

VEMA Cruise 32 Leg 1 DATA

in OCTOBER 1974

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1976

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THE NEW YORK BIGHT & HUDSON CANYON IN OCTOBER 1974

HYDROGRAPHY, NEPHELOMETRY

BOTTOM PHOTOGRAPHY, CURRENTS

VEMA Cruise 32 Leg 1 DATA

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1 INTRODUCTION

This report presents data collected in the last two weeks of October 1974 from Lamont-Doherty Geological Observatory's research vessel VEMA during the first of a series of cruises designed to examine the seasonal variations in the physical oceanography and geochemistry of the New York Bight. This work was supported by the Energy Research and Development Administration (ERDA), grant E(11-1)2185. Presented here are the physical oceanography data which includes the hydrography, nephelometry, bottom photography and currents.

The aim of the project is to understand the interaction between shelf, slope and oceanic waters and the mechanisms that determine the fate of energy-related pollutants in the New York Bight. Using techniques developed at Lamont primarily for deep-ocean studies, a multidisciplinary program of study was made possible, using a larger research vessel than is normally employed in coastal oceanography, and extending the study area across the continental shelf to the shelf break and continental slope.

The station map (Fig. 1) shows the three parallel transects normal to the isobaths; one coincident with the Hudson Canyon and one each across a relatively smoother

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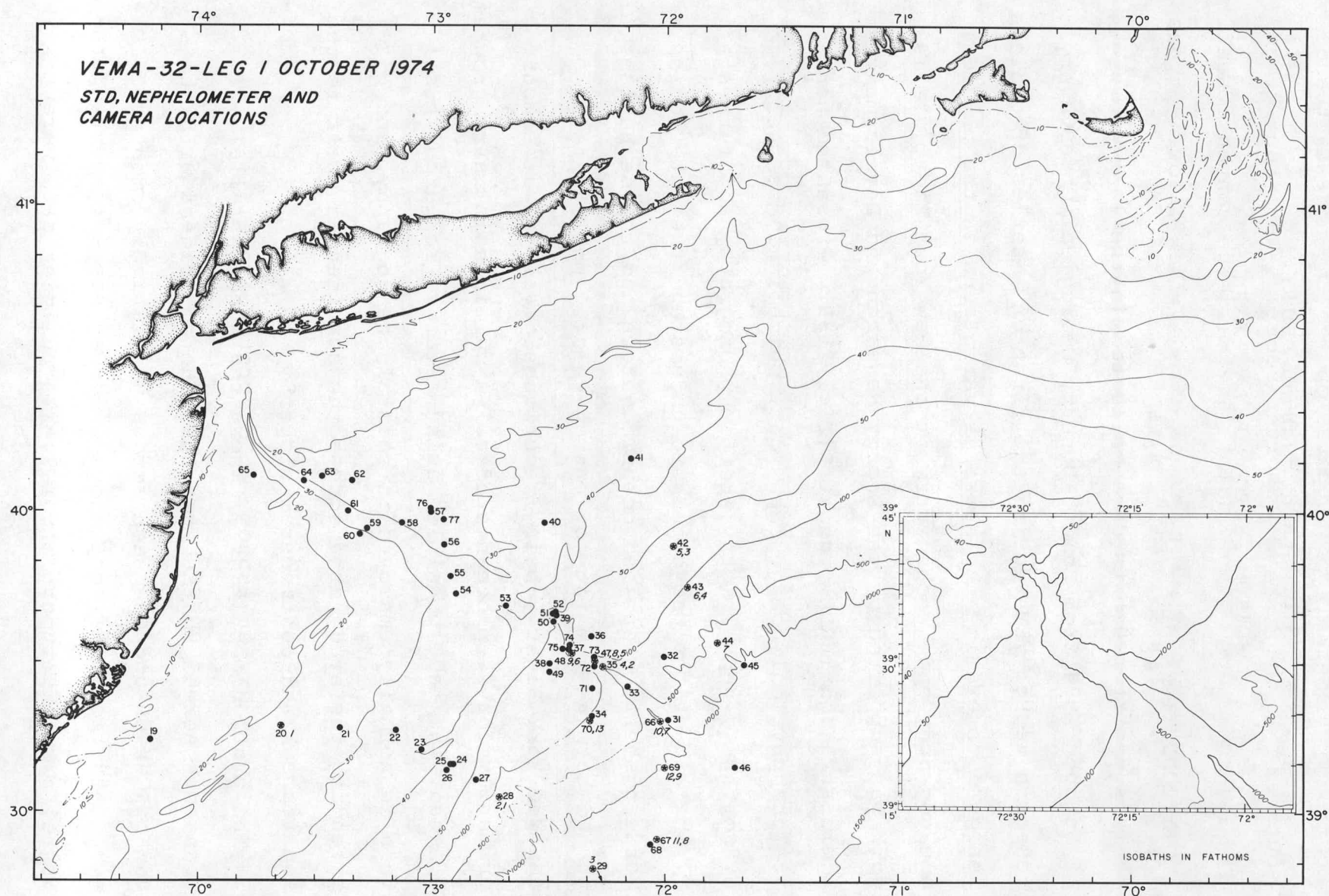


Figure 1 Key

Solid Circles = STD Stations, Numbered.

Circle & Star = STD + Nephelometer (and camera) Stations.

Italicized Numbers are nephelometer sta # followed by camera station #. Canyon current meter station is at STD #35 location.

portion of the shelf and upper slope to the northeast and southwest of the canyon. Shorter sections were run across the Hudson Channel, the "delta" area and the canyon itself. At each station location one or more of the following types of measurements were made:

- continuous salinity and temperature profiles:
 surface to bottom
- discrete sampling and analysis for:
 - salinity
 - dissolved oxygen
 - nutrients
- continuous profiles of light-scattering, surface
 to bottom (nephelometry)
- bottom photography
- long-term canyon bottom-current and light-scattering
 measurements
- 30-liter sampling at discrete levels for analyses
 of:
 - dissolved radon
 - suspended particulate material
- large-volume sampling for analyses of:
 - radium and thorium-228
 - oxygen isotope at discrete levels
- sediment cores
- grab samples

Additionally, continuous underway sea-surface temperature, air temperature and relative humidity data were



FIG. 2 STD/ROSETTE PACKAGE
USED ON VEMA-32

collected and continuous 12-kHz and 3.5-kHz echo-sounding records were obtained. Navigation was provided by LORAN-C and a Magnavox satellite navigation system.

Preliminary results from the first cruise have been presented in Amos et al. (1974) and Biscaye et al. (1974) and Biscaye (1975). The following papers are in preparation: Amos, Baker and Daubin (in prep.), Gordon, Amos and Gerard (in press), and Biscaye and Olson (in press).

2 HYDROGRAPHY

2.1 Instrumentation

A Plessey Model 9040 Salinity/Temperature/Depth (STD) system with a 3000-m fullscale depth sensor was used throughout the cruise. Recording was made on both analog strip-chart and on digital magnetic tape using a Plessey Model 8114 digital data logger. A General Oceanics Model RMS-12 rosette water-sampler with twelve 1.7-liter sampling bottles was attached to the STD sensor package (Fig. 2). Six of the bottles were equipped with frames to hold three deep-sea reversing thermometers. A Benthos Model 2113 bottom-finding pinger was used on all stations to allow close approach to the bottom without making contact.

2.2 Methods

The methods used were basically those detailed in Amos (1973). Briefly, the STD was lowered from the surface to within 1 to 5 meters of the bottom (depending on weather

conditions and bottom topography) at a rate of 15-20 m/min in the shallow stations and increasing to a maximum of 50 m/min in the deep stations after the pycnocline was passed. Digital recording rate was at one scan (salinity, temperature, depth) every two seconds. The rosette bottles were then tripped as the STD was brought back to the surface (the uptrace). Twelve bottles were tripped on all but the very shallow stations. When thermometers were present on the bottle, a stabilization wait of from 3-5 minutes was necessary before tripping the bottle, otherwise they were tripped immediately after the STD package was stopped in the water.

The rosette samples and thermometric data were used for three main purposes:

- (i) in situ calibration of the STD salinity, temperature and depth sensors;
- (ii) discrete sampling for dissolved oxygen and nutrients;
- (iii) verification of core layers, inversions etc., revealed by the STD.

In the event of a major breakdown of the STD system, the sample data would also provide adequate coverage of the water column to describe the hydrography.

Salinity samples were run on a Guildline Model 8400 Autosol salinometer. Oxygen determinations were made using the Carpenter modification of Winkler's method (Carpenter, 1965).

Both of these analyses were run on board ship during the cruise. A trial nutrient program was run on some of the stations. Samples were frozen immediately after collecting and were analysed later at L-DGO using a Technicon Auto-analyzer. Nutrients determined were nitrate, phosphate, silicate and ammonia. In later cruises, nutrients will be determined on shipboard using a Beckman DU spectrophotometer.

2.3 Data Reduction

The first step in the data reduction process is the calculation of corrections to apply to the STD data using the salinities, temperatures and thermometric depths obtained from the rosette water-sampling bottles. Not all the samples were useful for this purpose, particularly in the many shallow stations, because several of the bottles had to be tripped at levels where there were high gradients in the water column. In these cases, and where narrow core-layers were sampled, the STD outputs vary when the ship's motion moves the sensors vertically in the gradients.

In a departure from our usual procedure (Amos, 1973), the difference between the uptrace STD output and rosette sample values (collected on uptrace) was used to correct the downtrace STD records presented in this report. Consequently, in some of the shallower levels, the sample salinities and temperatures appearing on the listings may not agree with the corresponding STD standard-level values. This is particularly so when changes in the upper water

column occur during the time it takes for the STD to be lowered and raised again.

2.3.1 Salinity Correction

STD salinities have been corrected for two types of error, surface offset error and salinity/pressure error:

2.3.1.1 Surface offset error. $[\Delta S_{(surf)} = S_{(sample)} - S_{(STD)}$ at, or near the sea surface]. $\Delta S_{(surf)}$ is added to all STD salinities in a particular station:

Therefore, at depth Z , $S_Z = S_Z(STD) + \Delta S_{(surf)}$;

$$\begin{aligned} \text{for } Z = 0, S_0 &= S_0(STD) + S_0(sample) - S_0(STD) \\ &= S_0(sample) \end{aligned}$$

i.e., the salinity is forced to the sample salinity at the surface.

The variation of $\Delta S_{(surf)}$ with time (station number) during V-32-01 is shown in Figure 3. $\Delta S_{(surf)}$ showed a "normal" distribution (Amos, 1973) until station #68, when it started to increase rapidly. This was later found to be caused by a failure in one of the compensating probes in the salinity sensor. Despite this massive error, the data from stations 68-77 appeared to be consistent after correction for $\Delta S_{(surf)}$.

2.3.1.2 Salinity/pressure error. After correction for $\Delta S_{(surf)}$, STD salinities still differ from sample salinities by an amount that varies as a function of pressure (depth). Figure 4 shows $\Delta S_Z [= S_Z(sample) - S_Z(STD) + \Delta S_{(surf)}]$ plotted against STD depth for all stations taken during the

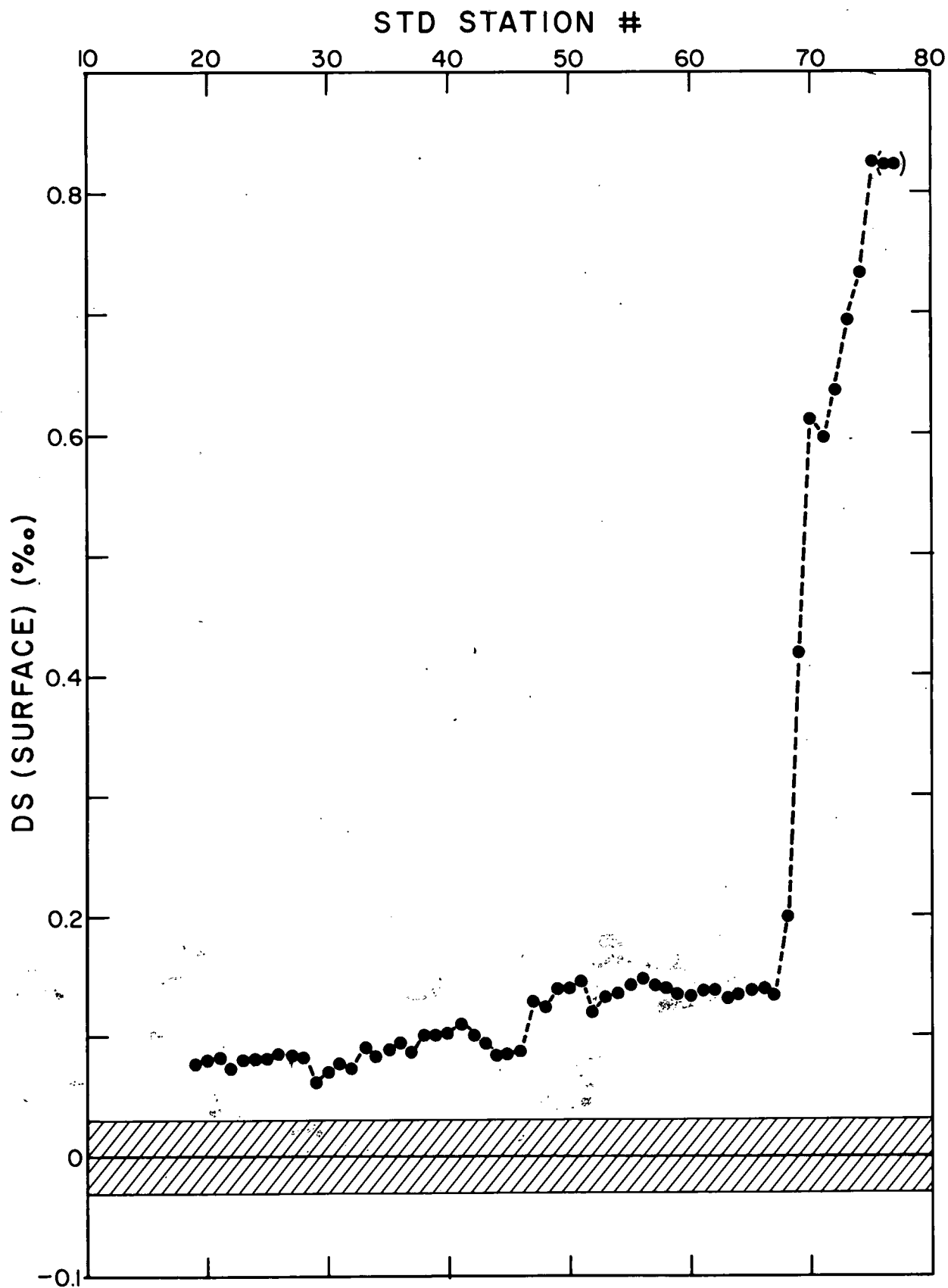
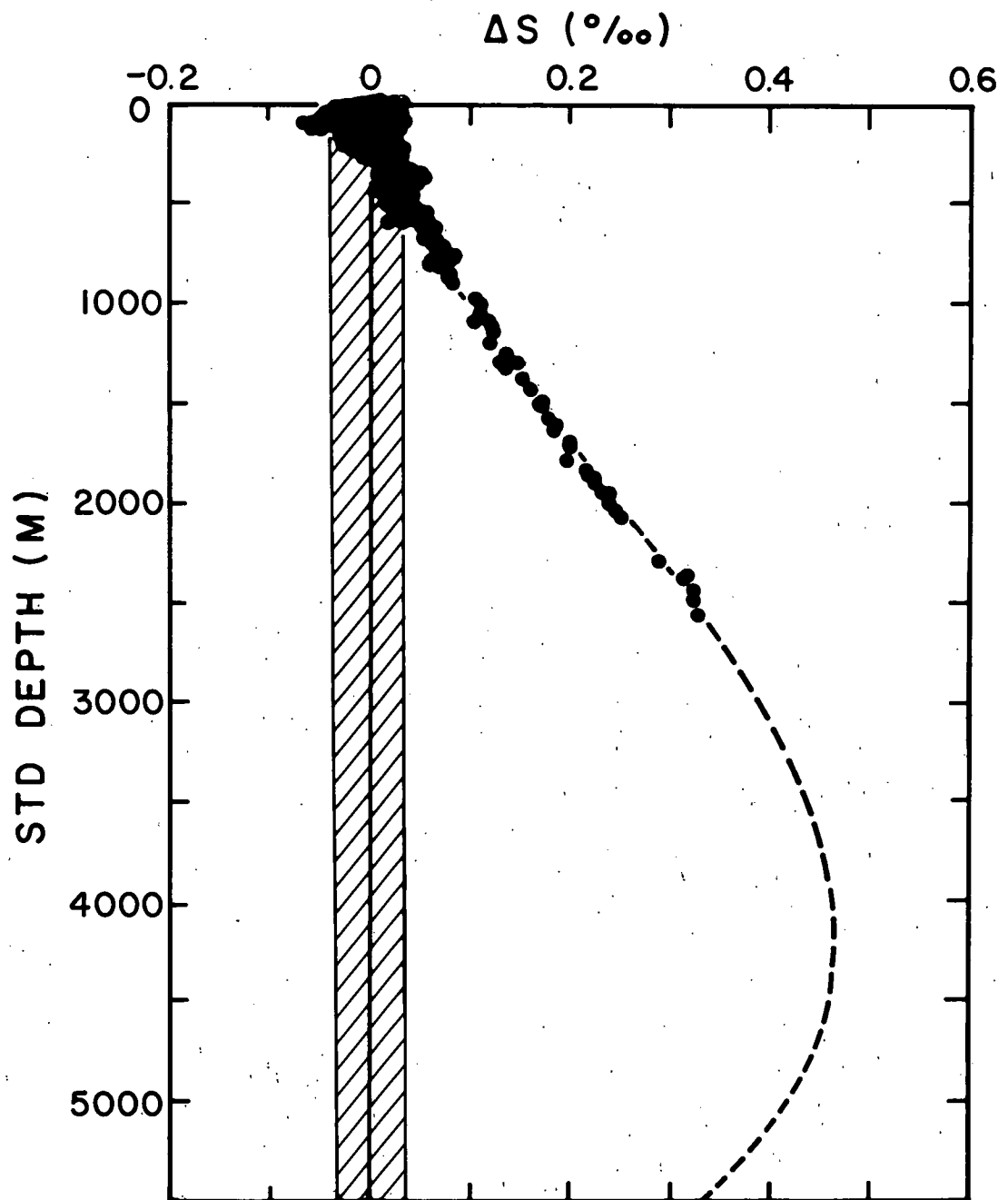


Fig. 3 STD SALINITY ERROR (1): SURFACE ERROR, Δ_S (Surf), PLOTTED AS A FUNCTION OF STATION NUMBER. Shaded region is manufacturer's stated limits of accuracy. Rapid increase in Δ_S (Surf) after station #67 is explained in text.

$$\Delta_S(\text{Surf}) = \text{Salinity of surface sample} - \text{STD surface salinity}$$



$$S_{(CORR)} = S_{(STD)} - 8.979 \times 10^{-10} D^3 + 4.83 \times 10^{-6} D^2 +$$

$$6.88 \times 10^{-3} D + \Delta S_{(SURF)}$$

$$S.D. = 0.022 \text{ ‰}$$

Fig. 4 STD SALINITY ERROR (2): Pressure dependent error ΔS (after normalizing by subtracting $\Delta S_{(SURF)}$ from all STD salinities for a given station) plotted as a function of depth. Dotted line is 3rd-order curve fitted to data. Shaded area is manufacturer's stated limits of accuracy. Equation used to correct salinities is given below figure.

cruise. This error is caused by incorrect compensation for the effects of pressure on conductivity, a compensation that is effected electronically within the STD salinity sensor. A third-order curve was fitted to the data using a least-squares curve-fitting routine. As the deepest STD station was <2,500 m, the part of the correction curve below 2500 m is not used for correcting the STD data. The final equation used is given in Figure 4. Although the standard deviation of 0.025 ‰ is rather high, the greatest scatter occurs in the upper 100 m of the water column where, due to high gradients, a precise correction cannot be made. In the deeper waters, where even a small salinity error would be obvious, the scatter is much less.

2.3.2 Temperature Corrections

In Figure 5, $\Delta T (=T_{(THERM)} - T_{(STD)})$ is plotted against STD temperature. $T_{(THERM)}$ are temperatures taken from paired protected reversing thermometers attached to the rosette bottles. A straight-line curve is fitted to all points taken during the cruise. The rather high point scatter is caused by frequent tripping of thermometers in high-temperature gradients.

2.3.3 Depth Corrections

In Figure 6, $\Delta D [=D_{(THERM)} - \Delta D_{(STD)} - \Delta D_{(surf)}]$ is plotted against STD depth. $D_{(THERM)}$ = thermometric depth. Here $\Delta D_{(surf)}$ is the reading of the depth sensor when the STD is on deck (i.e., zero depth). $\Delta D_{(surf)}$ varies with time and somewhat with temperature and

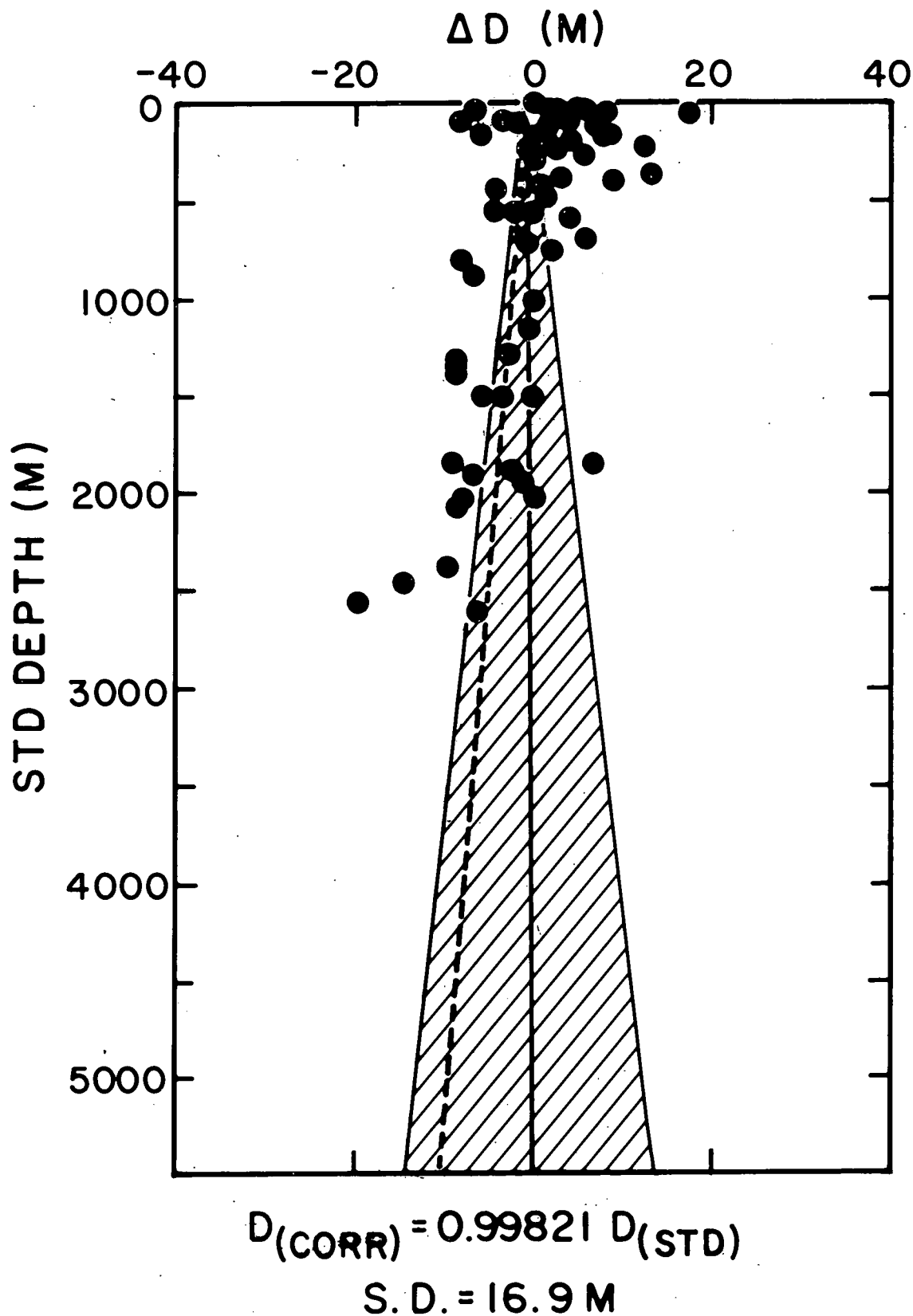


Figure 5. STD DEPTH ERROR: ΔD plotted as a function of STD depth. $\Delta D = Z - D_{STD}$, where Z = thermometric depth. Shaded area indicates manufacturer's stated limits of accuracy. Dotted line shows linear correction curve used. Equation is given below figure.

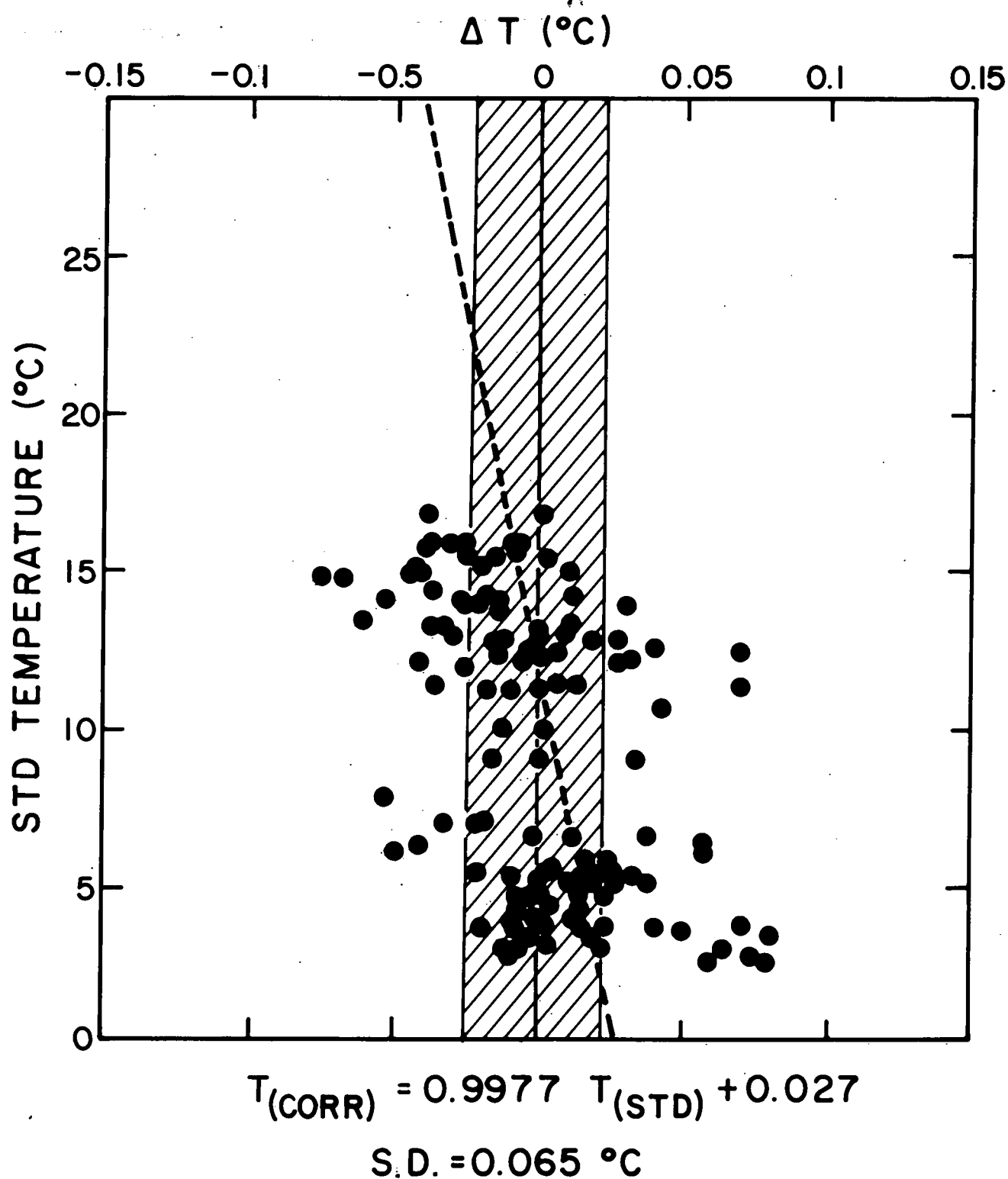


Figure 6: STD TEMPERATURE ERROR: ΔT plotted as a function of STD temperature. Shaded area indicates manufacturer's stated limits of accuracy. Dotted line shows linear curve fitted to data. Equation is given below figure.

may amount to several meters. As it is known that the initial depth of all STD stations must be zero, the data are weighted by inserting one value of zero on each station even though there were no unprotected thermometers tripped at zero depth. Paired unprotected thermometers were used at many sample depths. A straight-line correction curve was fitted to all points taken during the cruise.

Table 1 gives some examples of the magnitude of corrections applied to the STD data. Data in Table 1 are taken from STD station #46 at selected depths where bottles were tripped.

2.3.4 Smoothing of STD Digital Data Records

The method used to smooth and remove spikes from the STD digital data was developed at Lamont by D. Georgi. Corrections were applied to the salinity data for dynamic errors introduced by the conductivity and temperature probe time-constant mismatch (Scarlett, 1975). To remove noise introduced into the salinity data by the dynamic corrections, the salinities were smoothed by a 15-point running mean.

Digitization noise ($\Delta T = .003^{\circ}\text{C}$, $\Delta D = 0.3\text{m}$, $\Delta S = .0003^{\circ}/\text{oo}$) was removed by applying a 7-point running mean to all temperature and depth data. Subsequent to the application of dynamic salinity corrections and smoothing, all data points that were not 0.2 m deeper than the last accepted data point were rejected. Dynamic salinity cor-

TABLE 1

STD DEPTH (D_{STD})	SALINITY (‰)			TEMPERATURE (°C)			DEPTH (m)	
	S_z	ΔS	S_{CORR}	T_{STD}	ΔT	T_{CORR}	ΔD	D_{CORR}
0	34.532	0	34.532	14.03	-0.01	14.02	0	0
390	35.016	0.016	35.032	6.64	0.01	6.65	-1	389
756	34.938	0.055	34.993	4.77	0.02	4.79	-1	755
1139	34.876	0.108	34.984	4.17	0.02	4.19	-2	1137
1509	34.805	0.166	34.971	3.84	0.02	3.86	-3	1506
1876	34.746	0.226	34.972	3.62	0.02	3.64	-3	1873
2456	34.631	0.317	34.948	2.97	0.02	2.99	-4	2452

$$\Delta S (SURF) = 0.089\text{‰}$$

$$\Delta D (SURF) = -6 \text{ m}$$

Typical corrections applied to STD data. S_z is the STD salinity at depth z after subtracting surface offset correction. ΔS is the correction applied to each S_z to produce corrected salinity S_{CORR} . T_{STD} is the STD temperature. ΔT is the temperature correction applied to produce corrected temperature T_{CORR} . ΔD is the depth correction applied to D_{STD} to produce corrected depth D_{CORR} .

rections were applied only to the upper 1000 m of the water column where thermal gradients were high. Below 1000 m the digital data tapes were subsampled at a rate of one out of four scans for sampling efficiency and then a 7-point running mean was applied for smoothing.

Some stations had problems with the digital data logging and the analog records were digitized by hand. Here, smoothing was done in a subjective way, commonly known as "eyeballing." Table 2 (p. 24-28) lists the pertinent data on all STD stations showing what type of data processing was used.

3 NEPHELOMETRY

The light-scattering measurements taken during V-32-01 were obtained from the standard Lamont photographic nephelometer developed by Ewing and Thorndike (Thorndike and Ewing, 1967; Thorndike, 1975; Sullivan et al., 1975). This instrument photographically records the intensity of light scattered off of particles in the water column between the angles of 8° and 24° . The light source is a battery-powered, 0.25 amp, incandescent bulb, 61 cm away from the camera. Variations in the output of the light source are recorded by the camera as the images of light passing directly from the source to the camera through three neutral density filters. These variations must be subtracted from the scattered light intensity to obtain the true variations in light scattering.

Depth is indicated by changes in pressure measured by a Bourdon-tube pressure gauge. These readings are recorded photographically along the edge of the film. One minute time marks are superimposed on the depth record.

The relation between the optical density of the direct and scattered light images on the film, and the amount of light required to produce them is determined from a calibrated sensitometer patch imaged on the film. Thirteen neutral density attenuator steps, each varying by 0.2 log exposure units (i.e., light intensity) from the previous one, are used to produce a corrected log exposure value (Log E).

The recording camera has a shutterless 35-mm F-2 lens and transports 35-mm nonperforated film past a 4.8-mm aperture at a nearly constant speed of 20 mm/minute. At this speed and aperture setting, a point on the film remains exposed for approximately 15 seconds. Thus, the detail of the record depends on how fast the instrument is lowered: faster speeds produce shorter, less detailed, records than do slower lowering speeds.

During V-32-01 (and all subsequent New York Bight cruises) the nephelometer was used in two modes: (1) in a combination camera-nephelometer mode where the instrument was purposely run into the bottom, triggering the camera

(2) in a combination STD-nephelometer mode, where the nephelometer was attached to the STD conducting cable above the STD, and lowered as close as possible to the bottom without touching it. This provided a useable ascent record as well as better depth control (dealt with further in section 8.2.1). Since sunlight penetrates almost 150 m in daylight (most stations were shallower than this), nearly all shallow-water stations were taken at night. Ship's lights at night did not adversely affect the record when the instrument was in the water. Therefore, a true record of light scattering was obtained from the surface to the bottom in most cases.

4 BOTTOM PHOTOGRAPHY

Photographs of the ocean bottom were taken with the Thorndike camera/nephelometer (Thorndike, 1975; Sullivan et al., 1975) at eight locations (Fig. 1). A trigger-weight hangs below the instrument on 2-m of line. When the weight is lowered until it is on the bottom, a strobe is flashed and a single picture taken. The trigger-weight can be seen in most photographs. Up to 12 photographs were taken per location. The field of view of the bottom camera is a trapezoid with dimensions of 5.5' x 5' x 6.5'. A compass is included in the field of view for orientation of ripple-marks, scour, bending or swimming organisms, etc.

5 HUDSON CANYON CURRENTS AND LIGHT-SCATTERING

A single near-bottom current and nephelometer record was obtained in the Hudson Canyon at $39^{\circ}29.8'N$; $72^{\circ}17.6'W$ (Fig. 1) at a water depth of 827 m. A Geodyne Model 102 film-recording current-meter was deployed in a bottom-moored array with its rotor 5 m above the canyon floor. A modified Lamont nephelometer was attached to the mooring line 4 m above the current-meter. Immediately above the nephelometer, a subsurface buoy provided flotation and the package was anchored via two Geodyne timed-release devices mounted in tandem. Current and nephelometer data was recorded from 2 September 1974 to 25 October 1974, a total of 53 days. Current speed and direction were averaged over a one-minute period every 10 minutes and nephelometer data recorded as a single strobe picture of the light-scattering every 30 minutes.

6 ACKNOWLEDGEMENTS

K. Hunkins loaned us the STD system and winch and S. Jacobs loaned the rosette sampler. STD data reduction was done by T. Baker and J. Garside. D. Georgi provided the dynamic salinity correction programs. The camera/nephelometer instrumentation was built by E. Thorndike and L. Sullivan. S. C. Daubin, Jr. reduced the nephelometer data, wrote the programs used to produce the profiles and contributed to the text of this report. Current-meter data reduction was done by T. Baker. The Hudson Canyon current meter/nephelometer package was deployed for us by S. Eittreim during VEMA cruise 31, Leg 8. Drafting was done by A. Sotiropoulos, typing by L. Amos and C. Teitch. The following people were in the scientific party aboard R/V VEMA, Cruise 32, Leg 1:

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R/V VEMA is under the command of Captain H. C. Kohler.

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8 THE DATA

The following table (Table 2) gives the dates, positions, depths and numbers of all stations with data presented in this section. Time is the GMT time when the STD was at surface immediately prior to lowering. Depth is corrected bottom depth at the time the STD sensor was closest to the ocean floor. Accompanying casts are the numbers of stations taken at the same location as the STD station but not at the same time (except nephelometer casts 1, 3, 7, 13 where the nephelometer was attached to the STD wire). In the column headed SOURCE a T means that the STD data was processed from the digital data logger tapes and a D indicates that the analog trace had to be digitized due to failure of the data logging system.

8.1 Hydrography

8.1.1 Explanation of Plots and Listings

Data from each STD station are presented in several forms on two facing pages. First is a printout of observed-level data (rosette samples collected at the same time as the STD station was taken), beneath which is a standard-level listing.

TABLE 2

STD STA. NO.	TIME (Z)	DATE (1974)	S T D C A S T				SOURCE*	ACCOMPANYING CASTS						
			LATITUDE (°N)	LONGITUDE (°W)	DEPTH (m)	N		K	SG	RN	P	C	F	
19	1651	18-10	39 14.3	74 12.3	28	T				4	3			
20	2209	18-10	39 17.2	73 38.7	44	T	1			5				
21	0022	19-10	39 16.7	73 23.5	47	T				6	4	3		
22	0518	19-10	39 16.48	73 09.1	59	T								
23	0731	19-10	39 12.7	73 02.6	68	T								
24	0936	19-10	39 09.7	72 54.5	84	T								
25	0955	19-10	39 09.7	72 54.9	84	T								
26	1240	19-10	39 08.6	72 56.0	86	D				7	5	4,5		
27	1557	19-10	39 06.5	72 48.5	110	T				8	6			
28	1848	19-10	39 03.1	72 42.6	364	T	2	1		9	7		3	
29	2304	19-10	38 40.9	71 58.9	2684	T	3			10	8	6		
30	-----data irrecoverable-----													
31	1901	21-10	39 18.6	71 58.9	1995	D				11	9			
32	0124	22-10	39 31.1	72 00.1	617	D					10			
33	0529	22-10	39 25.4	72 09.3	1098	D						8		
34	1012	22-10	39 19.2	72 18.6	214	T				12	11	9		
35	1727	22-10	39 29.3	72 15.8	710	T	4	2			12			
36	2028	22-10	39 35.2	72 18.8	113	T				14	13	10,11		

TABLE 2 (continued)

STD STA. NO.	TIME (Z)	DATE (1974)	S T D C A S T				SOURCE*	ACCOMPANYING CASTS						
			LATITUDE (°N)	LONGITUDE (°W)	DEPTH (m)	N		K	SG	RN	P	C	F	
37	0007	23-10	39 32.4	72 24.7	525	T				15	14			
38	0358	23-10	39 29.5	72 29.7	112	T				16				
39	0758	23-10	39 39.1	72 27.8	238	T				17	15	12		
40	1317	23-10	39 57.5	72 30.7	64	T				18	16	13		
41	1801	23-10	40 10.2	72 08.6	69	T				19	17	14		
42	2120	23-10	39 53.0	71 57.3	110	T	5	3	20		18	15		
43	0059	24-10	39 45.1	71 54.1	243	T	6	4	21					
44	0351	24-10	39 33.5	71 45.9	1353	T	7		22		19	16		
45	0938	24-10	39 29.5	71 39.3	1885	T					20	17		
46	1826	24-10	39 09.1	71 41.7	2408	T			23		21	18		
47	1305	25-10	39 30.3	72 17.8	435	T	8	5			22	19	4	
48	1905	25-10	39 31.8	72 23.9	584	T	9	6			23		5	
49	2326	25-10	39 28.0	72 29.6	115	T					24		6	
50	0519	26-10	39 38.0	72 28.6	91	T								
51	0644	26-10	39 39.6	72 28.6	141	T			25			20		
52	0723	26-10	39 39.8	72 28.0	225	T					25			
53	1039	26-10	39 41.1	72 40.7	70	T			26					

TABLE 2 (continued)

STD STA. NO.	TIME (Z)	DATE (1974)	S T D C A S T				DEPTH (m)	SOURCE*	ACCOMPANYING CASTS						
			LATITUDE (°N)		LONGITUDE (°W)				N	K	SG	RN	P	C	F
54	1244	26-10	39	43.6	72	53.7	70	T			27	26			
55	1420	26-10	39	46.9	72	55.0	70	D			28				1
56	1545	26-10	39	53.2	72	56.7	53	D			29		21		2
57	1714	26-10	39	59.9	73	00.3	46	T			30	27	22		
58	1953	26-10	39	57.6	73	07.7	64	D			31				3
59	2210	26-10	39	56.5	73	16.8	75	T			32		23		4
60	2348	26-10	39	55.5	73	18.4	44	T			33				5
61	0124	27-10	40	00.1	73	21.5	75	T			34	28			
62	0333	27-10	40	06.0	73	20.5	40	T			35	29			
63	0538	27-10	40	06.8	73	28.3	40	T			36				
64	0655	27-10	40	06.1	73	32.9	68	T			37				6
65	0908	27-10	40	06.9	73	45.9	29	T			38		24		7
66	0849	28-10	39	18.3	72	00.8	659	T	10	7		30	25,26	7	
67	2118	28-10	38	53.6	72	01.8	1781	T	11	8	39	31	27		
68	2357	28-10	38	53.8	72	03.5	2535	T			40	32	28		FB1
69	1402	29-10	39	09.1	71	59.9	1965	T	12	9	41	33			
70	2158	29-10	39	18.6	72	19.1	216	T	13			34	29	8	
71	0150	30-10	39	25.1	72	18.5	152	T							8

TABLE 2 (continued)

STD STA. NO.	TIME (Z)	DATE (1974)	S T D C A S T				DEPTH (m)	SOURCE*	ACCOMPANYING CASTS							
			LATITUDE (°N)		LONGITUDE (°W)				N	K	SG	RN	P	C	F	
72	0315	30-10	39	29.2	72	17.9	525	T								9
73	0504	30-10	39	31.0	72	18.1	289	T								10
74	0639	30-10	39	33.4	72	24.4	425	T								11
75	0820	30-10	39	32.7	72	26.2	247	T								12
76	1317	30-10	40	00.5	73	00.3	48	T				35		30		
77	1653	30-10	39	58.2	72	56.9	49	T								

N = nephelometer; K = camera; SG = Shipek grab; RN = radon cast; P = pump station;
C = core (3" Sanders); F = filter station.

*Source of final STD data T=Magnetic Tape; D=Digitized from Analog Trace.

In the header, most data are given for the time when the station started with the exception of corrected depth, which is the depth when the STD was at its closest approach to the bottom. The following descriptions are given for those data in the header that are not self-explanatory:

WIND	- direction in degrees and speed in knots
SEA	- direction in degrees and sea-state (Beaufort)
AIR TEMP	- °C
DEW POINT	- in this cruise, wet-bulb temperature in °C
BAROM	- barometer in millibars
STD	- model number
SAL SENSOR	serial numbers of individual sensors;
TEMP SENSOR	- in this cruise all are the same as we
DEPTH SENSOR	used a 9040 STD where all sensors are in the same package
NO OBS	- number of rosette samples collected with each station

The column headings for the listing are:

DEPTH	- depth (m)
TEMP	- temperature (°C)
SALIN	- salinity (°/oo)
DENS	- density (σ_t units)
ANOM	- specific volume anomaly

DELTA	- dynamic depth (m)
VELOC	- sound velocity (m.sec ⁻¹)
OXYG	- dissolved oxygen (ml.l ⁻¹)
PHOS	- phosphate (μg-at.l ⁻¹)
NITR	- nitrate (")
SIL	- silicate (")
ALK	- alkalinity (not done on this cruise)
NO ₂	- nitrite (μg-at.l ⁻¹)
AMM	- ammonia (")

In the observed-level data (OBS), the depths are corrected STD depths except where a good thermometric depth was used (*). Temperature only appears when thermometers were used on the bottle and gave good readings. Salinity is sample salinity: blanks will appear when there was no sample collected at that level. When depth, temperature and salinity all appear at one level, σ_t and sound velocity are computed.

For the standard-level listing (STD), data are linearly interpolated to the following depths: 0-100 m at 10-m intervals; 100-200 m at 20-m intervals; 200-300 m at 25-m intervals; 300-1000 m at 50-m intervals, and >1000 m at 100-m intervals. The deepest "observed" level is also included as a "standard" level. The column INT is the interval in meters over which the standard level was inter-

polated and gives an indication of lowering speed and gaps in the STD record. If INT is larger than the distance between adjacent standard levels then errors occur in the interpolation. Some stations with such gaps have been left in the data report as data below the erroneous portion is good (dynamic computations will still be in error, however).

Temperature/salinity diagrams for each station appear next to the standard-level listing. The scales are 32-36.4 ‰ for salinity and 0-20°C for temperature. The T/S curves are depth-annotated at the shallowest and deepest "observed" levels and at the nearest observed depth to the following intervals: 100-500 m every 100 m; >500 m every 500 m.

Each STD station is also represented by vertical profiles of temperature and salinity plotted on three different depth scales (0-100 m; 0-500 m; 0-2500 m). The same temperature and salinity scales are used throughout (0-20°C; 34-36‰). Each profile is identified by a letter T or S. The data are plotted as individual points.

8.1.2 Hydrographic Data

<u>STATION #</u>	<u>PAGE #</u>
STD 19	34
STD 20	36
STD 21	38
STD 22	40
STD 23	42
STD 24	44
STD 25	46
STD 26	48
STD 27	50
STD 28	52
STD 29	54
STD 31	56
STD 32	58
STD 33	60
STD 34	62
STD 35	64
STD 36	66
STD 37	68
STD 38	70
STD 39	72
STD 40	74
STD 41	76
STD 42	78
STD 43	80
STD 44	82
STD 45	84
STD 46	86
STD 47	88
STD 48	90
STD 49	92

<u>STATION #</u>	<u>PAGE #</u>
STD 50	94
STD 51	96
STD 52	98
STD 53	100
STD 54	102
STD 55	104
STD 56	106
STD 57	108
STD 58	110
STD 59	112
STD 60	114
STD 61	116
STD 62	118
STD 63	120
STD 64	122
STD 65	124
STD 66	126
STD 67	128
STD 68	130
STD 69	132
STD 70	134
STD 71	136
STD 72	138
STD 73	140
STD 74	142
STD 75	144
STD 76	146
STD 77	148

VE 32 STA 19 DATE 18 10 74 GMT 2051 LAT 39 14.2N LONG 74 12.3W

CORR DEPTH 28M WIND 340 4 SEA 350 3 AIR TEMP DEW PT BAROM 1017.2

STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

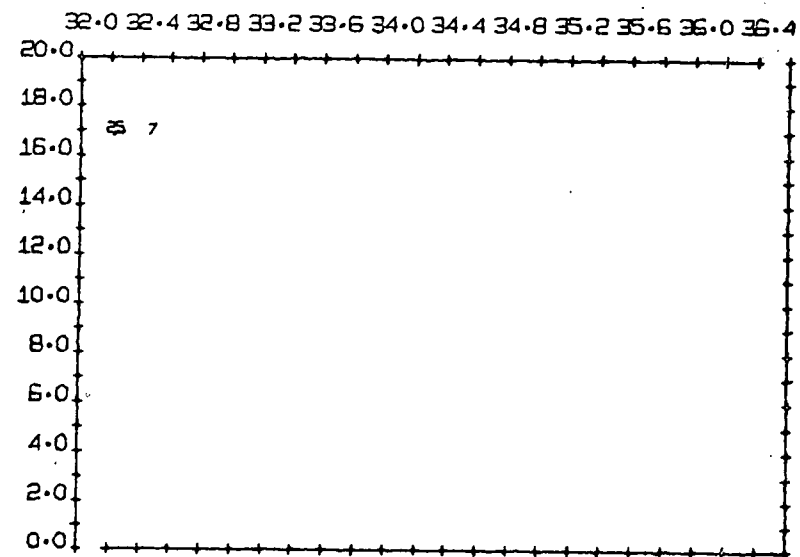
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	6		32.230					5.77						
CBS	9		32.228					5.76						
OBS	10		32.229					5.75						
CBS	12		32.226					5.77						
OBS	14		32.233					5.75						
CBS	16		32.242					5.76						
OBS	18		32.228					5.75						
CBS	20		32.241					5.76						
OBS	21		32.249					5.75						
CBS	23		32.261					5.70						

INT

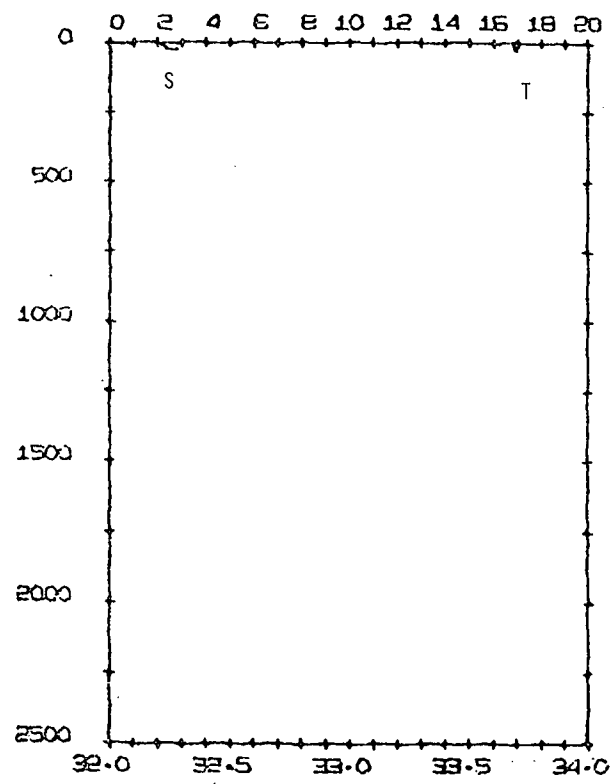
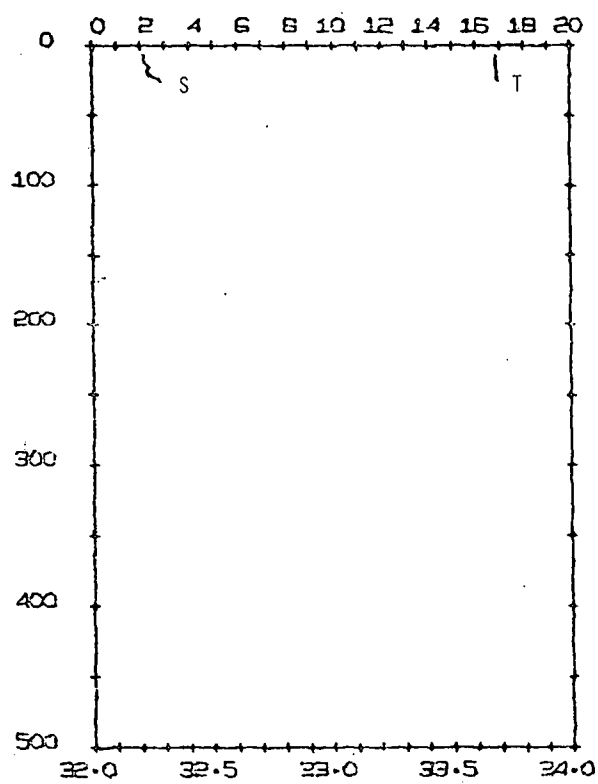
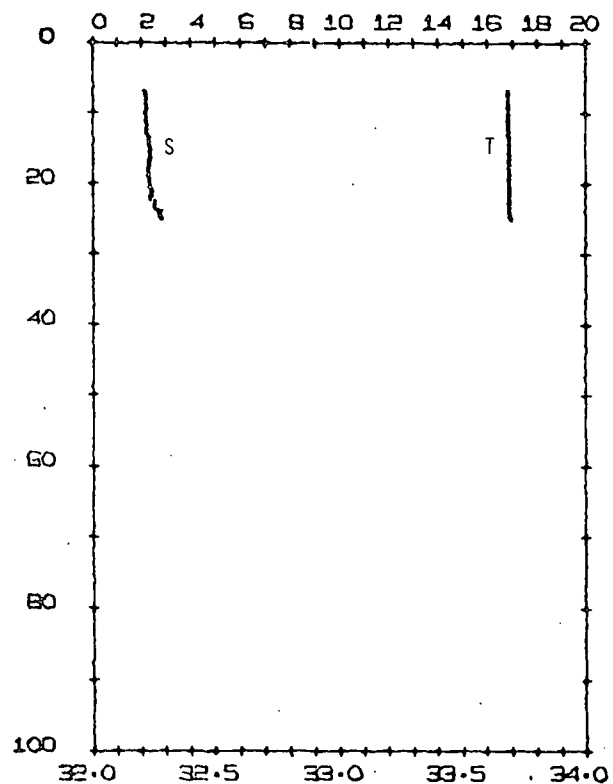
STD	0	16.85	32.214	23.44	445.69	0.000	1509.7
STD	10	16.85	32.218	23.44	445.68	0.045	1509.9
STD	20	16.87	32.234	23.45	445.14	0.089	1510.1
STD	24	16.90	32.281	23.48	442.73	0.111	1510.4

BCTTGM DEPTH= 27M

VE- 32- 19



VE-32- 19



VE 32 STA 20. DATE 19 10 74 GNT 209 LAT 39 17.2N LONG 73 38.6W

CORR DEPTH 44M WIND 340 3 SEA 340 3 AIR TEMP DEW PT BAROM 1019.7

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 11

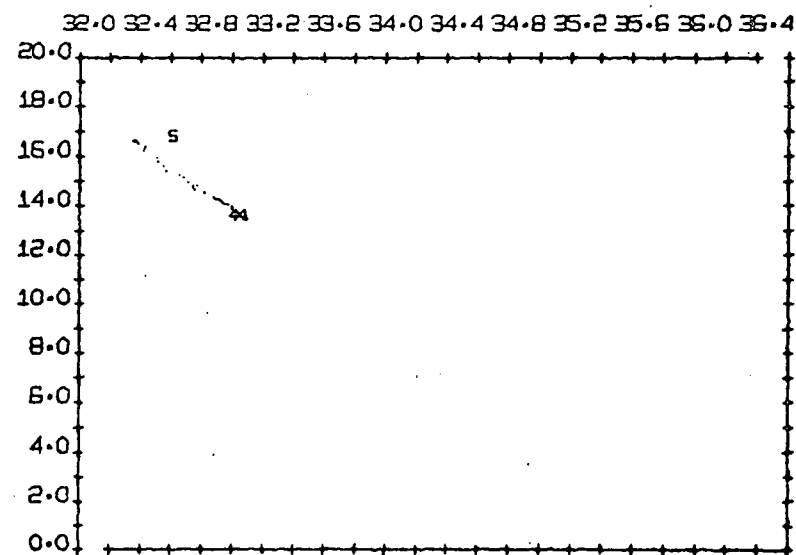
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	3		32.573					5.67						
CBS	9		32.372					5.66						
OBS	19		32.369					5.68						
CBS	25		32.370					5.67						
OBS	30		32.399					5.52						
CBS	31		32.466					5.20						
CBS	33		32.788					4.03						
CBS	35							3.78						
OBS	38							3.70						
CBS	39		33.051					3.67						
CBS	41		33.052					3.66						

STD		0	16.59	32.352	23.60	430.04	0.000	1509.1
STD	10	16.60	32.354	23.60	430.18	0.043	1509.3	
STD	20	16.60	32.356	23.60	430.39	0.086	1509.5	
STD	30	16.45	32.408	23.68	423.54	0.129	1509.2	
STD	40	13.83	33.002	24.70	326.18	0.166	1501.8	
STD	44	13.42	33.090	24.85	311.90	0.180	1500.6	

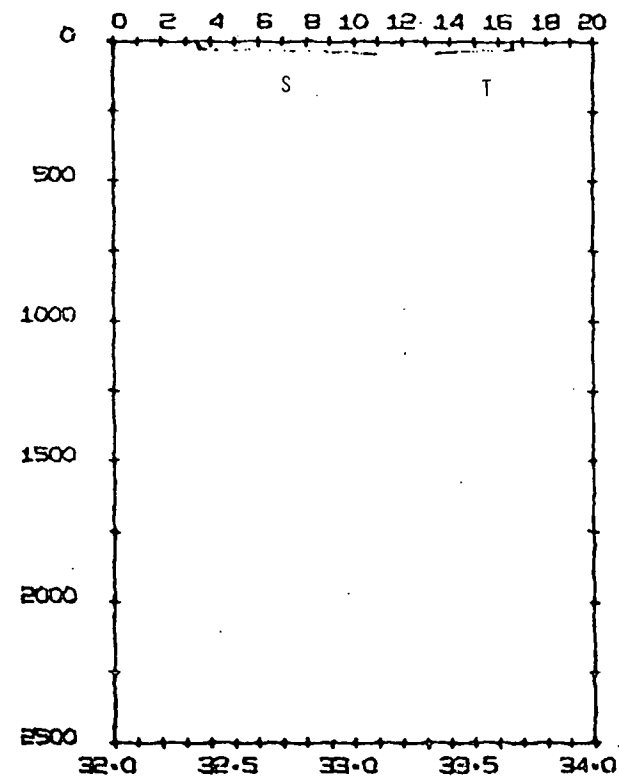
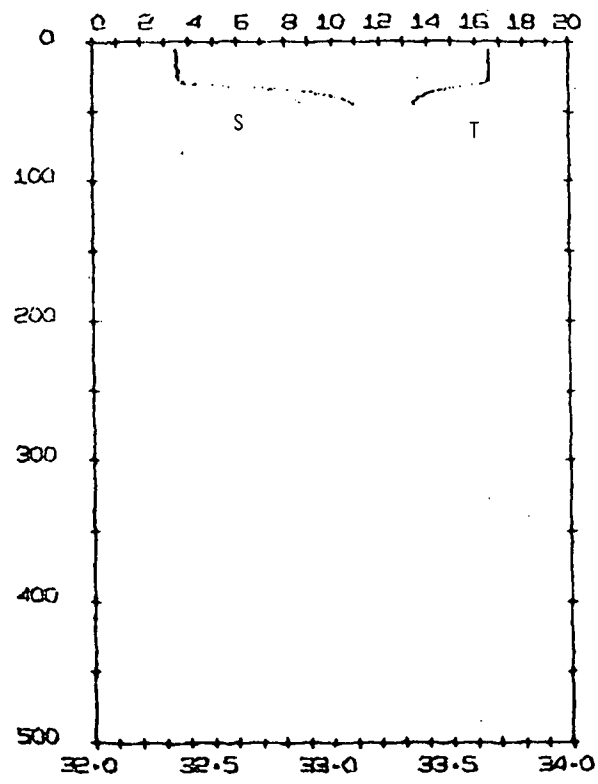
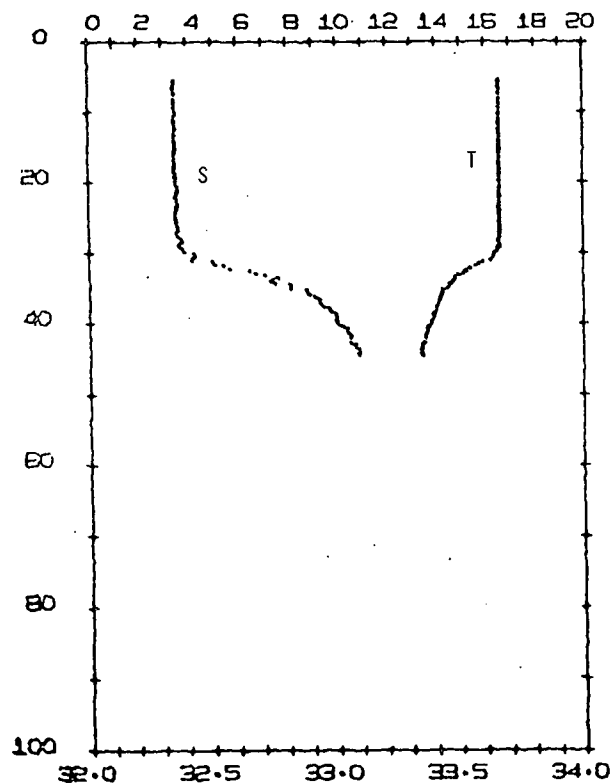
BOTTOM DEPTH= 46M

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1
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0
0
0

VE- 32- 20



VE-32- 20



VE 32 STA 21 DATE 19 10 74 GMT 422 LAT 39 16.6N LONG 73 23.4W

CORR DEPTH 47M WIND C 5 SEA AIR TEMP DEW PT 0.0 BAROM 1019.7

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 11

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	8		32.536					5.65						
OBS	12		32.528					5.62						
OBS	16		32.535					5.63						
OBS	20		32.541					5.63						
OBS	27		32.658					5.59						
OBS	30		32.829					5.49						
OBS	38		33.200					5.05						
OBS	39		33.206											
OBS	41		33.209					3.88						
OBS	45		33.217					4.01						

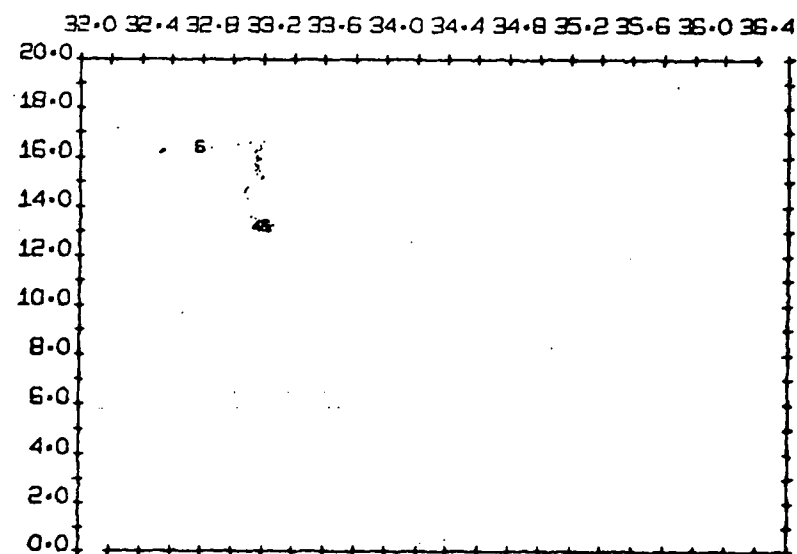
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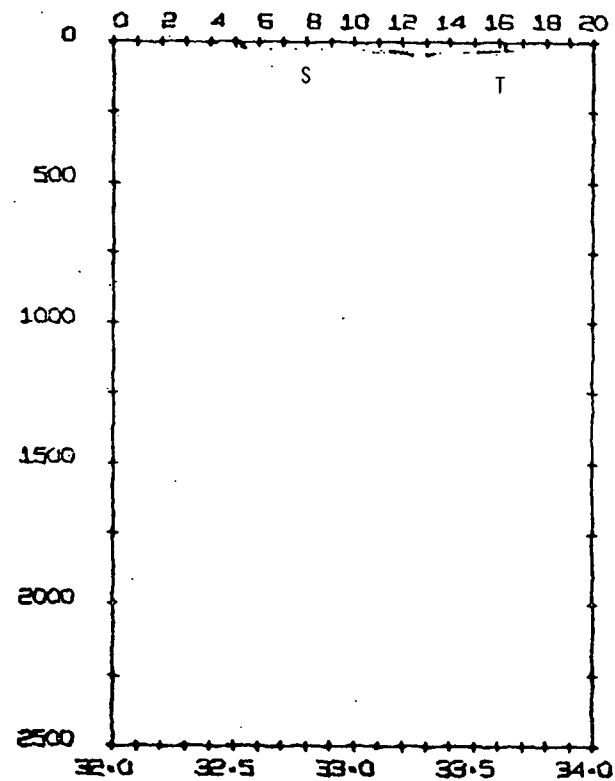
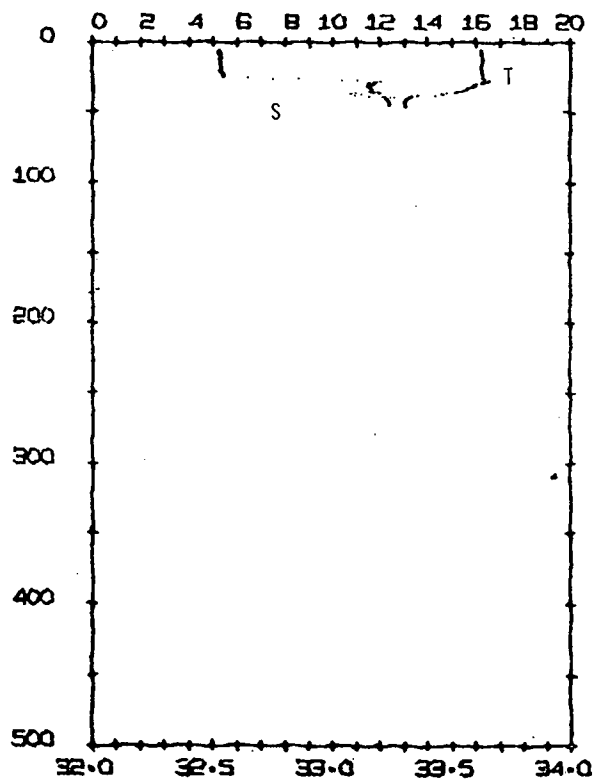
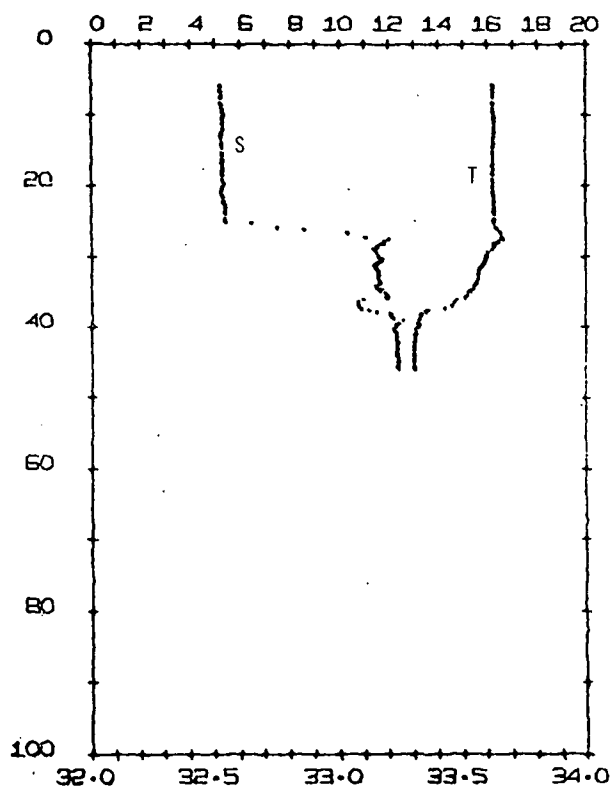
	STD	0	16.25	32.525	23.81	409.88	0.000	1508.3
STC	10	16.26	32.535	23.82	409.72	0.041	1508.5	
STD	20	16.26	32.535	23.82	409.87	0.082	1508.6	
STD	30	16.00	33.158	24.35	359.12	0.120	1508.8	
STD	40	13.19	33.231	25.01	297.05	0.153	1500.0	
STD	45	13.02	33.241	25.05	293.25	0.171	1499.5	

BOTTOM DEPTH= 48M

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VE-32- 21



VE 32 STA 22 DATE 19 10 74 GMT 918 LAT 39 16.4N LONG 73 9.1W
 CORR DEPTH 59M WIND 20 3 SEA 0 3 AIR TEMP DEW PT BAROM 1019.0
 STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 11

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	10		33.029					5.69						
OBS	17		33.027					5.70						
OBS	20		33.031					5.71						
OBS	24		33.144					5.67						
OBS	28		33.573					5.53						
OBS	33		33.653					5.35						
OBS	35		33.714					5.17						
OBS	40		33.636					5.01						
OBS	46		33.345					4.33						
OBS	51		33.376					4.33						
OBS	59		33.416					4.32						

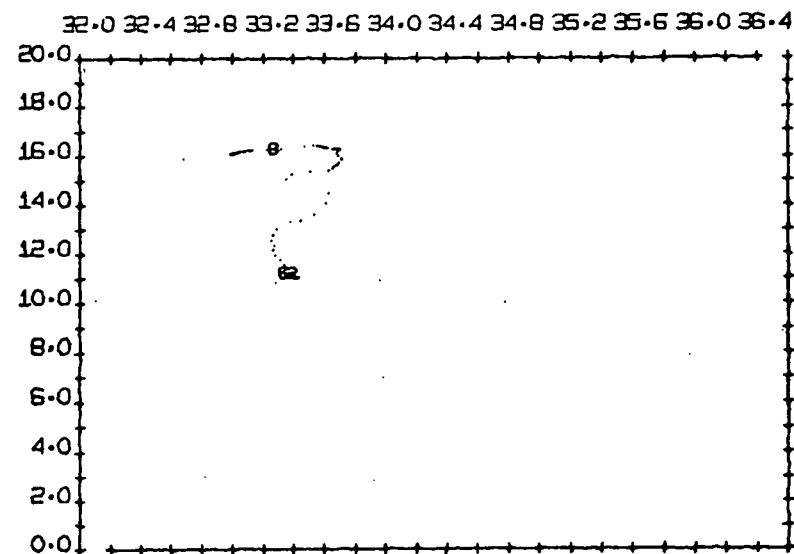
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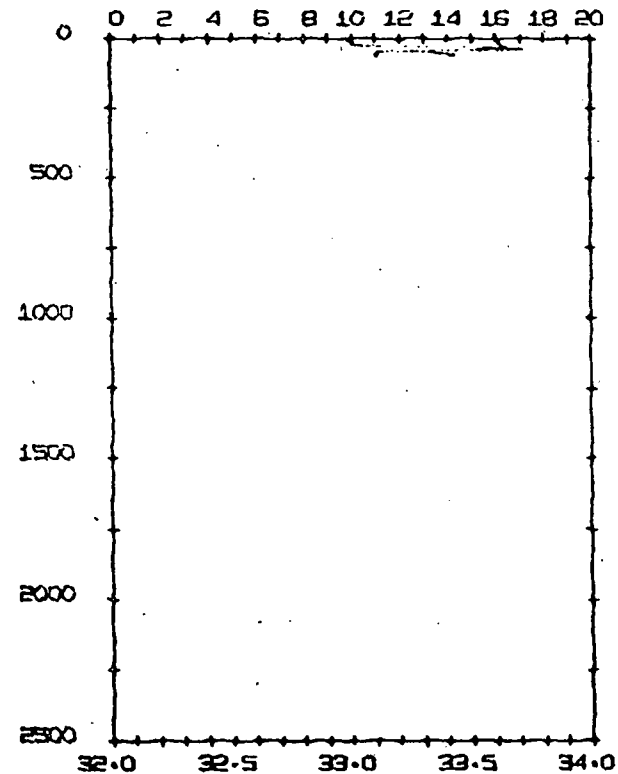
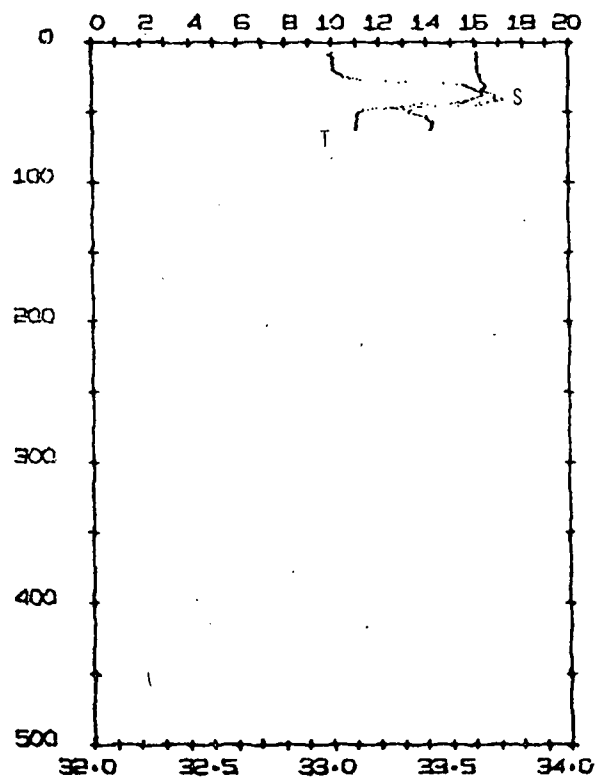
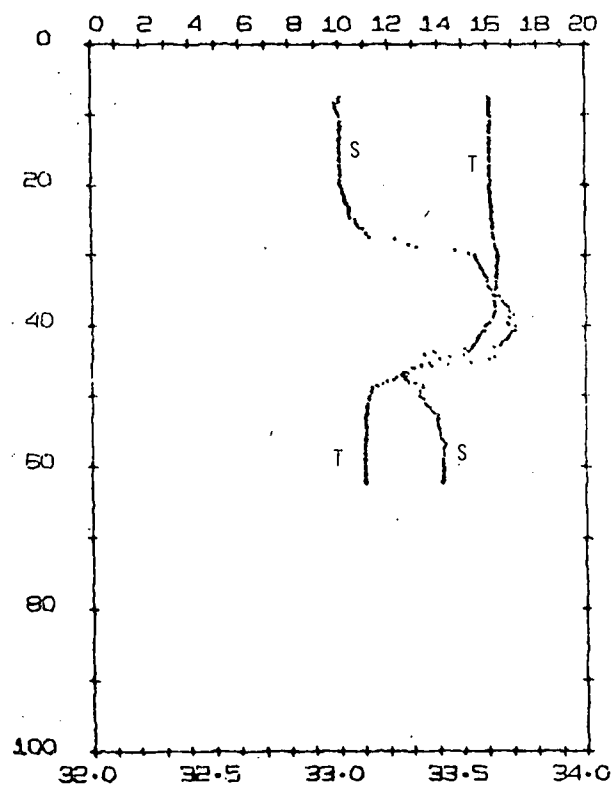
STD		0	16.14	33.006	24.21	372.34	0.000	1508.5
STD	10	16.14	32.999	24.20	373.14	0.037	1508.7	
STD	20	16.14	33.008	24.21	372.84	0.075	1508.9	
STD	30	16.43	33.542	24.55	340.50	0.110	1510.6	
STD	40	15.97	33.693	24.77	319.66	0.143	1509.5	
STD	50	11.25	33.325	25.45	255.17	0.172	1493.6	
STD	60	11.05	33.421	25.56	244.77	0.197	1493.1	
STD	62	11.04	33.418	25.56	245.00	0.202	1493.1	

BOTTOM DEPTH= 64M

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VE-32- 22



VE 32 STA 23 DATE 19 10 74 GMT 1131 LAT 39 12.6N LONG 73 2.5W

CORR DEPTH 68M WIND 10 3 SEA 20 3 AIR TEMP DEW PT BAROM 1019.2

STD 9C40 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

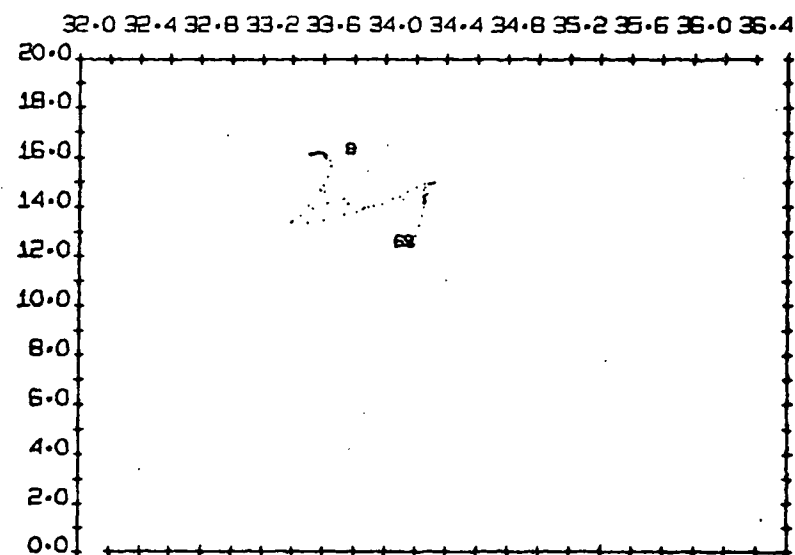
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	3		33.545					5.66						
OBS	8	16.21	33.545	24.60			1509.5	5.64						
CBS	13		33.543					5.66						
OBS	19		33.542					5.65						
CBS	29		33.554					5.64						
OBS	36		33.609					5.57						
CBS	42		33.732					4.93						
OBS	49	14.99	34.378	25.51			1507.4	4.99						
CBS	58		34.166					4.54						
OBS	62	12.49	34.165	25.87			1499.1	4.53						
CBS	67		34.156					4.53						
OBS	72	12.44	34.168	25.88			1499.1	4.53						

INT

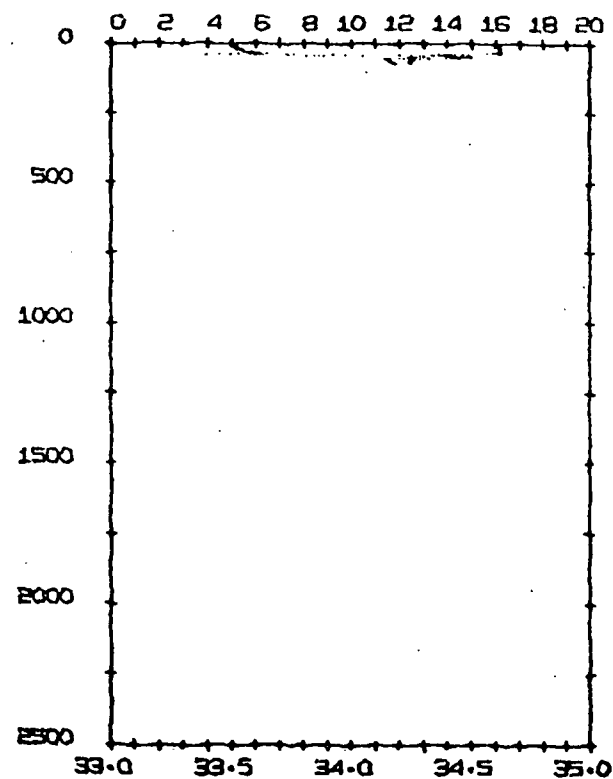
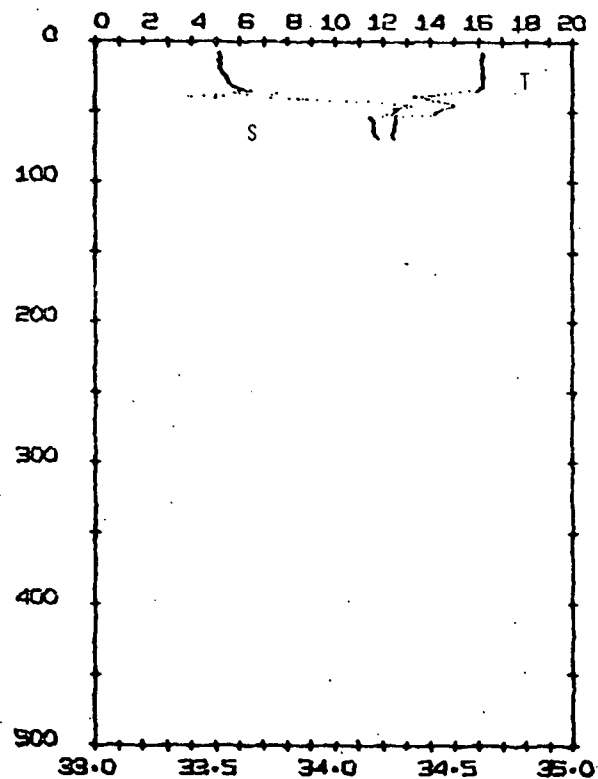
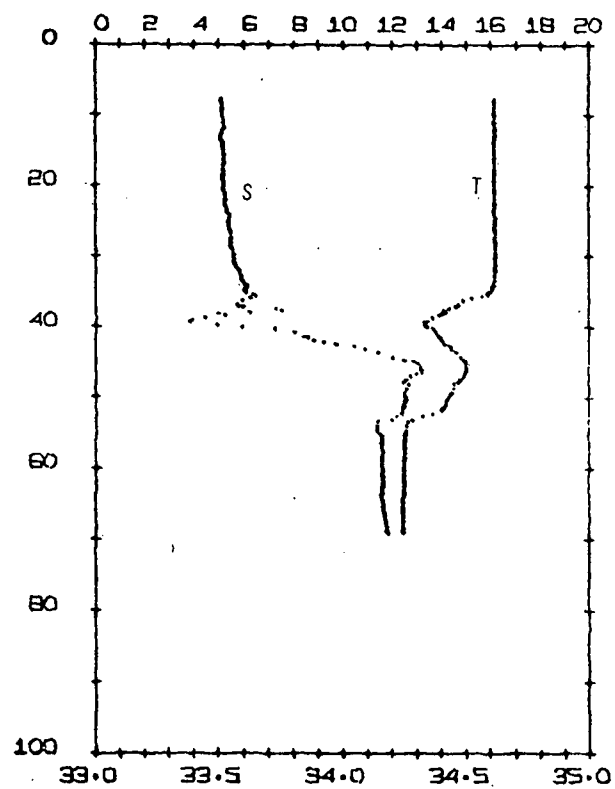
STD	0	16.17	33.510	24.59	336.17	0.000	1509.2							
STD	10	16.16	33.516	24.59	336.02	0.034	1509.4							
STD	20	16.17	33.519	24.59	336.17	0.067	1509.6							
STD	30	16.19	33.561	24.62	333.86	0.101	1509.8							
STD	40	13.47	33.605	25.24	275.02	0.131	1501.4							
STD	50	14.27	34.257	25.57	243.47	0.157	1505.0							
STD	60	12.49	34.162	25.87	216.01	0.180	1499.1							
STD	79	12.45	34.179	25.89	214.29	0.199	1499.1							

BOTTOM DEPTH= 73M

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VE 32 STA 24 DATE 19 10 74 GMT 1336 LAT 39 9.7N LONG 72 54.4W

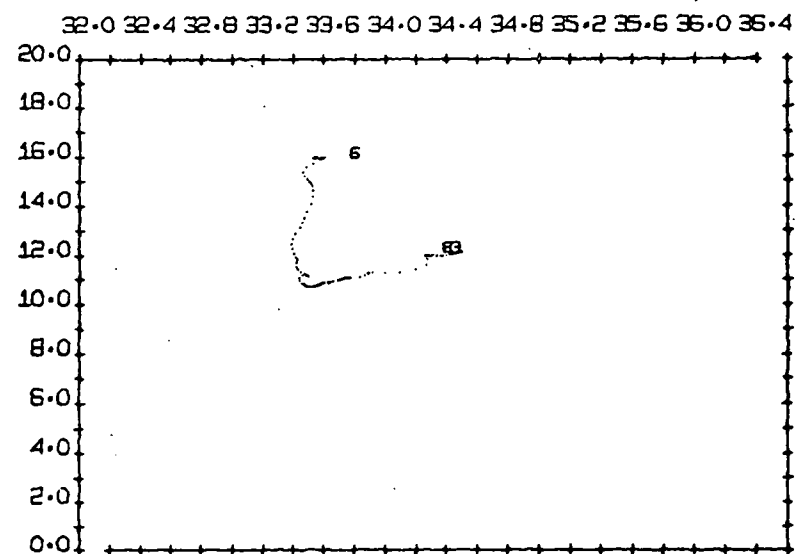
CORR DEPTH 84M WIND 10 3 SEA 10 3 AIR TEMP DEW PT BAROM 1019.7

STD 9C40 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 1

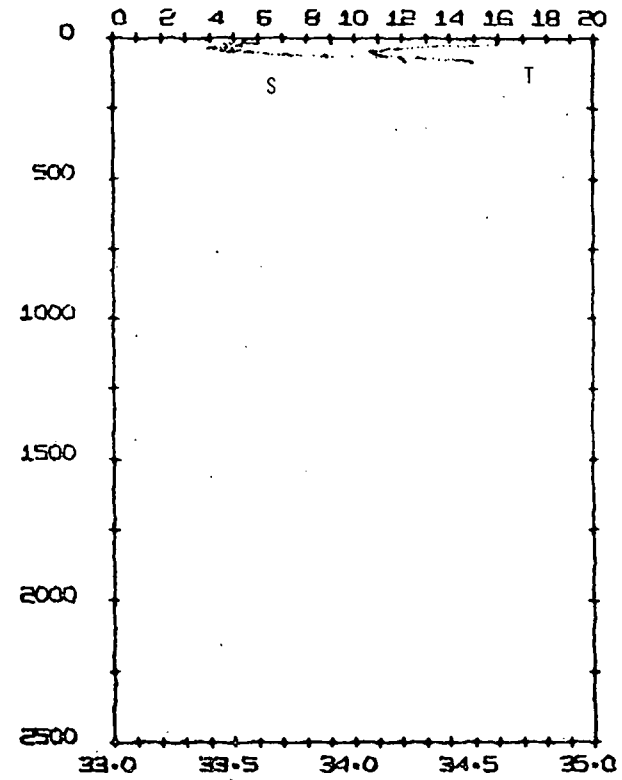
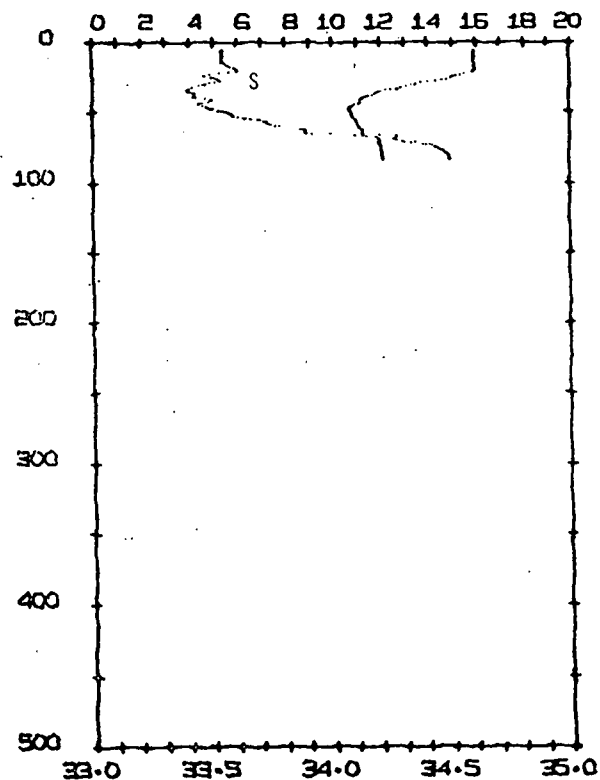
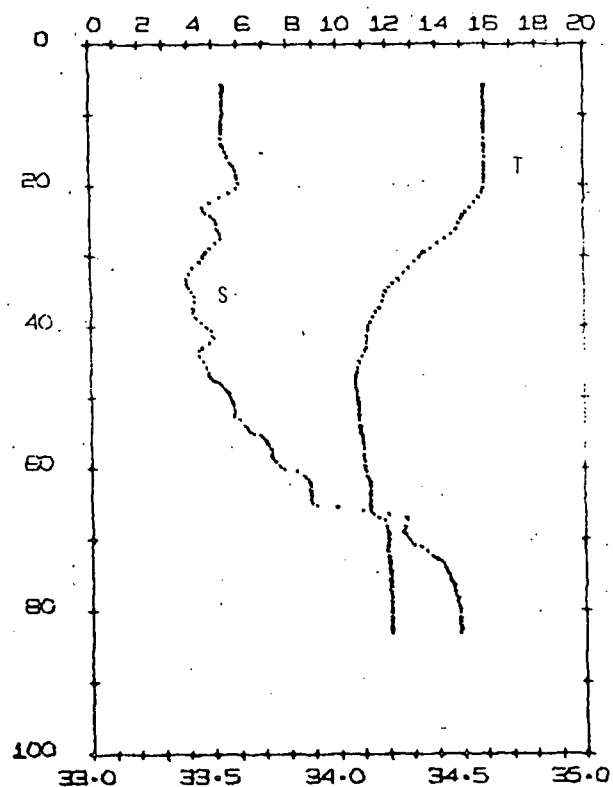
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL INT	ALK	NO2	AMM
STD	0	15.94	33.541	24.66	329.05	0.000	1508.6				6			
STD	10	15.94	33.599	24.66	329.54	0.033	1508.7				0			
STD	20	15.95	33.601	24.70	325.45	0.066	1509.0				1			
STD	30	13.36	33.465	25.15	282.94	0.096	1500.7				0			
STD	40	11.26	33.467	25.56	244.67	0.122	1493.6				1			
STD	50	10.79	33.567	25.72	229.43	0.146	1492.2				0			
STD	60	11.08	33.774	25.83	219.33	0.169	1493.7				0			
STD	70	12.00	34.282	26.05	198.50	0.190	1497.7				1			
STD	80	12.11	34.487	26.19	185.72	0.209	1498.5				0			
STD	83	12.12	34.488	26.19	185.78	0.215	1498.6				0			

BOTTM DEPTH= 83M

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VE-32- 24

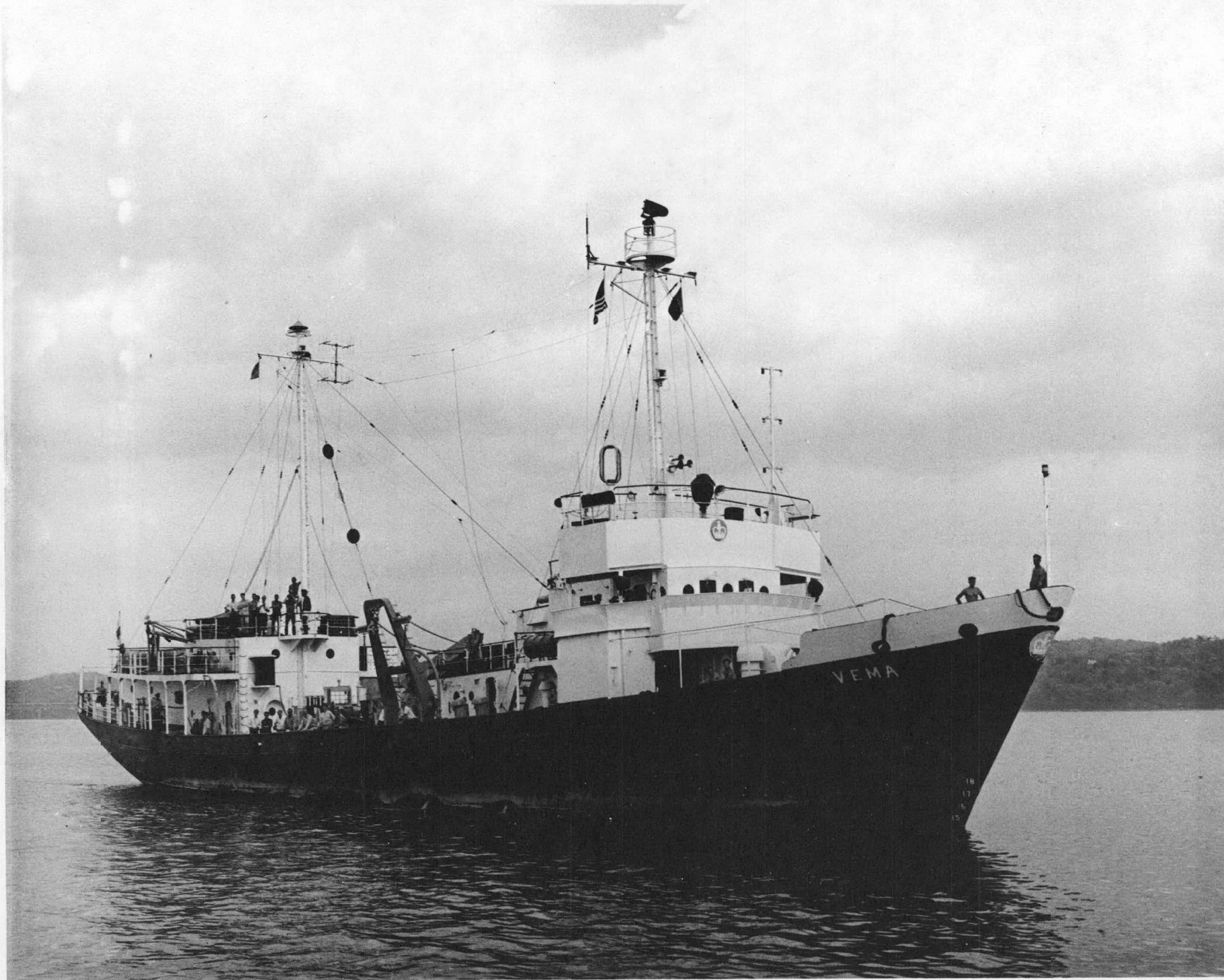


VE 32 STA 25 DATE 19 10 74 GMT 1354 LAT 39 9.6N LONG 72 54.8W

CORR DEPTH 84M WIND 10 3 SEA 10 3 AIR TEMP DEW PT BAROM 1019.7

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	3	15.90	33.504	24.64			1508.4	5.65						
OBS	9		33.507					5.64						
OBS	17		33.619					5.59						
OBS	24		33.731					4.95						
OBS	32		33.598					4.60						
OBS	39		33.519					4.43						
OBS	47	10.72	33.484	25.67			1491.8	4.35						
OBS	55		33.673					4.40						
OBS	81	12.11	34.479	26.18			1498.5	4.17						



VE 32 STA 26 DATE 19 10 74 GMT 1640 LAT 39 8.6N LONG 72 55.9W

CORR DEPTH 86M WIND 10 3 SEA 10 3 AIR TEMP DEW PT BAROM 1018.7

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	6		33.549											
CBS	11		33.545											
CBS	19		33.543											
CBS	22		33.548											
CBS	30		33.748											
CBS	37		34.067											
CBS	45		33.476											
CBS	53		33.518											
CBS	60		33.755											
CBS	68		34.311											
CBS	75		34.441											
CBS	84		34.477											

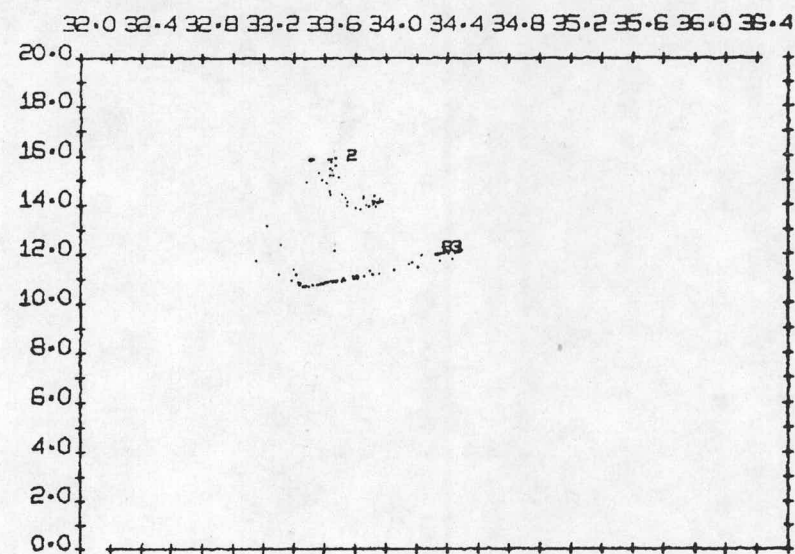
STD	0	15.83	33.510	24.66	328.90	0.000	1508.2							
STD	10	15.87	33.506	24.65	330.39	0.033	1508.5							
STD	20	15.61	33.671	24.84	313.03	0.065	1508.0							
STD	30	14.09	33.920	25.35	263.87	0.094	1503.6							
STD	40	10.85	33.441	25.61	239.52	0.119	1492.1							
STD	50	10.87	33.618	25.74	226.99	0.142	1492.6							
STD	60	11.20	33.952	25.94	208.39	0.164	1494.3							
STD	70	12.01	34.340	26.09	194.41	0.184	1497.8							
STD	80	12.11	34.475	26.18	186.60	0.203	1498.5							
STD	82	12.12	34.487	26.19	185.93	0.209	1498.6							

BOTTOM DEPTH= 89M

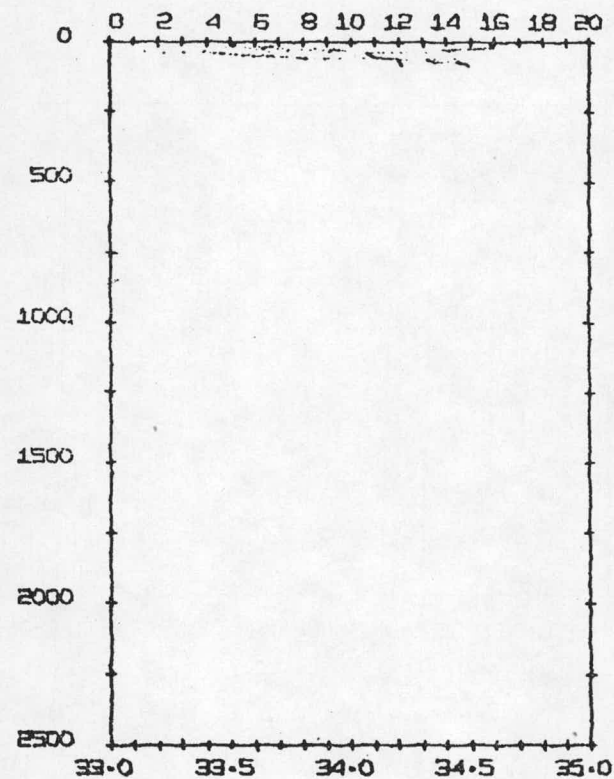
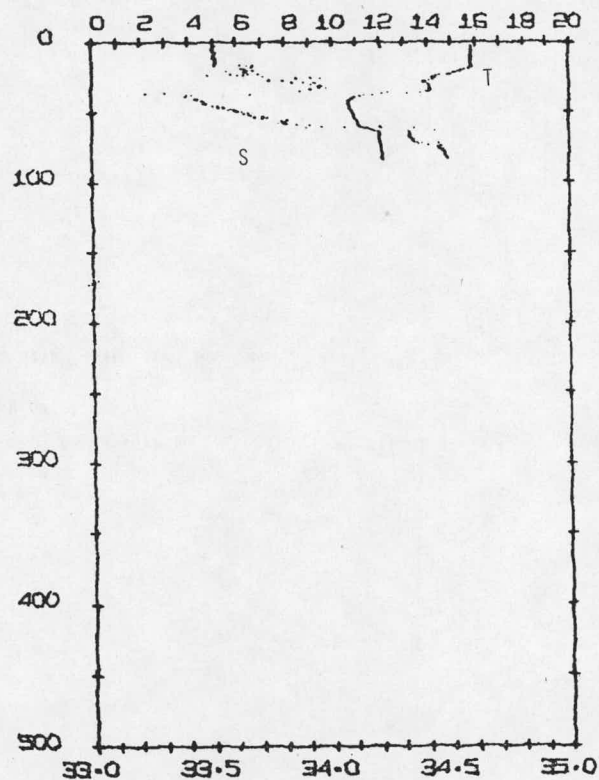
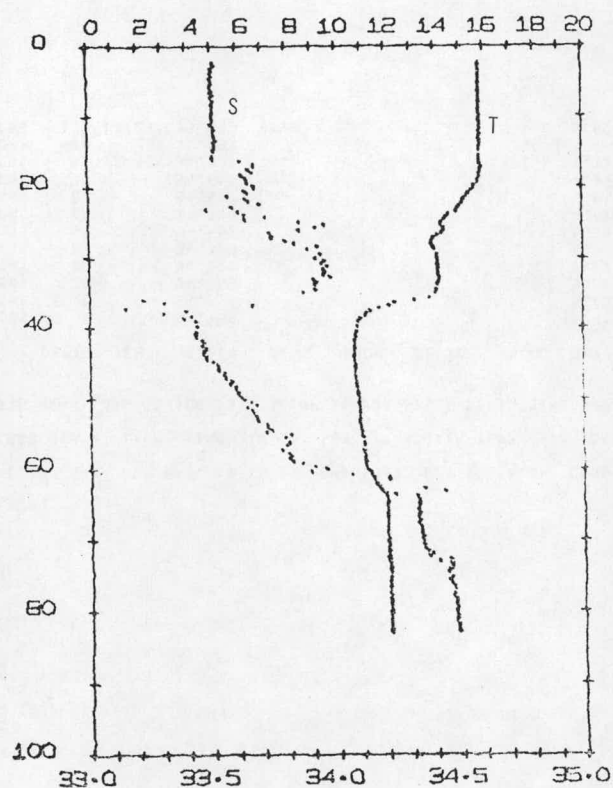
INT

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VE 32 STA 27 DATE 19 10 74 GMT 1957 LAT 39 6.5N LONG 72 48.4W

CORR DEPTH 110M WIND 10 5 SEA 20 3 AIR TEMP 8.2 DEW PT 0.5 BAROM 1017.6

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	5		34.158					5.66						
OBS	10		34.156					5.65						
OBS	20		34.168					5.65						
OBS	29		34.219					5.62						
OBS	39		34.323					5.62						
OBS	44		34.452					5.53						
OBS	54		34.382					4.82						
OBS	67		34.467					4.51						
OBS	77		34.655					4.27						
OBS	89	12.86	34.805	26.29			1501.6	4.13						
OBS	100		35.041					3.95						
OBS	112	13.23	35.590	26.82			1504.2	3.60						



VE 32 STA 28 DATE 19 10 74 GMT 2250 LAT 39 3.0N LONG 72 42.5W

CORR DEPTH 364M WIND 50 5 SEA 50 4 AIR TEMP DEW PT BAROM 1015.5

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

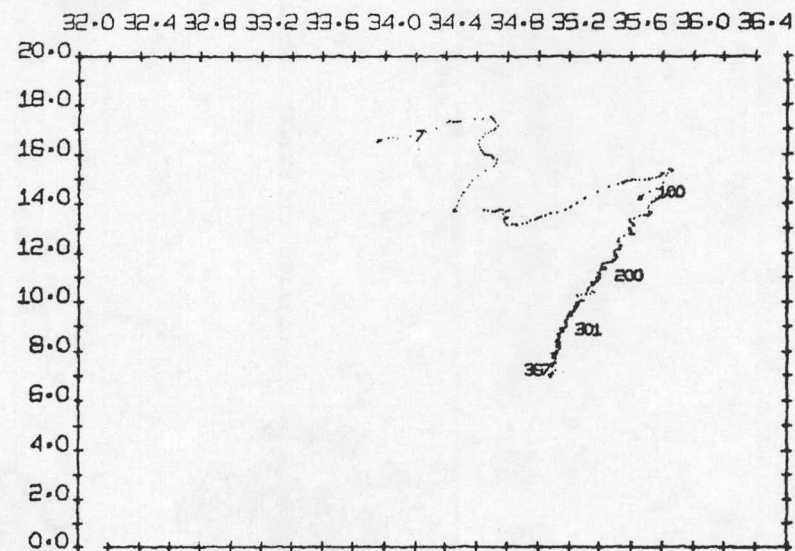
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	13		33.964					5.62						
OBS	23		33.985					5.62						
CBS	89		35.880					3.74						
CBS	146		35.636					3.50						
CBS	176		35.422					3.15						
CBS	215		35.304					3.09						
CBS	263		35.209					3.15						
CBS	314		35.126					3.49						
CBS	326		35.125					3.48						
CBS	335		35.120					3.52						
CBS	342		35.119					3.50						
CBS	364	7.87	35.108	27.40			1488.5	3.65						

INT

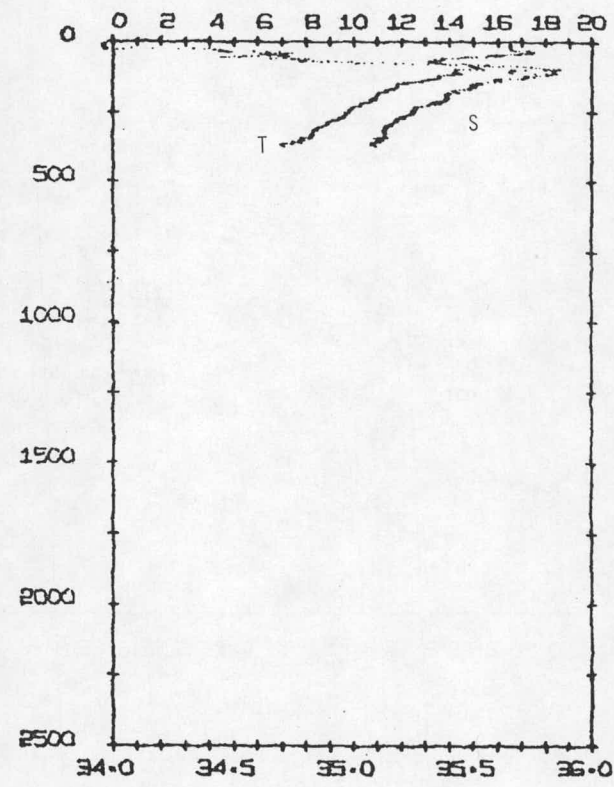
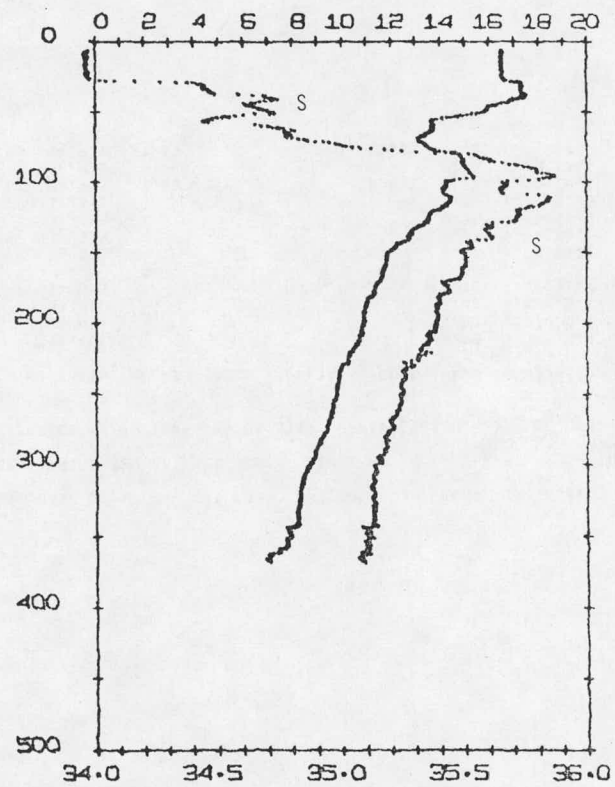
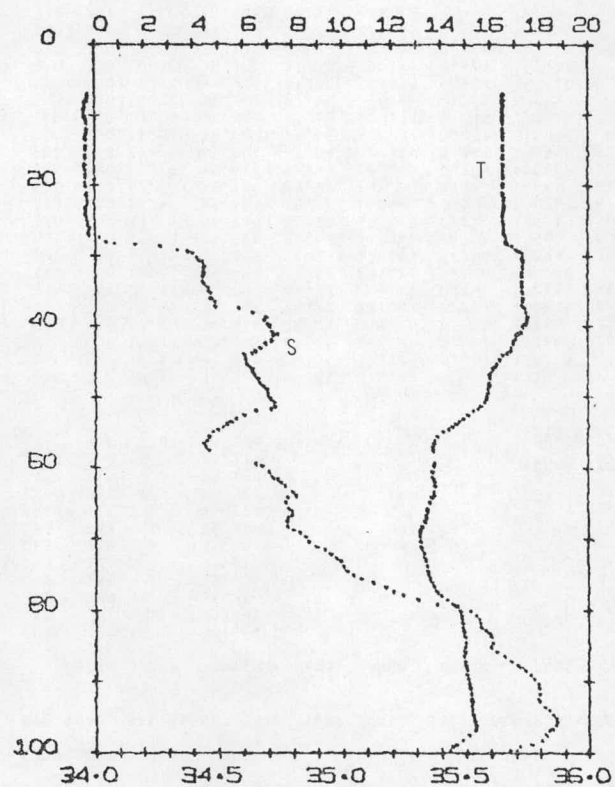
STD	0	16.54	33.969	24.85	310.83	0.000	1510.9							
STD	10	16.53	33.955	24.84	311.93	0.031	1511.0							
STD	20	16.53	33.959	24.85	311.95	0.062	1511.2							
STD	30	17.30	34.410	25.01	296.89	0.093	1514.2							
STD	40	17.37	34.707	25.22	277.07	0.121	1514.9							
STD	50	15.88	34.703	25.57	244.41	0.148	1510.6							
STD	60	13.71	34.684	26.02	201.21	0.170	1503.8							
STD	70	13.15	34.855	26.27	178.03	0.189	1502.3							
STD	80	14.78	35.506	26.43	163.45	0.206	1508.6							
STD	90	15.11	35.784	26.57	150.44	0.222	1510.2							
STD	100	14.32	35.666	26.65	142.80	0.236	1507.7							
STD	120	13.95	35.720	26.77	131.95	0.264	1506.9							
STD	140	12.77	35.614	26.93	117.05	0.289	1503.2							
STD	160	11.77	35.501	27.04	107.16	0.311	1499.9							
STD	180	11.31	35.407	27.05	106.07	0.332	1498.5							
STD	200	10.89	35.386	27.11	100.74	0.353	1497.4							
STD	225	10.30	35.312	27.16	96.48	0.378	1495.5							
STD	250	9.79	35.243	27.20	93.56	0.401	1494.0							
STD	275	9.39	35.206	27.23	90.28	0.424	1492.9							
STD	300	8.69	35.135	27.29	84.83	0.446	1490.6							
STD	350	7.93	35.109	27.39	76.14	0.487	1488.5							
STD	367	7.06	35.086	27.50	65.49	0.499	1485.4							

BOTTOM DEPTH= 367M

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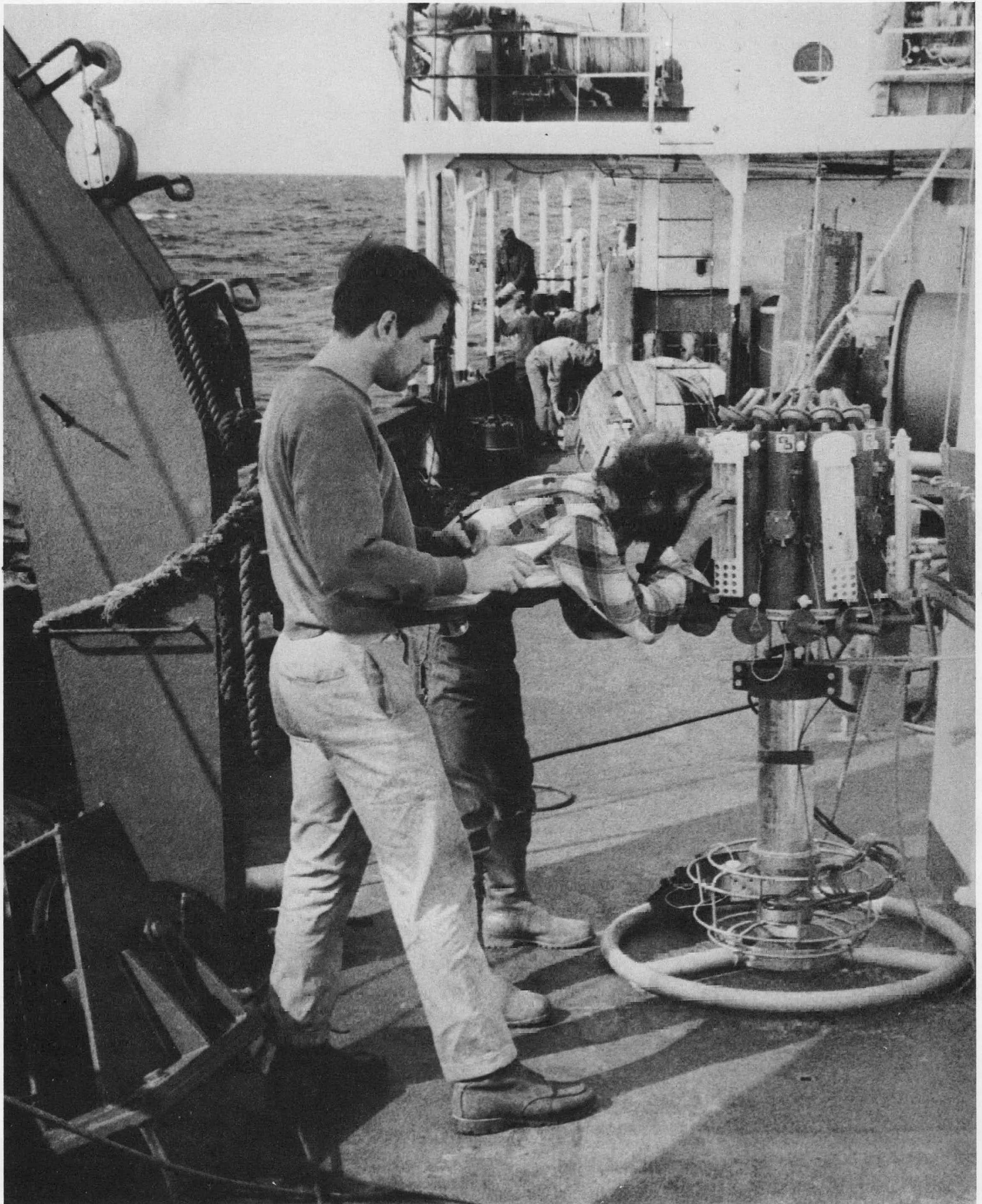


VE 32 STA 29 DATE 21 10 74 GMT 315 LAT 38 59.3N LONG 72 45.8W

CORR DEPTH 2684M WIND 320 6 SEA 320 4 AIR TEMP DEW PT BAROM 1024.4

STD 9C40 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMH
OBS	121		35.451					5.09	0.38	0.9	1.5		0.98	0.95
OBS	322		35.034					4.53	1.87	20.5	12.5		0.84	1.45
OBS	633		35.000					5.82	1.62	16.1	10.4		0.84	0.75
OBS	911		34.985					6.10	1.54	17.2	10.5		0.86	1.92
OBS	2251		34.973					6.27	1.62	13.1	13.6		0.87	1.45
OBS	2501		34.955					6.33	1.65	16.1	14.9		0.82	1.62
OBS	2591		34.943					6.35	1.46	15.7	15.3		1.08	2.25
OBS	2611		34.941					6.35	1.57	17.5	17.1		0.93	1.70
OBS	*2618	2.67	34.935	27.88			1505.1	6.37	1.60	18.0	18.8		0.94	1.95
OBS	2631		34.935					6.34	1.62	18.6	19.3		0.96	3.45
OBS	2686	2.59	34.931	27.89			1505.9	6.42	1.60	17.5	19.1		0.88	1.40



VE 32 STA 31 DATE 21 10 74 GMT 2301 LAT 39 18.5N LONG 71 58.9W

CORR DEPTH 1955M WIND 340 6 SEA 340 4 AIR TEMP DEW PT BAROM 1033.5

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

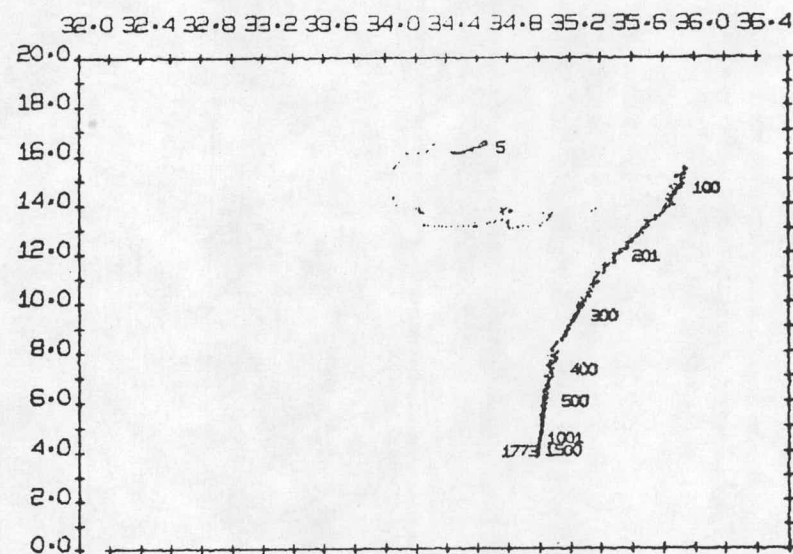
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	31		34.518					5.41	0.58	1.2	1.9		0.92	0.95
CBS	48		34.787					4.36	1.10	9.8	6.9		0.96	0.95
CBS	83		35.924					3.87	1.10	12.7	5.0		0.98	0.97
CBS	146		35.712					3.71	1.43	17.5	7.5		1.23	1.40
CBS	197		35.443					3.15	1.82	18.6	9.5		0.82	0.95
CBS	238		35.275					3.11	2.04	22.1	11.9		0.84	0.92
CBS	391		35.073					4.08	2.04	20.6	12.3		0.82	1.27
CBS	684		35.002					5.57	1.71	17.8	10.9		0.88	1.15
CBS	992		34.985					6.00	1.60	19.1	12.5		0.96	1.37
CBS #1358	3.96		34.976	27.79			1489.2	6.03	1.43	17.9	11.8		0.90	0.95
CBS 1568			34.973					6.16	1.54	18.1	11.9		0.96	1.00
CBS 1783	3.82		34.974	27.81			1495.8	6.18	1.65	18.1	12.8		0.88	1.42

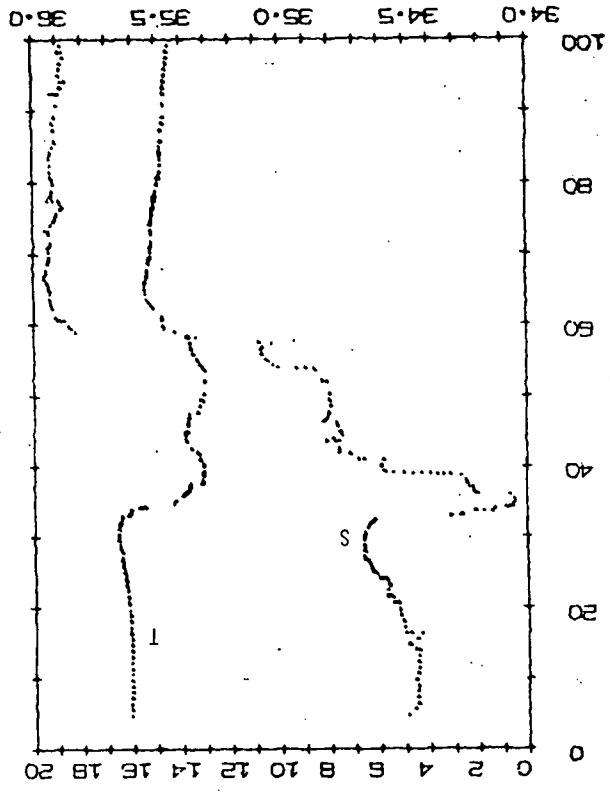
INT

STD	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
STD	0	16.11	34.493	25.35	263.36	0.000	1510.2							
STD	10	16.09	34.458	25.33	265.74	0.026	1510.3							
STD	20	16.17	34.524	25.36	263.01	0.053	1510.8							
STD	30	16.55	34.663	25.38	261.57	0.079	1512.3							
STD	40	13.13	34.595	26.07	195.87	0.102	1501.4							
STD	50	13.11	34.800	26.23	180.69	0.121	1501.8							
STD	60	14.71	35.860	26.72	135.54	0.137	1508.5							
STD	70	15.25	35.935	26.65	141.76	0.150	1510.5							
STD	80	14.93	35.916	26.71	136.79	0.164	1509.6							
STD	90	14.65	35.904	26.76	132.11	0.178	1508.9							
STD	100	14.42	35.879	26.79	129.38	0.191	1508.3							
STD	120	14.02	35.849	26.85	124.04	0.216	1507.3							
STD	140	13.66	35.800	26.89	120.82	0.241	1506.3							
STD	160	13.16	35.695	26.92	119.16	0.265	1504.9							
STD	180	12.46	35.599	26.98	113.21	0.288	1502.7							
STD	200	11.72	35.489	27.04	107.98	0.310	1500.4							
STD	225	10.71	35.336	27.11	101.80	0.336	1497.1							
STD	250	9.97	35.282	27.20	93.60	0.361	1494.7							
STD	275	9.56	35.252	27.24	89.60	0.384	1493.6							
STD	300	9.23	35.222	27.27	86.98	0.406	1492.7							
STD	350	8.01	35.103	27.37	77.74	0.447	1488.8							
STD	400	7.08	35.085	27.49	66.46	0.483	1486.0							
STD	450	6.33	35.042	27.56	60.07	0.515	1483.8							
STD	500	5.82	35.031	27.62	54.67	0.543	1482.6							
STD	550	5.59	35.023	27.64	53.10	0.570	1482.5							
STD	600	5.37	35.023	27.67	50.82	0.596	1482.4							
STD	650	5.16	35.018	27.69	49.17	0.621	1482.4							
STD	700	4.95	35.016	27.71	47.25	0.645	1482.4							
STD	750	4.78	35.010	27.73	46.07	0.669	1482.5							
STD	800	4.63	35.005	27.74	45.16	0.691	1482.7							
STD	850	4.54	35.004	27.75	44.67	0.714	1483.1							
STD	900	4.44	35.001	27.76	44.16	0.736	1483.5							
STD	950	4.36	34.996	27.77	44.07	0.758	1484.0							
STD	1000	4.30	34.994	27.77	43.94	0.780	1484.6							
STD	1100	4.14	34.995	27.79	42.82	0.824	1485.6							
STD	1200	4.04	34.991	27.80	42.81	0.866	1486.8							
STD	1300	3.95	34.989	27.80	42.78	0.909	1488.1							
STD	1400	3.93	34.986	27.80	43.67	0.952	1489.7							
STD	1500	3.84	34.984	27.81	43.55	0.996	1491.0							
STD	1600	3.83	34.983	27.81	44.32	1.040	1492.7							
STD	1700	3.82	34.980	27.81	45.31	1.085	1494.3							
STD	1772	3.80	34.969	27.82	44.89	1.118	1495.5							

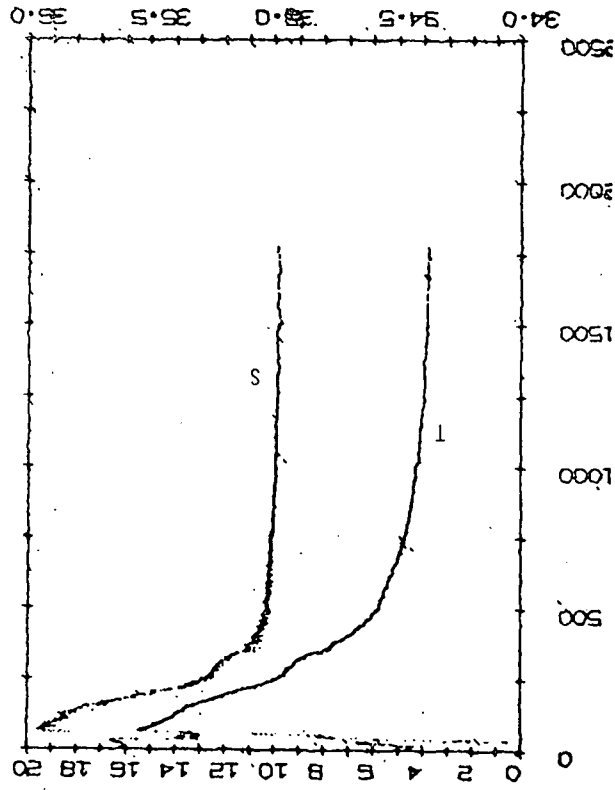
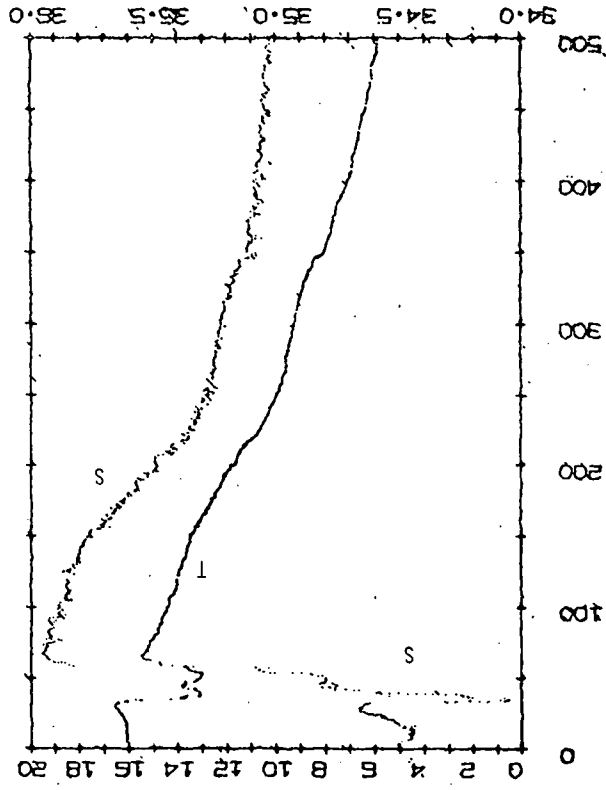
BOTTOM DEPTH=

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VE-32-31



VE 32 STA 32 DATE 22 10 74 GMT 524 LAT 39 31.1N LONG 72 0.1W

CORR DEPTH 617M WIND 350 5 SEA 340 4 AIR TEMP 9.2 DEW PT 1.3 BAROM 1034.5

STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

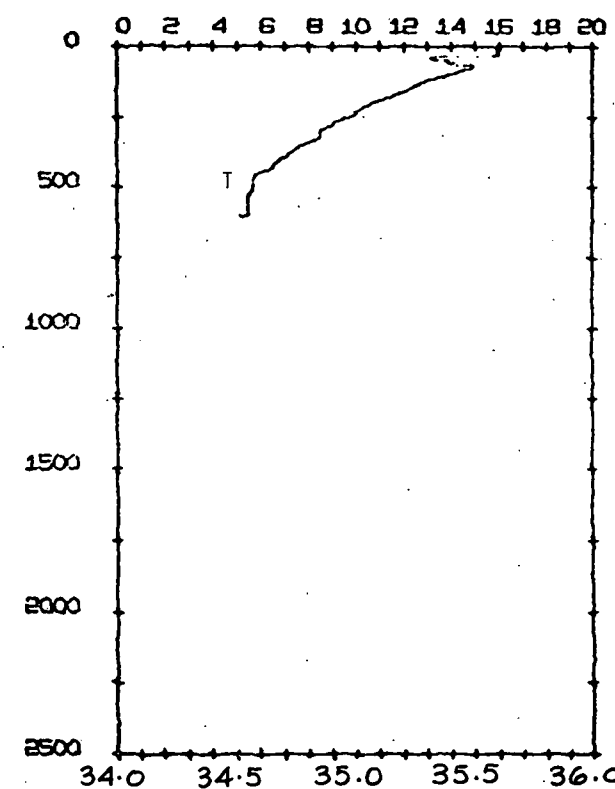
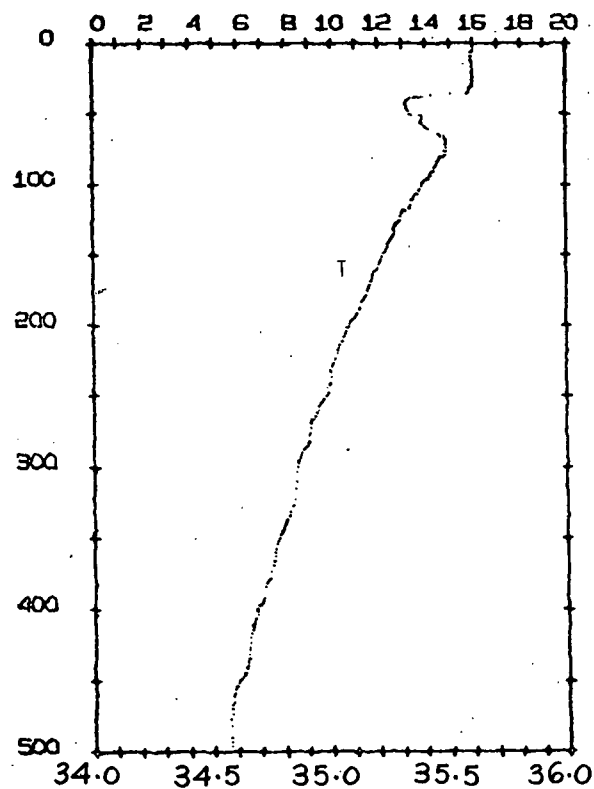
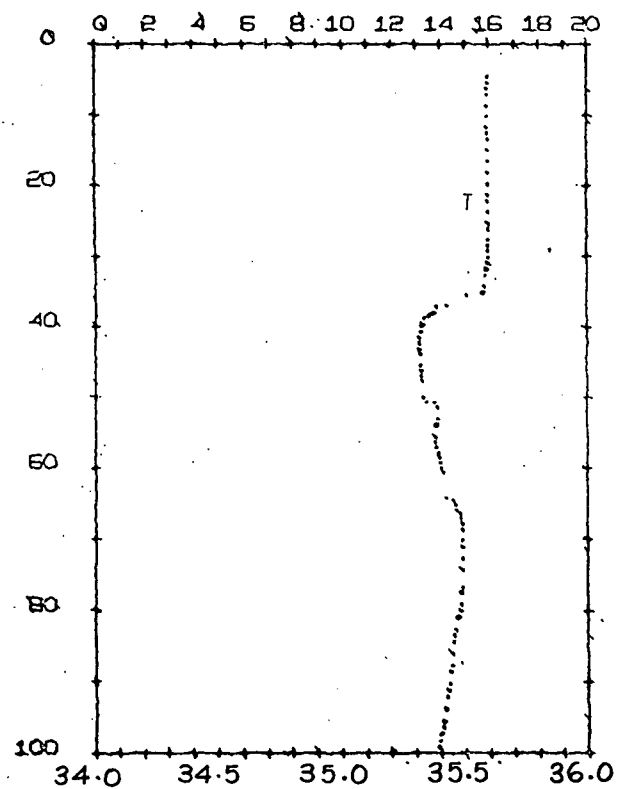
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	23		34.283					5.57						
CBS	49		34.513					4.60						
CBS	88		35.882					3.69						
CBS	157		35.521					3.21						
CBS	282		35.139					3.27						
CBS	295		35.137					3.39						
CBS	315		35.128					3.45						
CBS	416		35.051					4.40						
CBS	471		35.021					4.71						
CBS	* 549	5.49		27.65			1482.1	5.07						
CBS	570		35.015					5.12						
CBS	608	5.18	35.006	27.68			1481.8	5.30						

INT

STD	0	15.95												5
STD	10	15.94												2
STD	20	15.95												2
STD	30	15.94												1
STD	40	13.24												1
STD	50	13.32												2
STD	60	14.05												1
STD	70	14.89												2
STD	80	14.80												1
STD	90	14.37												2
STD	100	13.86												2
STD	120	13.04												1
STD	140	12.49												1
STD	160	11.95												2
STD	180	11.45												1
STD	200	10.73												2
STD	225	10.12												2
STD	250	9.76												1
STD	275	9.09												3
STD	300	8.50												4
STD	350	7.71												1
STD	400	6.86												2
STD	450	6.00												2
STD	500	5.68												4
STD	550	5.47												6
STD	600	5.43												2
STD	603	5.17												0

BOTTOM DEPTH= 609M

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VE 32 STA 33 DATE 22 10 74 GMT 930 LAT 39 25.4N LONG 72 9.2W

CORR DEPTH 1098M WIND 340 3 SEA 340 3 AIR TEMP 9.8 DEW PT 2.8 BAROM 1036.2

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

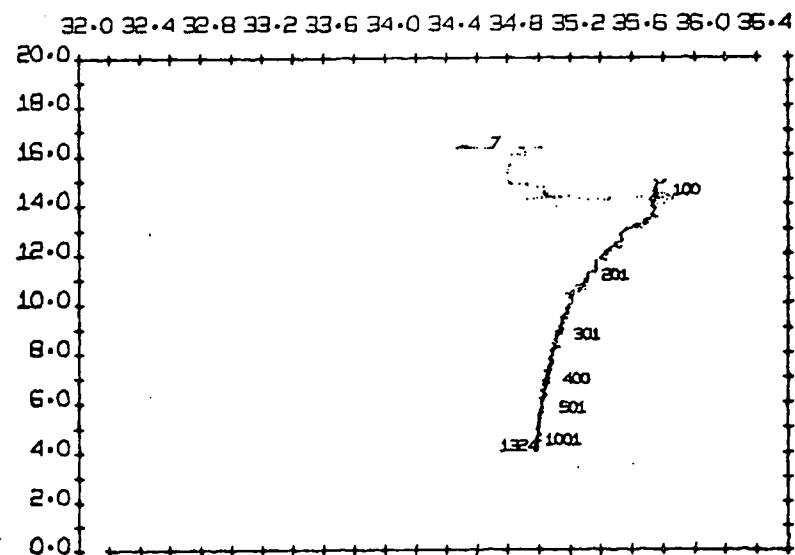
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	28		34.543					5.49	0.47	1.3	1.9		0.87	0.90
OBS	187		35.399					3.13	1.90	21.3	10.9		0.84	0.88
OBS	358		35.080					3.87	2.04	19.9	12.0		0.81	0.62
OBS	536		35.015					5.09	1.73	20.7	13.0		0.84	0.85
OBS	754		34.997					5.62	1.65	17.2	10.8		0.88	0.82
OBS	890		34.990					5.81	1.65	16.7	10.8		0.84	0.75
OBS	1075		34.981					5.98	1.60	13.4	9.0		0.75	0.70
OBS	1193		34.978					6.03	1.54	17.7	10.9		0.82	0.95
OBS	*1273	4.11	34.977	27.78			1488.4	6.06	1.62	16.9	11.3		0.86	0.75
OBS	1281		34.977					6.06	1.65	17.6	11.8		0.87	1.00
OBS	1309		34.977					6.07	1.62	18.1	11.8		0.98	0.82
OBS	1314	4.05	34.977	27.78			1488.9	6.06	1.62	15.7	10.8		0.87	0.87

INT

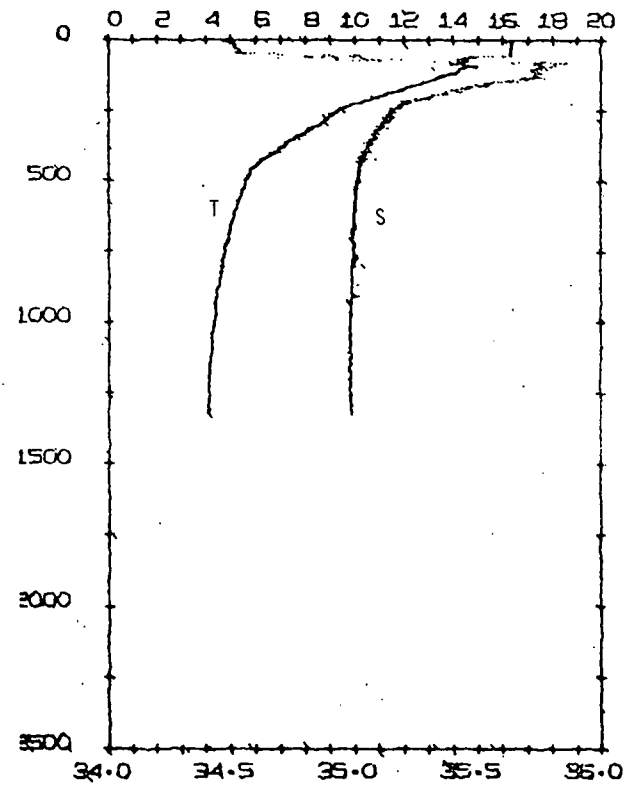
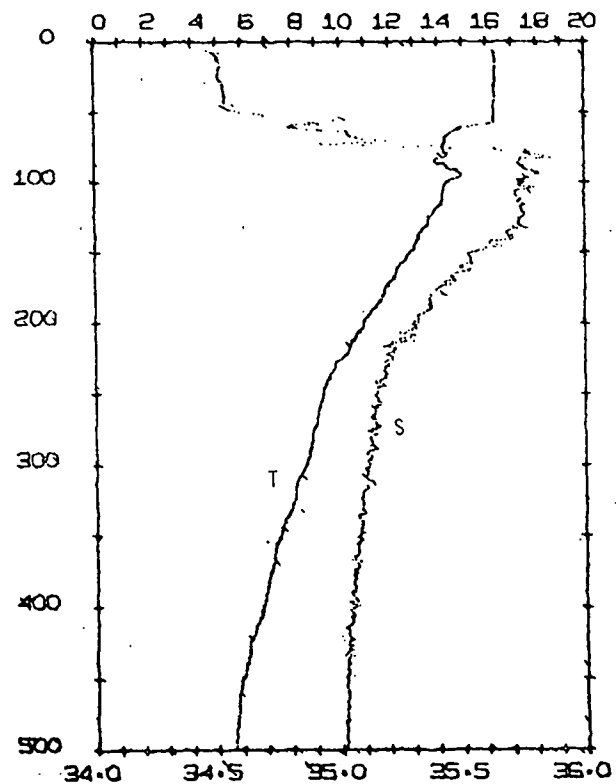
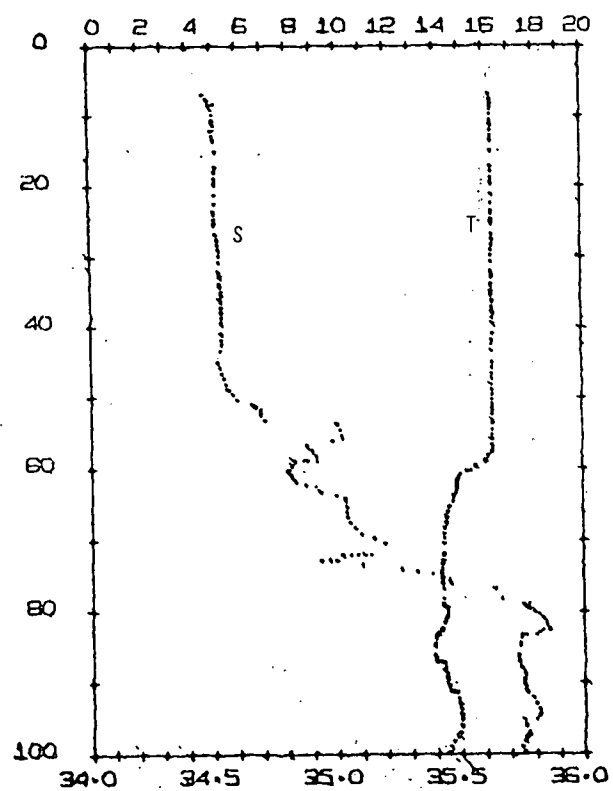
STD	0	16.32	34.468	25.28	269.78	0.000	1510.9				7			
STD	10	16.35	34.506	25.31	267.97	0.027	1511.2				1			
STD	20	16.36	34.517	25.31	267.54	0.054	1511.3				2			
STD	30	16.34	34.529	25.33	266.54	0.080	1511.5				1			
STD	40	16.34	34.536	25.33	266.46	0.107	1511.7				1			
STD	50	16.33	34.593	25.38	262.40	0.133	1511.9				1			
STD	60	15.50	34.808	25.73	228.92	0.158	1509.7				1			
STD	70	14.31	35.162	26.26	178.59	0.178	1506.5				1			
STD	80	14.44	35.790	26.72	135.74	0.194	1507.9				0			
STD	90	14.41	35.749	26.69	138.49	0.208	1507.9				0			
STD	100	14.41	35.748	26.69	138.75	0.222	1508.1				1			
STD	120	13.92	35.741	26.79	129.78	0.249	1506.8				1			
STD	140	13.23	35.700	26.90	119.70	0.273	1504.8				1			
STD	160	12.42	35.494	26.91	119.70	0.297	1502.2				1			
STD	180	11.77	35.429	26.98	112.87	0.321	1500.2				1			
STD	200	10.97	35.300	27.03	108.39	0.343	1497.5				1			
STD	225	10.10	35.214	27.12	100.41	0.369	1494.7				1			
STD	250	9.31	35.150	27.21	92.49	0.393	1492.1				1			
STD	275	8.91	35.133	27.26	88.00	0.416	1491.0				1			
STD	300	8.61	35.115	27.29	85.03	0.437	1490.3				2			
STD	350	7.54	35.074	27.42	73.06	0.477	1487.0				1			
STD	400	6.76	35.048	27.51	64.62	0.511	1484.7				1			
STD	450	5.95	35.019	27.59	56.67	0.541	1482.3				1			
STD	500	5.62	35.016	27.63	53.23	0.569	1481.8				2			
STD	550	5.43	35.003	27.65	52.46	0.595	1481.8				2			
STD	600	5.22	35.004	27.67	50.37	0.621	1481.8				2			
STD	650	5.04	34.996	27.66	49.29	0.646	1481.9				1			
STD	700	4.92	34.993	27.70	48.52	0.670	1482.2				2			
STD	750	4.75	34.997	27.72	46.72	0.694	1482.3				0			
STD	800	4.67	34.990	27.73	46.77	0.718	1482.8				1			
STD	850	4.57	34.990	27.74	46.03	0.741	1483.2				2			
STD	900	4.44	34.988	27.75	45.12	0.764	1483.5				1			
STD	950	4.41	34.984	27.75	45.61	0.786	1484.2				3			
STD	1000	4.32	34.983	27.76	44.98	0.809	1484.7				5			
STD	1100	4.23	34.983	27.77	44.95	0.854	1486.0				3			
STD	1200	4.14	34.982	27.78	44.70	0.899	1487.2				3			
STD	1300	4.10	34.981	27.78	45.23	0.944	1488.8				2			
STD	1324	4.06	34.987	27.79	44.60	0.955	1489.0				0			

BOTTOM DEPTH= 1324M

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VE 32 STA 34 DATE 22 10 74 GMT 1412 LAT 39 19.1N LONG 72 18.5W

CORR DEPTH 214M WIND 320 3 SEA 320 3 AIR TEMP 14.0 DEW PT 3.8 BAROM 1035.9

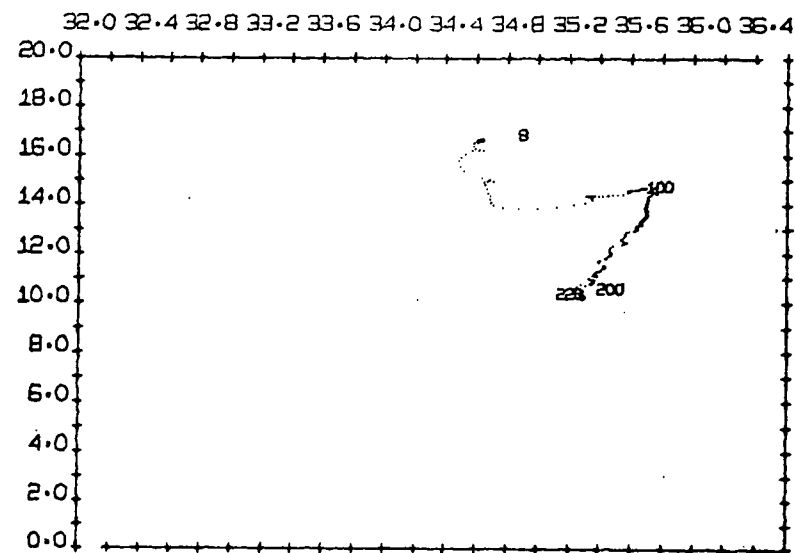
STD 904C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	4		34.602					5.51						
CBS	22		34.605					5.50						
CBS	58		34.772					4.71						
CBS	97		35.614					3.95						
CBS	122		35.782					3.67						
CBS	141		35.718					3.64						
CBS	161		35.668					3.56						
CBS	179		35.521					3.30						
CBS	190		35.408					3.17						
CBS	198		35.337					3.13						
CBS	207		35.302					3.14						
CBS	218		35.296					3.13						

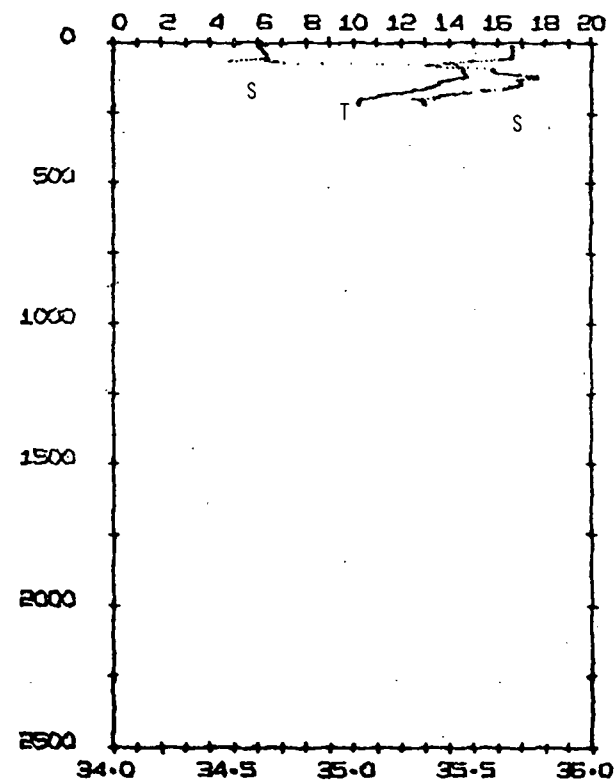
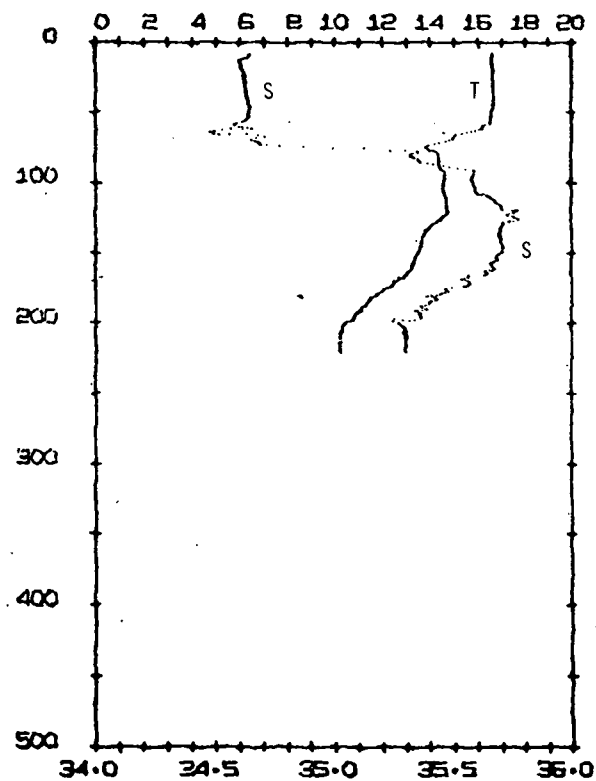
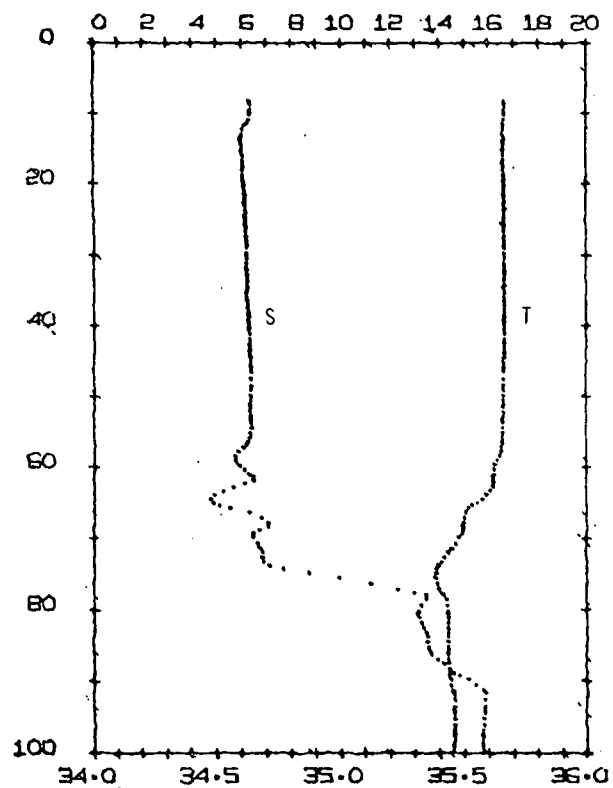
	STC	0	16.62	34.637	25.34	264.06	0.000	1512.0	INT
STD	10	16.62	34.638	25.34	264.29	0.026	1512.1	8	
STD	20	16.62	34.611	25.32	266.52	0.053	1512.3	0	
STD	30	16.62	34.624	25.33	265.90	0.080	1512.4	0	
STD	40	16.62	34.632	25.34	265.71	0.106	1512.6	0	
STD	50	16.61	34.640	25.35	265.07	0.133	1512.7	1	
STD	60	16.27	34.598	25.39	261.04	0.159	1511.8	1	
STD	70	14.78	34.650	25.77	225.70	0.183	1507.4	1	
STD	80	14.33	35.320	26.38	167.80	0.203	1507.0	1	
STD	90	14.43	35.524	26.52	155.20	0.219	1507.7	1	
STD	100	14.57	35.581	26.53	154.20	0.235	1508.4	0	
STD	120	14.72	35.772	26.65	144.00	0.264	1509.4	0	
STD	140	13.69	35.699	26.81	128.73	0.292	1506.3	0	
STD	160	13.23	35.663	26.88	122.82	0.317	1505.1	0	
STD	180	11.84	35.441	26.98	113.21	0.340	1500.4	0	
STD	200	10.41	35.268	27.11	101.05	0.362	1495.5	0	
STD	219	10.20	35.294	27.17	95.96	0.381	1495.1	0	

BOTTOM DEPTH= 222M

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VE 32 STA 35 DATE 22 10 74 GMT 2127 LAT 39 29.3N LONG 72 15.7W
 CORR DEPTH 710M WIND 290 4 SEA 290 3 AIR TEMP 0.0 DEW PT 0.0 BAROM 1032.8
 STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

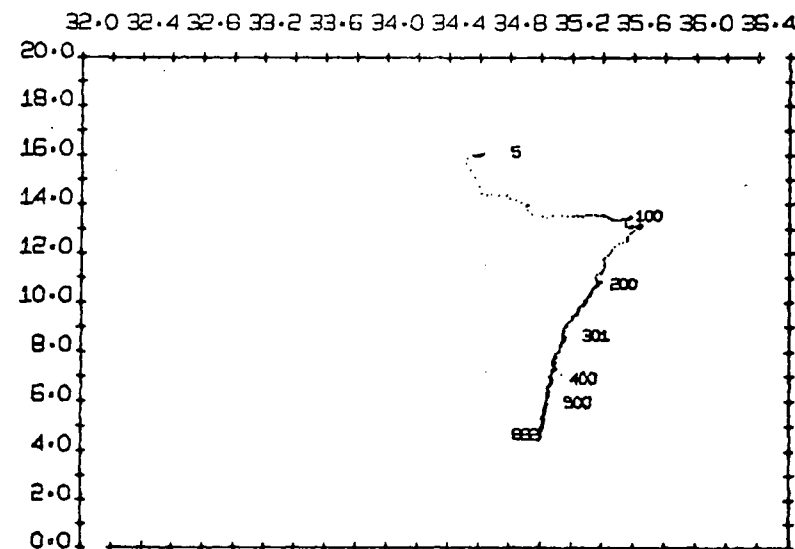
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	48		34.385					4.80						
CBS	196		35.328					3.12						
CBS	254		35.162					0						
CBS	358		35.062					0						
CBS	439		35.042					4.55						
CBS	492		35.025					4.89						
CBS	538		35.018					5.05						
CBS	580	5.37	35.013	27.66			1482.1	5.15						
CBS	664		35.008					5.29						
CBS *	786	4.87	35.002	27.71			1483.5	5.50						
CBS	852		34.989					5.77						
CBS	868	4.45	34.988	27.75			1483.1	5.82						

INT

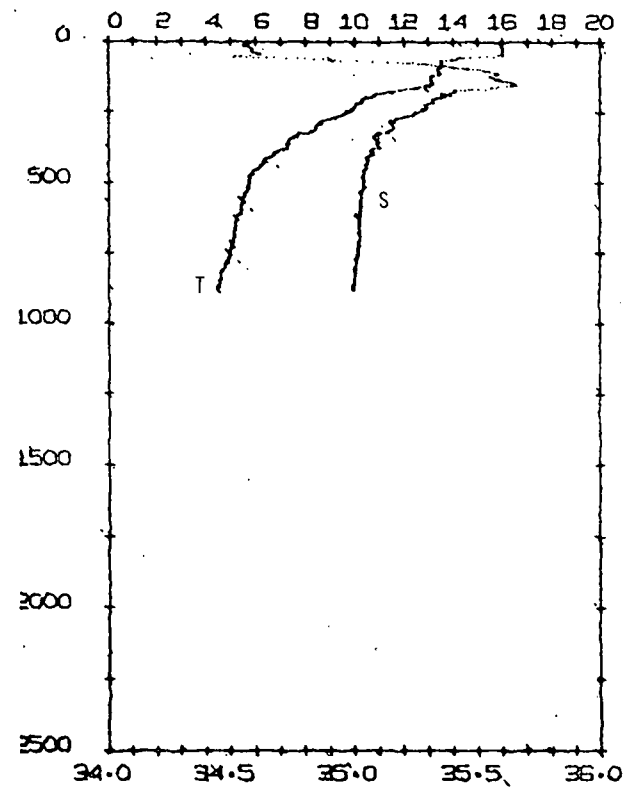
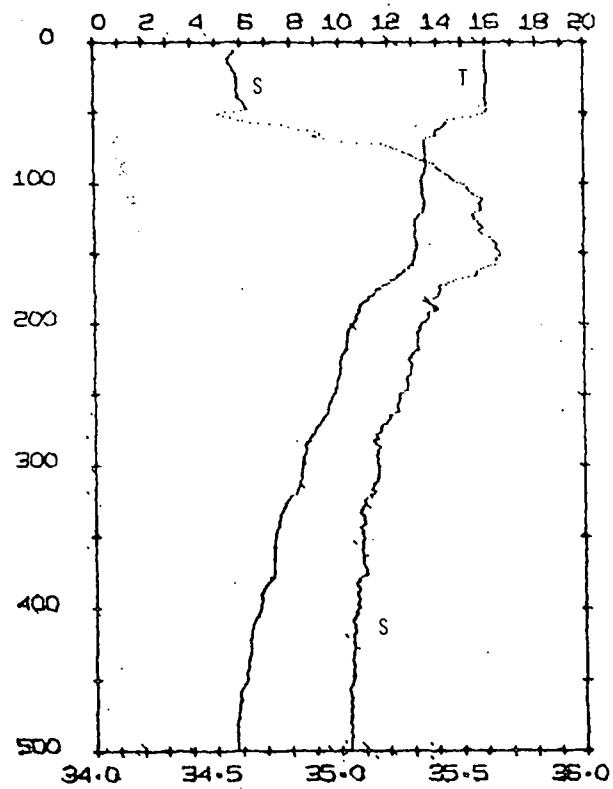
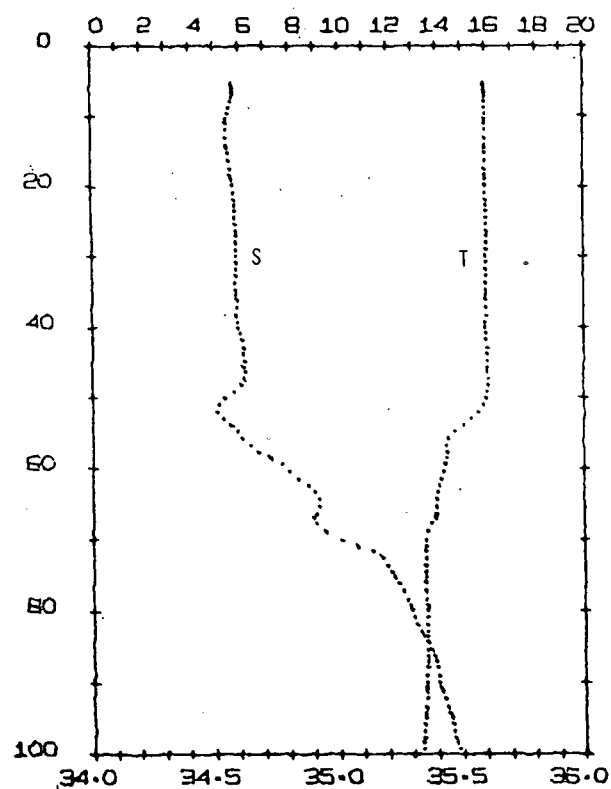
STD	0	15.97	34.575	25.45	254.31	0.000	1509.9							
STD	10	15.99	34.556	25.43	256.31	0.026	1510.1							
STD	20	16.02	34.577	25.44	255.72	0.051	1510.4							
STD	30	16.01	34.589	25.45	255.08	0.077	1510.5							
STD	40	15.98	34.596	25.46	254.13	0.102	1510.6							
STD	50	16.01	34.550	25.42	258.55	0.128	1510.8							
STD	60	14.26	34.789	25.99	204.49	0.151	1505.7							
STD	70	13.55	35.001	26.30	175.08	0.170	1503.8							
STD	80	13.55	35.296	26.53	153.70	0.186	1504.4							
STD	90	13.54	35.403	26.61	146.01	0.201	1504.6							
STD	100	13.36	35.496	26.72	136.10	0.215	1504.3							
STD	120	13.46	35.574	26.76	132.78	0.242	1505.1							
STD	140	13.13	35.620	26.86	123.43	0.268	1504.4							
STD	160	12.93	35.598	26.89	121.82	0.292	1504.0							
STD	180	11.28	35.401	27.05	106.06	0.315	1498.4							
STD	200	10.57	35.336	27.13	98.75	0.336	1496.1							
STD	225	10.08	35.287	27.18	94.56	0.360	1494.7							
STD	250	9.80	35.247	27.20	93.41	0.383	1494.1							
STD	275	9.03	35.172	27.27	86.96	0.406	1491.5							
STD	300	8.48	35.157	27.34	79.91	0.427	1489.8							
STD	350	7.36	35.093	27.46	68.97	0.464	1486.3							
STD	400	6.74	35.075	27.53	62.42	0.497	1484.7							
STD	450	6.15	35.048	27.59	57.18	0.527	1483.1							
STD	500	5.75	35.039	27.64	53.26	0.554	1482.3							
STD	550	5.55	35.027	27.65	52.23	0.581	1482.3							
STD	600	5.41	35.026	27.67	51.15	0.607	1482.6							
STD	650	5.22	35.019	27.69	49.81	0.632	1482.6							
STD	700	5.14	35.020	27.70	49.36	0.657	1483.1							
STD	750	4.97	35.015	27.71	48.16	0.681	1483.3							
STD	800	4.78	35.003	27.72	47.17	0.705	1483.3							
STD	850	4.58	35.002	27.75	45.30	0.728	1483.3							
STD	881	4.47	34.998	27.76	44.54	0.742	1483.3							

BOTTOM DEPTH= 890M

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VE 32 STA 36 DATE 23 10 74 GMT 28 LAT 39 35.2N LONG 72 18.7W

CORR DEPTH 113M WIND 260 5 SEA 270 3 AIR TEMP 14.0 DEW PT 6.8 BAROM 1028.8

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

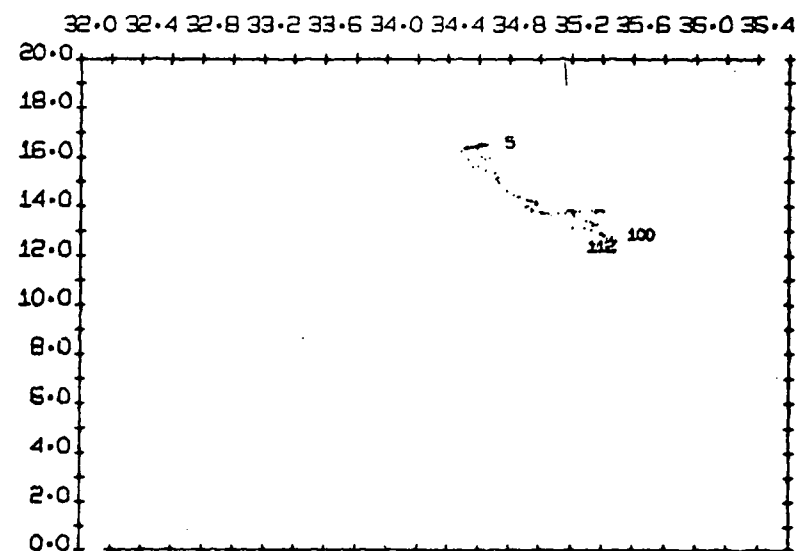
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	20		34.539					5.56						
OBS	31		34.593					5.55						
OBS	36		34.619					5.49						
OBS	45		34.663					5.28						
OBS	55		34.894					4.39						
OBS	64		35.031					4.19						
OBS	72	13.93	35.103	26.30			1505.3	4.13						
OBS	83		35.344					3.75						
OBS *	81	12.91	35.412	26.75			1502.4	3.46						
OBS	100		35.467					3.38						
OBS	109	12.58	35.471	26.86			1501.8	3.37						

INT

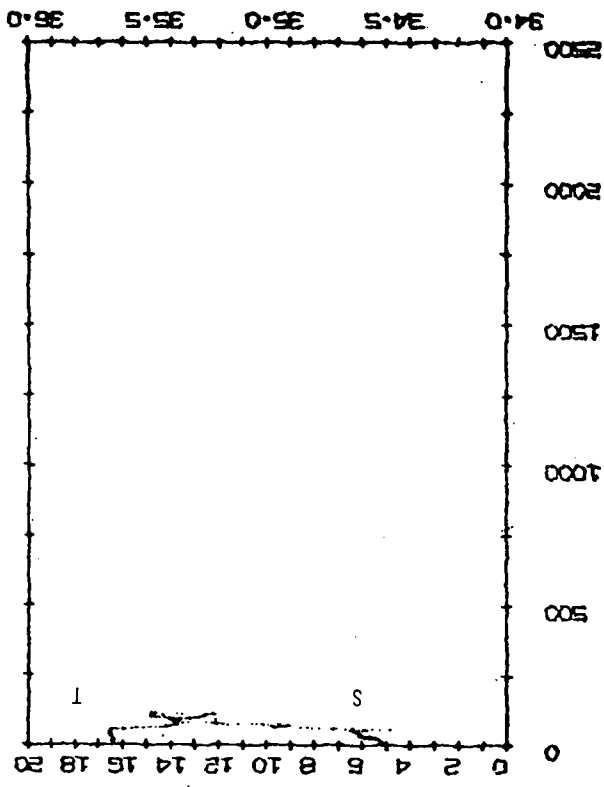
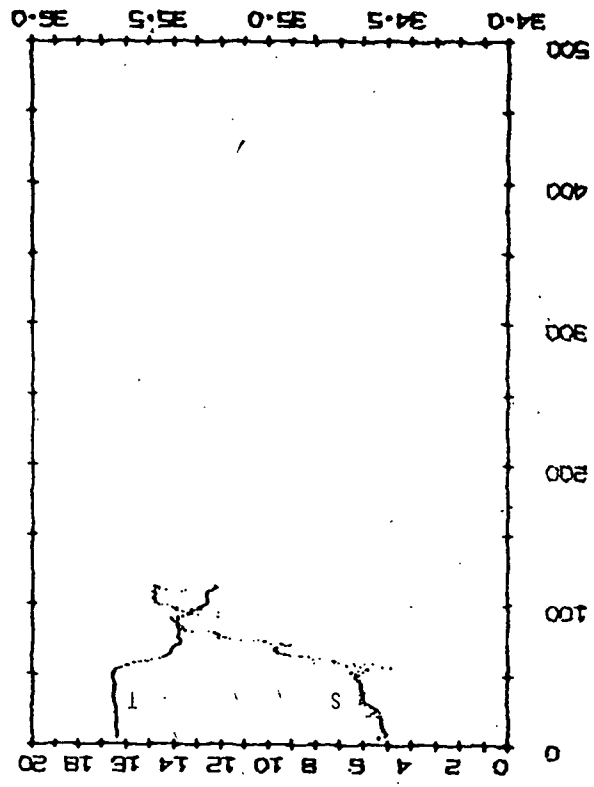
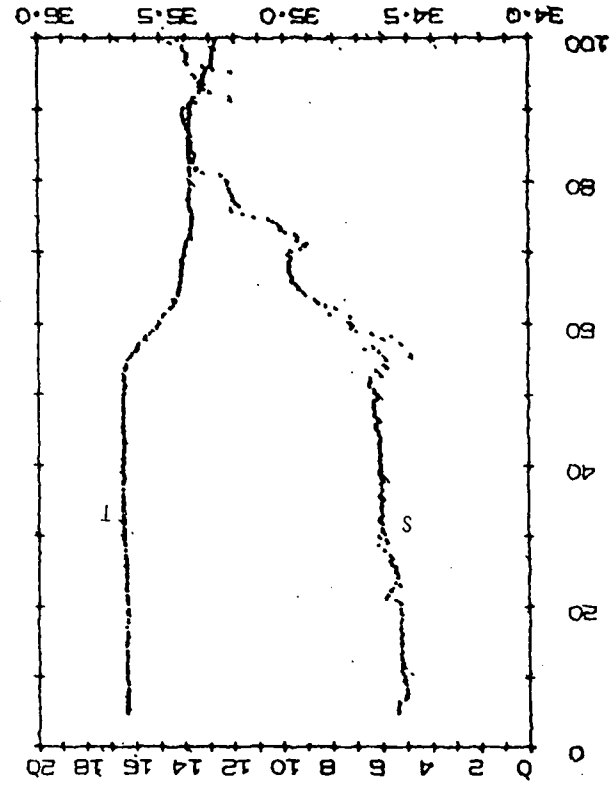
STD	0	16.38	34.541	25.33	265.77	0.000	1511.1							
STD	10	16.39	34.512	25.30	268.22	0.027	1511.3							
STD	20	16.37	34.527	25.32	267.14	0.053	1511.4							
STD	30	16.48	34.601	25.35	264.50	0.080	1512.0							
STD	40	16.50	34.608	25.35	264.81	0.107	1512.2							
STD	50	16.51	34.617	25.35	264.61	0.133	1512.4							
STD	60	15.08	34.722	25.76	226.26	0.158	1508.3							
STD	70	14.05	34.969	26.17	187.34	0.178	1505.4							
STD	80	13.79	35.230	26.43	163.47	0.196	1505.1							
STD	90	13.81	35.407	26.56	151.16	0.211	1505.5							
STD	100	12.68	35.440	26.82	126.97	0.225	1502.0							
STD	112	12.22	35.478	26.94	115.74	0.240	1500.6							

BOTTOM DEPTH= 114M

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VE 32 STA 37 DATE 23 10 74 GMT 407 LAT 39 32.3N LONG 72 24.7W

CORR DEPTH 525M WIND 290 4 SEA 290 3 AIR TEMP 1.4 DEW PT 0.7 BAROM 1027.4

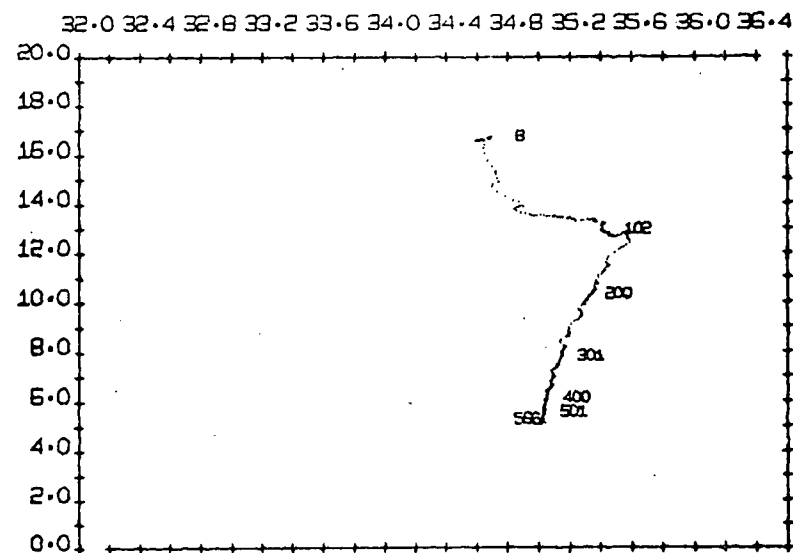
STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	11		34.631					5.54	0.47	0.9	1.9		1.08	1.38
CBS	46		34.666					5.48	0.47	0.6	1.8		0.93	2.00
CBS	124		35.570					3.39	1.54	18.7	10.0		0.93	1.22
CBS	175		35.344					3.35	1.71	18.3	10.8		0.74	1.44
CBS	230		35.248					3.45		24.0	13.8		0.84	1.98
CBS	348		35.079					4.49	1.90	22.5	14.0		0.80	
CBS	413		35.043					4.87	1.84	22.0	13.8		0.93	2.25
CBS	469	5.58	35.035	27.65			1481.2	5.10	1.84	21.6	13.6		0.99	1.26
CBS	519		35.025					5.22	1.95	20.8	13.5		0.90	1.14
CBS	544	5.27	35.021	27.68			1481.1	5.29	1.73	20.8	13.3		0.82	
CBS	551		35.016					5.35	1.84	20.0	13.4		0.80	
CBS	562	5.14	35.015	27.69			1480.9	5.33	1.79	20.8	13.3		0.93	1.92

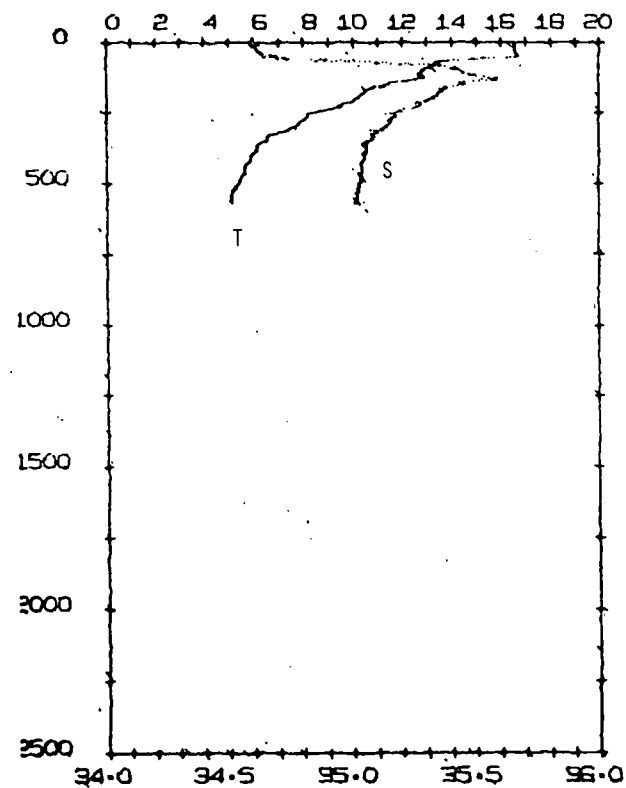
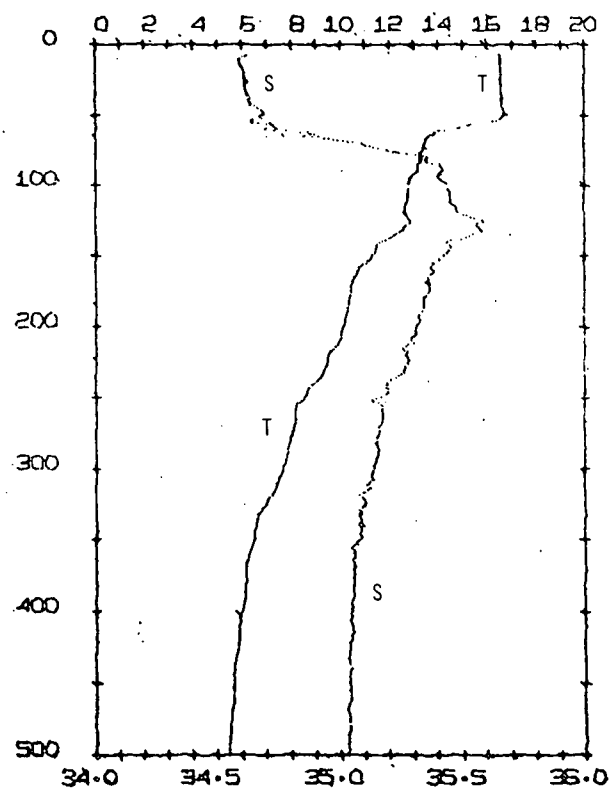
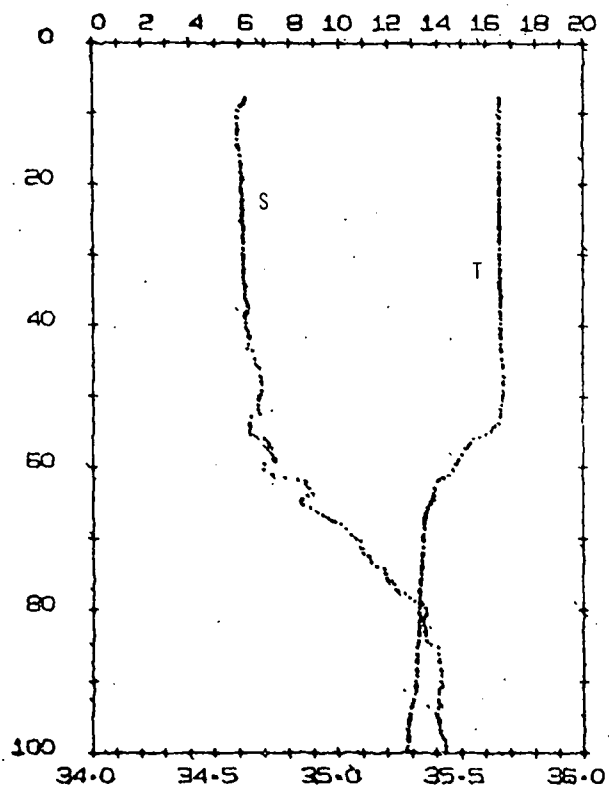
	STD	0	16.55	34.623	25.35	263.58	0.000	1511.7	INT
STD	10	16.57	34.593	25.32	266.53	0.027	1511.9	1	
STD	20	16.57	34.610	25.34	265.41	0.053	1512.1	0	
STD	30	16.57	34.617	25.34	265.31	0.080	1512.3	0	
STD	40	16.59	34.629	25.34	265.23	0.106	1512.5	1	
STD	50	16.71	34.681	25.36	264.33	0.133	1513.1	0	
STD	60	14.75	34.699	25.81	221.22	0.157	1507.2	1	
STD	70	13.48	35.069	26.37	168.74	0.176	1503.7	1	
STD	80	13.31	35.358	26.63	144.52	0.192	1503.6	1	
STD	90	13.18	35.422	26.70	137.60	0.206	1503.5	1	
STD	100	12.81	35.437	26.79	129.72	0.220	1502.4	3	
STD	120	12.67	35.496	26.86	123.21	0.245	1502.4	1	
STD	140	11.67	35.436	27.01	109.46	0.268	1499.2	1	
STD	160	10.75	35.381	27.14	97.72	0.289	1496.2	1	
STD	180	10.41	35.345	27.17	94.85	0.308	1495.2	1	
STD	200	10.16	35.312	27.19	93.62	0.327	1494.6	1	
STD	225	9.47	35.275	27.28	85.38	0.349	1492.5	1	
STD	250	8.52	35.160	27.34	79.54	0.370	1489.2	1	
STD	275	8.05	35.159	27.41	72.86	0.389	1487.8	1	
STD	300	7.68	35.139	27.45	69.34	0.407	1486.8	1	
STD	350	6.51	35.076	27.57	58.40	0.439	1482.9	1	
STD	400	5.97	35.043	27.61	54.38	0.467	1481.6	1	
STD	450	5.65	35.037	27.65	51.55	0.493	1481.1	1	
STD	500	5.41	35.025	27.67	50.00	0.519	1480.9	1	
STD	550	5.12	35.018	27.70	47.41	0.543	1480.6	1	
STD	565	5.11	35.015	27.69	47.80	0.551	1480.8	0	

BOTTOM DEPTH= 566M

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VE 32 STA 38 DATE 23 10 74 GMT 758 LAT 39 29.5N LONG 72 29.6W
 CORR DEPTH 112M WIND 270 5 SEA 270 4 AIR TEMP 15.0 DEN PT 9.0 BAROM 1025.0
 STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

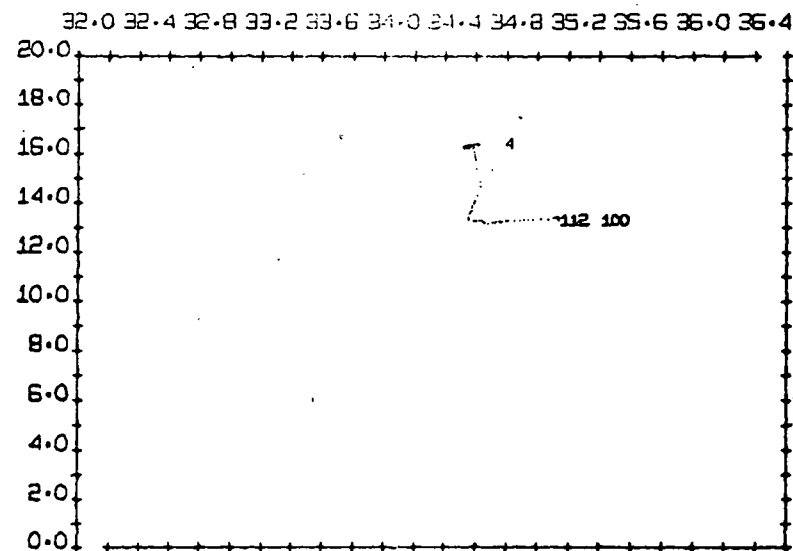
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	5		34.576					5.55						
OBS	11		34.580					5.55						
OBS	20		34.575					5.55						
OBS	30		34.572					5.55						
OBS	38		34.585					5.53						
OBS	46		34.674					5.49						
OBS	56		34.631					5.15						
OBS	65	13.43	34.569	25.99			1502.8	4.55						
OBS	72		34.814					4.24						
OBS	85		35.105					3.83						
OBS	95		35.294					3.65						
OBS	111	13.13	35.311	26.63			1503.5	3.59						

INT

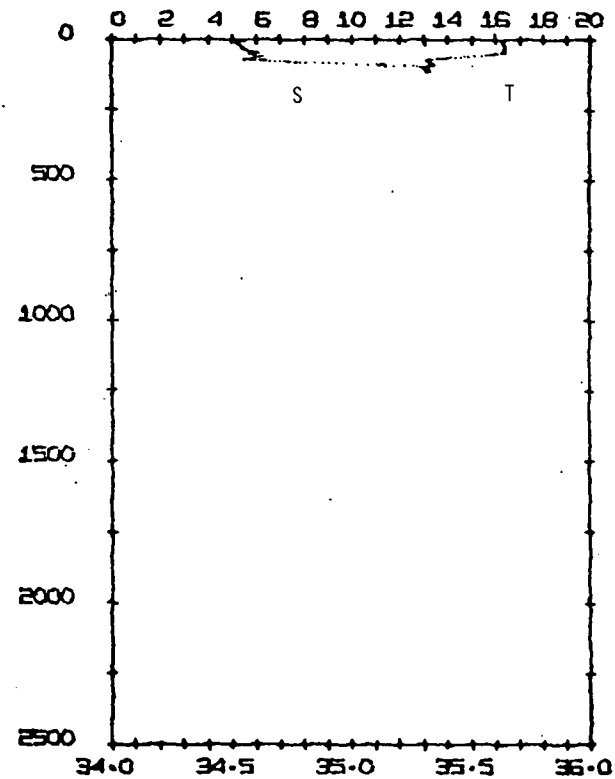
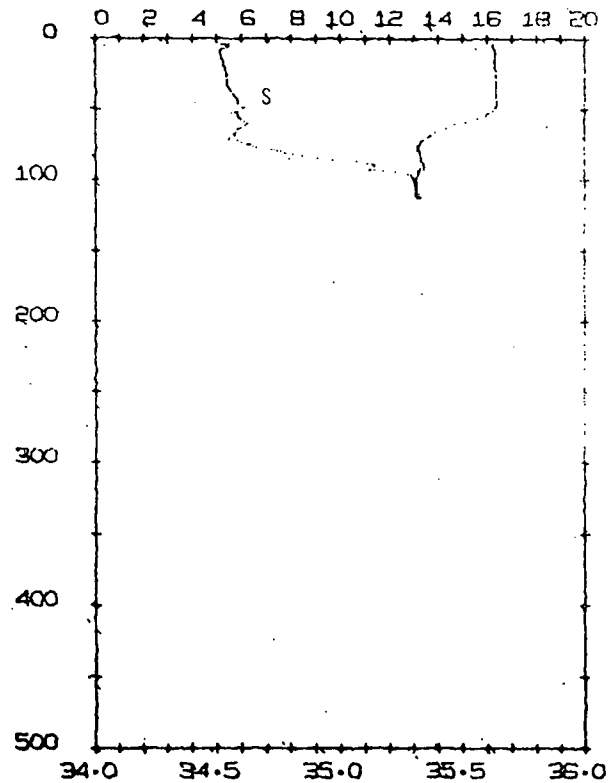
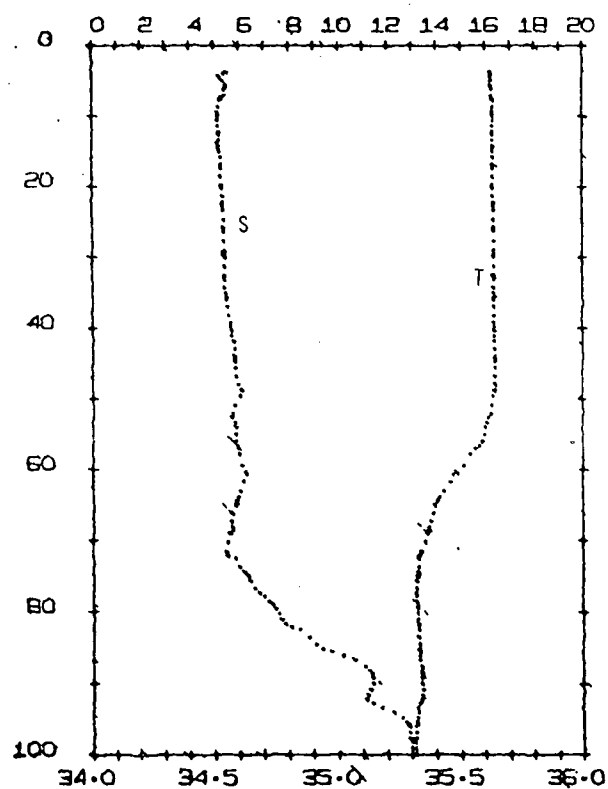
STD	0	16.23	34.553	25.37	261.55	0.000	1510.7							
STD	10	16.32	34.515	25.32	266.49	0.026	1511.1							
STD	20	16.34	34.529	25.33	266.21	0.053	1511.3							
STD	30	16.35	34.543	25.33	265.88	0.080	1511.5							
STD	40	16.38	34.570	25.35	264.72	0.106	1511.8							
STD	50	16.33	34.597	25.38	261.93	0.133	1511.8							
STD	60	14.98	34.616	25.70	232.03	0.157	1507.8							
STD	70	13.59	34.553	25.95	208.72	0.179	1503.4							
STD	80	13.24	34.755	26.17	187.28	0.199	1502.7							
STD	90	13.42	35.139	26.43	162.97	0.217	1503.9							
STD	100	13.12	35.303	26.62	145.53	0.232	1503.3							
STD	111	13.13	35.323	26.63	144.46	0.249	1503.5							

BOTTOM DEPTH= 112M

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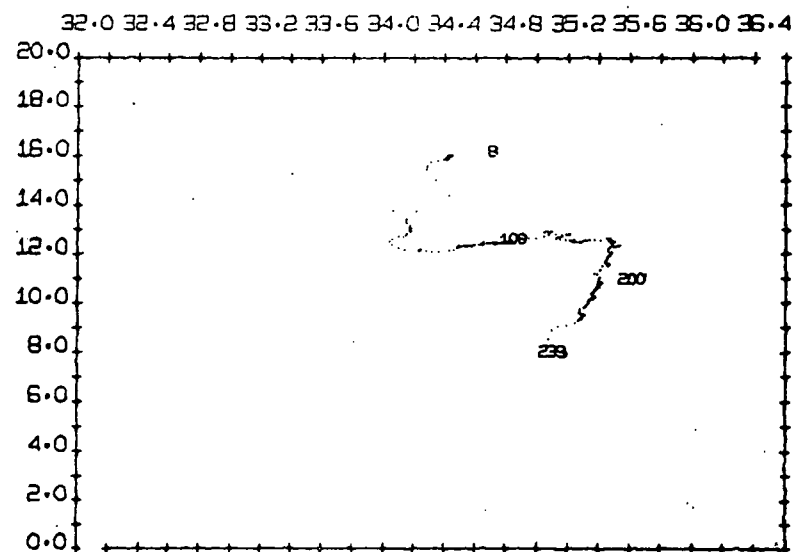


VE 32 STA 39 DATE 23 10 74 GMT 1158 LAT 39 39.1N LONG 72 27.7W
 CORR DEPTH 238M WIND 33G 5 SEA 330 4 AIR TEMP 16.4 DEW PT 5.6 BAROM 1023.7
 STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

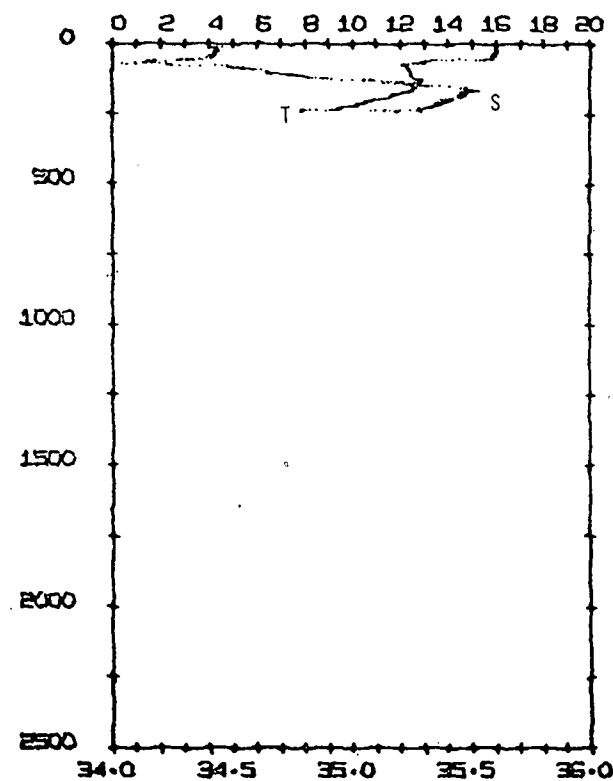
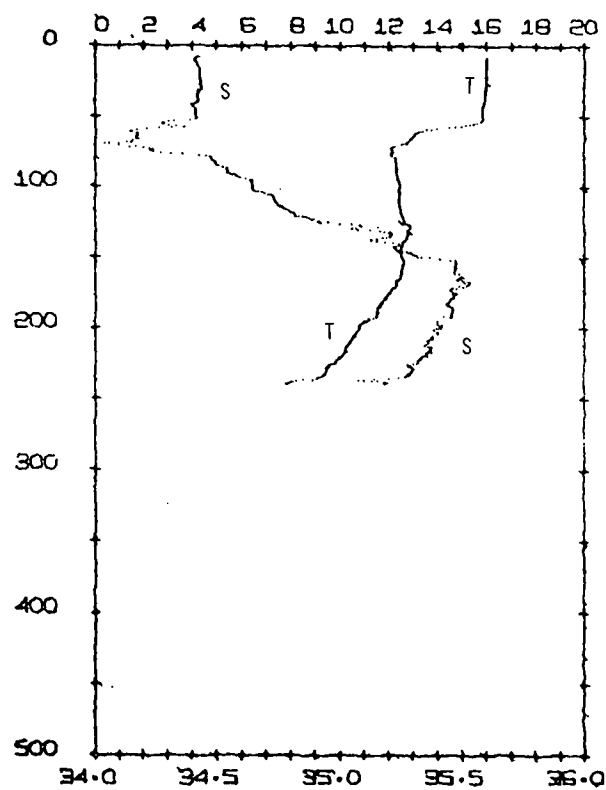
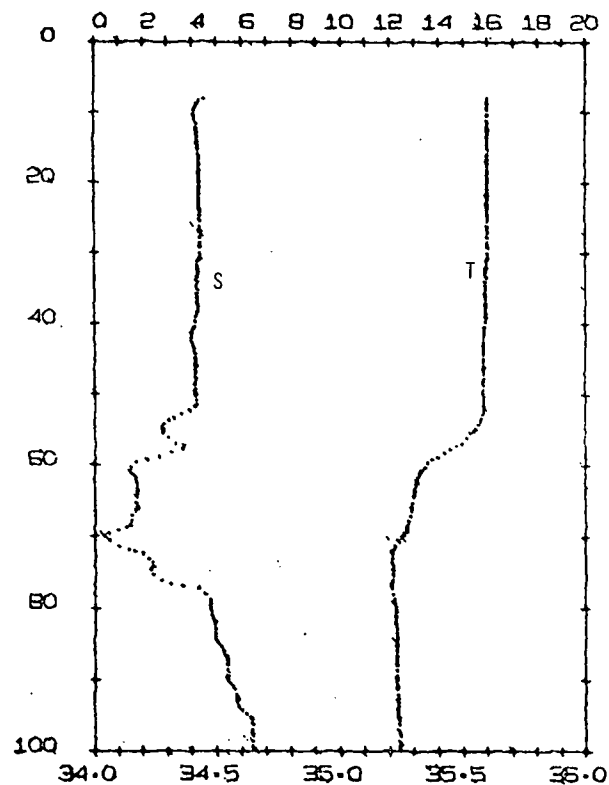
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	17		34.424					5.53	0.52	0.9	2.0		0.93	1.55
CBS	50		34.406					5.43	0.61	1.8	2.6		0.86	0.96
CBS	59		34.188					4.68	1.13	8.5	8.9		0.82	
CBS	80		34.467						1.35	11.8	12.0		0.82	1.32
CBS	99		34.648					3.99	1.35	11.9	11.8		0.93	2.07
CBS	117		34.727					3.98	1.35	12.6	11.8		0.86	1.85
CBS	137		35.149					3.69	1.46	14.3	10.5		0.94	0.93
CBS	156		35.459					3.42	1.43	15.6	9.1		0.75	1.65
CBS	174		35.478					3.36	1.60	19.0	10.6		0.78	0.90
CBS	192		35.439					3.36	1.68	17.8	10.3		0.82	1.47
CBS	212		35.348					3.48	1.84	22.5	13.5		0.93	1.05
CBS	233		35.300					3.62	1.32	20.6	12.5		0.80	1.08
											INT			
STD	0	15.98	34.450	25.35	263.66	0.000	1509.8							
STD	10	15.99	34.413	25.32	266.77	0.027	1509.9							
STD	20	16.00	34.432	25.33	265.87	0.053	1510.1							
STD	30	16.00	34.436	25.33	265.86	0.080	1510.3							
STD	40	15.90	34.416	25.34	265.55	0.106	1510.1							
STD	50	15.83	34.416	25.36	264.24	0.133	1510.1							
STD	60	13.50	34.162	25.66	235.26	0.158	1502.5							
STD	70	12.49	34.042	25.77	225.16	0.181	1499.1							
STD	80	12.27	34.477	26.15	189.36	0.202	1499.1							
STD	90	12.32	34.542	26.19	185.78	0.220	1499.5							
STD	100	12.43	34.646	26.25	180.46	0.239	1500.1							
STD	120	12.53	34.817	26.36	170.30	0.274	1501.0							
STD	140	12.55	35.233	26.68	140.63	0.305	1501.9							
STD	160	12.53	35.469	26.87	123.54	0.331	1502.5							
STD	180	11.84	35.452	26.99	112.44	0.355	1500.4							
STD	200	10.80	35.412	27.15	97.29	0.376	1497.1							
STD	225	9.80	35.305	27.24	88.61	0.399	1493.7							
STD	239	7.86	35.183	27.46	67.59	0.410	1486.5							

BOTTOM DEPTH= 241M

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VE 32 STA 40 DATE 23 10 74 GMT 1715 LAT 39 57.5N LONG 72 30.6W

CORR DEPTH 64M WIND 310 3 SEA 310 3 AIR TEMP 15.9 DEW PT 7.0 BAROM 1020.3

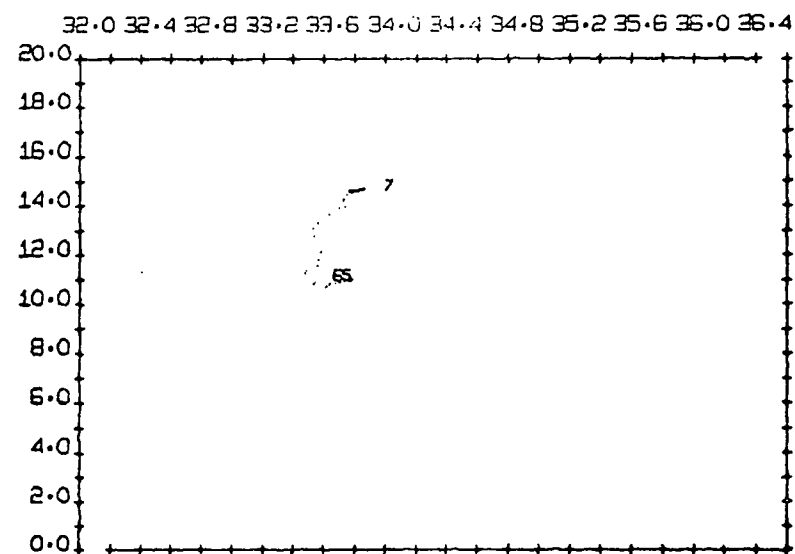
STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 5

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	10		33.805					5.72						
CBS	30		33.852					5.53						
CBS	40		33.853					5.51						
CBS	48		33.721					4.72						
CBS	62		33.760					4.04						

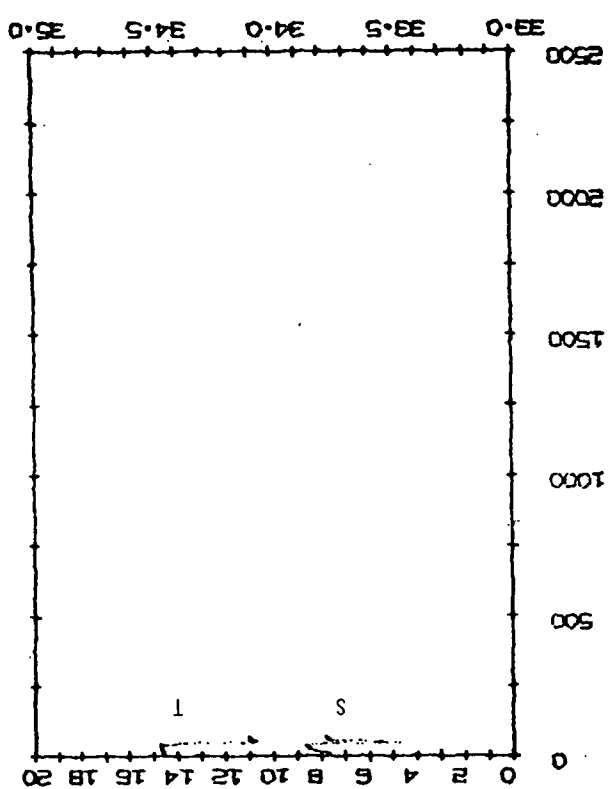
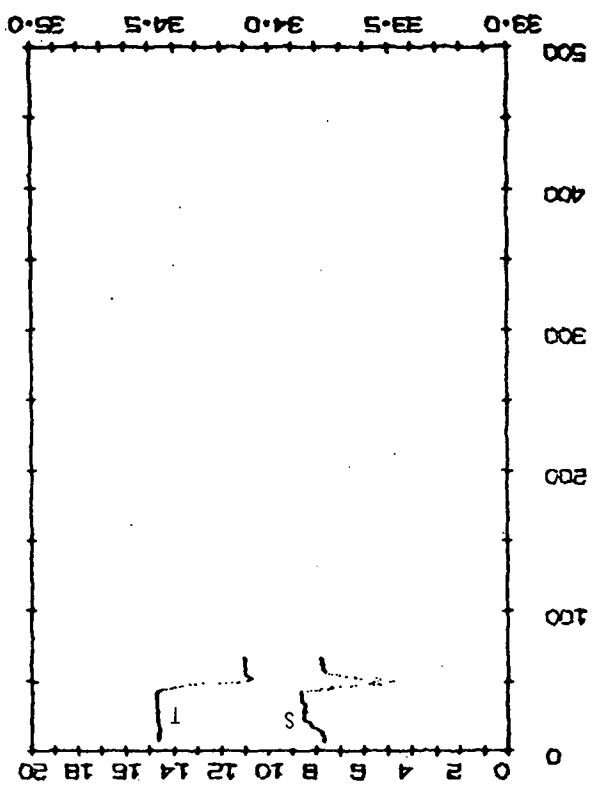
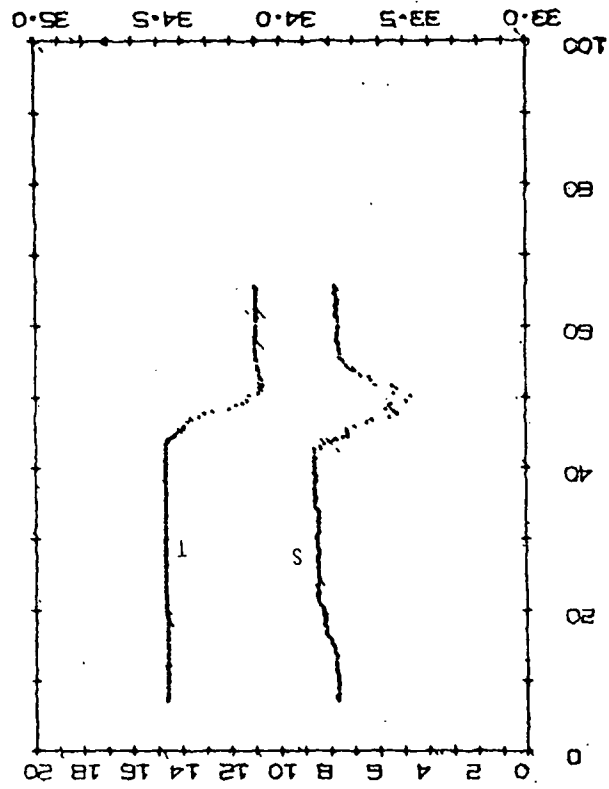
	STD	0	14.63	33.767	25.12	285.23	0.000	1504.7	INT
STD	10	14.60	33.770	25.13	284.59	0.028	1504.8	7	
STD	20	14.63	33.828	25.17	281.17	0.057	1505.1	0	
STD	30	14.67	33.853	25.18	280.43	0.085	1505.4	0	
STD	40	14.70	33.864	25.18	280.54	0.113	1505.7	0	
STD	50	11.30	33.482	25.56	244.49	0.139	1493.9	1	
STD	60	11.01	33.769	25.84	218.57	0.162	1493.4	0	
STD	65	11.00	33.777	25.84	217.88	0.174	1493.5	0	

BOTTOM DEPTH= 67M

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VE 32 STA 41 DATE 23 10 74 GMT 2201 LAT 40 10.1N LONG 72 8.5W

CORR DEPTH 69M WIND 320 3 SEA 320 3 AIR TEMP 14.8 DEW PT 9.5 BAROM 1019.0

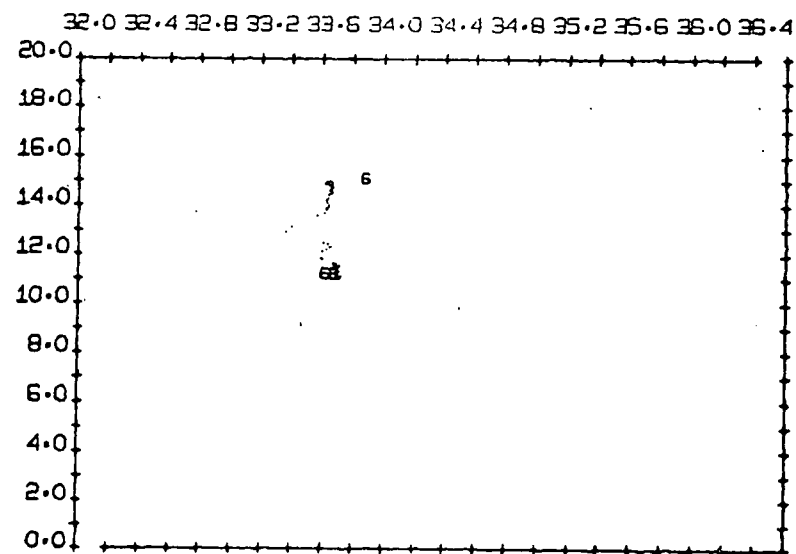
STD 9C40 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	17		33.626					5.76						
CBS	26		33.636					5.72						
CBS	35		33.640					5.68						
CBS	50		33.680					4.40						
CBS	61		33.683					4.27						
CBS	66		33.682					4.25						

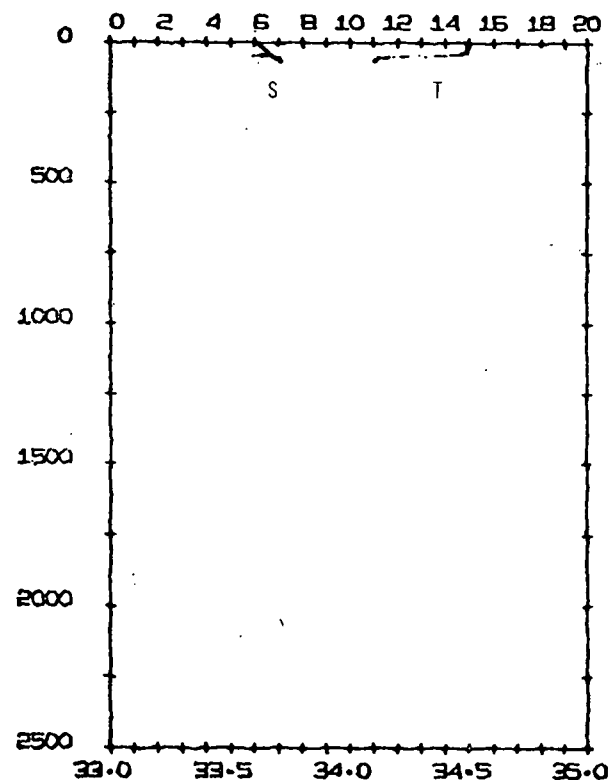
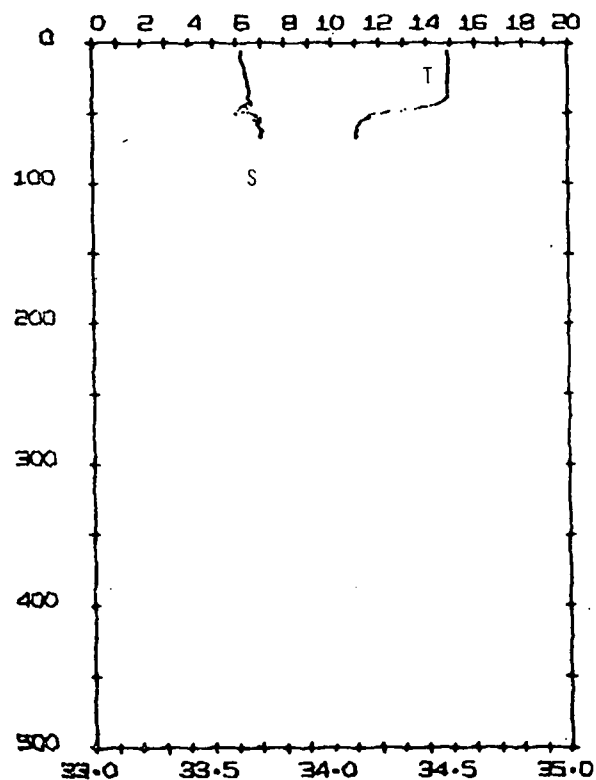
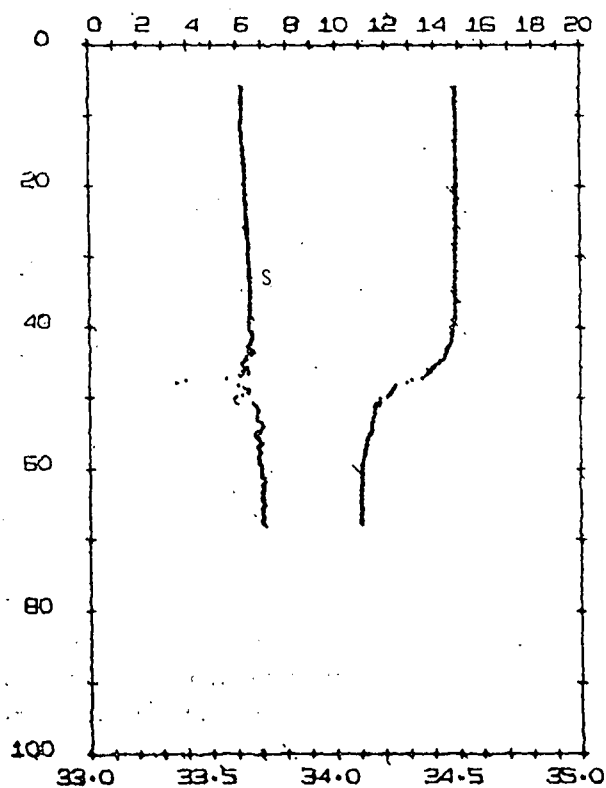
	STD		TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
	0	14.90	33.624	24.95	301.18	0.000	1505.4								
	10	14.90	33.623	24.95	301.56	0.030	1505.6								
	20	14.90	33.637	24.96	300.82	0.060	1505.7								
	30	14.90	33.648	24.97	300.13	0.090	1505.9								
	40	14.82	33.652	24.99	298.46	0.120	1505.8								
	50	12.06	33.597	25.51	249.52	0.148	1496.7								
	60	11.08	33.701	25.77	224.78	0.171	1493.6								
	67	11.06	33.705	25.78	224.20	0.189	1493.6								

BOTTOM DEPTH= 70M

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VE-32- 41



VE 32 STA 42 DATE 24 10 74 GMT 20 LAT 39 53.0N LONG 71 57.2W

CORR DEPTH 11CM WIND 340 3 SEA 340 3 AIR TEMP 14.5 DEW PT 9.8 BAROM 1019.6

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 7

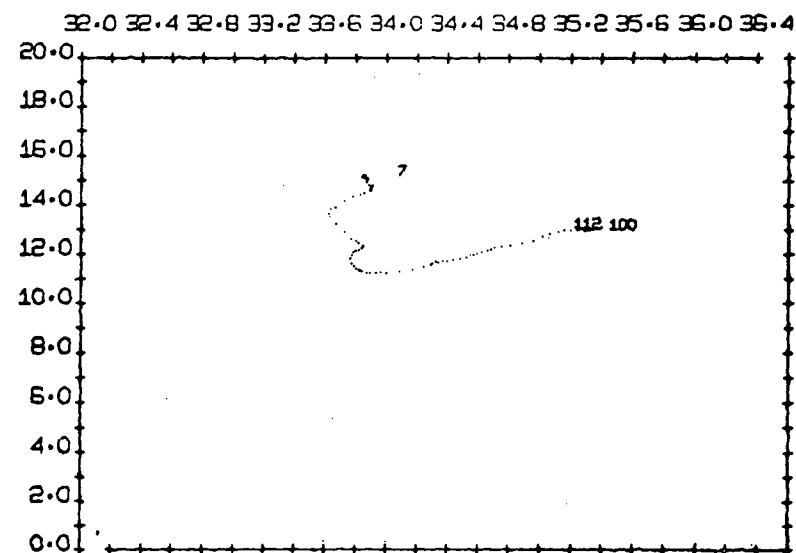
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	3		33.841					5.68						
CBS	23		33.835					5.68						
OBS	31		33.838					5.65						
OBS	57		33.896					4.49						
OBS	81		34.609					3.99						
CBS	95		35.317					3.52						
CBS	110		35.374					3.48						

INT

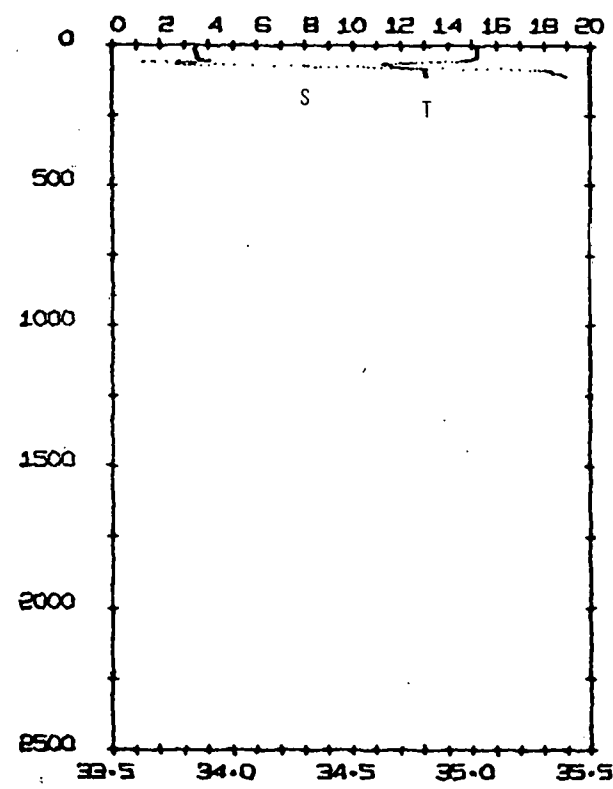
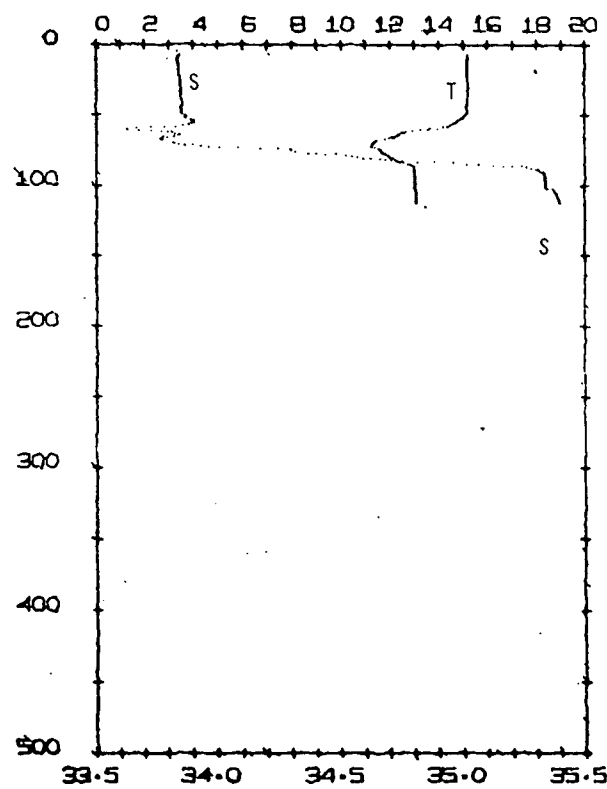
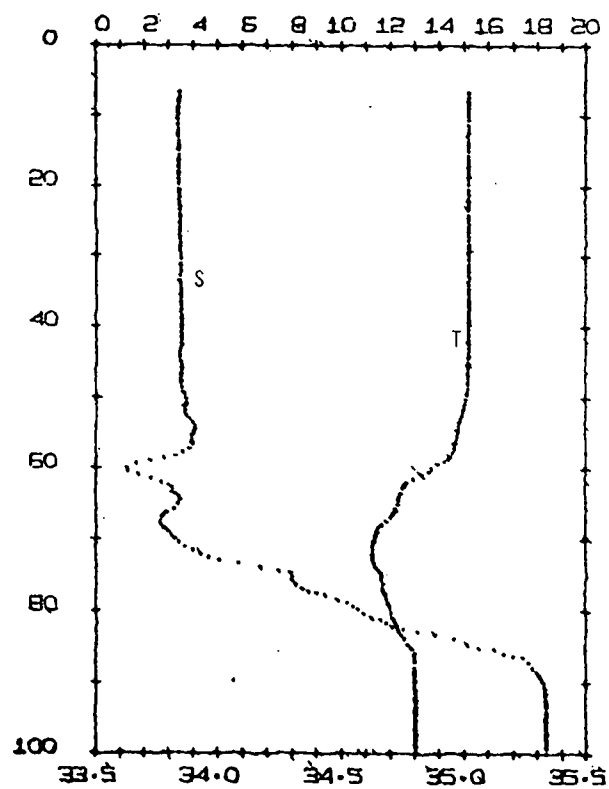
STD	0	15.20	33.848	25.06	290.83	0.000	1506.6							
STD	10	15.19	33.839	25.06	291.60	0.029	1506.7							
STD	20	15.19	33.846	25.06	291.54	0.058	1506.9							
STD	30	15.19	33.850	25.06	291.51	0.087	1507.1							
STD	40	15.20	33.855	25.07	291.50	0.117	1507.3							
STD	50	15.10	33.869	25.10	288.75	0.146	1507.1							
STD	60	13.69	33.630	25.21	278.04	0.174	1502.4							
STD	70	11.35	33.833	25.82	219.99	0.199	1494.9							
STD	80	12.02	34.579	26.28	177.32	0.219	1498.3							
STD	90	13.01	35.323	26.66	141.56	0.235	1502.8							
STD	100	13.04	35.337	26.66	141.36	0.249	1503.0							
STD	111	13.09	35.395	26.70	138.37	0.265	1503.5							

BOTTOM DEPTH= 114M

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VE 32 STA 43 DATE 24 10 74 GMT 449 LAT 39 45.0N LONG 71 54.0W

CORR DEPTH 243M WIND 340 4 SEA 340 4 AIR TEMP 14.6 DEW PT 8.2 BAROM 1019.3

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 10

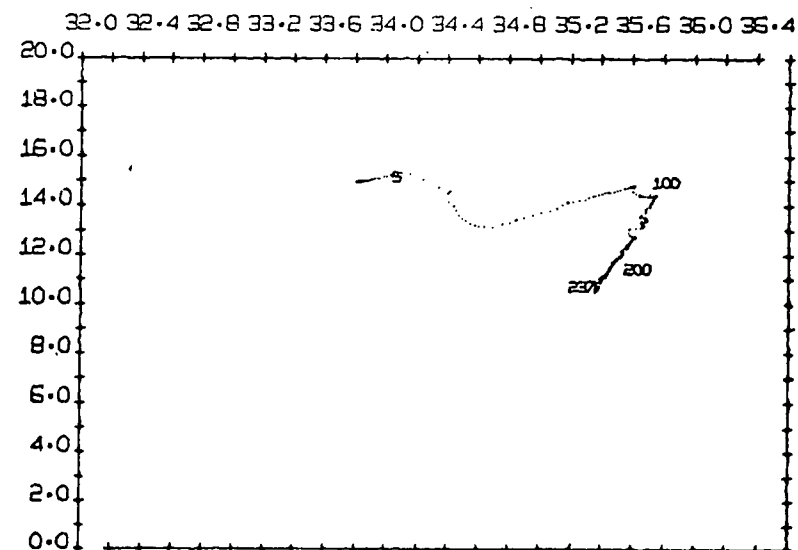
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	29		33.853					5.76						
CBS	50		33.986					5.58						
CBS	88		35.363					3.99						
CBS	104		35.682					3.69						
CBS	113		35.722					3.65						
CBS	173		35.536					3.31						
CBS	212		35.401					3.16						
CBS	231		35.339					3.15						
CBS	235		35.348					3.17						

INT

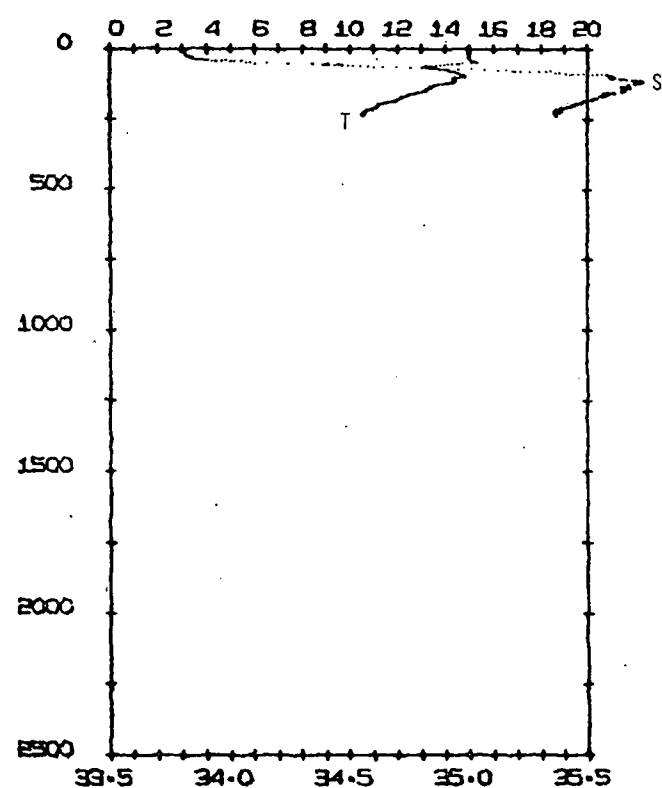
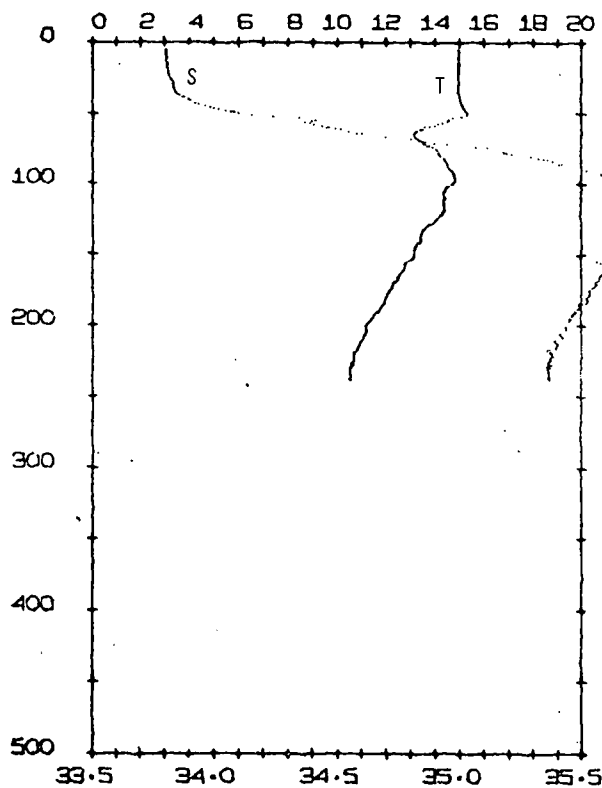
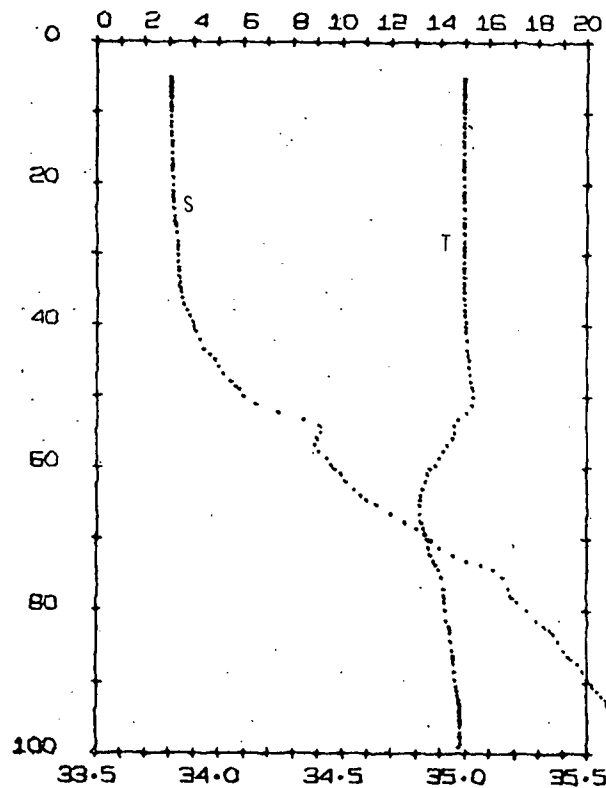
	STD	0	14.94	33.807	25.09	288.55	0.000	1505.7
STC	10	14.94	33.808	25.09	288.80	0.029	1505.9	
STD	20	14.95	33.815	25.09	288.67	0.058	1506.1	
STD	30	14.97	33.836	25.10	287.85	0.087	1506.4	
STD	40	15.03	33.897	25.14	285.03	0.115	1506.8	
STD	50	15.34	34.099	25.22	276.89	0.143	1508.2	
STD	60	13.70	34.461	25.85	217.24	0.168	1503.5	
STD	70	13.46	34.855	26.21	184.01	0.188	1503.4	
STC	80	14.19	35.251	26.36	169.85	0.206	1506.4	
STC	90	14.62	35.510	26.46	160.23	0.222	1508.3	
STD	100	14.76	35.612	26.51	155.83	0.238	1509.0	
STD	120	14.31	35.740	26.71	137.78	0.267	1508.0	
STD	140	13.39	35.678	26.86	124.28	0.294	1505.3	
STD	160	12.72	35.614	26.94	116.60	0.318	1503.3	
STD	180	12.01	35.527	27.01	110.11	0.340	1501.1	
STD	200	11.27	35.434	27.08	103.82	0.362	1498.7	
STD	225	10.66	35.367	27.14	98.57	0.387	1496.9	
STD	237	10.54	35.364	27.16	97.01	0.399	1496.7	

BOTTOM DEPTH= 241M

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VE 32 STA 44 DATE 24 10 74 GMT 753 LAT 39 33.5N LONG 71 45.9W

CORR DEPTH 1353M WIND 340 5 SEA 340 4 AIR TEMP 13.8 DEW PT 7.5 BAROM 1019.6

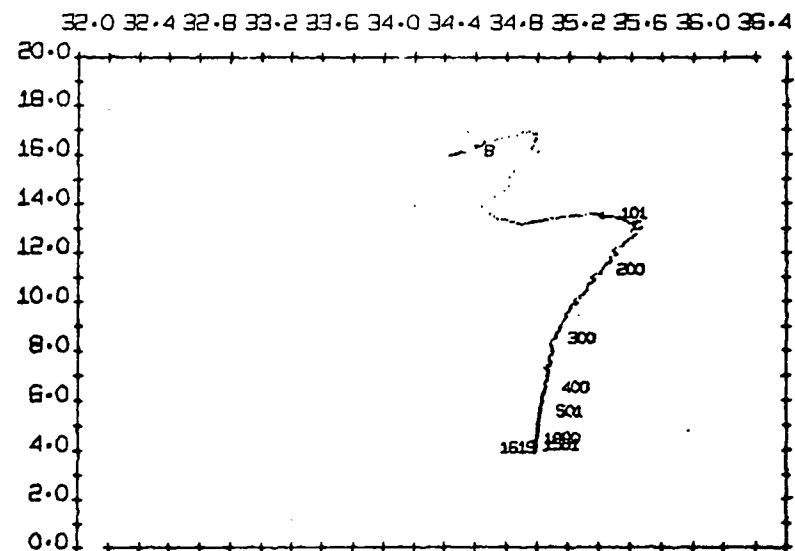
STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	133		35.540					3.34	1.57	19.8	10.1		0.82	1.41
CBS	257		35.208					3.11	1.98	23.8	13.3		0.78	1.20
CBS	555		35.010					5.23	1.76	19.3	12.1		0.75	
OBS	775		34.996					5.79	1.60	14.6	9.0		0.76	0.81
CBS	1042		34.986					5.99	1.54	15.3	9.9		0.70	
CBS	1253		34.982					6.03	1.54	15.2	9.8		0.90	0.96
OBS	1420		34.978					6.08	1.57	15.9	10.6		0.75	1.08
OBS	1502		34.977					6.08	1.60	18.0	12.0		0.94	1.97
CBS	1584		34.978					6.07	1.60	10.5	10.0		0.69	1.32
OBS	1609		34.980					6.09	1.54	12.1	8.4		0.66	1.44
OBS	1617		34.976					6.16	1.62	15.4	10.8		0.72	0.93

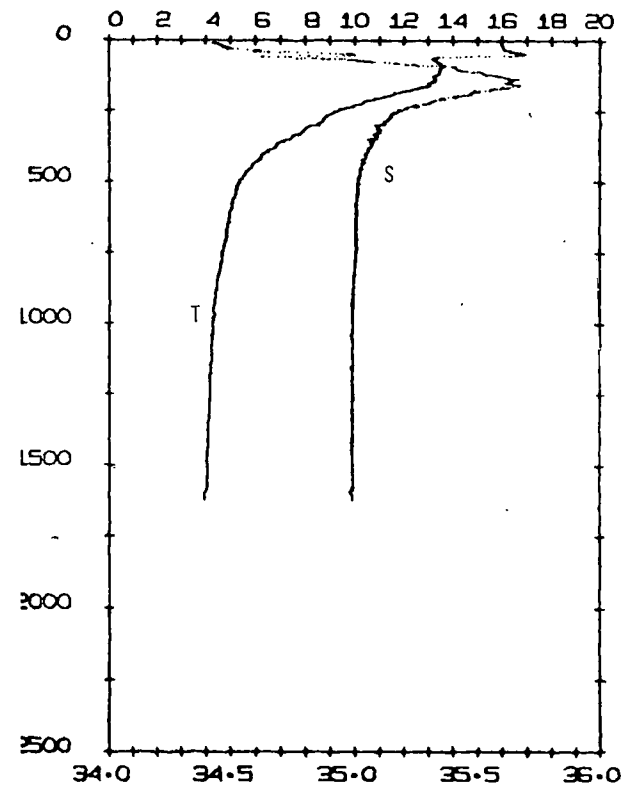
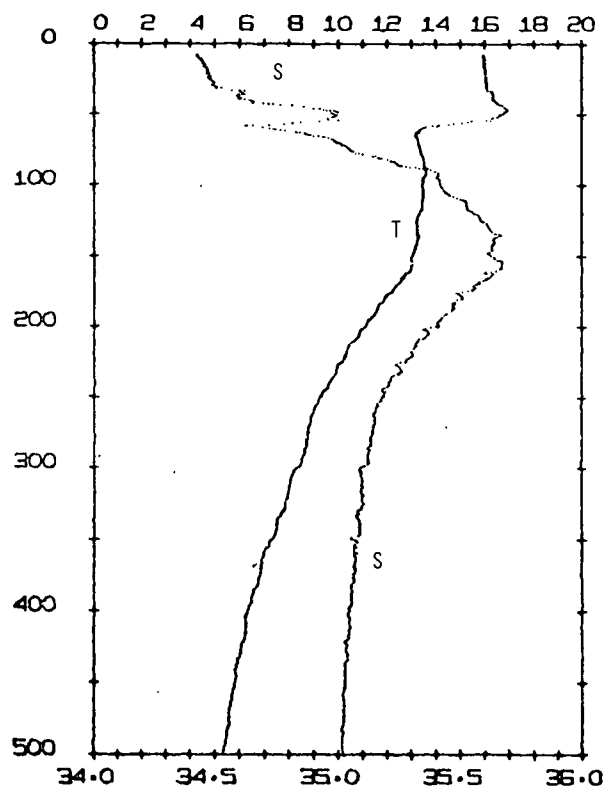
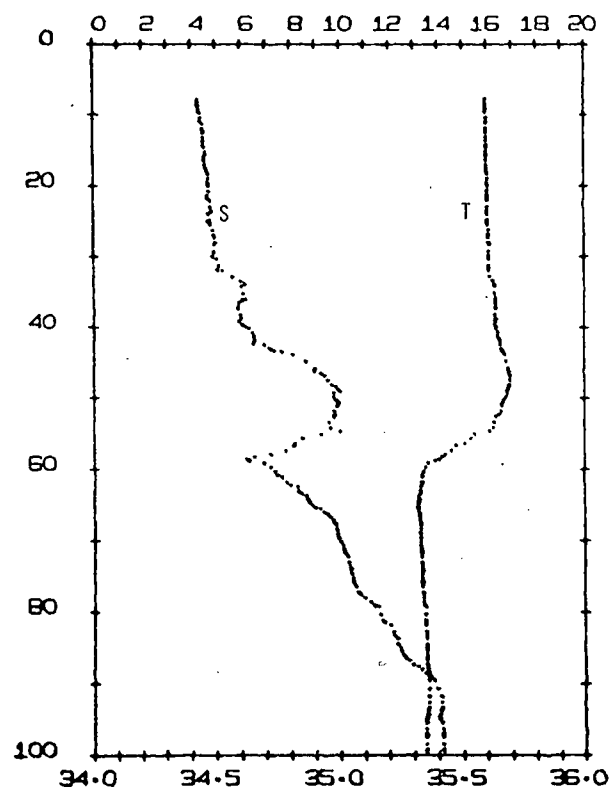
	STD	0	15.95	34.429	25.34	264.61	0.000	1509.7	INT
STD	10	15.98	34.438	25.34	264.75	0.026	1509.9	8	
STD	20	16.04	34.471	25.35	263.91	0.053	1510.3	1	
STD	30	16.07	34.490	25.36	263.61	0.079	1510.6	0	
STD	40	16.36	34.628	25.40	260.07	0.105	1511.8	0	
STD	50	16.73	34.977	25.58	243.35	0.131	1513.5	0	
STD	60	13.44	34.726	26.11	192.94	0.152	1503.0	1	
STD	70	13.29	35.001	26.35	170.10	0.171	1503.0	0	
STD	80	13.47	35.161	26.44	162.09	0.187	1503.9	1	
STD	90	13.61	35.386	26.58	148.73	0.203	1504.9	1	
STD	100	13.46	35.417	26.64	143.73	0.217	1504.6	1	
STD	120	13.34	35.556	26.77	131.77	0.245	1504.7	1	
STD	140	13.23	35.642	26.86	123.93	0.270	1504.7	1	
STD	160	12.98	35.649	26.92	118.99	0.295	1504.2	1	
STD	180	11.90	35.508	27.02	109.41	0.318	1500.7	1	
STD	200	11.14	35.401	27.08	103.95	0.339	1498.2	0	
STD	225	10.19	35.275	27.15	97.33	0.364	1495.1	1	
STD	250	9.28	35.179	27.23	89.92	0.388	1492.0	1	
STD	275	8.78	35.139	27.28	85.51	0.409	1490.6	1	
STD	300	8.35	35.088	27.31	83.07	0.431	1489.3	1	
STD	350	7.26	35.055	27.45	70.29	0.469	1485.9	0	
STD	400	6.34	35.050	27.57	58.79	0.501	1483.1	0	
STD	450	5.82	35.027	27.62	54.34	0.529	1481.8	0	
STD	500	5.35	35.014	27.67	50.00	0.556	1480.7	1	
STD	550	5.16	35.011	27.69	48.40	0.580	1480.7	1	
STD	600	5.02	35.008	27.70	47.46	0.604	1481.0	1	
STD	650	4.88	35.007	27.72	46.48	0.628	1481.2	1	
STD	700	4.79	35.005	27.72	46.07	0.651	1481.7	1	
STD	750	4.64	35.005	27.74	44.69	0.673	1481.9	0	
STD	800	4.59	35.002	27.75	44.87	0.696	1482.5	1	
STD	850	4.46	34.996	27.75	44.31	0.718	1482.8	1	
STD	900	4.40	34.994	27.76	44.19	0.740	1483.4	1	
STD	950	4.33	34.993	27.77	43.95	0.762	1483.9	1	
STD	1000	4.28	34.991	27.77	43.96	0.784	1484.5	1	
STD	1100	4.23	34.990	27.78	44.38	0.828	1486.0	2	
STD	1200	4.16	34.989	27.78	44.56	0.873	1487.4	1	
STD	1300	4.11	34.990	27.79	44.81	0.918	1488.8	1	
STD	1400	4.08	34.990	27.79	45.29	0.963	1490.4	0	
STD	1500	4.04	34.990	27.80	45.70	1.008	1491.9	1	
STD	1600	3.93	34.987	27.80	45.41	1.054	1493.1	1	
STD	1618	3.93	34.988	27.81	45.41	1.062	1493.4	0	

BOTTOM DEPTH= 1621M

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VE 32 STA 45 DATE 24 10 74 GMT 1338 LAT 39 29.5N LONG 71 39.2W

CORR DEPTH 1885M WIND 20 4 SEA 20 4 AIR TEMP 14.8 DEW PT 6.4 BAROM 1024.7

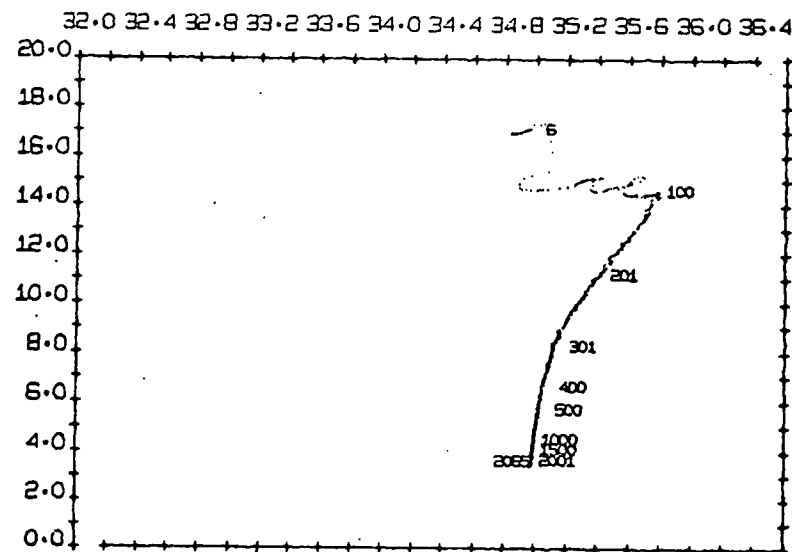
STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	40		34.968											
CBS	382	6.68	35.057	27.53			1484.2	5.44	0.41	1.8	1.3		1.00	1.27
CBS	574		35.009					4.27	1.92	23.4	14.0		0.87	1.75
CBS	760	4.71	34.998	27.73			1482.4	5.32	1.65	15.9	12.3		0.99	2.32
OBS	1277		34.979					5.68	1.60	19.4	12.0		0.94	1.47
GBS	*1509	3.90	34.976	27.80			1491.5	6.02	1.60	18.1	11.8		0.88	1.72
GBS	1705		34.974					6.12	1.62	19.0	13.8		0.82	1.26
CBS	*1843	3.73	34.974	27.81			1496.4	6.16	1.60	18.8	13.3		0.78	
CBS	1946		34.970					6.16	1.57	18.6	13.3		0.98	1.92
GBS	*2013	3.48	34.968	27.84			1498.3	6.12	1.54	18.3	14.0		0.78	1.50
CBS	2042		34.967					6.17	1.62	15.6	12.5		0.90	1.30
CBS	2057	3.43	34.967	27.84			1498.8	6.16	1.62	16.9	14.1		0.92	1.23
								6.17	1.51	14.9	12.4		0.74	1.17

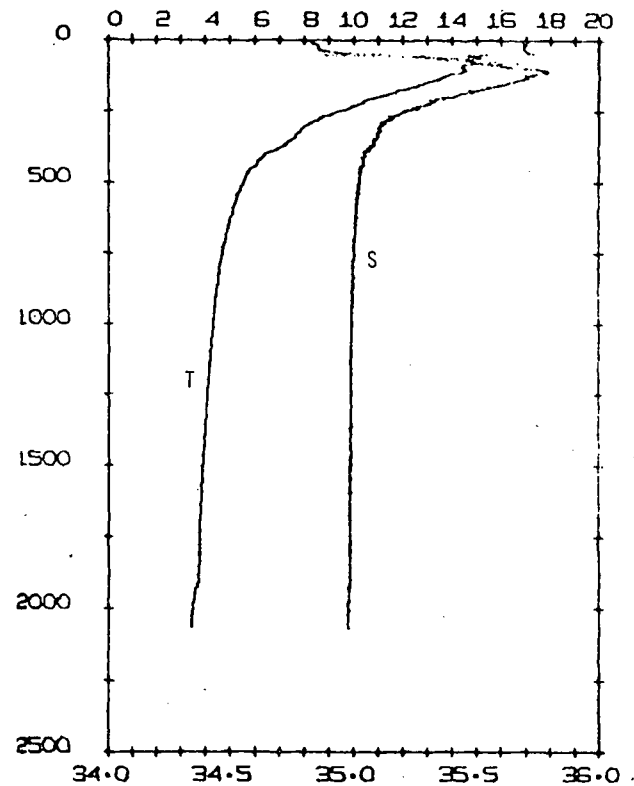
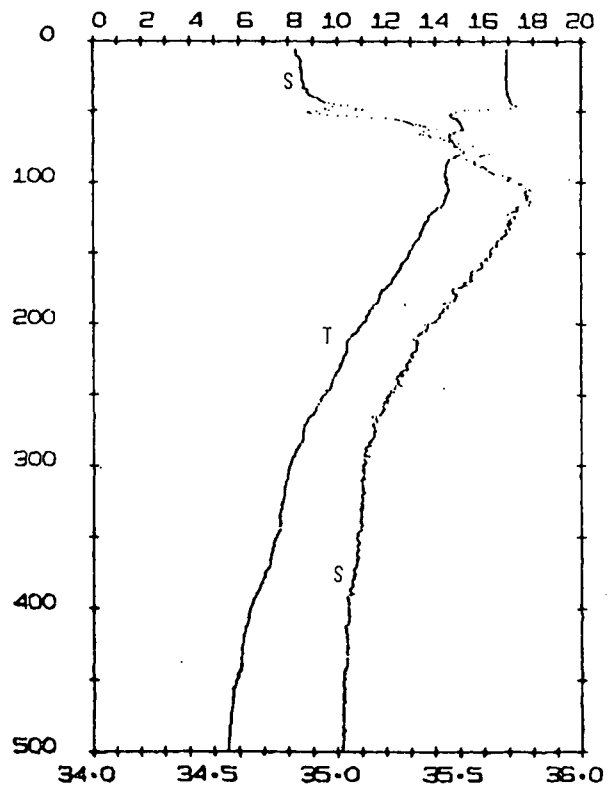
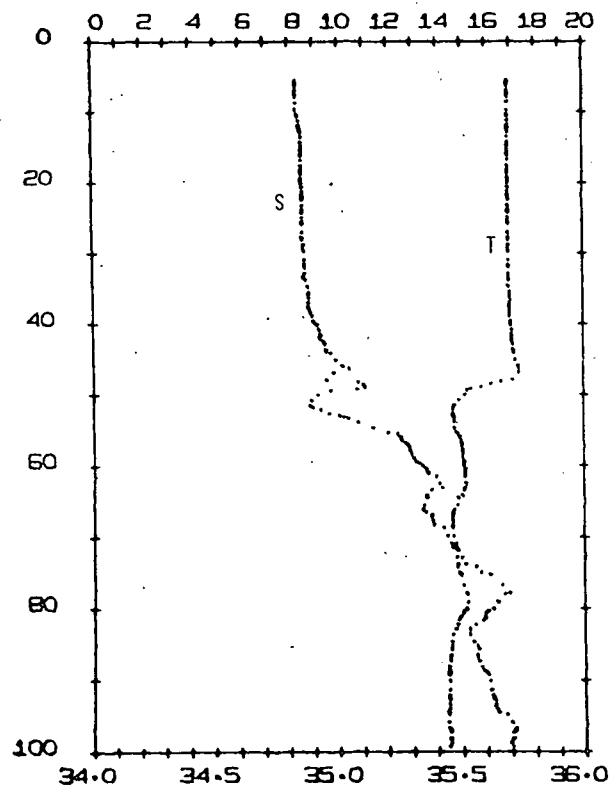
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STD	0	16.91	34.831	25.42	256.40	0.000	1513.1		6
STC	10	16.91	34.834	25.43	256.45	0.026	1513.2		1
STD	20	16.92	34.854	25.44	255.54	0.051	1513.5		0
STD	30	16.93	34.863	25.44	255.39	0.077	1513.7		1
STD	40	17.01	34.906	25.46	254.33	0.102	1514.1		0
STD	50	15.14	34.919	25.90	213.03	0.126	1508.6		1
STD	60	15.08	35.339	26.23	181.36	0.145	1509.0		0
STD	70	14.66	35.443	26.41	165.19	0.163	1508.0		1
STD	80	15.15	35.622	26.44	162.77	0.179	1509.9		0
STD	90	14.43	35.606	26.58	149.17	0.195	1507.8		1
STD	100	14.43	35.719	26.67	141.32	0.209	1508.1		1
STD	120	14.02	35.734	26.77	132.30	0.237	1507.1		0
STD	140	13.33	35.668	26.86	123.88	0.262	1505.1		1
STD	160	12.62	35.592	26.95	116.15	0.286	1502.9		0
STD	180	11.73	35.484	27.03	108.11	0.309	1500.1		1
STD	200	11.05	35.370	27.07	104.58	0.330	1497.9		0
STD	225	10.24	35.294	27.16	96.82	0.355	1495.3		1
STD	250	9.49	35.209	27.22	91.11	0.379	1492.9		1
STD	275	8.63	35.151	27.31	82.33	0.400	1490.0		1
STD	300	8.08	35.106	27.37	77.64	0.420	1488.3		1
STD	350	7.51	35.078	27.43	72.30	0.458	1486.9		1
STD	400	6.45	35.042	27.55	60.83	0.491	1482.5		1
STD	450	5.87	35.027	27.61	54.97	0.520	1482.0		1
STD	500	5.53	35.020	27.65	51.86	0.547	1481.4		1
STC	550	5.28	35.013	27.67	49.82	0.572	1481.2		1
STD	600	5.13	35.010	27.69	48.73	0.597	1481.4		1
STC	650	4.94	35.006	27.71	47.21	0.621	1481.5		0
STD	700	4.81	35.003	27.72	46.44	0.644	1481.7		1
STD	750	4.68	35.000	27.73	45.59	0.667	1482.0		1
STD	800	4.57	34.995	27.74	45.16	0.690	1482.4		1
STD	850	4.51	34.997	27.75	44.86	0.712	1483.0		1
STD	900	4.42	34.994	27.76	44.49	0.735	1483.5		1
STD	950	4.37	34.993	27.76	44.39	0.757	1484.1		1
STD	1000	4.32	34.992	27.77	44.38	0.779	1484.7		1
STD	1100	4.22	34.989	27.78	44.24	0.823	1485.9		2
STD	1200	4.13	34.989	27.78	44.18	0.868	1487.2		0
STD	1300	4.04	34.986	27.79	44.06	0.912	1488.5		1
STD	1400	3.98	34.986	27.80	44.23	0.956	1489.9		1
STD	1500	3.90	34.986	27.81	44.17	1.000	1491.3		1
STC	1600	3.84	34.985	27.81	44.24	1.044	1492.7		1
STD	1700	3.76	34.984	27.82	44.21	1.088	1494.1		1
STD	1800	3.76	34.985	27.82	44.91	1.133	1495.7		1
STC	1900	3.71	34.984	27.82	45.18	1.178	1497.2		0
STD	2000	3.48	34.977	27.84	43.39	1.222	1498.0		1
STD	2065	3.45	34.976	27.84	43.56	1.251	1498.9		0

BOTTOM DEPTH= 2065M

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VE-32- 45



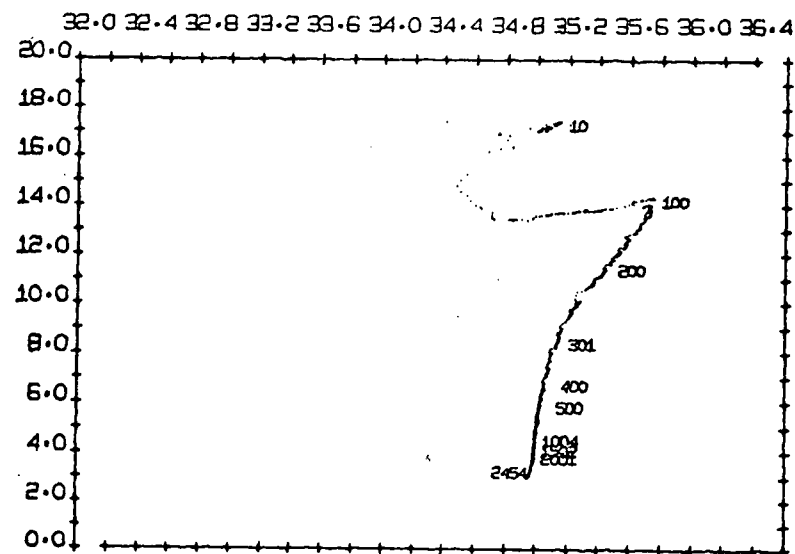
VE 32 STA 46 DATE 24 10 74 GMT 2326 LAT 39 9.0N LONG 71 41.7W
CORR DEPTH 2408M WIND 20 2 SEA 20 3 AIR TEMP 11.5 DEW PT 4.0 BAROM 1025.7
STD 9C40 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

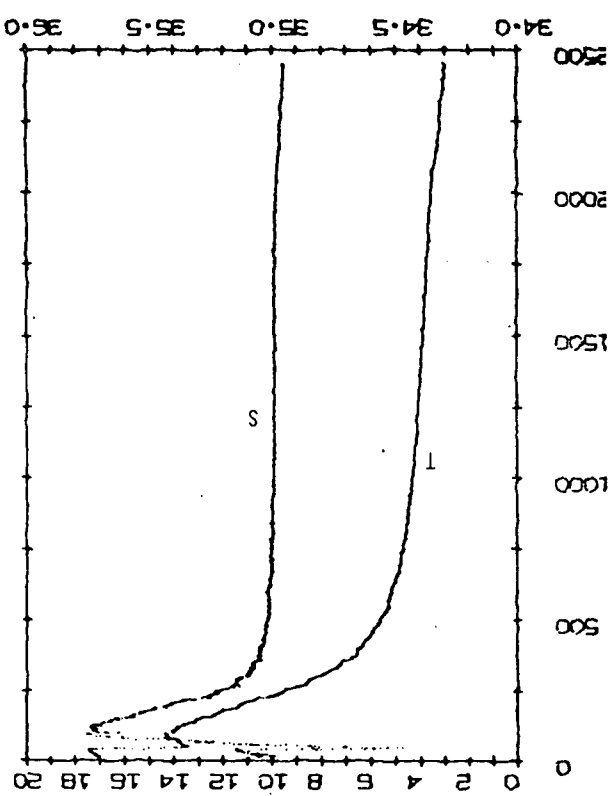
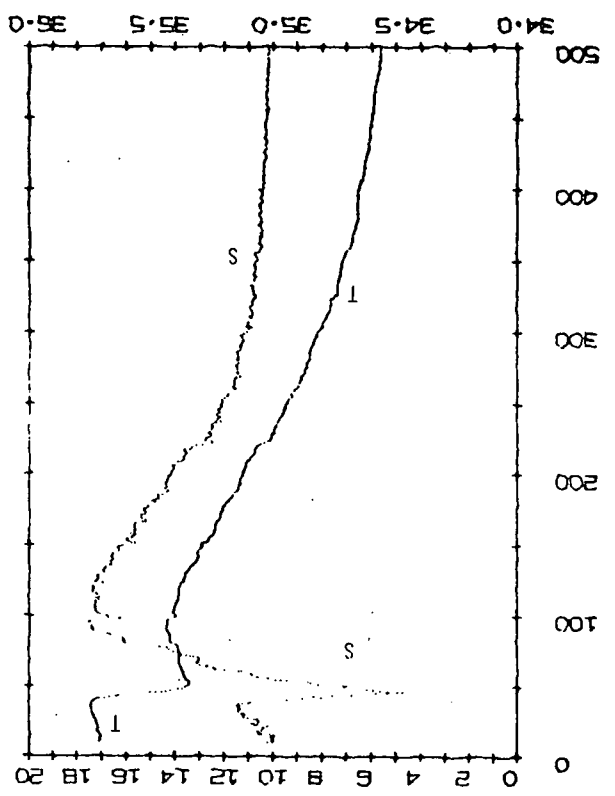
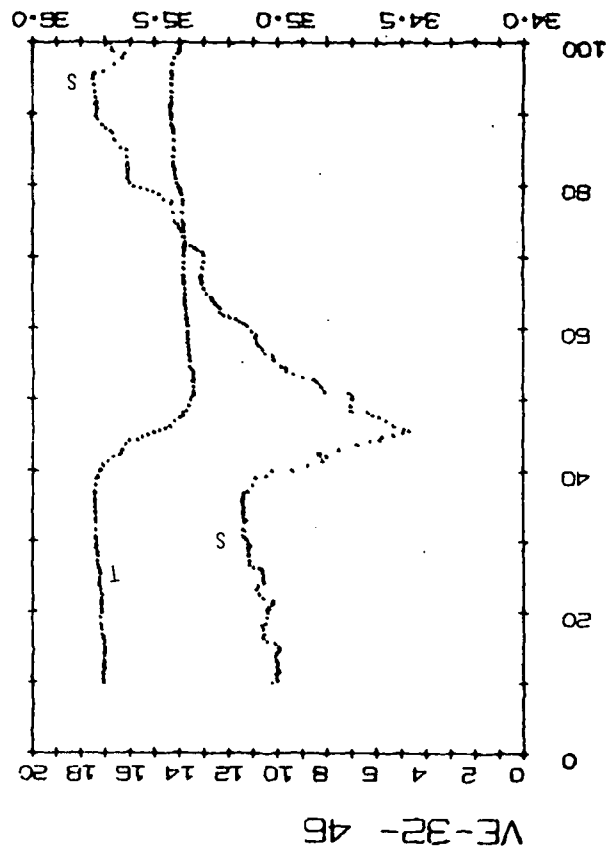
VE- 32- 46

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	51		34.532					4.38						
CBS	90	14.00	35.639	26.70			1506.4	3.62						
CBS	125		35.737					3.64						
CBS	390	6.65	35.052	27.53			1484.2	4.30						
CBS	756		35.010					5.65						
CBS	*1138	4.16	34.983	27.78			1486.4	6.03						
CBS	1507		34.978					6.14						
CBS	*1873	3.61	34.975	27.83			1496.4	6.16						
CBS	2356		34.953					6.18						
CBS	*2373	3.05	34.953	27.86			1502.5	6.20						
CBS	2440		34.950					6.20						
CBS	2441	2.96	34.950	27.87			1503.3	6.21						

STD	0	17.09	35.024	25.53	246.47	0.000	1513.9	10
STD	10	17.09	35.024	25.53	246.79	0.025	1514.0	0
STD	20	17.16	35.041	25.53	247.38	0.049	1514.4	1
STD	30	17.36	35.123	25.54	246.39	0.074	1515.3	1
STD	40	17.23	35.001	25.48	252.57	0.099	1514.9	1
STD	50	13.54	34.701	26.07	196.43	0.121	1503.1	0
STD	60	13.69	35.121	26.36	168.79	0.140	1504.3	1
STD	70	13.84	35.303	26.47	158.82	0.156	1505.2	1
STD	80	14.05	35.591	26.65	142.26	0.171	1506.4	1
STD	90	14.34	35.738	26.70	137.70	0.185	1507.7	0
STD	100	13.97	35.681	26.74	134.68	0.199	1506.6	0
STD	120	13.81	35.734	26.81	128.02	0.225	1506.4	0
STD	140	13.12	35.652	26.89	120.95	0.250	1504.4	1
STD	160	12.42	35.567	26.97	114.24	0.273	1502.2	1
STD	180	11.91	35.485	27.00	111.33	0.296	1500.7	1
STD	200	11.22	35.417	27.08	104.32	0.318	1498.6	1
STD	225	10.09	35.274	27.17	95.71	0.343	1494.7	0
STD	250	9.46	35.207	27.22	90.71	0.366	1492.7	1
STD	275	8.62	35.148	27.31	82.28	0.388	1490.0	1
STD	300	8.18	35.105	27.35	79.38	0.408	1488.7	1
STD	350	7.17	35.068	27.47	68.09	0.445	1485.5	0
STD	400	6.49	35.048	27.55	61.07	0.477	1483.7	0
STD	450	5.97	35.025	27.60	56.48	0.506	1482.4	1
STD	500	5.62	35.017	27.63	53.22	0.534	1481.8	1
STD	550	5.30	35.009	27.67	50.29	0.560	1481.3	1
STD	600	5.18	35.015	27.69	48.98	0.584	1481.6	1
STD	650	4.97	35.001	27.70	47.98	0.609	1481.6	1
STD	700	4.81	35.003	27.72	46.44	0.632	1481.7	1
STD	750	4.68	35.000	27.73	45.63	0.655	1482.0	1
STD	800	4.60	34.998	27.74	45.34	0.678	1482.5	1
STD	850	4.53	34.996	27.75	45.10	0.701	1483.1	1
STD	900	4.48	34.998	27.75	44.87	0.723	1483.7	1
STD	950	4.37	34.992	27.76	44.45	0.745	1484.1	1
STD	1000	4.30	34.992	27.77	44.11	0.768	1484.6	9
STD	1100	4.20	34.990	27.78	43.95	0.812	1485.8	2
STD	1200	4.12	34.989	27.79	43.99	0.856	1487.2	2
STD	1300	4.03	34.987	27.79	43.95	0.900	1488.5	2
STD	1400	3.95	34.989	27.80	43.71	0.943	1489.8	1
STD	1500	3.87	34.986	27.81	43.75	0.987	1491.2	2
STD	1600	3.81	34.987	27.82	43.75	1.031	1492.6	3
STD	1700	3.75	34.987	27.82	43.82	1.075	1494.0	2
STD	1800	3.68	34.985	27.83	43.87	1.118	1495.4	3
STD	1900	3.62	34.985	27.83	43.80	1.162	1496.8	3
STD	2000	3.56	34.982	27.84	44.04	1.206	1498.3	3
STD	2100	3.42	34.974	27.85	43.50	1.250	1499.4	3
STD	2200	3.24	34.965	27.86	42.31	1.293	1500.3	3
STD	2300	3.16	34.960	27.86	42.36	1.335	1501.7	2
STD	2400	3.03	34.952	27.87	41.63	1.377	1502.8	2
STD	2454	3.00	34.950	27.87	41.75	1.400	1503.6	0

BOTTOM DEPTH= 2456M





VE 32 STA 47 DATE 25 10 74 GMT 1701 LAT 39 30.2N LONG 72 17.8W

CORR DEPTH 435M WIND 230 5 SEA 230 3 AIR TEMP 16.4 DEW PT 8.1 BAROM 1019.6

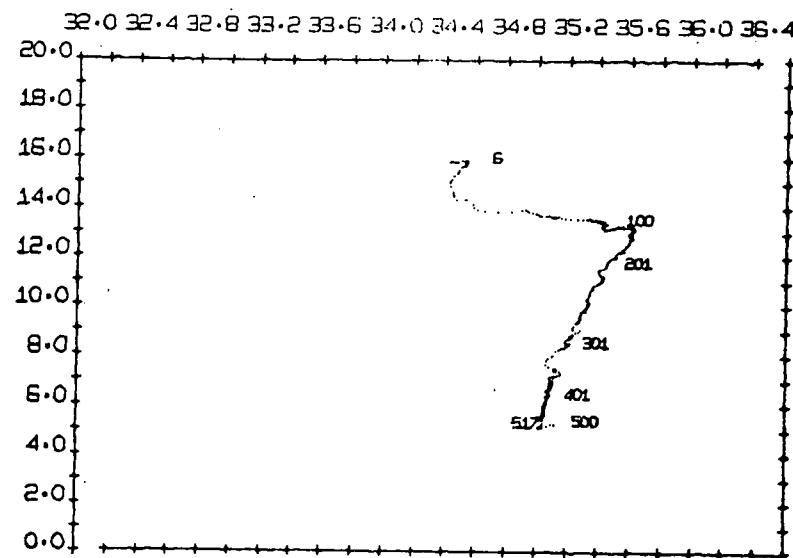
STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 11

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	25	15.82	34.438	25.38			1509.7	5.61						
CBS	74		34.671					4.47						
CBS	111	13.27	35.465	26.72			1504.2	3.49						
CBS	151		35.583					3.38						
CBS *	165	12.67	35.582	26.93			1503.2	3.37						
CBS	218		35.395					3.28						
CBS *	274	9.11	35.239	27.31			1491.9	3.57						
CBS *	413	6.43	35.063	27.57			1483.7	4.55						
CBS	483		35.025					5.05						
CBS	468	5.09	35.006	27.69			1479.1	5.34						

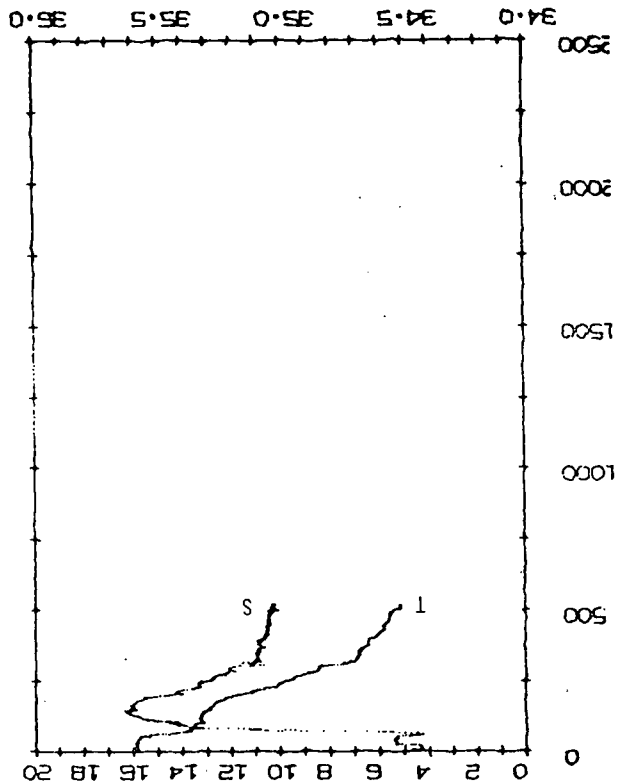
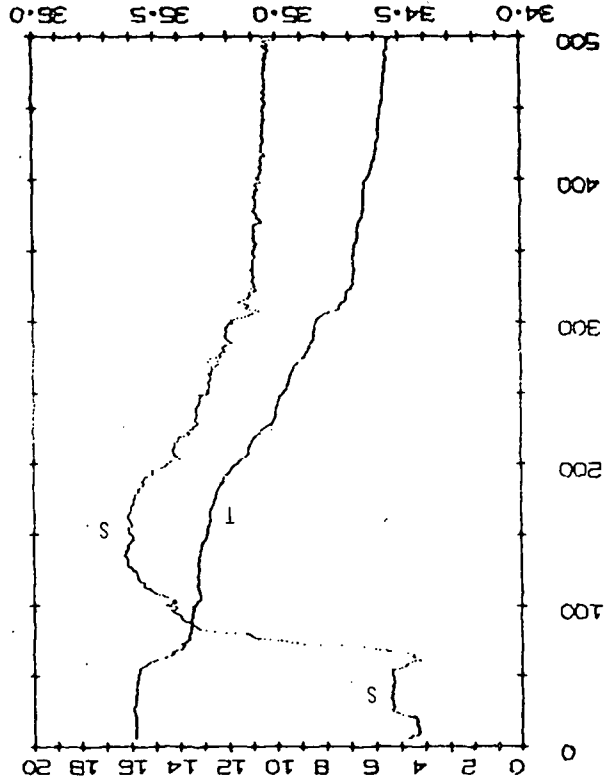
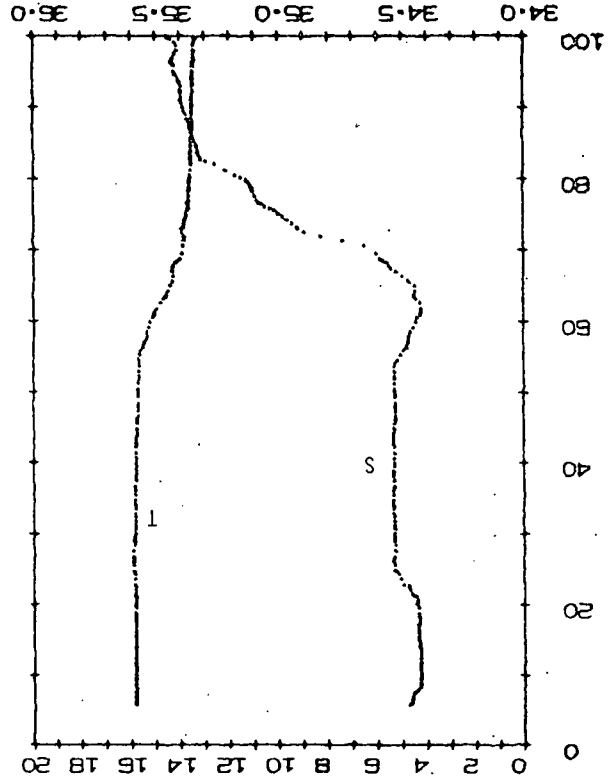
	STD	0	15.83	34.470	25.40	258.96	0.000	1509.4
STD	10	15.83	34.429	25.37	262.19	0.026	1509.5	
STD	20	15.83	34.442	25.38	261.64	0.052	1509.6	
STC	30	15.86	34.532	25.44	255.93	0.078	1510.0	
STD	40	15.79	34.533	25.45	254.68	0.104	1510.0	
STD	50	15.71	34.532	25.47	253.28	0.129	1509.9	
STD	60	15.20	34.443	25.52	249.24	0.154	1508.3	
STD	70	13.92	34.624	25.93	210.01	0.177	1504.6	
STD	80	13.62	35.145	26.40	166.19	0.196	1504.4	
STD	90	13.51	35.388	26.61	146.52	0.212	1504.5	
STD	100	13.34	35.453	26.69	138.85	0.226	1504.2	
STD	120	13.24	35.573	26.80	128.63	0.253	1504.4	
STD	140	13.11	35.616	26.87	123.35	0.278	1504.3	
STD	160	12.78	35.608	26.93	118.17	0.302	1503.5	
STD	180	12.47	35.569	26.96	115.50	0.325	1502.7	
STD	200	11.64	35.448	27.02	109.57	0.348	1500.1	
STC	225	10.50	35.340	27.15	97.88	0.374	1496.3	
STC	250	9.74	35.285	27.24	89.68	0.397	1493.9	
STC	275	8.90	35.242	27.34	79.74	0.418	1491.1	
STC	300	8.38	35.185	27.38	76.40	0.438	1489.5	
STD	350	6.81	35.099	27.54	60.88	0.472	1484.2	
STD	400	6.28	35.075	27.60	56.17	0.501	1482.9	
STD	450	5.76	35.046	27.64	52.20	0.529	1481.6	
STD	500	5.23	35.119	27.76	40.65	0.552	1480.3	
STD	517	5.12	35.027	27.70	46.43	0.559	1480.0	

BOTTOM DEPTH= 517M

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VE-32-47



VE 32 STA 48 DATE 25 10 74 GMT 2305 LAT 39 31.7N LONG 72 23.8W

CORR DEPTH 584M WIND 230 4 SEA 230 4 AIR TEMP 16.1 DEW PT 12.8 BAROM 1016.9

STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

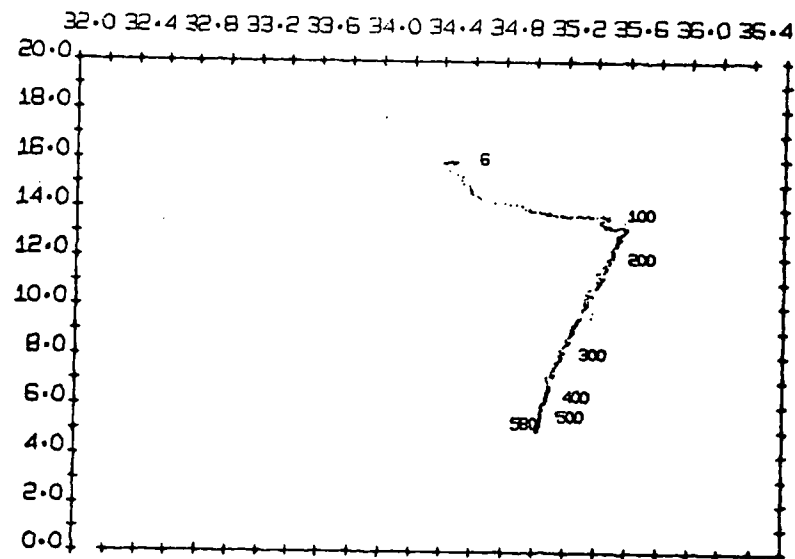
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	4		34.441					5.65						
OBS	31	15.89	34.452	25.37			1510.0	5.62						
OBS	90		35.430					3.55						
OBS	167	12.83	35.555	26.87			1503.7	3.36						
OBS	265		35.241					3.67						
OBS *	393	6.14	35.063	27.61			1482.2	4.77						
OBS	448		35.033					5.07						
OBS *	530	5.19	35.013	27.68			1480.5	5.32						
OBS	555		35.013					5.31						
OBS *	582	5.15	35.013	27.69			1481.2	5.32						
OBS	578		35.007					5.39						

INT

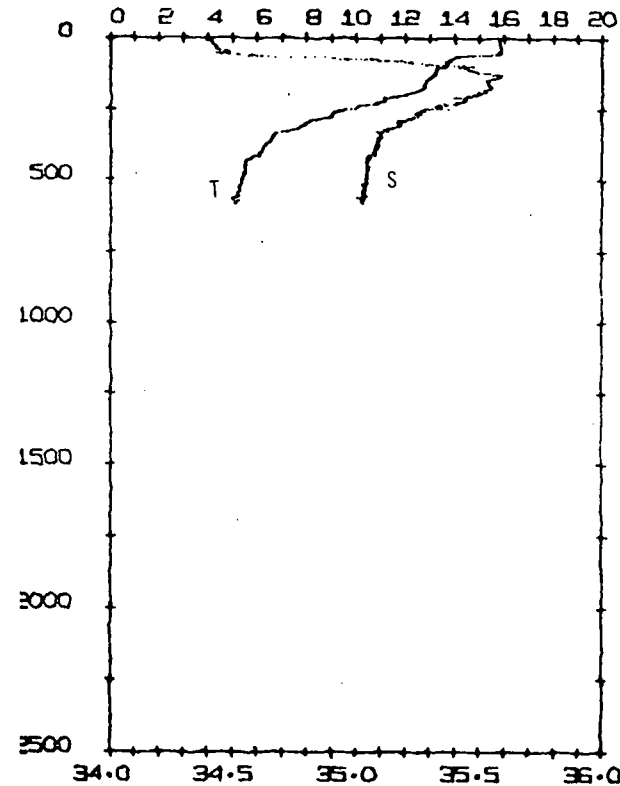
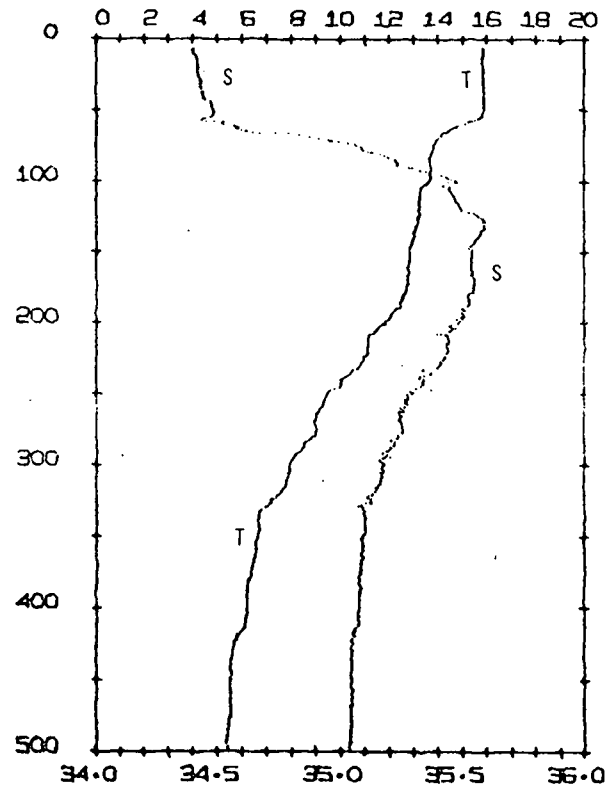
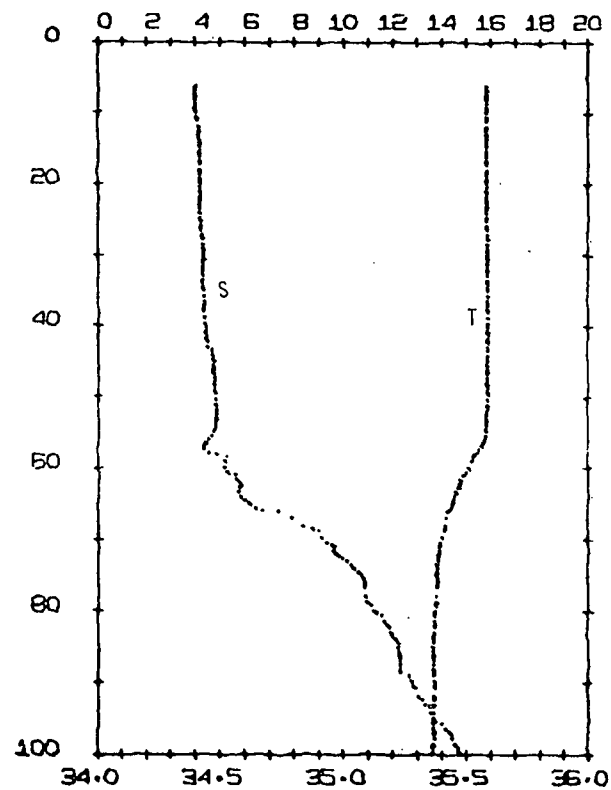
STD	0	15.86	34.403	25.34	264.43	0.000	1509.3							
STD	10	15.85	34.403	25.34	264.56	0.026	1509.5							
STD	20	15.85	34.420	25.35	263.64	0.053	1509.7							
STD	30	15.89	34.435	25.36	263.60	0.079	1510.0							
STD	40	15.89	34.442	25.36	263.36	0.106	1510.1							
STD	50	15.87	34.483	25.40	260.34	0.132	1510.3							
STD	60	15.12	34.521	25.60	241.84	0.157	1508.2							
STD	70	14.03	34.917	26.14	190.72	0.178	1505.3							
STD	80	13.75	35.127	26.36	170.14	0.197	1504.8							
STD	90	13.71	35.280	26.48	158.39	0.213	1505.0							
STD	100	13.61	35.473	26.65	142.62	0.228	1505.1							
STD	120	13.21	35.495	26.75	133.80	0.256	1504.2							
STD	140	13.02	35.566	26.84	125.31	0.282	1503.9							
STD	160	12.82	35.537	26.86	124.16	0.307	1503.6							
STD	180	12.68	35.526	26.88	122.73	0.331	1503.4							
STD	200	11.82	35.484	27.02	110.13	0.354	1500.7							
STD	225	10.97	35.421	27.13	100.04	0.381	1498.1							
STD	250	9.46	35.276	27.28	85.76	0.404	1492.9							
STD	275	8.98	35.253	27.34	80.30	0.425	1491.5							
STD	300	7.94	35.179	27.44	70.15	0.444	1487.8							
STD	350	6.64	35.091	27.56	58.98	0.476	1483.5							
STD	400	6.18	35.075	27.61	54.90	0.504	1482.5							
STD	450	5.54	35.048	27.67	49.21	0.530	1480.7							
STD	500	5.38	35.040	27.68	48.46	0.555	1480.8							
STD	550	5.21	35.032	27.70	47.55	0.579	1481.0							
STD	580	5.12	35.029	27.71	47.02	0.593	1481.1							

BOTTOM DEPTH= 586M

VE- 32- 48



VE-32- 48



VE 32 STA 49 DATE 26 10 74 GMT 321 LAT 39 27.9N LONG 72 29.6W
 CORR DEPTH 115M WIND 250 4 SEA 230 4 AIR TEMP 16.1 DEW PT 13.8 BAROM 1015.6
 STD 9C40 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

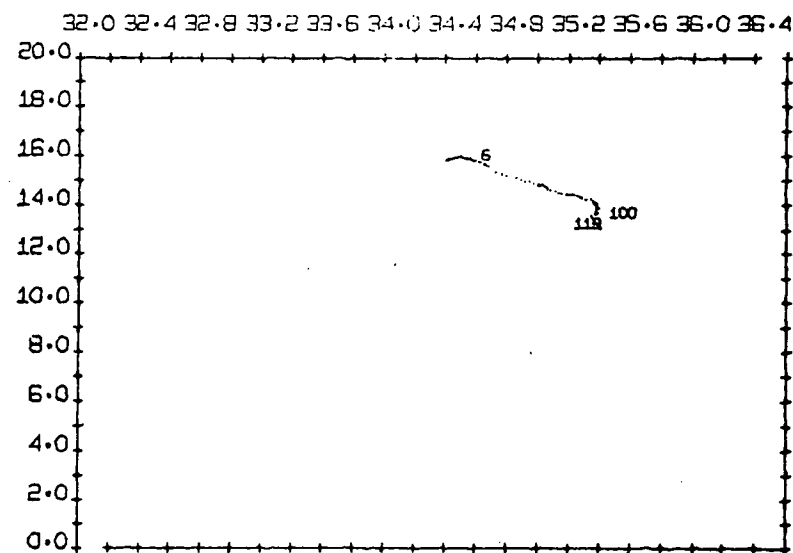
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMH
CBS	16		34.421					5.61						
CBS *	43	15.91	34.463	25.37			1510.3	5.59						
OBS	51		34.547					5.26						
OBS *	79	14.22	35.260	26.36			1506.5	4.00						
OBS	100		35.346					3.67						
CBS	116	13.08	35.387	26.69			1503.5	3.54						

INT

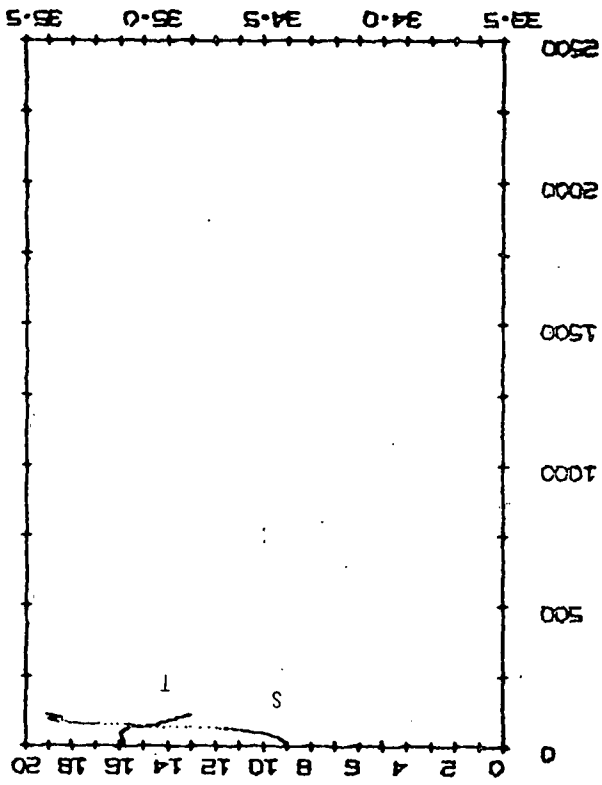
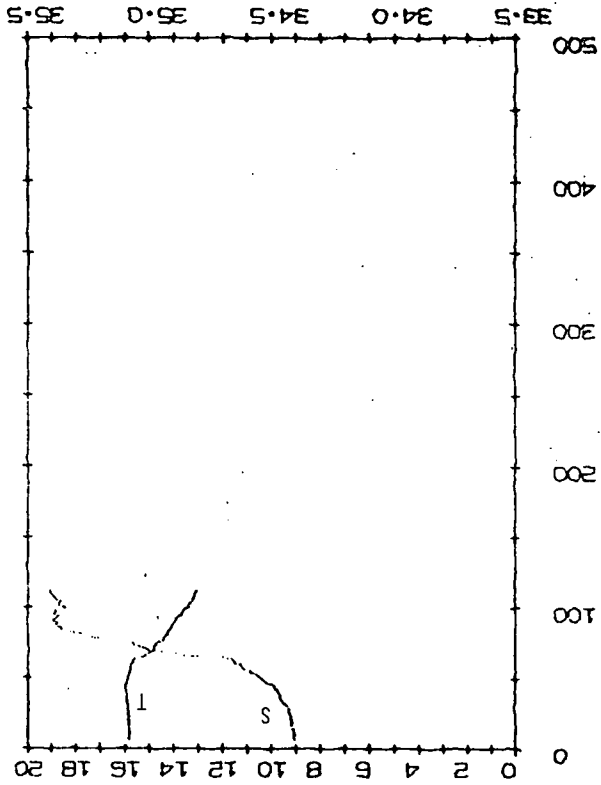
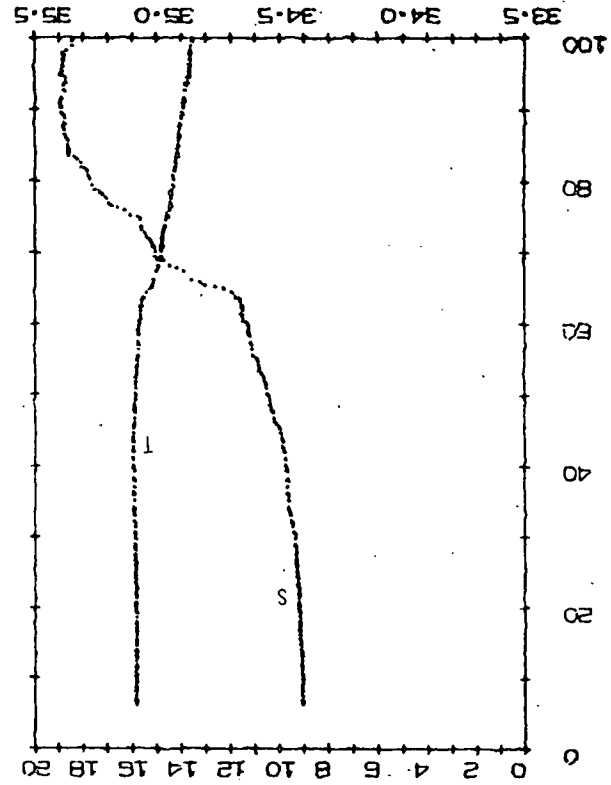
STD	0	15.84	34.404	25.34	264.00	0.000	1509.3							
STD	10	15.85	34.406	25.34	264.28	0.026	1509.5							
STD	20	15.86	34.418	25.35	263.93	0.053	1509.7							
STD	30	15.88	34.435	25.36	263.42	0.079	1509.9							
STD	40	15.94	34.474	25.38	262.19	0.105	1510.3							
STD	50	15.89	34.547	25.44	256.06	0.131	1510.4							
STD	60	15.74	34.629	25.54	247.13	0.157	1510.2							
STD	70	14.83	35.008	26.03	200.44	0.179	1508.0							
STD	80	14.35	35.269	26.34	171.94	0.198	1507.0							
STD	90	13.94	35.392	26.52	154.78	0.214	1505.9							
STD	100	13.56	35.345	26.56	151.03	0.229	1504.8							
STD	112	13.07	35.409	26.71	136.95	0.248	1503.4							

BOTTOM DEPTH= 115M

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VE-32-49



VE 32 STA 50 DATE 26 10 74 GMT 921 LAT 39 37.9N LONG 72 28.6W
 CORR DEPTH 91M WIND 350 3 SEA 330 3 AIR TEMP 13.6 DEW PT 6.7 BAROM 1016.3
 STD 9C40 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 3

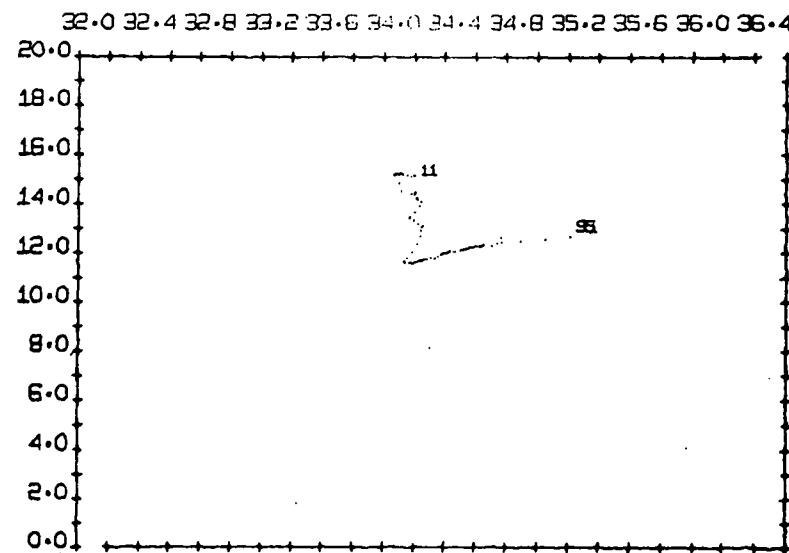
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS *	73	12.33	34.564	26.21			1499.3	3.78						
OBS	89		34.669					3.94						
OBS	91	12.89	35.031	26.46			1502.0	3.99						

INT

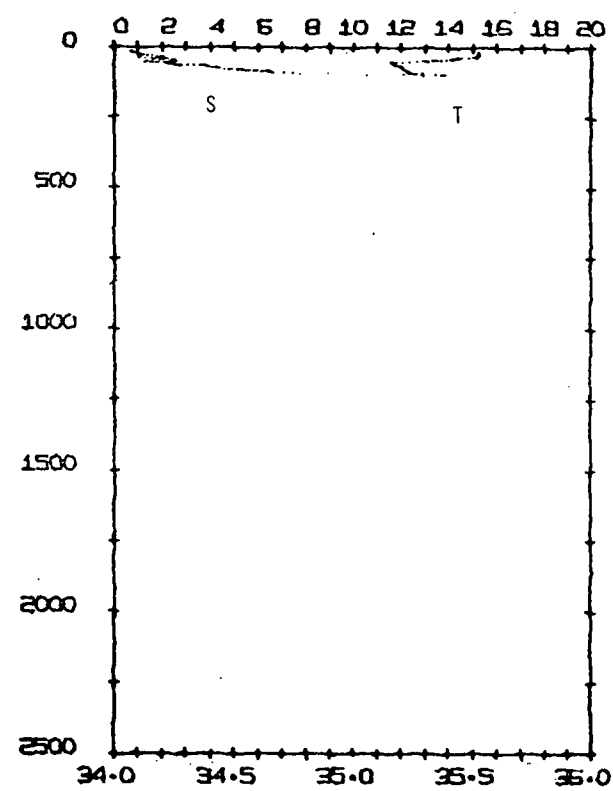
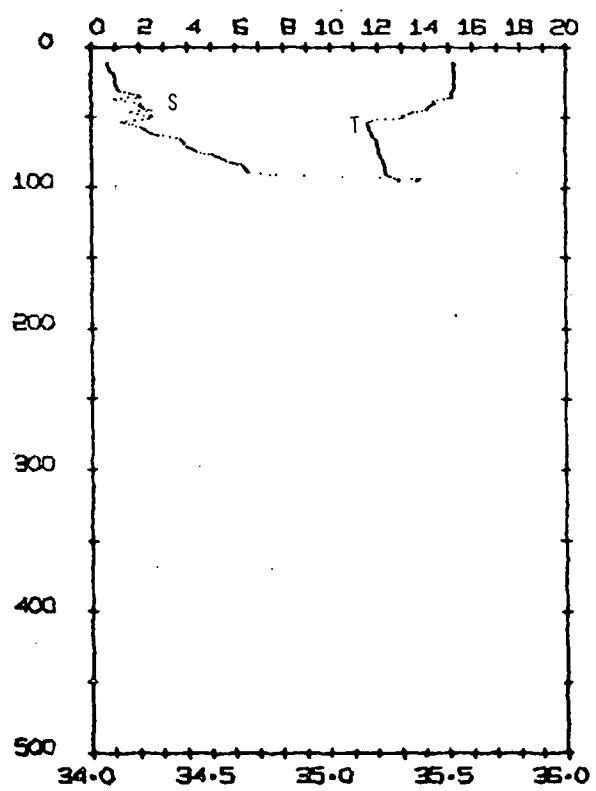
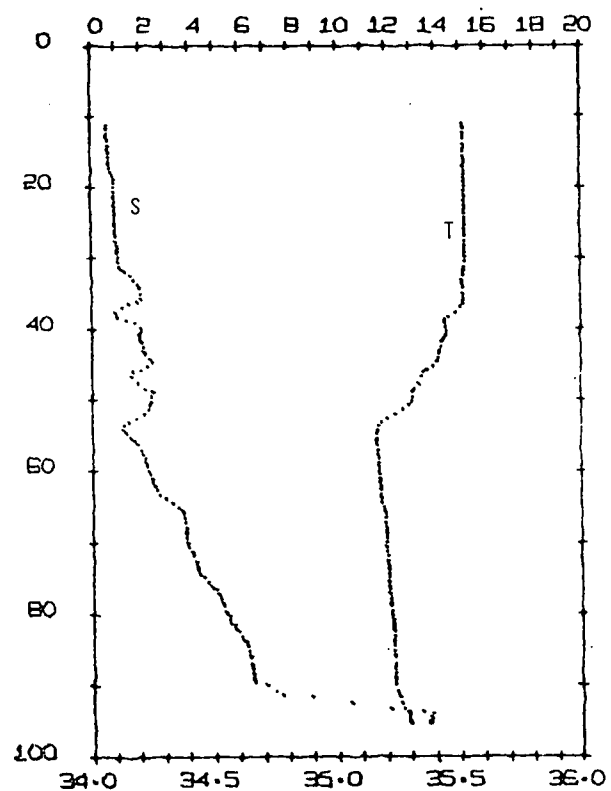
STD	0	15.21	34.067	25.23	275.19	0.000	1506.9							
STD	10	15.21	34.067	25.23	275.48	0.028	1507.1							
STD	20	15.24	34.097	25.24	274.18	0.055	1507.4							
STD	30	15.23	34.110	25.26	273.23	0.082	1507.5							
STD	40	14.45	34.205	25.50	250.59	0.109	1505.3							
STD	50	13.05	34.246	25.82	220.16	0.132	1500.9							
STD	60	11.70	34.233	26.07	196.41	0.153	1496.4							
STD	70	12.00	34.391	26.14	190.46	0.172	1497.8							
STD	80	12.21	34.549	26.22	182.91	0.191	1498.9							
STD	90	12.34	34.708	26.32	173.94	0.209	1499.7							
STD	95	12.91	35.368	26.71	136.46	0.217	1502.6							

BOTTOM DEPTH= 96M

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VE-32- 50



VE 32 STA 51 DATE 26 10 74 GMT 1044 LAT 39 39.0N LONG 72 28.6W

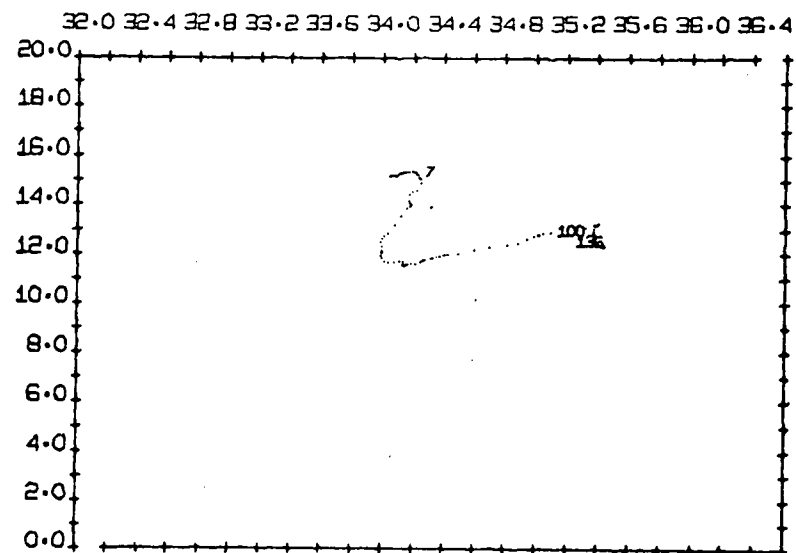
CORR DEPTH 141M WIND 350 4 SEA 340 4 AIR TEMP 12.8 DEW PT 6.0 BAROM 1016.6

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 1

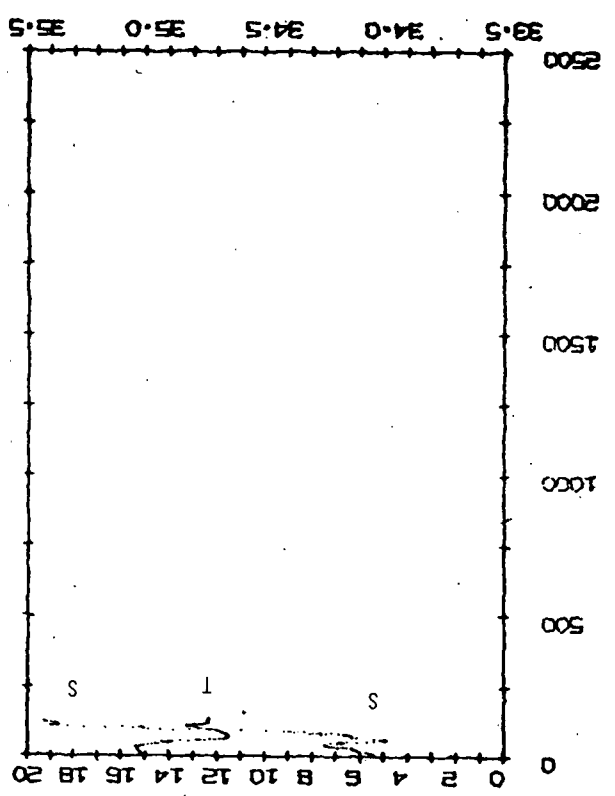
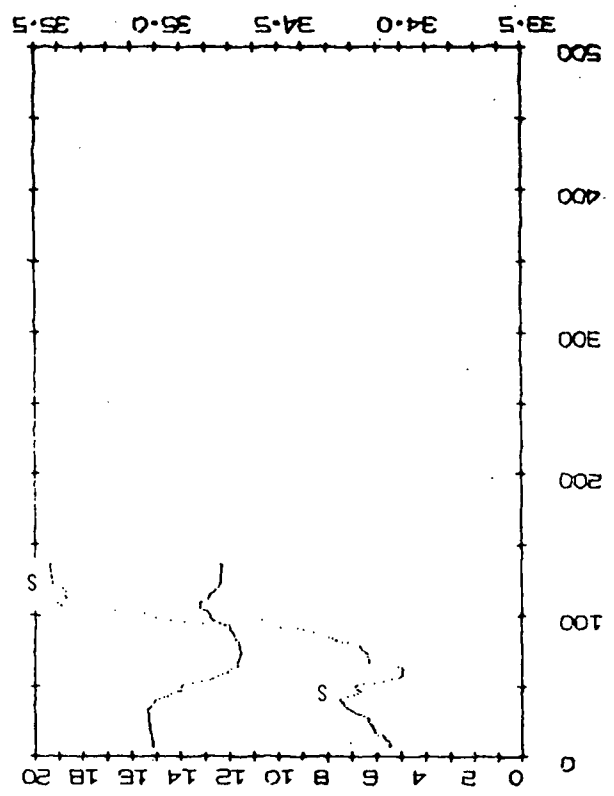
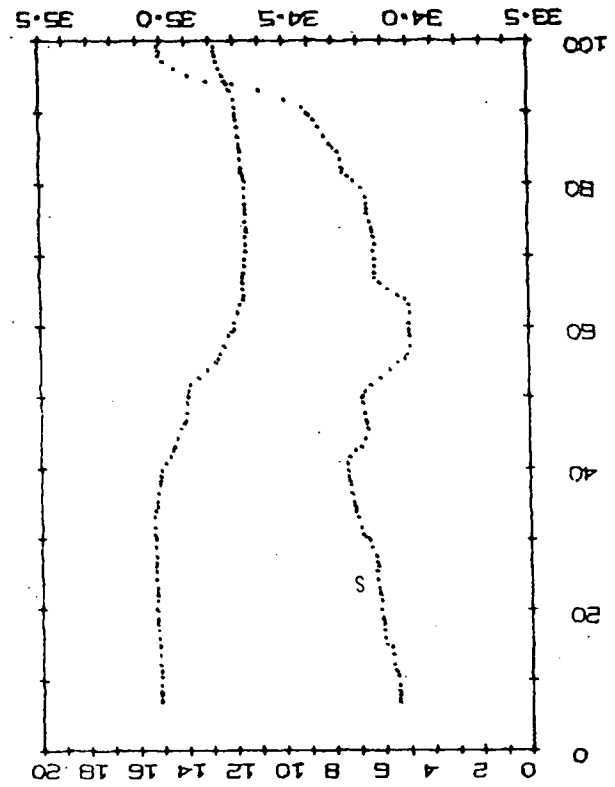
DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SI _{INT}	ALK	NO2	AMM
STD 0	15.16	34.046	25.22	275.70	0.000	1506.7				7			
STD 10	15.17	34.051	25.22	275.70	0.028	1506.9				1			
STD 20	15.28	34.116	25.25	273.60	0.055	1507.5				1			
STD 30	15.32	34.163	25.28	271.32	0.082	1507.9				0			
STD 40	14.99	34.249	25.41	258.48	0.109	1507.1				1			
STD 50	13.96	34.187	25.59	242.25	0.134	1503.9				1			
STD 60	12.04	33.998	25.82	219.85	0.157	1497.3				1			
STD 70	11.59	34.134	26.01	201.95	0.178	1496.1				1			
STD 80	11.59	34.200	26.06	197.37	0.198	1496.4				1			
STD 90	11.95	34.404	26.15	189.17	0.217	1498.0				1			
STD 100	12.81	35.018	26.46	160.23	0.235	1501.9				1			
STD 120	12.46	35.395	26.82	126.53	0.263	1501.5				1			
STD 136	12.37	35.431	26.87	122.69	0.283	1501.5				0			

BOTTOM DEPTH= 138M

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VE-32-51



VE 32 STA 52 DATE 26 10 74 GMT 1123 LAT 39 39.7N LONG 72 28.0W

CORR DEPTH 225M WIND 340 5 SEA 340 4 AIR TEMP 12.7 DEW PT 6.7 BAROM 1017.6

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

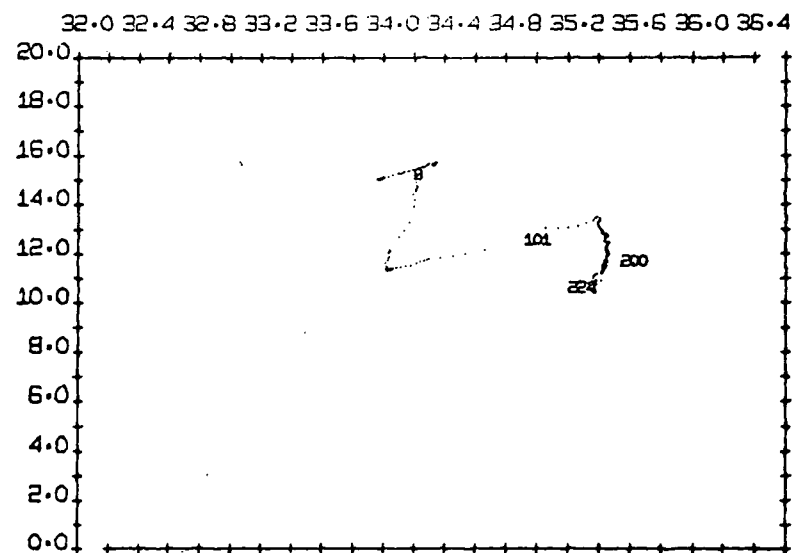
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	5		34.039					5.71						
CBS	12	15.14	34.035	25.22			1506.8	5.71						
OBS	34		34.243					5.66						
CBS	73	11.48	34.090	26.00			1495.7	4.20						
CBS	98		34.689					3.93						
CBS	110		35.334					3.67						
CBS	128		35.427					3.50						
CBS *	181	11.91	35.435	26.96			1500.7	3.41						
CBS	207		35.424					3.40						
CBS *	209	11.42	35.419	27.04			1499.4	3.43						
CBS	216		35.421					3.41						
CBS	222	10.56	35.375	27.17			1496.5	3.52						

INT

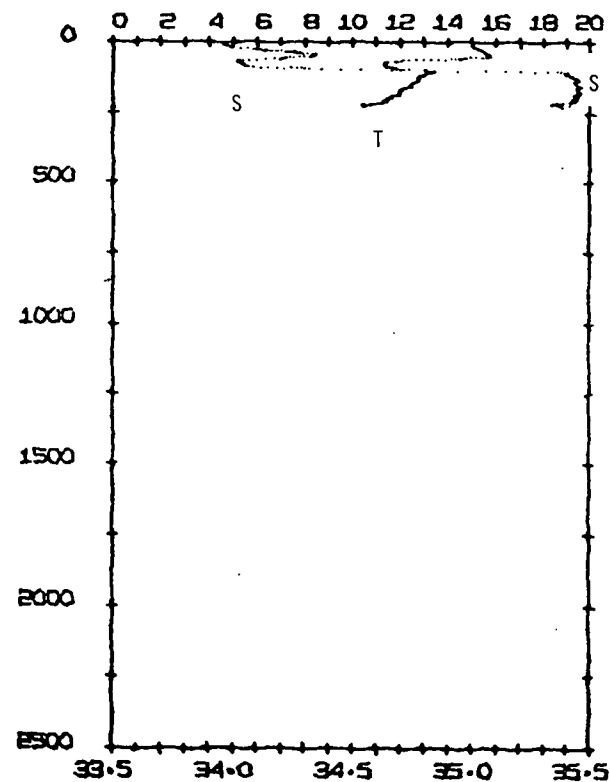
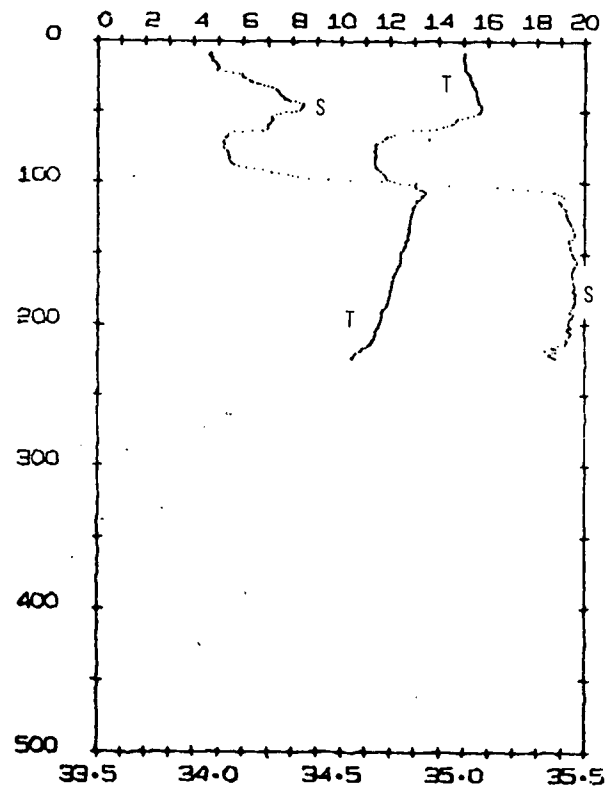
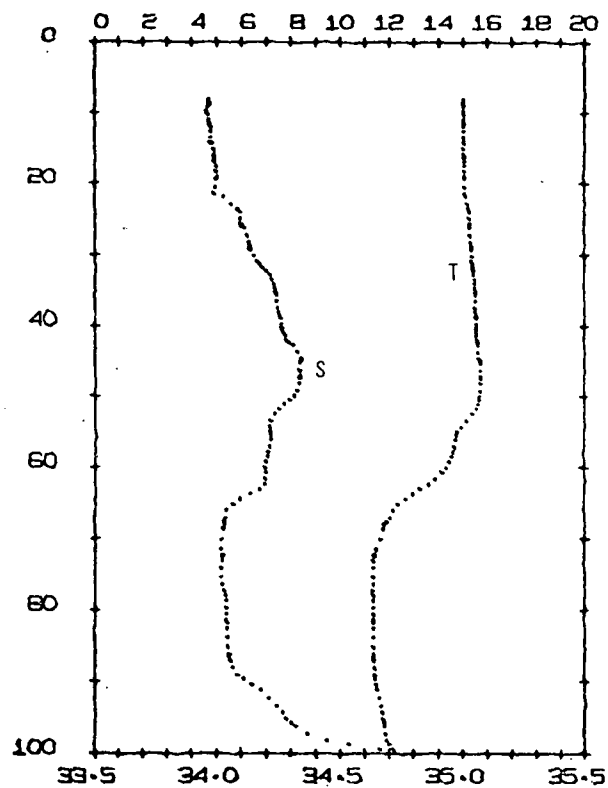
STD	0	15.03	33.967	25.19	278.85	0.000	1506.2							
STD	10	15.04	33.961	25.18	279.61	0.028	1506.4							
STD	20	15.09	33.996	25.20	278.33	0.056	1506.8							
STD	30	15.35	34.149	25.26	272.88	0.083	1507.9							
STD	40	15.55	34.264	25.30	269.13	0.110	1508.9							
STD	50	15.69	34.316	25.31	268.70	0.137	1509.5							
STD	60	14.35	34.196	25.51	249.61	0.163	1505.3							
STD	70	11.64	34.021	25.92	211.23	0.186	1496.1							
STD	80	11.36	34.040	25.98	205.04	0.207	1495.3							
STD	90	11.44	34.123	26.03	200.64	0.227	1495.9							
STD	100	12.28	34.730	26.35	171.34	0.246	1499.7							
STD	120	12.95	35.423	26.75	133.85	0.277	1503.2							
STD	140	12.71	35.444	26.81	128.27	0.303	1502.7							
STD	160	12.37	35.453	26.89	121.64	0.328	1501.9							
STD	180	11.99	35.459	26.96	114.73	0.351	1501.0							
STD	200	11.52	35.427	27.03	108.93	0.374	1495.6							
STD	224	10.43	35.374	27.19	94.20	0.398	1496.1							

BOTTOM DEPTH= 225M

VE- 32- 52



VE-32- 52



VE 32 STA 53 DATE 26 10 74 GMT 1439 LAT 39 41.0N LONG 72 40.6W
 CORR DEPTH 70M WIND 36C 5 SEA 34C 3 AIR TEMP 13.1 DEN PT 5.6 BARM 1020.3
 STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	6		34.135					5.81						
CBS	16		34.137					5.84						
CBS	36		34.232					5.60						
CBS	60		34.190					4.83						
CBS	70		34.136					4.23						

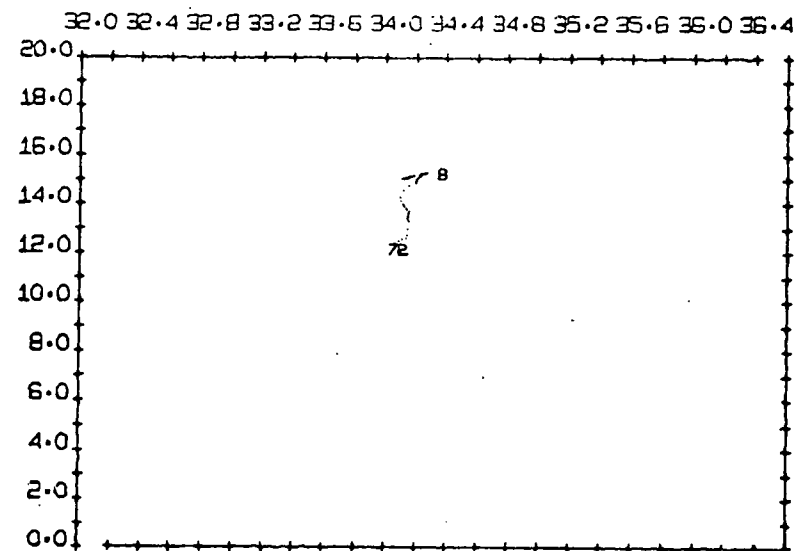
INT

8
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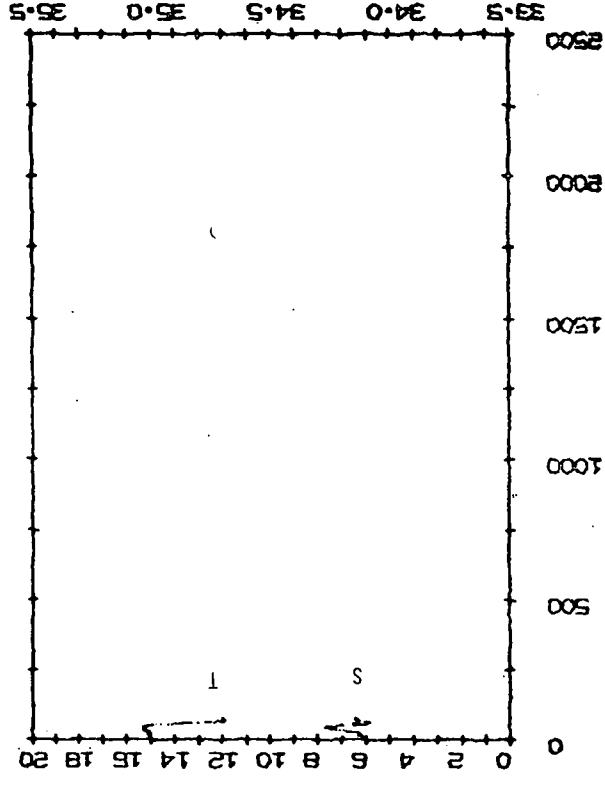
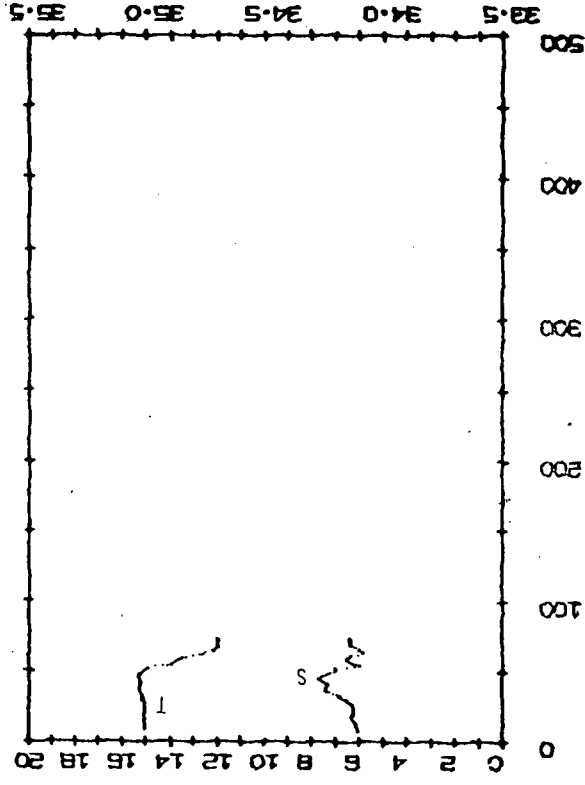
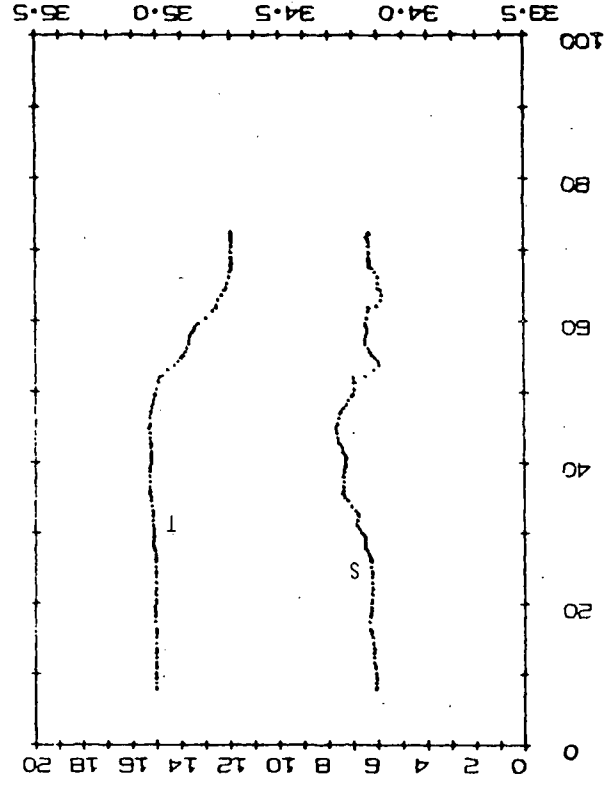
STD														
STD	0	15.02	34.109	25.30	268.17	0.000	1506.4							
STD	10	15.02	34.109	25.30	268.48	0.027	1506.5							
STD	20	15.06	34.127	25.31	268.17	0.054	1506.8							
STD	30	15.12	34.162	25.32	267.33	0.080	1507.2							
STD	40	15.26	34.231	25.34	265.35	0.107	1507.9							
STD	50	15.03	34.199	25.37	263.31	0.134	1507.3							
STD	60	13.19	34.148	25.71	230.38	0.158	1501.4							
STD	70	11.95	34.136	25.95	208.23	0.180	1497.3							
STD	72	11.95	34.136	25.95	208.22	0.185	1497.4							

BOTTOM DEPTH= 74M

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VE-32-53



VE 32 STA 54 DATE 26 10 74 GMT 1644 LAT 39 43.5N LONG 72 53.6W

CORR DEPTH 7CM WIND 320 4 SEA 320 4 AIR TEMP 13.0 DEW PT 4.8 BAROM 1020.3

STD 9C40 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

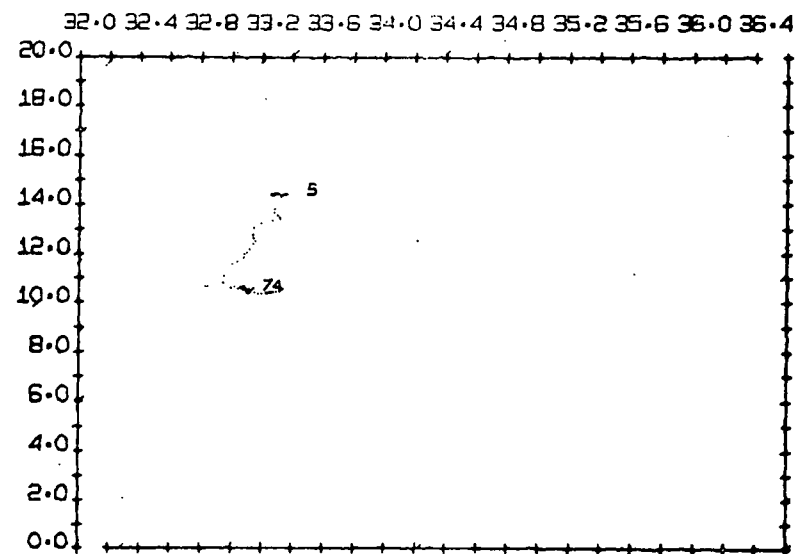
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	9							5.88						
CBS *	24	14.35						5.83						
CBS	43							4.82						
CBS	55							3.98						
CBS	66							3.86						
CBS	72							3.87						

INT

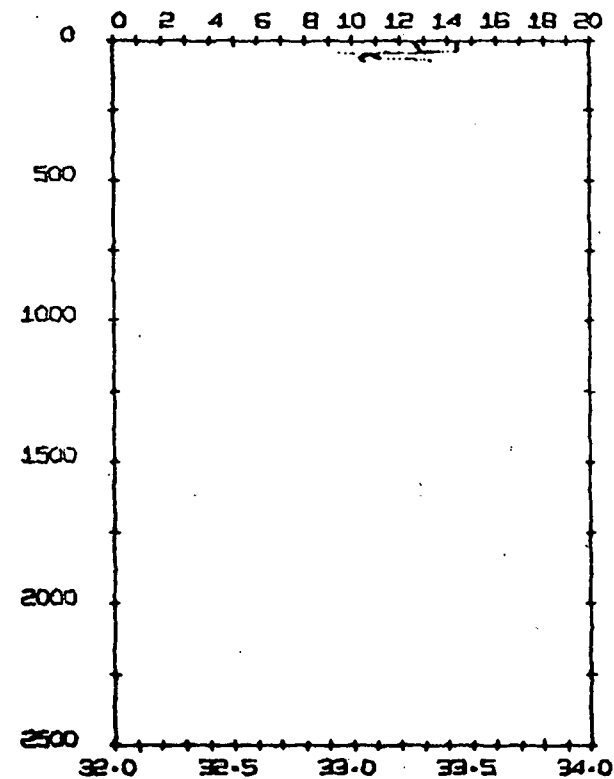
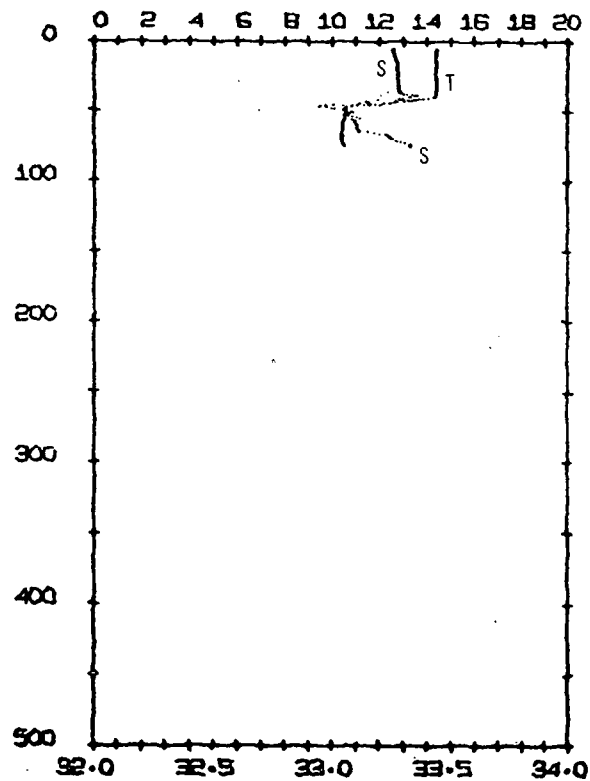
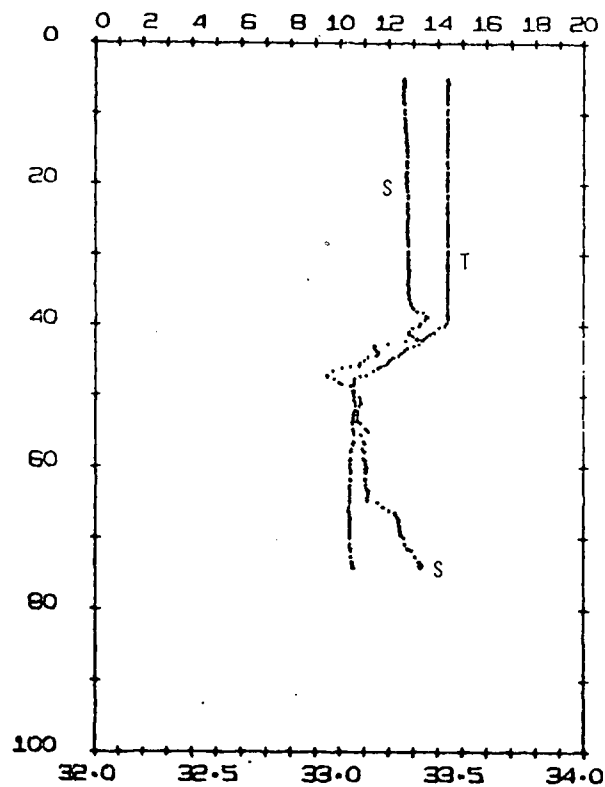
STD	0	14.41	33.264	24.78	317.57	0.000	1503.4							
STD	10	14.40	33.263	24.78	317.72	0.032	1503.5							
STD	20	14.40	33.273	24.79	317.22	0.064	1503.7							
STD	30	14.39	33.281	24.80	316.75	0.095	1503.8							
STD	40	14.29	33.325	24.86	311.58	0.127	1503.7							
STD	50	10.60	33.062	25.36	263.46	0.155	1490.9							
STD	60	10.42	33.108	25.43	257.27	0.181	1490.5							
STD	70	10.41	33.261	25.55	246.05	0.207	1490.8							
STD	74	10.53	33.326	25.58	243.38	0.217	1491.4							

BOTTOM DEPTH= 75M

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VE-32- 54



VE 32 STA 55 DATE 26 IC 74 GMT 1820 LAT 39 46.9N LONG 72 55.W

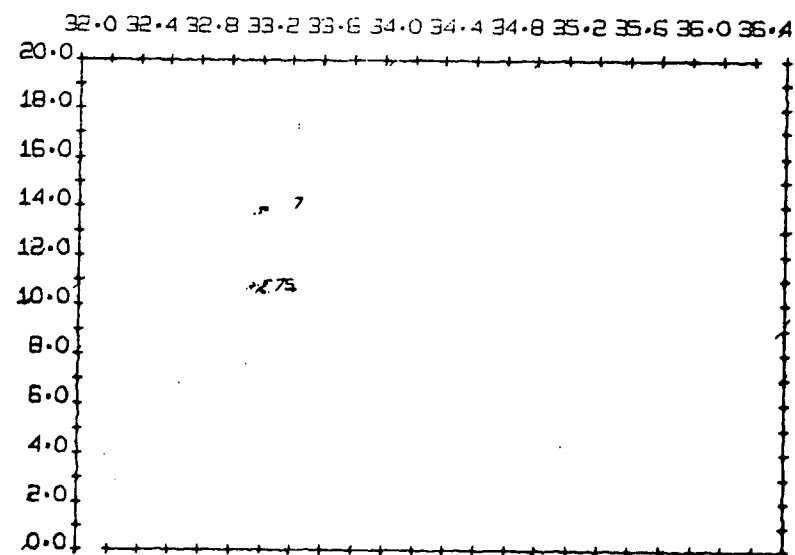
CORR DEPTH 7CM WIND 320 5 SEA 320 4 AIR TEMP 12.2 DEW PT 5.0 BAROM 1019.6

STD 9C40 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 1

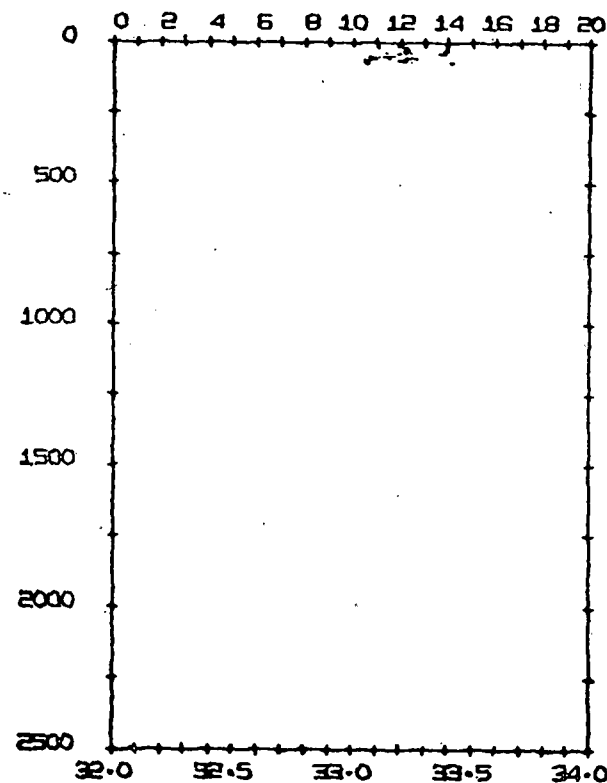
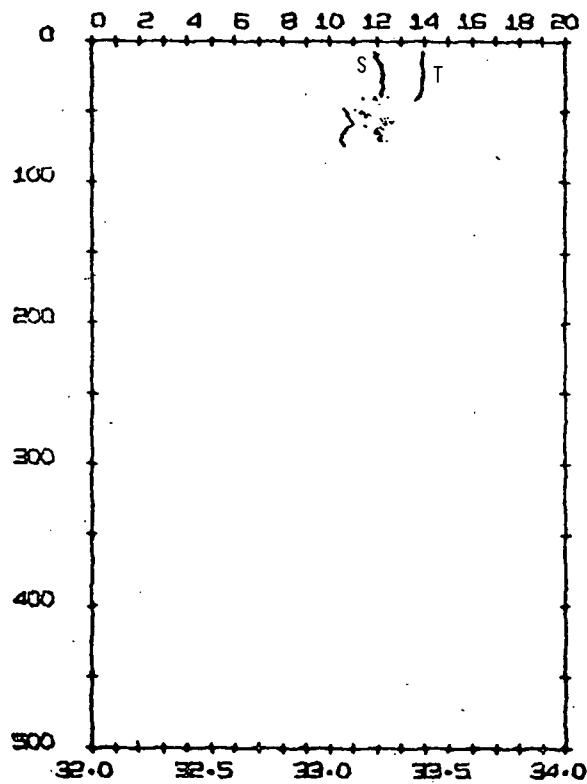
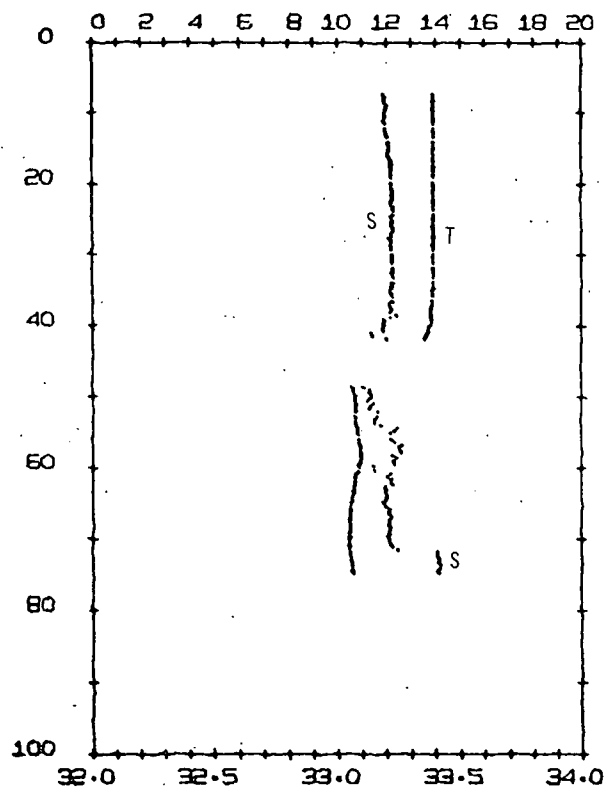
DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
STD	0	13.92	33.187	24.82	313.48	0.000	1501.7			INT			
STD	10	13.93	33.193	24.83	313.46	0.031	1501.9			7			
STD	20	13.91	33.221	24.85	311.33	0.063	1502.0			0			
STD	30	13.91	33.225	24.86	311.18	0.094	1502.2			1			
STD	40	13.76	33.191	24.86	310.95	0.125	1501.8			0			
STD	50	10.72	33.136	25.40	259.97	0.153	1491.4			0			
STD	60	10.87	33.148	25.38	261.91	0.179	1492.1			1			
STD	70	10.50	33.208	25.49	251.46	0.205	1491.0			0			
STD	74	10.60	33.412	25.63	238.22	0.216	1491.8			0			

BOTTOM DEPTH= 76M

VE- 32- 55



VE-32- 55



VE 32 STA 56 DATE 26 10 74 GMT 1940 LAT 39 53.2N LONG 72 56.6W

CORR DEPTH 53M WIND 320 4 SEA 320 3 AIR TEMP 12.2 DEW PT 6.0 BAROM 1019.6

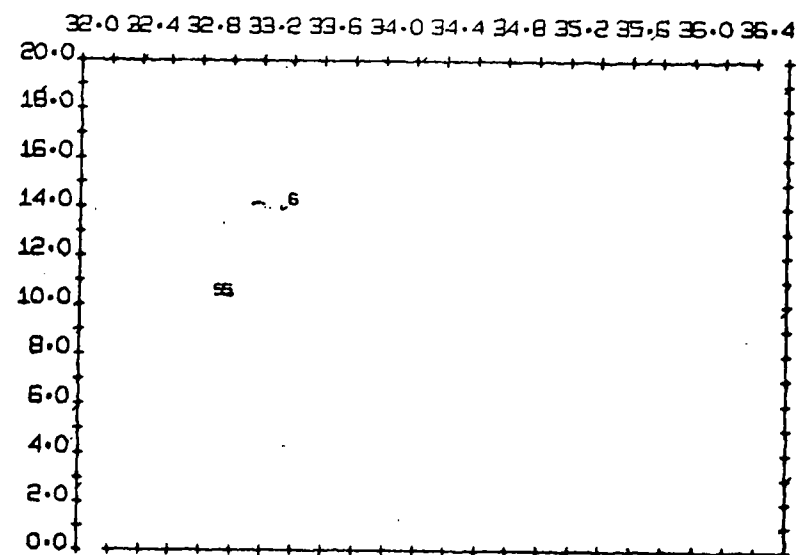
STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	4		33.149					6.08						
OBS	9		33.144					6.09						
OBS	18		33.149					6.01						
OBS	28		33.269					5.61						
OBS	37		33.029					3.95						
OBS	53		32.986					3.70						

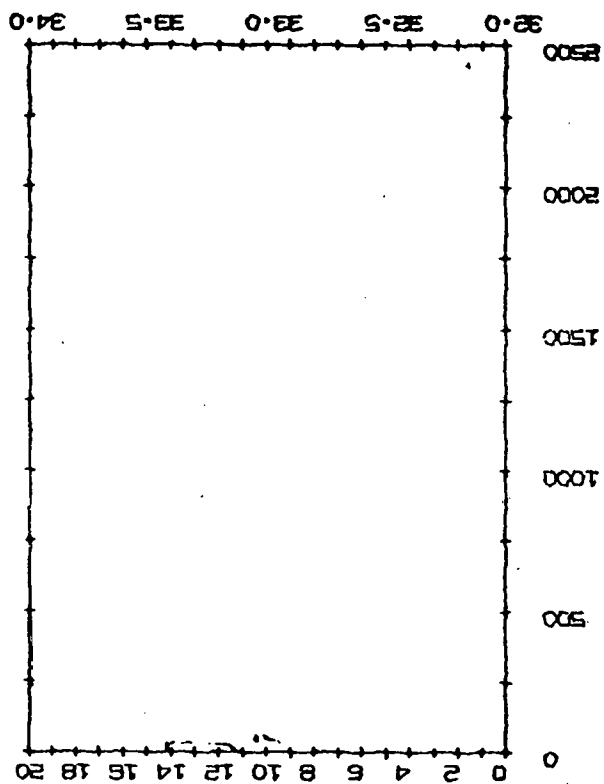
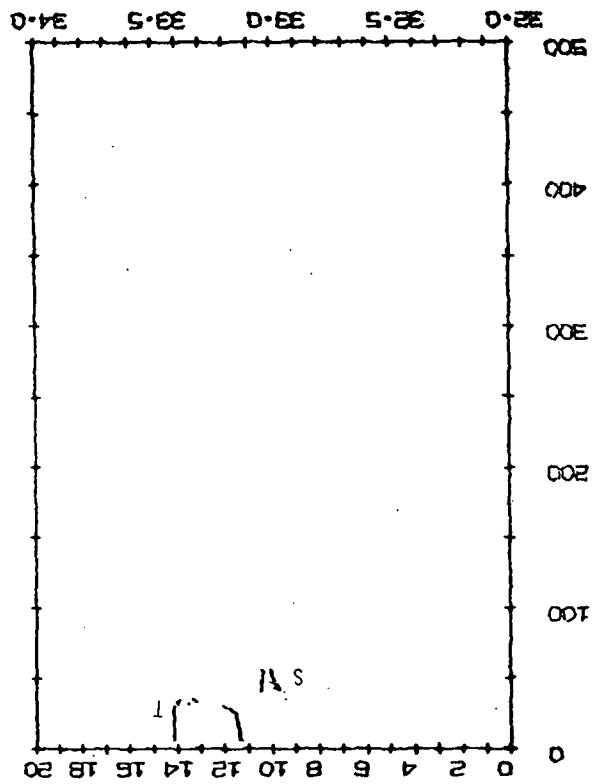
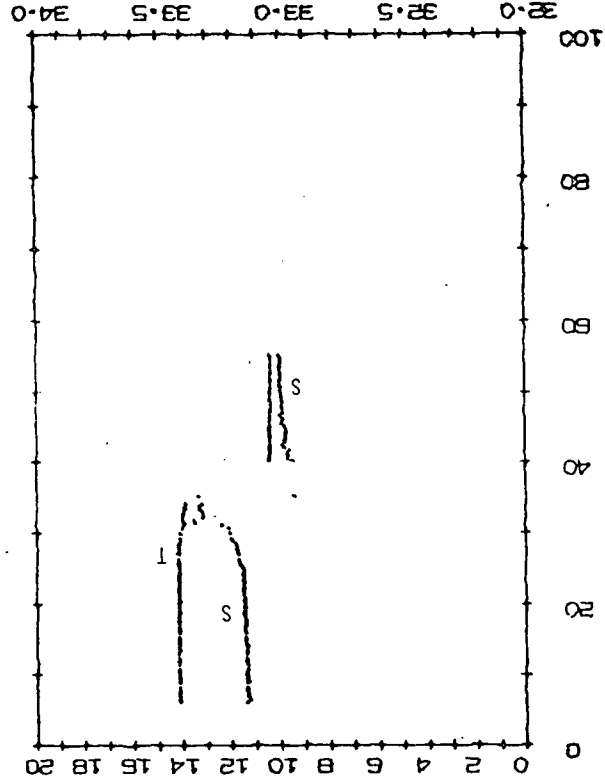
	STD		0	14.14	33.139	24.74	321.25	0.000	1502.3		INT
STD	10	14.16	33.139	24.74	321.85	0.032	1502.6			6	
STD	20	14.15	33.149	24.75	321.32	0.064	1502.7			0	
STD	30	14.11	33.208	24.80	316.27	0.096	1502.8			1	
STD	40	10.60	32.952	25.27	271.46	0.126	1490.6			5	
STD	50	10.42	33.000	25.34	265.18	0.152	1490.2			0	
STD	55	10.41	33.002	25.35	264.93	0.166	1490.2			0	

BOTTOM DEPTH= 56M

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VE-32-56



VE 32 STA 57 DATE 26 10 74 GMT 2114 LAT 39 59.9N LONG 72 0.2W

CORR DEPTH 46M WIND 290 3 SEA 320 2 AIR TEMP 12.2 DEW PT 5.0 BAROM 1019.0

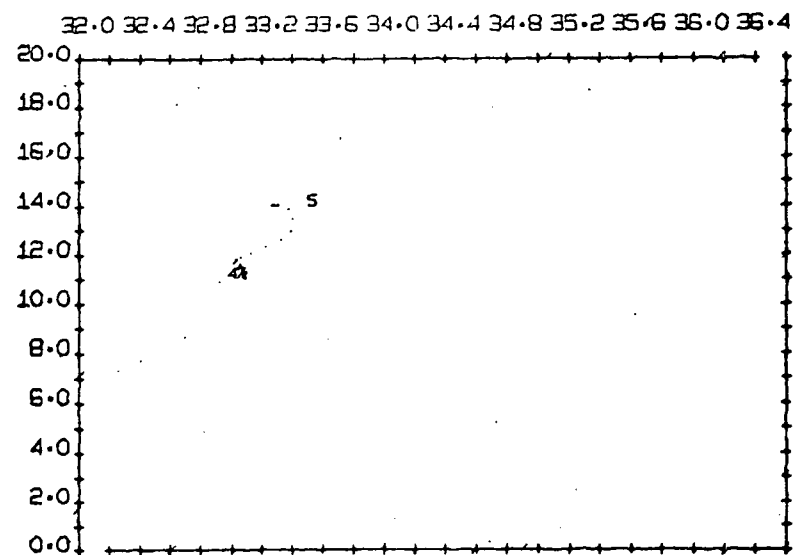
STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 5

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	1	14.06	33.249	24.84			1502.2	6.19						
OBS	23		33.270					6.18						
OBS	30		33.249					5.92						
OBS	38		33.060					3.55						
OBS	45		33.057					3.56						

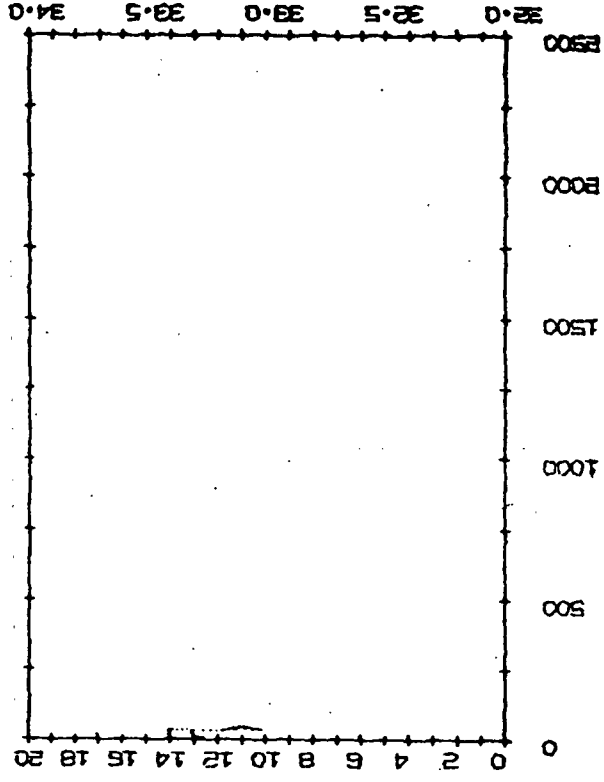
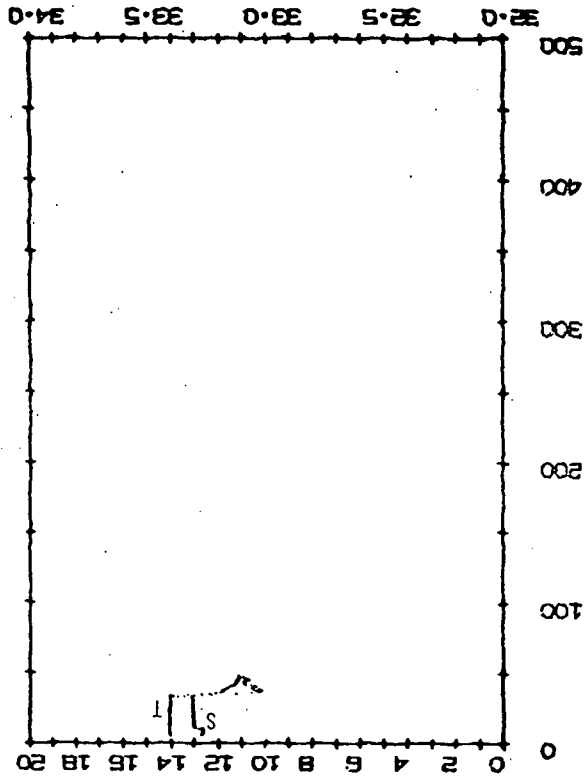
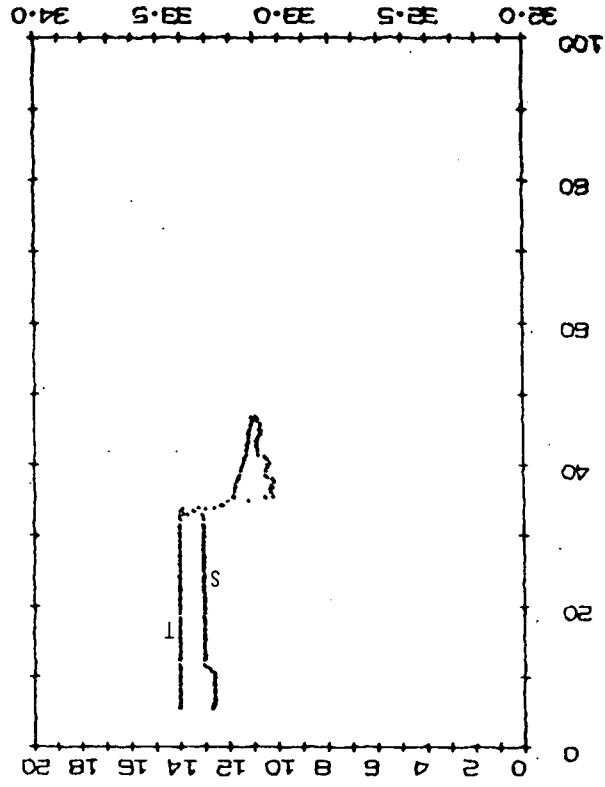
	STD		TEMP	SALIN	DENS	ANOM	DELTA	VELOC
	0	14.03	33.273	24.87	309.17	0.000	1502.1	
	10	14.04	33.265	24.86	310.34	0.031	1502.3	
	20	14.06	33.305	24.89	307.97	0.062	1502.6	
	30	14.06	33.307	24.89	308.02	0.093	1502.8	
	40	11.50	33.044	25.19	279.96	0.122	1493.9	
	46	11.06	33.091	25.30	269.06	0.140	1492.5	

BOTTOM DEPTH= 49M

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VE-32-57



VE 32 STA 58 DATE 26 10 74 GMT 2353 LAT 35 57.6N LONG 73 7.7W

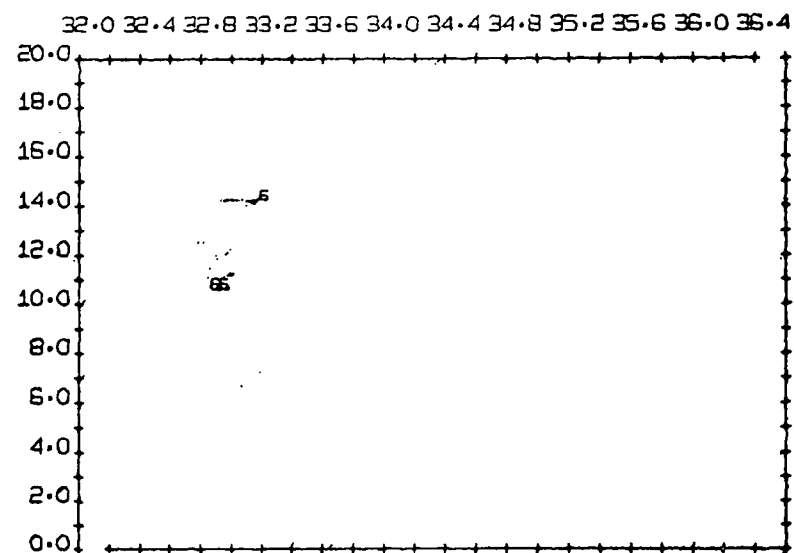
CORR DEPTH 64M WIND 210 2 SEA 110 2 AIR TEMP 12.8 DEW PT 8.0 BAROM 1019.3

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 1

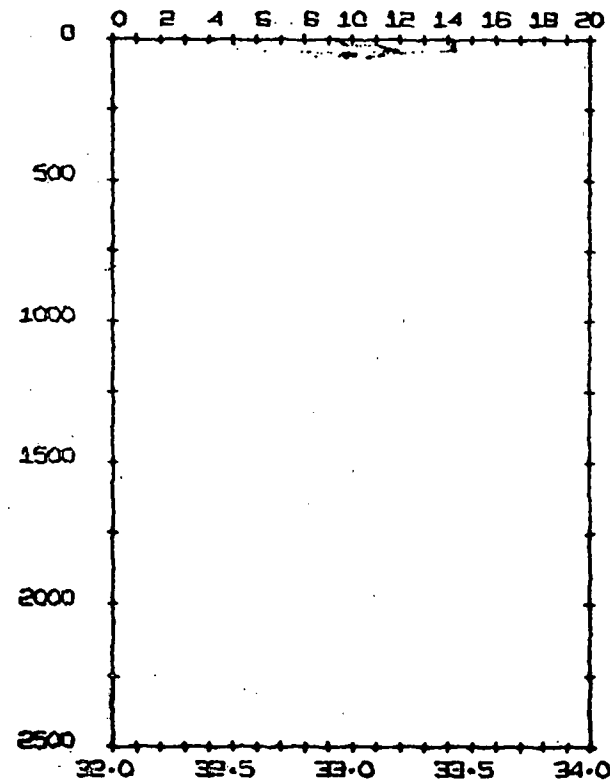
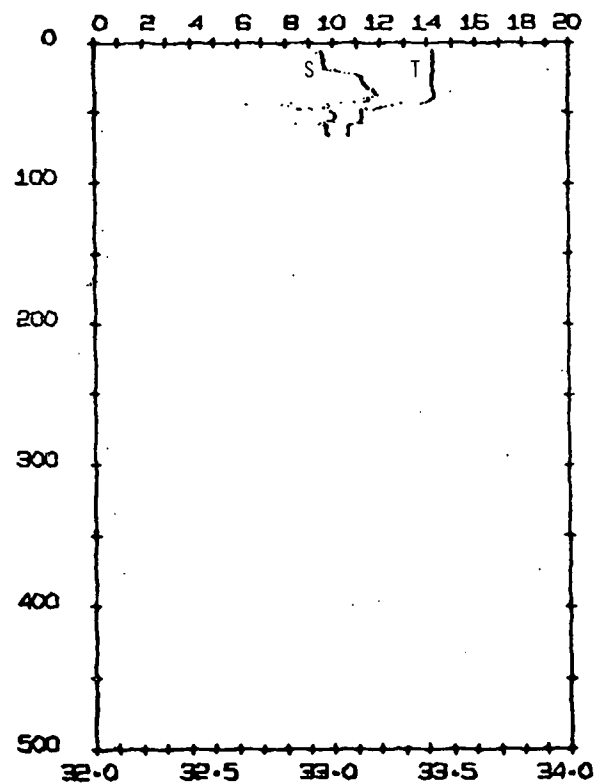
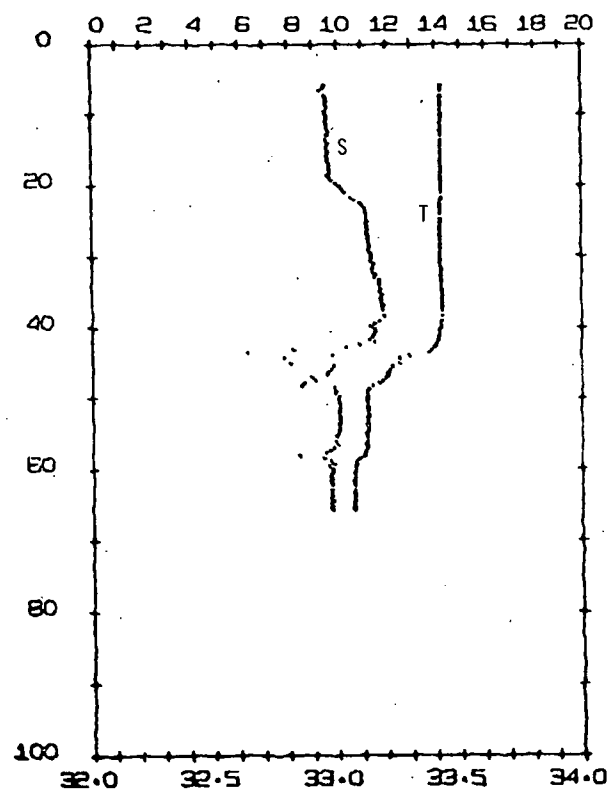
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
STC	0	14.24	32.954	24.58	336.85	0.000	1502.4				INT			
STD	10	14.23	32.958	24.59	336.54	0.034	1502.6				6			
STD	20	14.24	33.005	24.62	333.60	0.067	1502.8				0			
STD	30	14.21	33.141	24.73	323.32	0.100	1503.1				0			
STD	40	14.23	33.140	24.73	323.95	0.132	1503.3				0			
STD	50	11.22	33.006	25.21	278.08	0.162	1493.0				0			
STD	60	10.71	32.975	25.27	272.02	0.190	1491.4				0			
STD	65	10.65	32.977	25.29	270.97	0.205	1491.2				0			

BOTTOM DEPTH= 66M

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VE 32 STA 59 DATE 27 10 74 GMT 10 LAT 39 56.4N LONG 73 16.7W

CORR DEPTH 75M WIND 190 4 SEA 190 2 AIR TEMP 13.7 DEW PT 6.5 BAROM 1019.0

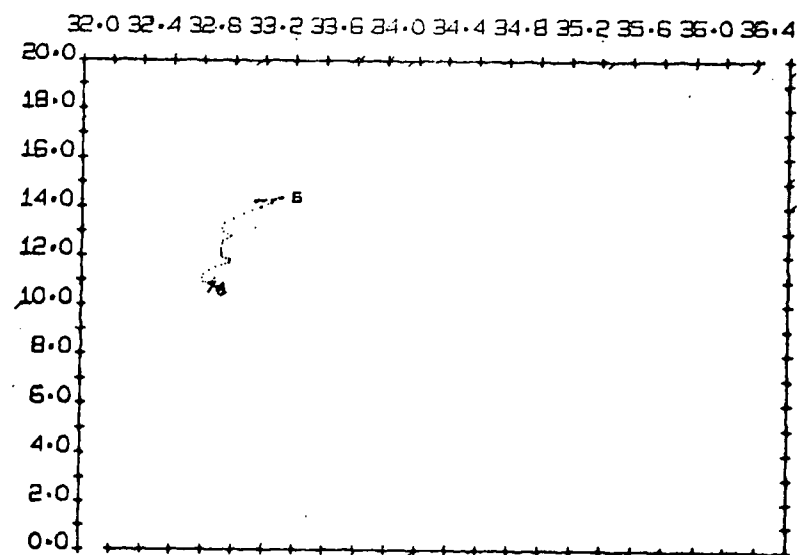
STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	2		33.155											
OBS *	17	14.23	33.156	24.74			1502.9	6.02						
CBS	32		33.236					5.77						
CBS	57		32.894					3.64						
OBS	66		32.926					3.58						
CBS	73		32.931					3.57						

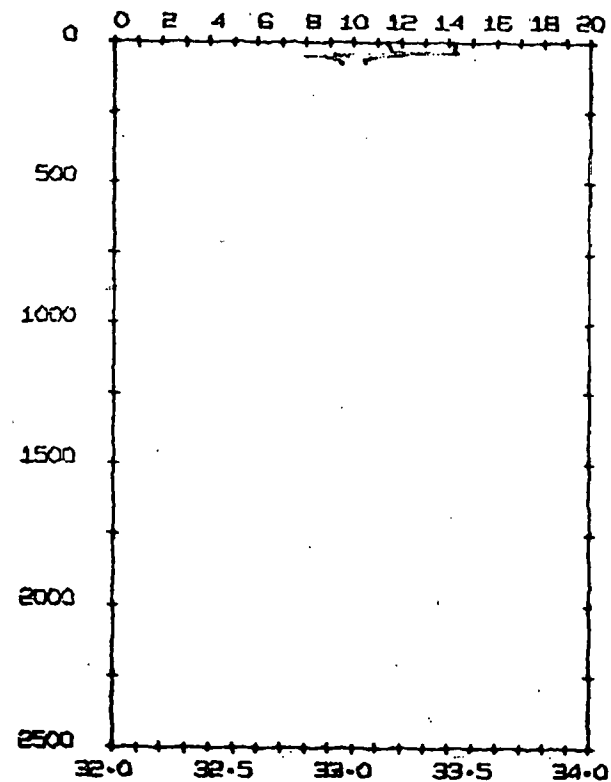
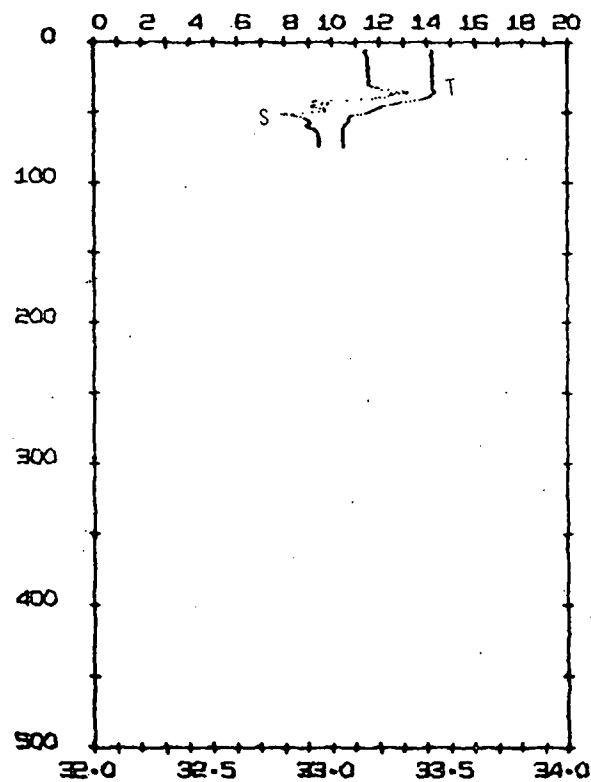
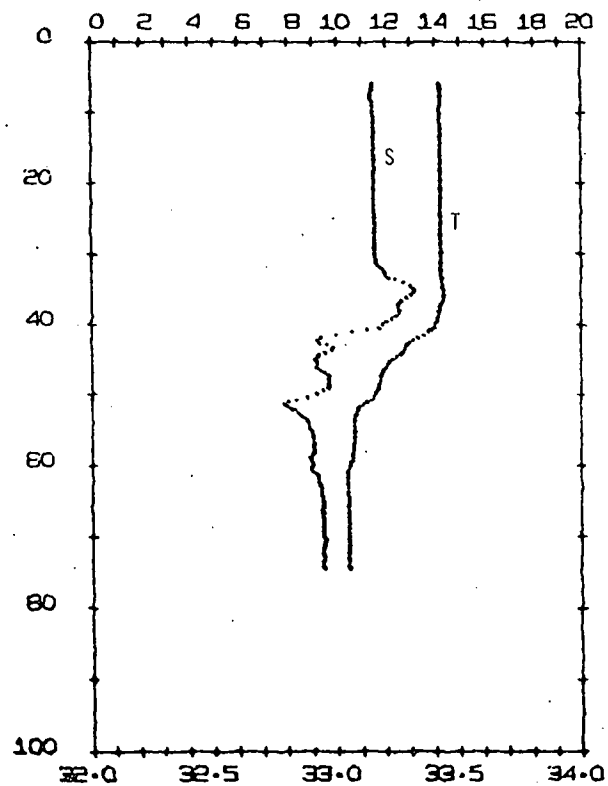
	STD	0	10	20	30	40	50	60	70	74	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM	
	0	14.21	14.22	14.23	14.23	14.02	11.57	10.55	10.47	10.47		33.149	33.148	33.151	33.157	33.188	32.906	32.904	32.943	32.945				
	10	14.22	14.22	14.23	14.23	14.02	11.57	10.55	10.47	10.47		33.148	33.151	33.157	33.188	32.906	32.904	32.943	32.945					
	20	14.23	14.23	14.23	14.23	14.02	11.57	10.55	10.47	10.47		33.151	33.157	33.188	32.906	32.904	32.943	32.945						
	30	14.23	14.23	14.23	14.23	14.02	11.57	10.55	10.47	10.47		33.157	33.188	32.906	32.904	32.943	32.945							
	40	14.02	14.02	14.02	14.02	11.57	10.55	10.47	10.47	10.47		33.188	32.906	32.904	32.943	32.945								
	50	11.57	11.57	11.57	11.57	10.55	10.47	10.47	10.47	10.47		32.906	32.904	32.943	32.945									
	60	10.55	10.55	10.55	10.55	10.47	10.47	10.47	10.47	10.47		32.904	32.943	32.945										
	70	10.47	10.47	10.47	10.47	10.47	10.47	10.47	10.47	10.47		32.943	32.945											
	74	10.47	10.47	10.47	10.47	10.47	10.47	10.47	10.47	10.47		32.945												

BOTTOM DEPTH= 75M

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VE 32 STA 60 DATE 27 10 74 GMT 448 LAT 39 55.4N LONG 73 18.4W

CORR DEPTH 44M WIND 270 5 SEA 270 3 AIR TEMP 13.6 DEW PT 6.0 BAROM 1019.0

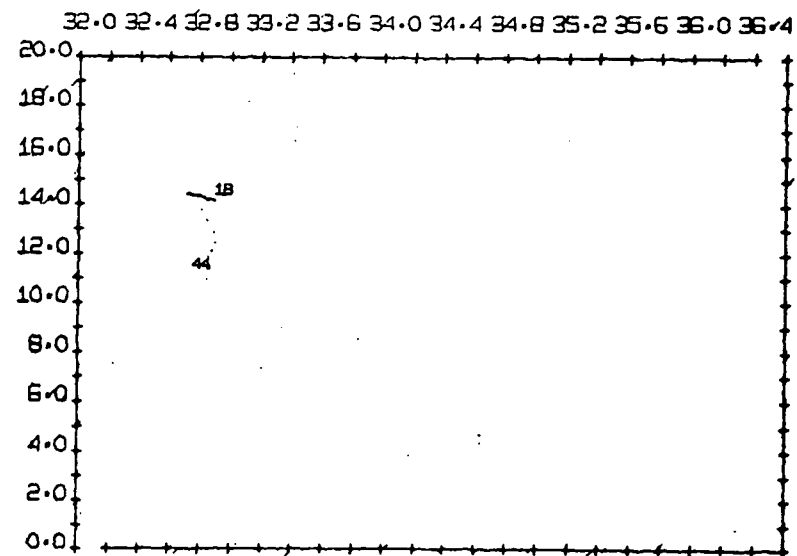
STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	19		32.722					5.87						
OBS	23		32.745					5.87						
OBS	27		32.785					5.76						
OBS	30		32.838					5.72						
OBS	41		32.842					3.49						

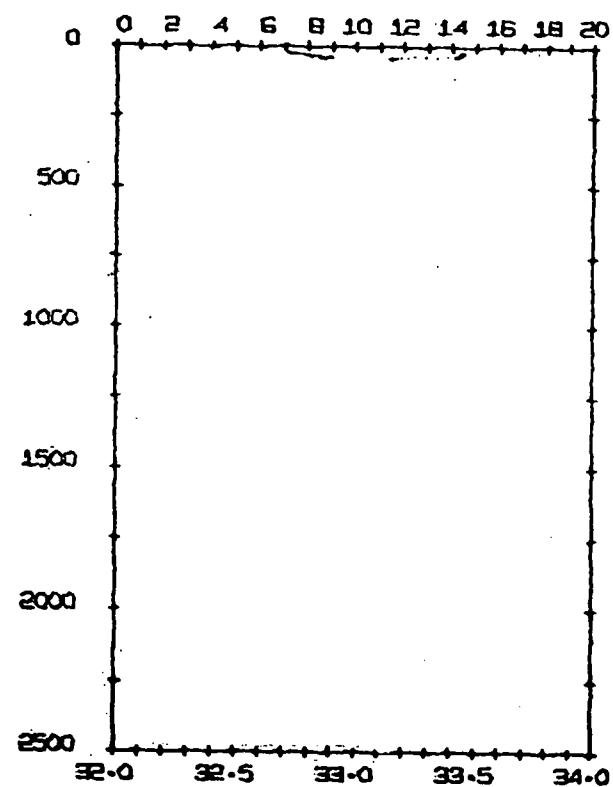
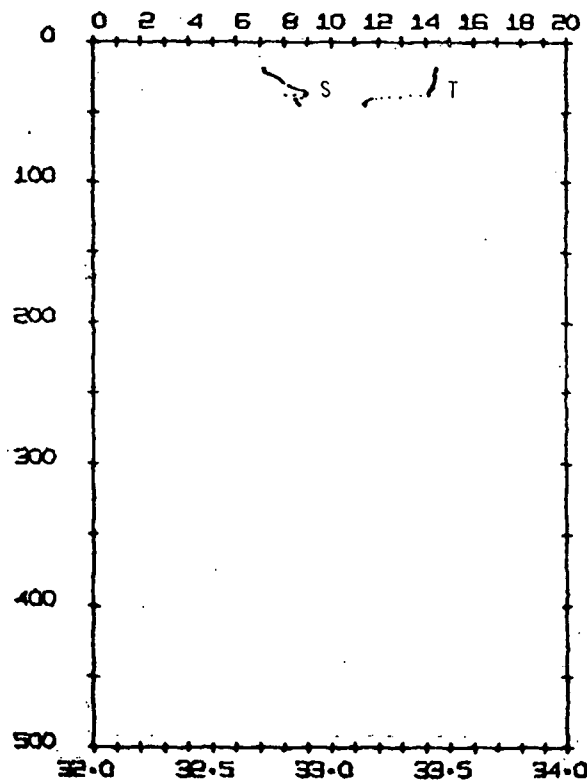
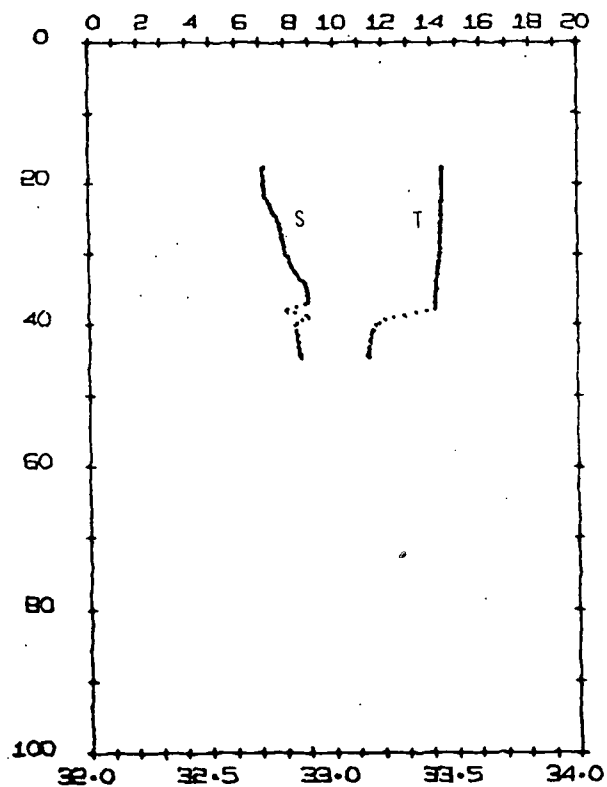
	STD	0	14.43	32.721	24.36	357.72	0.000	1502.8	INT
STD	10	14.43	32.721	24.36	357.99	0.036	1502.9	18	
STC	20	14.43	32.718	24.36	358.40	0.072	1503.1	8	
STD	30	14.34	32.806	24.45	350.33	0.107	1503.1	0	
STD	40	11.79	32.847	24.98	259.54	0.140	1494.7	0	
STD	44	11.42	32.864	25.06	291.87	0.153	1493.5	0	

BOTTOM DEPTH= 44M

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VE 32 STA 61 DATE 27 10 74 GMT 627 LAT 40 C.1N LONG 73 21.4W

CORR DEPTH 75M WIND 27C 5 SEA 27C 3 AIR TEMP 13.5 DEW PT 6.8 BAROM 1017.9

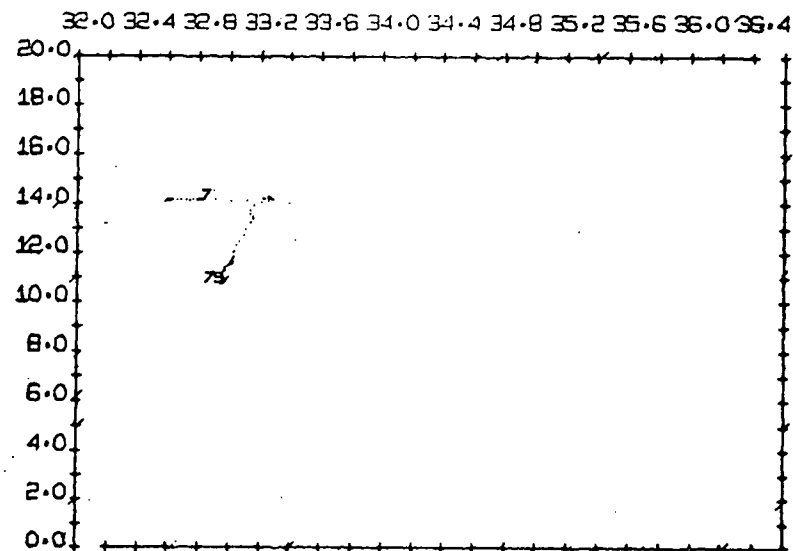
STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	5		32.602					5.86						
CBS	17	14.13	32.601	24.33			1501.9	5.81						
OBS	37		33.288					5.18						
CBS	53		32.964					3.61						
OBS	68		32.934					3.54						
CBS	77		32.936					3.54						

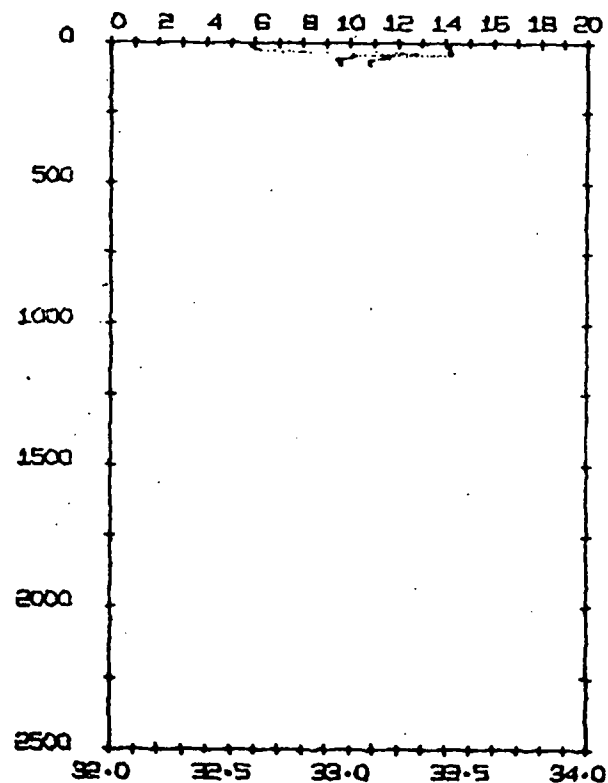
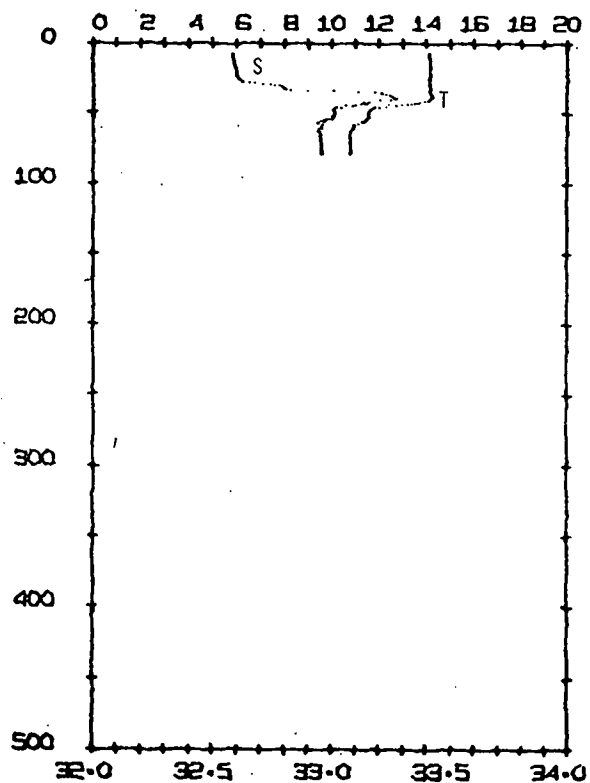
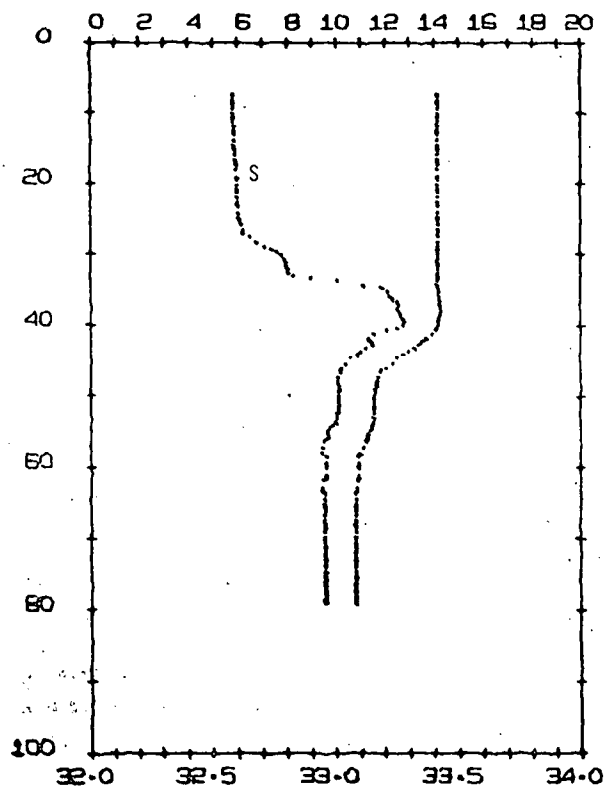
	STD	0	14.16	32.585	24.31	362.27	0.000	1501.7		INT
STD	10	14.16	32.585	24.31	362.52	0.036	1501.9		7	
STD	20	14.17	32.599	24.32	361.96	0.072	1502.1		1	
STD	30	14.16	32.772	24.46	349.22	0.108	1502.4		1	
STD	40	14.14	33.277	24.85	312.17	0.141	1503.2		0	
STD	50	11.58	33.010	25.15	284.06	0.171	1494.3		0	
STD	60	10.92	32.961	25.23	276.49	0.199	1492.1		0	
STD	70	10.81	32.953	25.24	275.55	0.227	1491.8		1	
STD	79	10.80	32.956	25.24	275.30	0.252	1492.0		0	

BOTTOM DEPTH= 80M

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VE 32 STA 62 DATE 27 10 74 GMT 833 LAT 40 5.9N LONG 73 20.5W

CORR DEPTH 40M WIND 270 6 SEA 270 4 AIR TEMP 13.4 DEW PT 6.4 BAROM 1016.6

STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	10		32.541					5.77						
OBS	15		32.539					5.76						
OBS	22		32.540					5.75						
OBS	24		32.572					5.53						
CBS	27		32.547					5.73						
CBS	39		32.895					3.51						

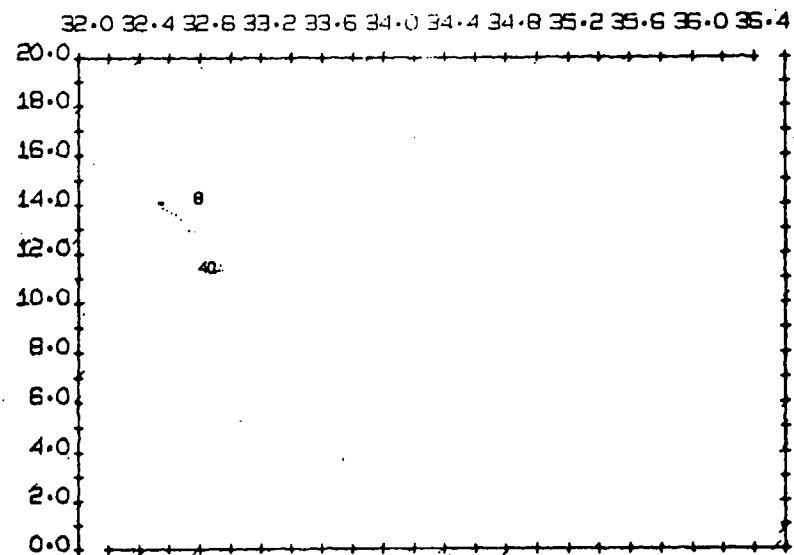
INT

8
1
1
1
0
0

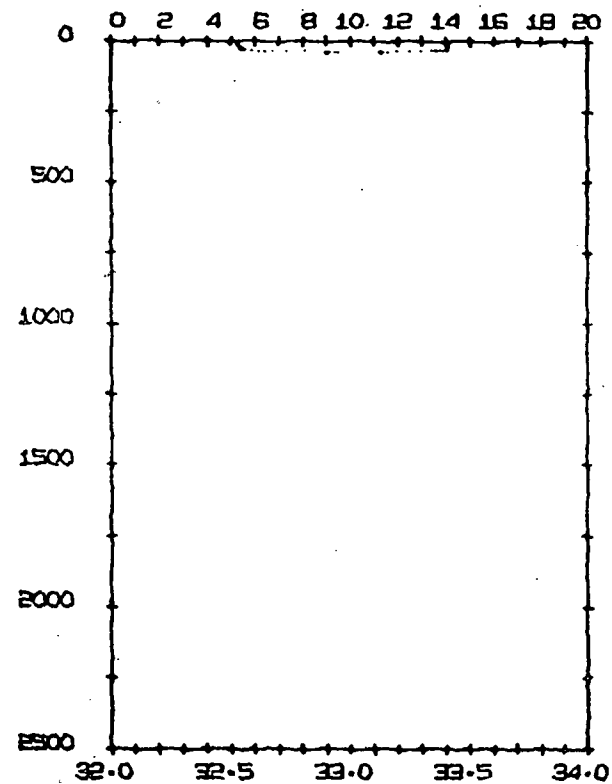
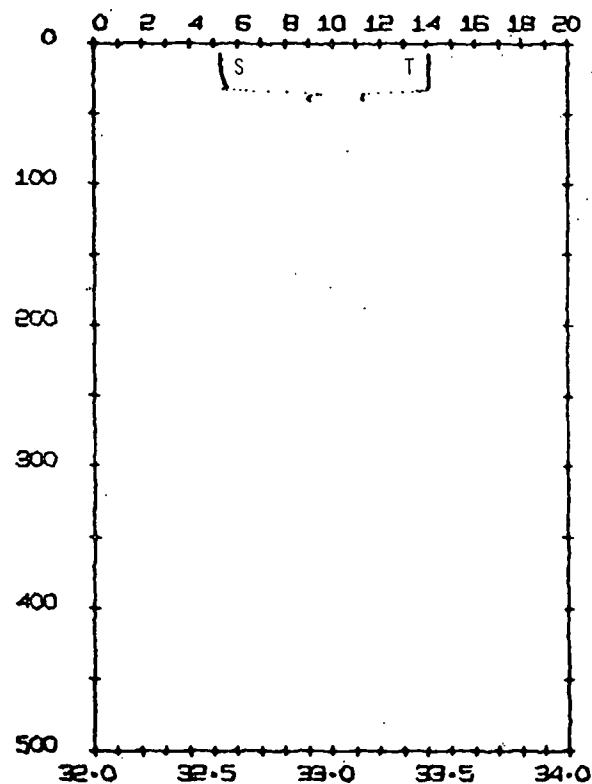
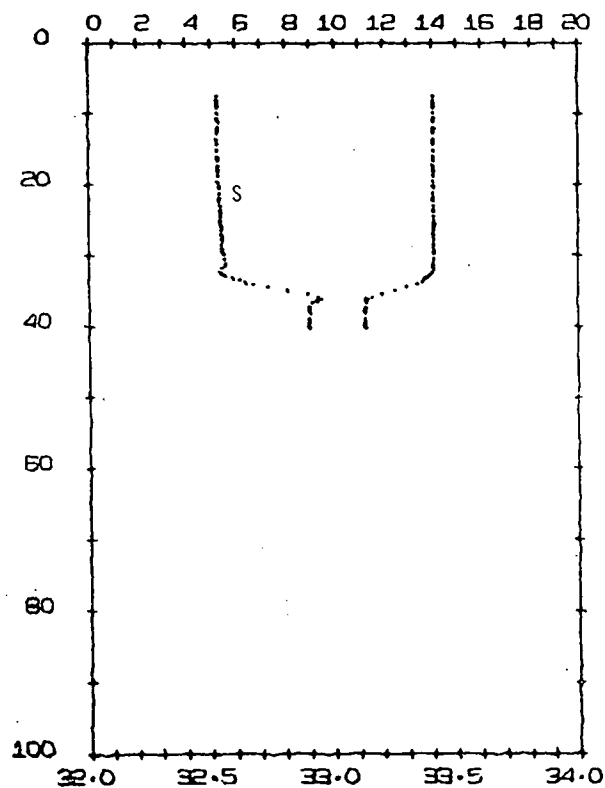
STD		0	14.09	32.528	24.28	365.07	0.000	1501.4
STD	10	14.09	32.529	24.28	365.15	0.037	1501.6	
STD	20	14.09	32.534	24.29	365.11	0.073	1501.8	
STD	30	14.08	32.553	24.30	363.79	0.109	1501.9	
STD	40	11.28	32.901	25.12	286.64	0.142	1492.9	
STD	40	11.28	32.901	25.12	286.65	0.142	1492.9	

BOTTOM DEPTH= 41M

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VE-32- 62



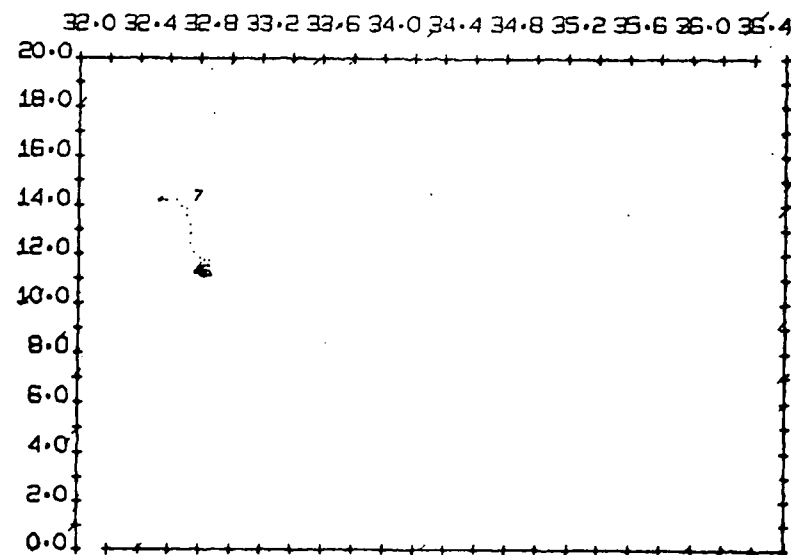
VE 32 STA 63 DATE 27 10 74 GMT 1038 LAT 40 6.7N LONG 73 28.3W
 CORR DEPTH 40M WIND 270 6 SEA 270 4 AIR TEMP 12.9 DEW PT 6.0 BAROM 1016.3
 STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 8

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
GBS	33		32.569					5.76						
GBS	35	13.81	32.634	24.42			1501.2	5.57						
GBS	36		32.894					3.55						
GBS		11.62	32.875	25.03			1494.4	3.36						
GBS	39		32.874					3.41						
GBS	40		32.874					3.44						
GBS	42		32.873					3.45						
GBS	43		32.874					3.44						

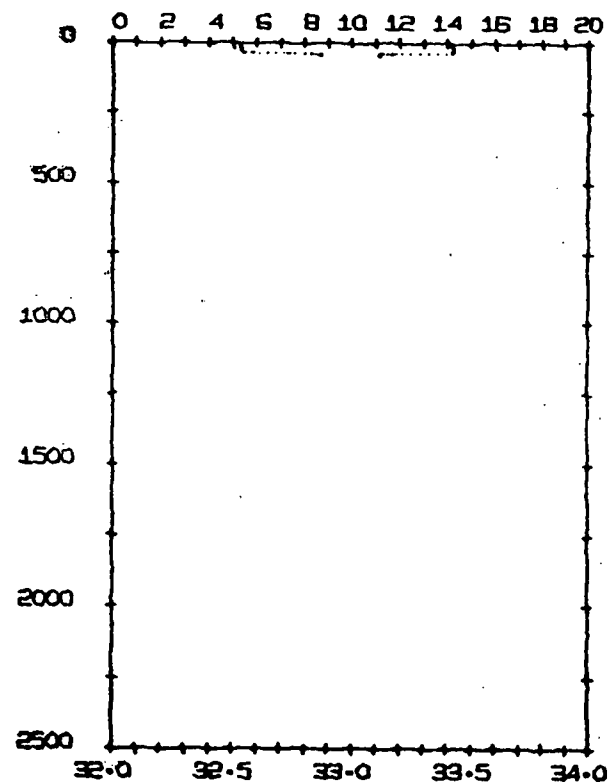
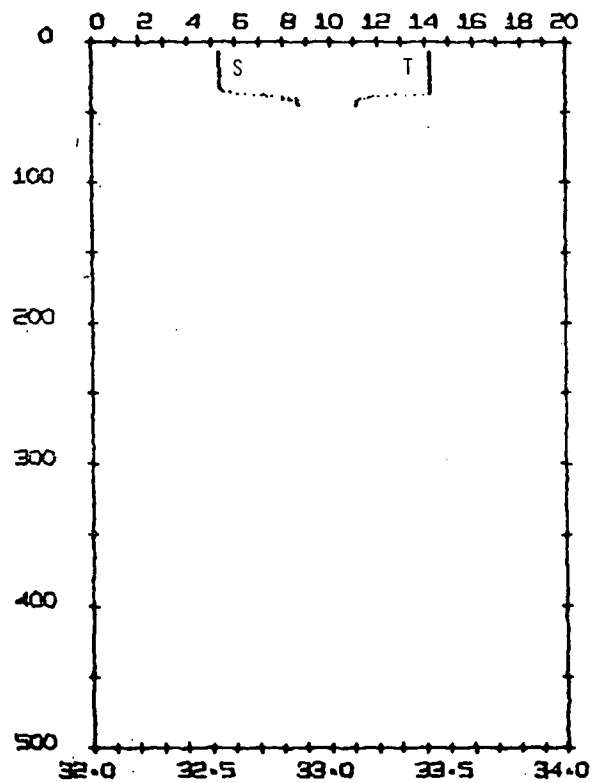
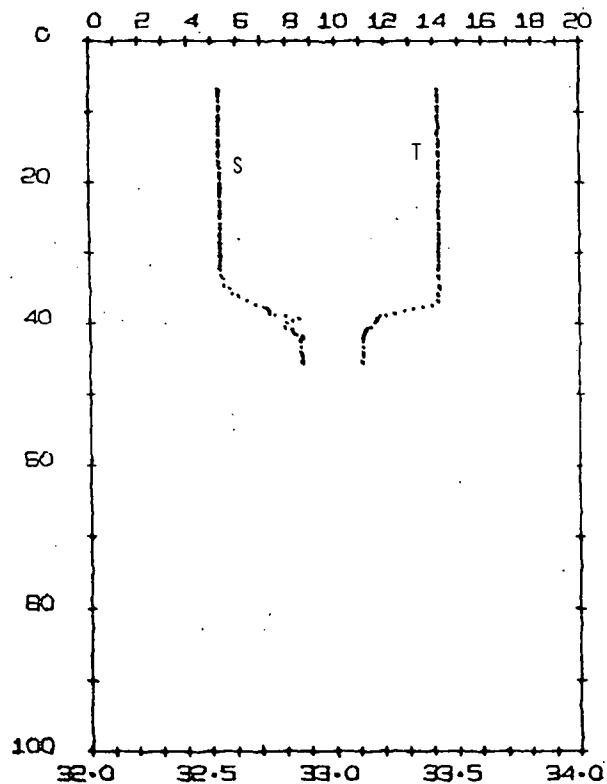
	STD		TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
	0	14.22	32.532	24.26	367.28	0.000	1501.8								
	10	14.22	32.531	24.26	367.53	0.037	1502.0								
	20	14.23	32.536	24.26	367.64	0.073	1502.2								
	30	14.22	32.536	24.26	367.82	0.110	1502.3								
	40	11.61	32.802	24.98	299.73	0.144	1494.0								
	45	11.14	32.870	25.12	286.60	0.160	1492.5								

BOTTOM DEPTH= 47M

VE- 32- 63



VE-32- 63



VE 32 STA 64 DATE 27 10 74 GMT 1155 LAT 40 6.1N LONG 73 32.8W
 CORR DEPTH 68M WIND 28C 6 SEA 27C 4 AIR TEMP 12.9 DEW PT 6.7 BAROM 1017.6
 STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 4

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	21		32.602					5.77						
OBS	49		32.871					3.40						
OBS	61		32.874					3.41						
OBS	72		32.872					3.41						

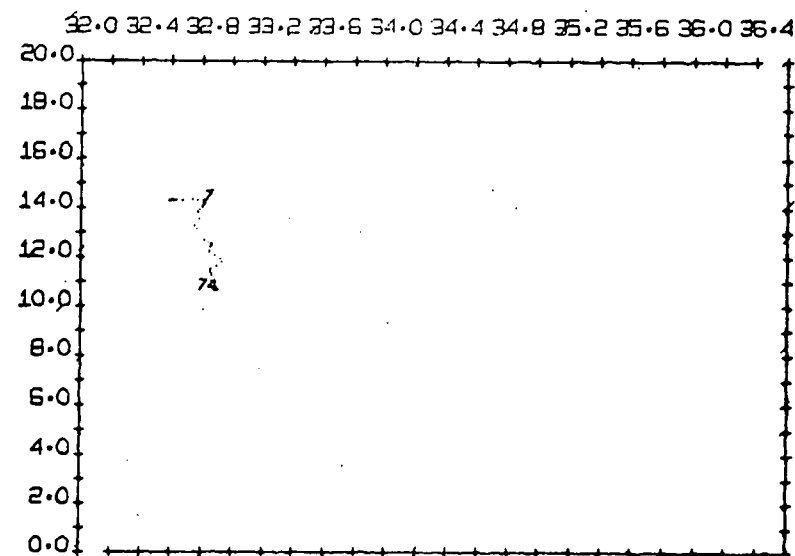
INT

STD	0	14.31	32.588	24.28	365.04	0.000	1502.2							
STD	10	14.32	32.589	24.28	365.28	0.037	1502.4							
STD	20	14.32	32.598	24.29	365.01	0.073	1502.6							
STD	30	14.34	32.703	24.37	357.90	0.109	1502.9							
STD	40	14.07	32.799	24.50	345.73	0.144	1502.3							
STD	50	11.37	32.853	25.06	291.87	0.176	1493.4							
STD	60	10.69	32.891	25.21	277.79	0.205	1491.2							
STD	70	10.67	32.892	25.22	277.66	0.232	1491.3							
STD	73	10.67	32.892	25.22	277.72	0.243	1491.3							

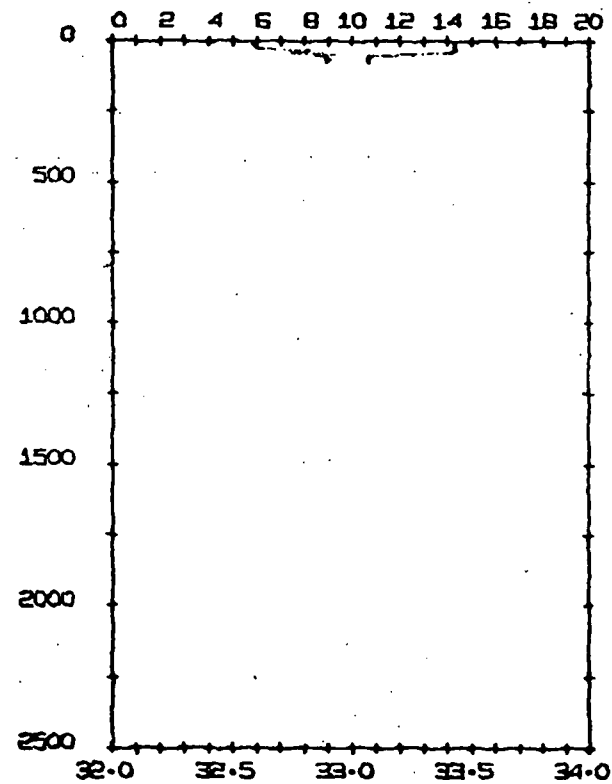
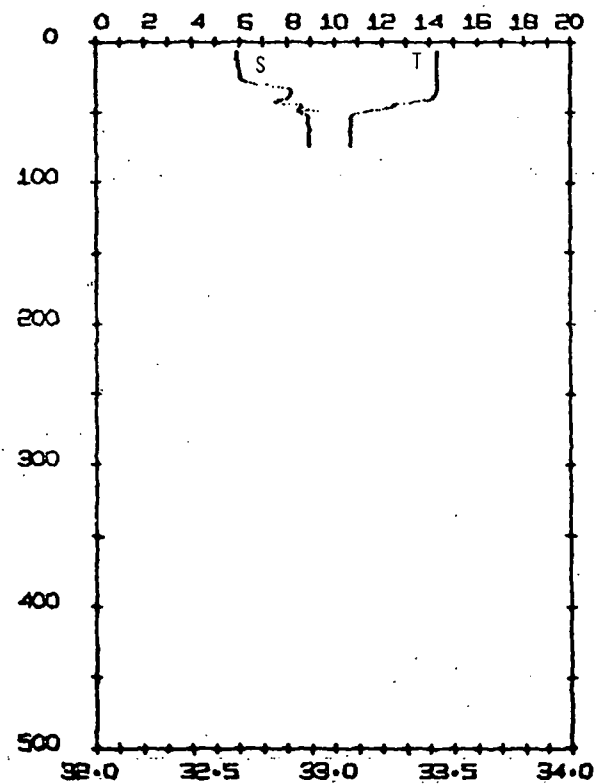
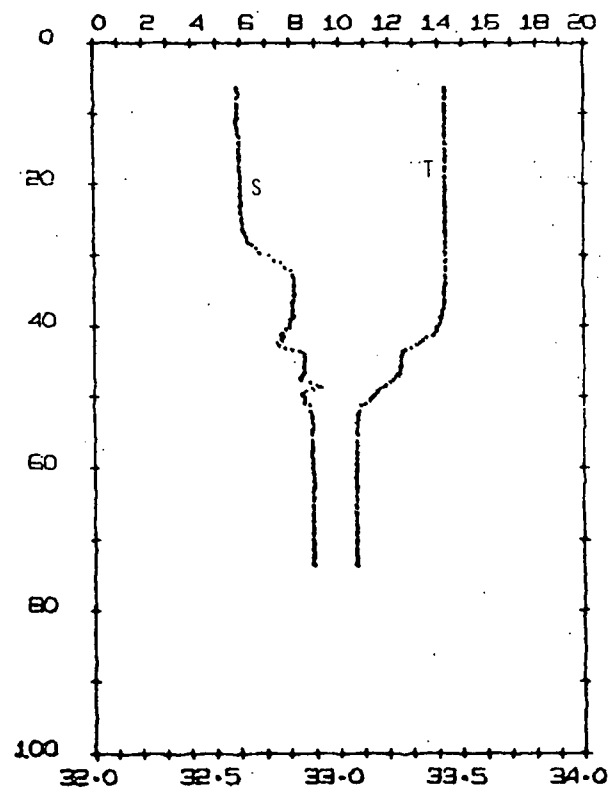
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BOTTOM DEPTH= 75M

VE- 32- 64



VE-32- 64



VE 32 STA 65 DATE 27 10 74 GMT 1408 LAT 40 6.8N LONG 73 45.9W

CORR DEPTH 29M WIND 280 4 SEA 270 3 AIR TEMP 13.5 DEW PT 6.0 BAROM 1018.6

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 4

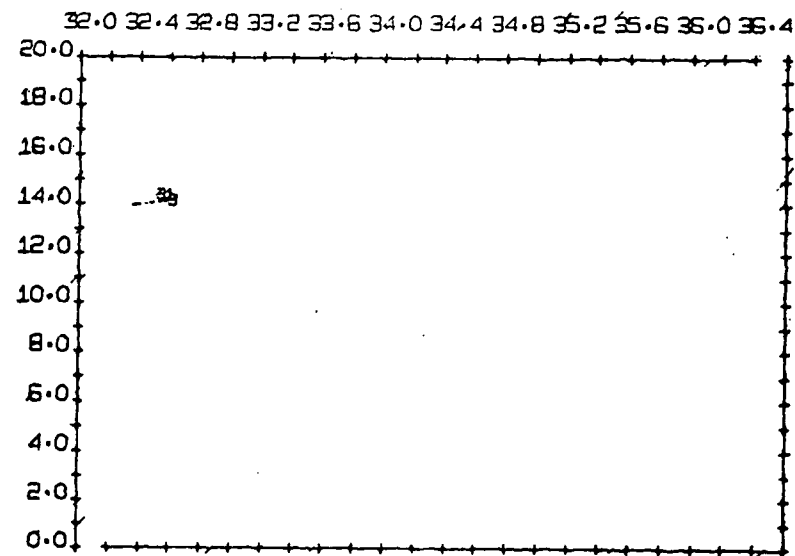
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	6		32.378					6.06						
OBS	13		32.407					6.04						
CBS	21		32.532					5.97						
OBS	28		32.612					5.86						

INT

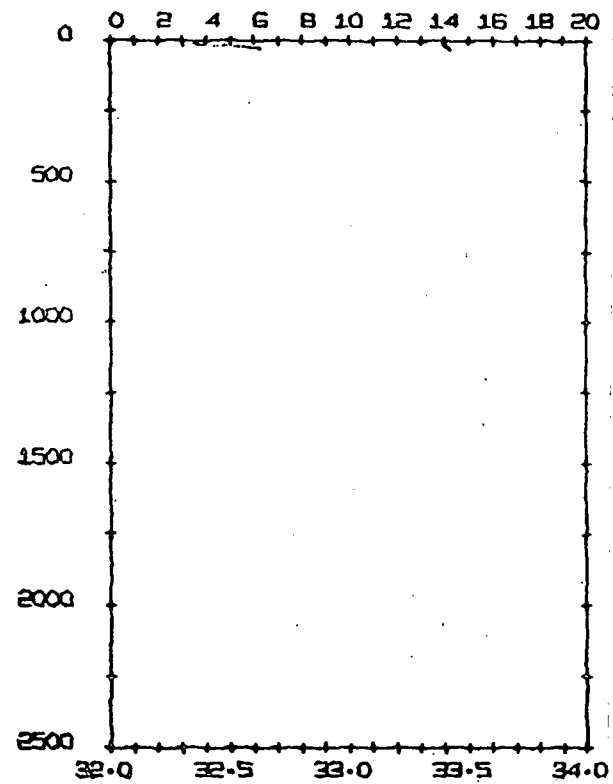
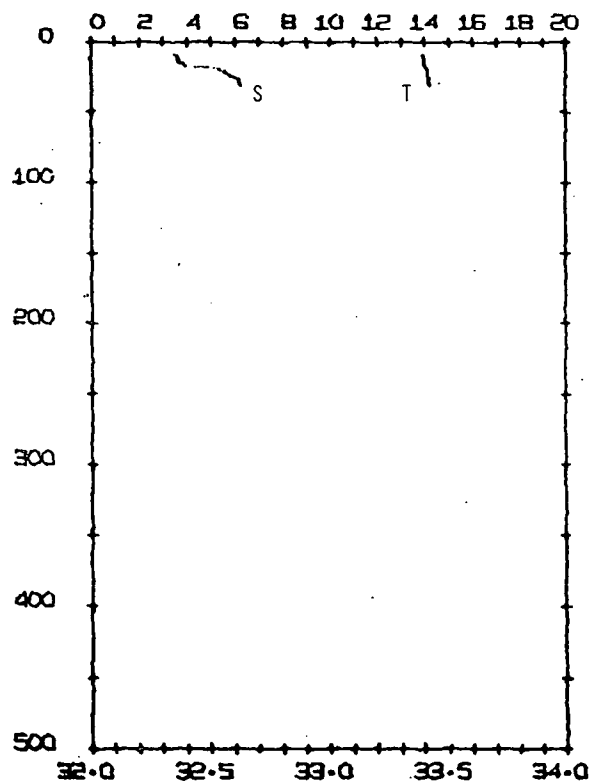
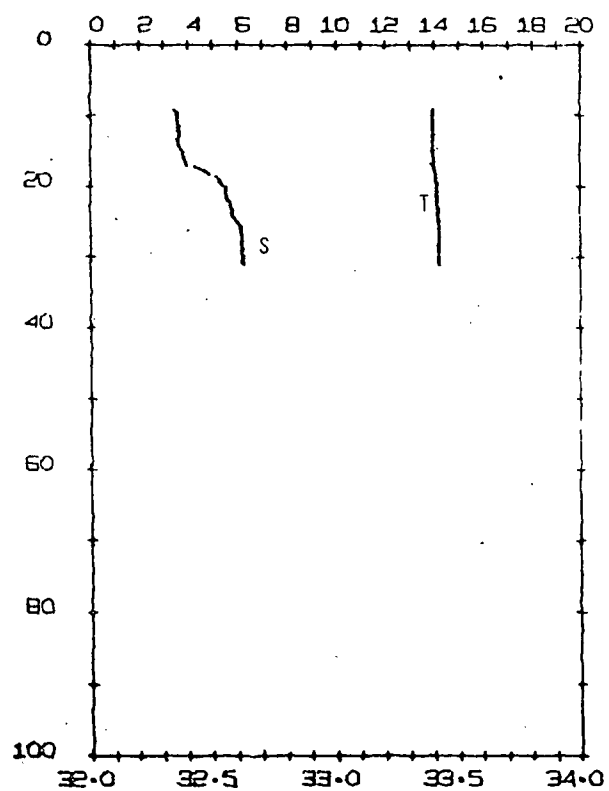
STD	0	13.95	32.348	24.17	375.45	0.000	1500.7							
STD	10	13.96	32.359	24.18	375.20	0.038	1501.0							
STD	20	14.11	32.544	24.29	364.79	0.075	1501.8							
STD	30	14.21	32.622	24.33	361.16	0.111	1502.4							
STD	30	14.21	32.623	24.33	361.17	0.114	1502.4							

BOTTOM DEPTH= 32M

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VE 32 STA 66 DATE 28 10 74 GMT 457 LAT 39 30.7N LONG 72 0.8W

CORR DEPTH 659M WIND 70 4 SEA 50 3 AIR TEMP 13.1 DEW PT 9.8 BAROM 1023.7

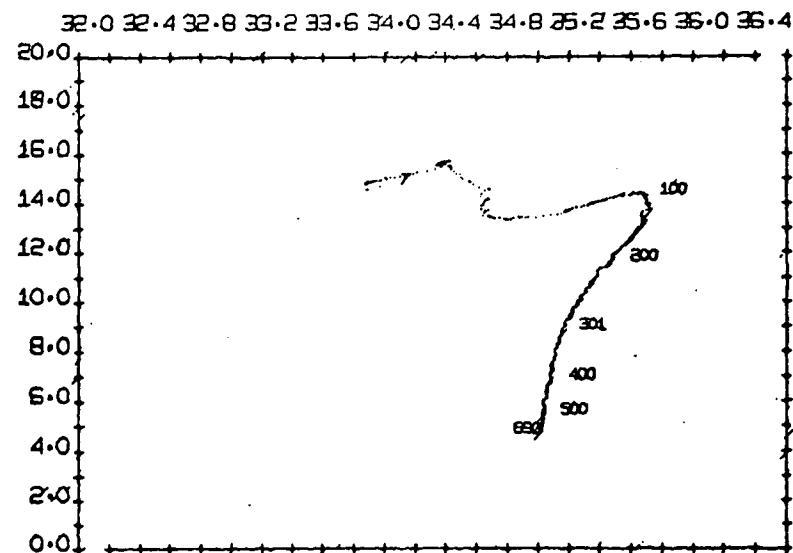
STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	69	14.11						3.90						
OBS	166							3.34						
OBS	246	10.04						3.09						
OBS	321							3.50						
OBS	* 386	7.11						4.09						
OBS	422							4.47						
OBS	* 470	5.65						4.96						
OBS	523							5.23						
OBS	* 556	5.15						5.35						
OBS	670							5.62						
OBS	689	4.68						5.65						

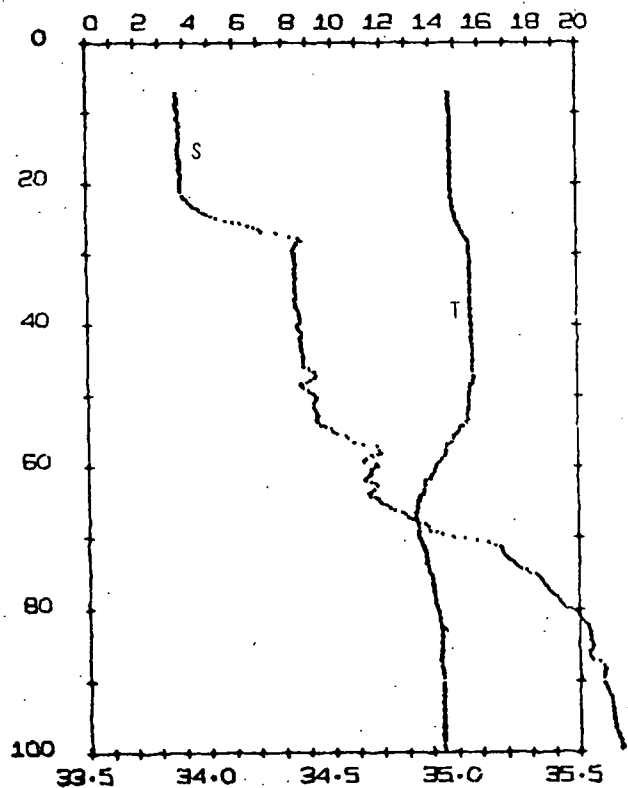
STD														
STD	0	14.81	33.872	25.16	281.14	0.000	1505.4							
STD	10	14.82	33.879	25.17	281.17	0.028	1505.6							
STD	20	14.86	33.890	25.17	281.38	0.056	1505.9							
STD	30	15.58	34.343	25.36	263.73	0.083	1508.9							
STD	40	15.64	34.362	25.36	263.92	0.110	1509.3							
STD	50	15.54	34.430	25.43	257.00	0.136	1509.2							
STD	60	14.17	34.675	25.92	210.98	0.159	1505.3							
STD	70	13.47	35.010	26.32	172.89	0.179	1503.6							
STD	80	14.18	35.462	26.52	154.26	0.195	1506.6							
STD	90	14.40	35.605	26.59	148.62	0.210	1507.7							
STD	100	14.39	35.677	26.64	143.58	0.225	1507.9							
STD	120	13.96	35.720	26.77	132.20	0.252	1506.9							
STD	140	13.40	35.688	26.86	123.82	0.278	1505.3							
STD	160	12.79	35.638	26.95	116.19	0.302	1503.6							
STD	180	12.42	35.586	26.98	113.45	0.325	1502.6							
STD	200	11.68	35.486	27.05	107.46	0.347	1500.2							
STD	225	10.69	35.348	27.12	100.51	0.373	1497.0							
STD	250	9.94	35.255	27.18	95.22	0.397	1494.6							
STD	275	9.37	35.214	27.24	89.36	0.420	1492.9							
STD	300	8.90	35.163	27.28	86.09	0.442	1491.4							
STD	350	7.49	35.090	27.44	71.02	0.482	1486.8							
STD	400	6.87	35.090	27.53	63.06	0.515	1485.2							
STD	450	6.23	35.060	27.59	57.29	0.545	1483.5							
STD	500	5.48	35.035	27.67	50.15	0.572	1481.3							
STD	550	5.19	35.031	27.70	47.30	0.596	1480.9							
STD	600	5.06	35.029	27.71	46.49	0.620	1481.2							
STD	650	4.88	35.024	27.73	45.20	0.643	1481.3							
STD	690	4.73	35.017	27.74	44.36	0.661	1481.3							

BOTTOM DEPTH= 692M

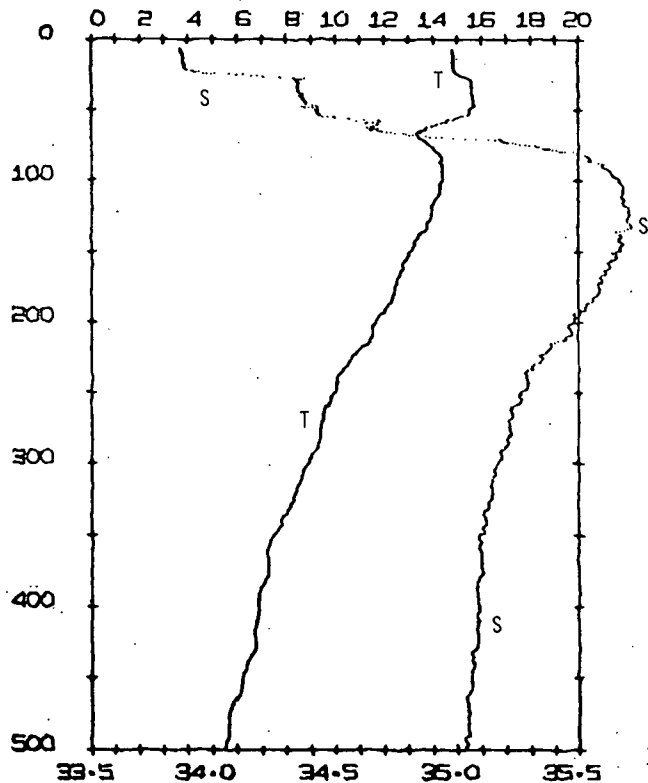
VE- 32- 66



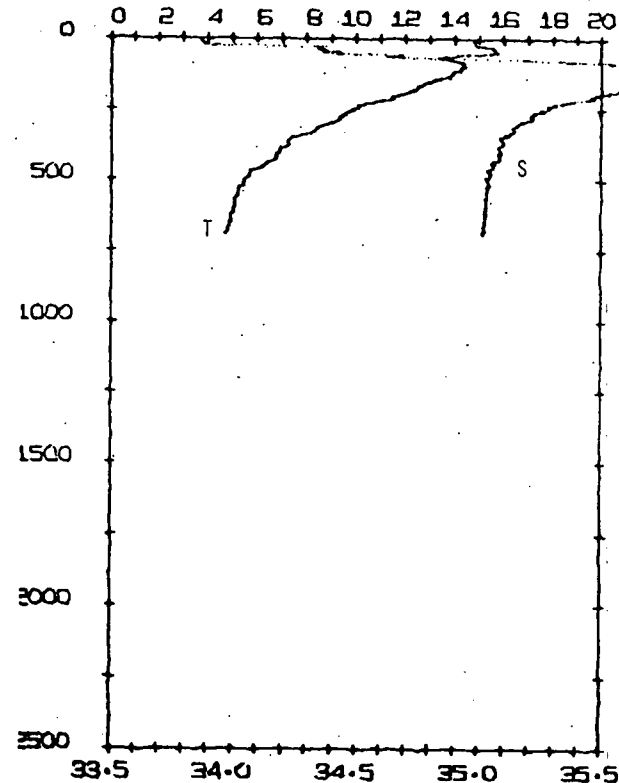
VE-32- 66



VE



VE



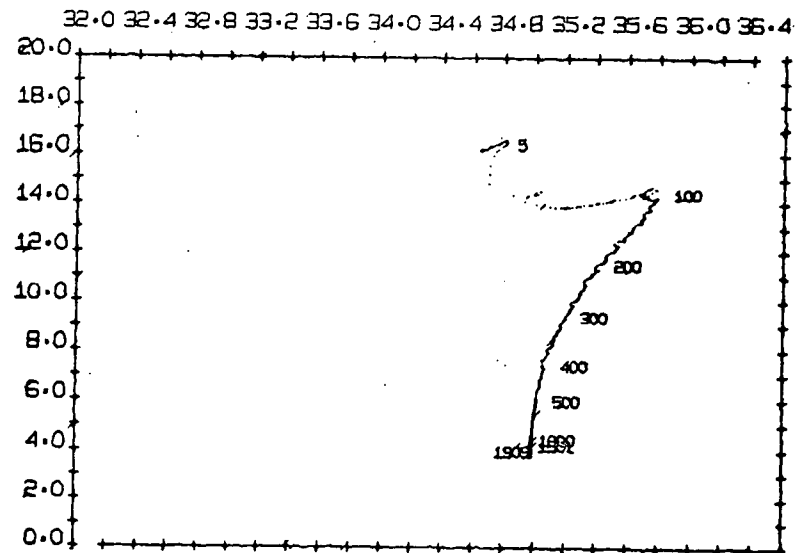
VE 32 STA 67 DATE 28 10 74 GMT 1349 LAT 39 18.3N LONG. 72 0.8W
CORR DEPTH 1781M WIND 9C 3 SEA 9C 3 AIR TEMP 15.5 DEW PT 10.4 BAROM 1044.0
STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

VE- 32- 67

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	1		0.000					5.57						
CBS	69	14.79	35.704	26.58			1508.7	3.70						
CBS	369		35.093					3.72						
CBS	601	5.08	35.005	27.69			1481.3	5.36						
CBS	757		34.994					5.75						
CBS	*1002	4.28	34.985	27.77			1484.6	5.97						
CBS	1255		34.980					6.04						
CBS	*1500	3.97	34.977	27.79			1491.6	5.92						
CBS	1696		34.974					6.06						
CBS	*1844	3.73	34.975	27.82			1496.4	6.09						
CBS	1877		34.973					6.09						
CBS	1890	3.78	34.972	27.81			1497.4	6.14						

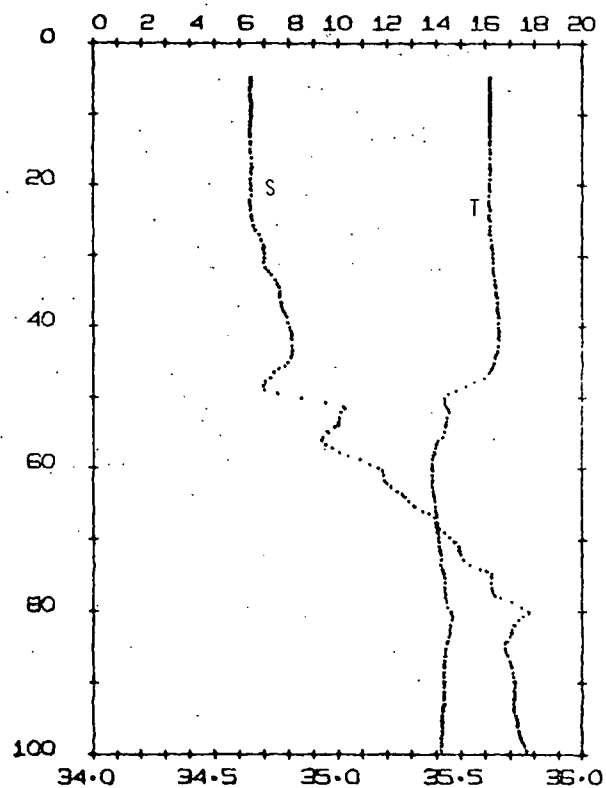
STD	0	16.19	34.648	25.45	253.77	0.000	1510.7	5
STD	10	16.20	34.647	25.45	254.27	0.025	1510.9	0
STD	20	16.18	34.646	25.45	254.29	0.051	1511.0	0
STD	30	16.30	34.699	25.47	253.44	0.076	1511.6	1
STD	40	16.53	34.801	25.49	251.40	0.101	1512.6	1
STD	50	14.34	34.831	26.00	202.73	0.124	1505.9	1
STD	60	13.83	35.165	26.37	168.47	0.143	1504.8	0
STD	70	14.08	35.465	26.55	151.74	0.159	1506.2	1
STD	80	14.57	35.774	26.68	139.51	0.173	1508.3	1
STD	90	14.34	35.720	26.69	138.96	0.187	1507.6	0
STD	100	14.22	35.774	26.76	132.83	0.201	1507.5	1
STD	120	13.73	35.728	26.82	126.85	0.227	1506.1	1
STD	140	13.25	35.683	26.89	121.25	0.252	1504.8	1
STD	160	12.53	35.577	26.95	115.64	0.275	1502.6	0
STD	180	11.95	35.462	26.98	113.65	0.298	1500.8	1
STD	200	11.28	35.402	27.05	106.48	0.320	1498.8	1
STD	225	10.43	35.299	27.13	99.67	0.346	1496.0	0
STD	250	9.89	35.236	27.17	95.68	0.370	1494.4	1
STD	275	9.51	35.213	27.22	91.61	0.394	1493.3	1
STD	300	9.18	35.186	27.25	88.82	0.416	1492.5	1
STD	350	8.45	35.127	27.32	82.68	0.459	1490.5	1
STD	400	7.21	35.062	27.46	69.98	0.497	1486.5	1
STD	450	6.38	35.027	27.54	61.81	0.530	1484.0	1
STD	500	5.76	35.015	27.62	55.15	0.560	1482.3	1
STD	550	5.43	35.007	27.65	52.14	0.586	1481.8	1
STD	600	5.18	35.002	27.68	50.02	0.612	1481.6	1
STD	650	5.01	34.999	27.69	48.64	0.637	1481.7	1
STD	700	4.74	34.993	27.72	46.28	0.660	1481.4	1
STD	750	4.63	34.992	27.73	45.56	0.683	1481.8	1
STD	800	4.57	34.991	27.74	45.47	0.706	1482.4	1
STD	850	4.48	34.990	27.75	44.92	0.729	1482.9	1
STD	900	4.41	34.988	27.75	44.72	0.751	1483.4	1
STD	950	4.32	34.987	27.76	44.26	0.773	1483.9	1
STD	1000	4.26	34.986	27.77	44.01	0.795	1484.4	1
STD	1100	4.14	34.985	27.78	43.59	0.839	1485.6	2
STD	1200	4.11	34.986	27.78	44.14	0.883	1487.2	2
STD	1300	4.08	34.987	27.79	44.58	0.927	1488.7	2
STD	1400	4.05	34.988	27.79	45.07	0.972	1490.2	2
STD	1500	4.01	34.987	27.80	45.55	1.018	1491.8	2
STD	1600	3.94	34.987	27.80	45.45	1.063	1493.1	2
STD	1700	3.88	34.988	27.81	45.43	1.109	1494.6	2
STD	1800	3.84	34.987	27.81	45.90	1.154	1496.1	2
STD	1900	3.77	34.987	27.82	45.67	1.200	1497.5	1
STD	1904	3.77	34.987	27.82	45.74	1.202	1497.6	0

INT

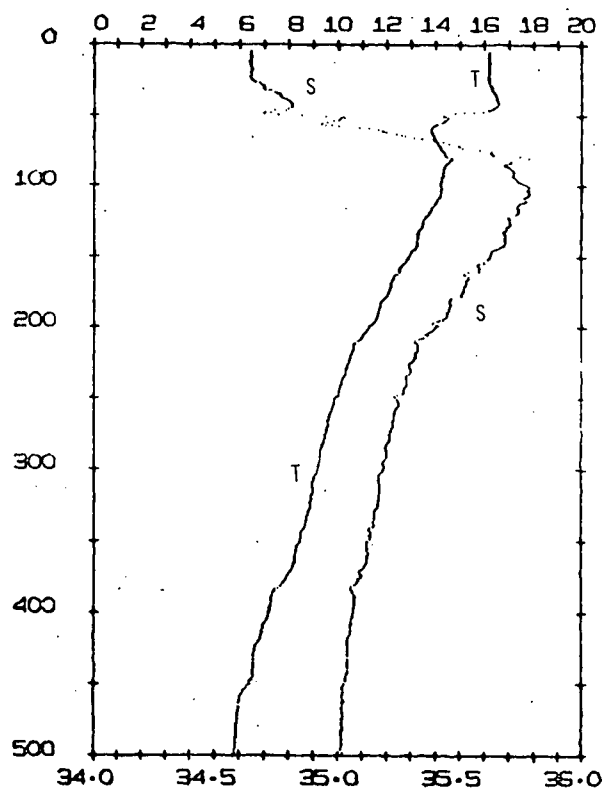


ECTION DEPTH= 1907M.

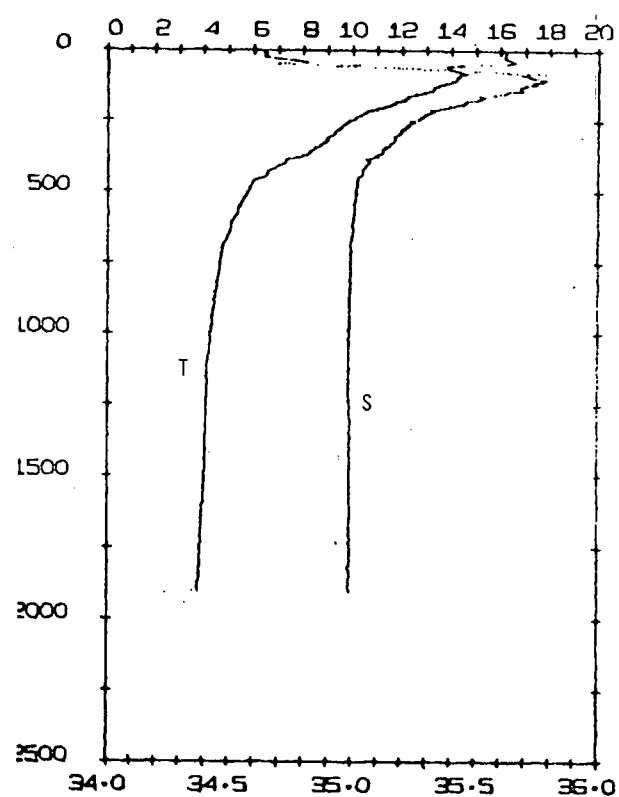
VE-32- 67



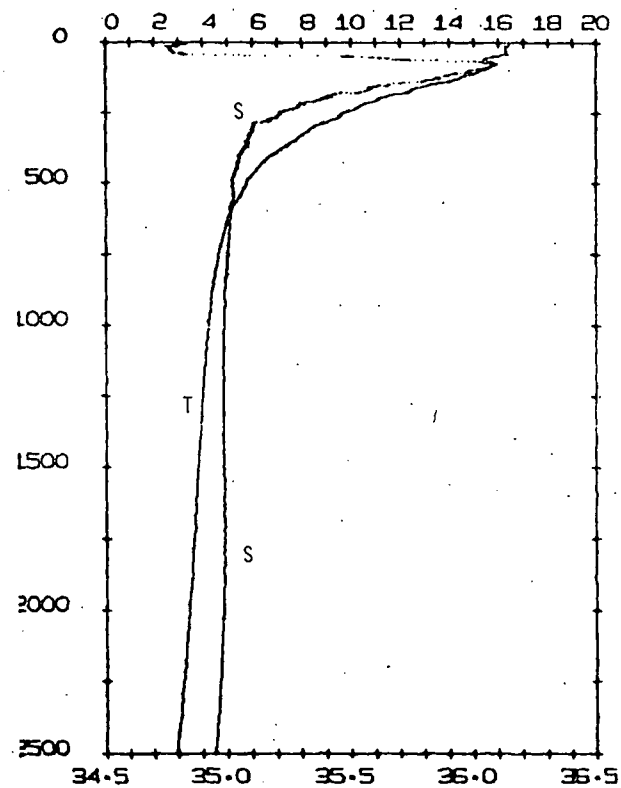
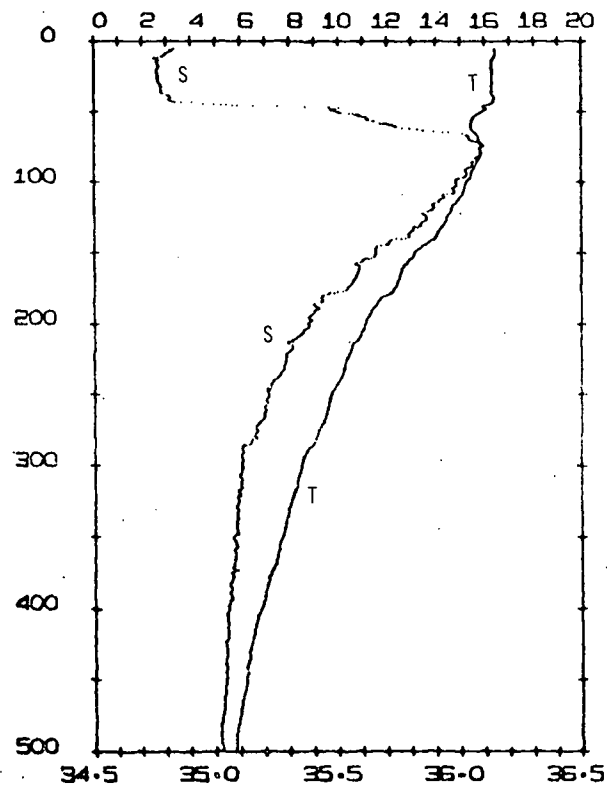
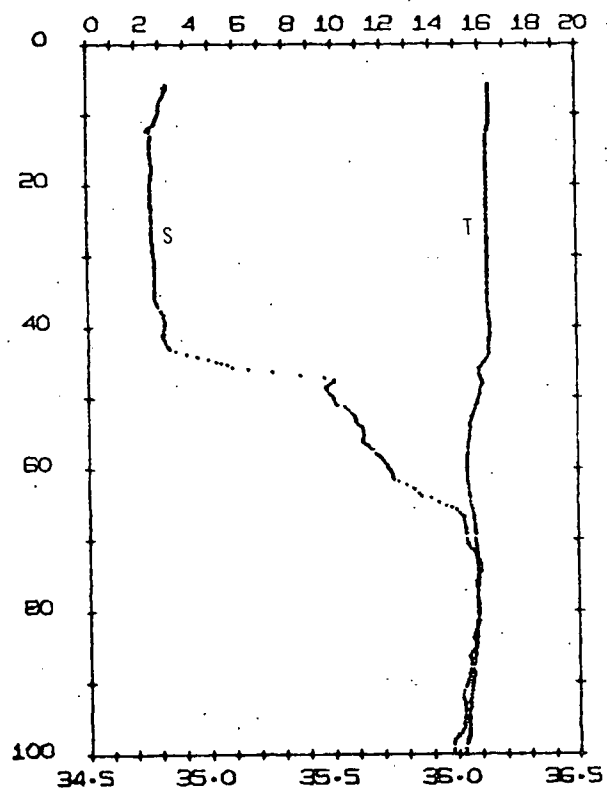
VE



VE



VE-32- 68



VE 32 STA 69 DATE 29 10 74 GMT 1902 LAT 39 9.1N LONG 72 0.0W

CORR DEPTH 1965M WIND 140 2 SEA 140 2 AIR TEMP 17.5 DEW PT 16.1 BARDM 1028.4

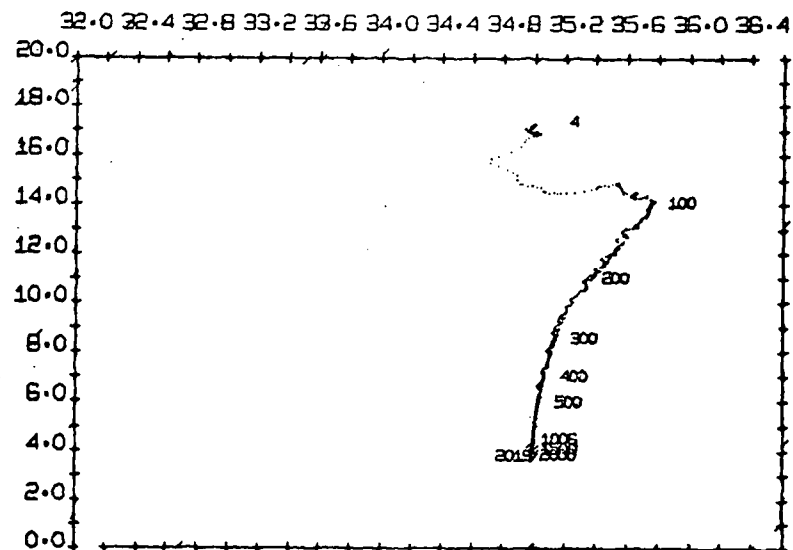
STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	2		34.984					5.59						
CBS	37	16.81	35.023	25.60			1513.6	5.48						
CBS	103		35.795					3.68						
CBS	183	11.29	35.429	27.07			1498.5	3.17						
CBS	363		35.082					3.92						
CBS	* 757	4.70	34.997	27.73			1482.3	5.69						
CBS	1081		34.984					6.02						
CBS	*1496	3.92	34.977	27.80			1491.3	6.16						
CBS	1824		34.975					6.14						
CBS	*1942	3.73	34.974	27.81			1498.1	6.16						
CBS	1996		34.972					6.16						
CBS	2012	3.66	34.972	27.82			1499.0	6.19						

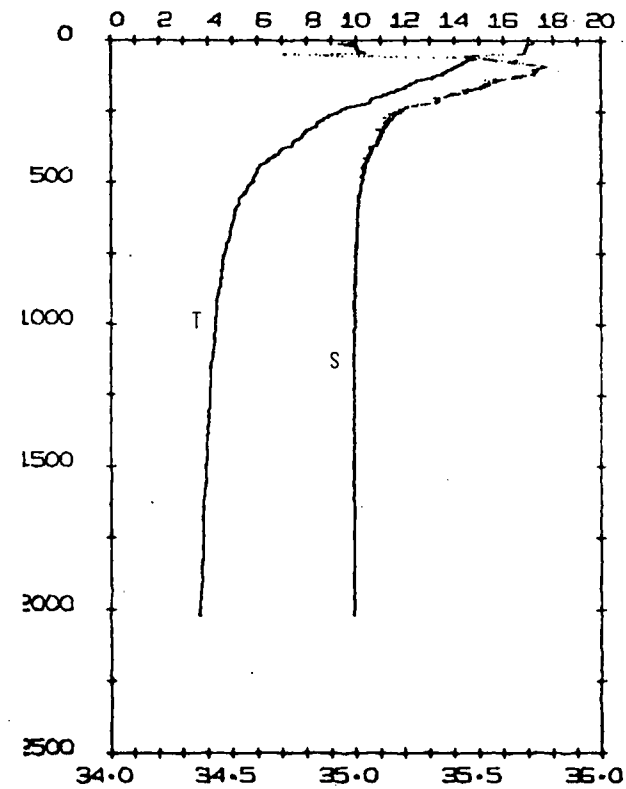
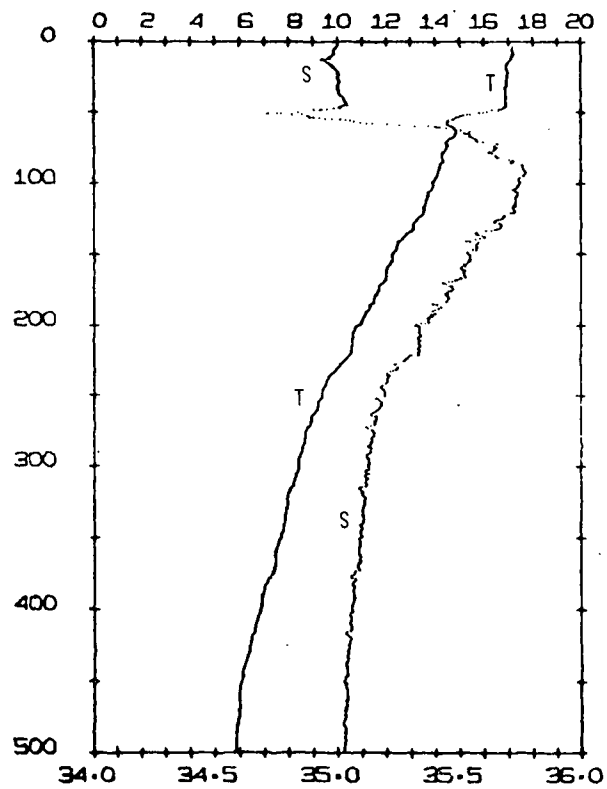
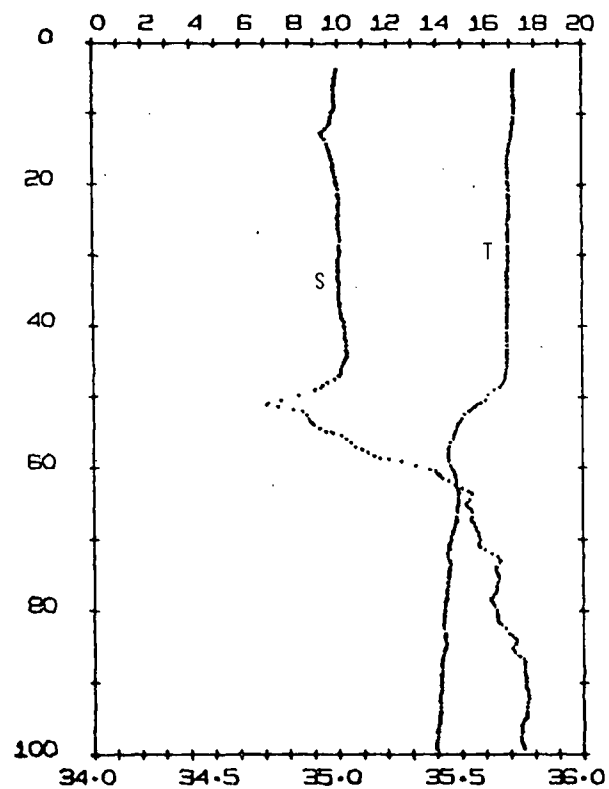
	STD	0	17.22	34.997	25.48	251.28	0.000	1514.2		INT
STD	10	17.18	34.978	25.47	252.23	0.025	1514.2		4	
STD	20	16.94	34.996	25.54	245.73	0.050	1513.7		0	
STD	30	16.91	35.005	25.56	244.77	0.075	1513.8		0	
STD	40	16.88	35.025	25.58	242.89	0.099	1513.9		1	
STD	50	16.09	34.815	25.60	240.81	0.123	1511.4		1	
STD	60	14.60	35.349	26.34	170.68	0.144	1507.5		0	
STD	70	14.56	35.575	26.53	153.53	0.160	1507.8		0	
STD	80	14.30	35.643	26.64	143.61	0.175	1507.3		1	
STD	90	14.16	35.760	26.76	132.43	0.189	1507.1		0	
STD	100	13.94	35.748	26.79	129.14	0.202	1506.5		1	
STD	120	13.54	35.723	26.86	123.51	0.227	1505.5		0	
STD	140	12.68	35.567	26.91	118.65	0.251	1502.8		1	
STD	160	12.05	35.505	26.99	111.83	0.274	1500.9		0	
STD	180	11.53	35.447	27.04	107.04	0.296	1499.3		1	
STD	200	10.84	35.322	27.07	104.56	0.317	1497.1		0	
STD	225	10.30	35.272	27.13	99.46	0.343	1495.5		1	
STD	250	9.36	35.192	27.23	90.30	0.366	1492.4		1	
STD	275	8.69	35.145	27.30	83.71	0.388	1490.2		1	
STD	300	8.39	35.125	27.33	81.01	0.409	1489.5		1	
STD	350	7.64	35.088	27.42	73.48	0.447	1487.4		0	
STD	400	6.86	35.058	27.50	65.35	0.482	1485.1		1	
STD	450	6.08	35.025	27.58	57.91	0.513	1482.8		1	
STD	500	5.80	35.024	27.62	55.04	0.541	1482.5		1	
STD	550	5.39	35.013	27.66	51.22	0.568	1481.7		1	
STD	600	5.13	35.009	27.69	48.89	0.593	1481.4		1	
STD	650	4.98	35.007	27.70	47.70	0.617	1481.6		1	
STD	700	4.87	35.004	27.71	47.12	0.641	1482.0		1	
STD	750	4.69	35.002	27.73	45.66	0.664	1482.1		1	
STD	800	4.60	34.999	27.74	45.28	0.687	1482.5		1	
STD	850	4.53	34.998	27.75	45.08	0.709	1483.1		1	
STD	900	4.41	34.994	27.76	44.33	0.732	1483.4		1	
STD	950	4.36	34.994	27.76	44.17	0.754	1484.0		1	
STD	1000	4.33	34.995	27.77	44.24	0.776	1484.7		7	
STD	1100	4.22	34.993	27.78	44.01	0.820	1485.9		2	
STD	1200	4.11	34.992	27.79	43.63	0.864	1487.1		2	
STD	1300	4.06	34.991	27.79	44.05	0.908	1488.6		2	
STD	1400	3.98	34.991	27.80	43.87	0.952	1489.9		2	
STD	1500	3.93	34.993	27.81	44.08	0.995	1491.4		1	
STD	1600	3.87	34.991	27.81	44.30	1.040	1492.9		2	
STD	1700	3.80	34.992	27.82	44.04	1.084	1494.2		2	
STD	1800	3.79	34.993	27.82	44.70	1.128	1495.9		2	
STD	1900	3.74	34.993	27.83	44.97	1.173	1497.4		2	
STD	2000	3.69	34.992	27.83	45.22	1.218	1498.9		1	
STD	2019	3.64	34.990	27.84	44.75	1.227	1499.0		0	

BOTTOM DEPTH= 2021M

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VE-32- 69



VE 32 STA 70 DATE 30 10 74 GMT 258 LAT 39 18.6N LONG 72 19.0W

CORR DEPTH 216M WIND 100 3 SEA 10C 2 AIR TEMP 16.2 DEW PT 15.0 BAROM 1029.8

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 12

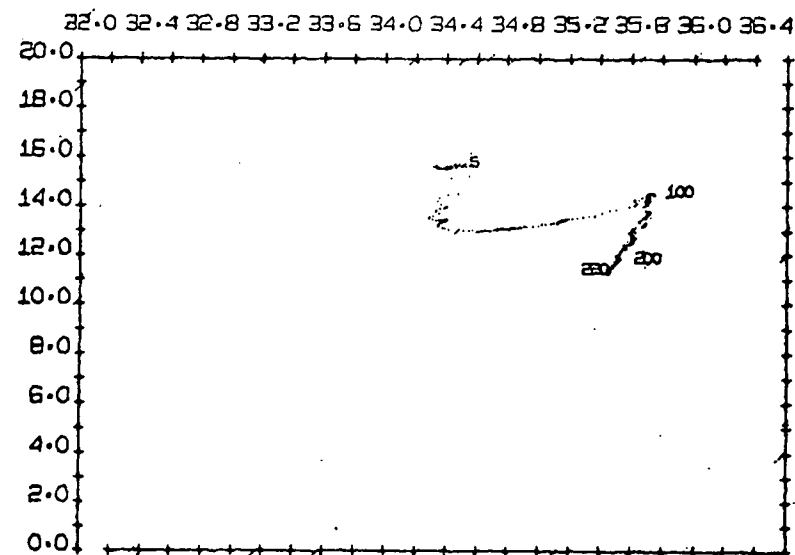
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
GBS	2		34.327					5.84						
GBS	16	15.50	34.335	25.37			1508.4	5.81						
GBS	34		34.387					5.64						
GBS	55	13.36	34.374	25.86			1502.2	4.67						
GBS	72		34.767					4.20						
GBS *	86	13.84	35.360	26.52			1505.5	3.80						
GBS	129		35.706					3.60						
GBS *	155	13.15	35.661	26.89			1504.7	3.56						
GBS	165		35.586					3.41						
GBS *	191	12.14	35.559	27.01			1501.8	3.39						
GBS	204		35.481					3.28						
GBS	228	11.30	35.438	27.08			1499.3	3.23						

INT

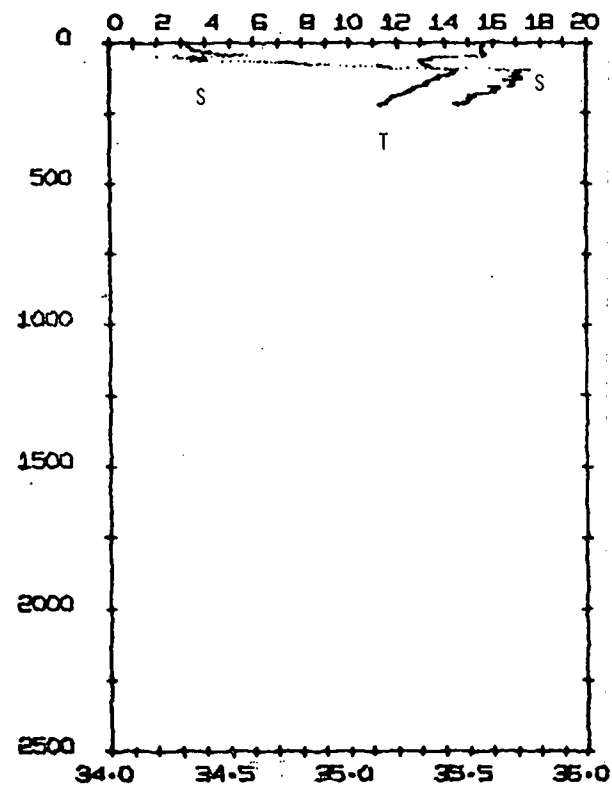
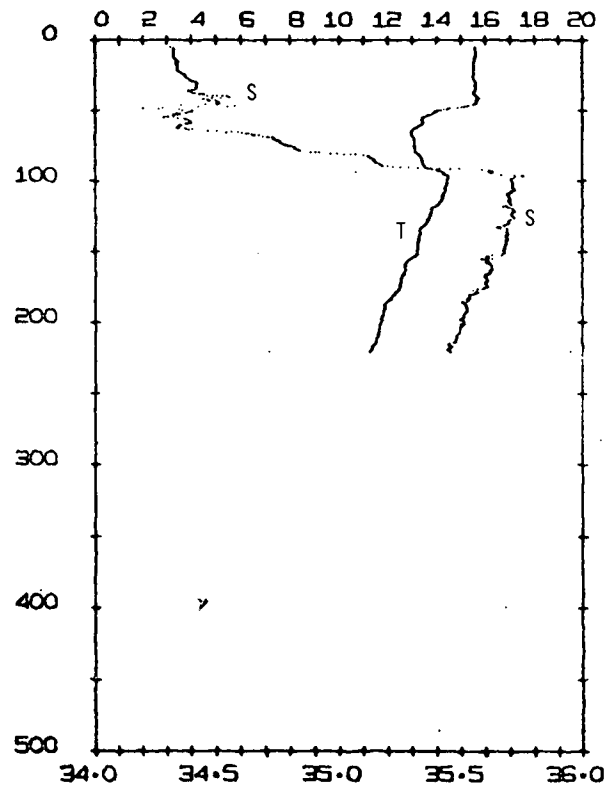
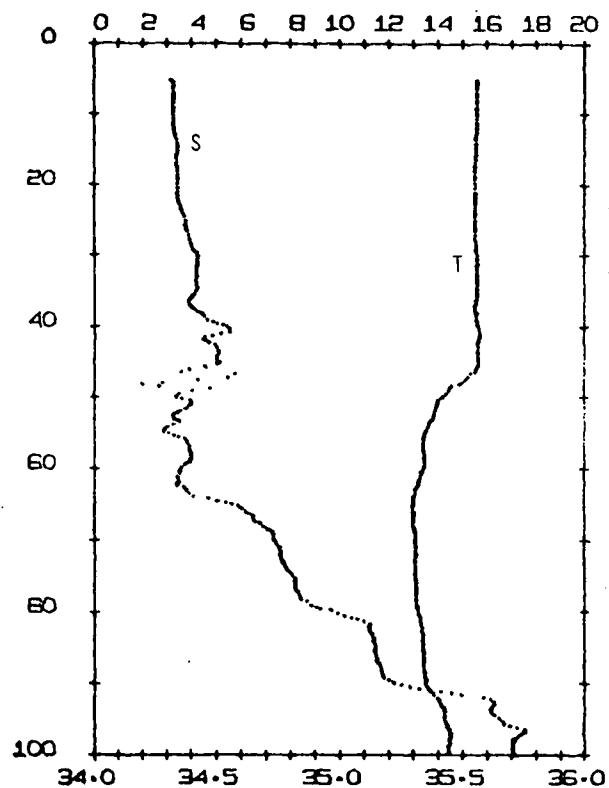
STD	0	15.59	34.316	25.33	265.01	0.000	1508.4							
STC	10	15.60	34.329	25.34	264.47	0.026	1508.6							
STD	20	15.52	34.344	25.37	262.08	0.053	1508.6							
STD	30	15.58	34.422	25.42	257.95	0.079	1509.0							
STD	40	15.65	34.541	25.49	251.05	0.104	1509.5							
STD	50	14.19	34.342	25.66	235.43	0.129	1504.8							
STD	60	13.42	34.358	25.83	219.48	0.151	1502.5							
STD	70	13.07	34.733	26.19	185.36	0.172	1501.9							
STD	80	13.19	34.979	26.36	170.03	0.189	1502.8							
STD	90	13.52	35.231	26.48	158.17	0.206	1504.3							
STD	100	14.43	35.708	26.66	142.07	0.221	1508.1							
STD	120	13.81	35.714	26.80	129.58	0.248	1506.4							
STD	140	13.28	35.686	26.88	121.59	0.273	1504.9							
STD	160	12.73	35.626	26.95	115.76	0.297	1503.3							
STD	180	12.28	35.561	26.99	112.62	0.320	1502.1							
STD	200	11.71	35.509	27.06	106.35	0.342	1500.4							
STD	220	11.29	35.456	27.10	103.04	0.363	1499.2							

BOTTOM DEPTH= 222M

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VE 32 STA 71 DATE 30 10 74 GMT 650 LAT 39 25.1N LONG 72 18.4W

CORR DEPTH 152M WIND 140 2 SEA 140 2 AIR TEMP 16.0 DEW PT 14.1 BAROM 1029.4

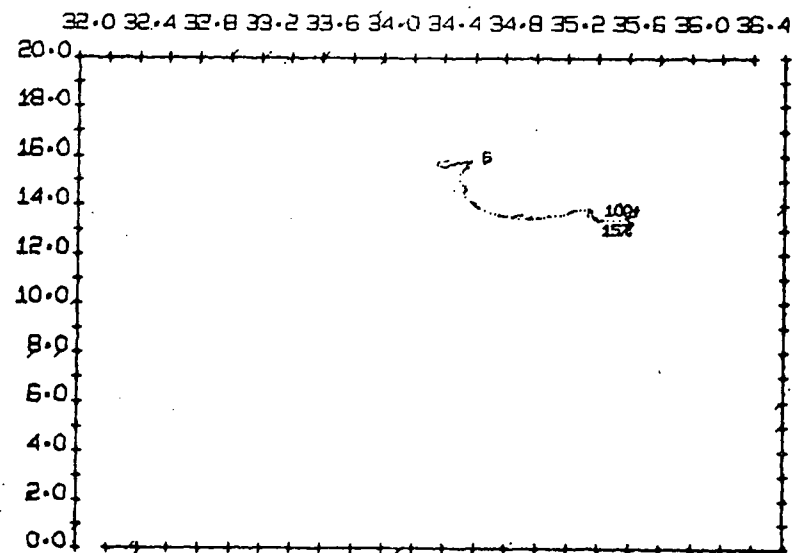
STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	34		34.575					5.58						
OBS	80	13.62	34.980	26.27			1504.2	4.13						
OBS	107		35.410					3.57						
OBS	118		35.641					3.60						
OBS	149		35.613					3.45						
OBS	148	13.00	35.610	26.88			1504.1	3.40						

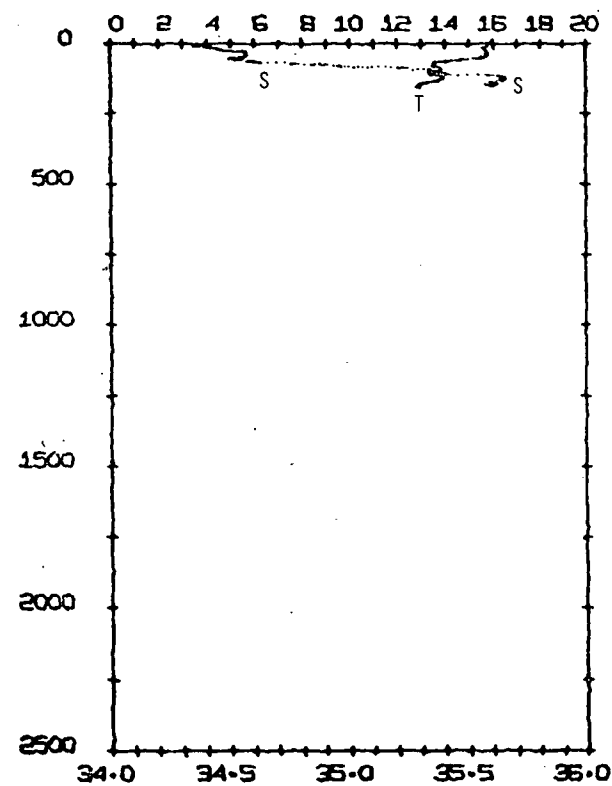
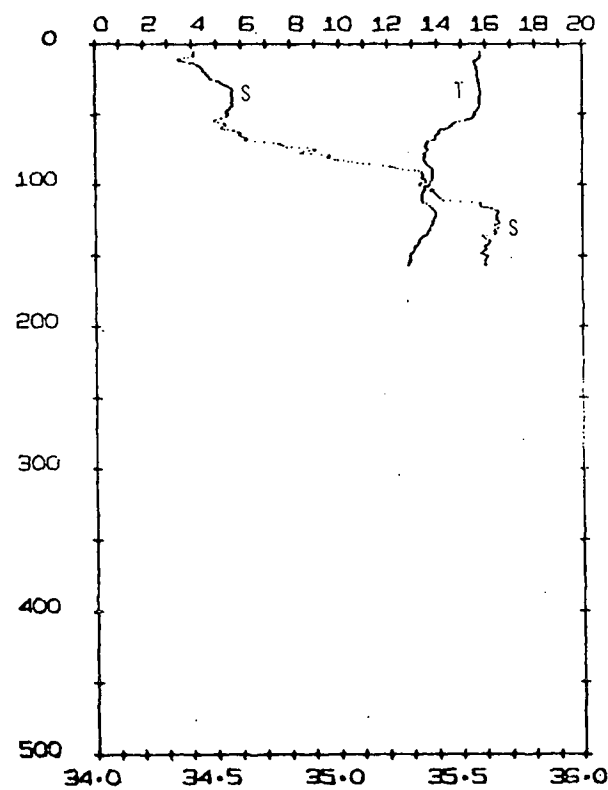
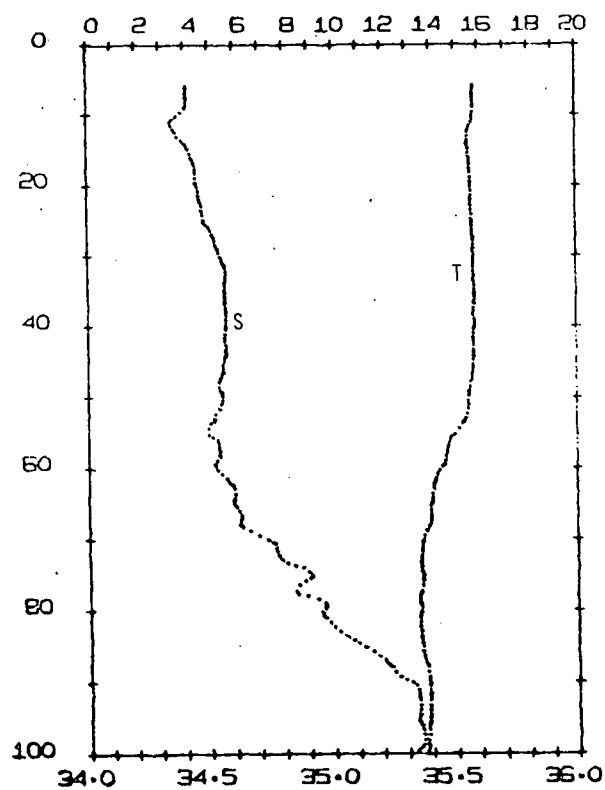
	STD	0	15.79	34.413	25.36	262.22	0.000	1509.2		INT
STD	10	15.78	34.382	25.34	264.66	0.026	1509.3		6	
STD	20	15.67	34.454	25.42	257.29	0.052	1509.2		1	
STD	30	15.76	34.545	25.47	252.81	0.078	1509.7		0	
STD	40	15.78	34.568	25.48	251.90	0.103	1510.0		1	
STD	50	15.54	34.552	25.53	248.22	0.128	1509.4		1	
STD	60	14.37	34.527	25.76	225.94	0.152	1505.8		1	
STD	70	13.65	34.725	26.07	197.22	0.173	1503.8		1	
STD	80	13.53	34.955	26.27	178.40	0.192	1503.9		1	
STD	90	13.83	35.304	26.48	159.10	0.209	1505.5		0	
STD	100	13.69	35.332	26.53	154.42	0.224	1505.2		1	
STD	120	13.95	35.651	26.72	136.91	0.254	1506.8		1	
STD	140	13.30	35.621	26.83	126.72	0.280	1504.9		1	
STD	156	12.84	35.599	26.91	119.82	0.301	1503.6		0	

BOTTOM DEPTH= 159M

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VE-32- 71



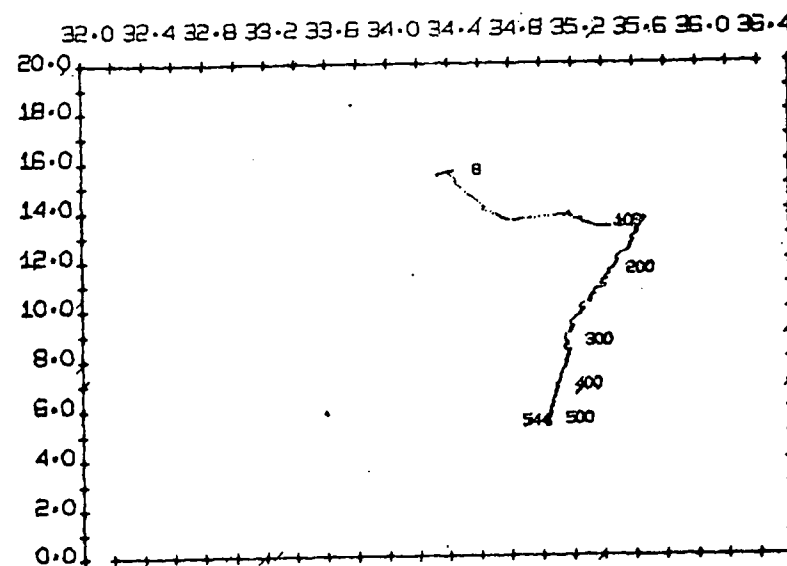
VE 32 STA 72 DATE 30 10 74 GMT 815 LAT 39 29.1N LONG 72 17.8W
 CORR DEPTH 525M WIND 0 0 SEA 140 2 AIR TEMP 15.6 DEW PT 14.8 BAROM 1029.4
 STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	32		34.386					5.68						
OBS	158		35.577					3.39						
OBS	373		35.109					4.24						
OBS	459	5.94	35.043	27.62			1482.5	4.83						
OBS	523		35.042					5.03						
OBS	540	5.32	35.017	27.67			1481.3	5.23						

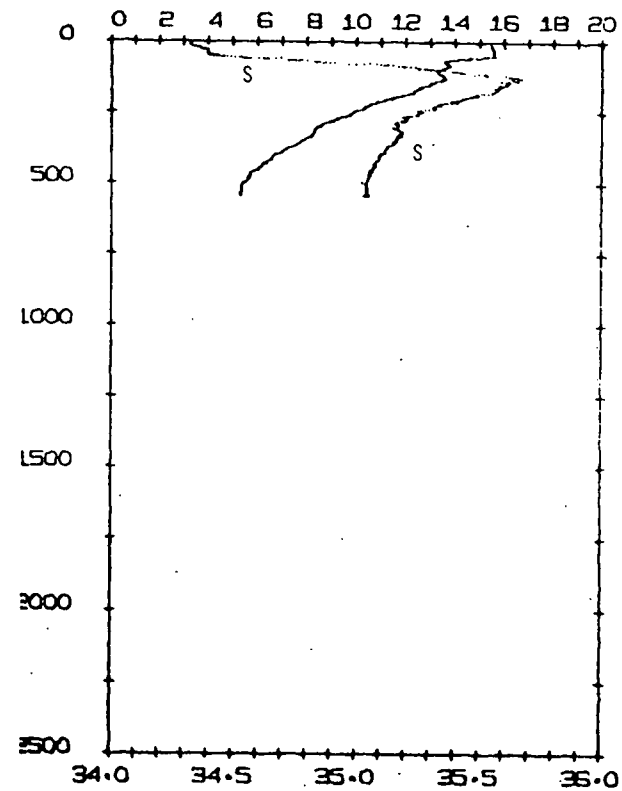
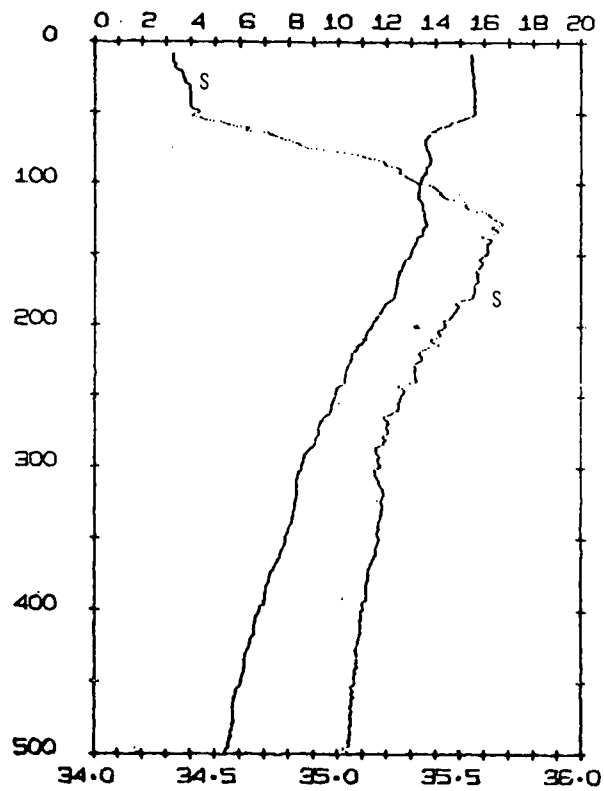
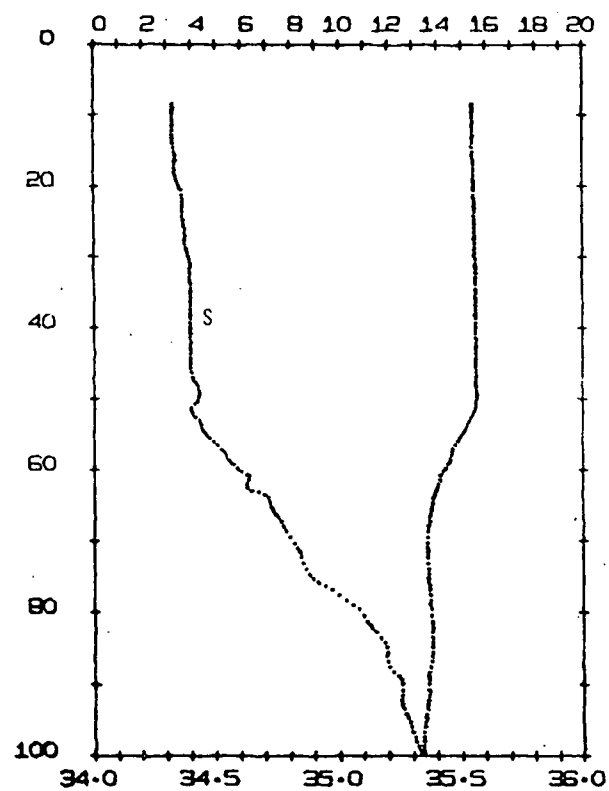
	STD		TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
	0	15.50	34.330	25.36	262.05	0.000	1508.1								
	10	15.50	34.330	25.37	262.33	0.026	1508.3								
	20	15.51	34.352	25.38	261.32	0.052	1508.5								
	30	15.58	34.394	25.40	259.89	0.078	1509.0								
	40	15.62	34.401	25.39	260.57	0.104	1509.3								
	50	15.63	34.430	25.41	258.95	0.130	1509.5								
	60	14.31	34.595	25.83	219.67	0.154	1505.6								
	70	13.59	34.810	26.14	189.84	0.175	1503.7								
	80	13.76	35.090	26.32	173.06	0.193	1504.8								
	90	13.64	35.256	26.48	158.79	0.210	1504.8								
	100	13.33	35.351	26.61	146.06	0.225	1504.0								
	120	13.55	35.610	26.77	131.98	0.253	1505.4								
	140	13.22	35.629	26.85	124.69	0.278	1504.7								
	160	12.63	35.578	26.93	117.39	0.303	1503.0								
	180	12.32	35.553	26.97	113.94	0.326	1502.2								
	200	11.40	35.439	27.06	105.74	0.348	1499.2								
	225	10.54	35.338	27.14	98.68	0.373	1496.5								
	250	9.89	35.259	27.19	94.12	0.397	1494.4								
	275	9.19	35.204	27.27	87.07	0.420	1492.2								
	300	8.54	35.171	27.35	79.82	0.441	1490.1								
	350	7.84	35.166	27.45	70.50	0.478	1488.2								
	400	6.78	35.100	27.55	61.09	0.511	1484.9								
	450	6.05	35.068	27.62	54.30	0.540	1482.7								
	500	5.41	35.040	27.68	48.84	0.566	1481.0								
	543	5.32	35.049	27.70	47.60	0.587	1481.3								

BOTTOM DEPTH= 546M

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VE-32- 72



VE 32 STA 73 DATE 30 10 74 GMT 1004 LAT 39 30.9N LONG 72 18.1W

CORR DEPTH 289M WIND 0 0 SEA 140 2 AIR TEMP 15.6 DEW PT 14.8 BAROM 1029.8

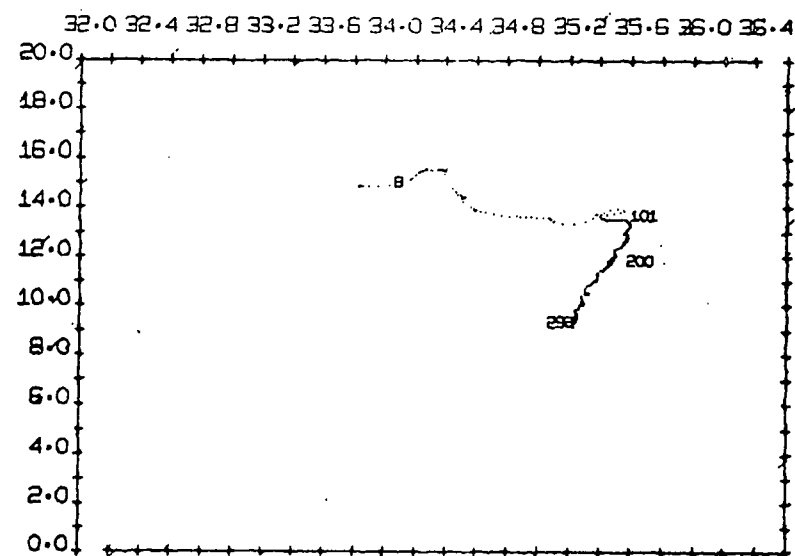
STD 9C4C SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 6

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
CBS	4		33.824					5.92						
CBS *	36	15.55	34.314	25.34			1508.9	5.78						
CBS	95							4.08						
CBS	226		35.320					3.24						
CBS	273		35.255					3.45						
CBS	290	9.15	35.232	27.29			1492.3	3.48						

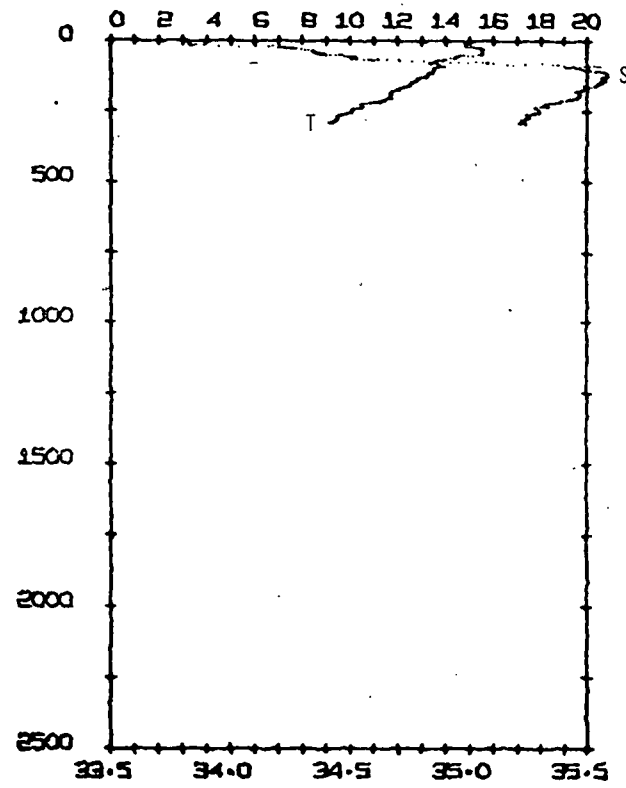
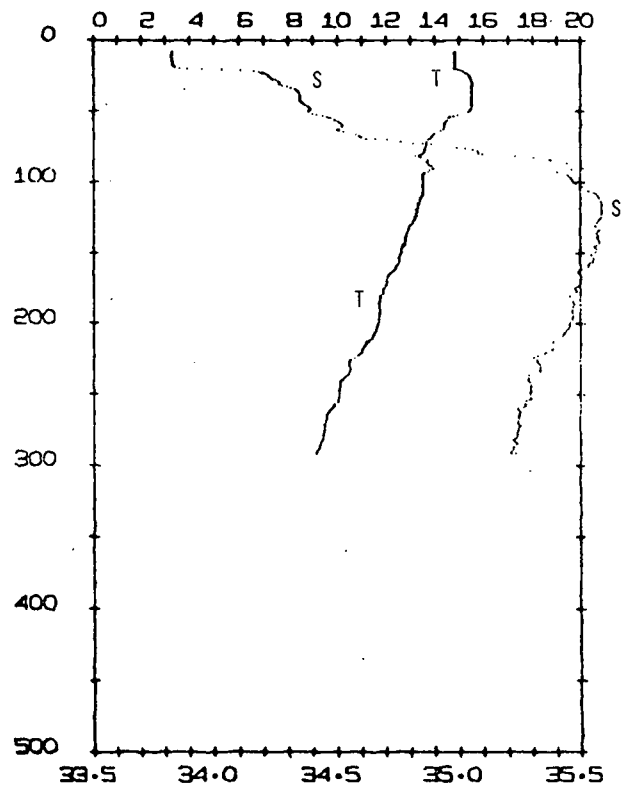
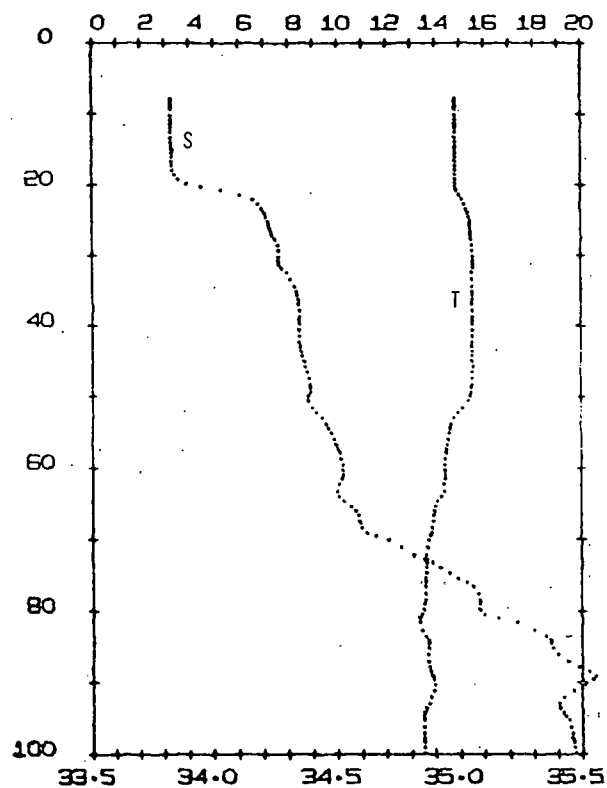
	STD	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
STD	0	14.83	33.828	25.13	284.66	0.000	1505.4							
STC	10	14.82	33.829	25.13	284.84	0.028	1505.6							
STD	20	14.85	33.908	25.18	279.80	0.057	1505.9							
STD	30	15.55	34.265	25.30	268.82	0.084	1508.7							
STD	40	15.52	34.349	25.37	262.40	0.111	1508.9							
STC	50	15.44	34.385	25.42	258.33	0.137	1508.8							
STD	60	14.40	34.524	25.75	226.71	0.161	1505.9							
STD	70	13.75	34.699	26.03	201.11	0.182	1504.1							
STD	80	13.48	35.087	26.38	167.68	0.201	1503.9							
STC	90	13.95	35.530	26.62	145.04	0.216	1506.1							
STC	100	13.52	35.474	26.67	140.74	0.231	1504.8							
STD	120	13.27	35.593	26.81	127.74	0.258	1504.5							
STD	140	12.82	35.575	26.89	120.70	0.282	1503.3							
STD	160	12.41	35.534	26.94	116.50	0.306	1502.2							
STD	180	11.84	35.456	26.99	112.18	0.329	1500.4							
STD	200	11.68	35.455	27.02	109.85	0.351	1500.2							
STD	225	10.61	35.305	27.10	102.44	0.378	1496.7							
STD	250	10.08	35.291	27.18	94.84	0.402	1495.1							
STD	275	9.47	35.239	27.25	89.17	0.425	1493.3							
STC	291	9.15	35.231	27.29	84.90	0.440	1492.3							

BOTTOM DEPTH= 294M

VE- 32- 73



VE-32- 73



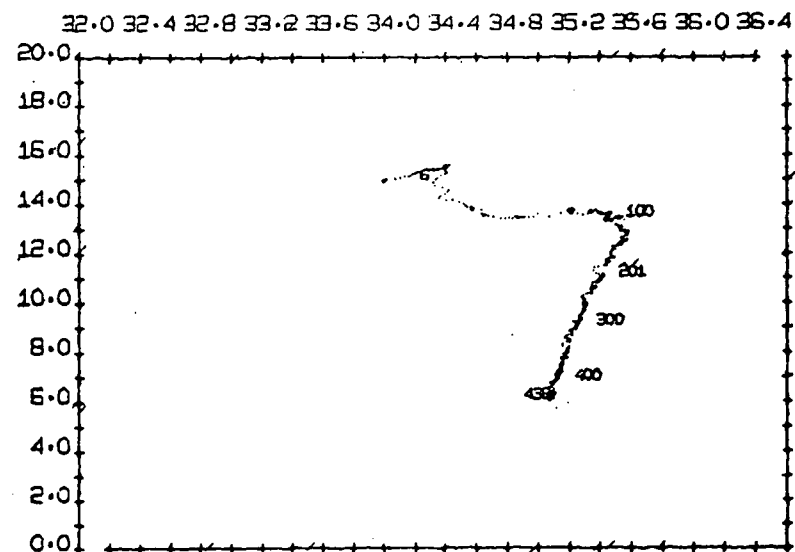
VE 32 STA 74 DATE 30 10 74 GMT 1139 LAT 39 33.3N LONG 72 24.3W
 CORR DEPTH 425M WIND 0.0 SEA 140 2 AIR TEMP 16.1 DEW PT 15.0 BAROM 1030.5
 STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 5

	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
GBS	142		35.553					3.36						
GBS	220		35.363					3.35						
GBS	429	6.18	35.067	27.60			1483.0	4.79						

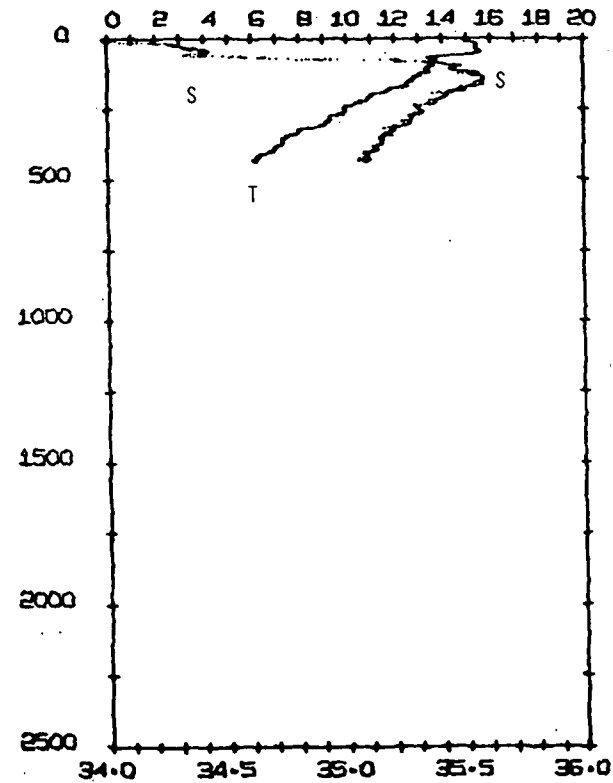
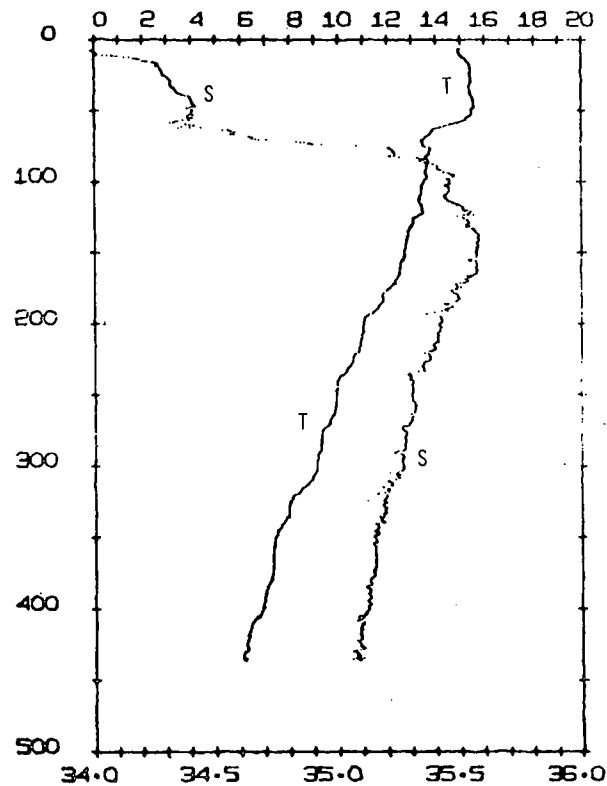
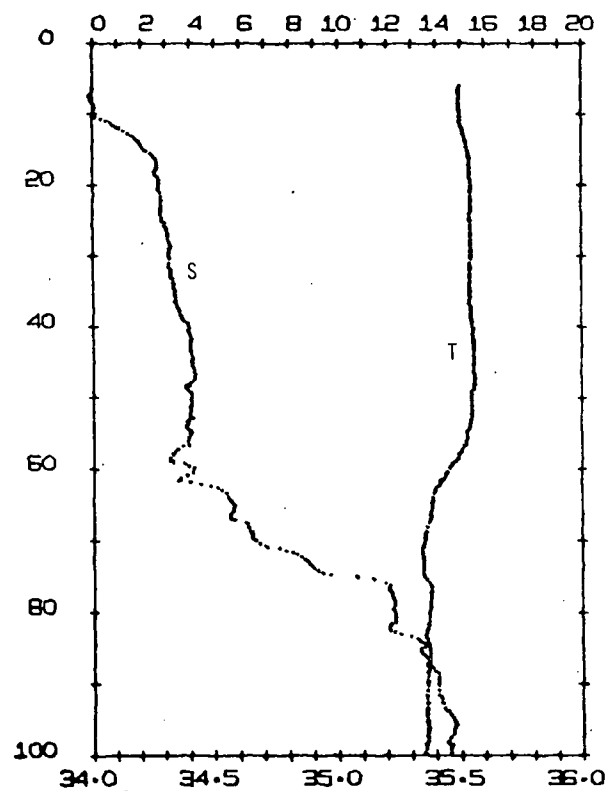
	STD	0	14.99	33.998	25.22	275.49	0.000	1506.1		INT
STD	10	14.98	34.001	25.23	275.54	0.028	1506.3		0	
STD	20	15.43	34.277	25.34	264.97	0.055	1508.2		0	
STD	30	15.44	34.317	25.37	262.62	0.081	1508.4		0	
STD	40	15.49	34.398	25.42	258.06	0.107	1508.9		0	
STD	50	15.48	34.408	25.43	257.48	0.133	1509.0		0	
STD	60	14.54	34.414	25.64	237.54	0.158	1506.2		1	
STD	70	13.55	34.667	26.04	199.62	0.179	1503.4		0	
STD	80	13.73	35.231	26.44	162.20	0.197	1504.9		0	
STD	90	13.63	35.408	26.60	147.40	0.213	1504.9		0	
STD	100	13.53	35.455	26.65	142.41	0.227	1504.8		1	
STD	120	13.47	35.516	26.71	137.20	0.255	1505.0		0	
STD	140	12.84	35.571	26.88	121.59	0.281	1503.3		0	
STD	160	12.55	35.567	26.94	116.83	0.305	1502.7		0	
STD	180	11.83	35.487	27.02	109.64	0.328	1500.4		1	
STD	200	11.07	35.413	27.10	101.80	0.349	1498.0		1	
STD	225	10.61	35.377	27.16	97.14	0.374	1496.8		0	
STD	250	9.93	35.299	27.22	91.72	0.397	1494.6		1	
STD	275	9.34	35.268	27.29	84.91	0.419	1492.8		0	
STD	300	9.12	35.267	27.33	81.94	0.440	1492.4		0	
STD	350	7.39	35.147	27.50	65.46	0.477	1486.5		1	
STD	400	6.87	35.121	27.55	60.77	0.509	1485.2		0	
STD	435	6.14	35.081	27.62	54.28	0.529	1482.9		0	

BOTTOM DEPTH= 437M

VE- 32- 74



VE-32- 74



VE 32 STA 75 DATE 30 10 74 GMT 1320 LAT 39 32.7N LONG 72 26.2W

CORR DEPTH 247M WIND 0 0 SEA 140 2 AIR TEMP 16.4 DEW PT 15.9 BAROM 1029.8

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 7

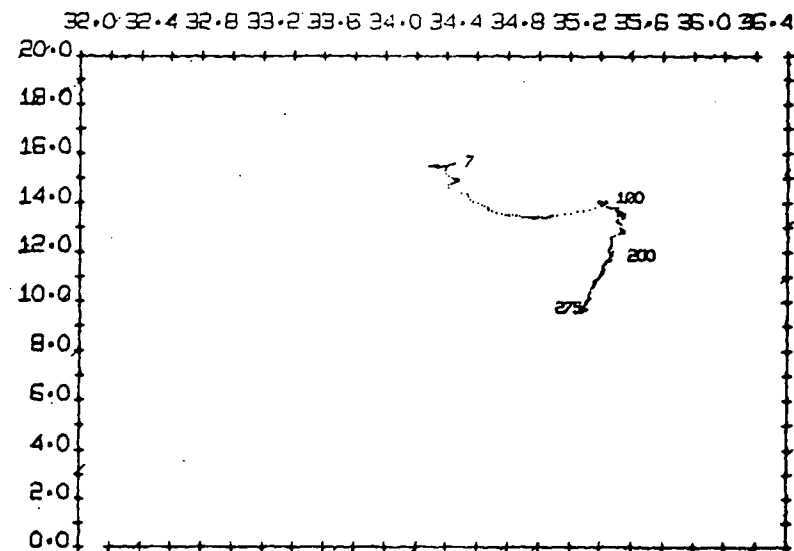
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
OBS	2		34.262					5.85						
OBS *	41	15.47	34.336	25.38			1508.7	5.75						
OBS	91		35.307					3.84						
OBS	133		35.496					3.51						
OBS	188							4.10						
OBS *	225	10.86	35.392	27.12			1497.7	3.41						
OBS	270		35.303					3.59						

INT

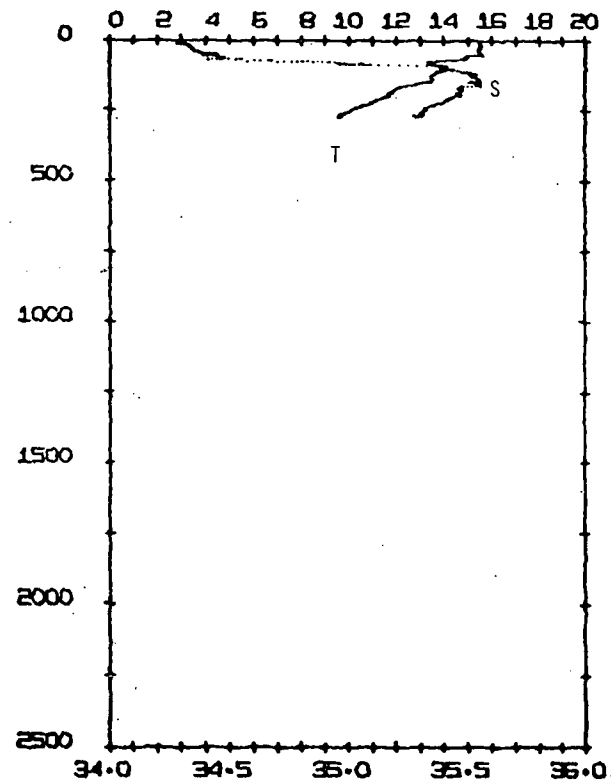
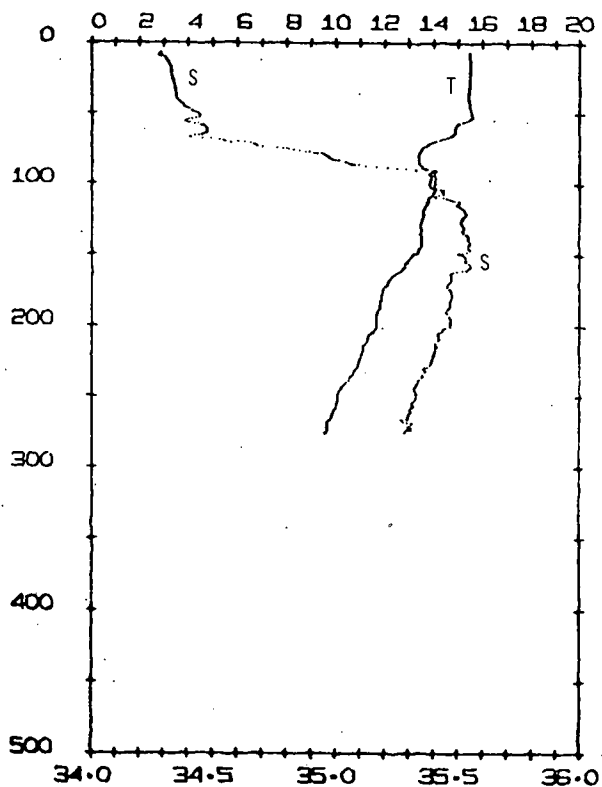
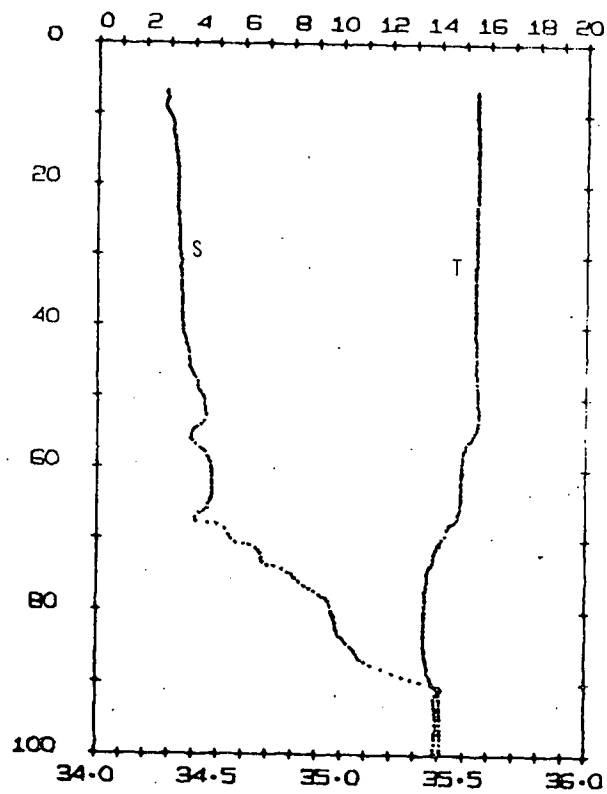
STD	0	15.49	34.287	25.33	264.93	0.000	1508.0							
STD	10	15.47	34.294	25.34	264.42	0.026	1508.2							
STD	20	15.51	34.333	25.37	262.63	0.053	1508.5							
STD	30	15.47	34.343	25.38	261.24	0.079	1508.5							
STD	40	15.45	34.354	25.39	260.48	0.105	1508.7							
STD	50	15.57	34.440	25.43	257.02	0.131	1509.3							
STD	60	14.92	34.472	25.60	241.33	0.156	1507.5							
STD	70	14.14	34.552	25.83	219.76	0.179	1505.2							
STD	80	13.41	34.961	26.30	175.60	0.199	1503.5							
STD	90	13.73	35.333	26.52	154.97	0.215	1505.2							
STD	100	14.06	35.386	26.49	157.94	0.231	1506.5							
STD	120	13.60	35.531	26.70	138.81	0.261	1505.5							
STD	140	13.53	35.542	26.72	137.05	0.288	1505.6							
STD	160	12.77	35.544	26.88	122.65	0.314	1503.4							
STD	180	11.88	35.477	27.00	111.37	0.338	1500.6							
STD	200	11.68	35.465	27.03	109.12	0.360	1500.2							
STD	225	10.97	35.391	27.10	102.38	0.386	1498.1							
STD	250	10.07	35.329	27.21	91.98	0.410	1495.2							
STD	275	9.61	35.283	27.26	88.21	0.433	1493.8							
STD	275	9.57	35.284	27.27	87.43	0.433	1493.7							

BOTTOM DEPTH= 277M

VE- 32- 75



VE-32- 75



VE-32 STA 76 DATE 30 10 74 GMT 1817 LAT 40 C.5N LONG 73 0.2W

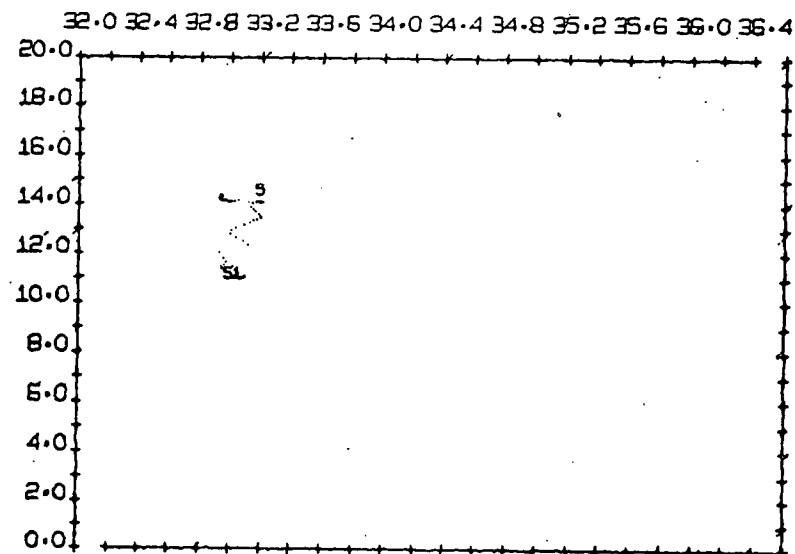
CORR DEPTH 48M WIND 160 2 SEA 140 2 AIR TEMP 16.3 DEW PT 15.2 BAROM 1030.1

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 1

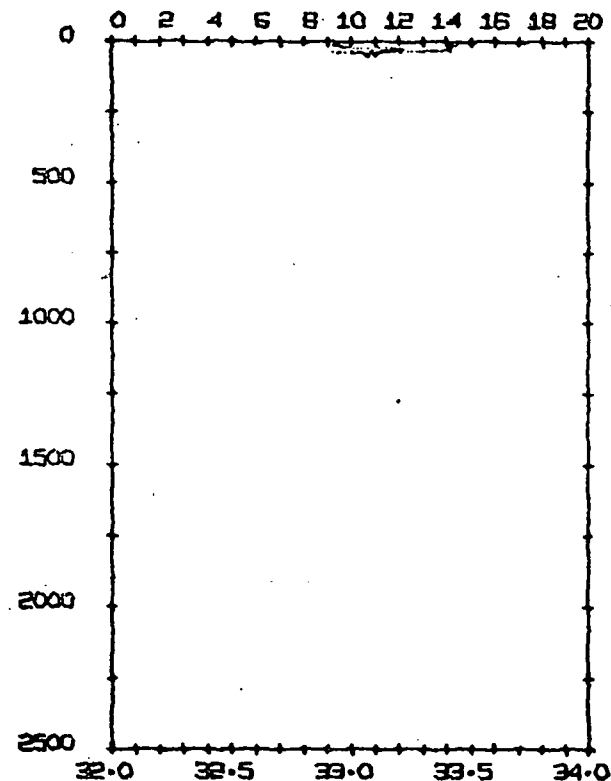
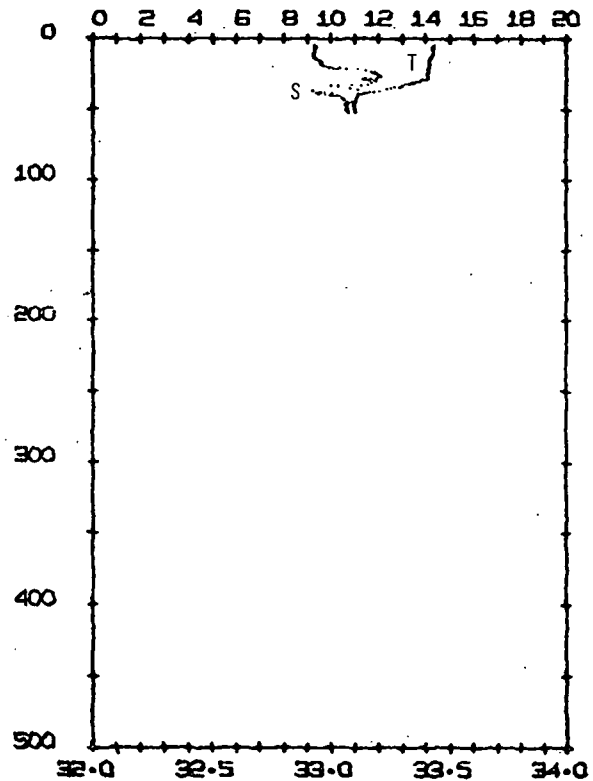
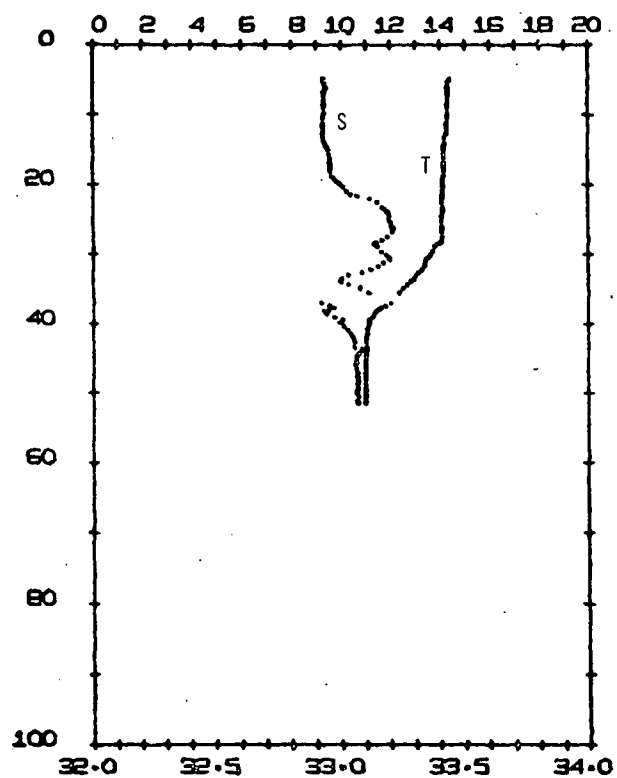
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL INT	ALK	NO2	AMM
STD	0	14.40	32.932	24.53	341.64	0.000	1502.9				5			
STD	10	14.32	32.930	24.54	340.38	0.034	1502.8				1			
STD	20	14.13	32.994	24.63	332.12	0.068	1502.4				0			
STD	30	13.64	33.174	24.87	309.68	0.100	1501.2				1			
STD	40	11.16	33.000	25.21	277.38	0.129	1492.7				1			
STD	50	10.99	33.065	25.29	269.83	0.157	1492.3				0			
STD	51	10.98	33.069	25.30	269.42	0.160	1492.3				0			

BOTTOM DEPTH= 52M

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VE-32- 76



VE 32 STA 77 DATE 30 10 74 GMT 2139 LAT 39 58.1N LONG 72 56.8W

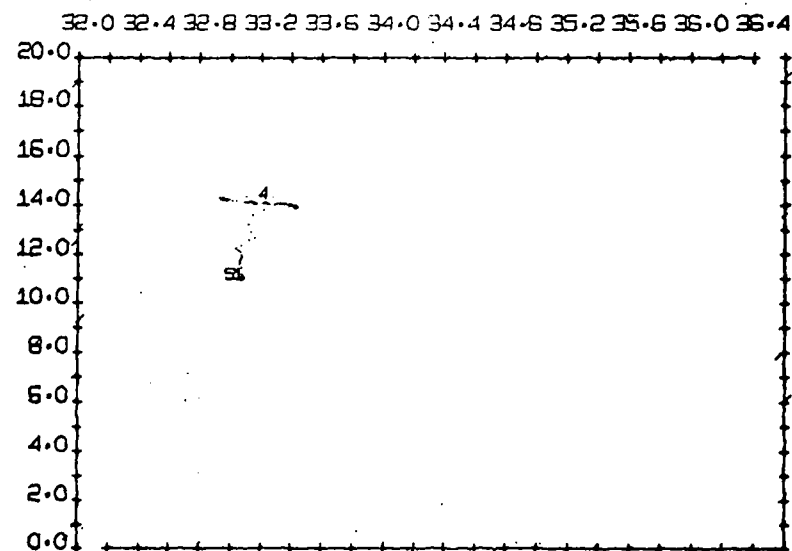
CORR DEPTH 49M WIND 160 2 SEA 140 2 AIR TEMP 15.2 DEW PT 14.8 BAROM 1028.4

STD 9040 SAL SENSOR 5312 TEMP SENSOR 5312 DEPTH SENSOR 5312 NO OBS 1

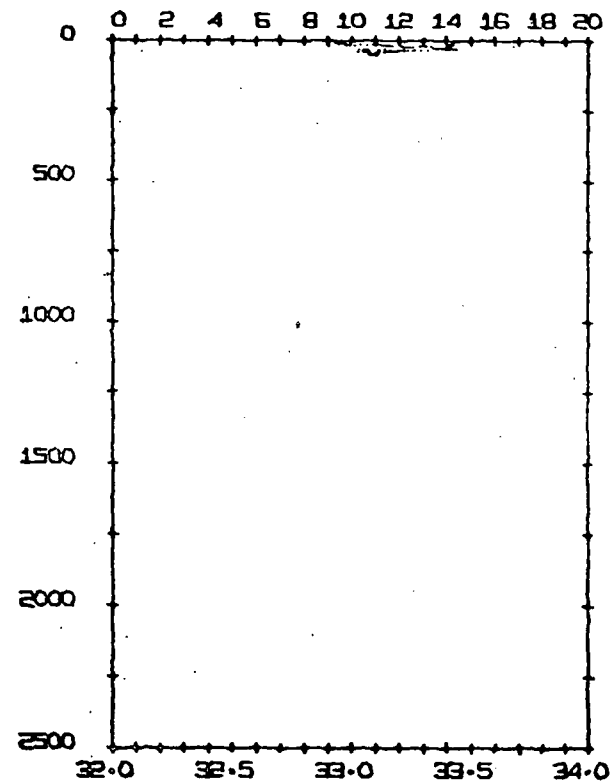
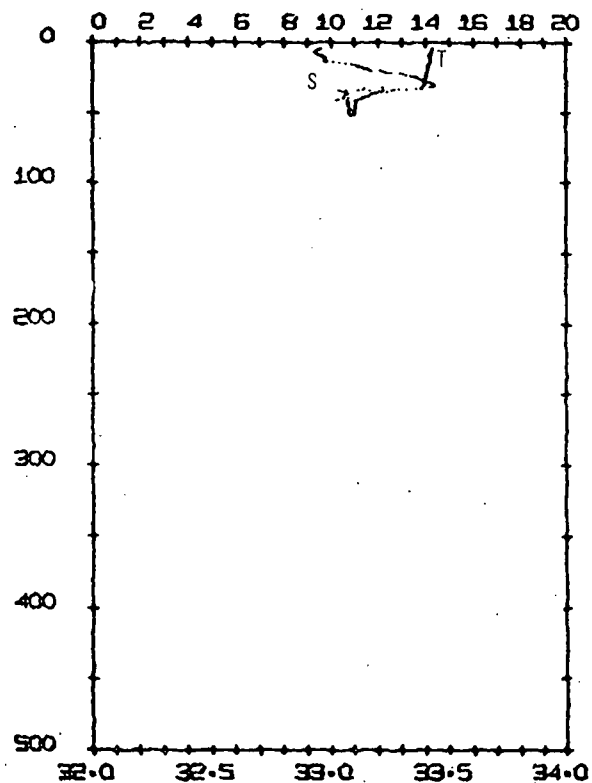
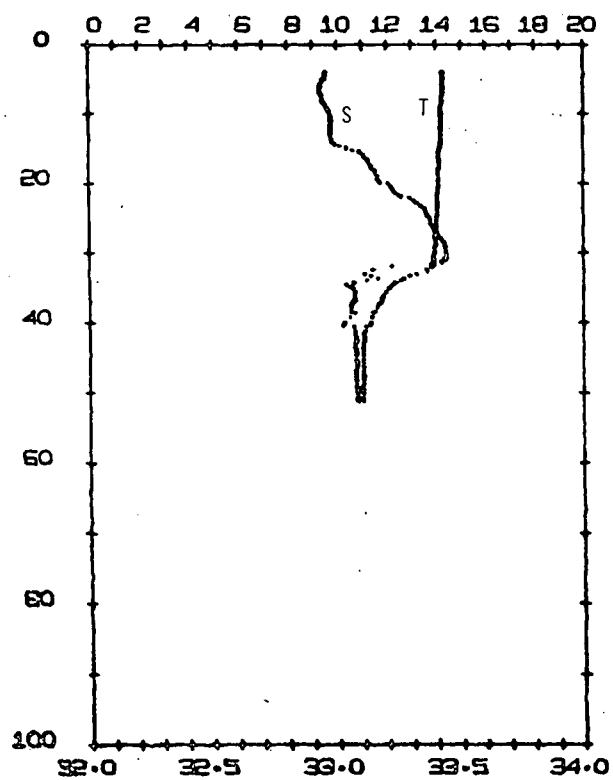
	DEPTH	TEMP	SALIN	DENS	ANOM	DELTA	VELOC	OXYG	PHOS	NITR	SIL	ALK	NO2	AMM
STD	0	14.29	32.957	24.57	337.64	0.000	1502.6				INT			
STD	10	14.19	32.973	24.61	334.63	0.034	1502.4				4			
STD	20	14.09	33.185	24.79	317.32	0.066	1502.5				0			
STD	30	13.91	33.438	25.02	295.60	0.097	1502.4				0			
STD	40	11.35	33.031	25.20	278.32	0.126	1493.4				1			
STD	50	11.02	33.081	25.30	269.16	0.153	1492.4				0			
STC	50	11.01	33.079	25.30	269.26	0.156	1492.4				0			

BOTTOM DEPTH= 53M

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VE-32-770



8.2

8.2 Nephelometry8.2.1 Explanation of Plots

The optical density of the film is measured using a Photovolt photodensitometer system with a Bausch & Lomb recorder. Discrete measurements are made at predetermined points along the film of the two scattered light images and three direct light images. These are called cross-run measurements. The sensitometer patch is measured with this instrument and from this the characteristic curve relating optical density to log exposure (log E) is obtained). The direct light, log E_D , is subtracted from the average scattered light, log E, and a correction added to make the measurement comparable to the Lamont standard nephelometer (Figure 11).

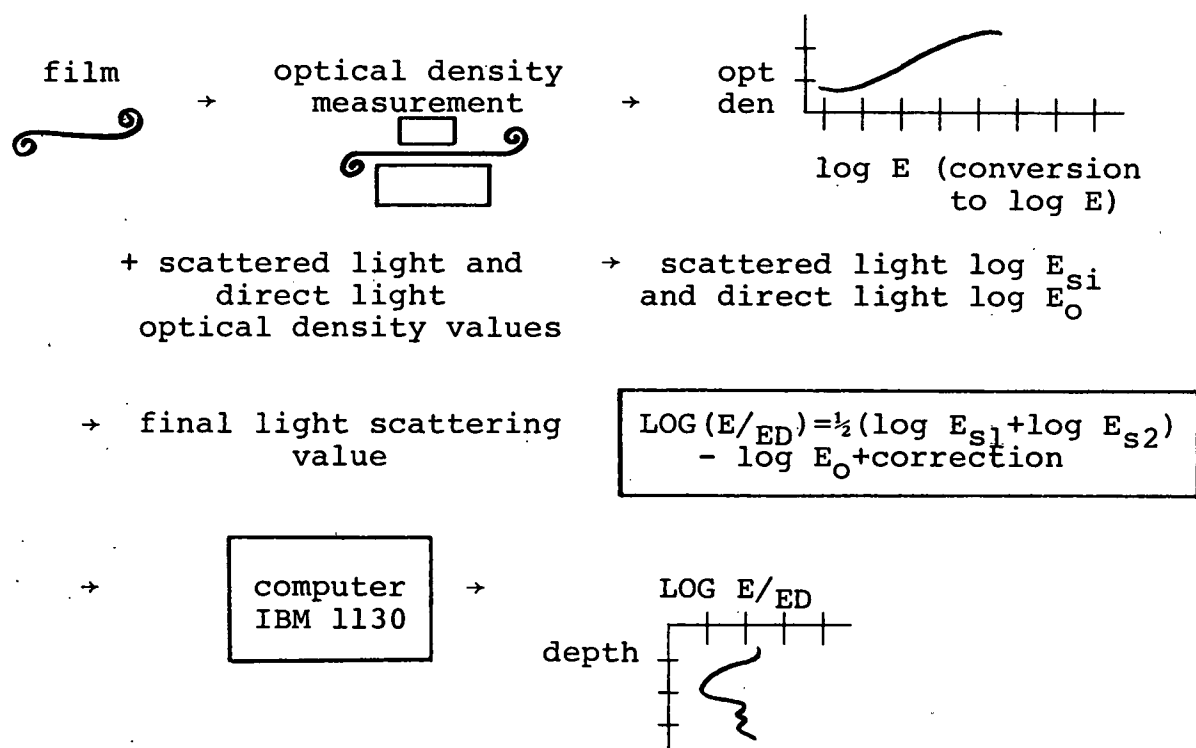


FIGURE 11. SCHEMATIC OF NEPHELOMETER DATA REDUCTION TECHNIQUES.

where $\log E_{si}$ is the log exposure of the scattered light image and $\log E_o$ is the log exposure of the direct light image. The correction depends on which of the three direct-light images is used and which instrument is used. The usual technique of utilizing the pressure transducer to obtain depth was only used on the camera/nephelometer stations. A more accurate method of using STD depths, when the nephelometer was attached to the STD wire was employed for these profiles.

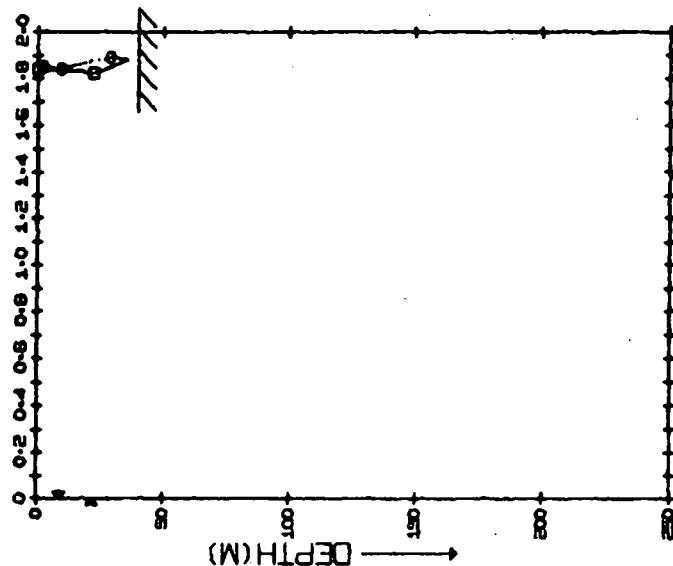
Scott Daubin, Jr. has developed a data reduction technique to produce the nephelometer profiles presented here. A detailed digitization was made of the analog record of optical densities between cross-run values. This gives a continuous light-scattering trace, adjusted to the cross-run points that is more suitable for comparison with the STD traces. The down- and up-traces are shown as solid and dotted lines, respectively. Down-trace cross-run measurements are indicated by squares, up-trace measurements by circles. The corrected PDR depth is shown as a hatched line. The clearest water levels are indicated by triangles along the left-hand depth axis (down-trace triangle facing right, up-trace triangle facing left). The agreement between these values and cross-run values taken later as checks is generally $\pm 5\%$, which is within the acceptable error limits for this instrument.

8.2.2 Nephelometer Data

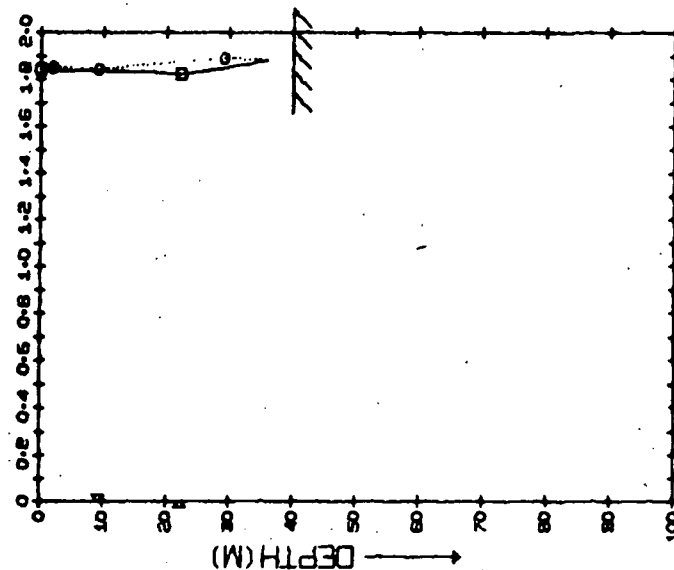
<u>STA #</u>	<u>PAGE #</u>
N-1	153
N-2	154
N-3	155
N-4	156
N-5	157
N-6	158
N-7	159
N-8	160
N-9	161
N-10	162
N-11	163
N-12	164
N-13	165

VEMA 32 01

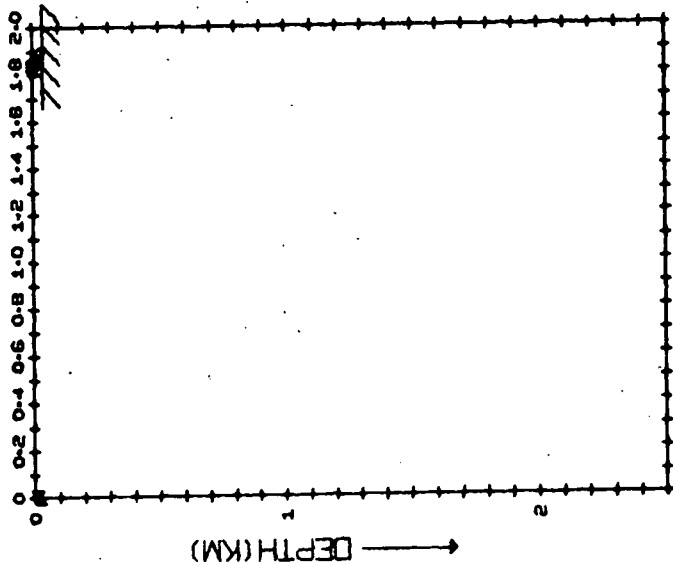
NEPH STATION NO. 1
LOG (E/ED)

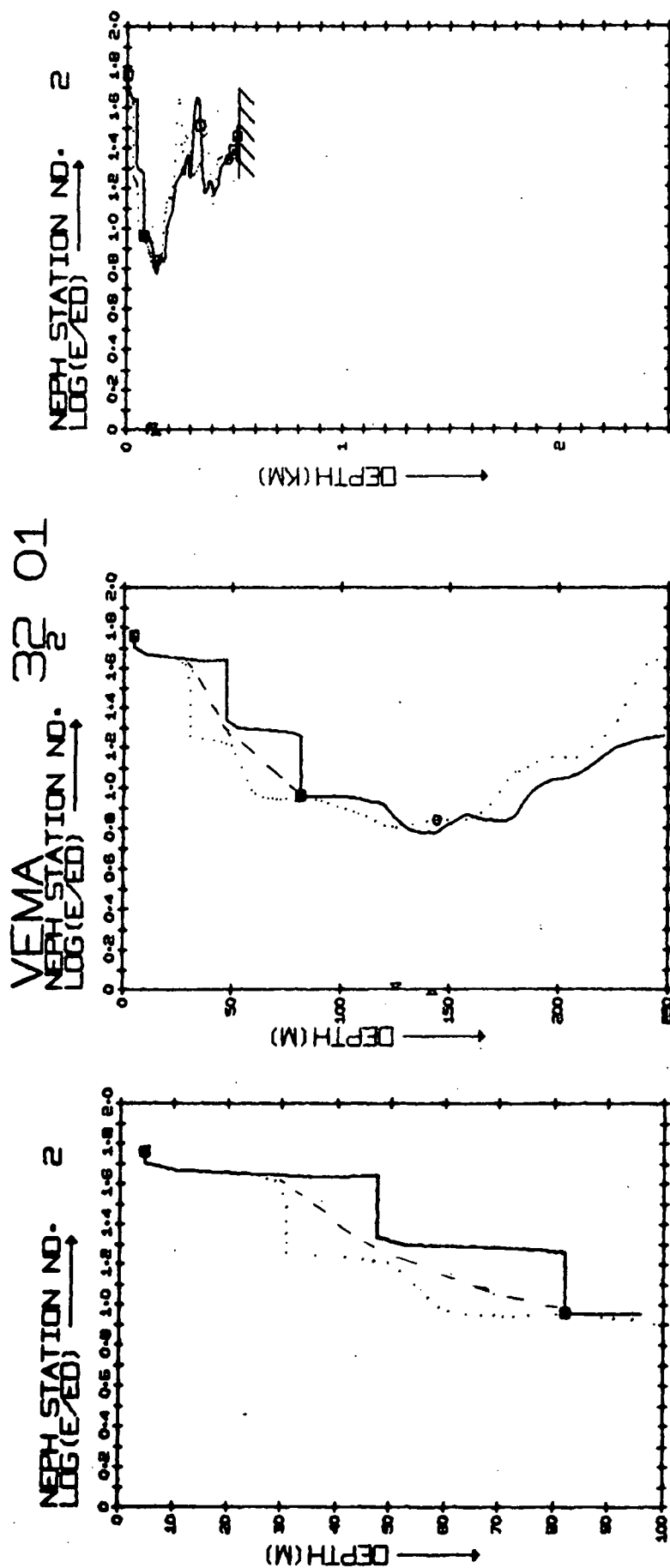


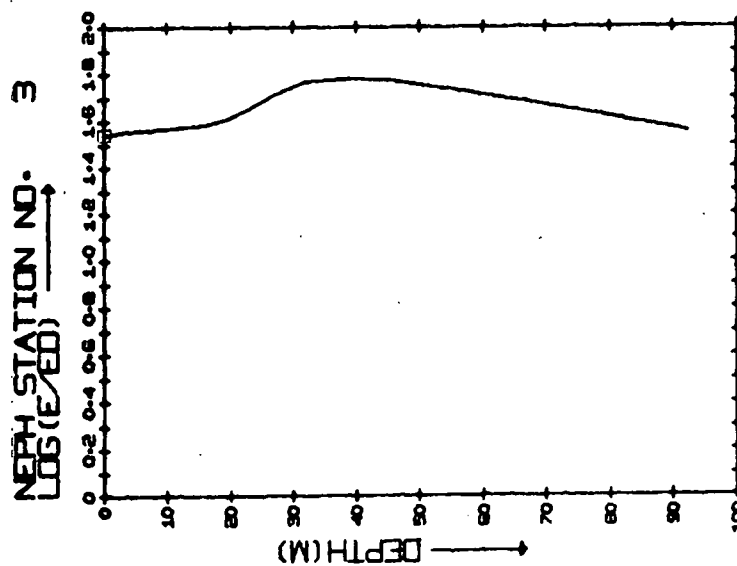
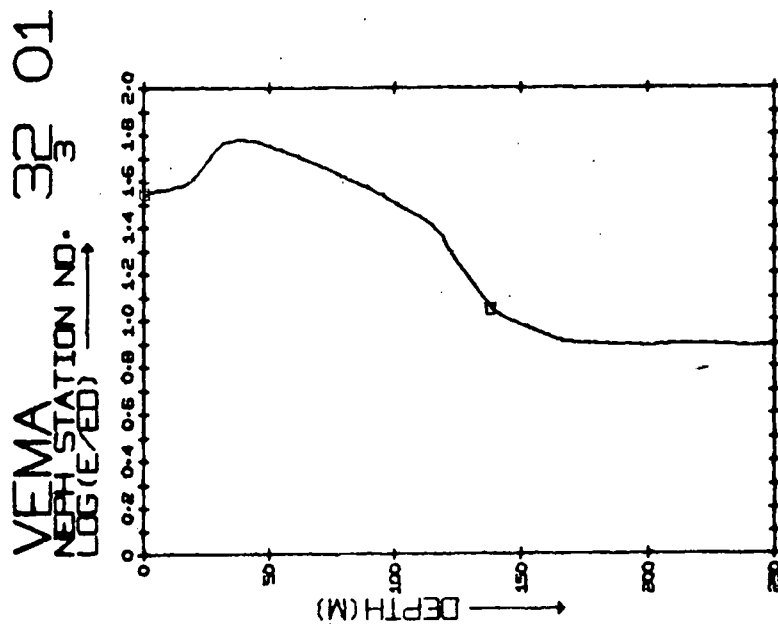
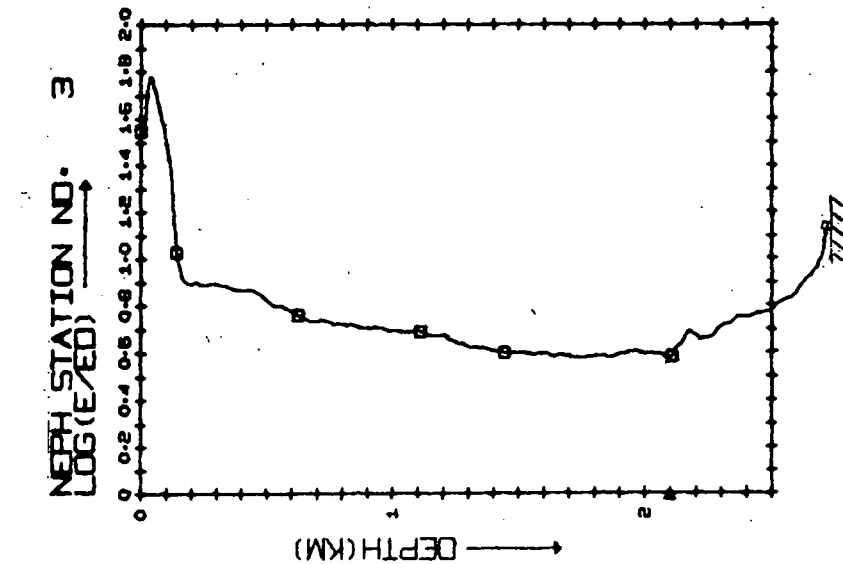
NEPH STATION NO. 1
LOG (E/ED)

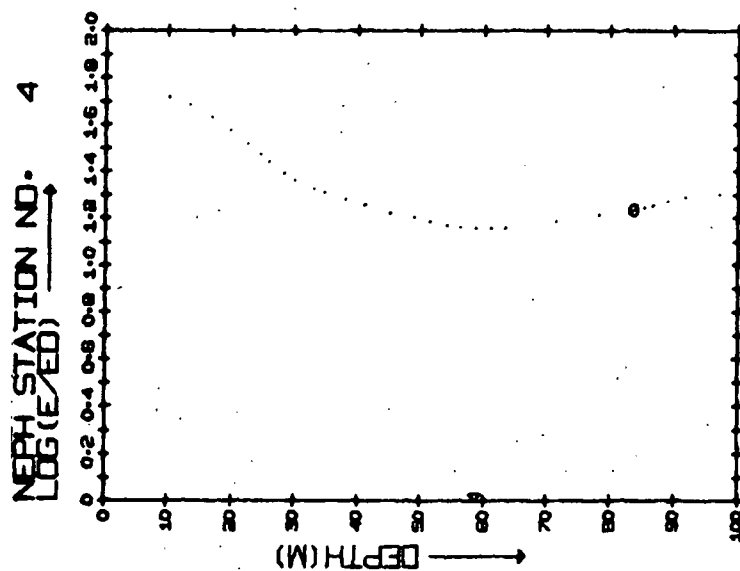
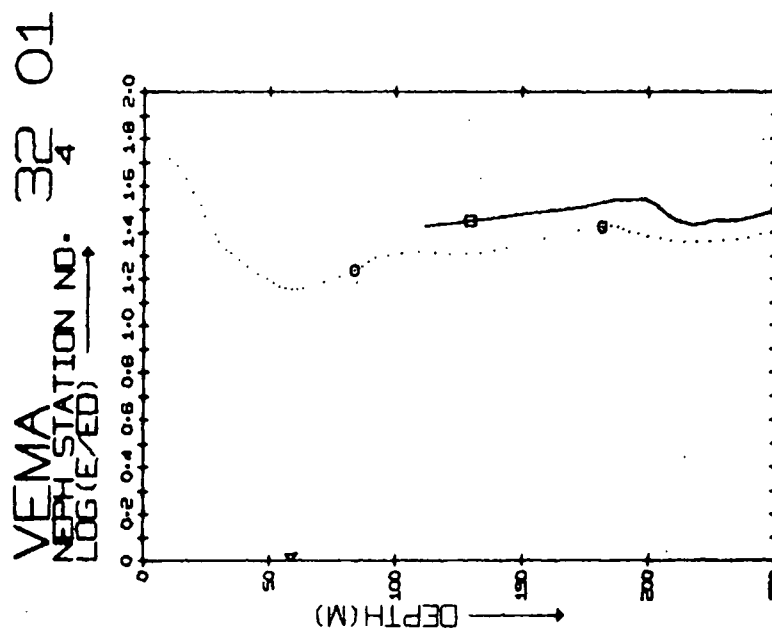
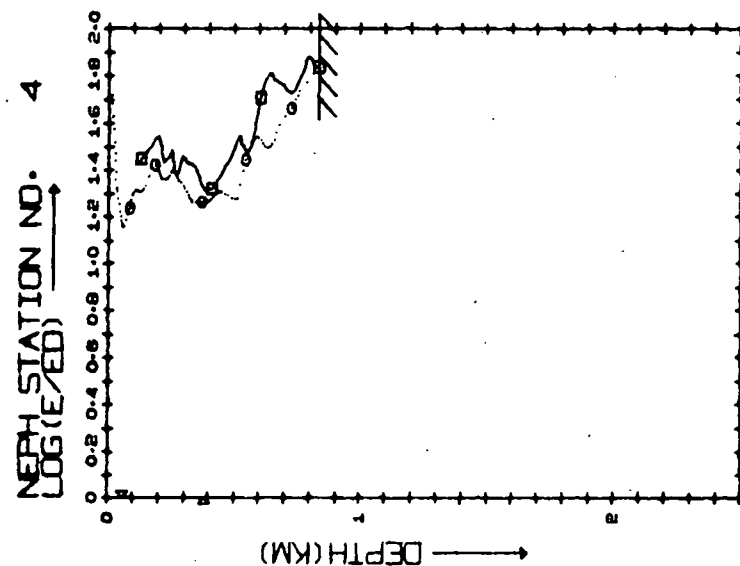


NEPH STATION NO. 1
LOG (E/ED)

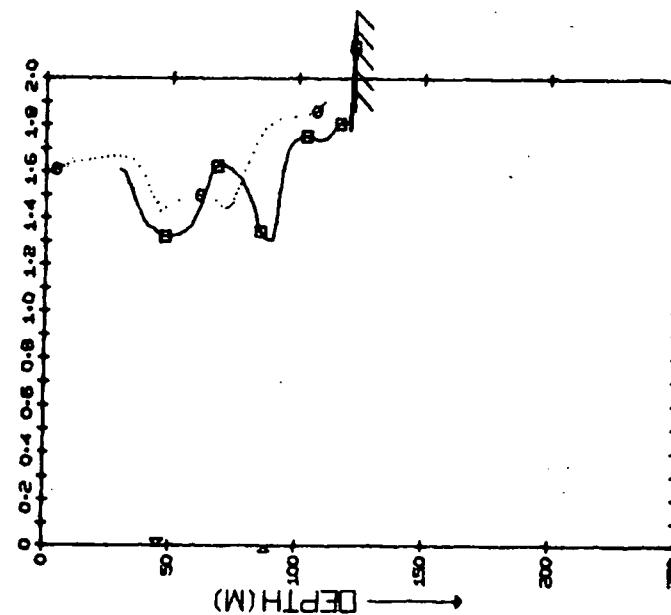
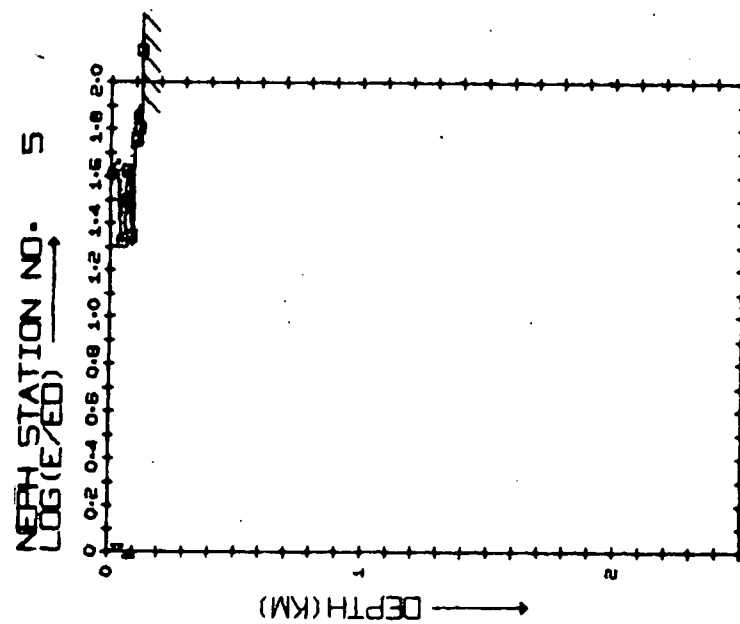
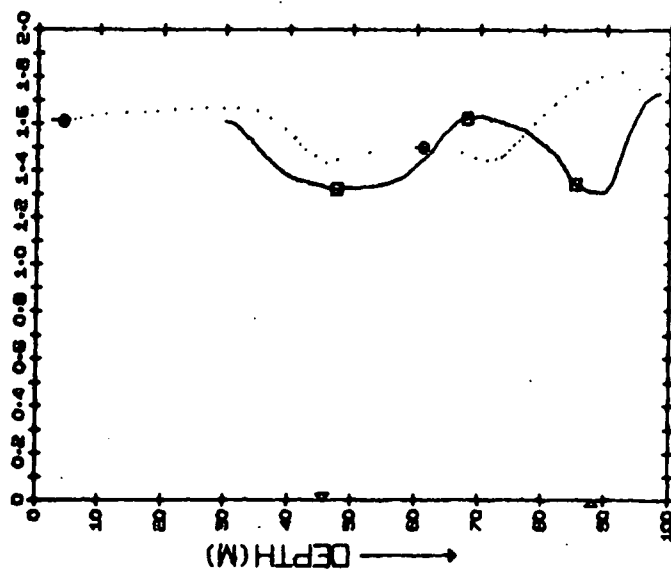


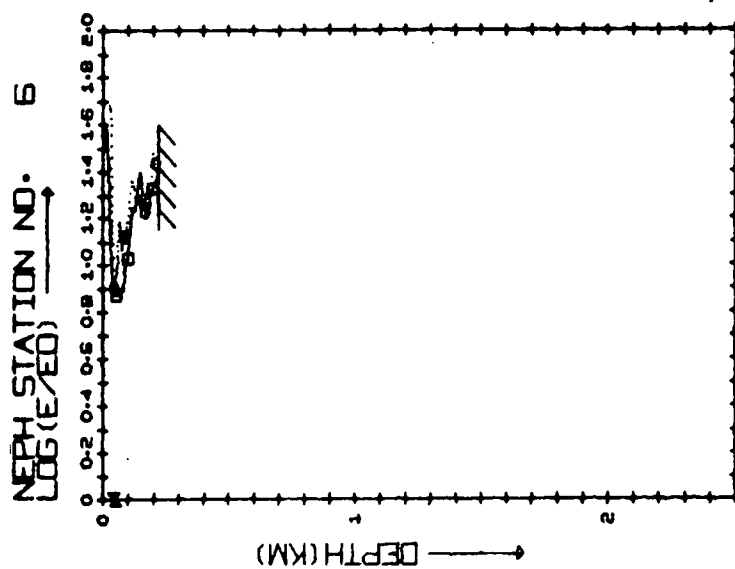
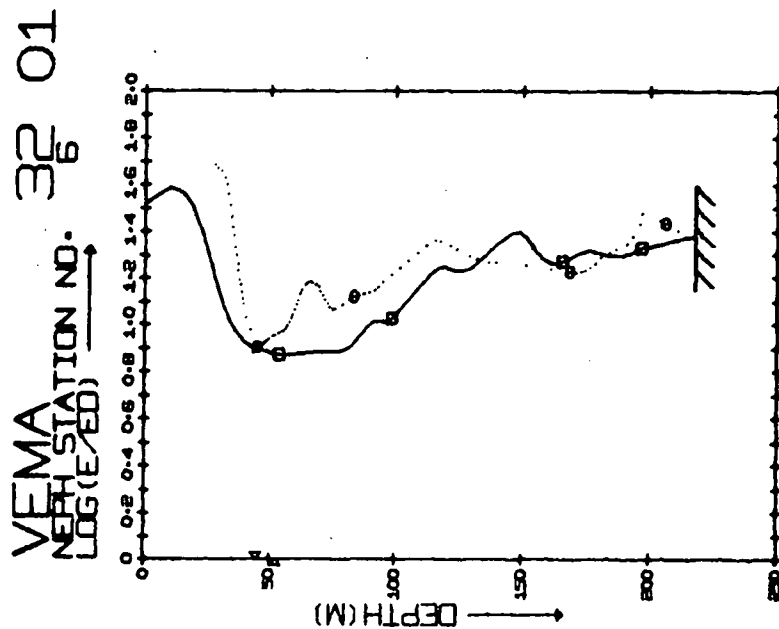
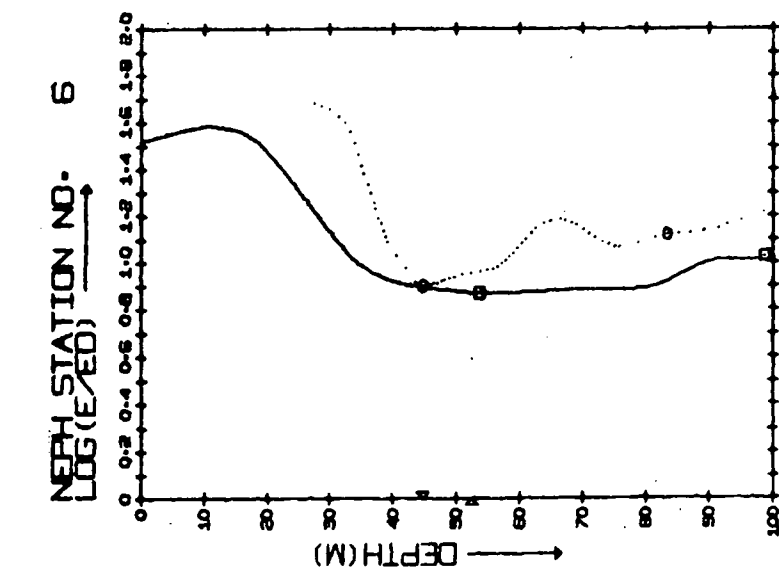


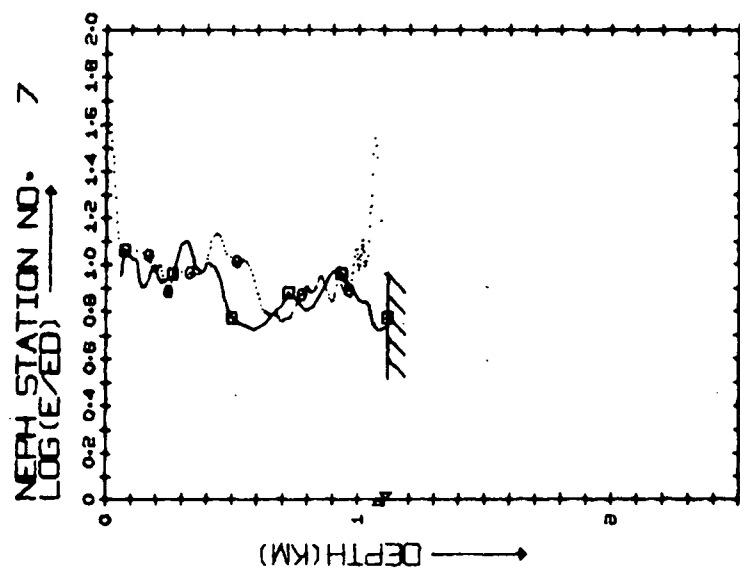
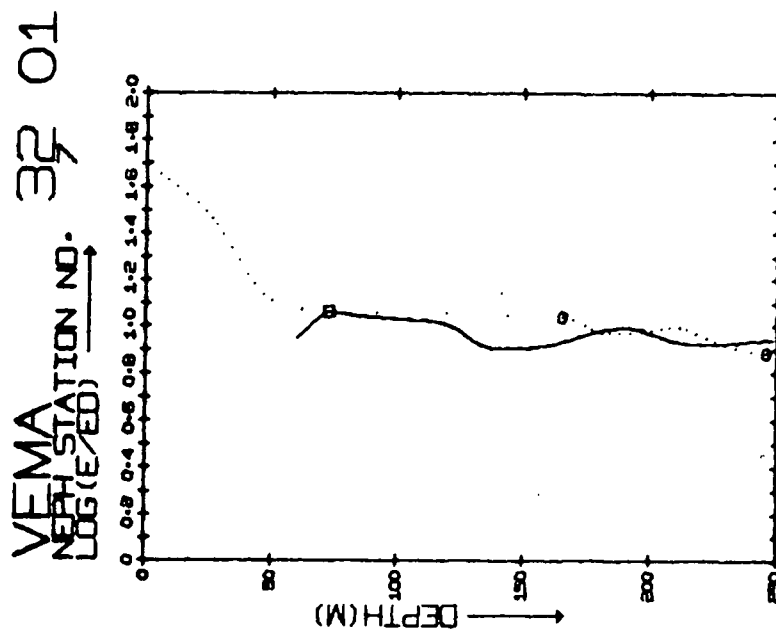
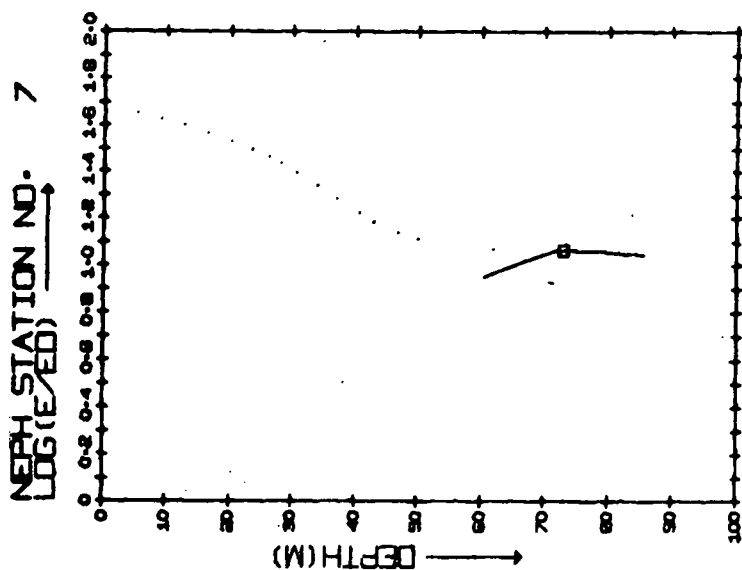


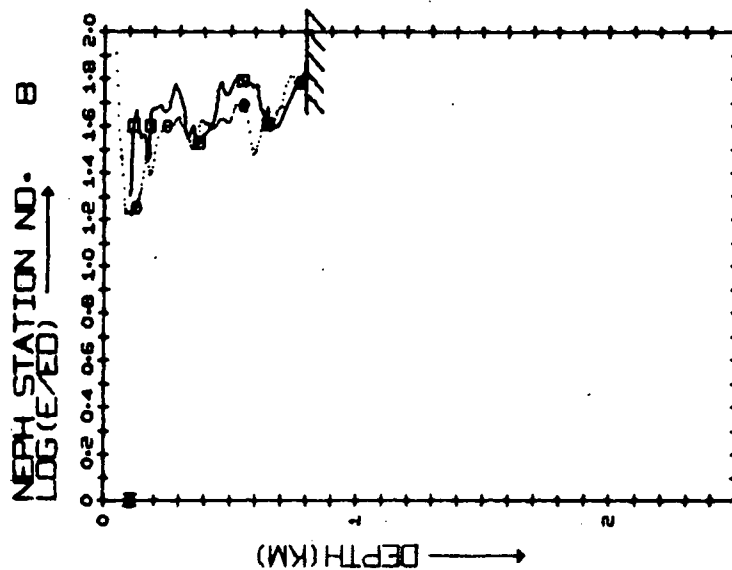
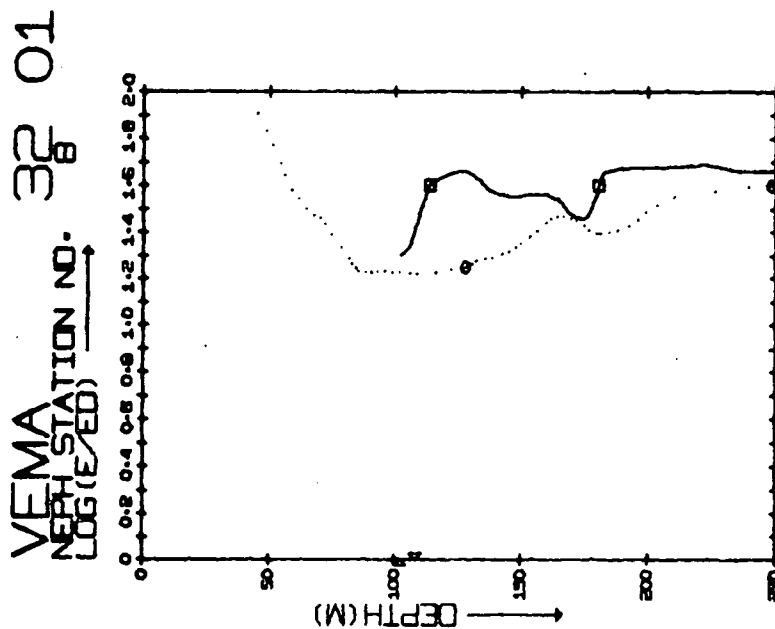
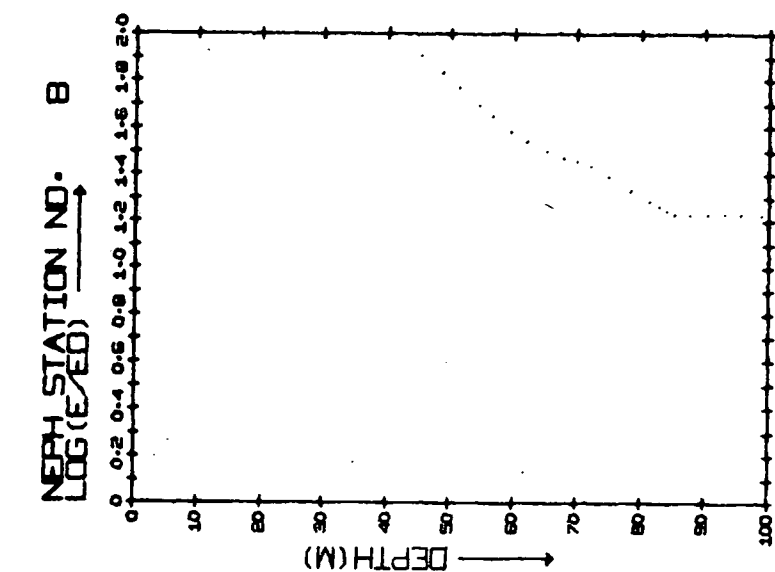


VEMA
NEPH STATION NO. 32 01
LOG(E/EO) 5

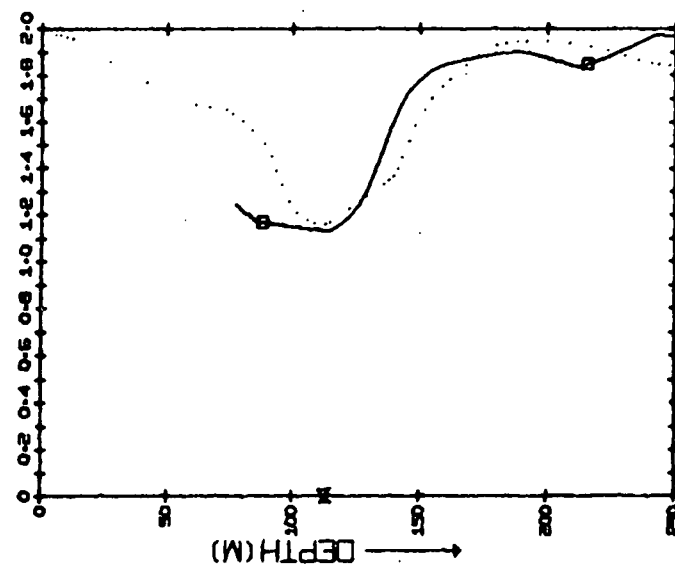




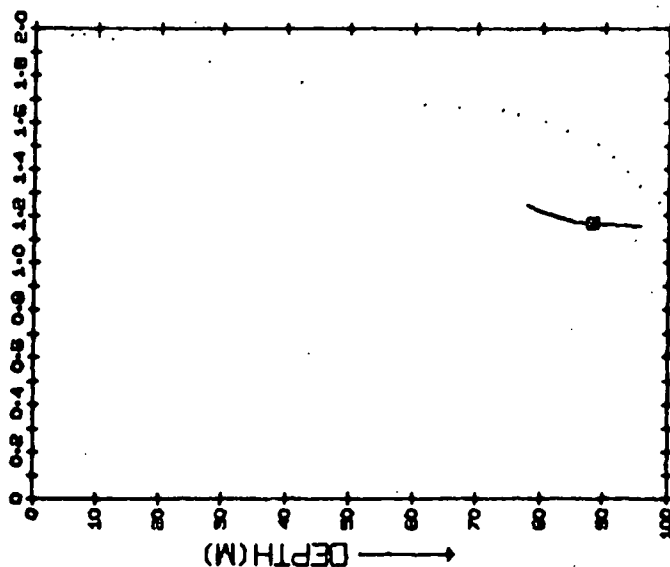




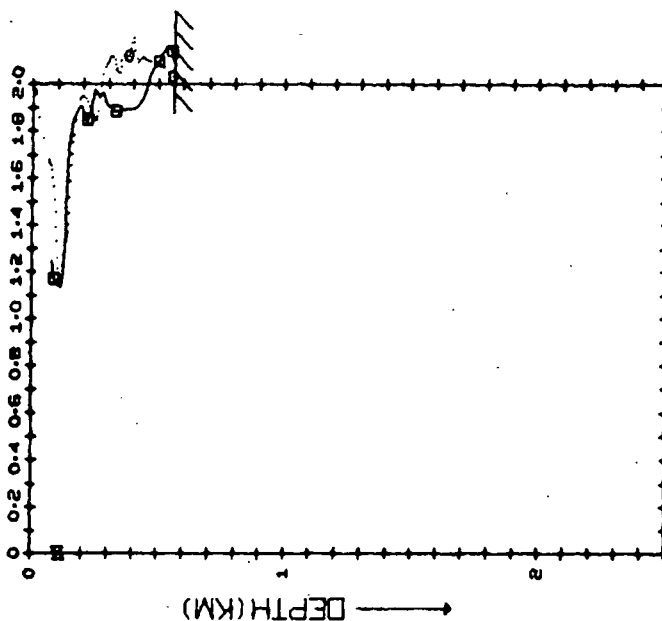
VEMA
NEPH STATION NO. 32 01
LOG (E/ED) →

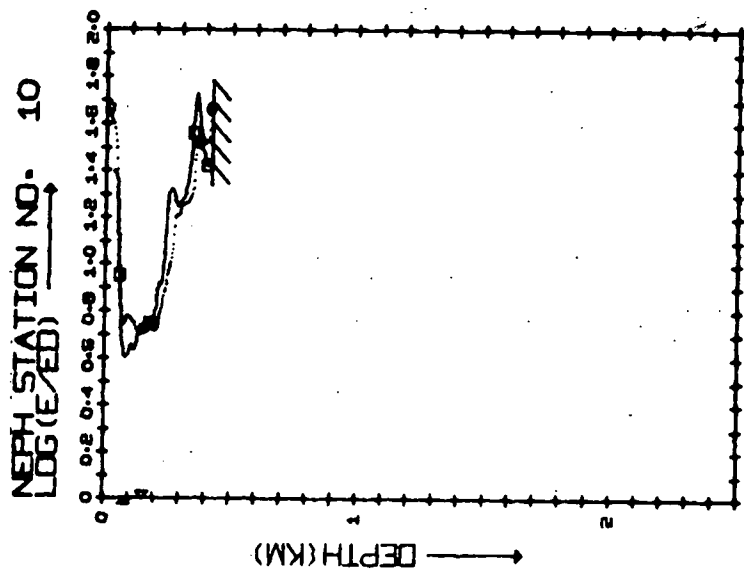
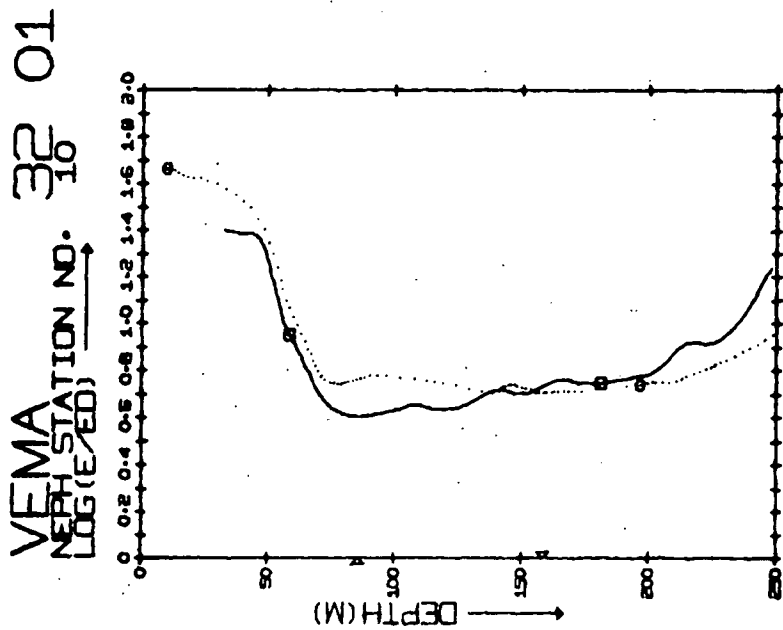
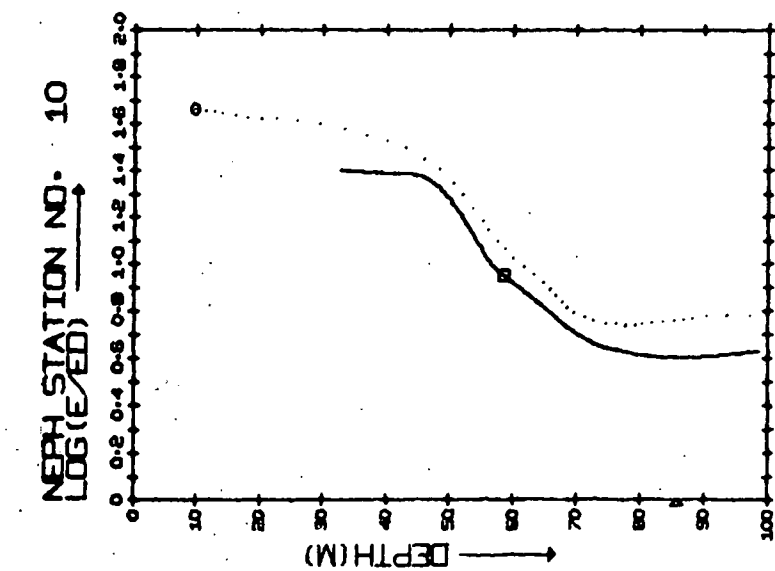


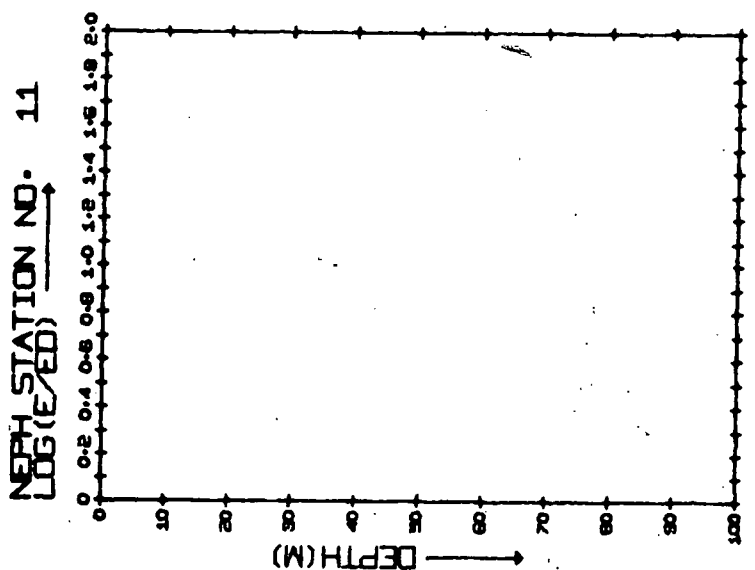
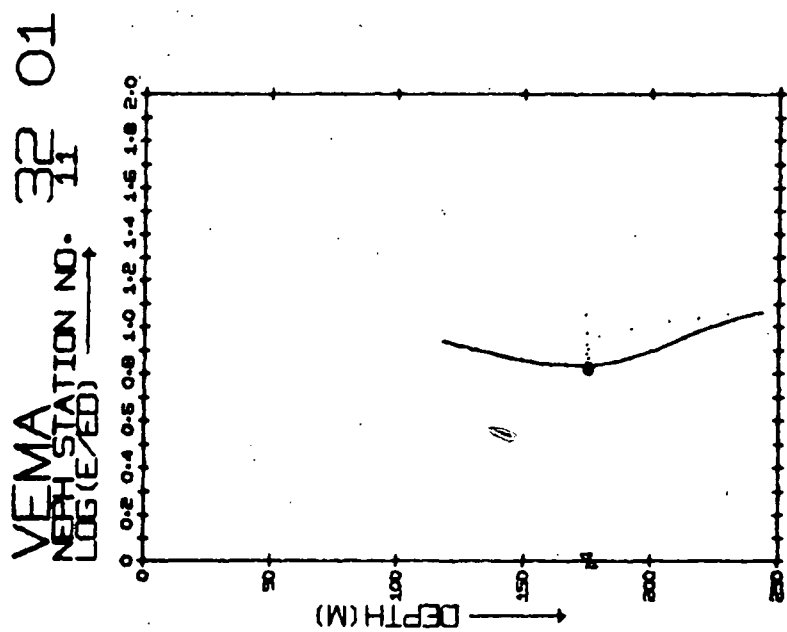
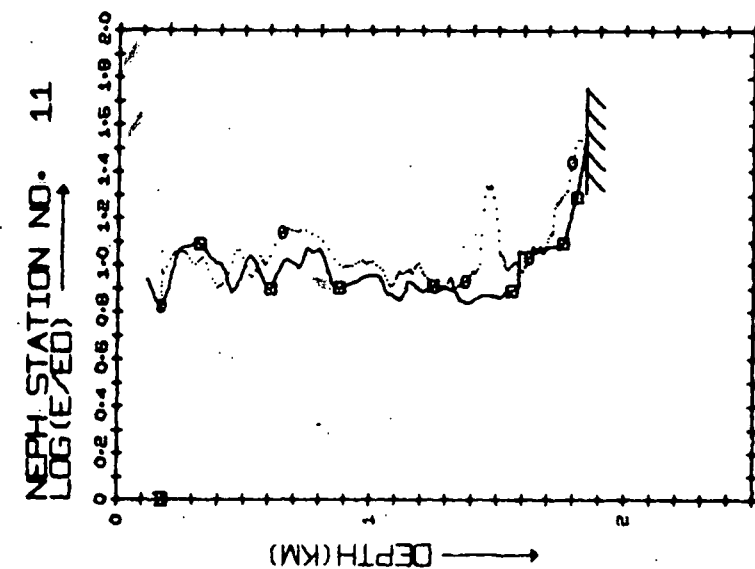
NEPH STATION NO. 9
LOG (E/ED) →

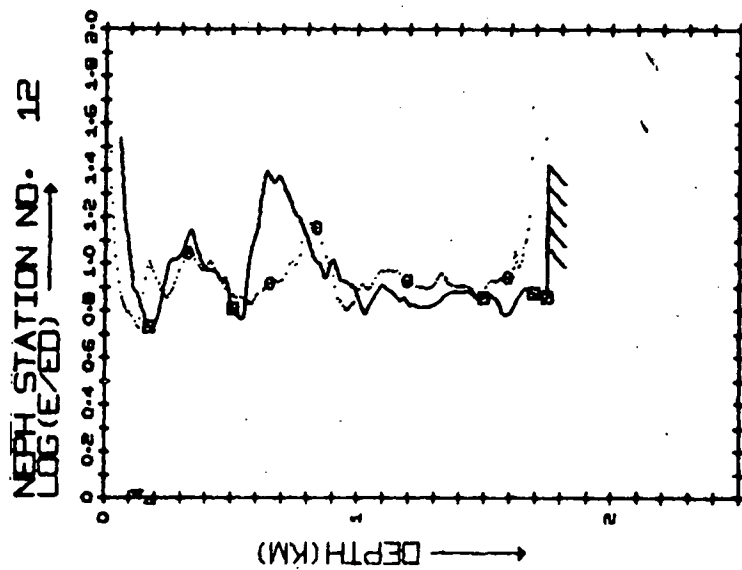
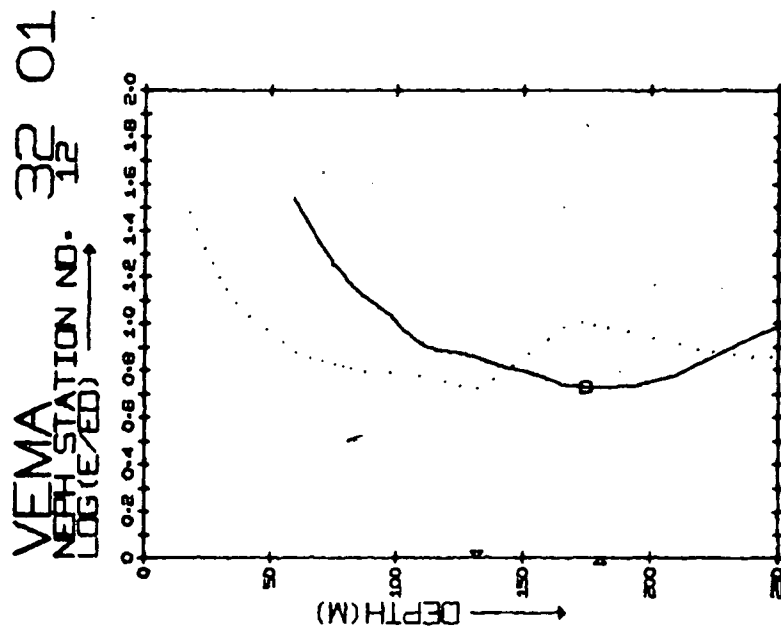
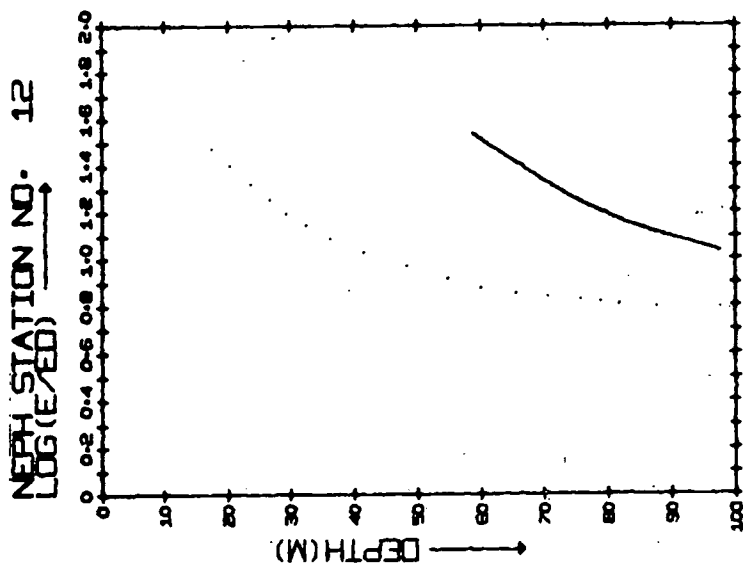


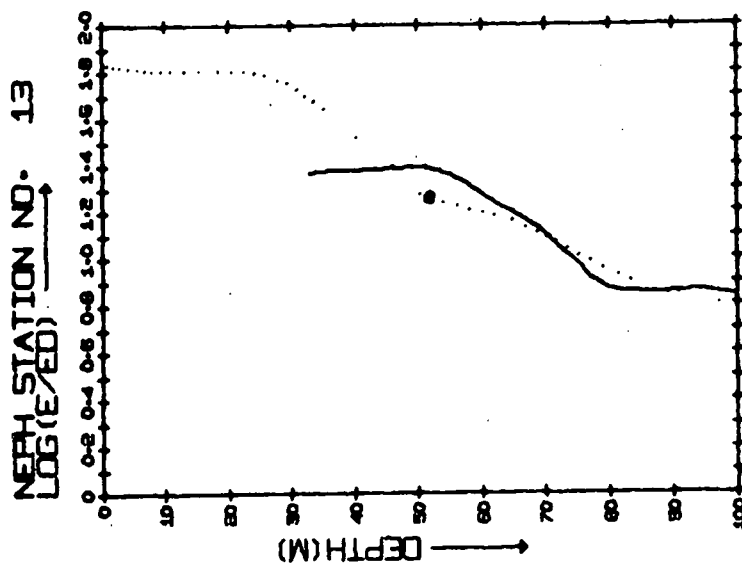
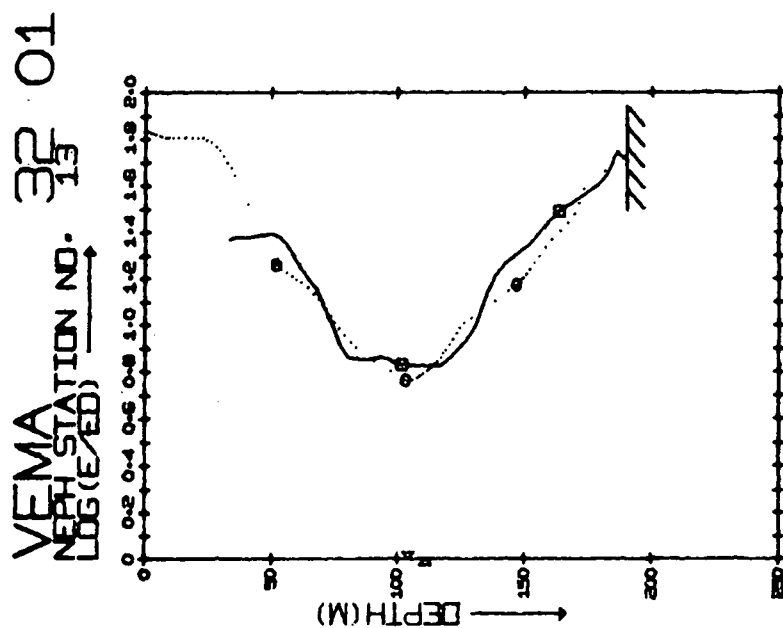
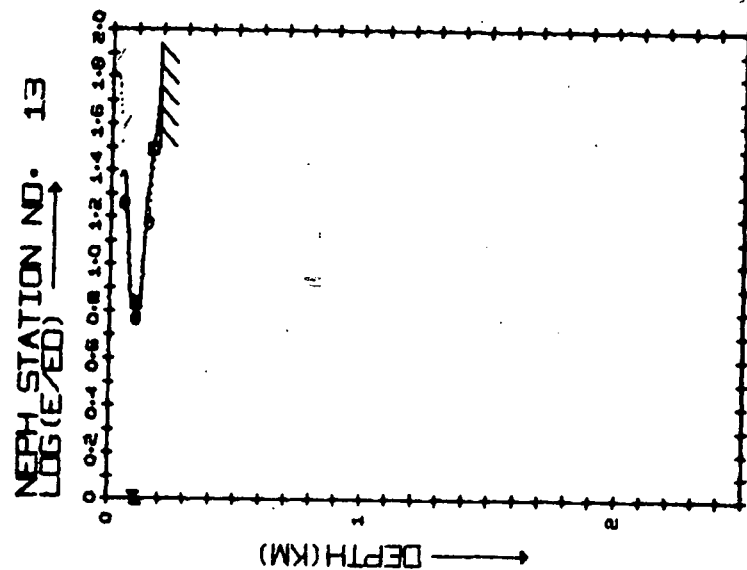
NEPH STATION NO. 9
LOG (E/ED) →











8.3 Bottom Photography

8.3.1 Bottom Photographs

<u>STA #</u>	<u>PAGE #</u>
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K-4	171
K-5	173
K-6	174
K-7	175
K-8	177
K-9	180



K 1-1



K 1-2



K 1-3



K 1-4



K 1-5



K 1-6



K 1-7



K 1-8



K 1-9



K 1-10



K 1-11



K 2-16



K 2-20



K 2-21



K 3-5



K 3-8



K 3-9



K 4-1



K 4-2



K 4-3



K 4-4



K 4-5



K 4-6



K 4-7



K 4-8



K 4-9



K 4-10



K 4-11



K 4-12



K 5-1



K 5-2



K 5-3



K 5-4



K 5-5



K 6-1



K 6-2



K 6-3



K 6-4



K 7-1



K 7-2



K 7-3



K 7-4



K 7-5



K 7-6



K 7-7



K 7-8



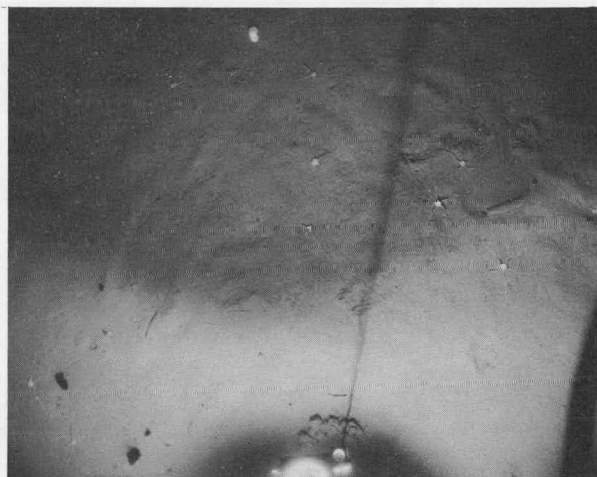
K 7-9



K 7-10



K 8-1



K 8-2



K 8-3



K 8-4



K 8-5



K 8-6



K 3-7



K 3-8



K 3-9



K 3-10



K 3-11



K 3-12



K 3-13



K 3-14



K 9-1



K 9-2



K 9-3



K 9-4



K 9-5

8.4 Hudson Canyon Currents & Light-Scattering

8.4.1 Explanation of Plots

For the 53-day record of currents, east and north components are plotted as a function of time and a speed histogram, vector rose and statistical data are also given.

The nephelometer data is plotted as a function of time. The vertical scale is $\log (e/e_D)$, the log of the ratio of scattered light to direct light, similar to that used for the nephelometer profiles in section 8.2.2.

8.4.2. Current Data

Station VE-31-2-5

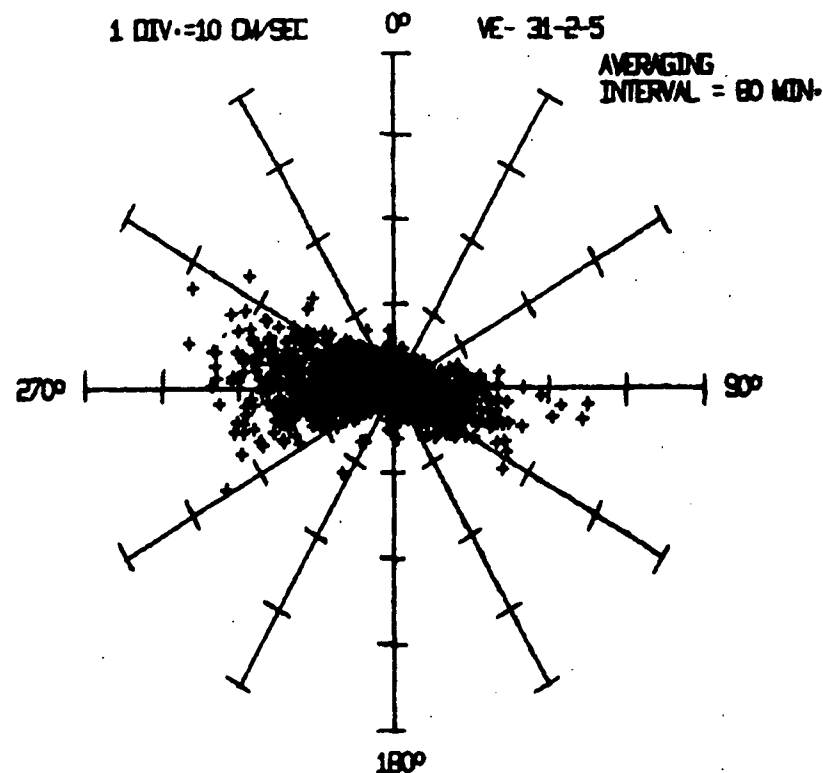
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SPEED HISTOGRAM

VE-31- 2- 5

CM/SEC	FREQ.	
0.5	1067	*****
1.5	312	*****
2.5	697	*****
3.5	724	*****
4.5	609	*****
5.5	444	*****
6.5	586	*****
7.5	410	*****
8.5	432	*****
9.5	393	*****
10.5	353	*****
11.5	213	*****
12.5	217	*****
13.5	184	*****
14.5	150	*****
15.5	141	*****
16.5	148	*****
17.5	95	*****
18.5	87	*****
19.5	65	*****
20.5	76	*****
21.5	50	*****
22.5	48	*****
23.5	37	***
24.5	24	**
25.5	14	*
26.5	15	*
27.5	5	
28.5	7	
29.5	4	
30.5	2	
31.5	2	
32.5	1	

NO. OF PTS. OUTSIDE SPEED RANGE = 4



VECTOR DISTRIBUTION

***** STATISTICS *****
 NC. OF DATA POINTS= 7616
 (RAW DATA UNITS - CM/SEC, DEGREES)

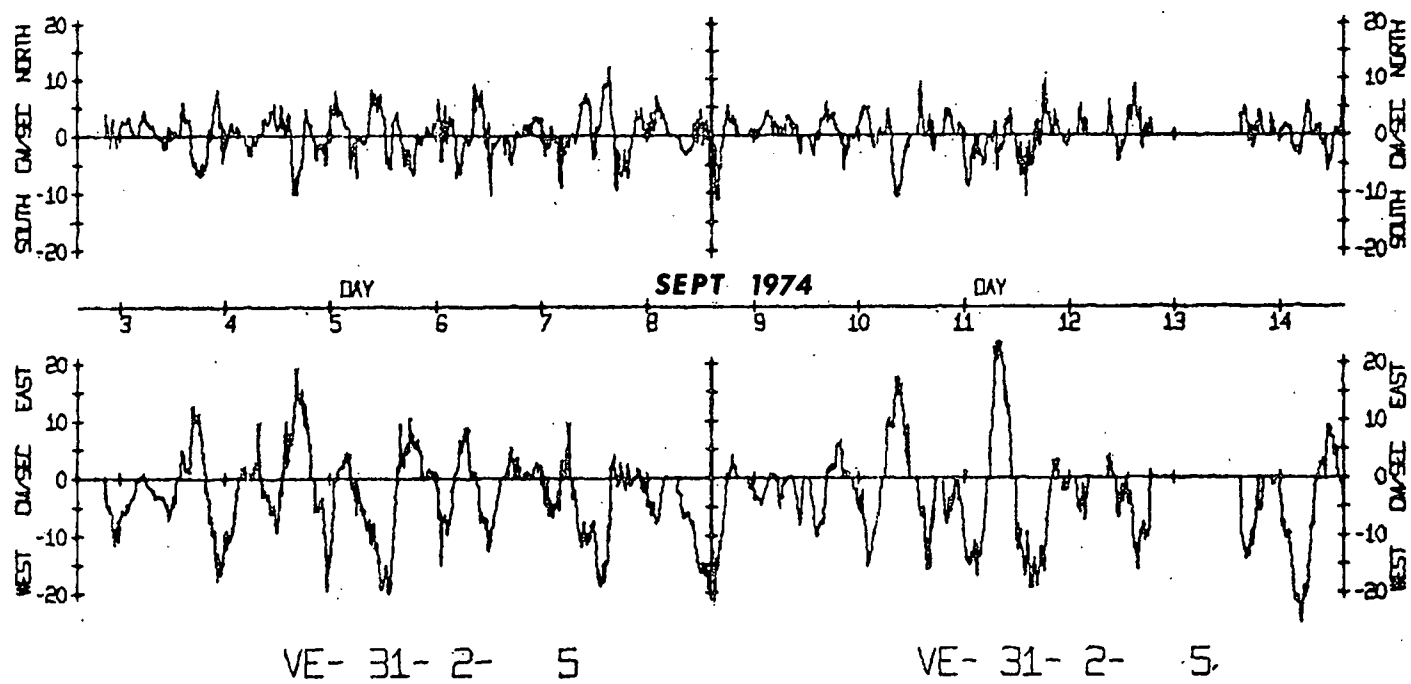
---- EAST-WEST ----
 MEAN = -2.78
 STD. ERROR OF MEAN = 0.09
 VARIANCE = 66.74
 STD. DEVIATION = 8.16
 KURTOSIS = 5.27
 SKEWNESS = -0.27

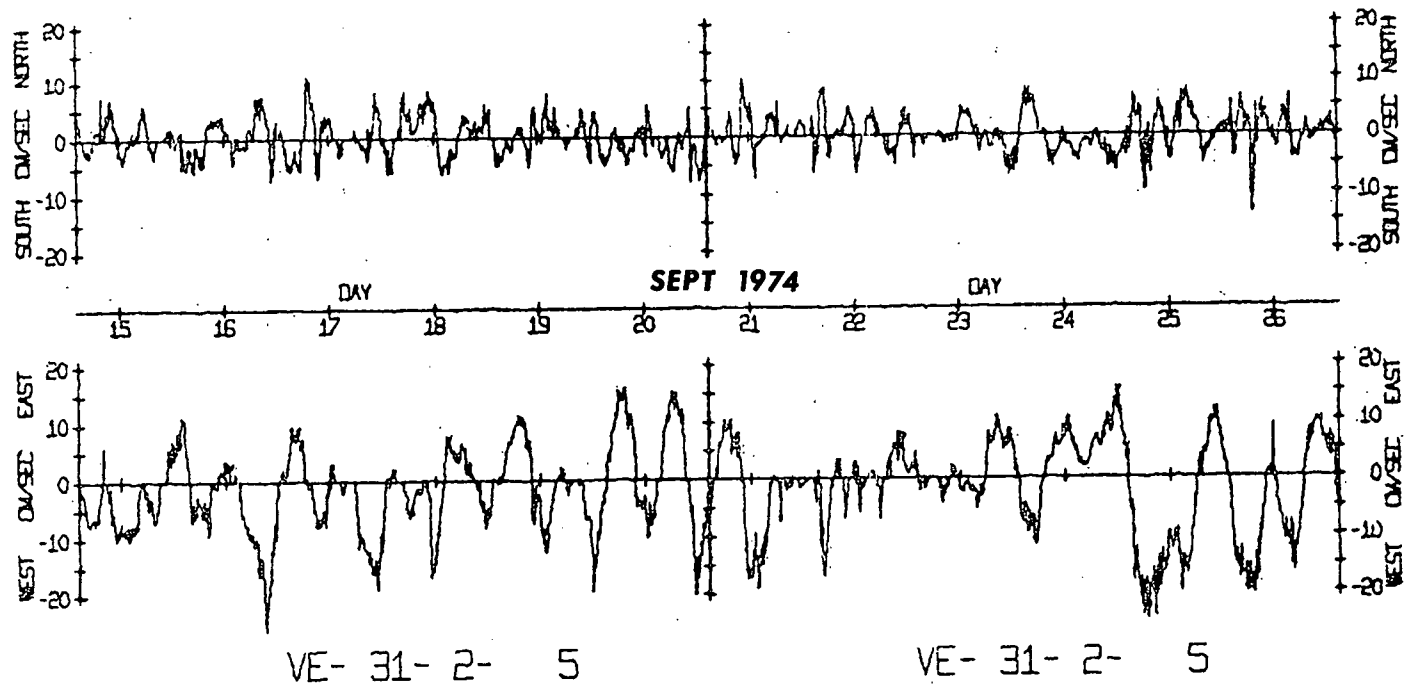
--- NORTH-SOUTH ---
 MEAN = 0.22
 STD. ERROR OF MEAN = 0.03
 VARIANCE = 11.37
 STD. DEVIATION = 3.37
 KURTOSIS = 55.18
 SKEWNESS = -0.99

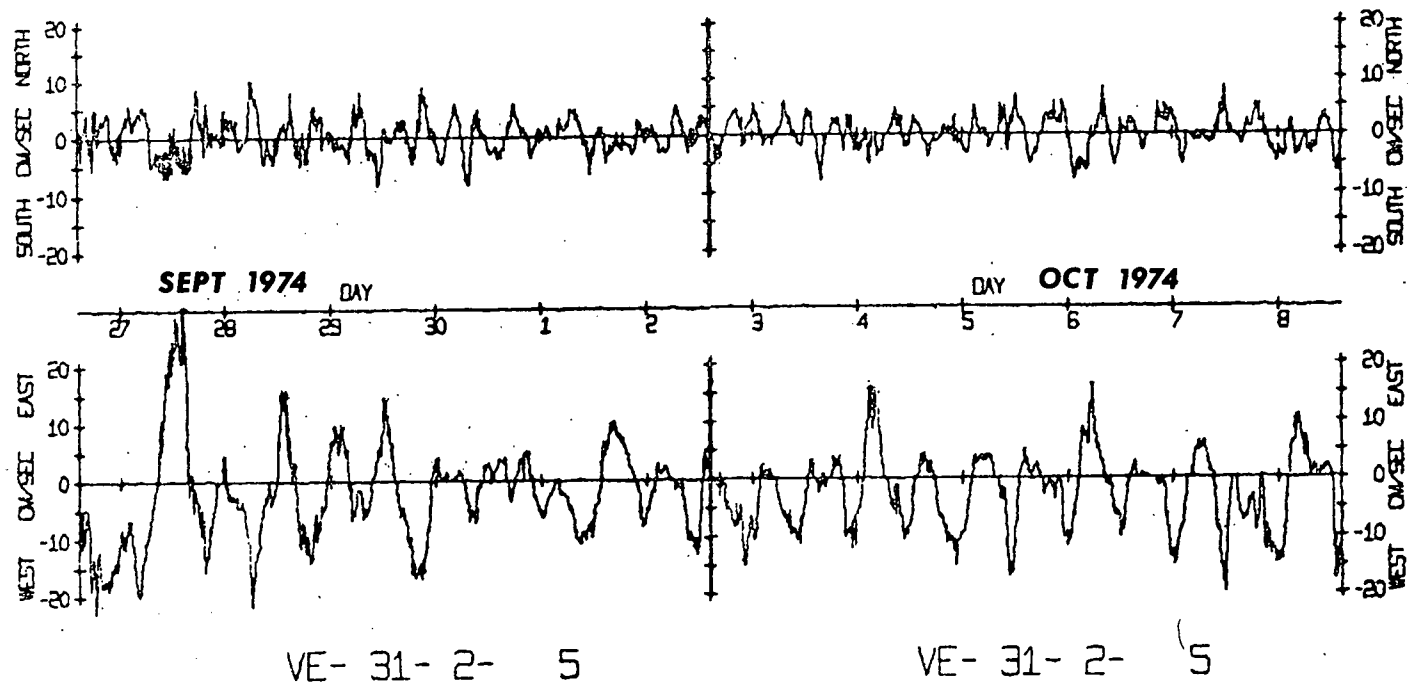
----- SCALAR -----
 MEAN = 7.05
 STD. ERROR OF MEAN = 0.06
 VARIANCE = 36.16
 STD. DEVIATION = 6.01
 KURTOSIS = 18.34
 SKEWNESS = 1.94

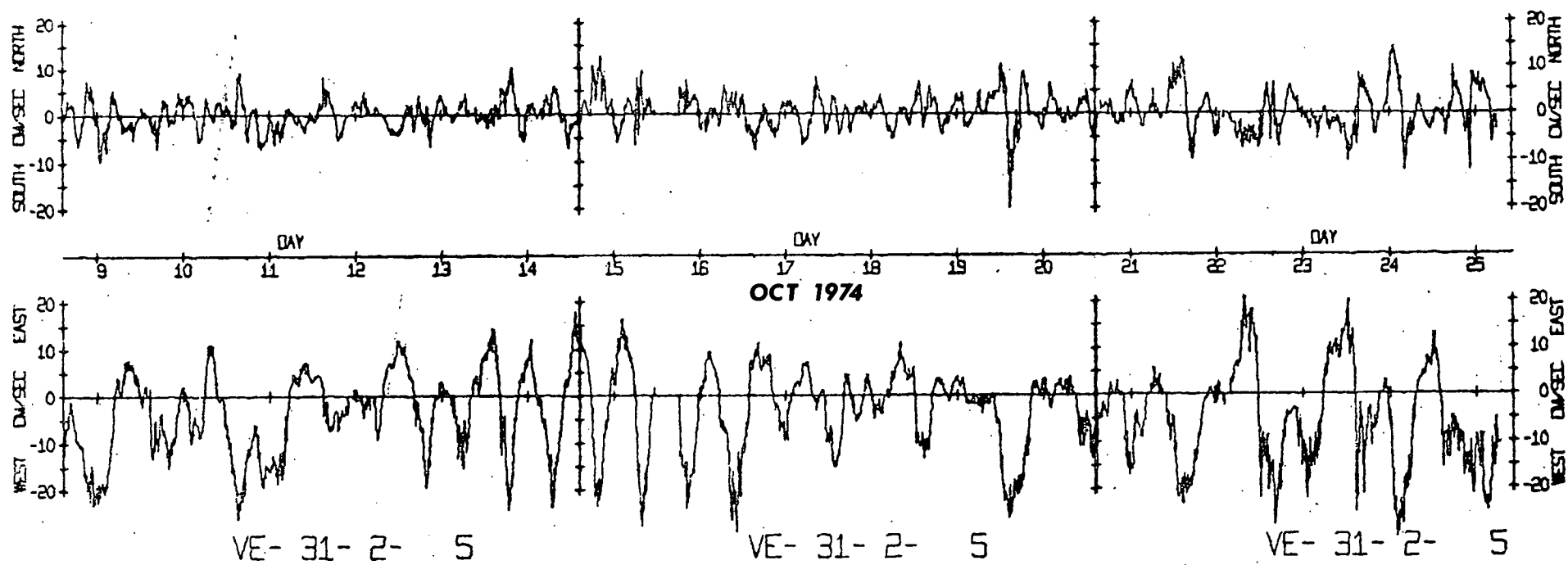
--- CO-VARIABLE ---
 COVARIANCE = -6.58
 STD. ERROR OF COVARIANCE = 2.56
 STD. DEVIATION OF COVARIANCE = 0.02
 CORRELATION COEF. = -0.23

----- VECTOR -----
 MEAN VECTOR = 2.79
 VARIANCE = 39.06
 STD. DEVIATION = 6.25
 DIRECTION = 275
 DIRECTION DEV. = 82.48





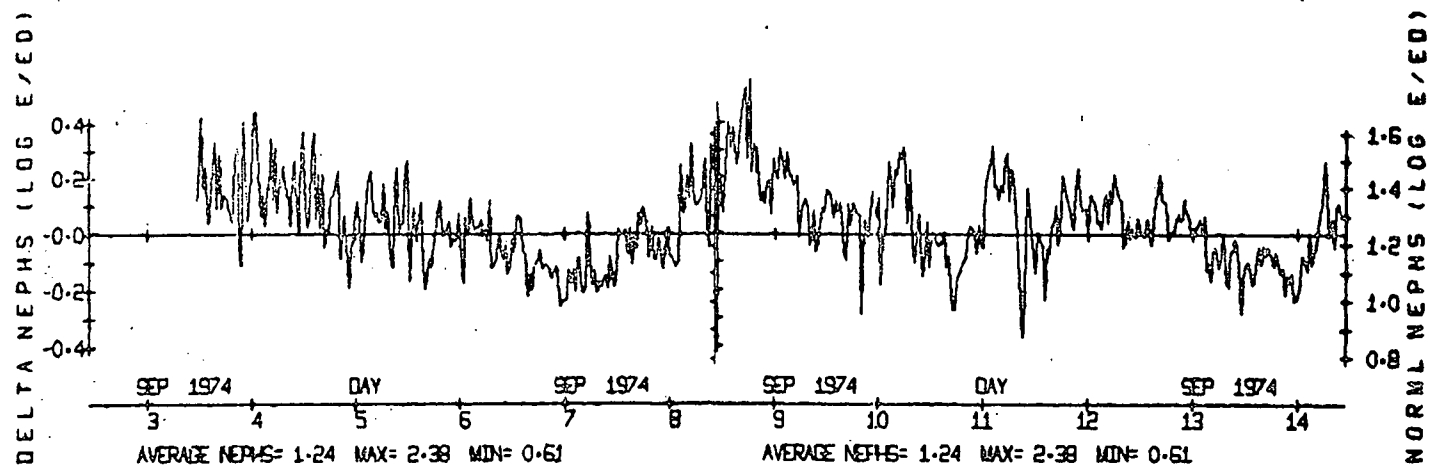




8.4.3 Light-Scattering Data

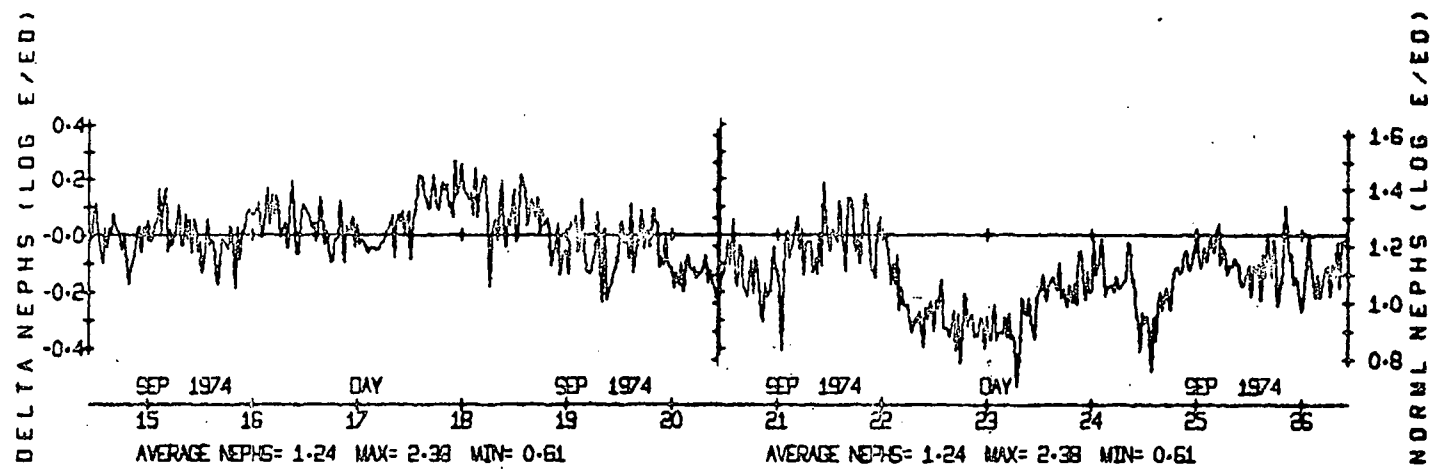
Station VE-31-2-9

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VE- 31- 2- 9

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