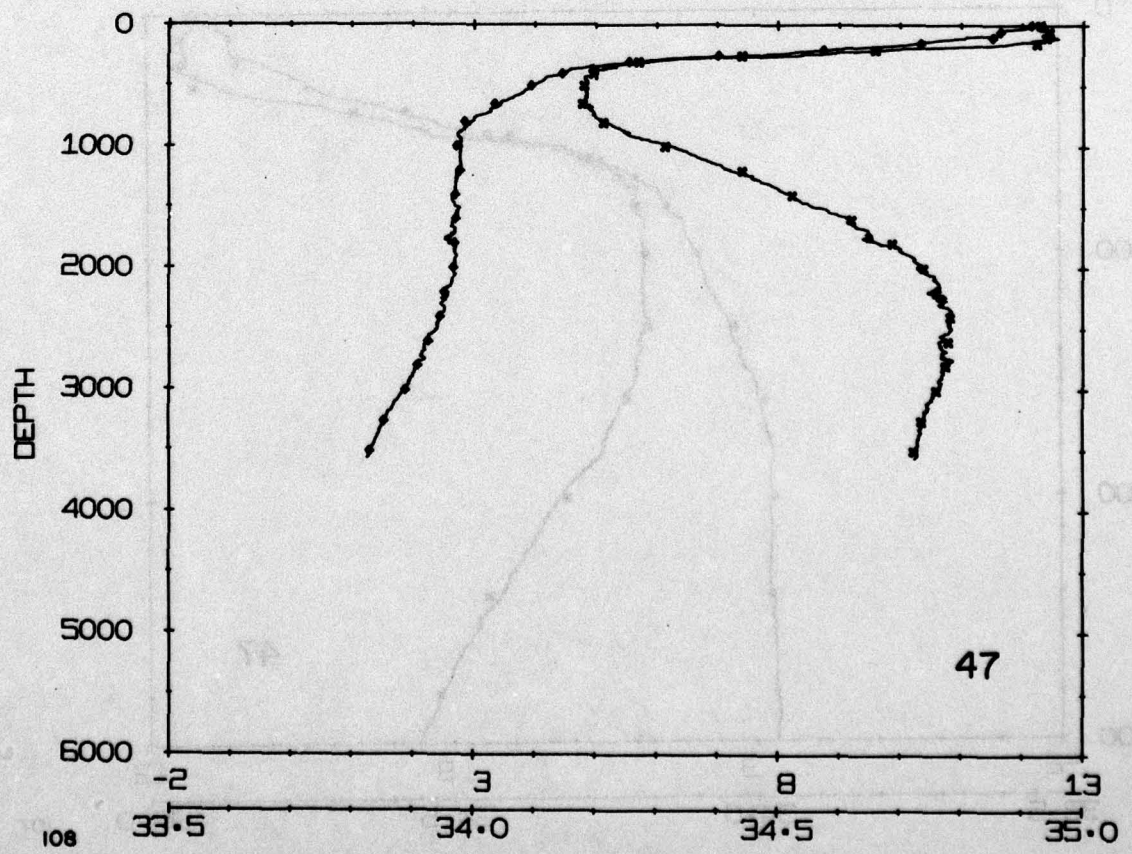

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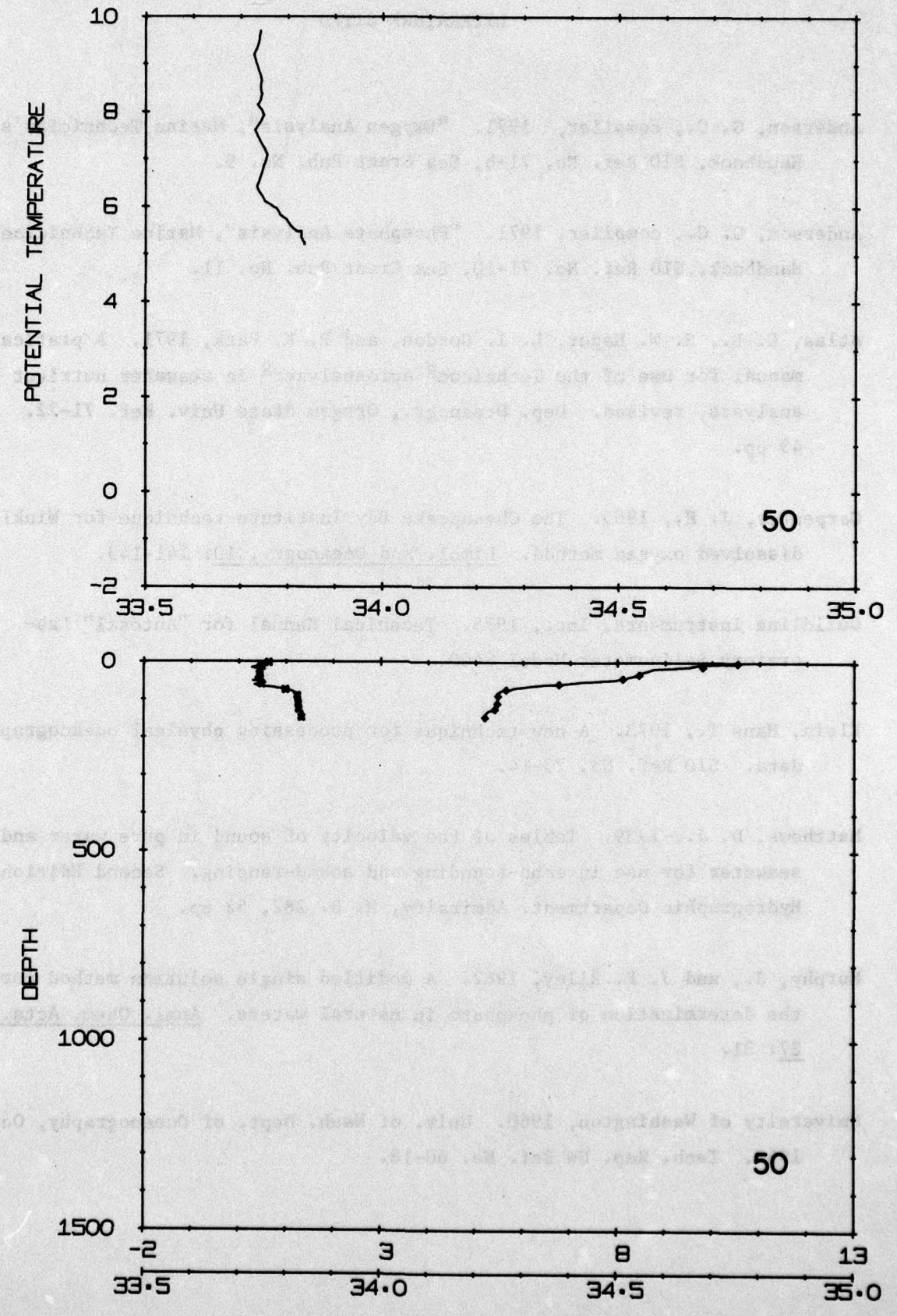

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