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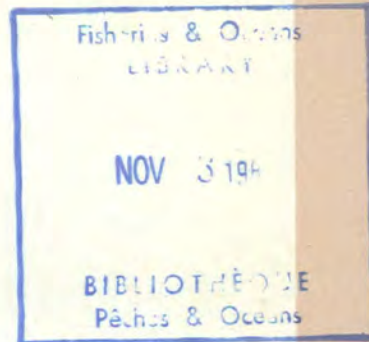


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**Canadian Pacific Coast  
Ichthyoplankton Survey. 1980.  
Hydrography. Part Three. Vertical  
Profiles of Temperature, Salinity,  
and Sigma-T by Station**

J.C. Mason, O.D. Kennedy, and T.H. Mullin

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Nanaimo, British Columbia V9R 5K6



August 1981

**Canadian Data Report of Fisheries  
and Aquatic Sciences No. 281**

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Canadian Data Report of Fisheries  
and Aquatic Sciences No. 281

August 1981

CANADIAN PACIFIC COAST ICHTHYOPLANKTON SURVEY, 1980. HYDROGRAPHY.

PART THREE. VERTICAL PROFILES OF TEMPERATURE,  
SALINITY, AND SIGMA-T BY STATION

by

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ABSTRACT

Mason, J. C.; O. D. Kennedy, and T. H. Mullin. 1981. Canadian Pacific Coast Ichthyoplankton Survey, 1980. Hydrography. Part Three. Vertical Profiles of Temperature, Salinity, and Sigma-t by Station. Can. Data Rep. Fish. Aquat. Sci. 281:114 p.

This report contains time-series graphs illustrating vertical profiling of temperature, salinity, and sigma-t at individual stations. It is one of three such reports concerning the physical-chemical data base collected on the survey. This survey involved four monthly cruises of some nine days duration conducted on the G. B. REED (January 15-22, February 13-20, March 12-20, and April 15-23, 1980).

The survey encompassed the entire length of the Canadian outer coast and also included Dixon Entrance, Hecate Strait, and Queen Charlotte Sound.

The physical-chemical data base was digitized and corrected, then sent to the Marine Environmental Data Service (Ottawa) for computer processing, including interpolation and horizontal contouring of temperature, salinity, and sigma-t. The present report (Part Three) is a compilation of vertical profiles of temperature, salinity, and sigma-t for individual stations, presented in that sequence of order, from cruise one to cruise four.

Key words: Hydrography, Canadian Pacific outer shelf, Dixon Entrance, Hecate Strait, Queen Charlotte Sound.

RÉSUMÉ

Mason, J. C., O. D. Kennedy, and T. H. Mullin. 1981. Canadian Pacific Coast Ichthyoplankton Survey, 1980. Hydrography. Part Three. Vertical Profiles of Temperature, Salinity, and Sigma-t by station. Can. Data Rep. Fish. Aquat. Sci. 281: 114 p.

Le présent rapport contient une série chronologique de graphiques montrant le profil vertical de la température, de la salinité et de sigma-t à certaines stations. Il s'agit de l'un des trois rapports concernant la base de données physico-chimiques constituée lors des levés. Les levés ont été effectués depuis le G. B. REED lors de quatre expéditions mensuelles d'une durée de neuf jours environ (du 15 au janvier, du 13 au 20 février, du 12 au 20 mars et du 15 au 23 avril 1980).

Les levés portaient sur toute la longueur de la côte canadienne la plus à l'ouest ainsi que sur l'entrée Dixon, le détroit d'Hécate et le bassin Reine-Charlotte.

La base de données physico-chimiques a été convertie en données numériques, corrigée, puis envoyée au Service des données sur le milieu marin à Ottawa pour traitement à l'ordinateur, ce qui comprenait l'interpolation et le tracé des courbes horizontales de température, de salinité et de sigma-t. Le présent rapport (troisième partie) est une compilation des profils verticaux de température, de salinité et de sigma-t pour chaque station, présentée chronologiquement, depuis la première jusqu'à la quatrième expédition.

Mots clés: Hydrographie, plateau continental du Pacifique le plus à l'ouest, entrée Dixon, détroit d'Hécate, bassin Reine-Charlotte.

## ORIENTATION AND METHODOLOGY

The Pacific Coast Ichthyoplankton Survey was conducted by staff of the Groundfish Program at the Pacific Biological Station, Nanaimo (Resource Services Branch). The survey involved four monthly cruises of some nine days duration each made on the G. B. REED (January 15-22, February 13-20, March 12-20, and April 15-23, 1980).

The survey encompassed the entire length of the Canadian outer coast and also included Dixon Entrance, Hecate Strait, and Queen Charlotte Sound. A total of 77 stations on 18 transect lines were occupied routinely (Fig. 1). The stations are listed by number, location (latitude and longitude), and depth in Table 1.

On station, following oblique tows for ichthyoplankton, an STD cast (Bisset Berman) was made, supplemented irregularly by XBT casts, and by Nansen casts, with salinometry done ashore.

The physical-chemical data base was digitized and corrected, then sent to the Marine Environmental Data Service (Ottawa) for computer processing, including interpolation and horizontal contouring of temperature, salinity, and sigma-t. The present report (Part Three) is a compilation of vertical profiles of temperature, salinity, and sigma-t for individual stations, presented in that sequence of order. The corrected data base is available from MEDS as Accession No. A8019801.

## ACKNOWLEDGEMENTS

The assistance of Wolfgang Carolsfeld and Antan Phillips in data collection is gratefully acknowledged, as is the cooperation and support of the Marine Resources Branch (Provincial Ministry of Environment) in providing their salaries. The Master and crew of the G. B. REED are duly thanked for their enthusiastic and efficient support at sea. Finally, we are particularly grateful for the cooperation and support of John Garrett and his staff at the Institute of Ocean Sciences, Sidney, British Columbia who provided the Bissett Berman STD equipment and technical assistance in the installation and calibration of same.

TABLE 1. Tracklines and their associated stations, station locations, and station depths for the West Coast Ichthyoplankton Survey, January through April, 1980.

Trackline no.	Station no.	Latitude	Longitude to nearest min.	Station depth (m)
1	1	48° 30'	124° 23'	91
	2		124° 33'	182
	3		124° 52'	182
	4		125° 18'	182
	5		125° 43'	100
	6		126° 05'	182
	7		126° 24'	910
2	8	49° 00'	126° 56'	910
	9		126° 33'	182
	10		126° 14'	100
	11		126° 04'	55
3	12	49° 30'	126° 44'	55
	13		126° 54'	100
	14		127° 14'	182
	15		127° 34'	910
4	16	50° 00'	127° 59'	910
	17		127° 52'	100
	18		127° 43'	182
	19		127° 35'	55
5	20	50° 30'	128° 14'	55
	21		128° 19'	100
	22		128° 26'	182
	23		128° 40'	910
6	24	51° 00'	129° 48'	910
	25		129° 21'	182
	26		128° 56'	76
	27		128° 31'	100
	28		128° 06'	100
7	29	51° 30'	128° 31'	164
	30		128° 56'	100
	31		129° 21'	100
	32		129° 51'	182
	33		130° 24'	910



TABLE 1 (contd).

Trackline no.	Station no.	Latitude	Longitude to nearest min.	Station depth (m)
8	34	52° 00'	131° 09'	100
	35		131° 12'	182
	36		131° 23'	910
9	37	52° 30'	131° 56'	910
	38		131° 47'	182
10	39	53° 00'	132° 26'	182
	40		132° 40'	910
	41		132° 53'	910
11	42	53° 20'	133° 19'	910
	43b		133° 09'	637
	43a		133° 05'	218
	43		133° 01'	182
	44		132° 57'	100
12	45	54° 00'	133° 13'	55
	46		133° 27'	64
	47		133° 31'	182
	48		133° 48'	910
13	49	54° 30'	134° 06'	910
	50		133° 49'	182
	51		133° 22'	364
	52		132° 55'	365
	53		132° 27'	364
	54		132° 00'	246
	55		131° 34'	282
	56		131° 07'	146
14	57	54° 00'	131° 25'	18
	58		131° 08'	55
	59		130° 50'	100
15	60	53° 30'	130° 42'	100
	61		131° 05'	55
	62		131° 02'	22
16	63	53° 00'	131° 06'	55
	64		130° 40'	100
	65		130° 13'	228
	66		129° 47'	55
17	67	52° 30'	129° 48'	182
	68		130° 13'	273
	69		130° 40'	100
	70		131° 07'	55

TABLE 1 (contd).

Trackline no.	Station no.	Latitude	Longitude to nearest min.	Station depth (m)
18	71	52° 00'	130° 41'	228
	72		130° 14'	100
	73		129° 48'	100
	74		129° 21'	182
	75		128° 56'	100

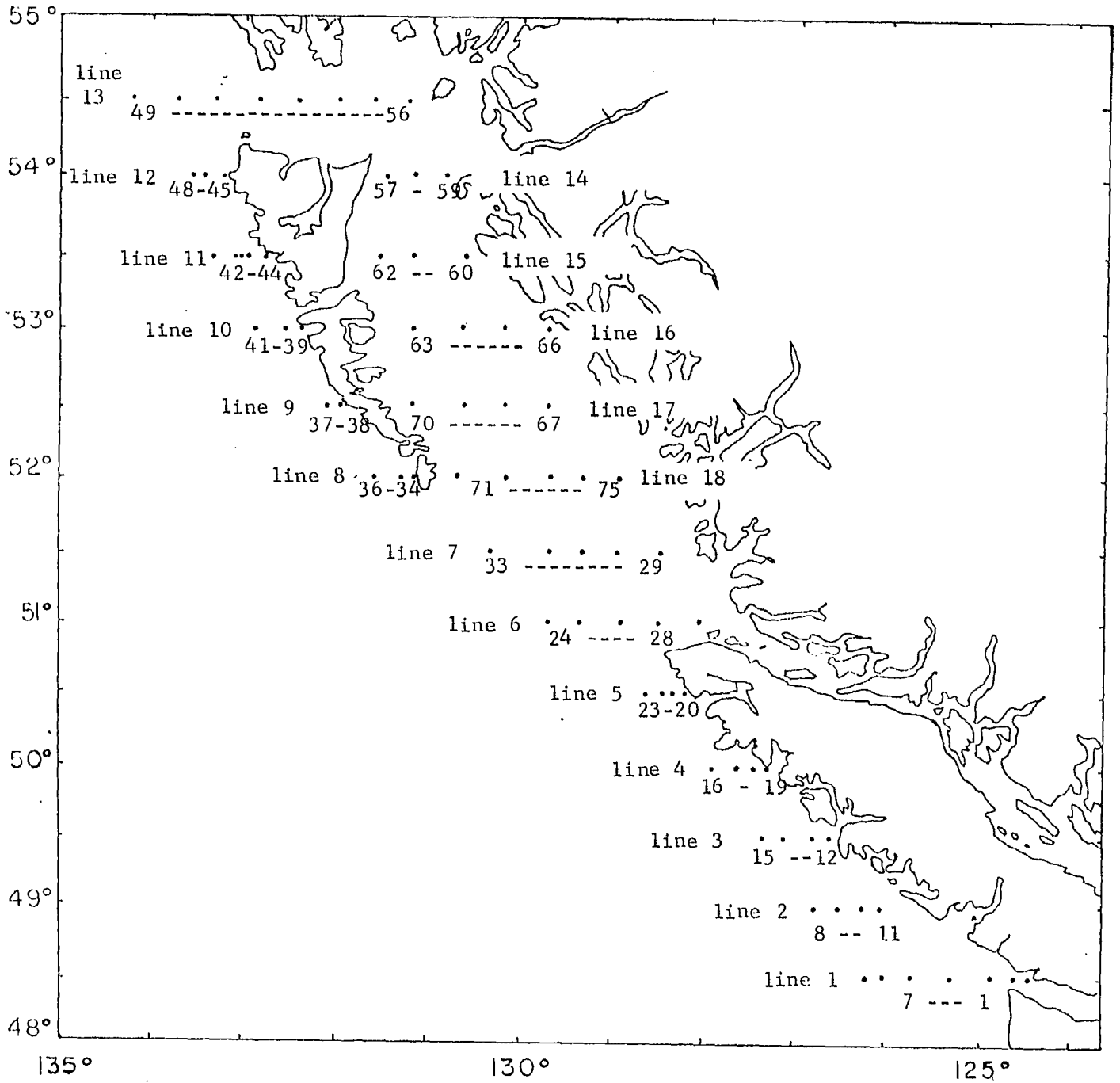
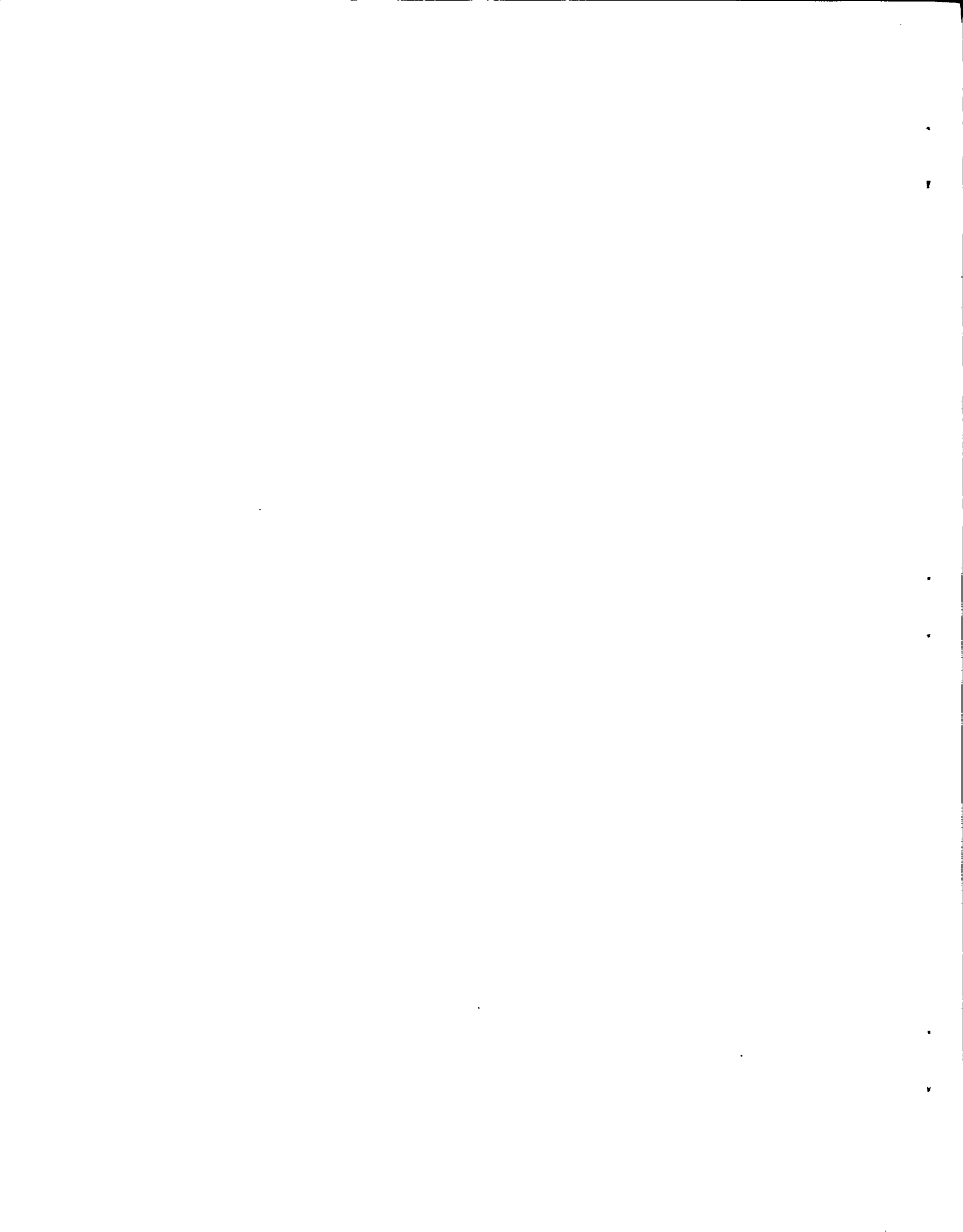
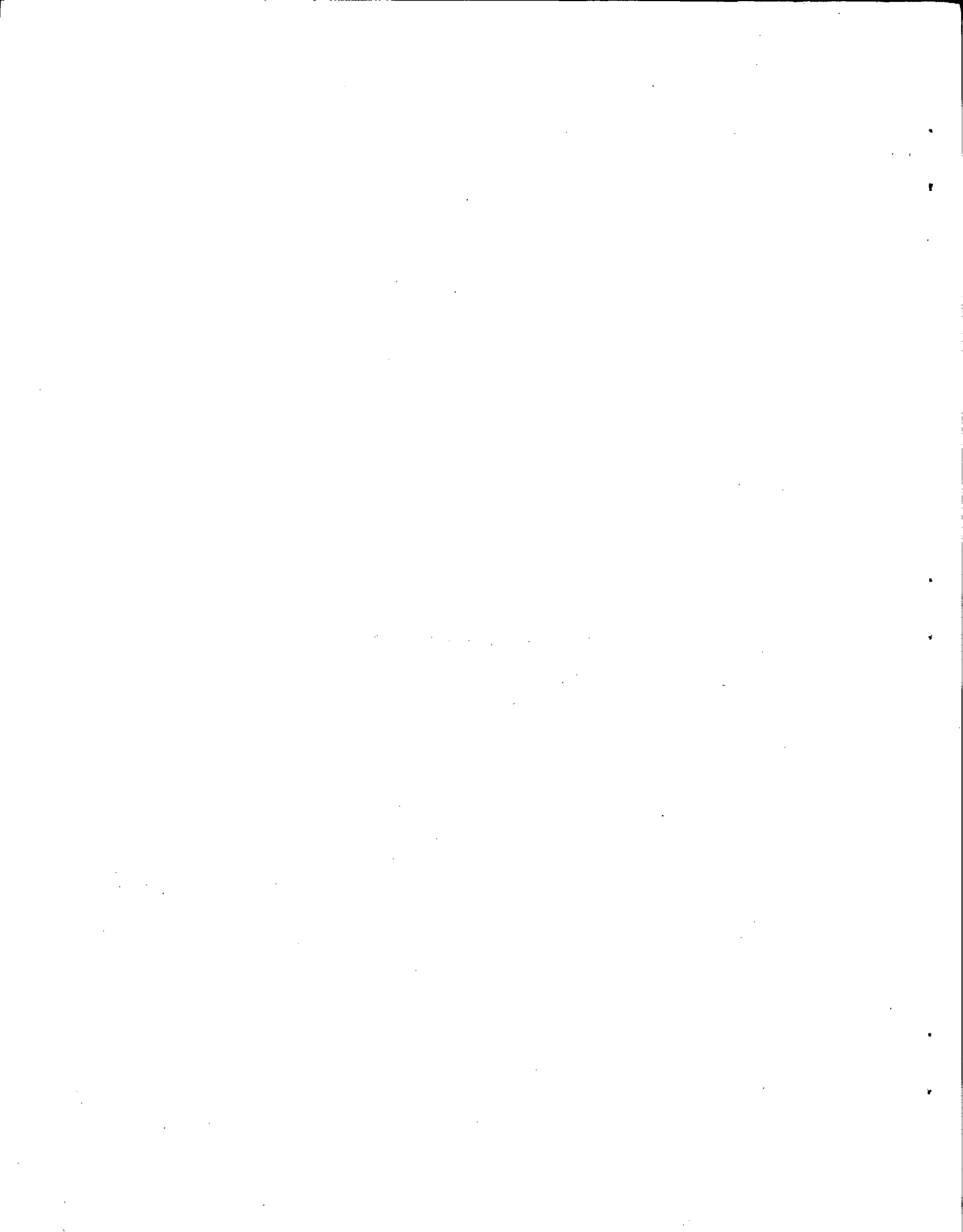


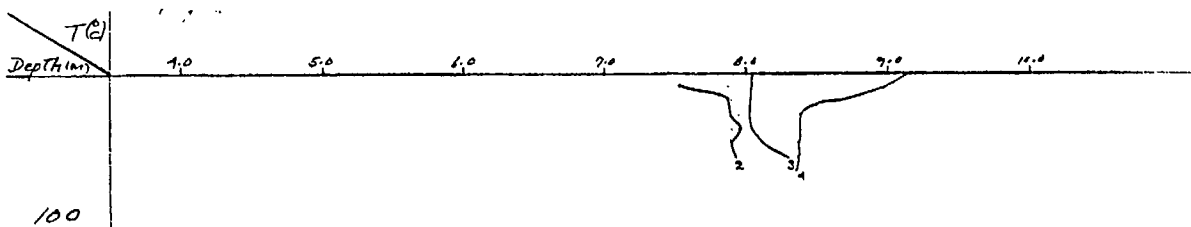
FIGURE 1. Tracklines and associated stations in numbered sampling sequence for the West Coast Ichthyoplankton Survey, January through April, 1980.



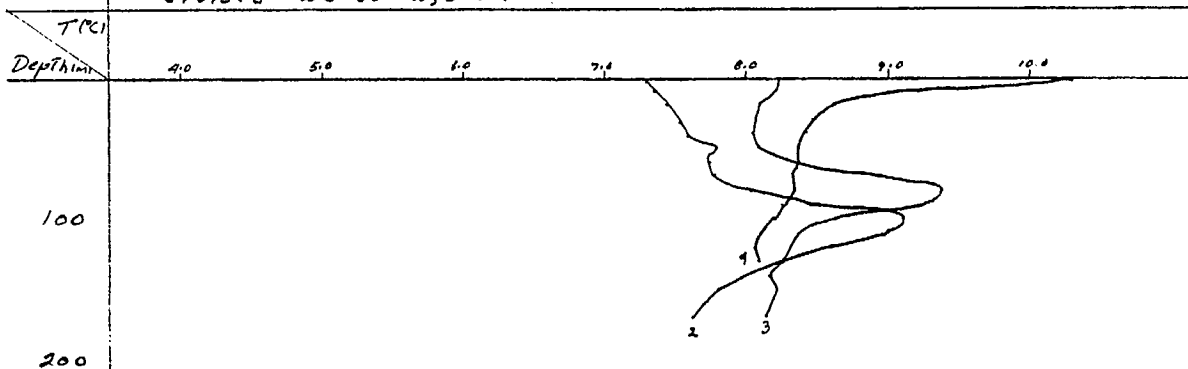
WEST COAST OF VANCOUVER ISLAND

Transect Lines 1-5  
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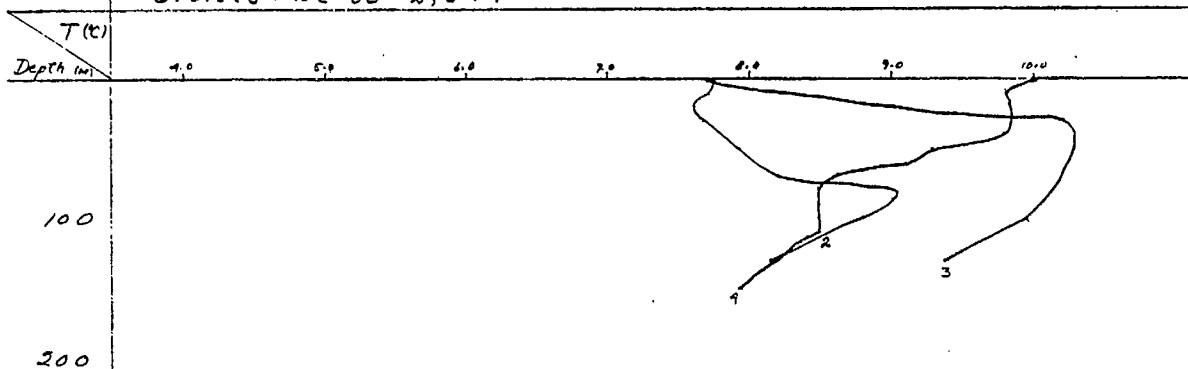




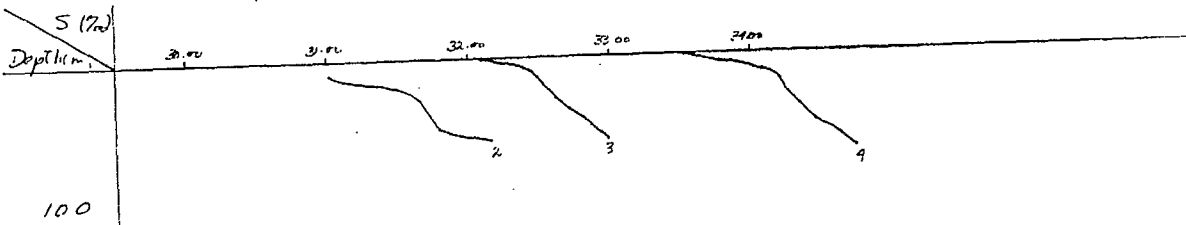
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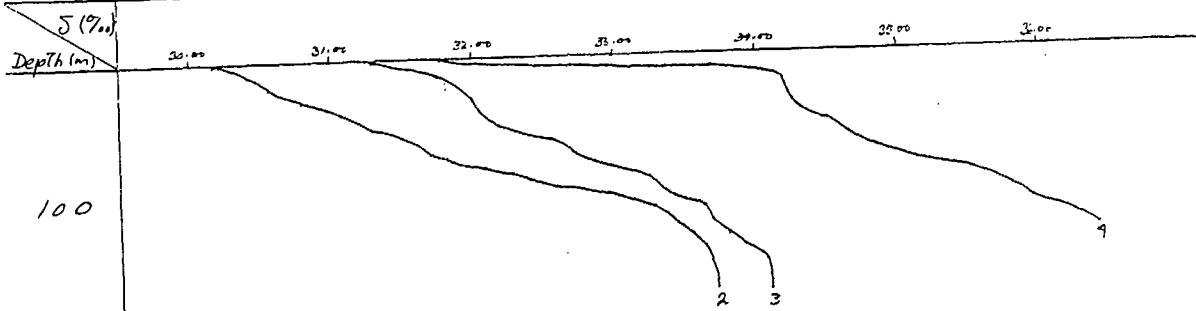
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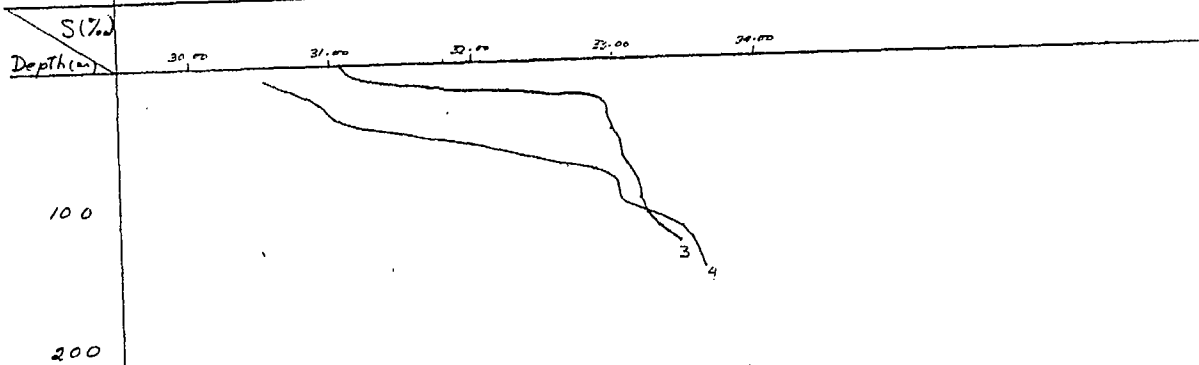
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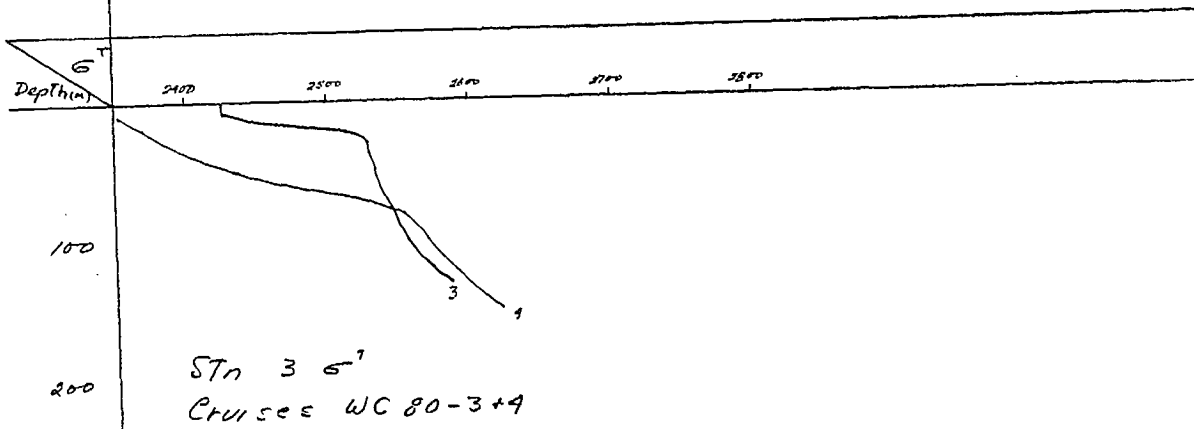
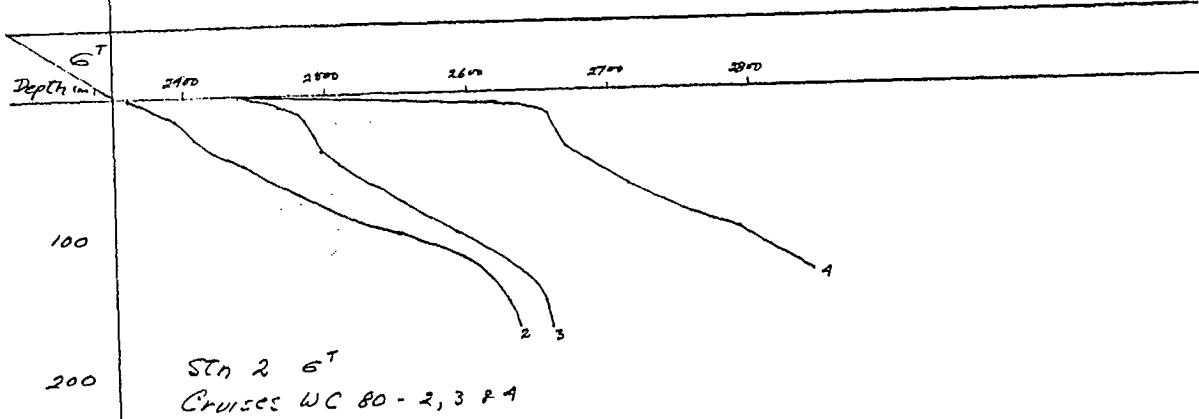
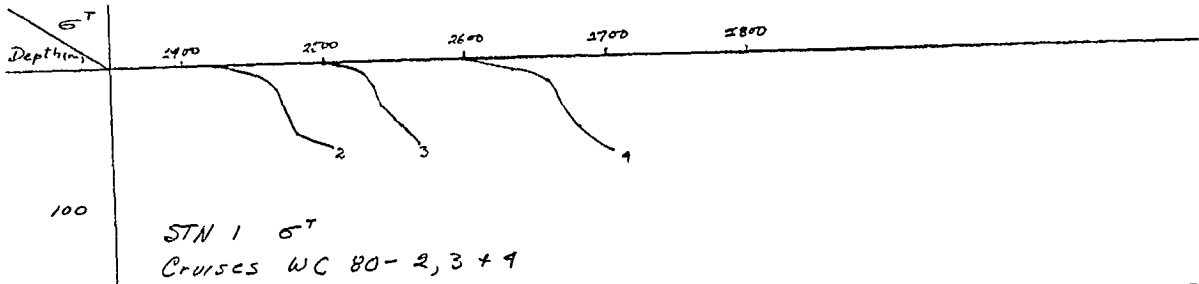


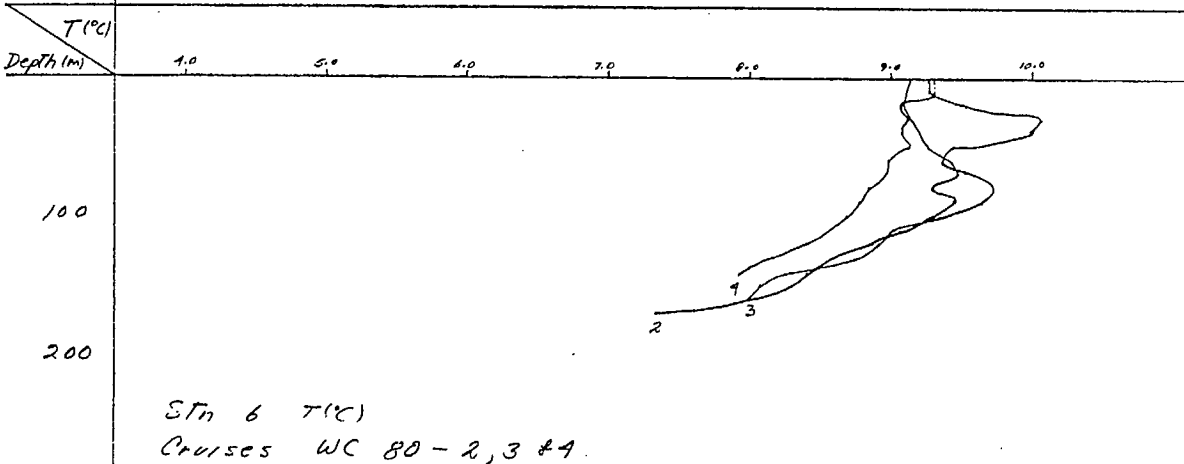
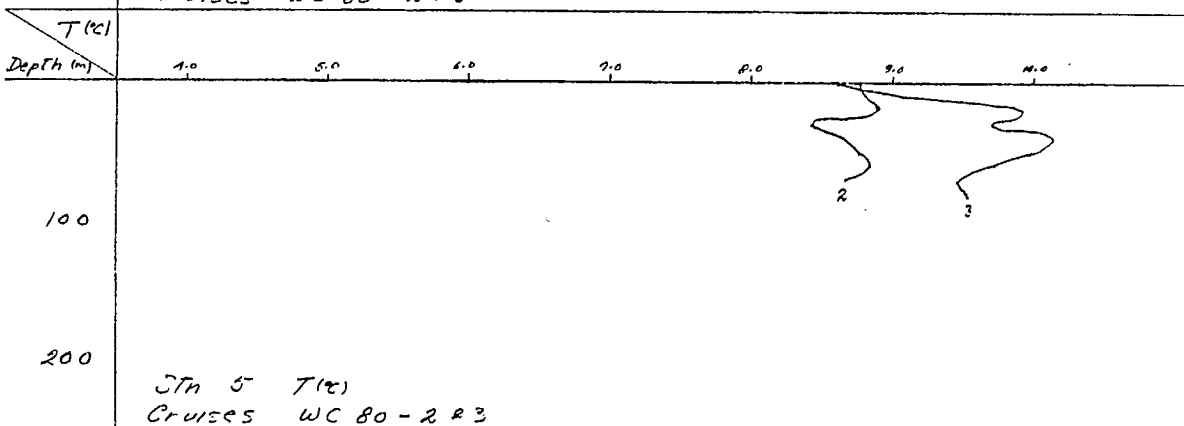
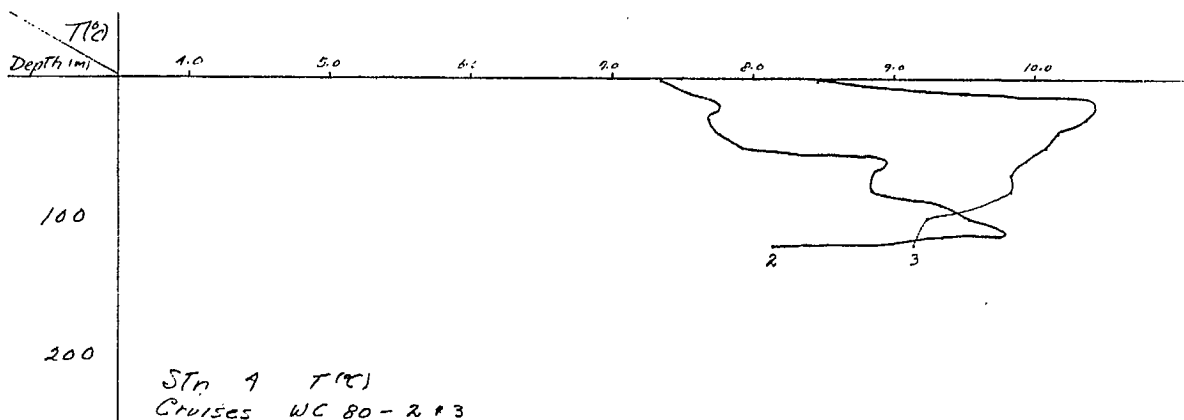
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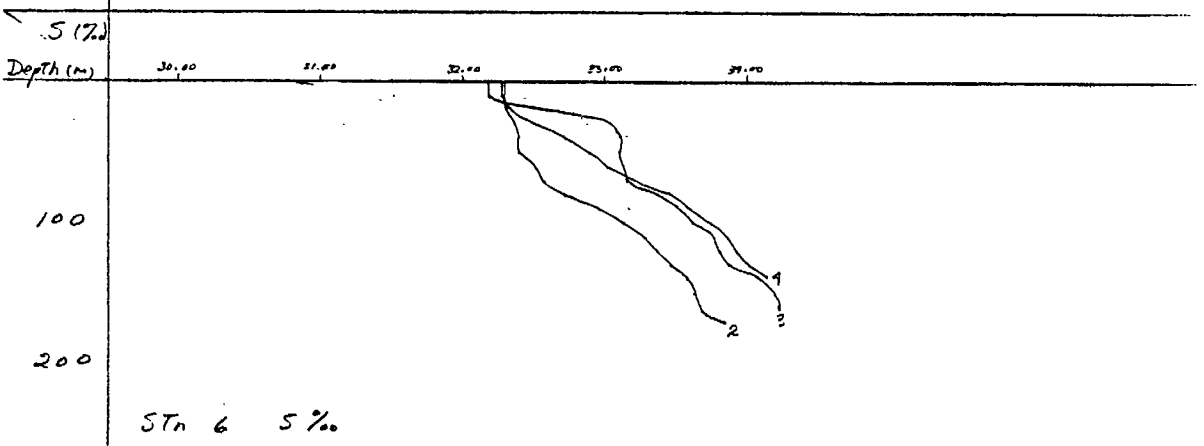
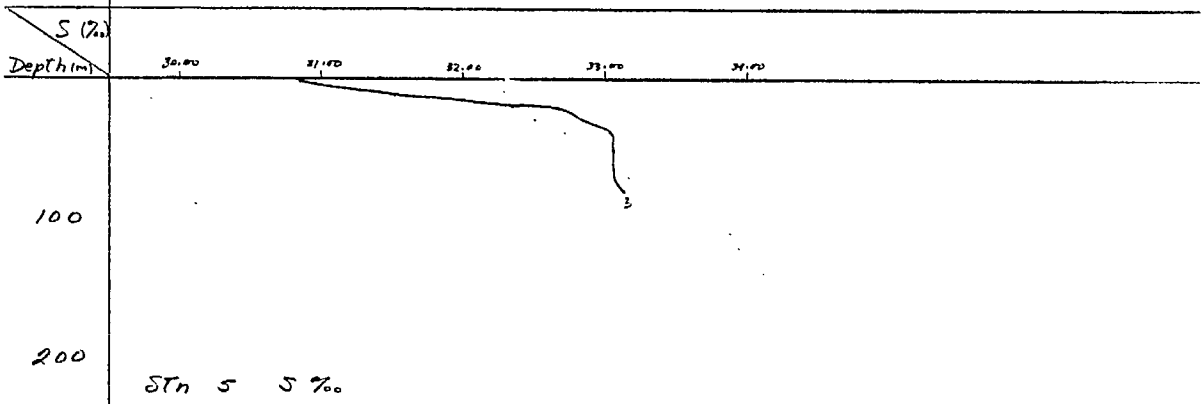
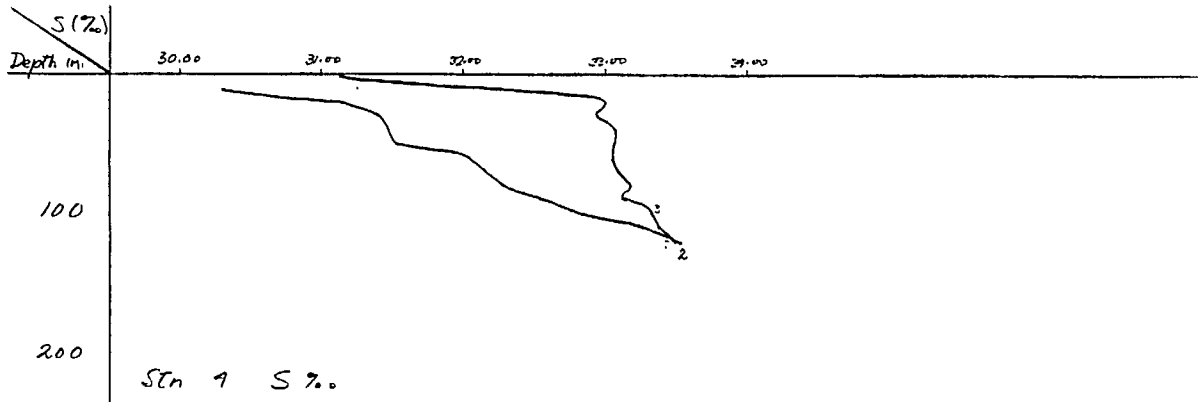


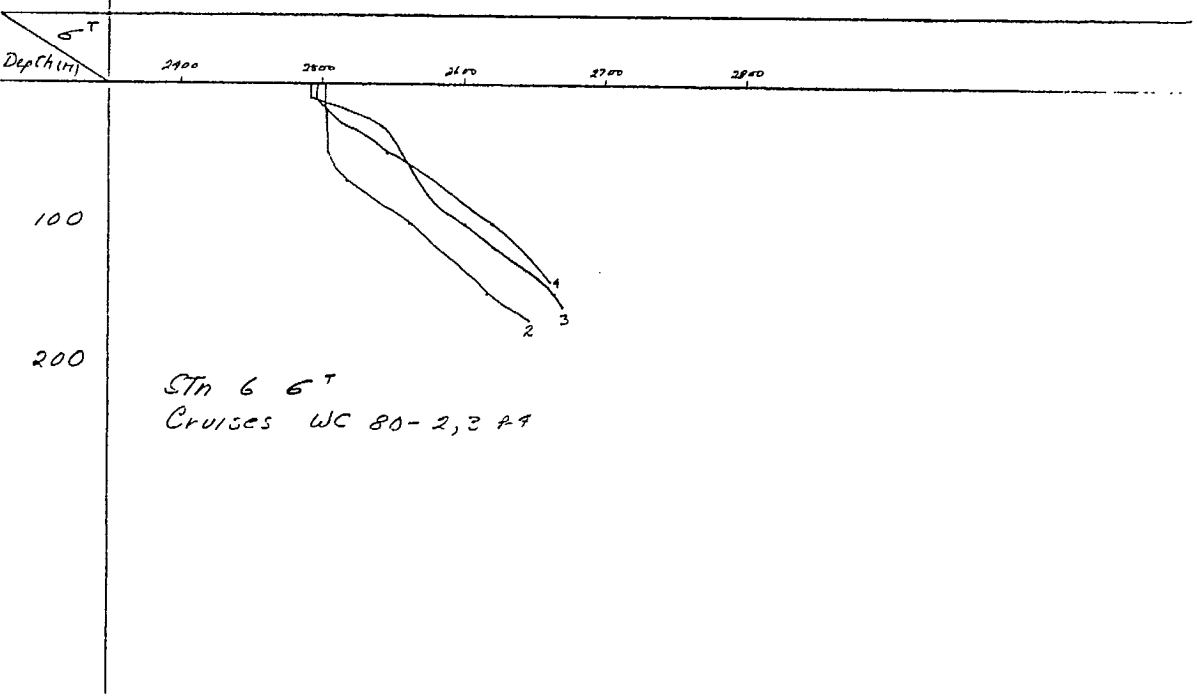
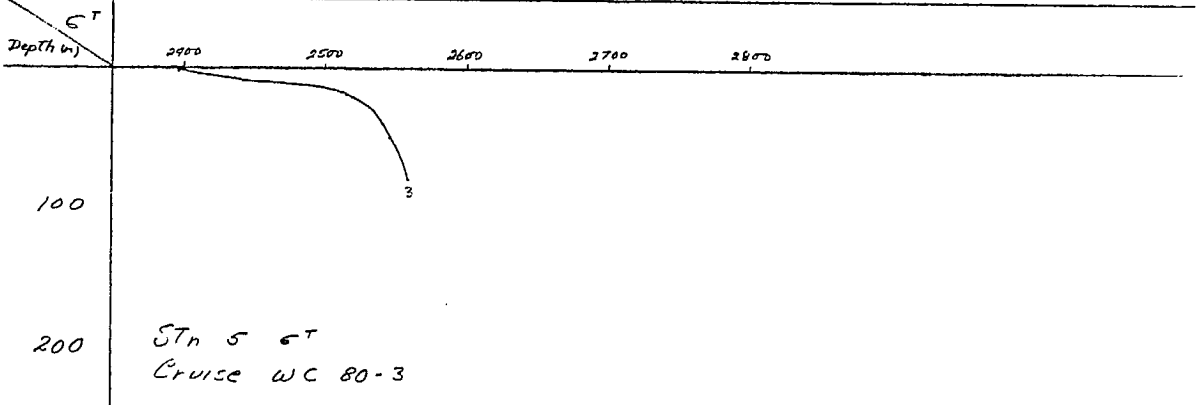
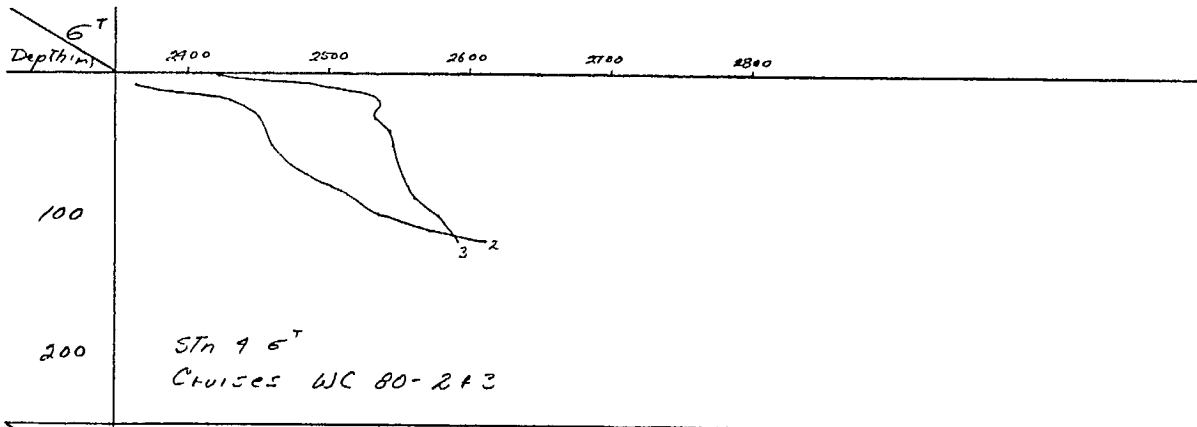
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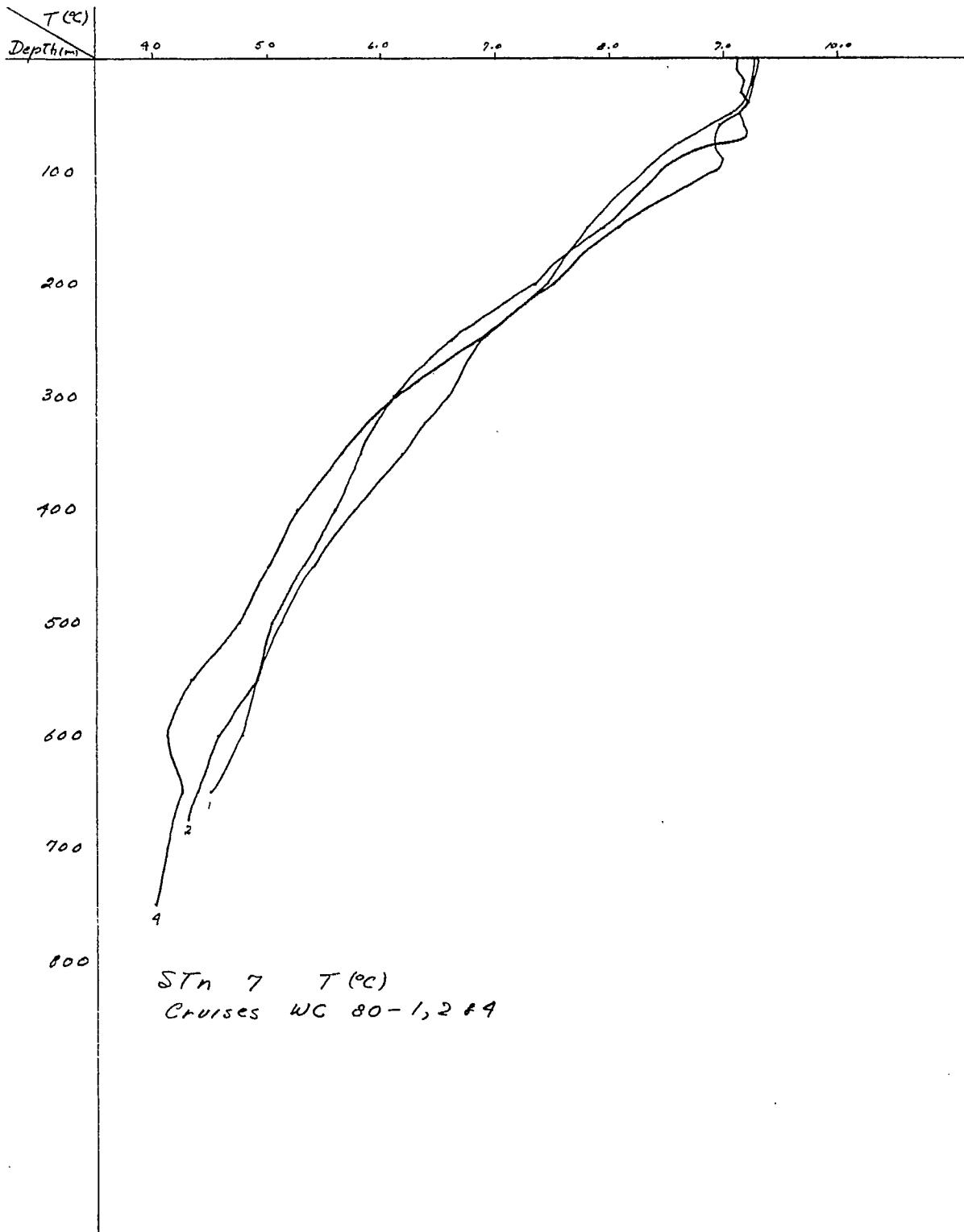


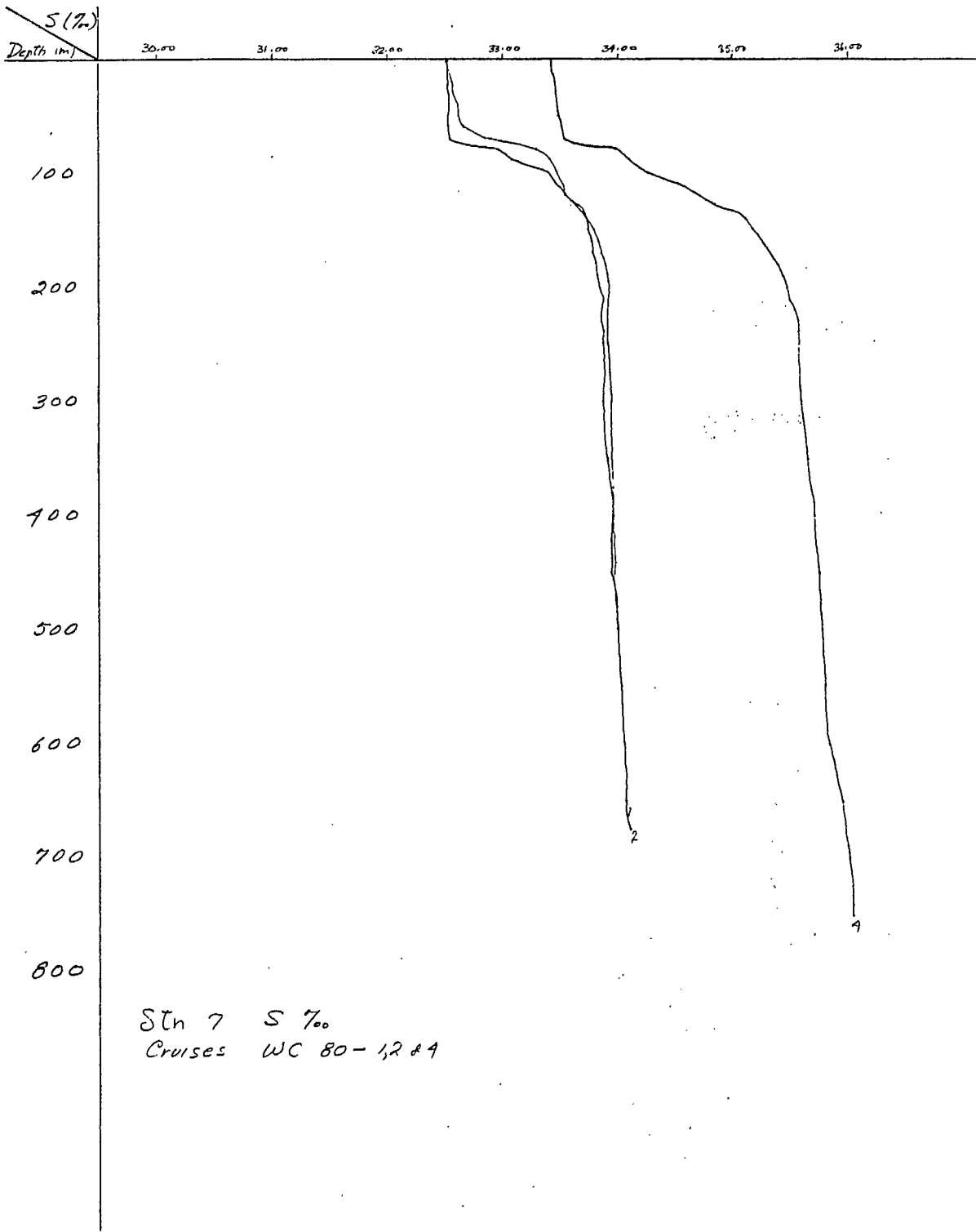




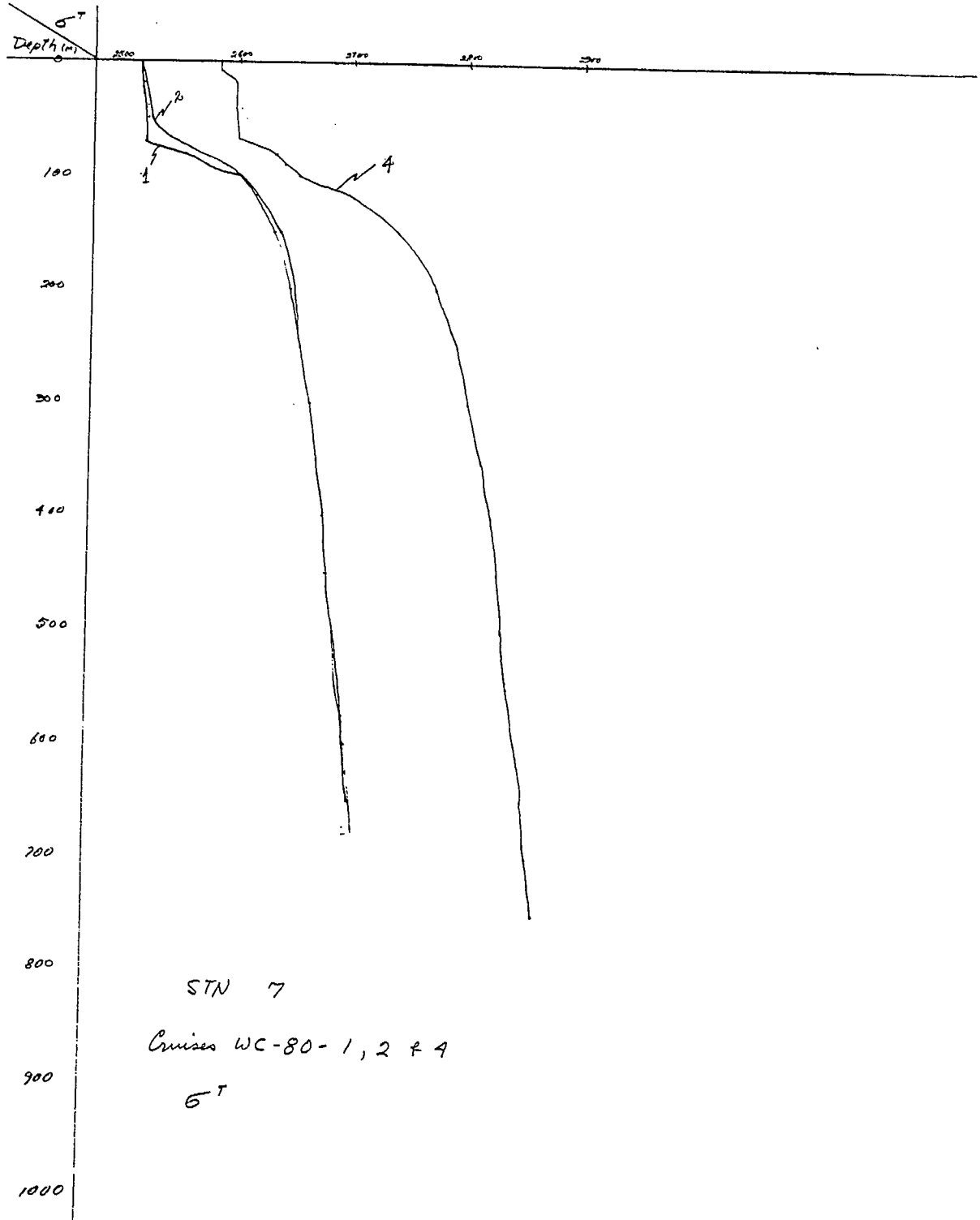


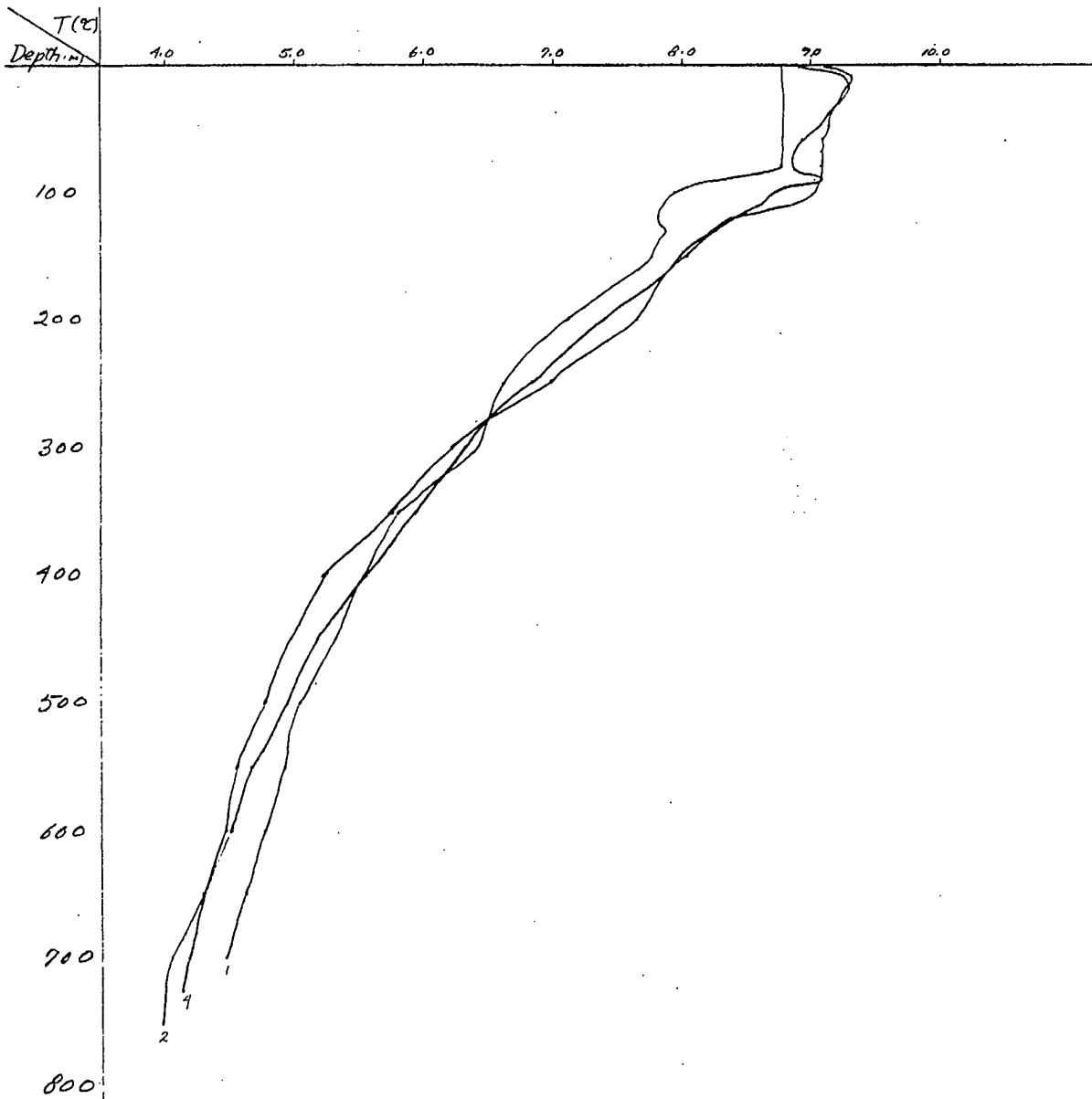






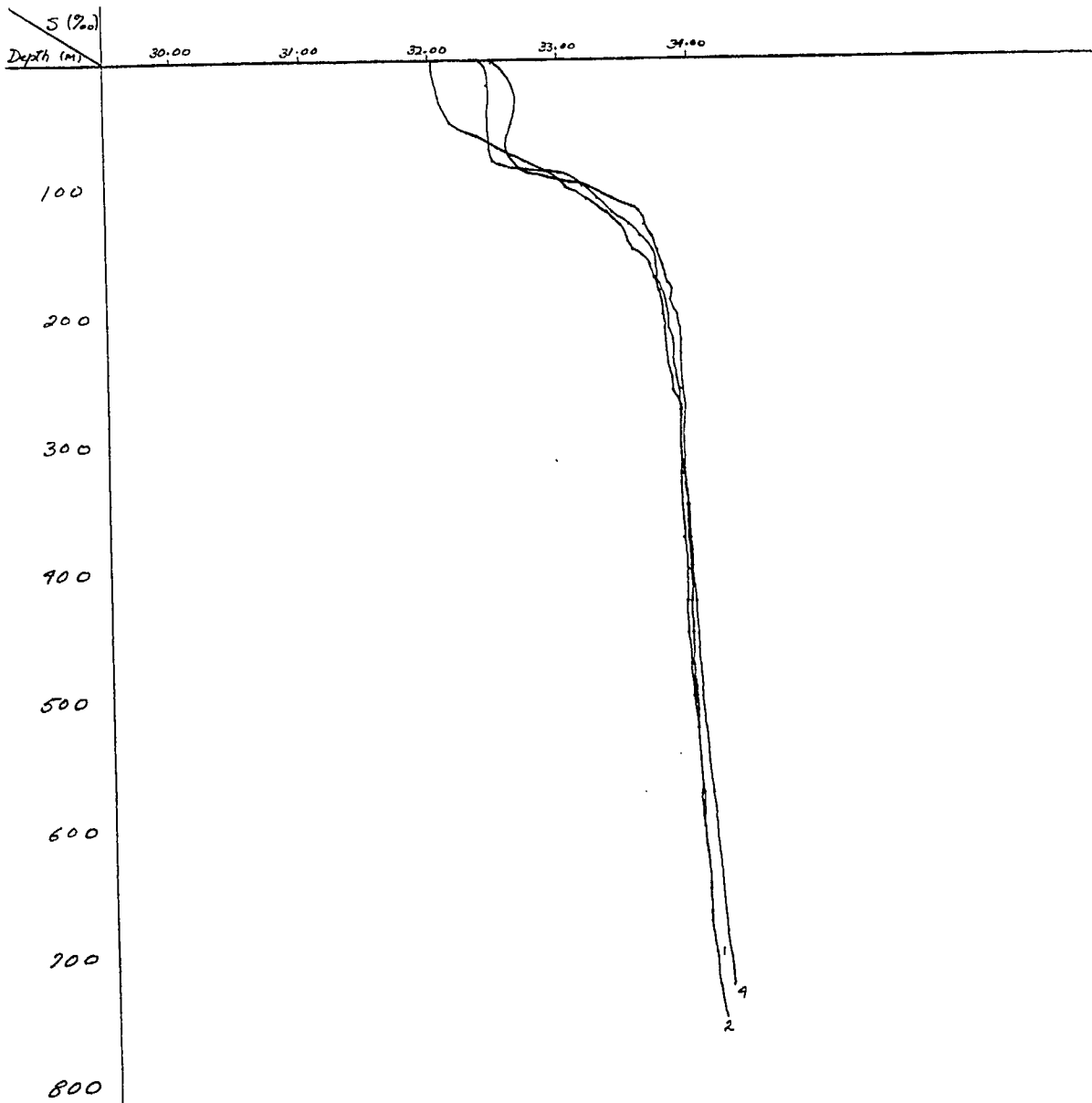
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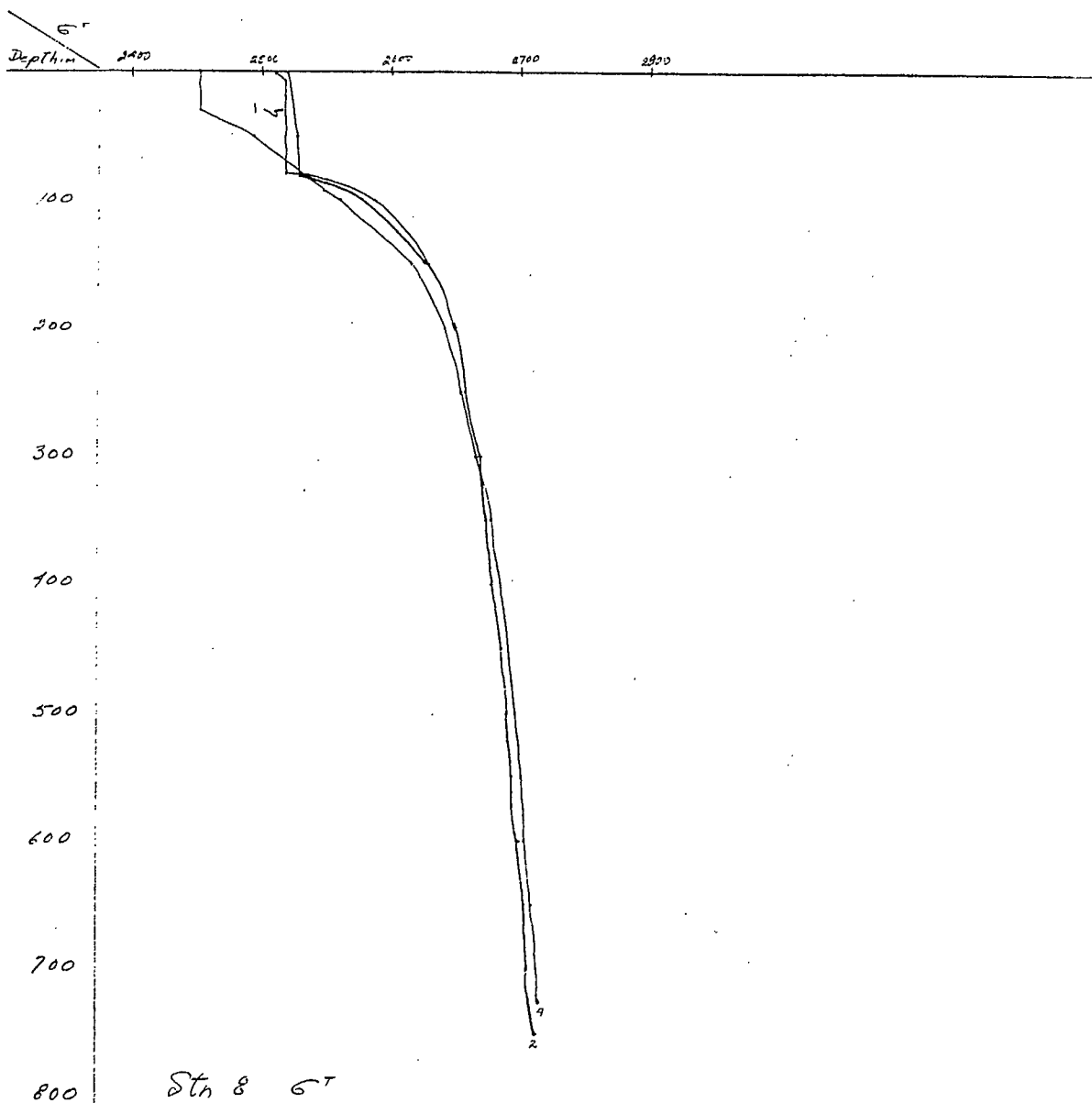


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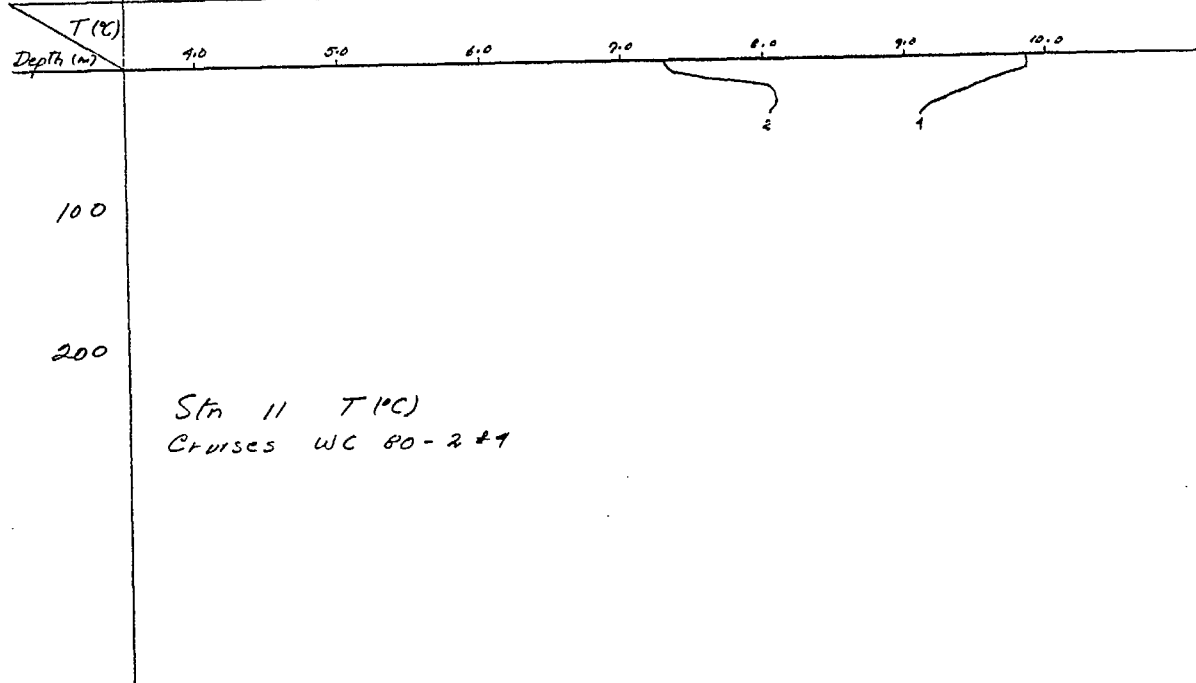
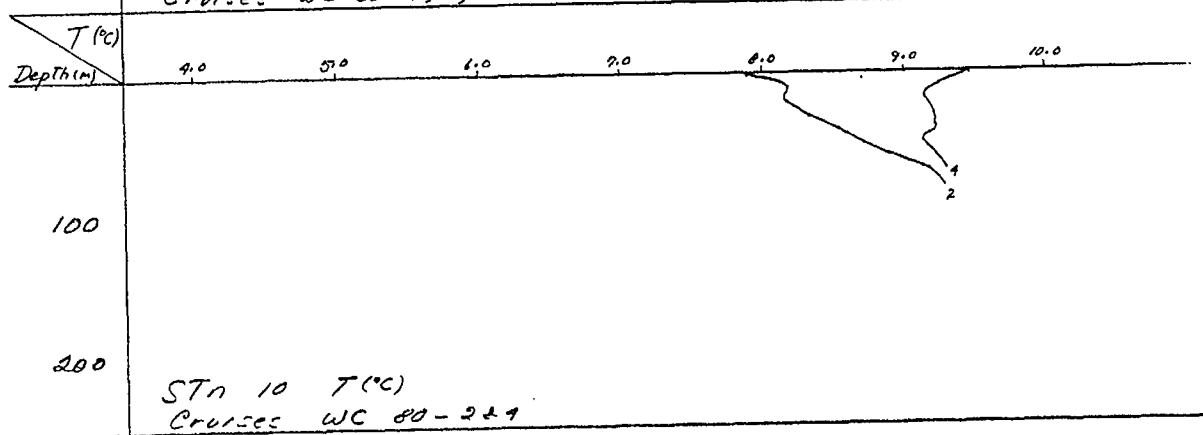
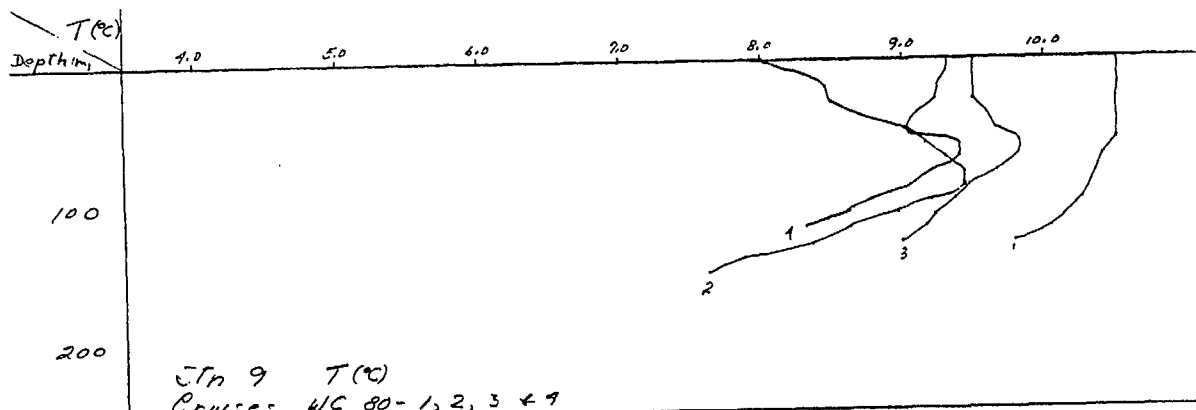


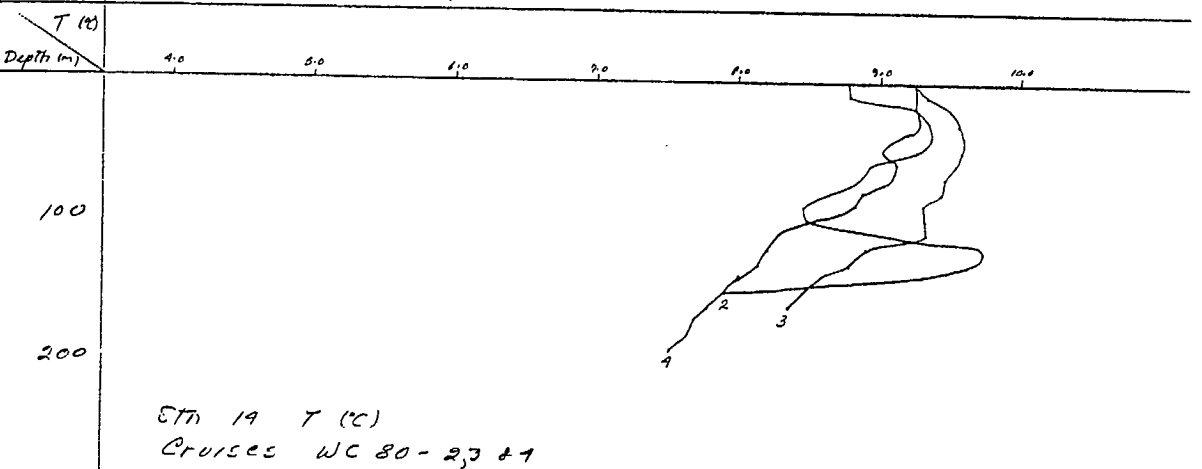
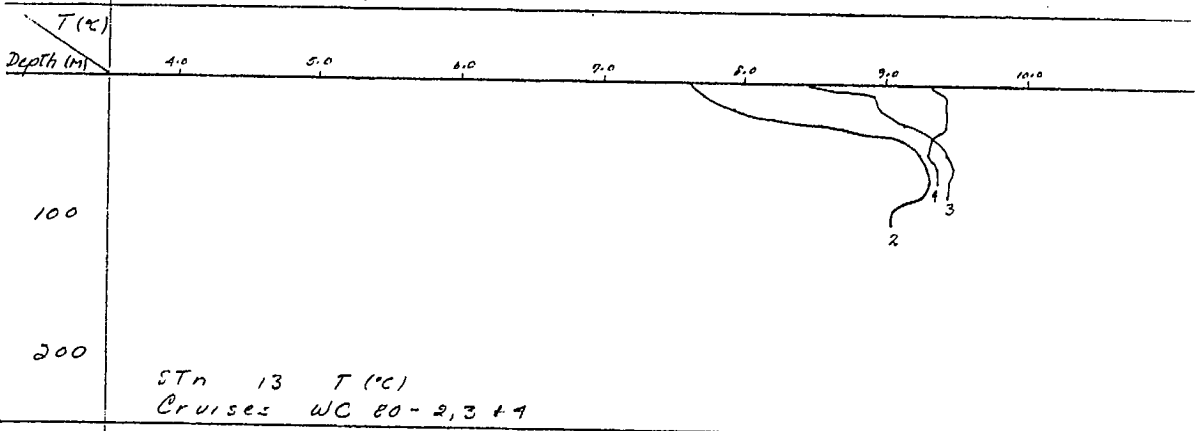
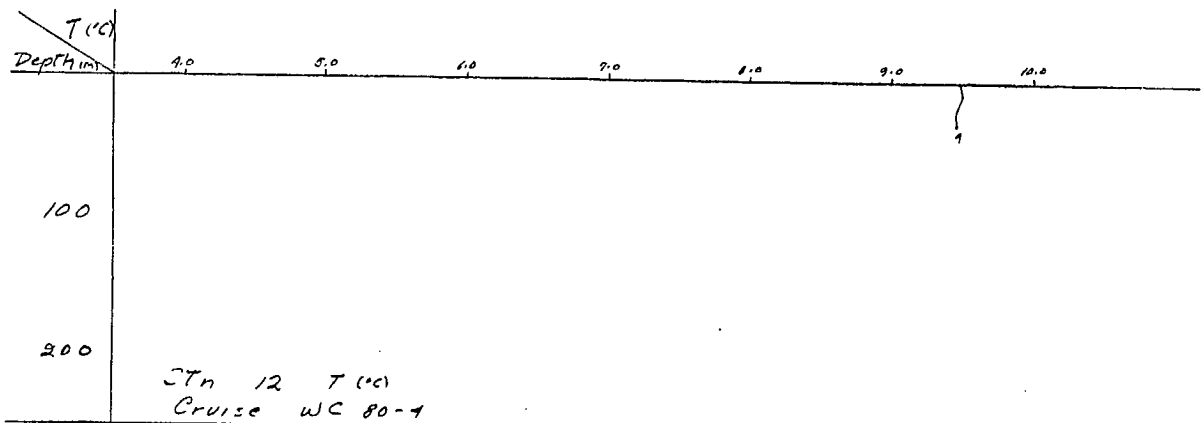
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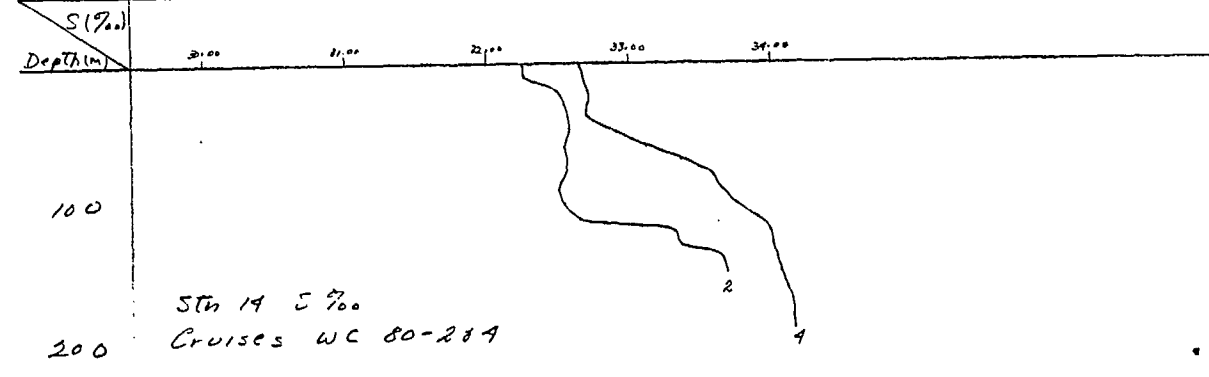
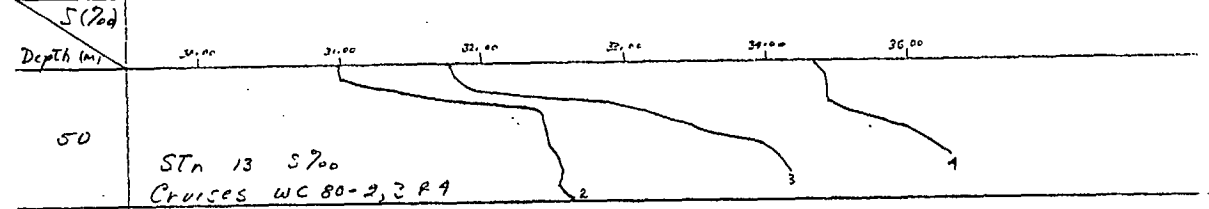
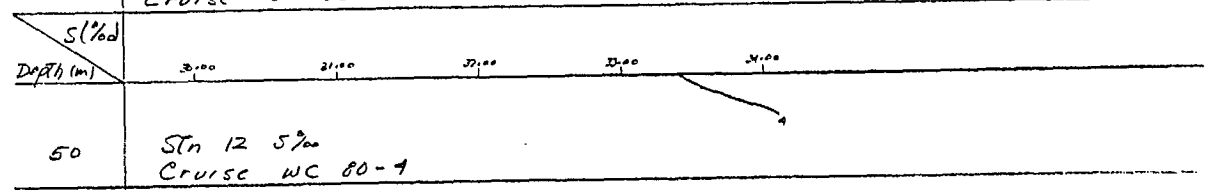
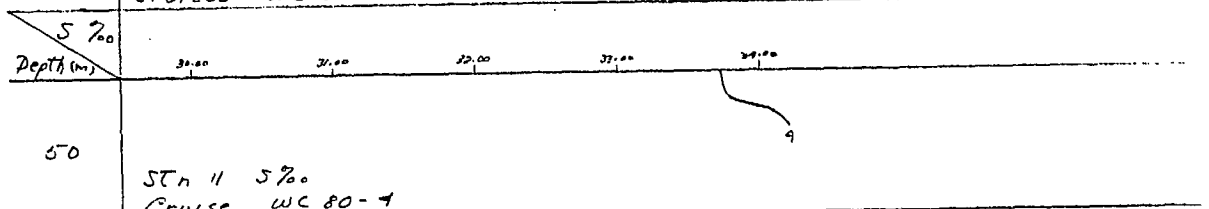
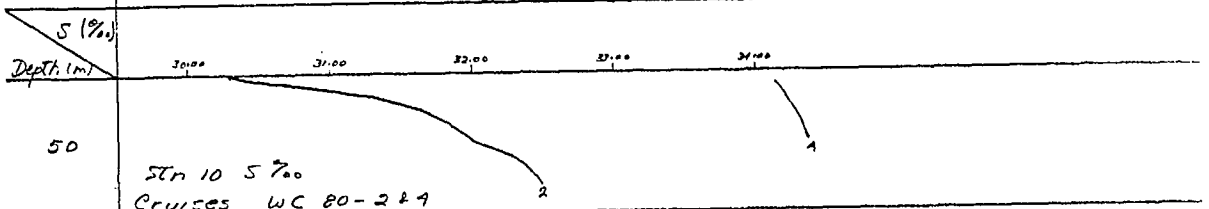
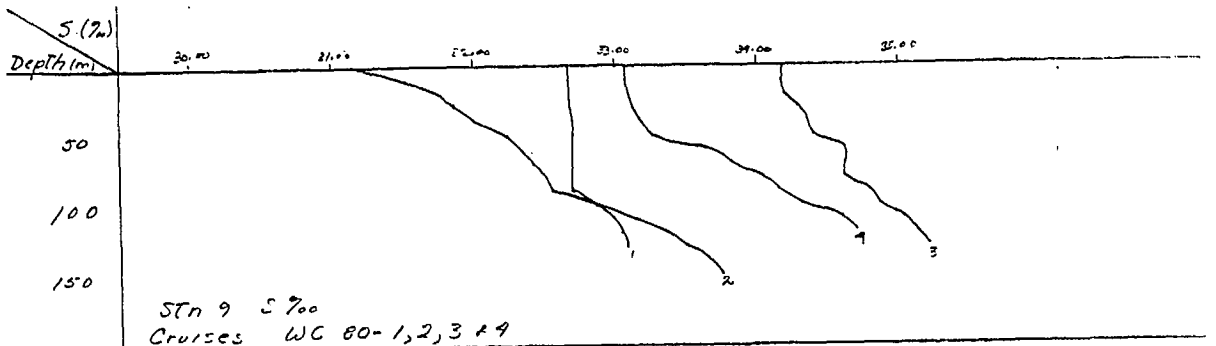


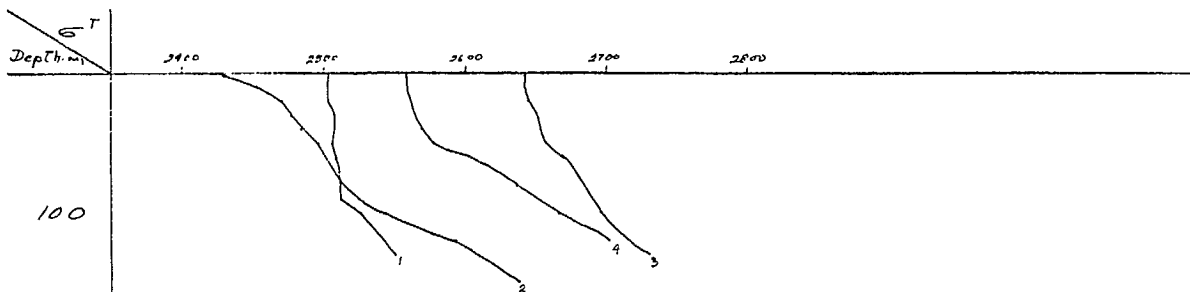
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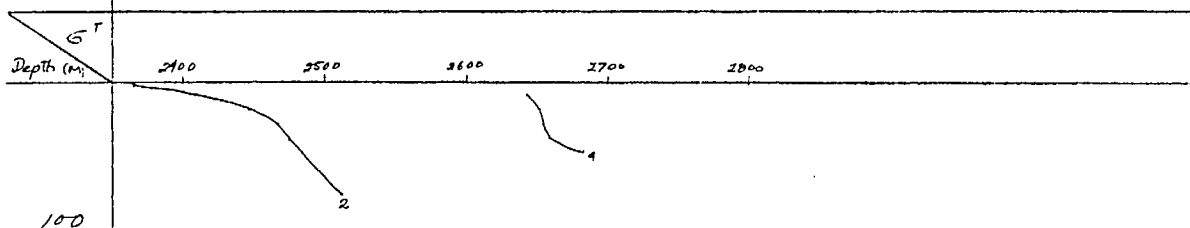




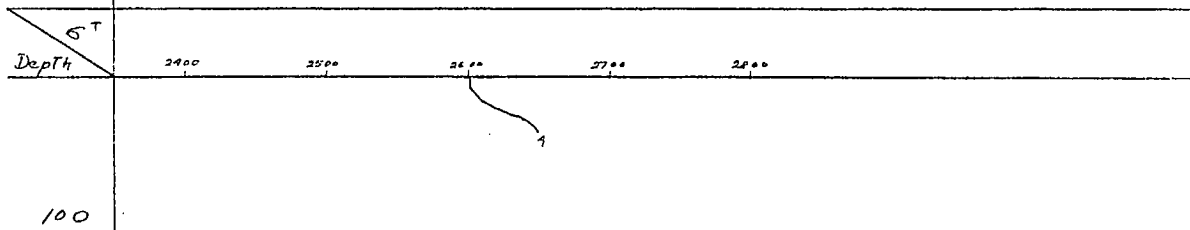




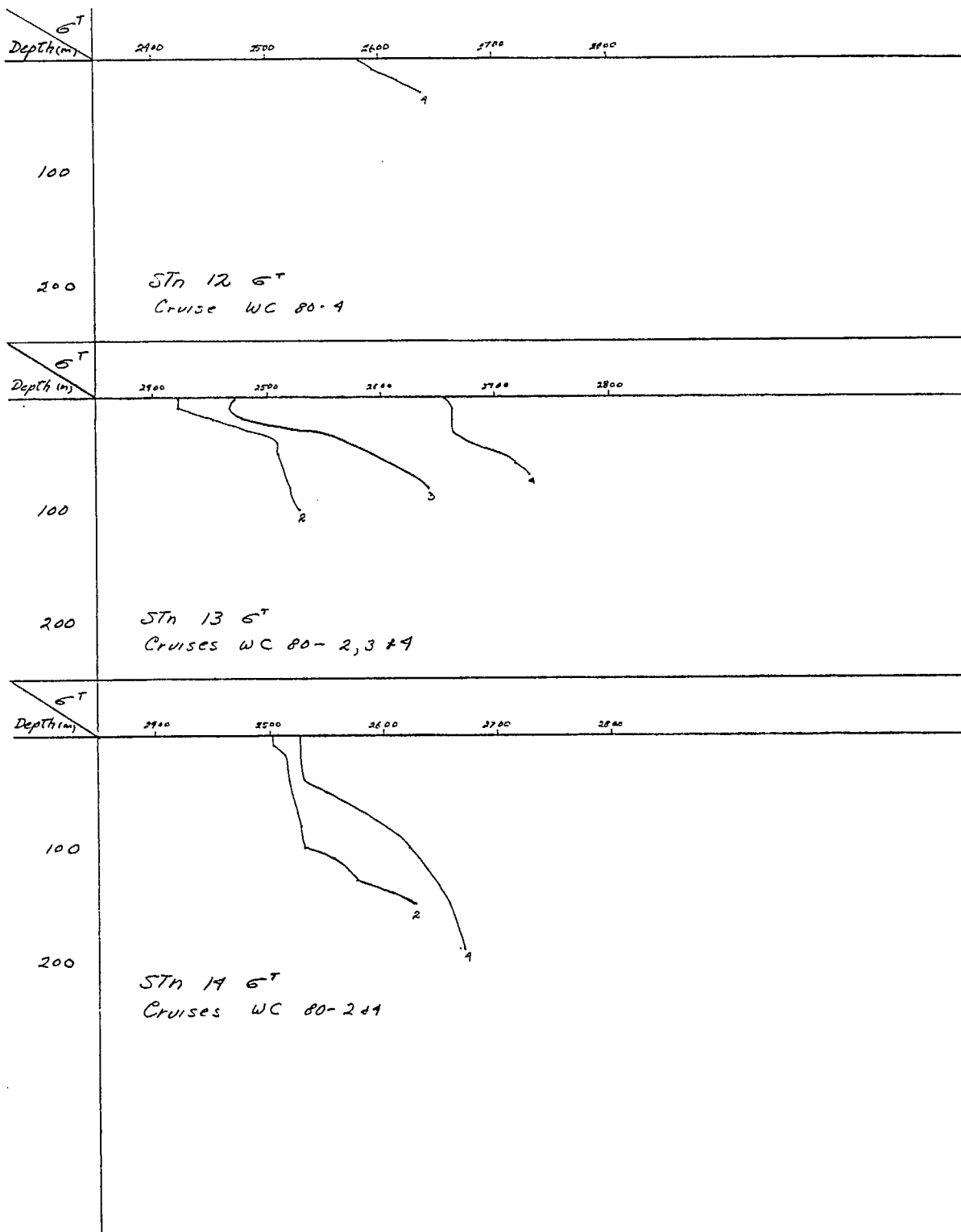
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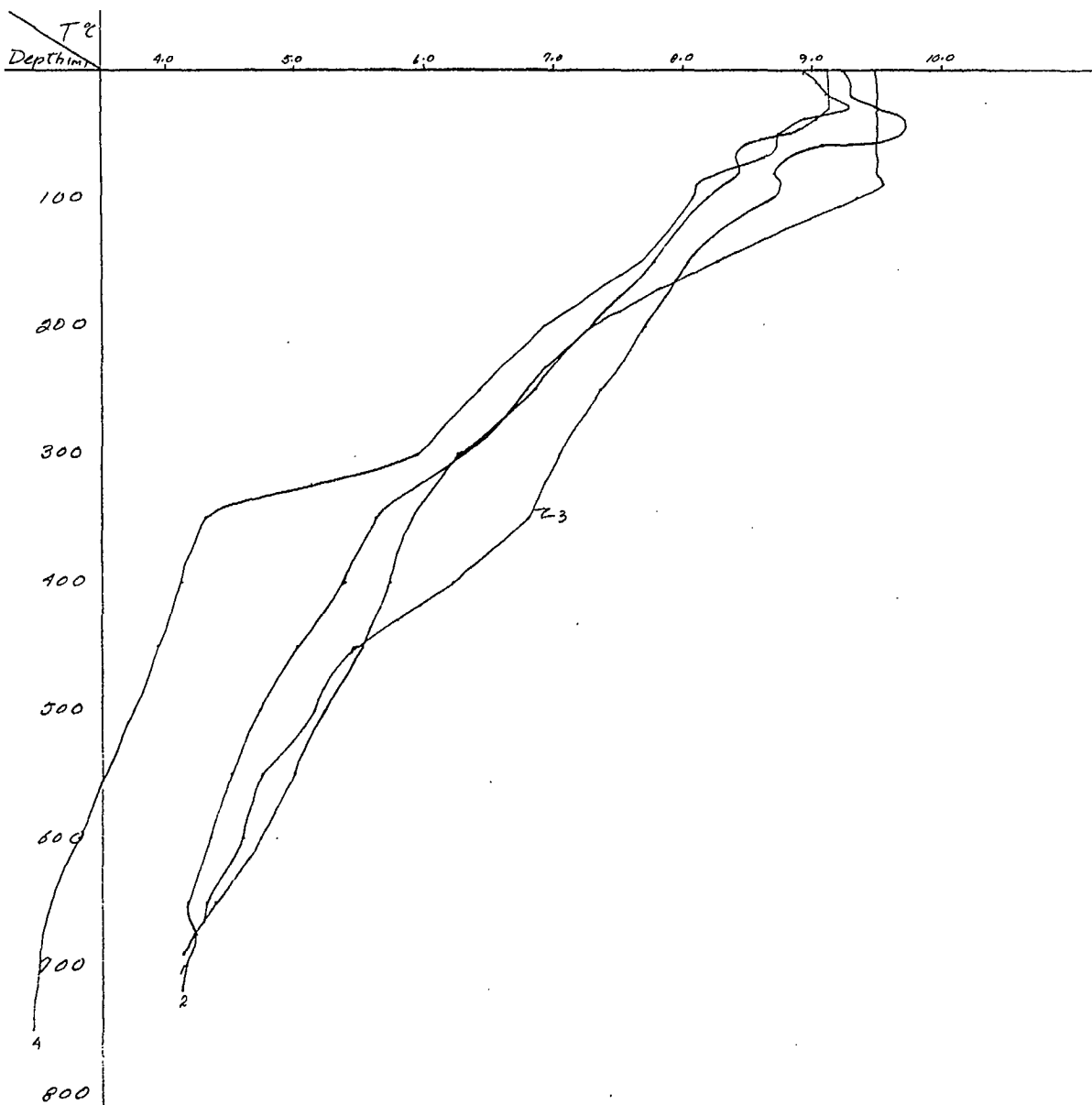


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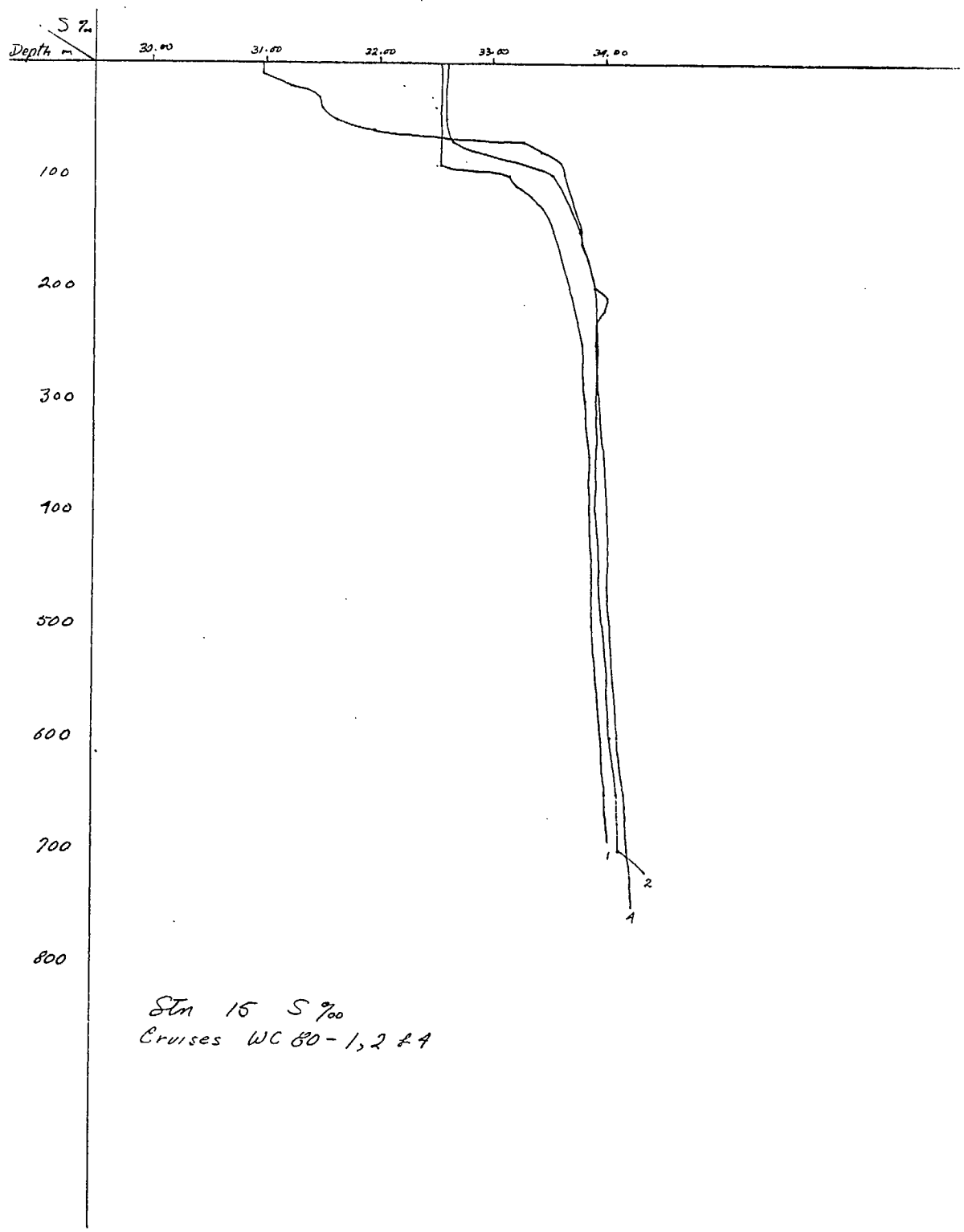
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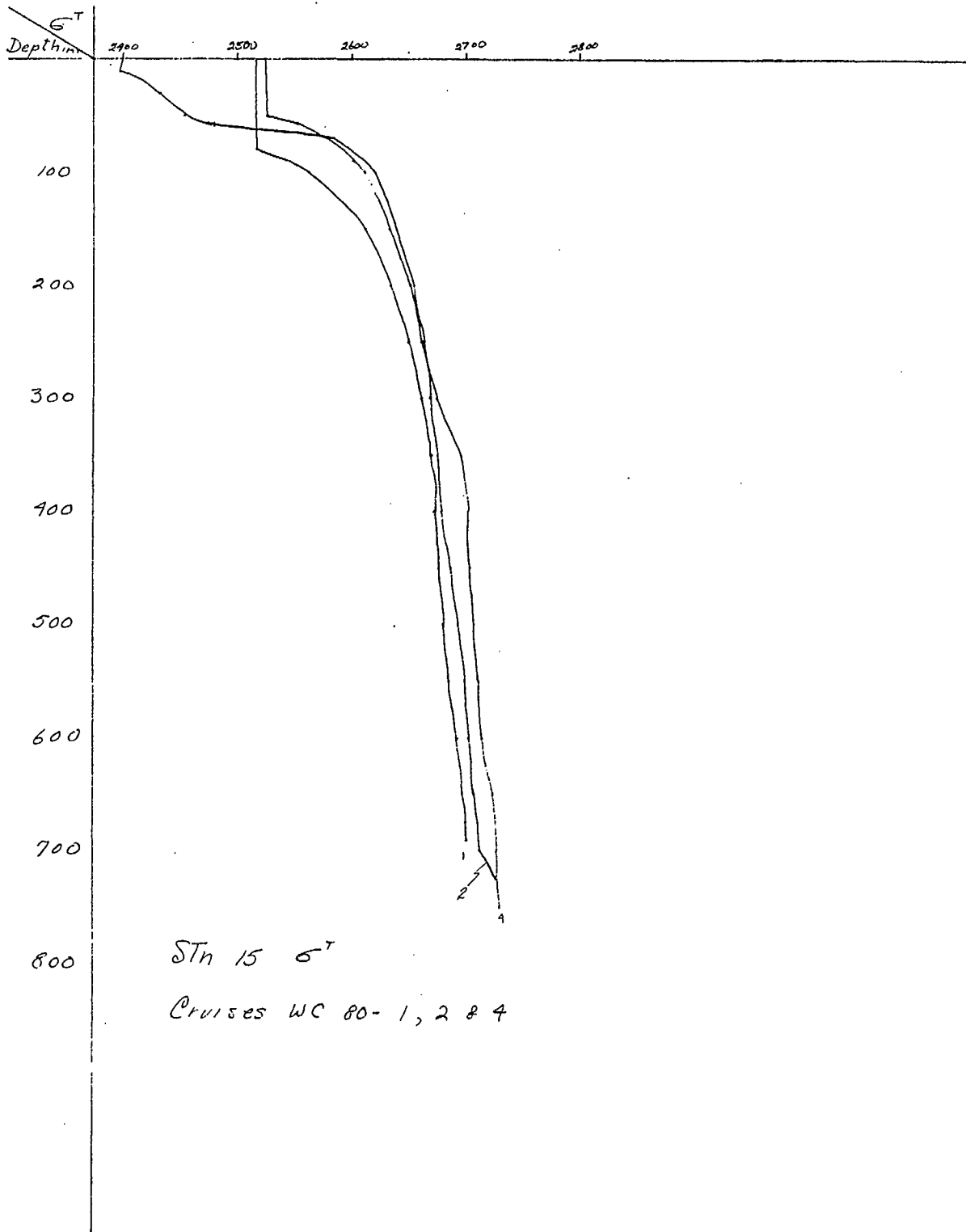


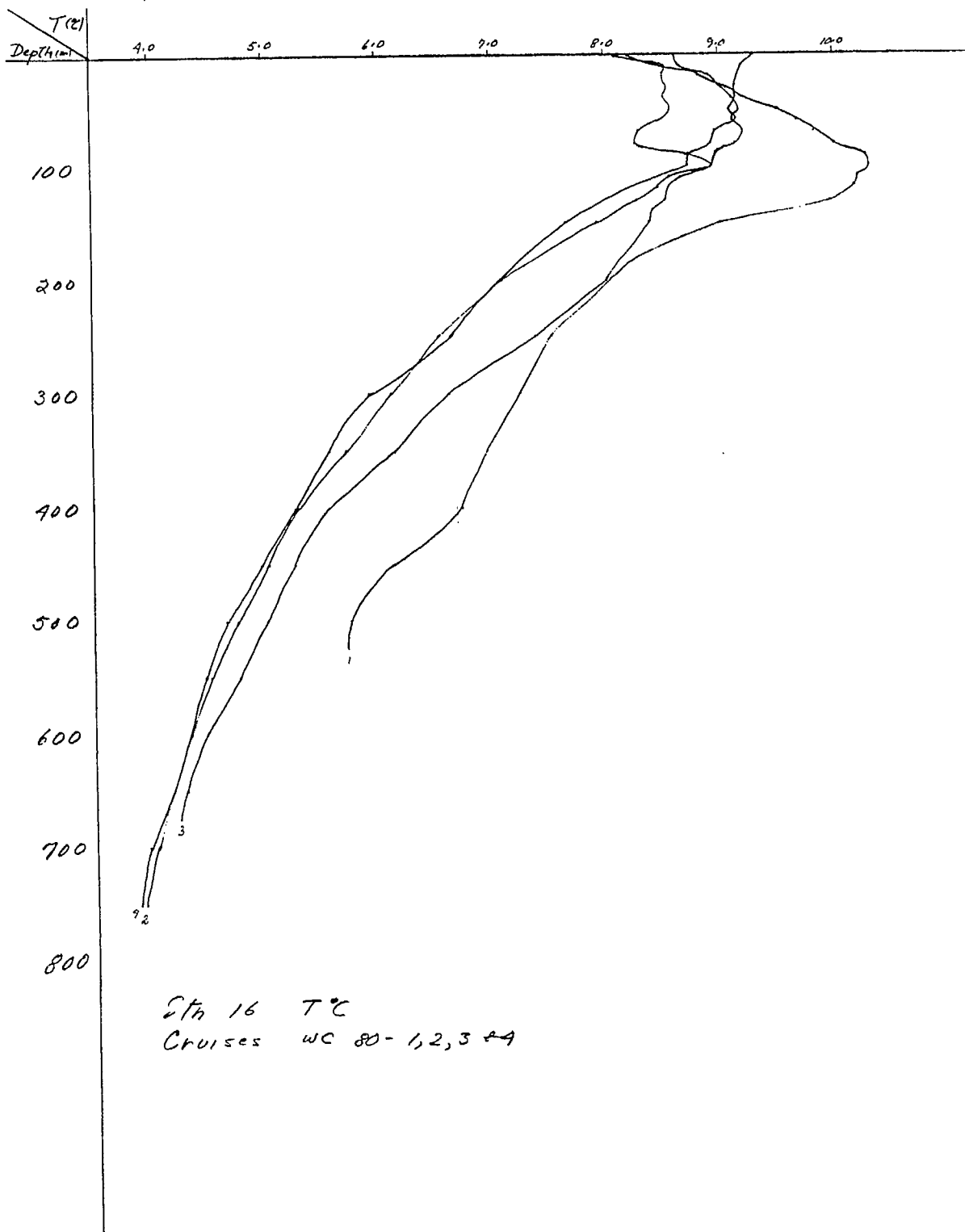
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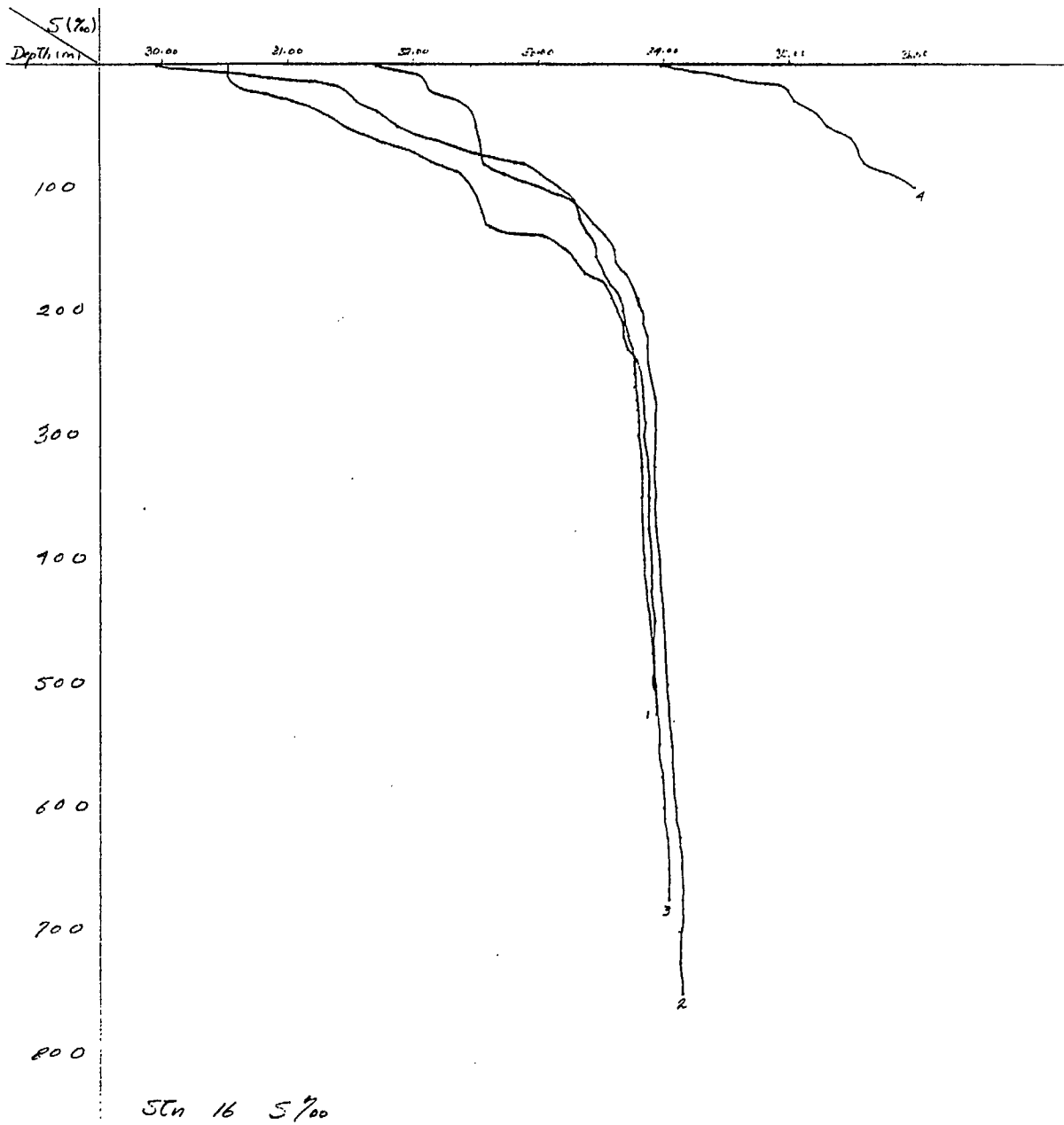


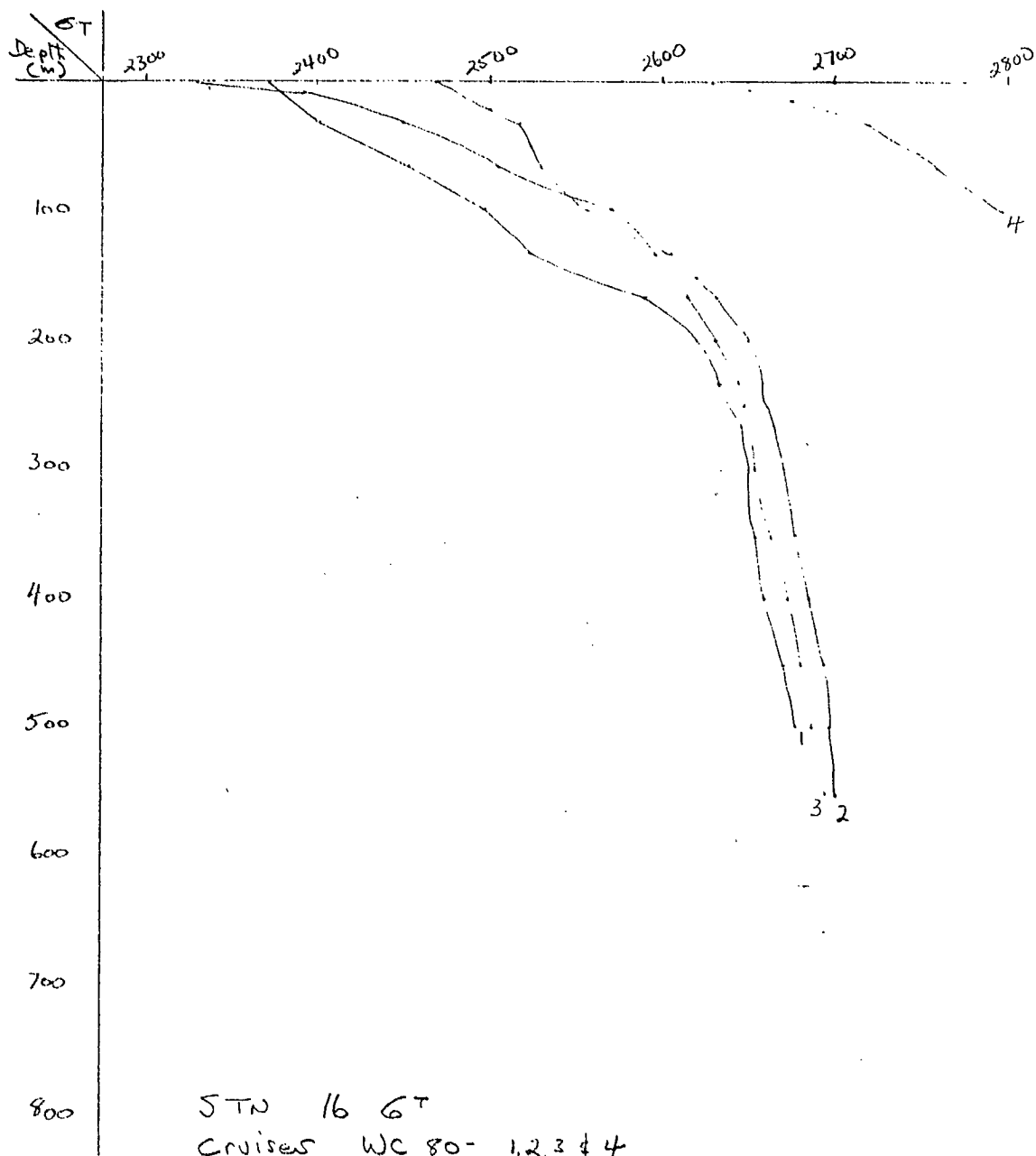


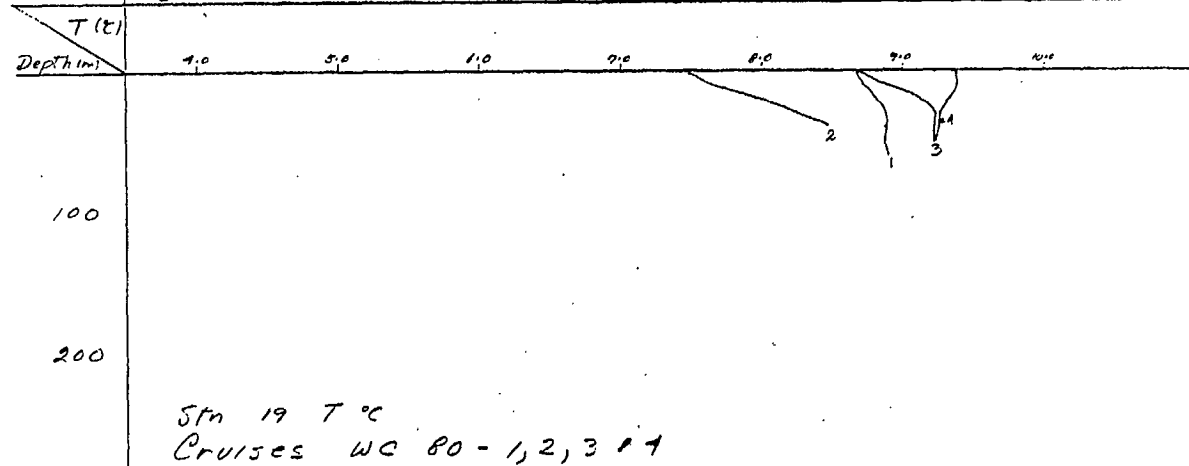
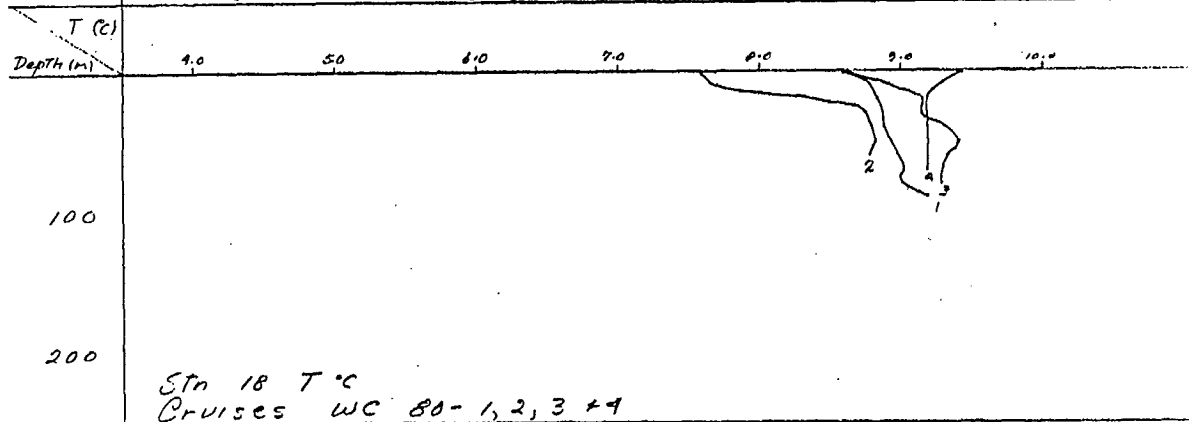
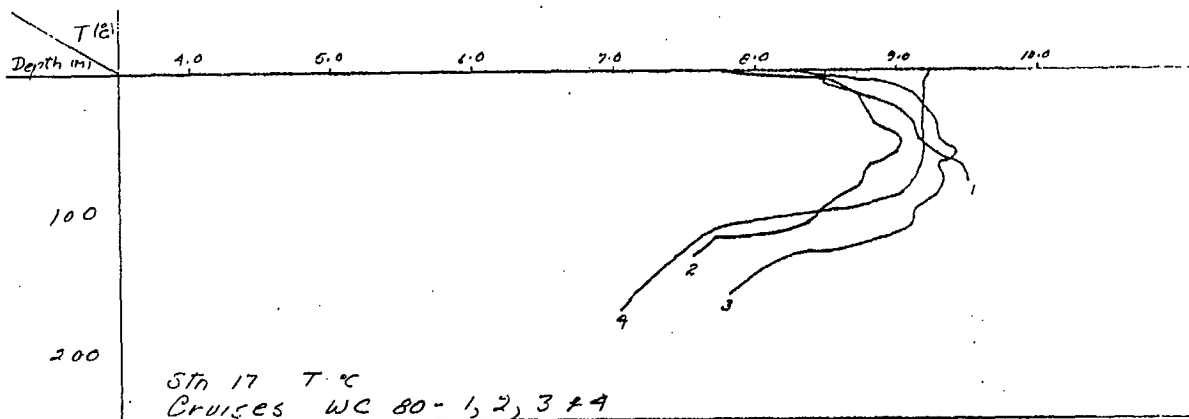
Stn 15 S ‰  
Cruises WC 80-1, 2 & 4

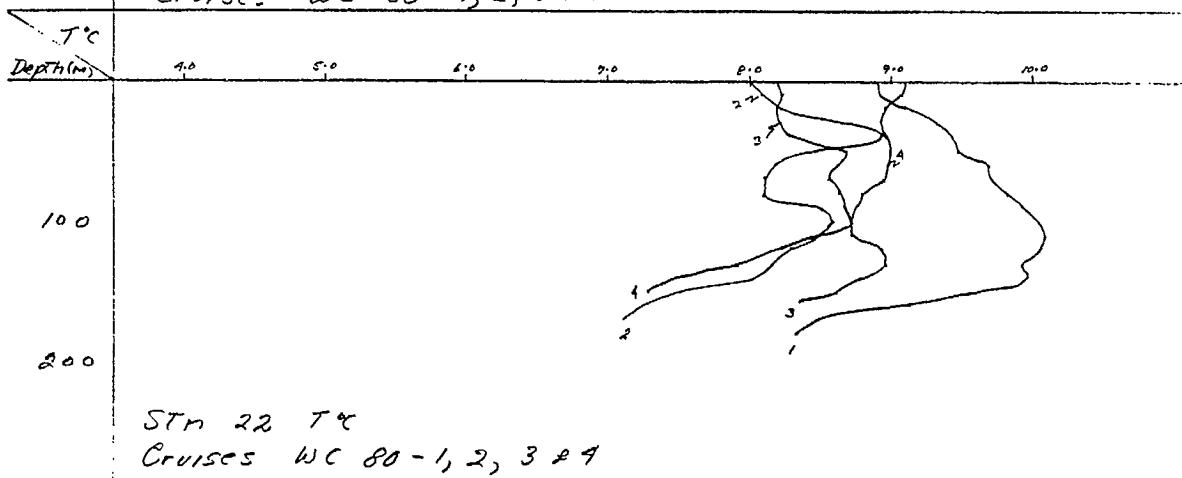
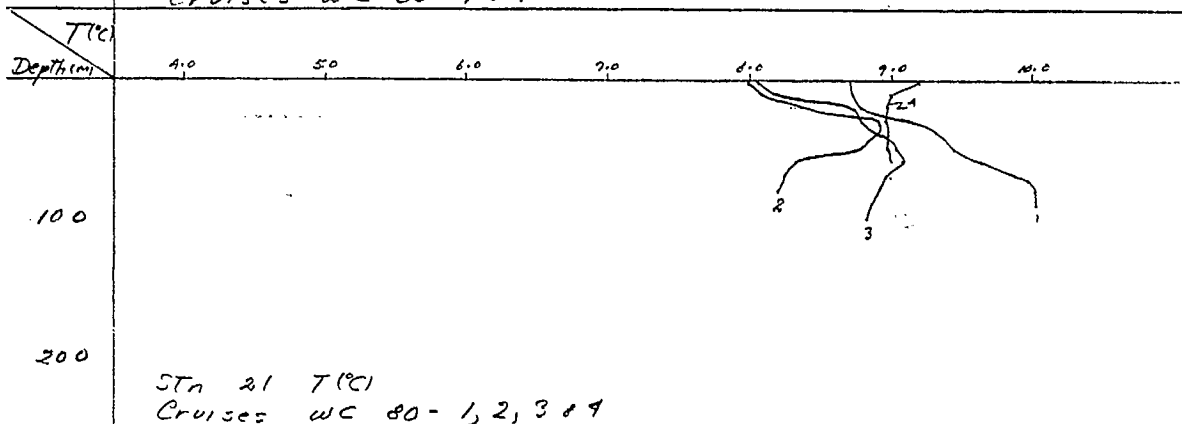
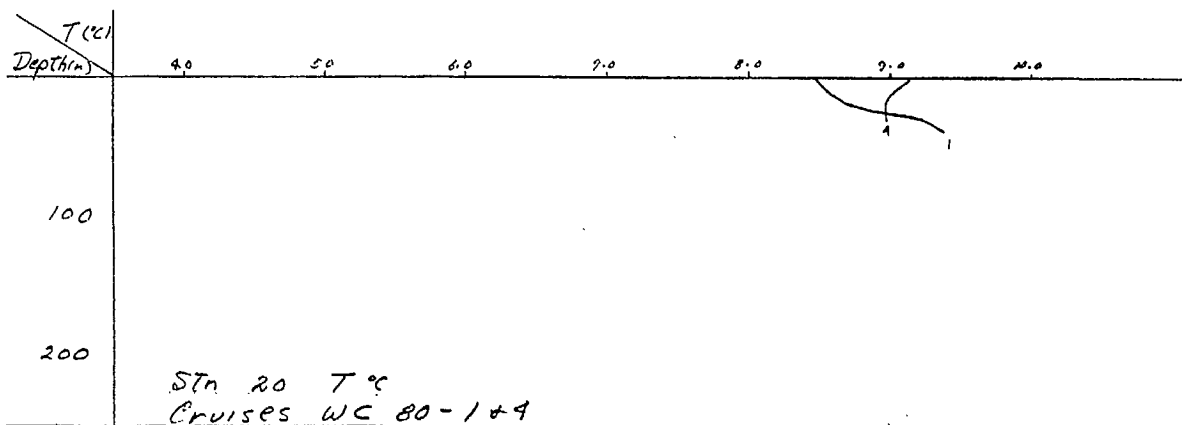


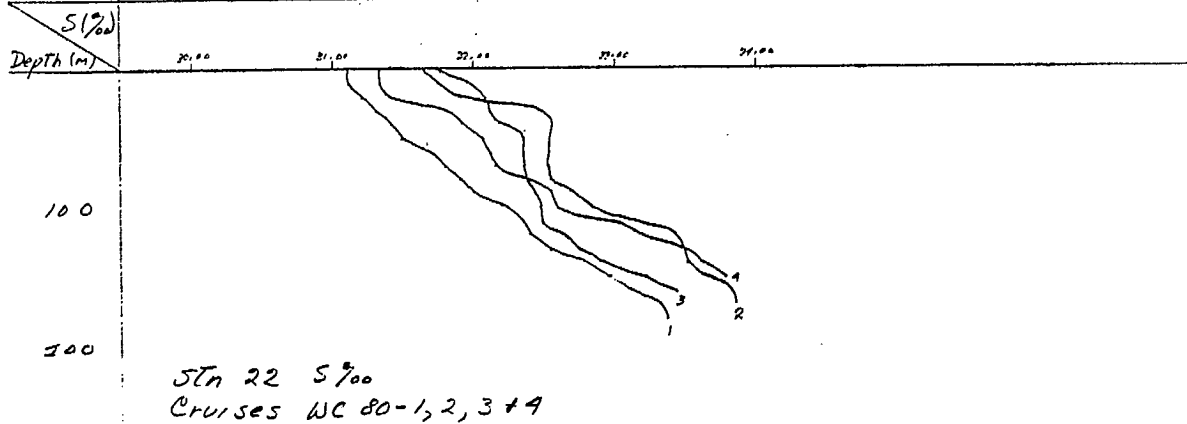
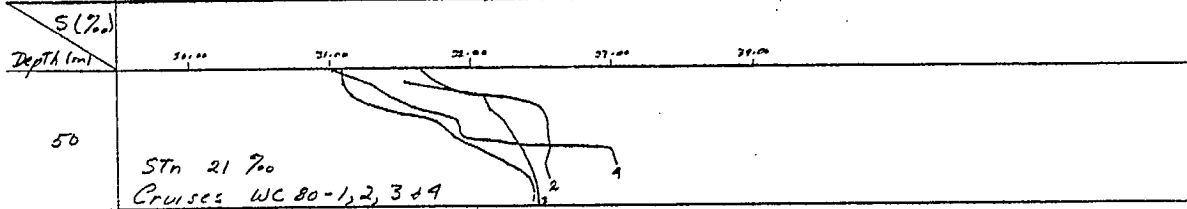
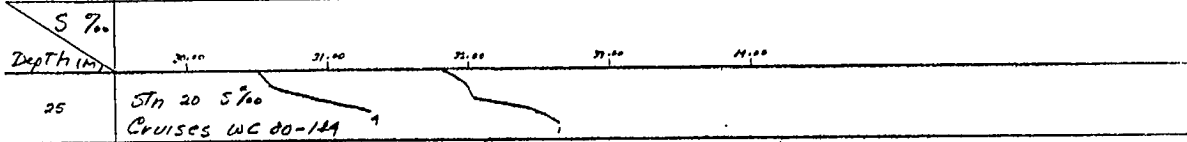
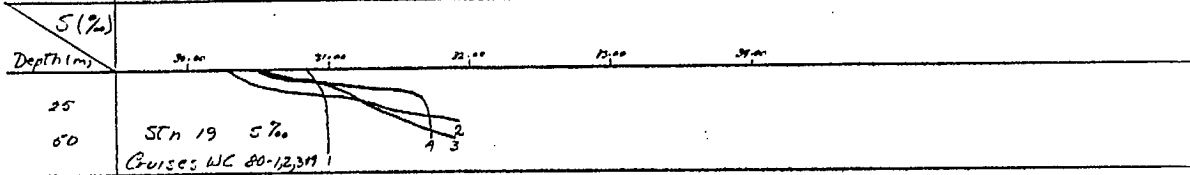
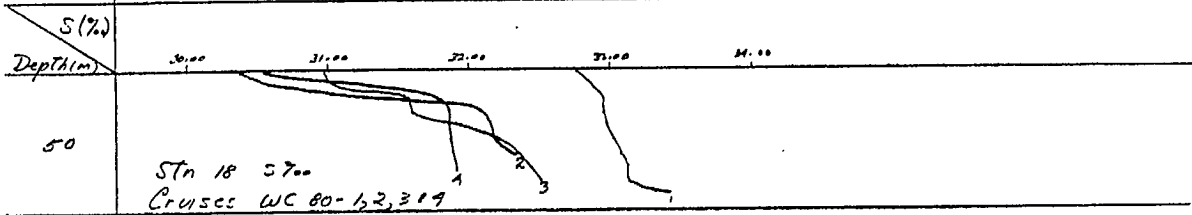
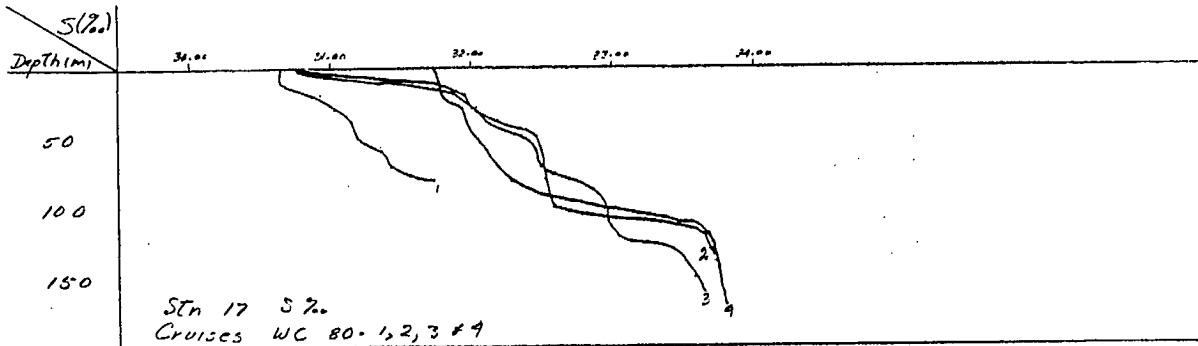




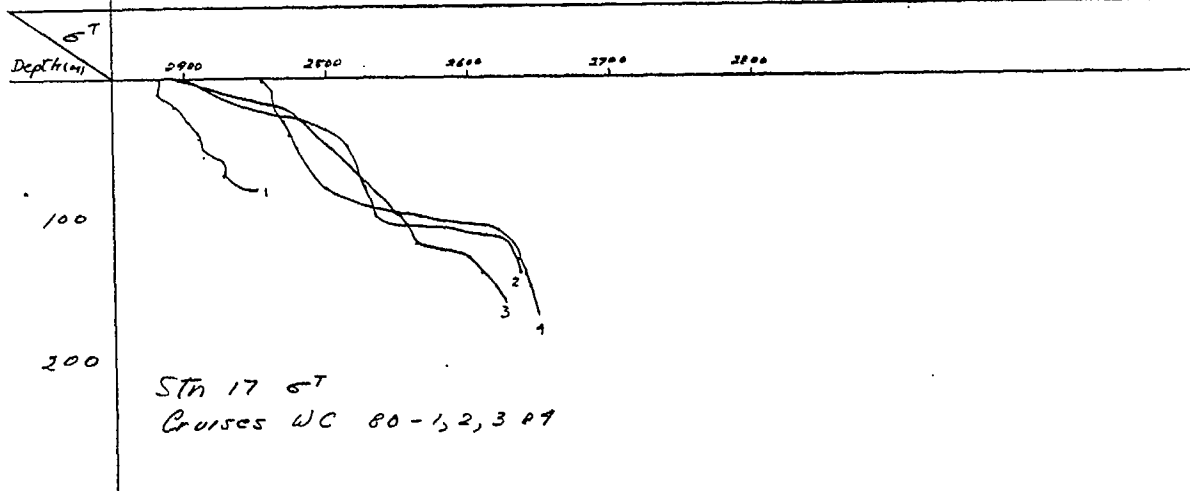
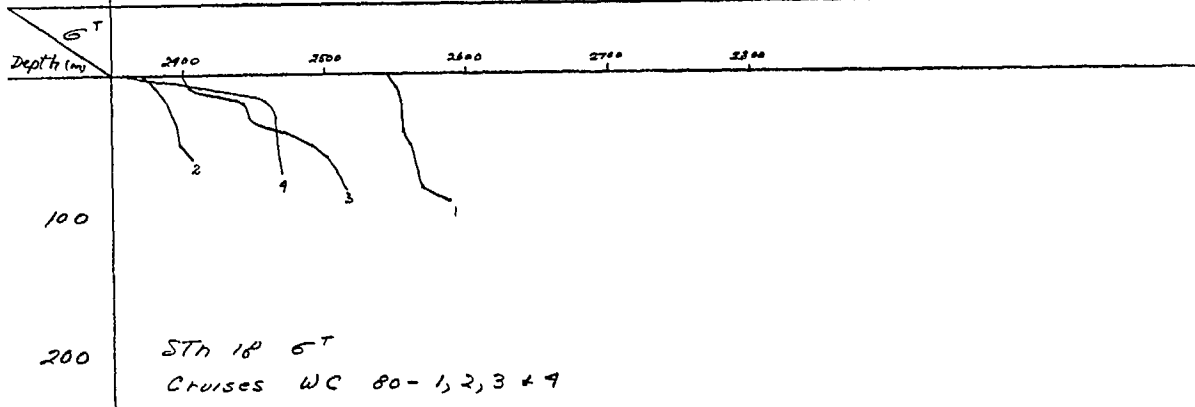
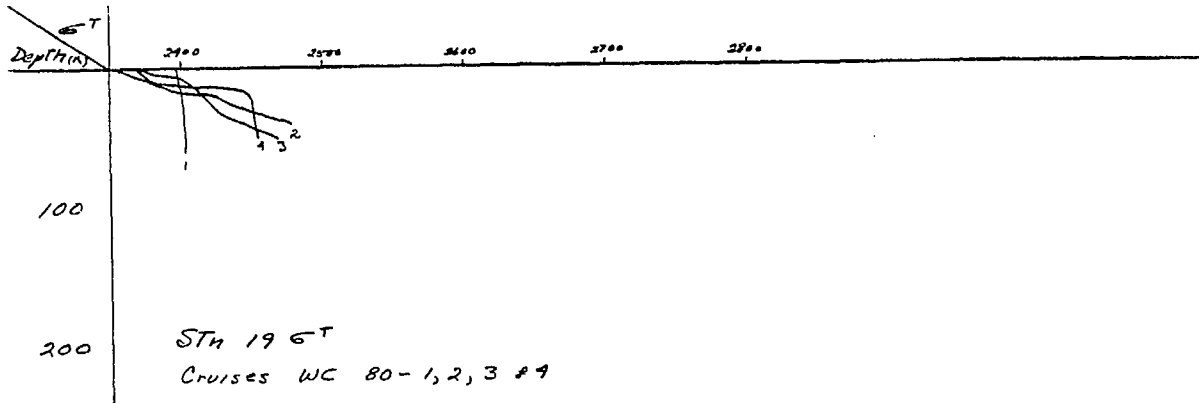


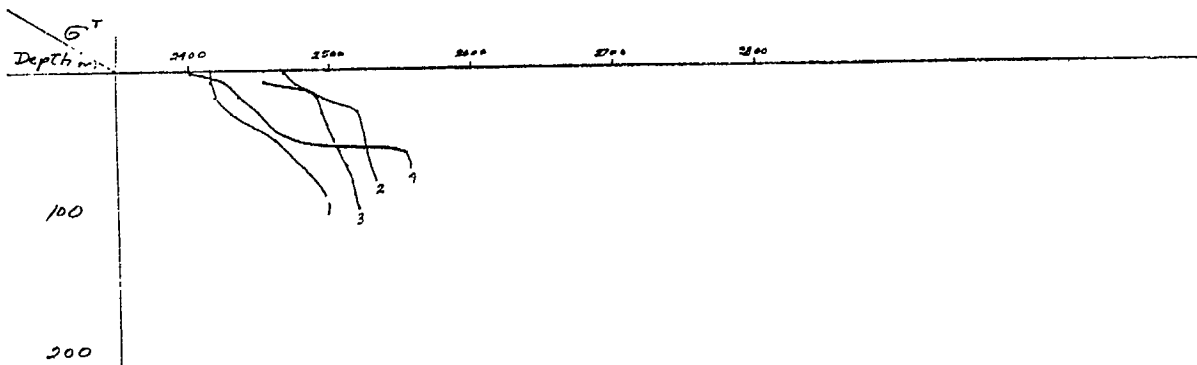




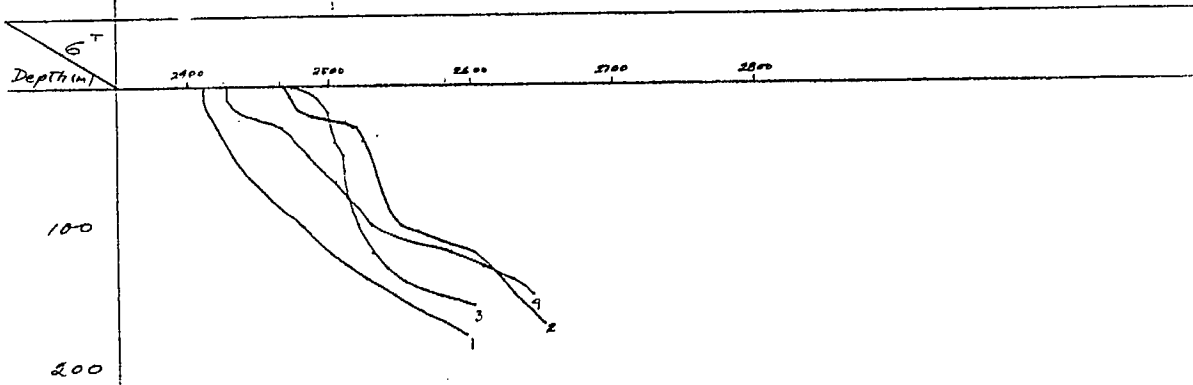




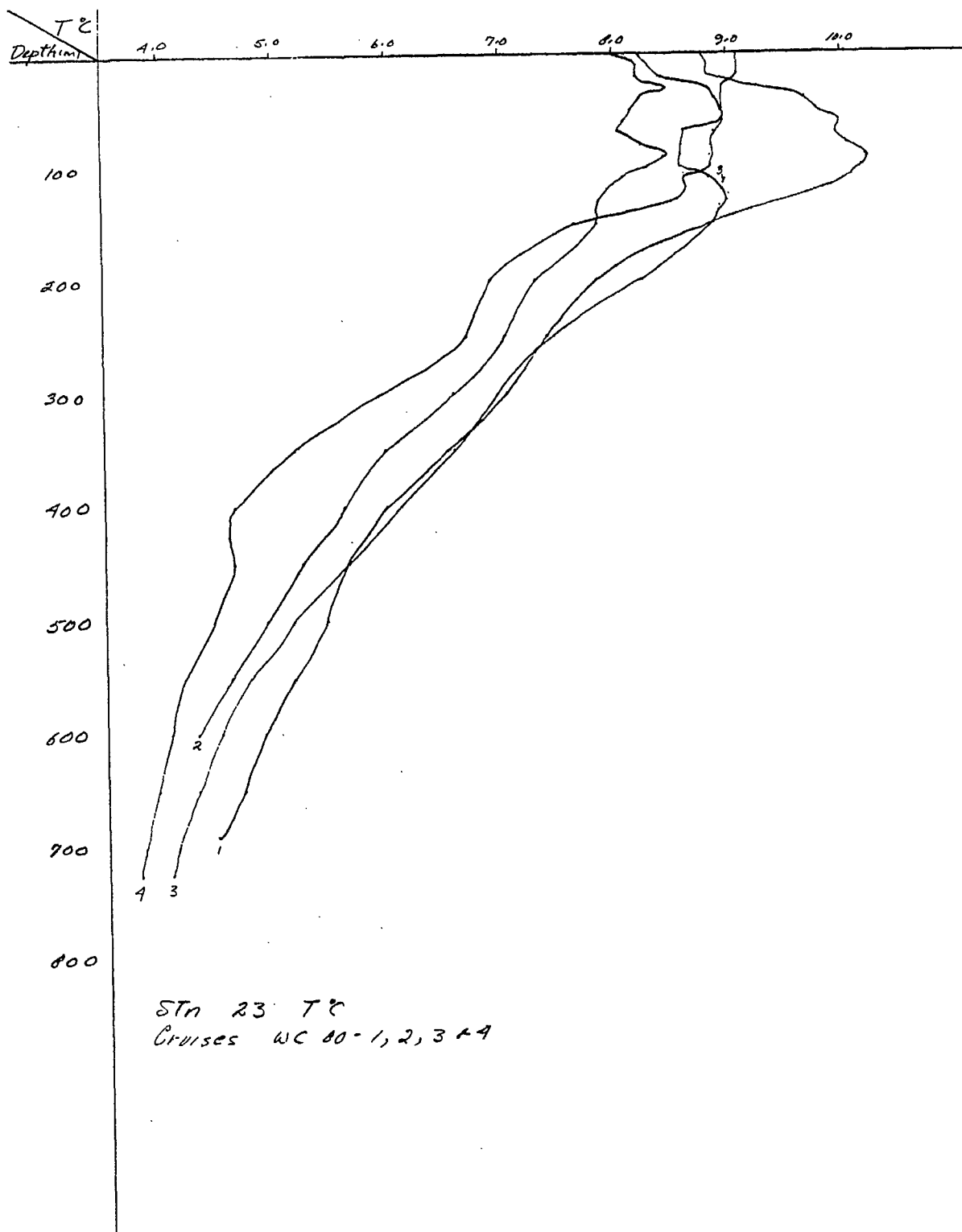


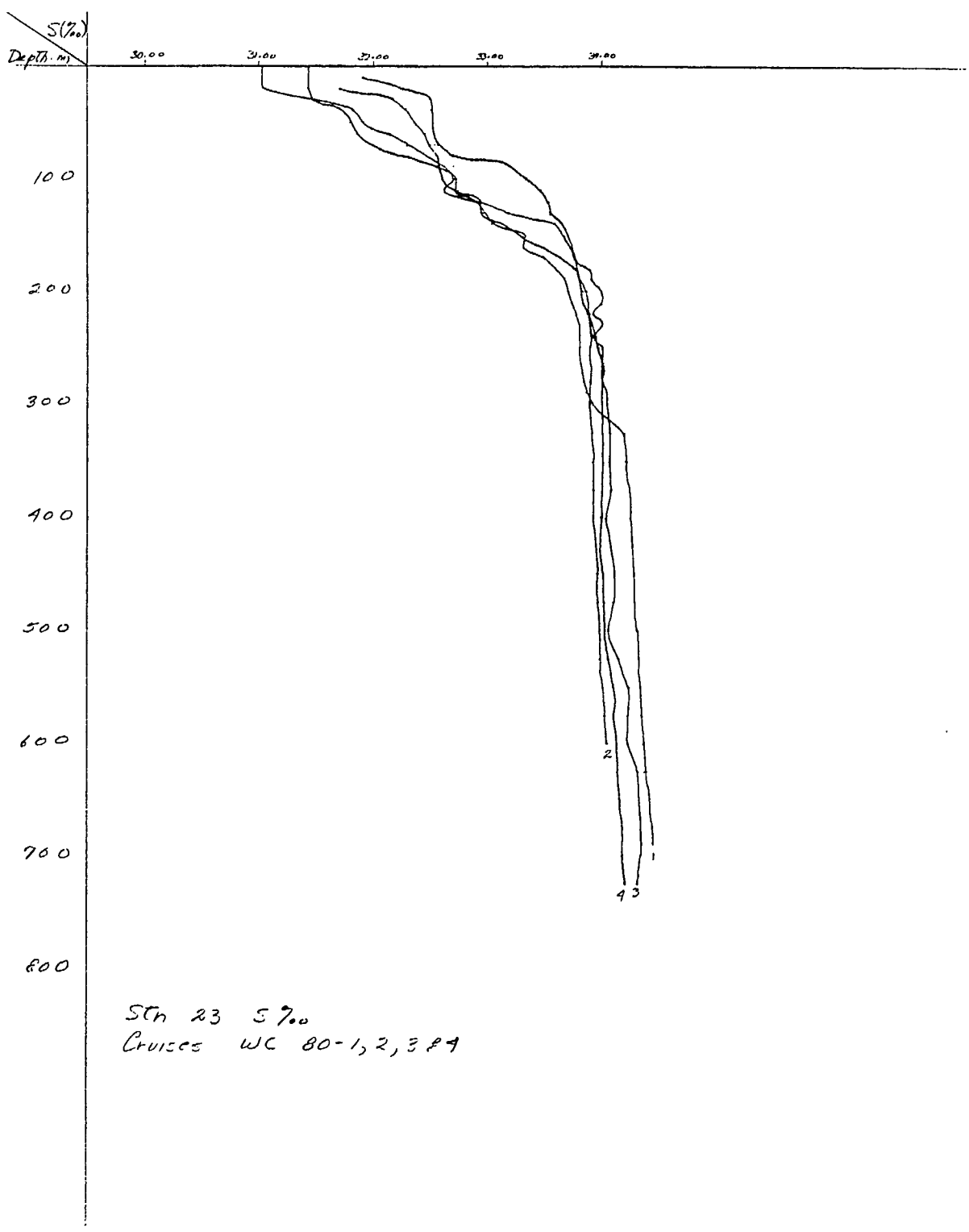


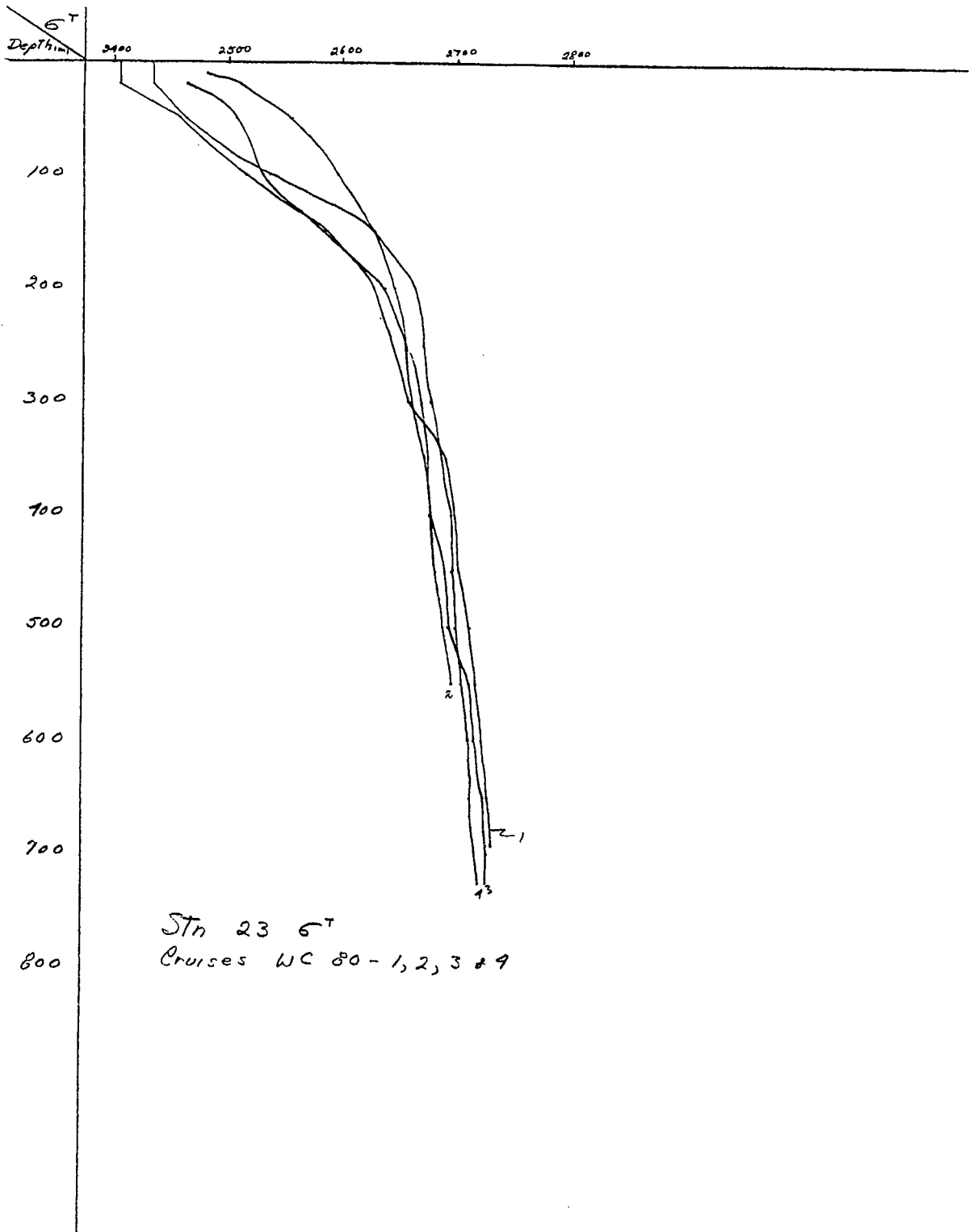
Stn 21  $G^T$   
Cruises WC 80-1, 2, 3 & 4

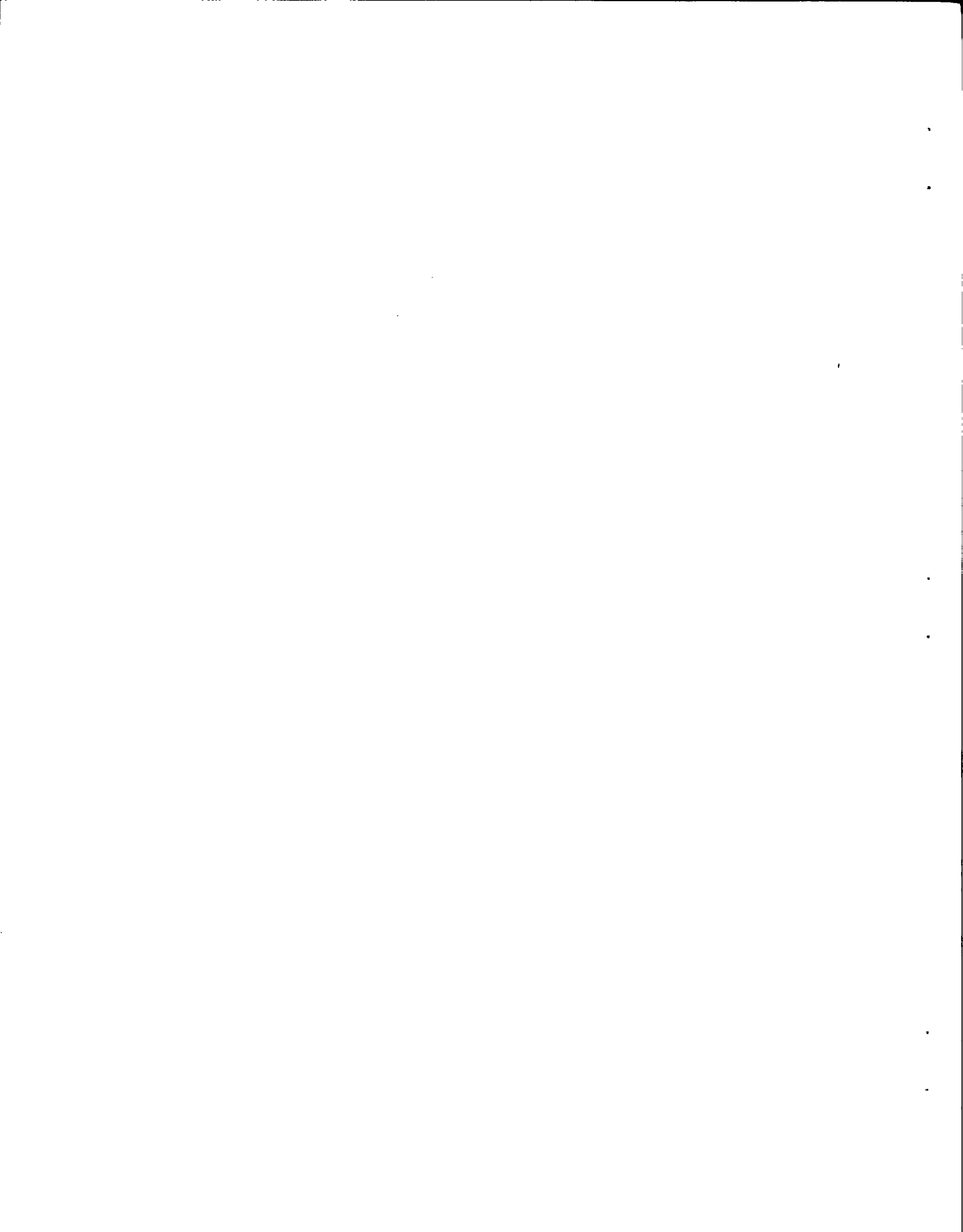


Stn 22  $G^T$   
Cruises WC 80-1, 2, 3 & 4



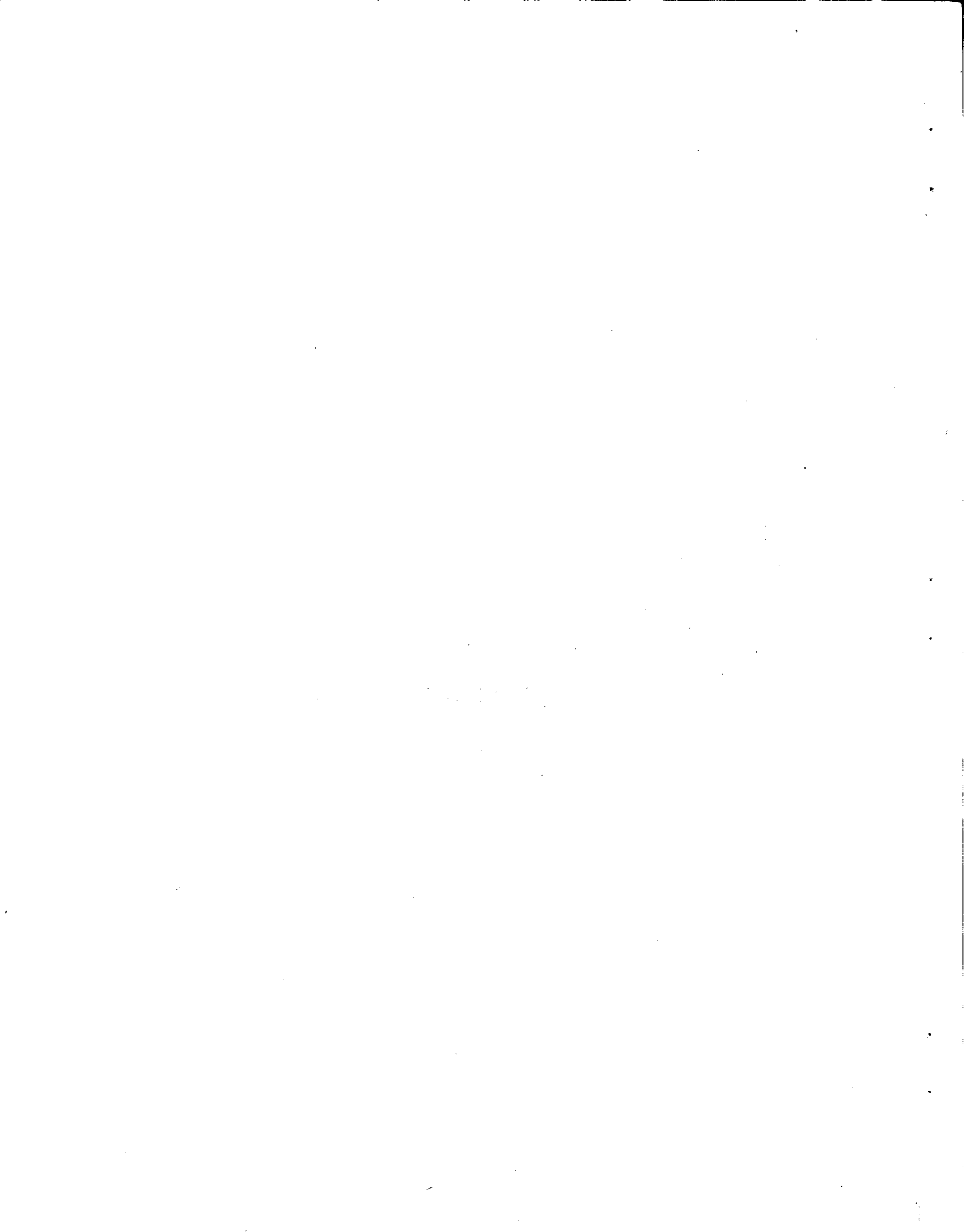




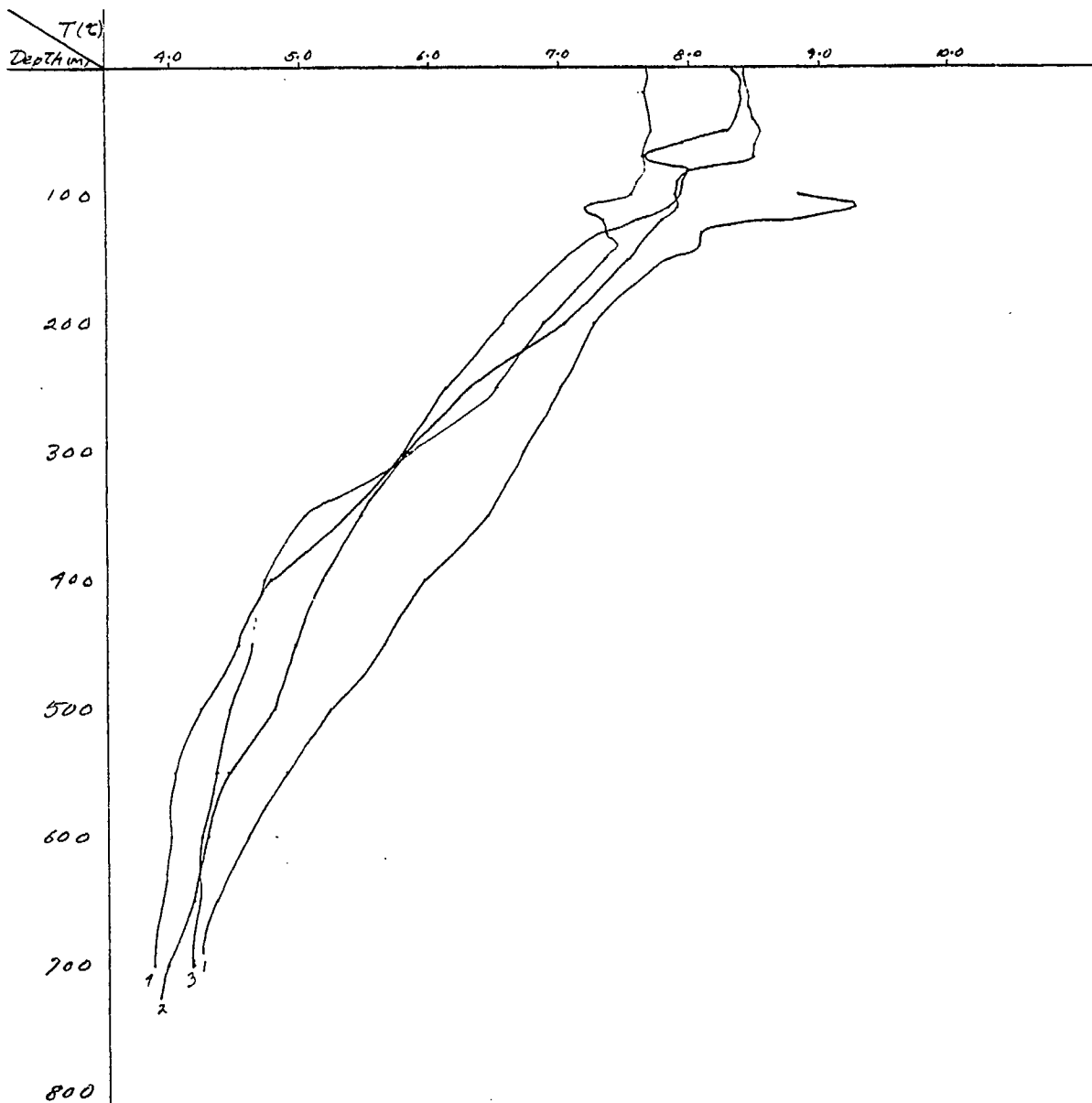


QUEEN CHARLOTTE SOUND

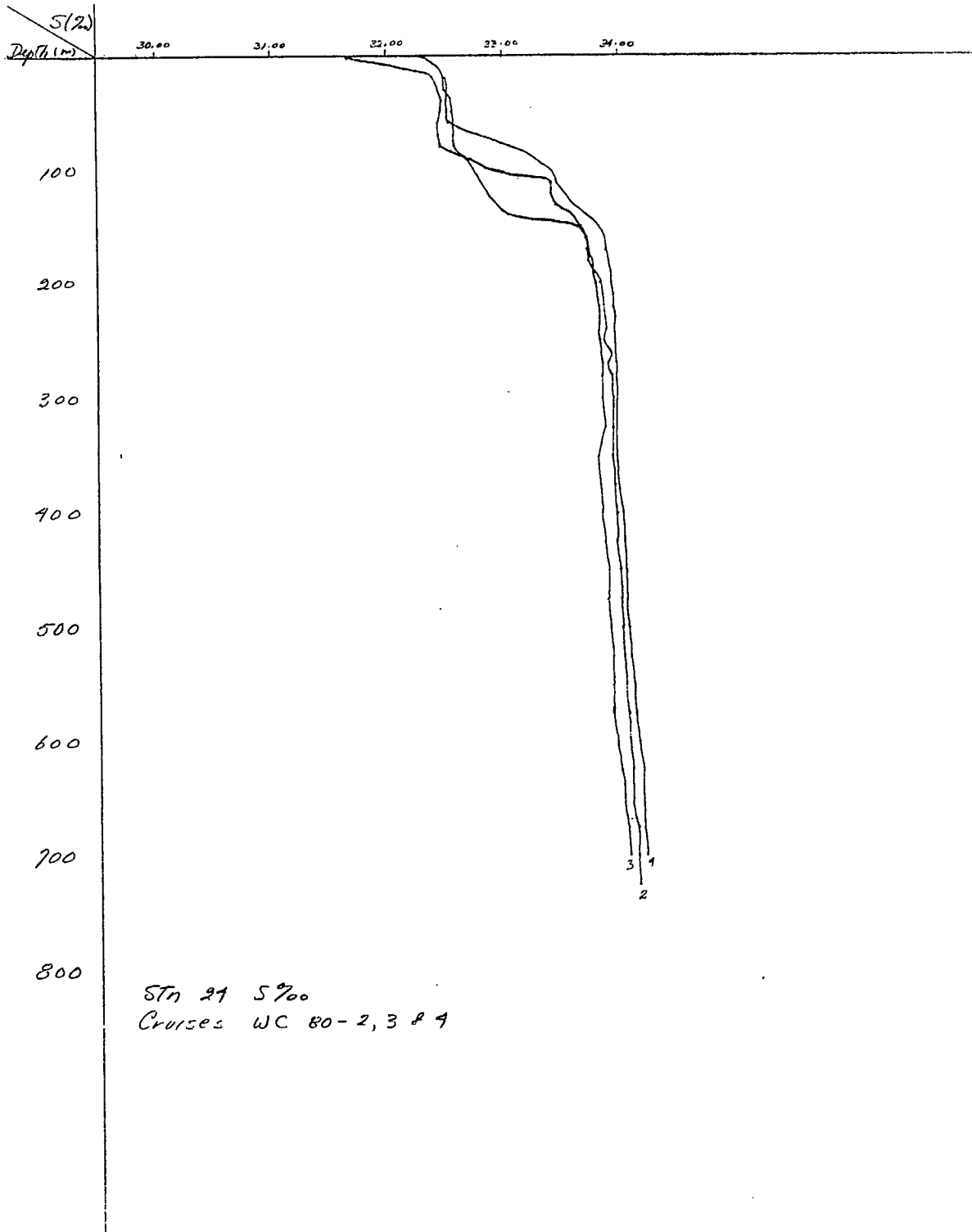
Transect Lines 6-7  
Stations 24-33

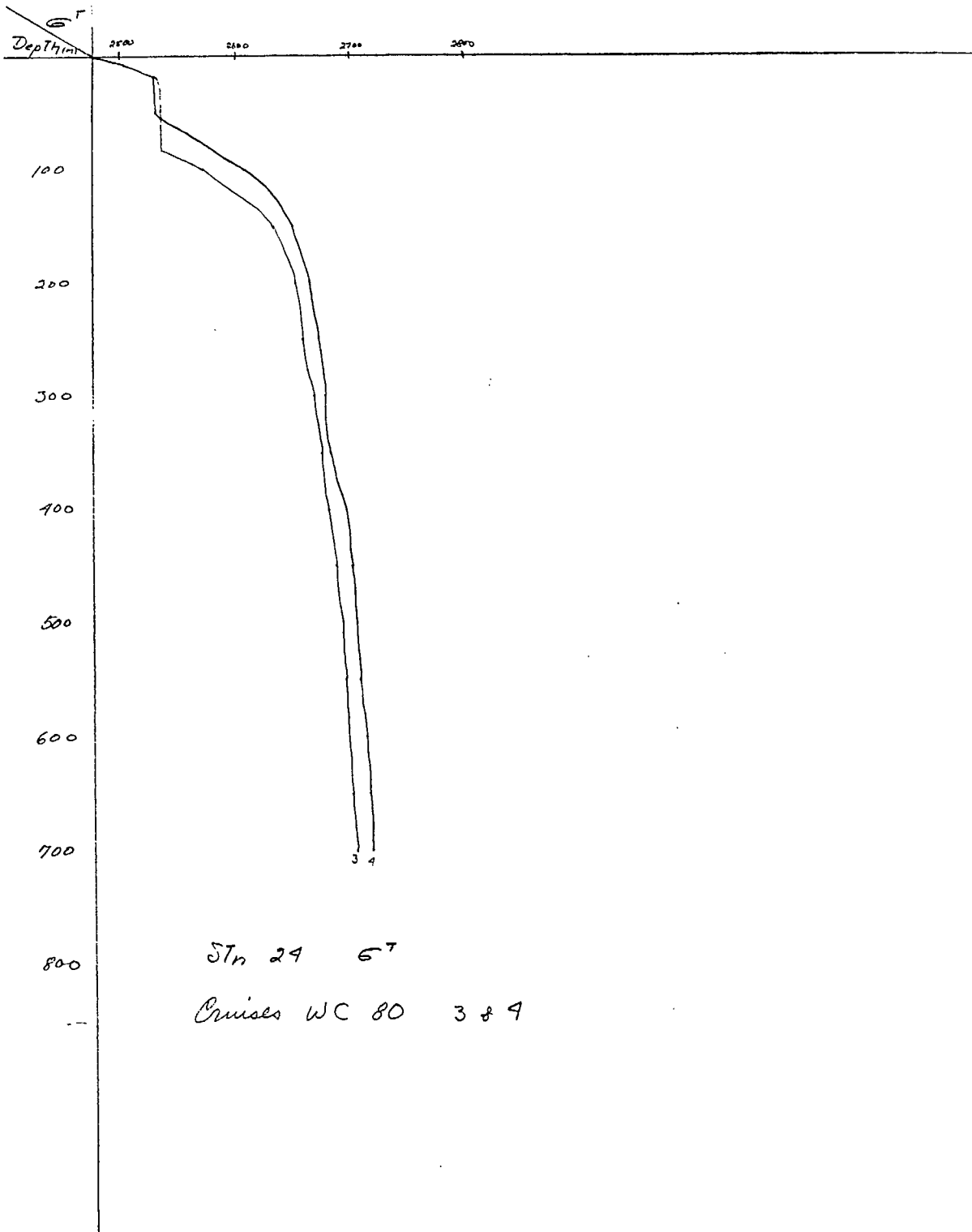


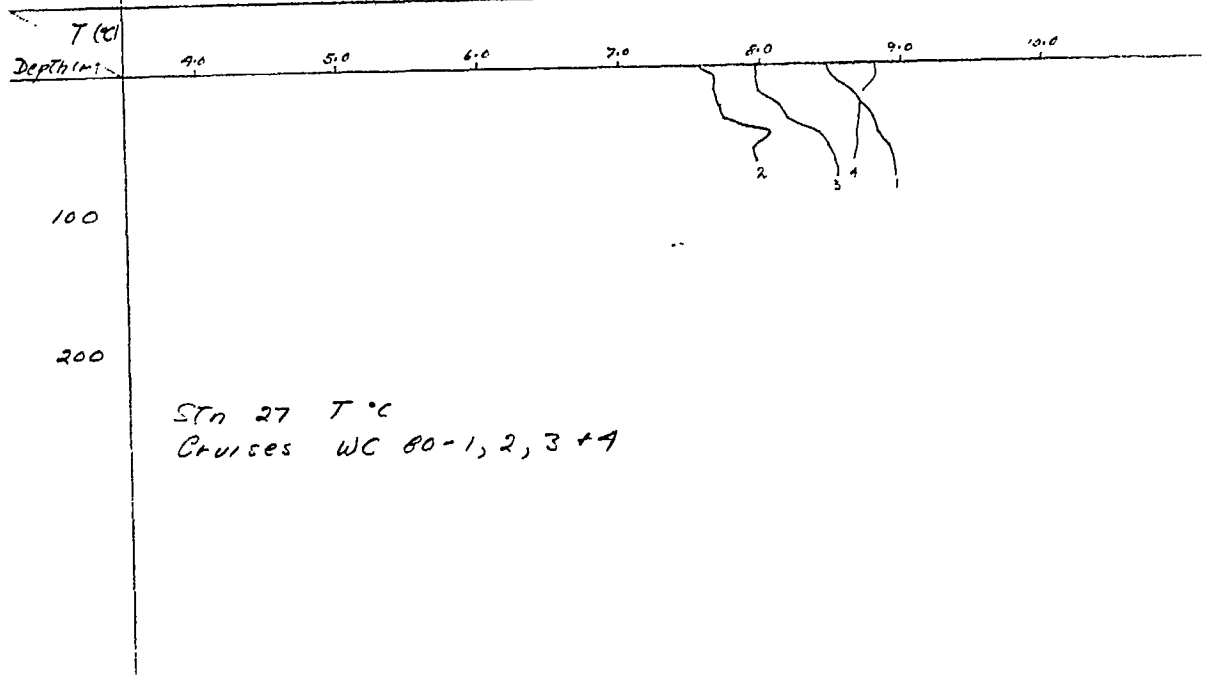
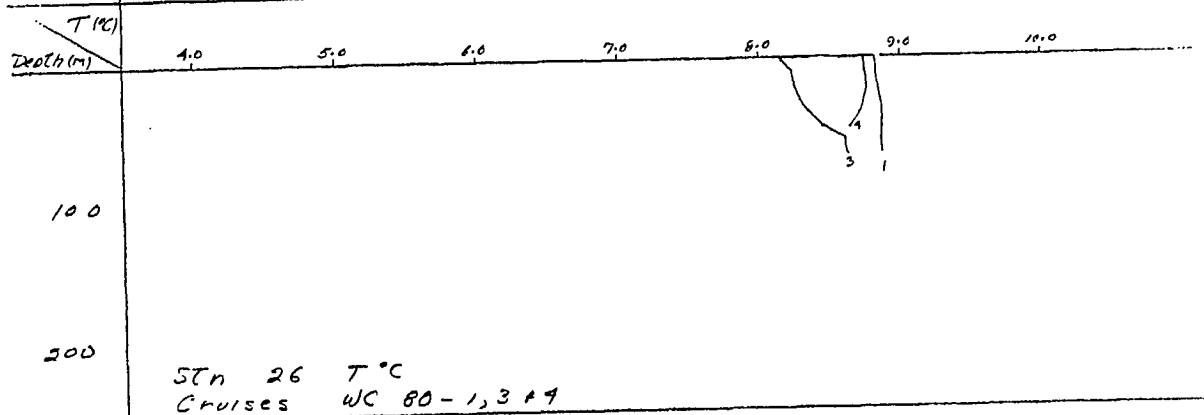
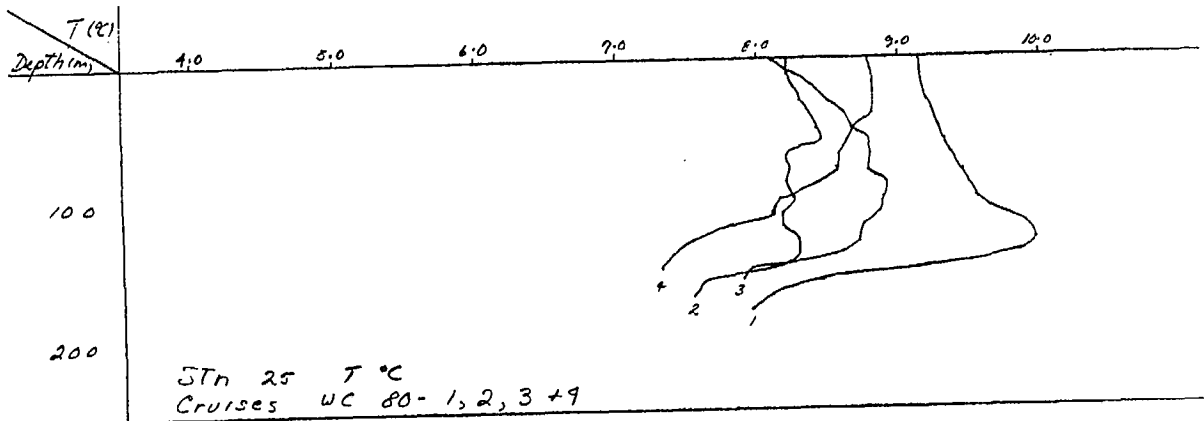


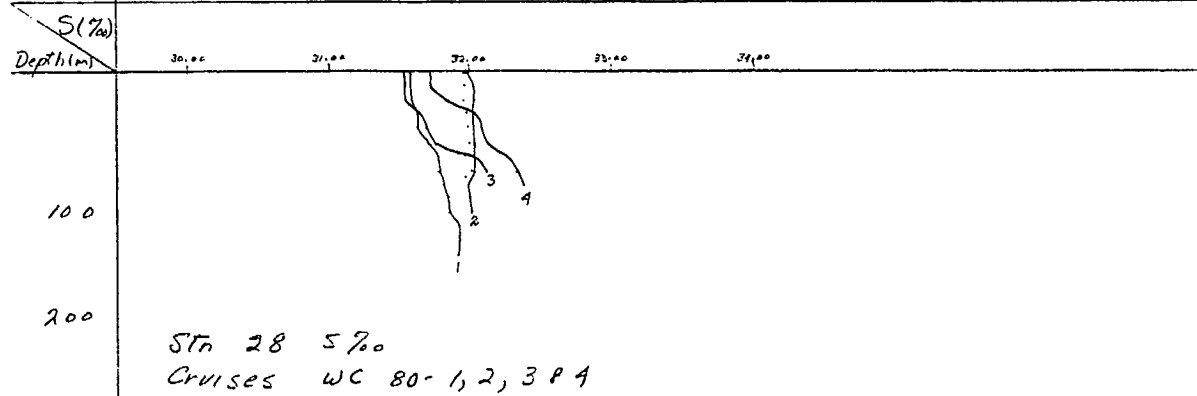
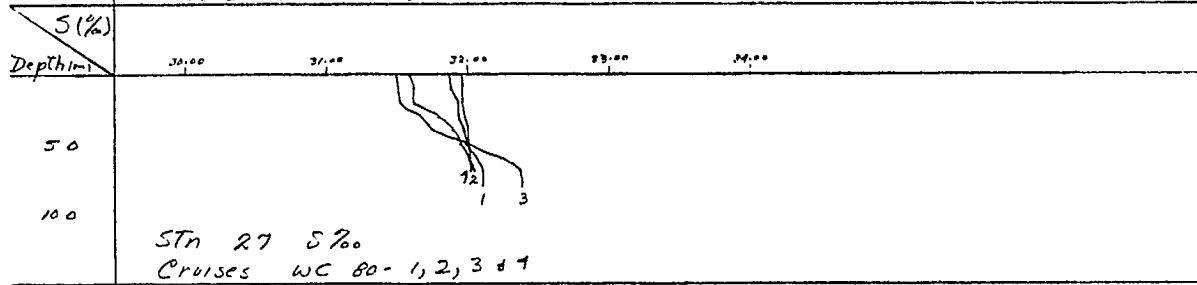
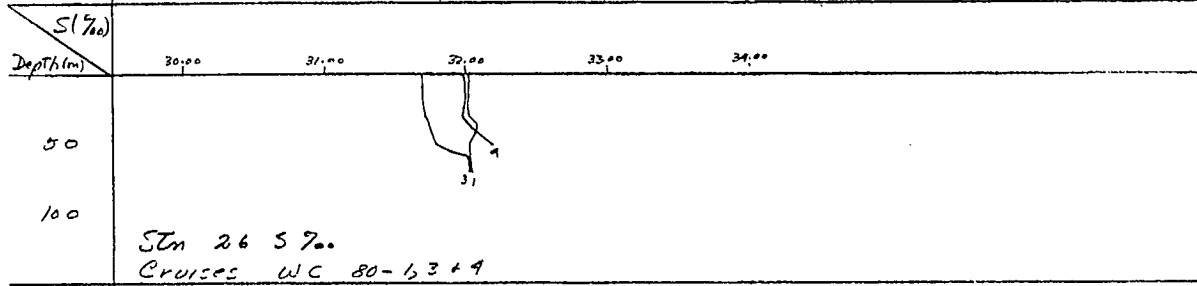
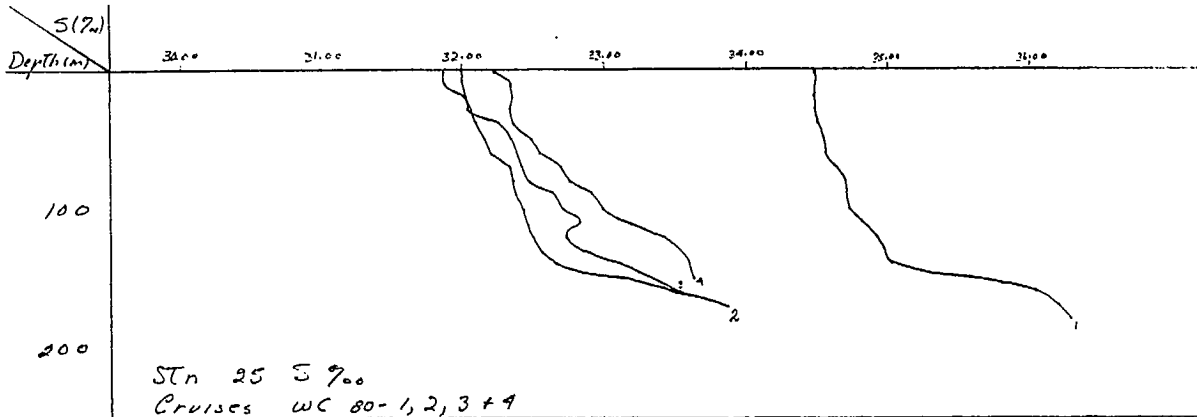


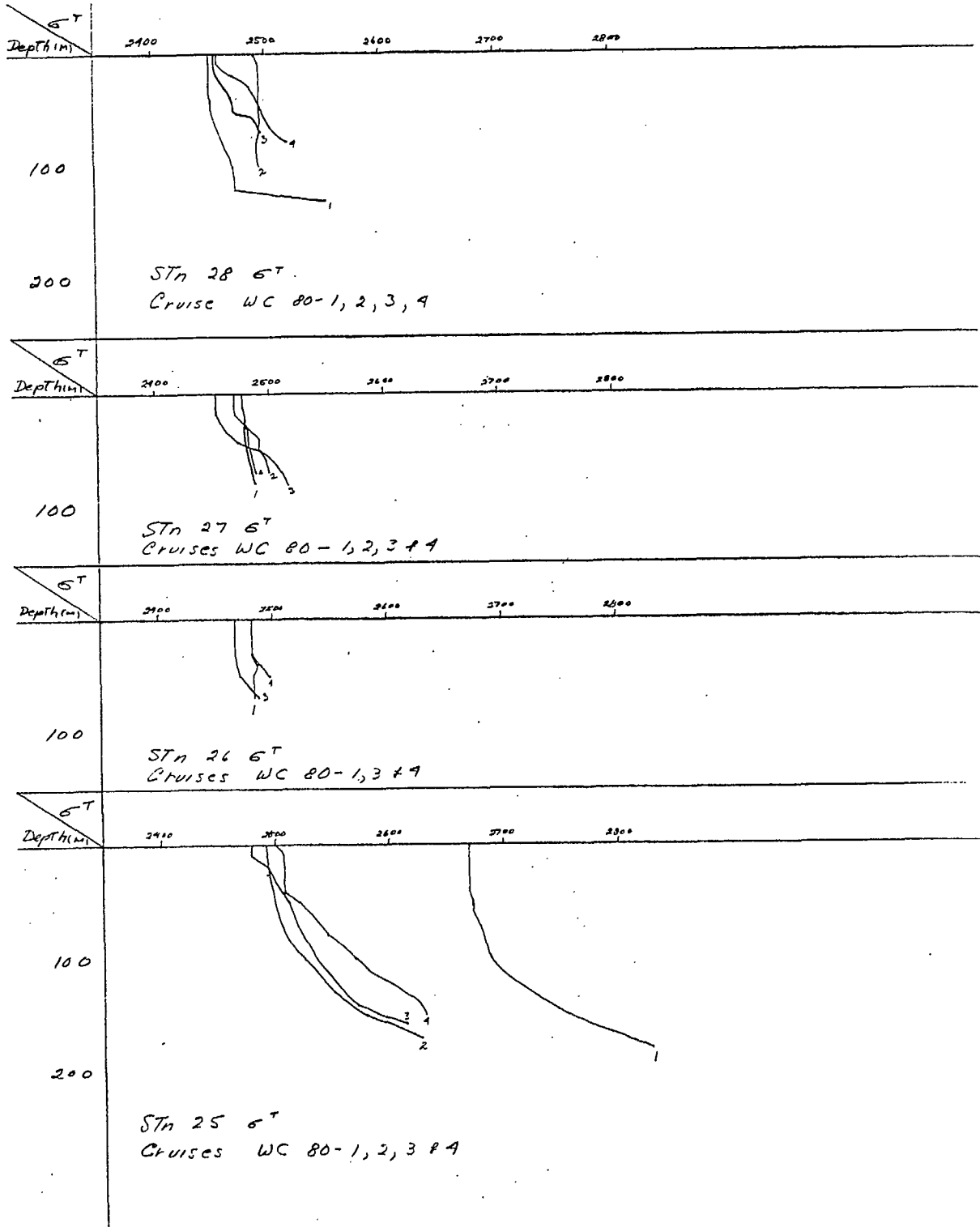
STN 24 T°C  
Cruises WC 80-1, 2, 3 + 4

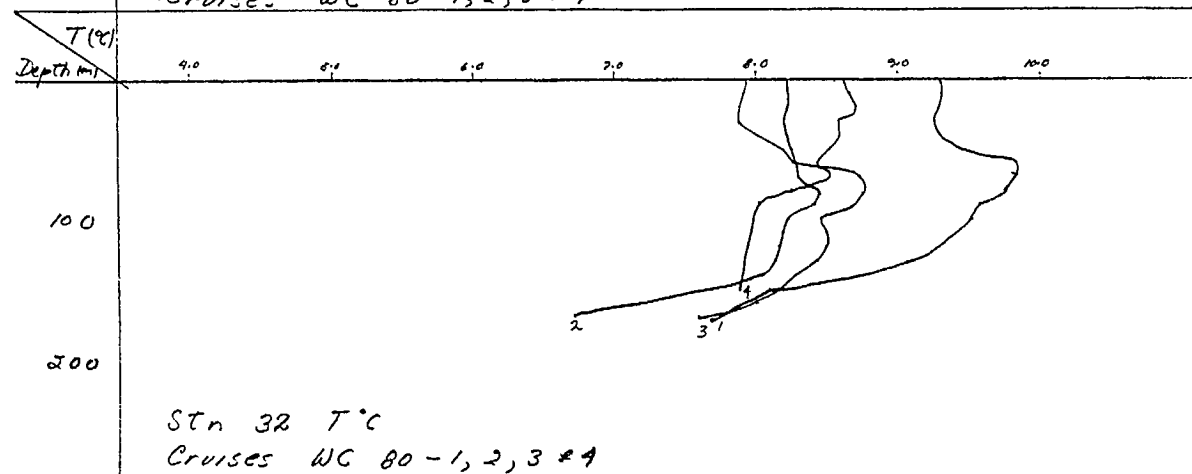
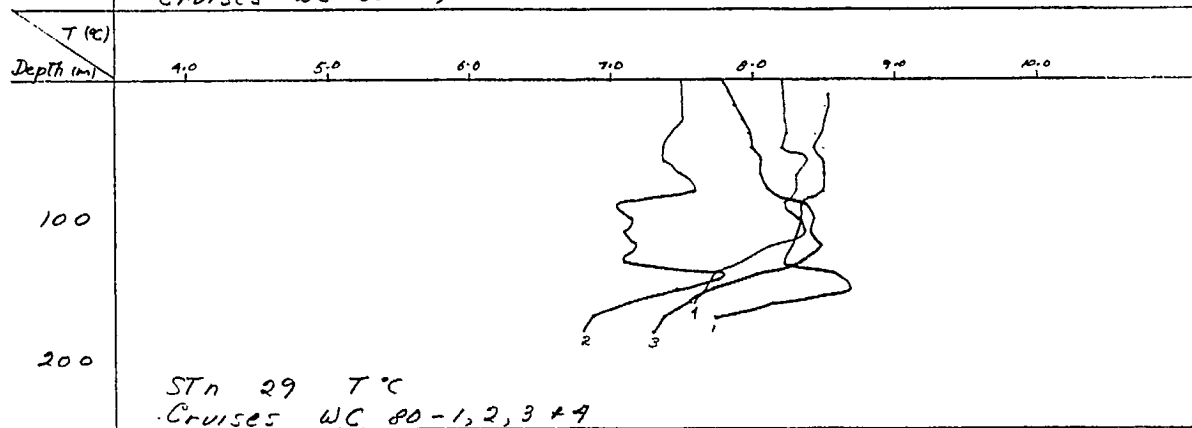
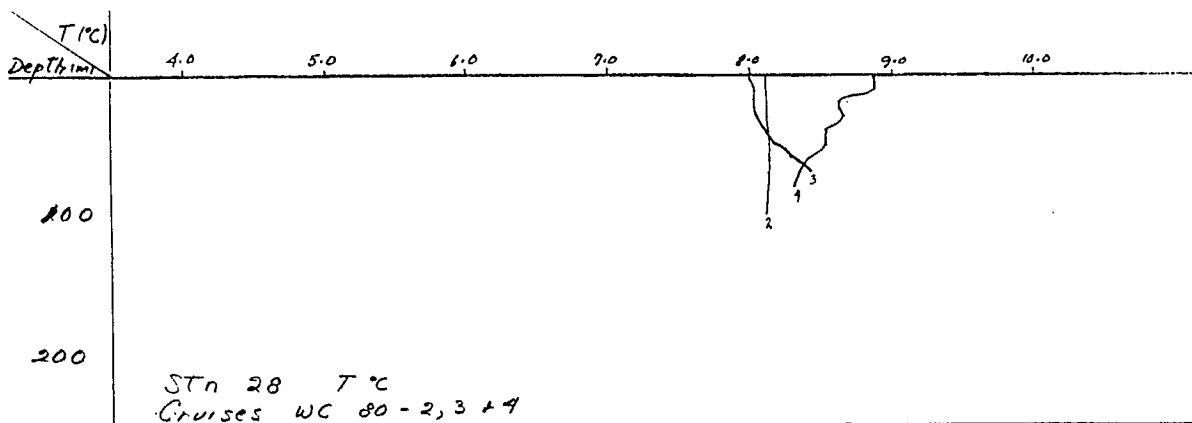


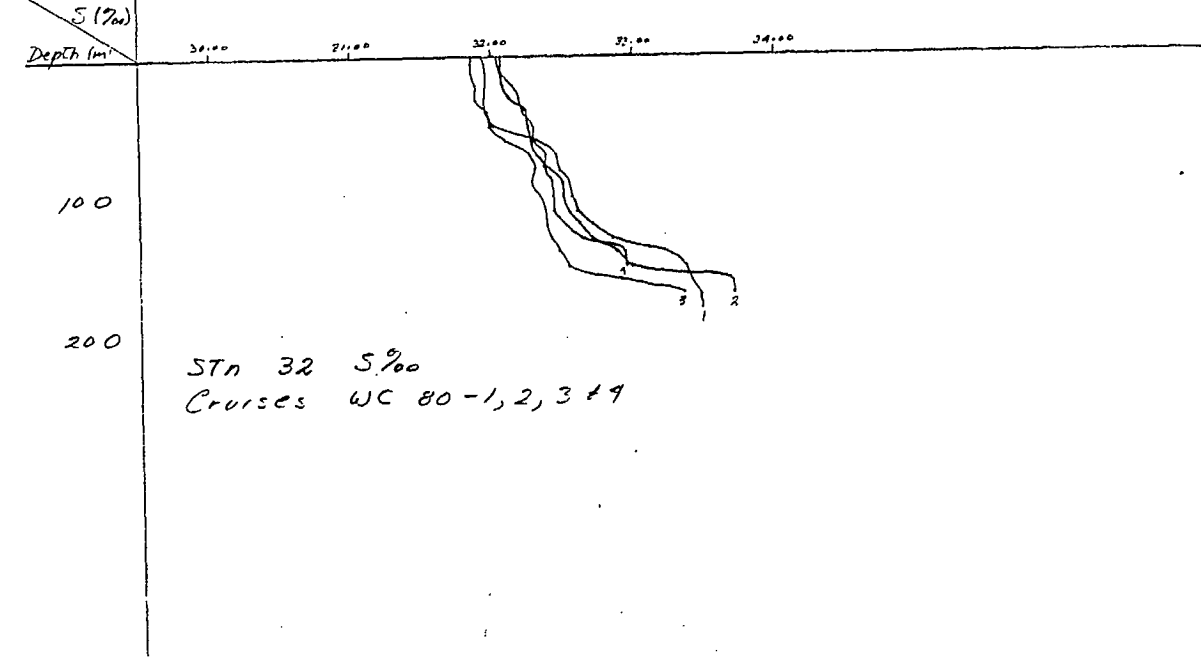
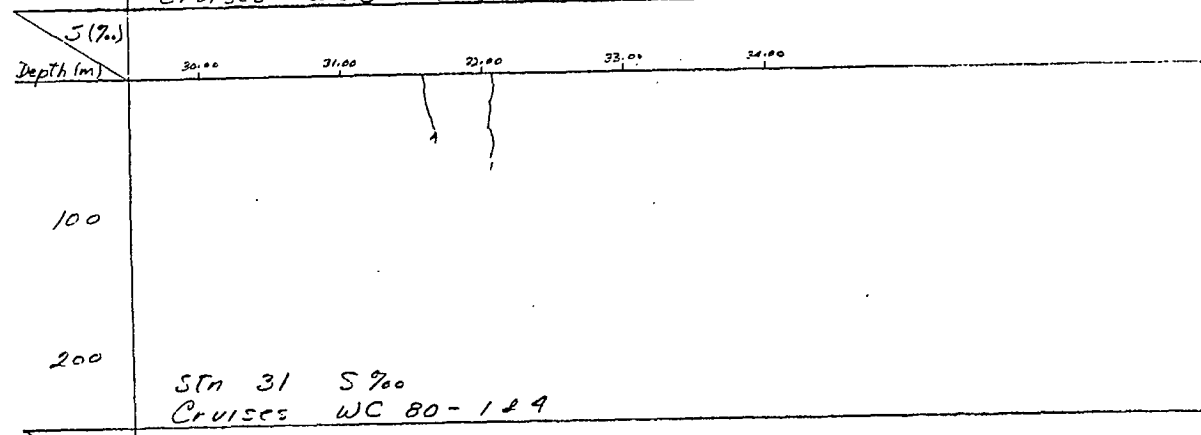
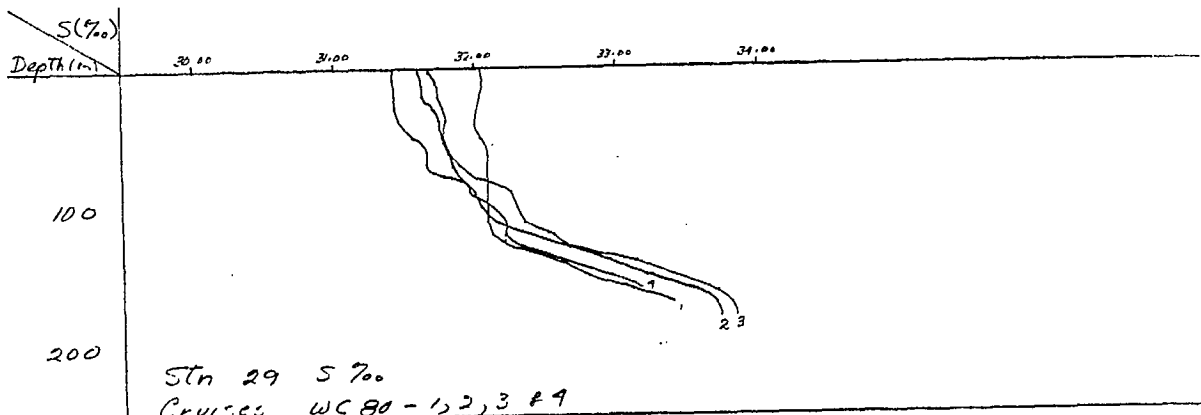




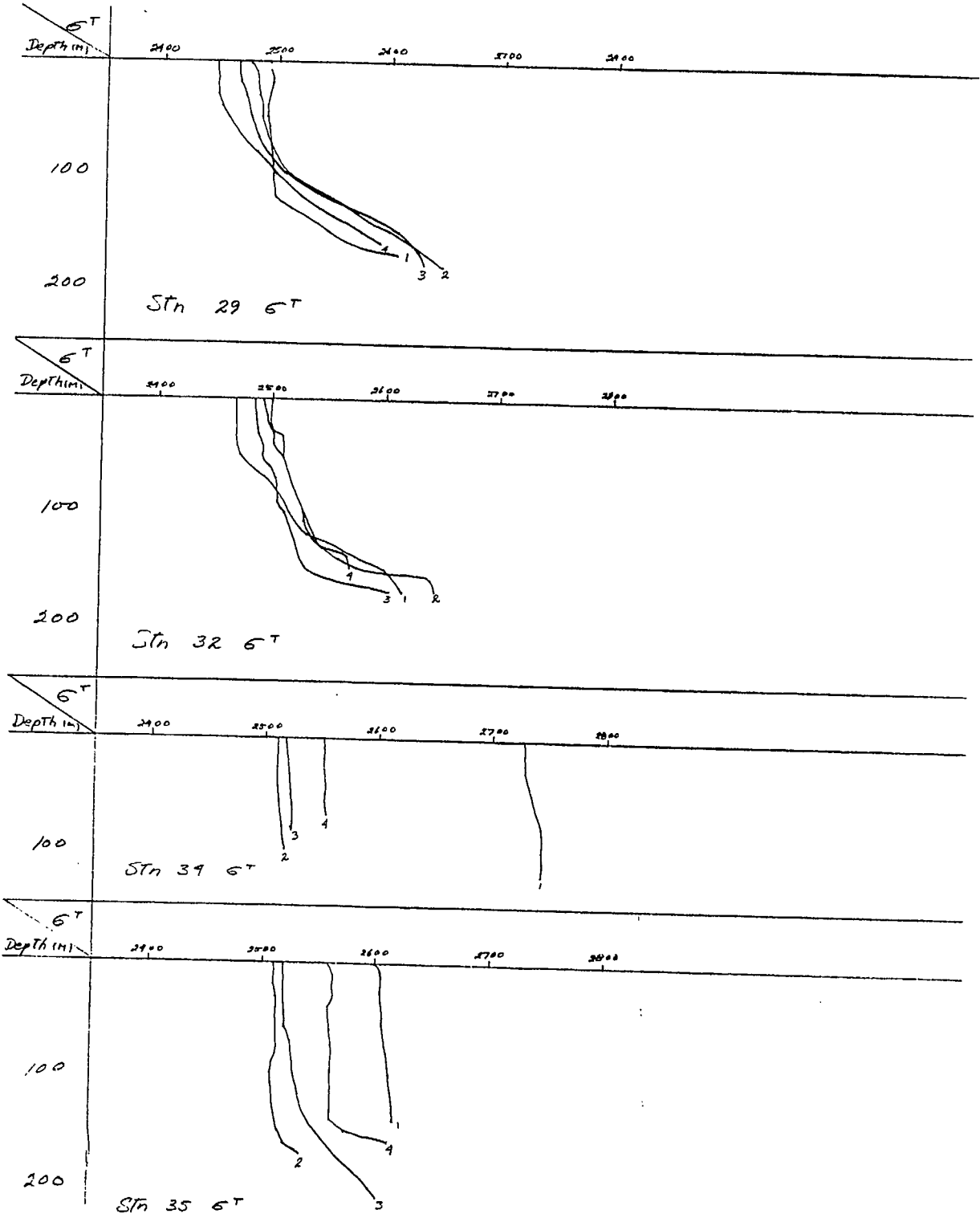


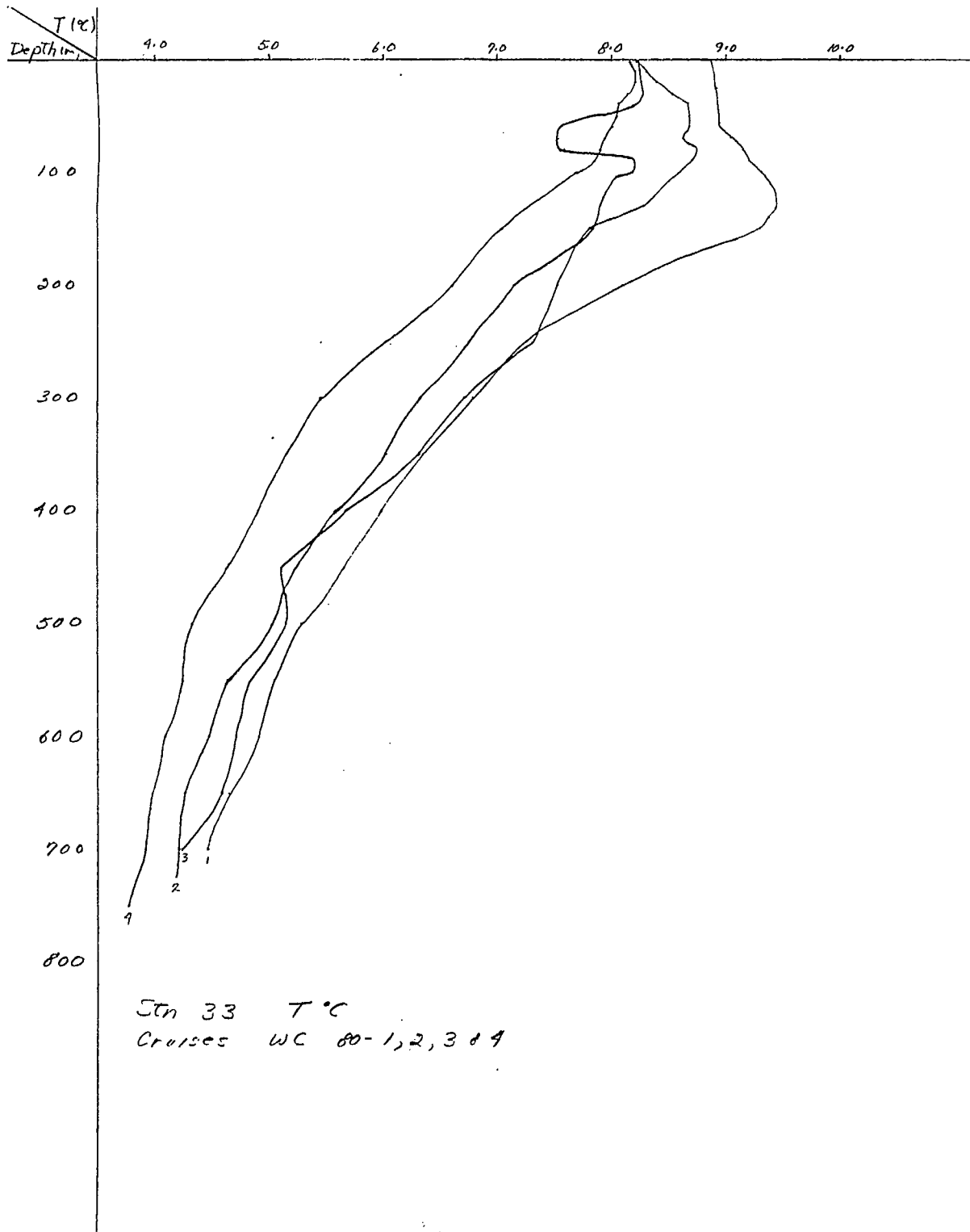


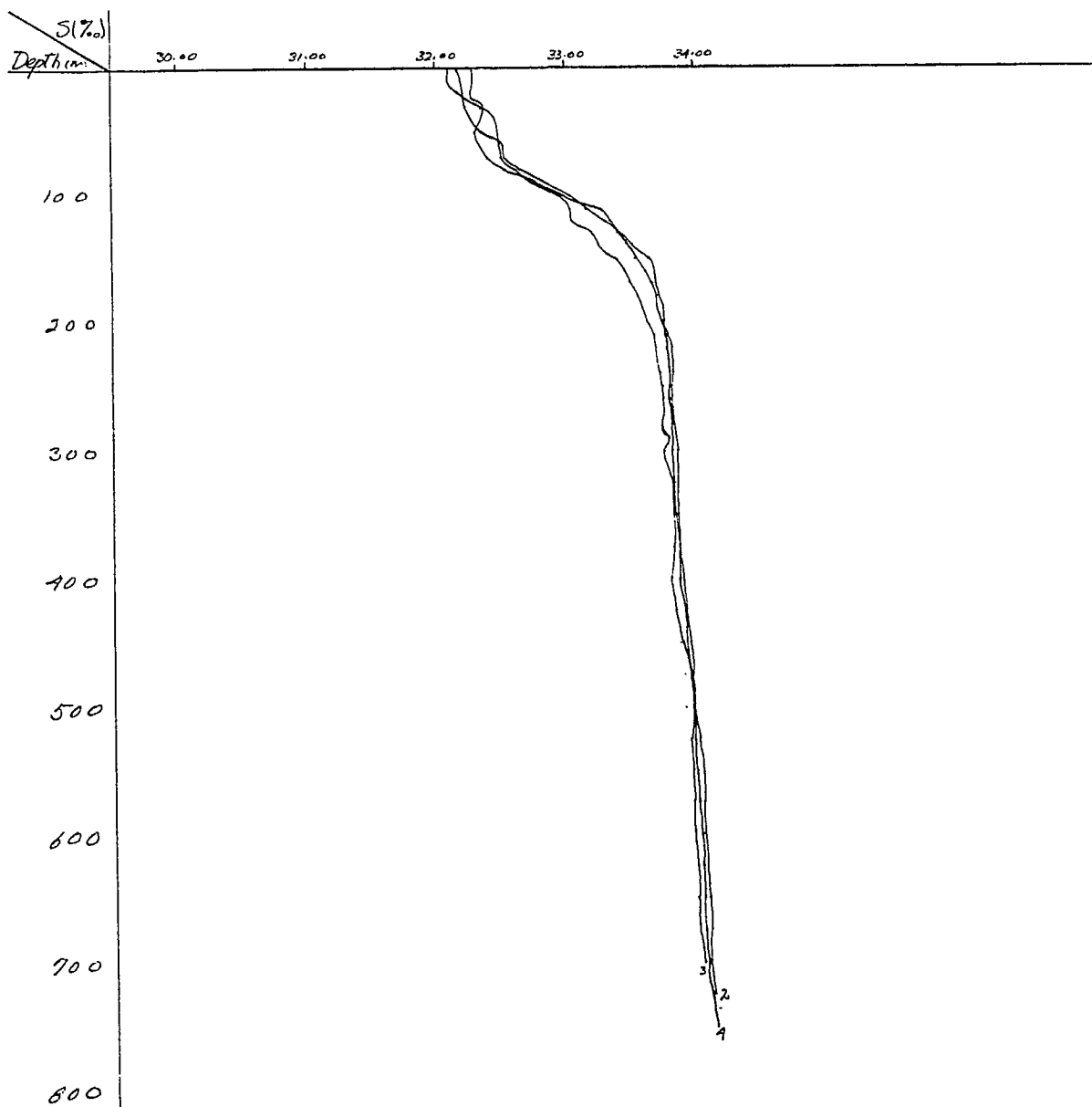




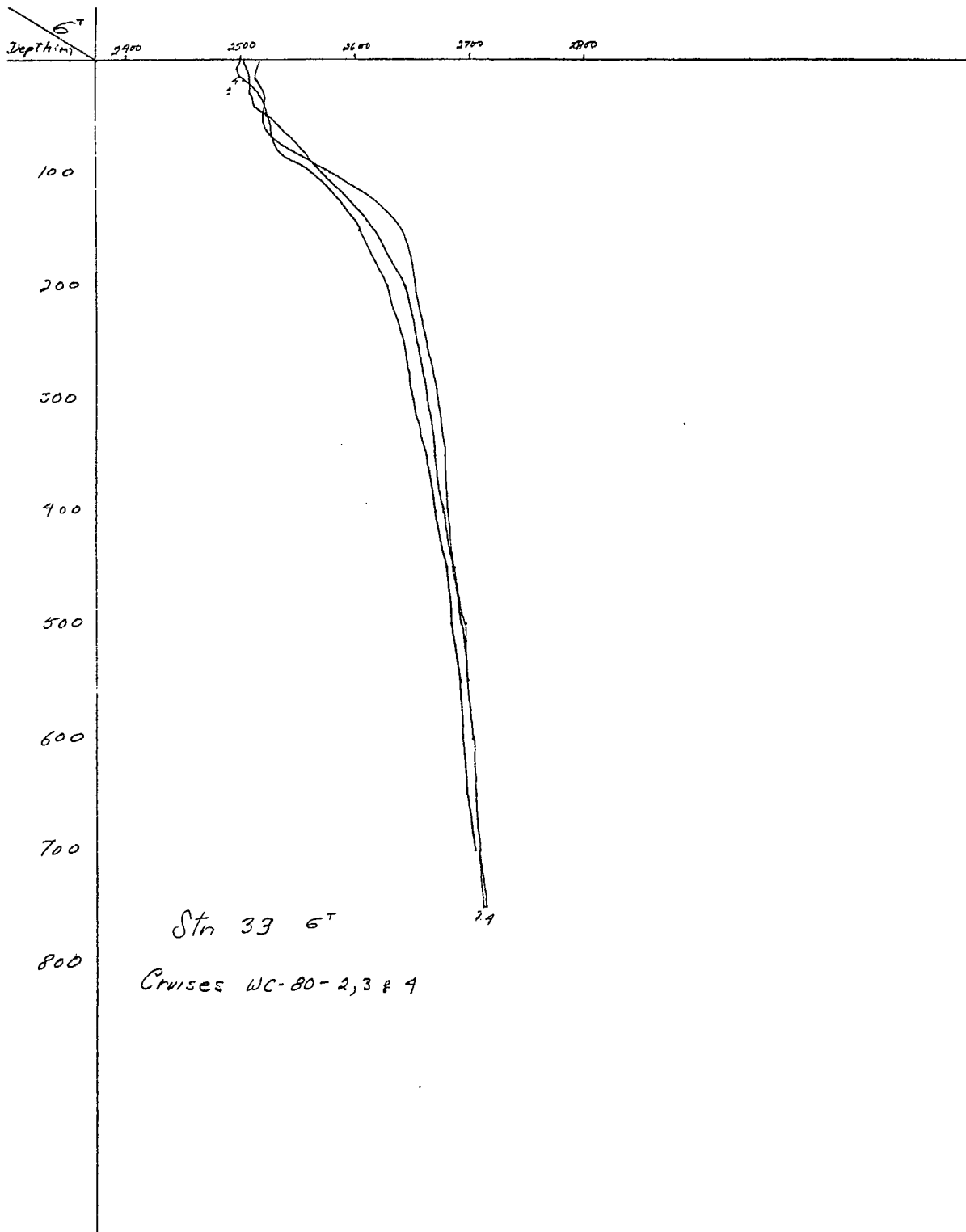






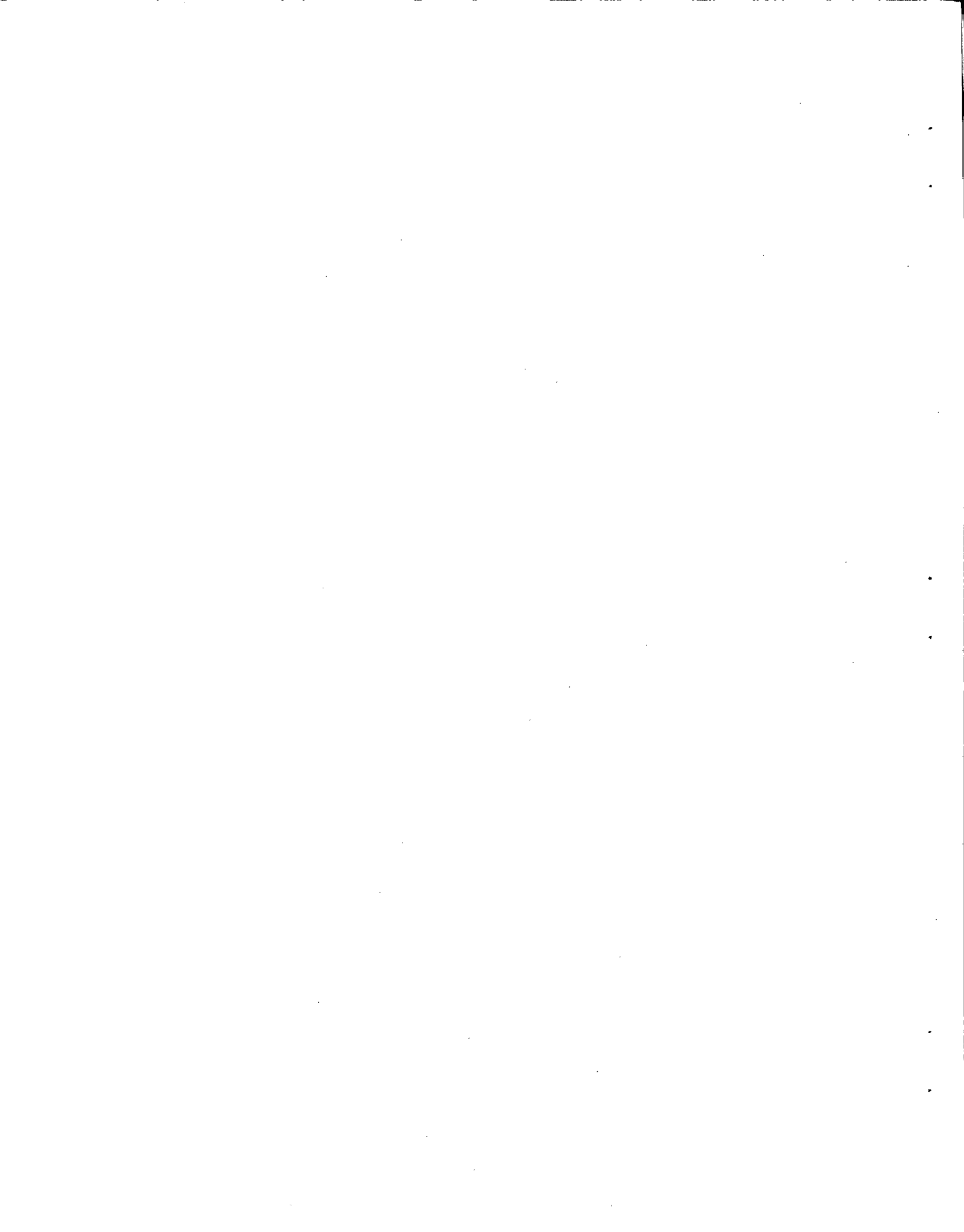


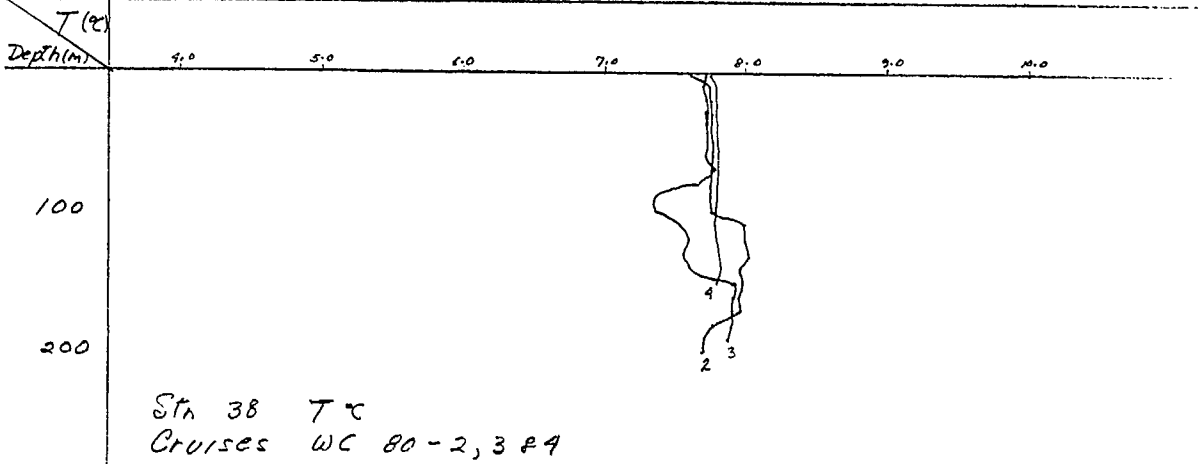
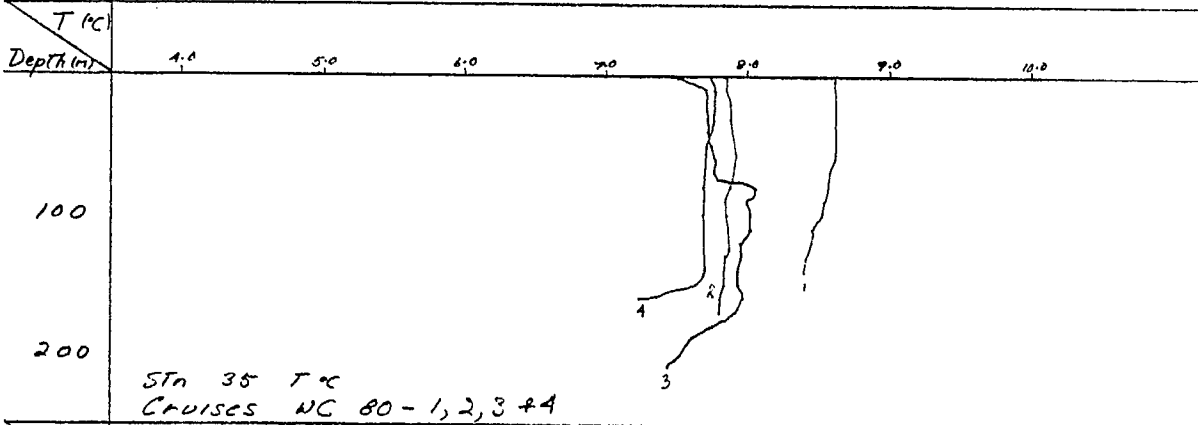
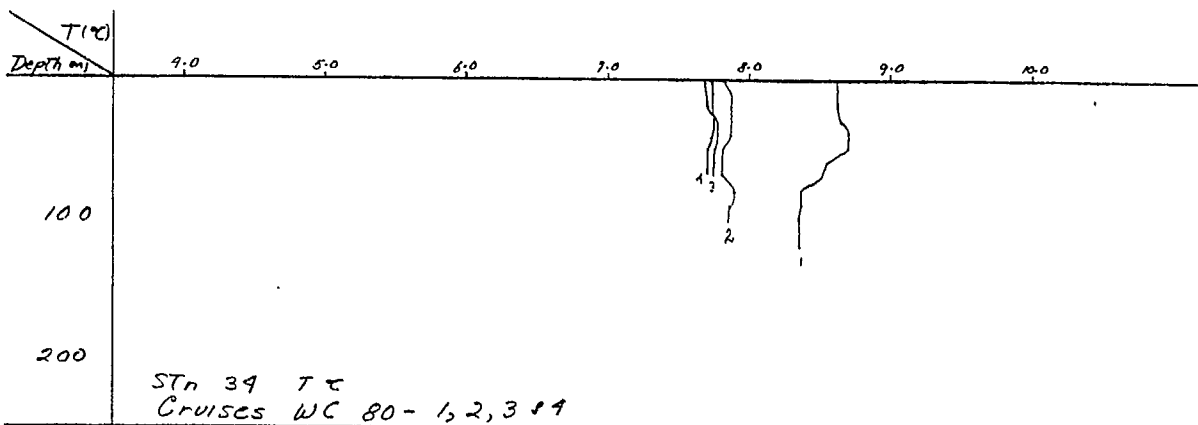
STN 33 S 7.0

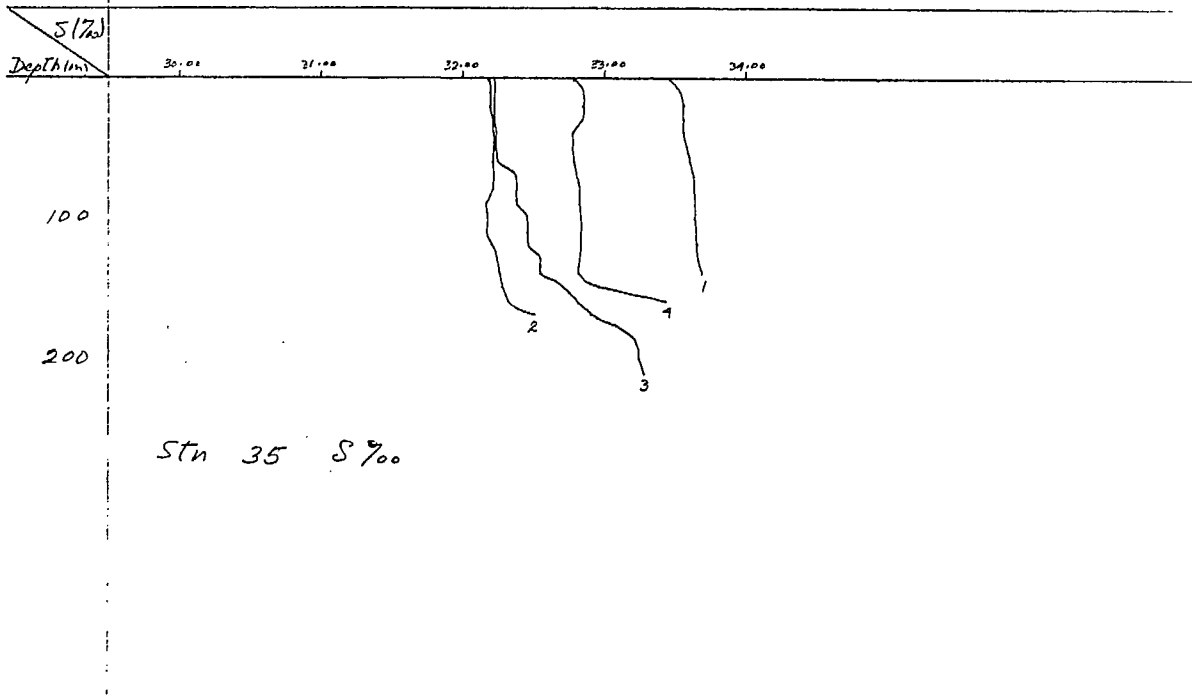
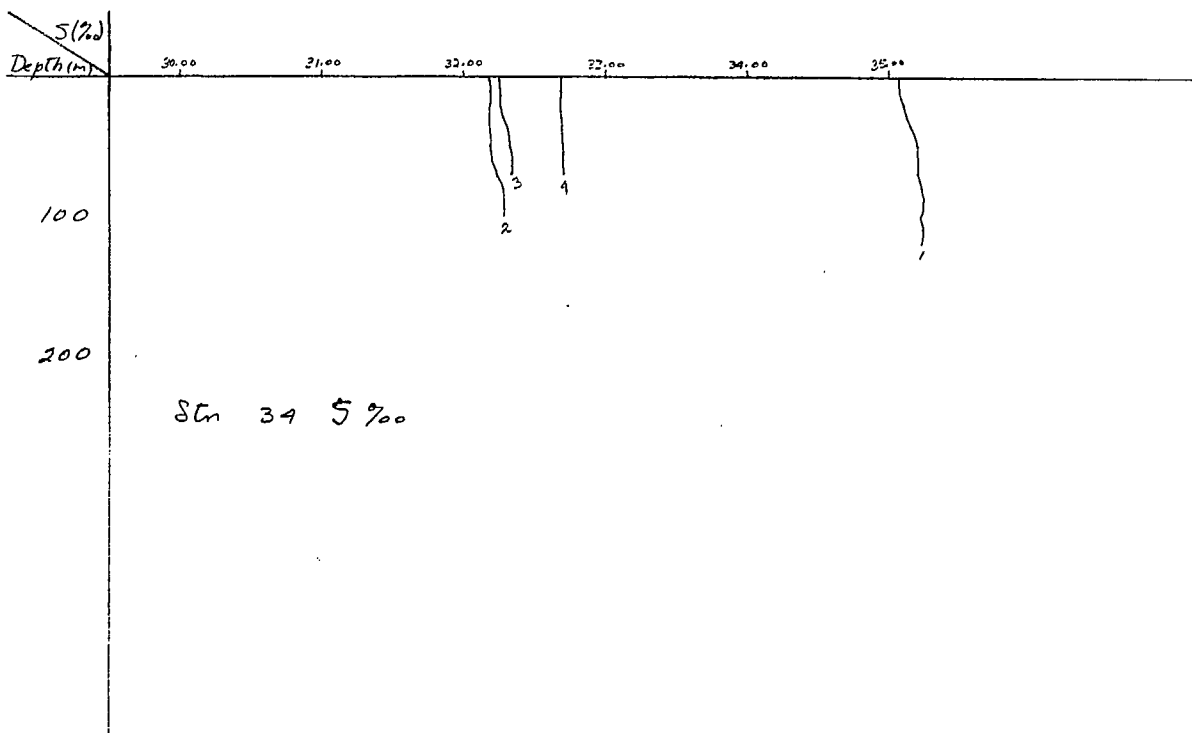


WEST COAST OF QUEEN CHARLOTTE ISLANDS

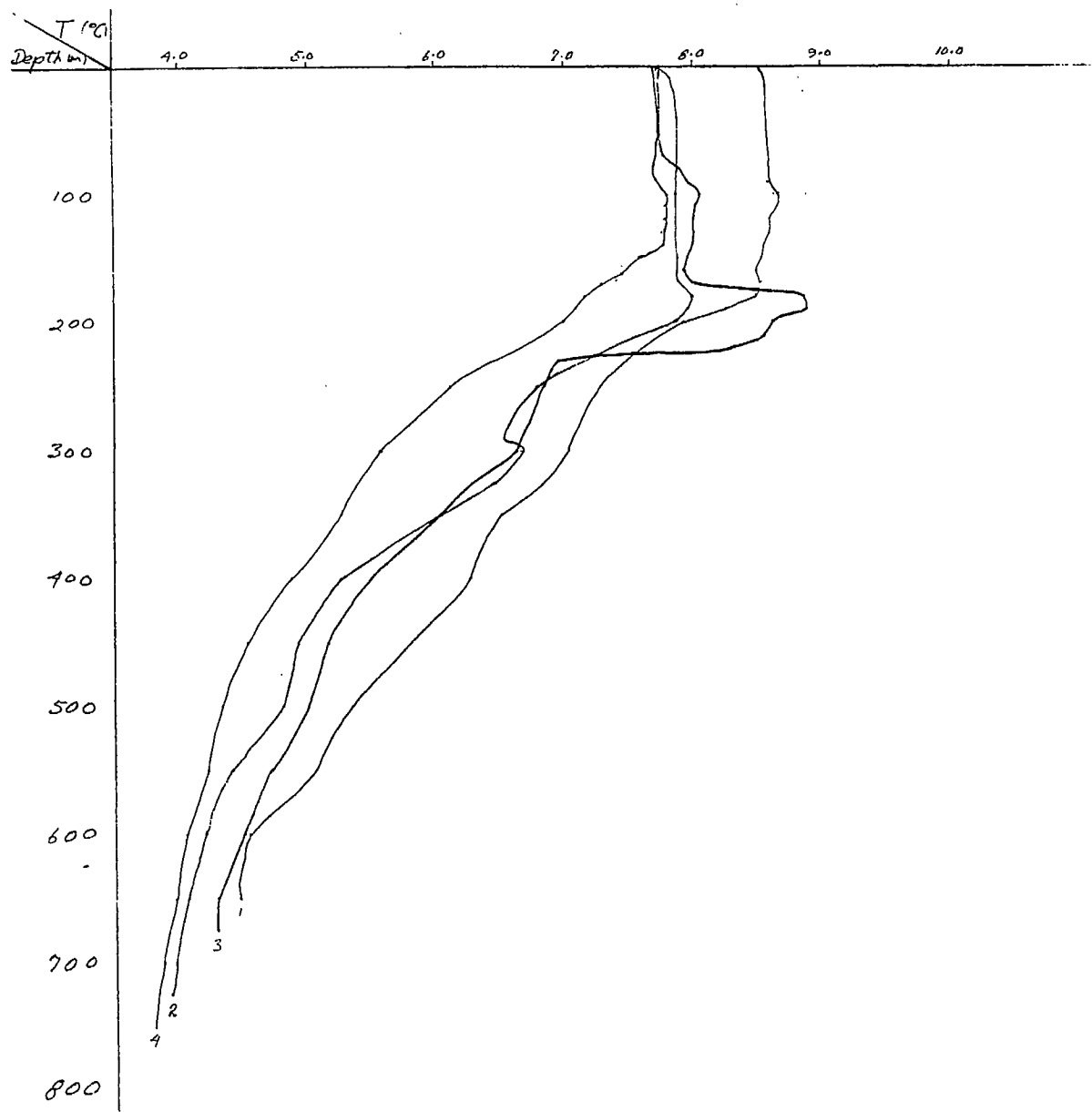
Transect Lines 8-12  
Stations 34-48



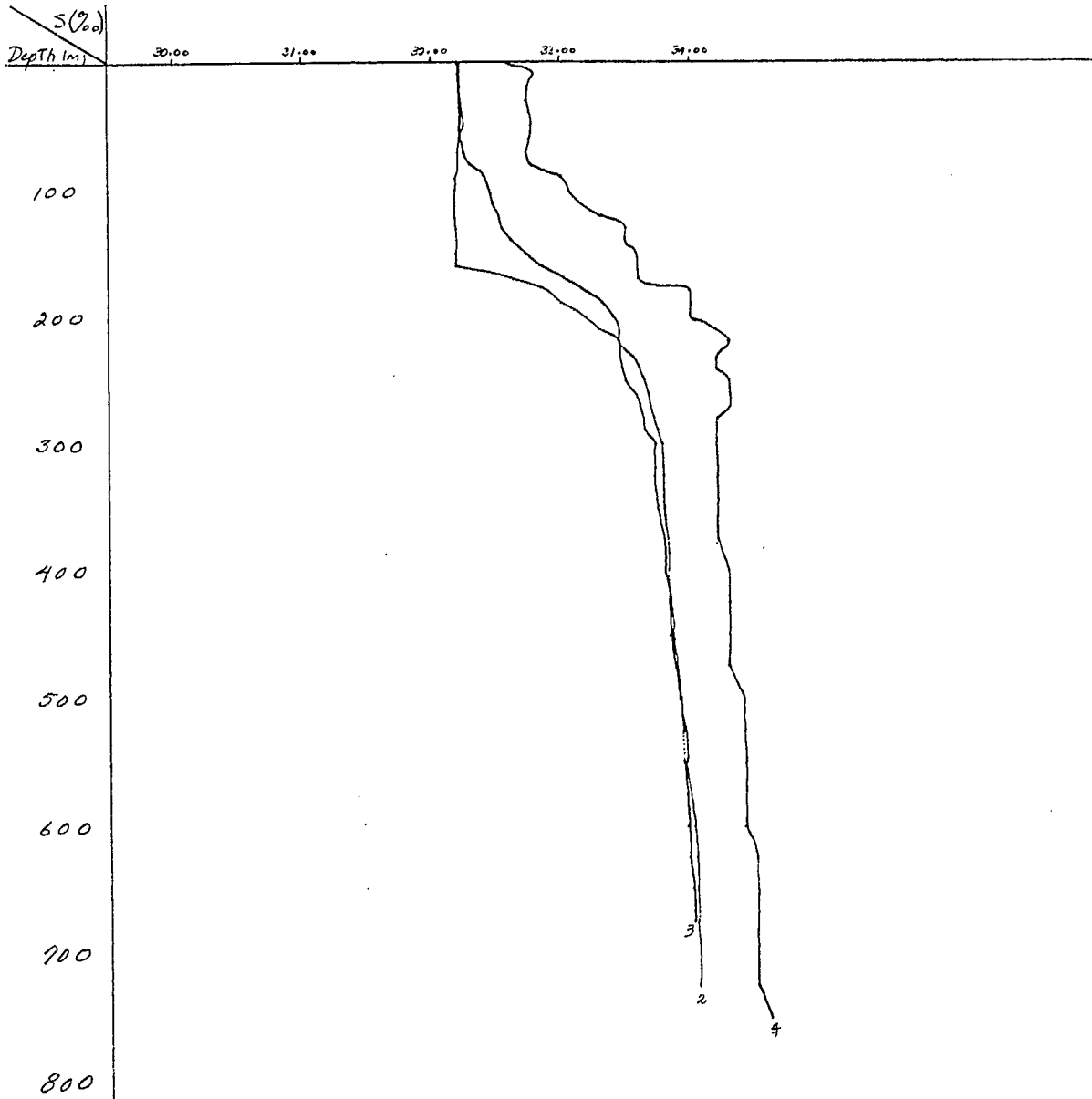




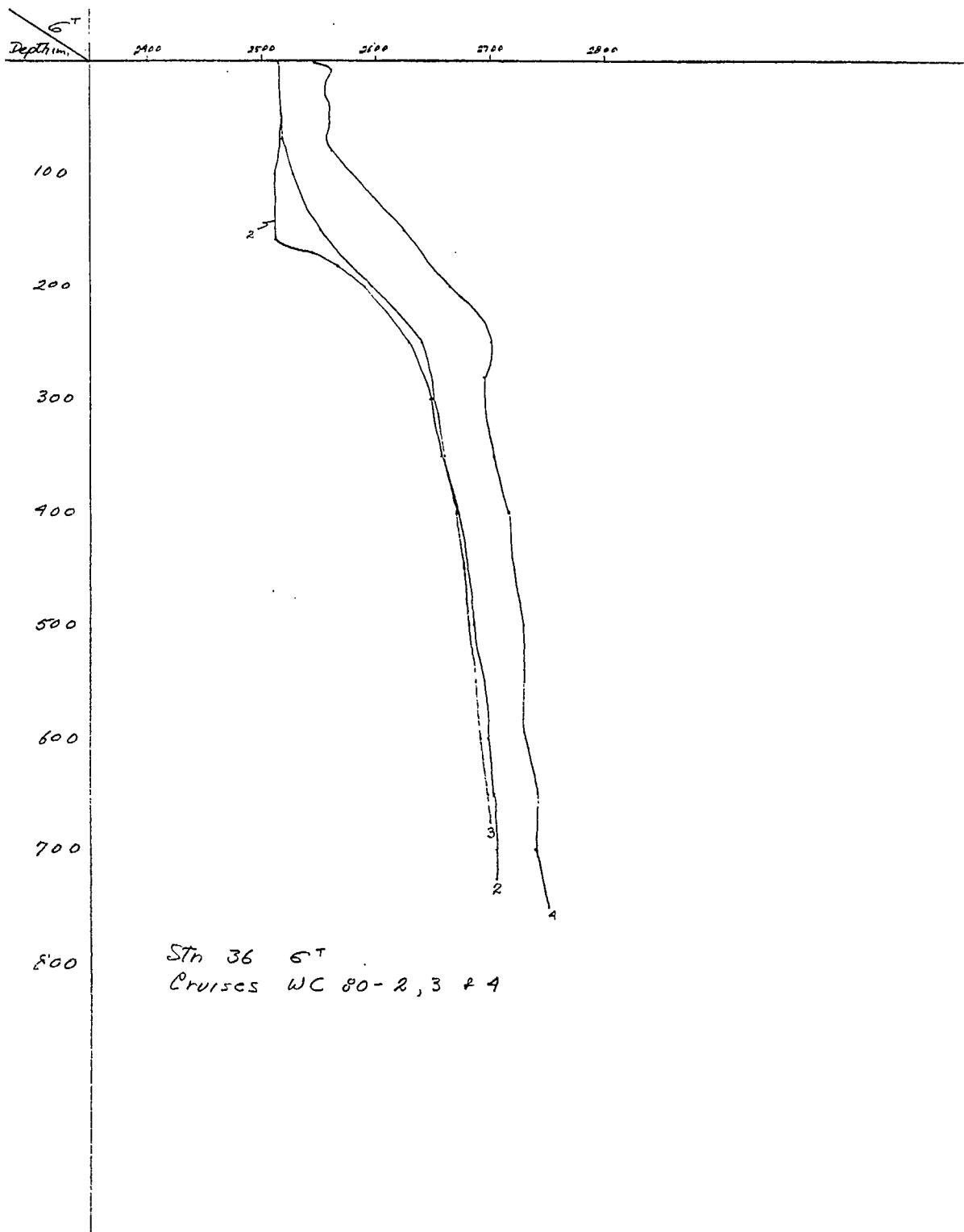


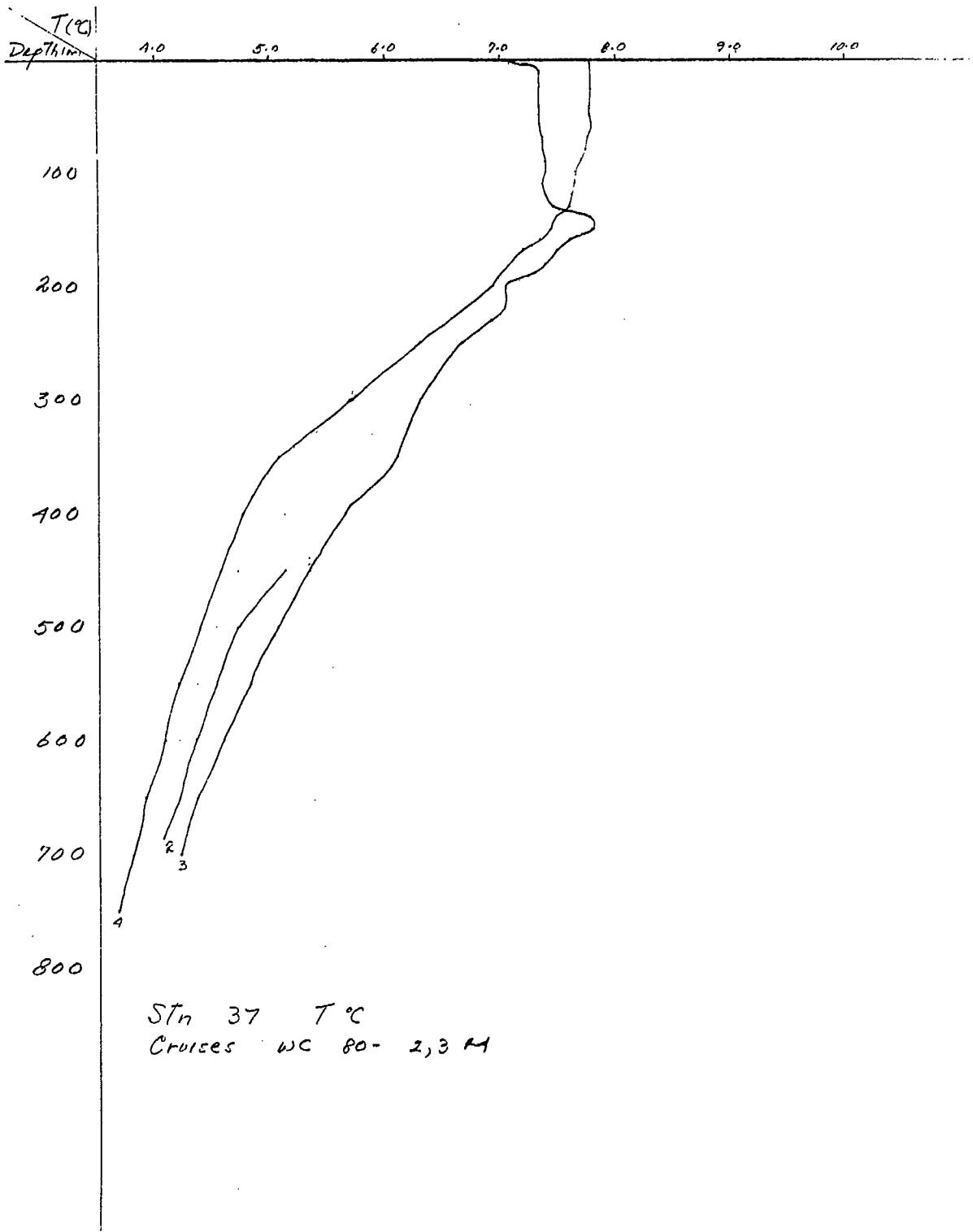


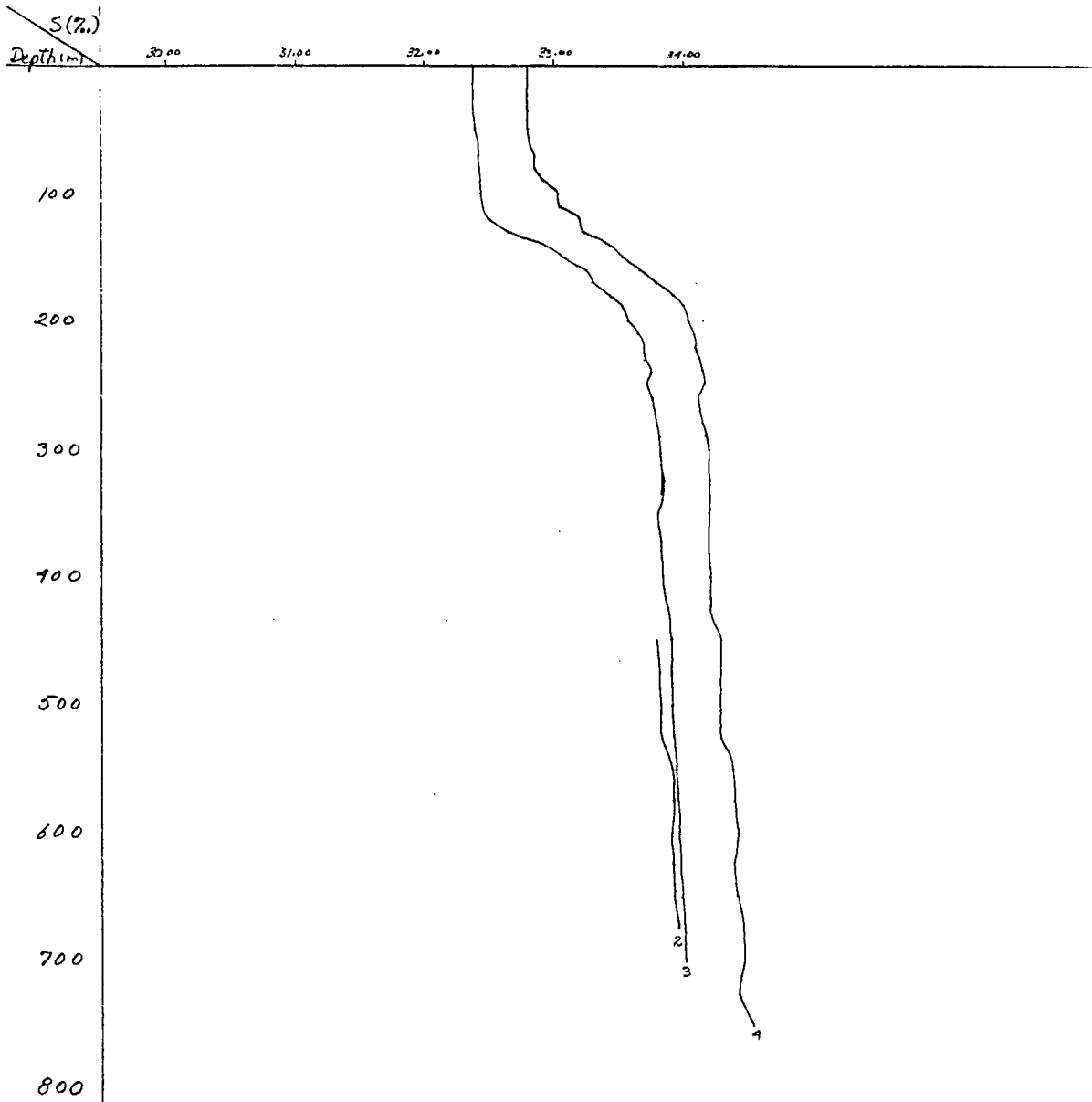
STN 36 T °C  
CRUISES WC 80-1, 2, 3 + 4



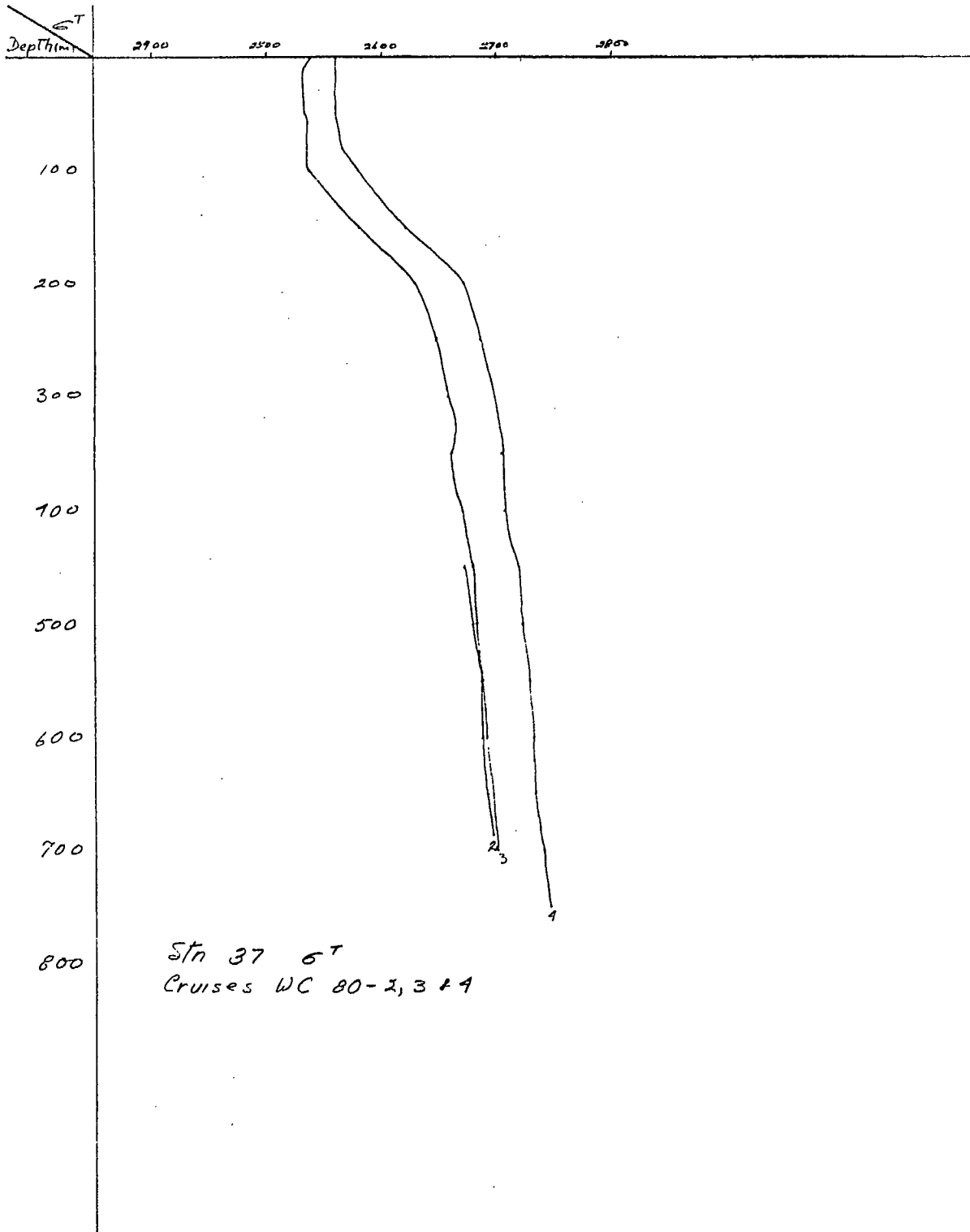
Stn 36 S 700  
Cruises WC 80- 2, 3 + 4

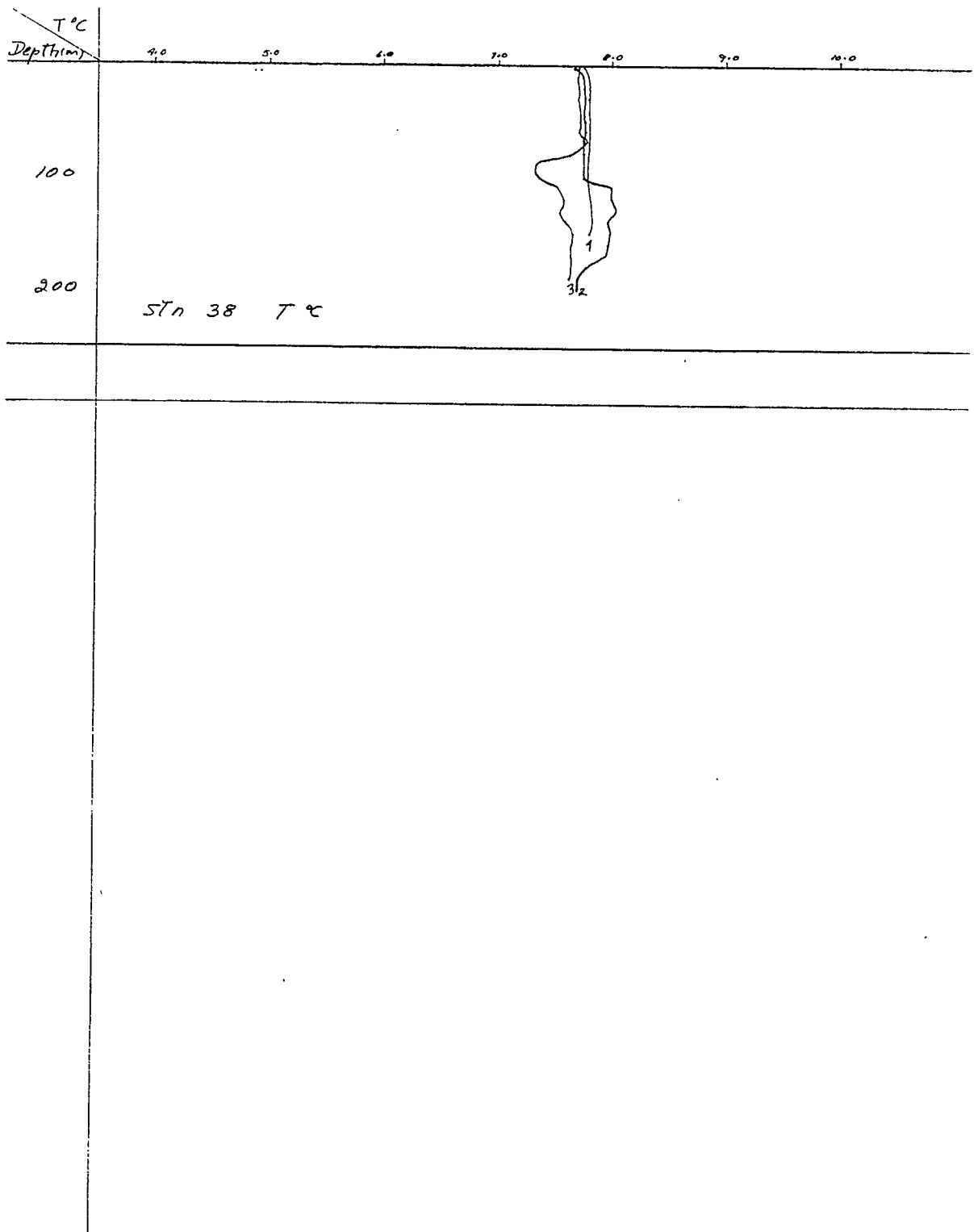


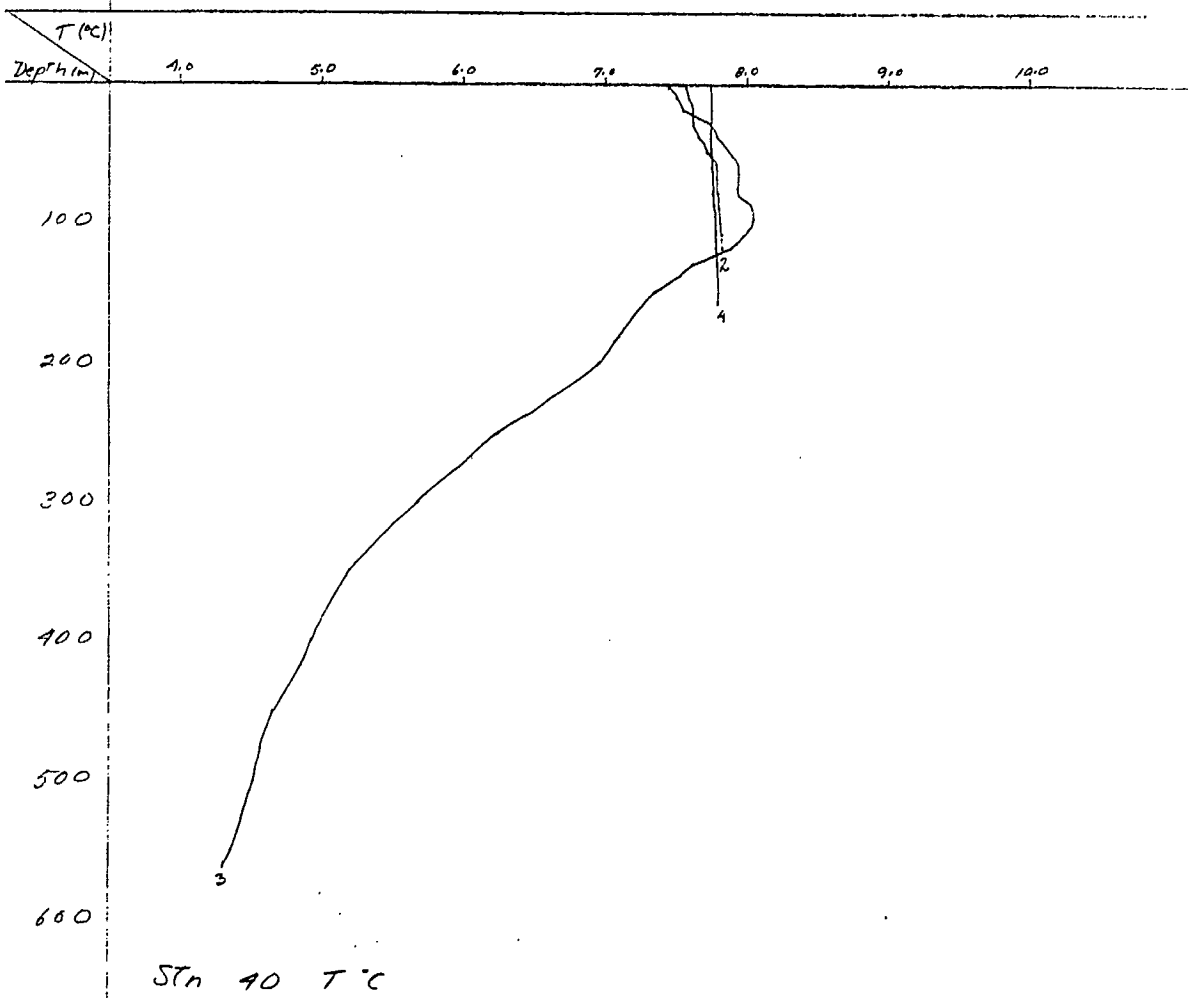
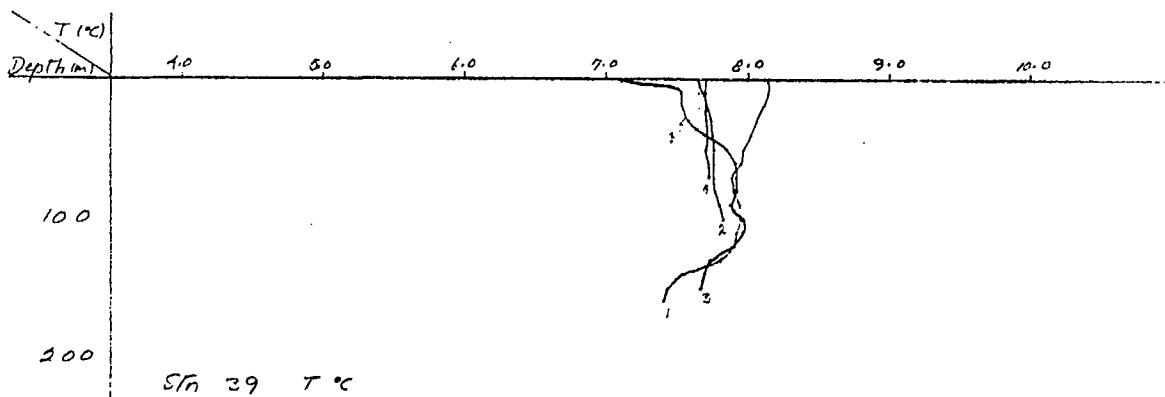




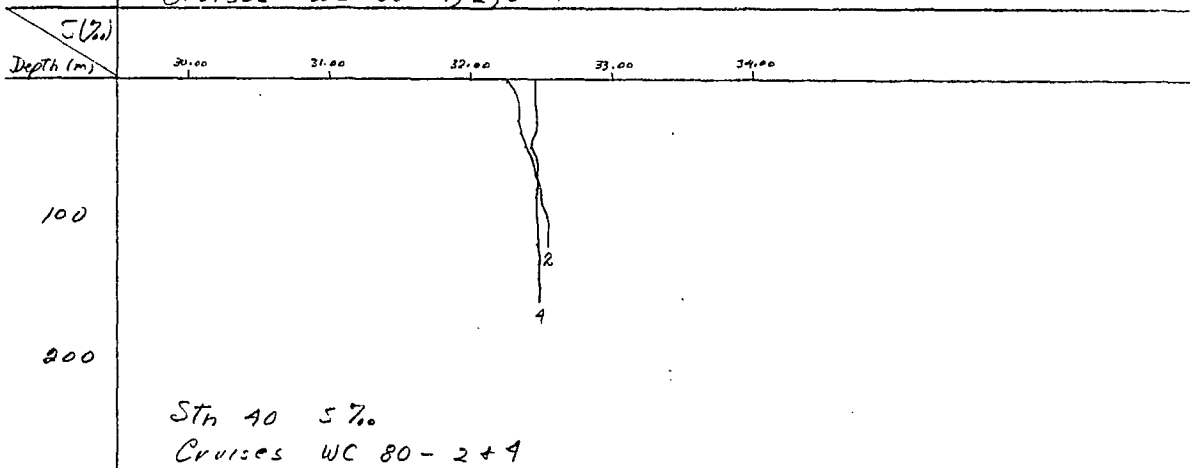
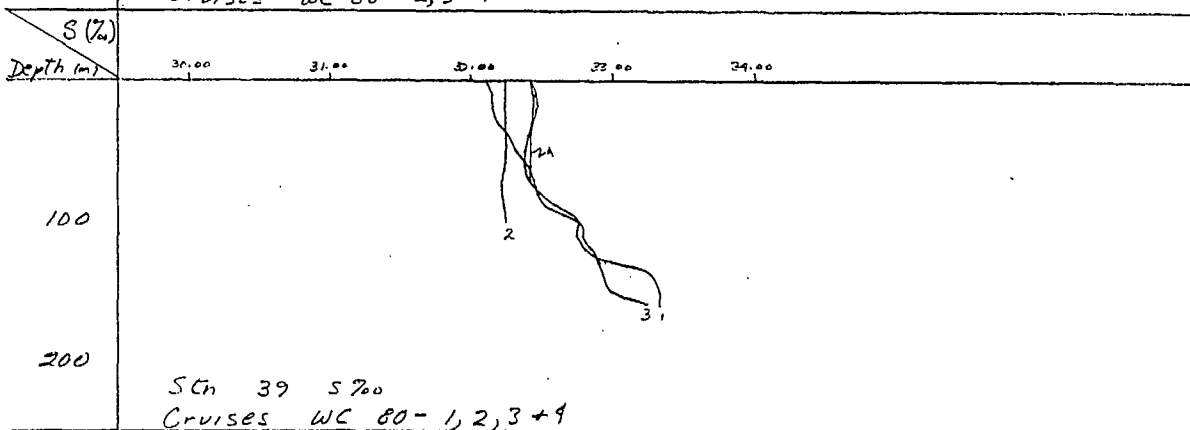
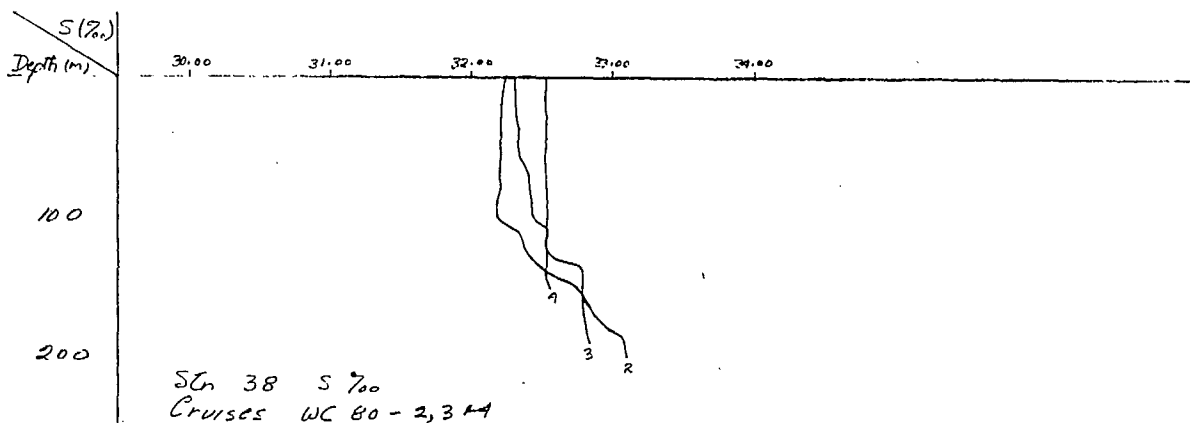
Sta 37 S‰  
Cruises WC 80-2, 3 & 4

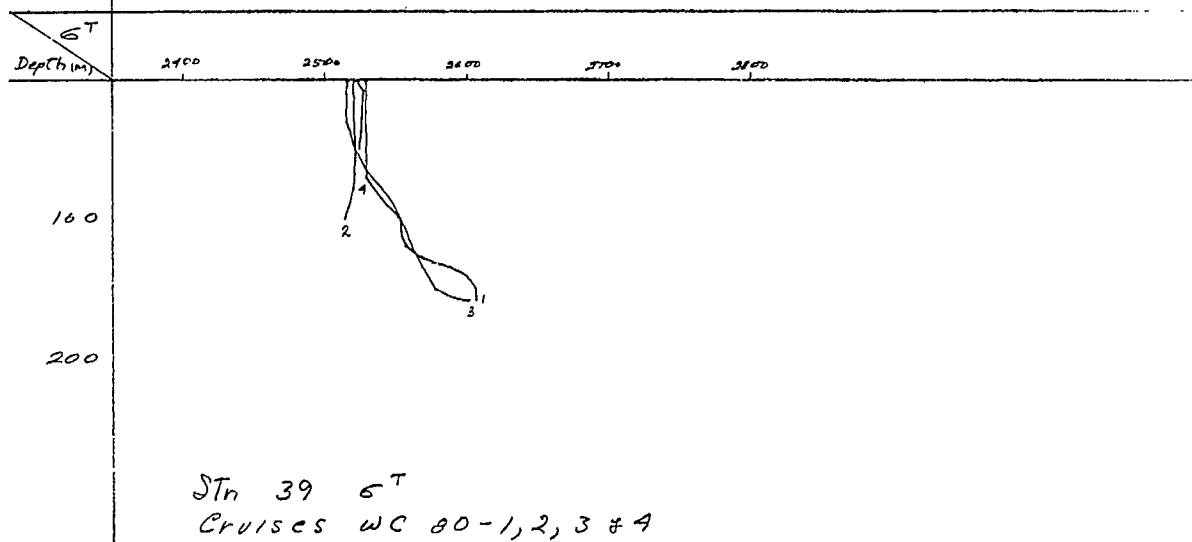
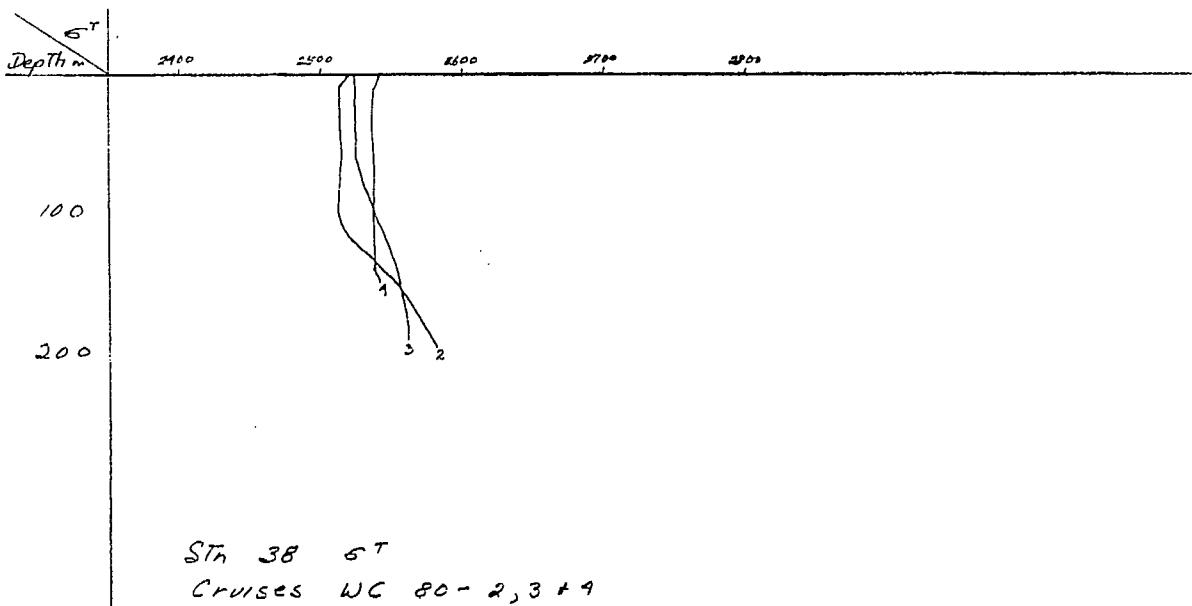


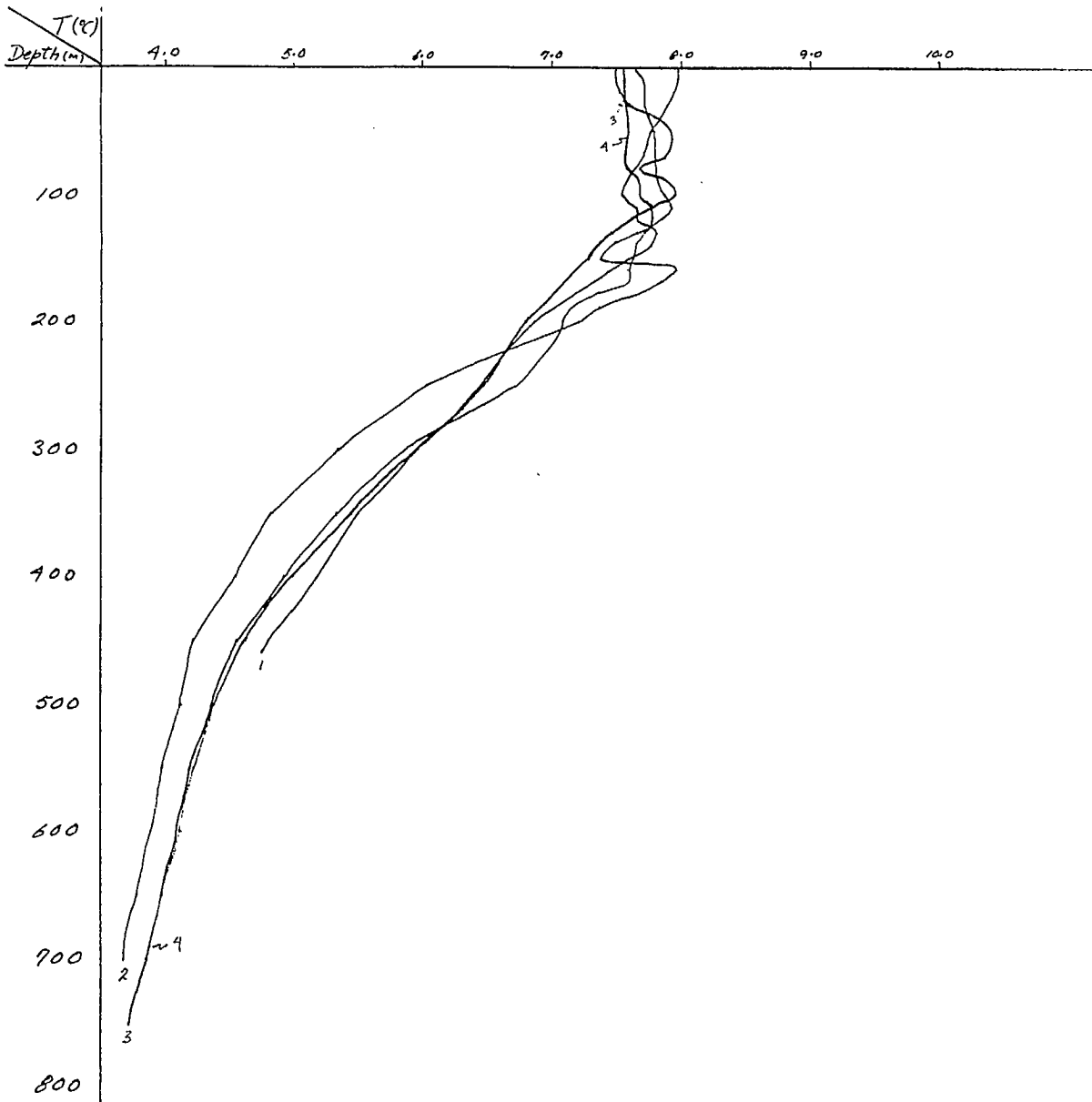




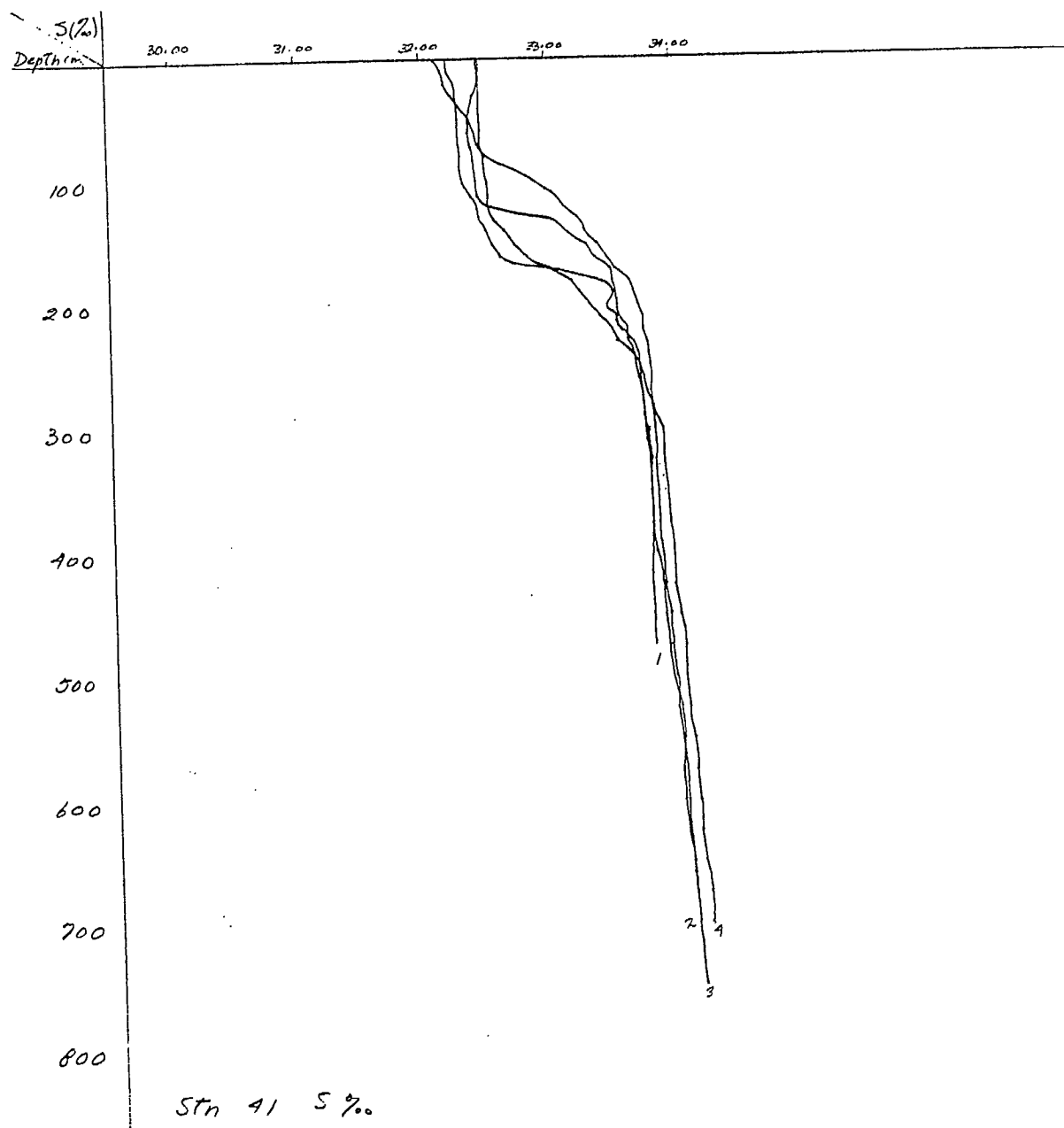


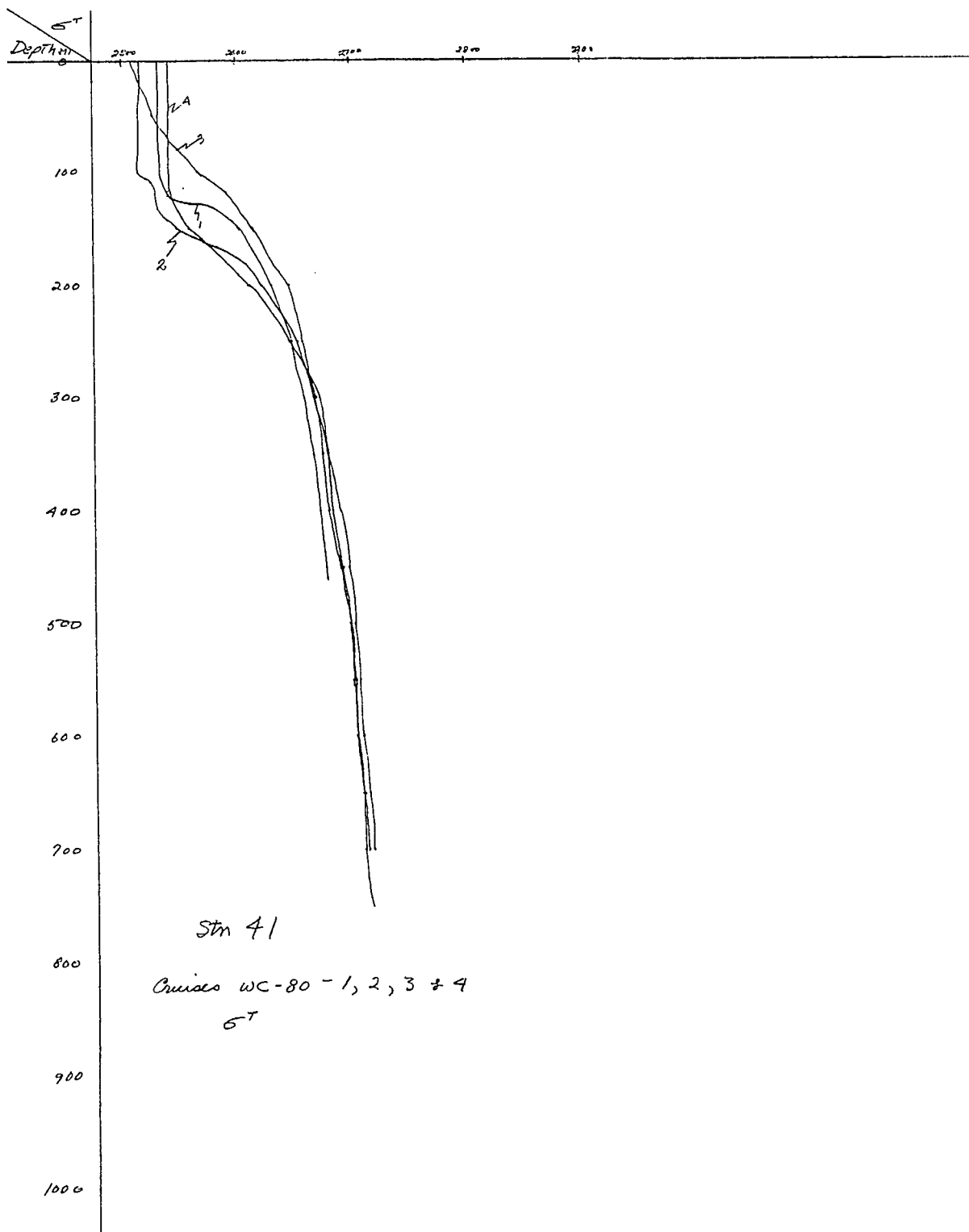


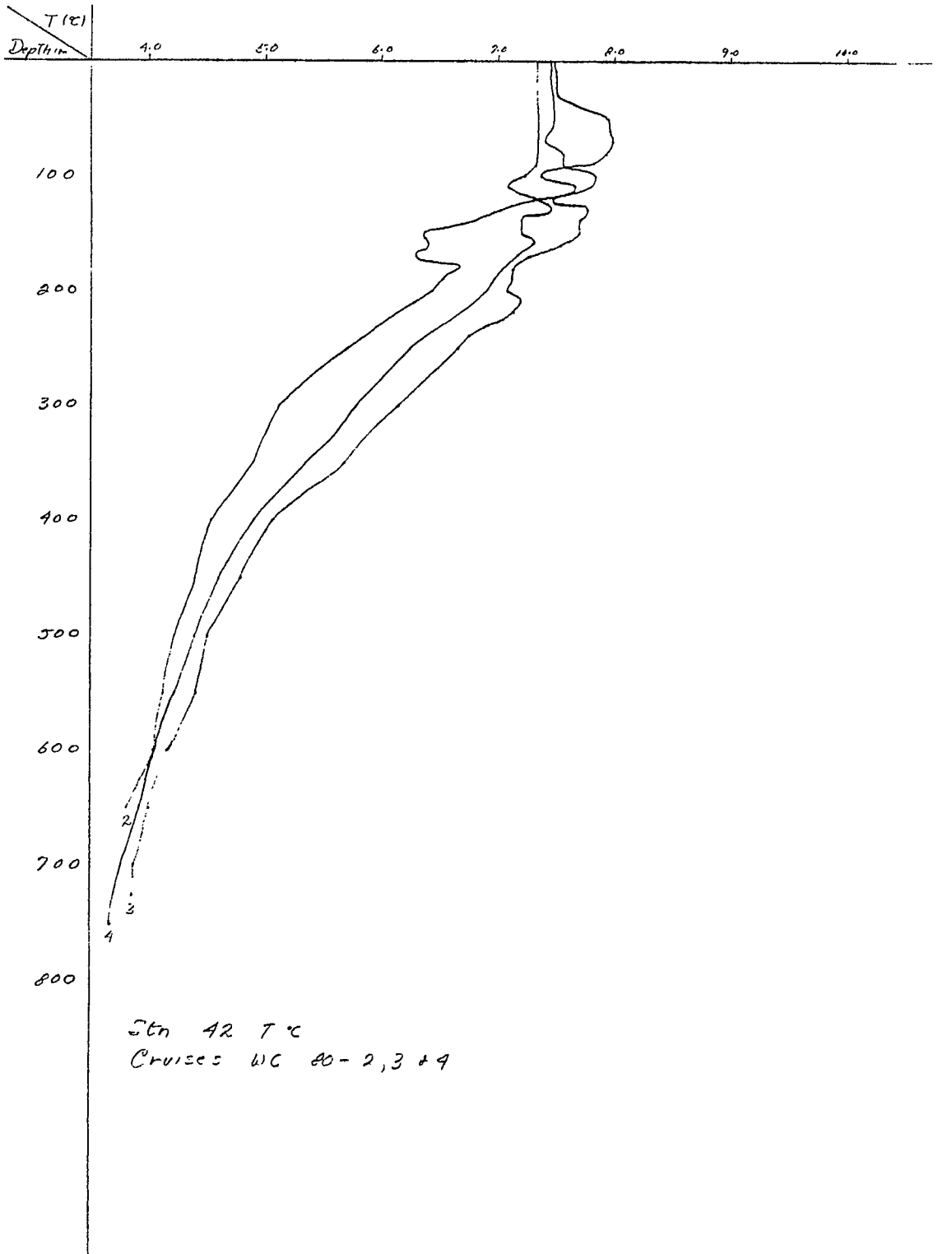


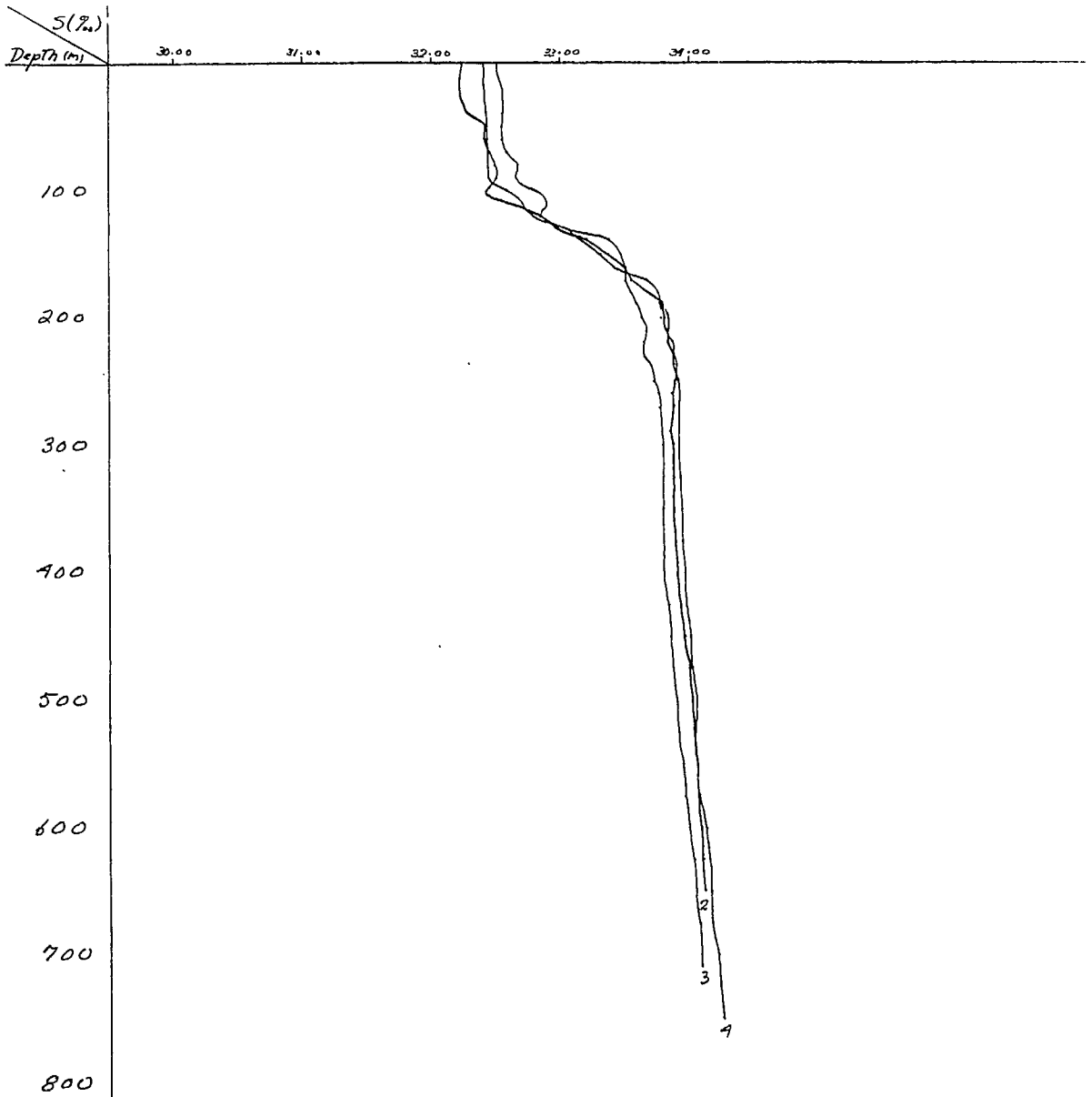


Stn 41  $T(^{\circ}\text{C})$   
Cruises WC 80-1, 2, 3 & 4

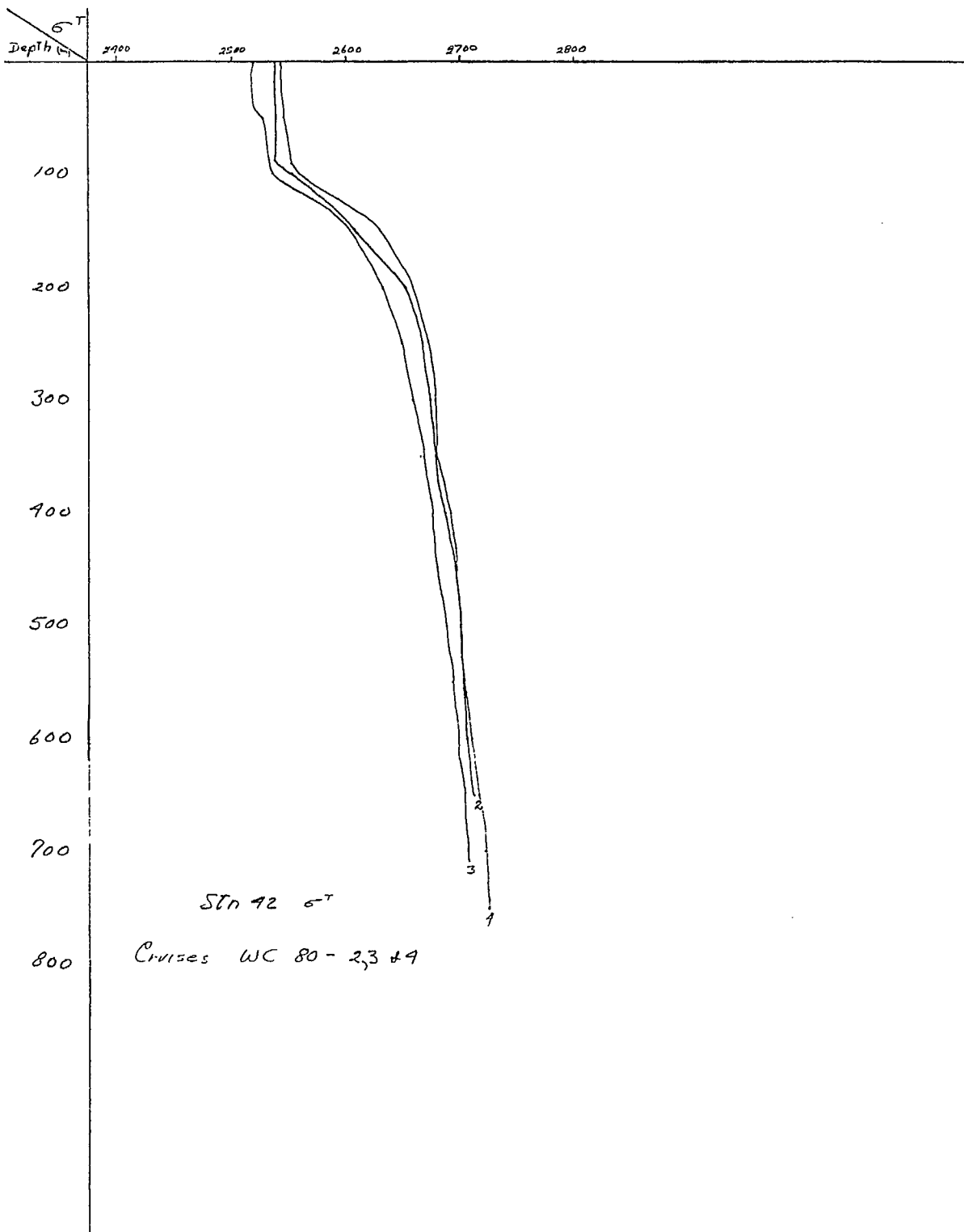




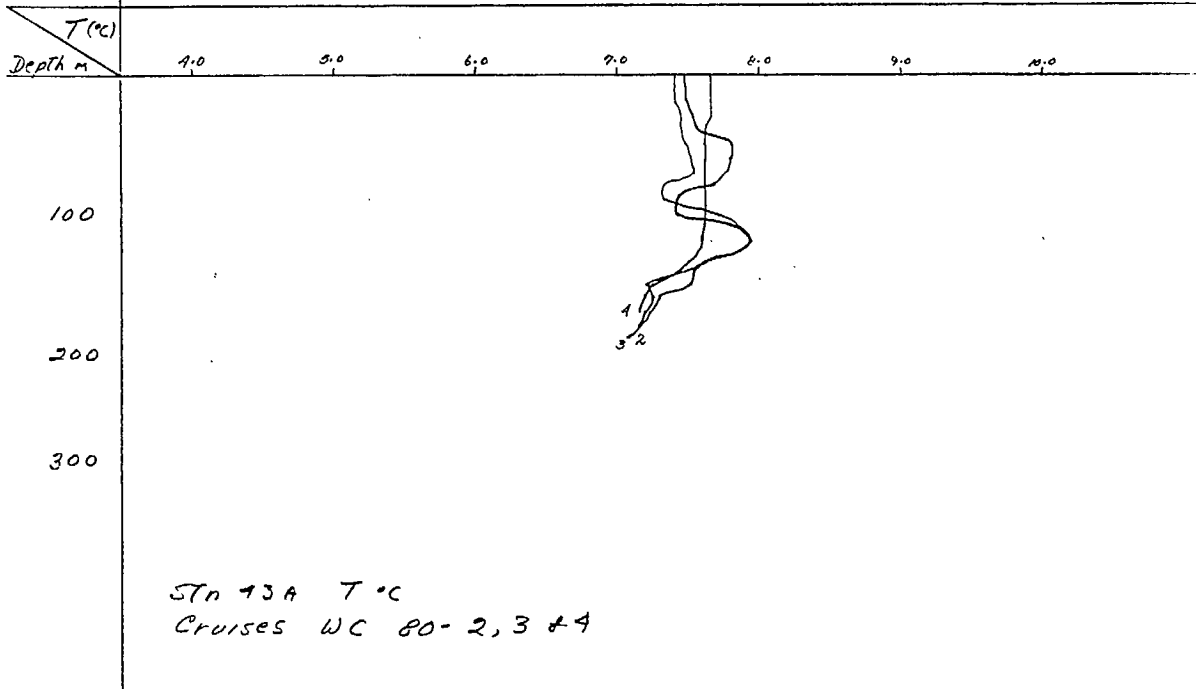
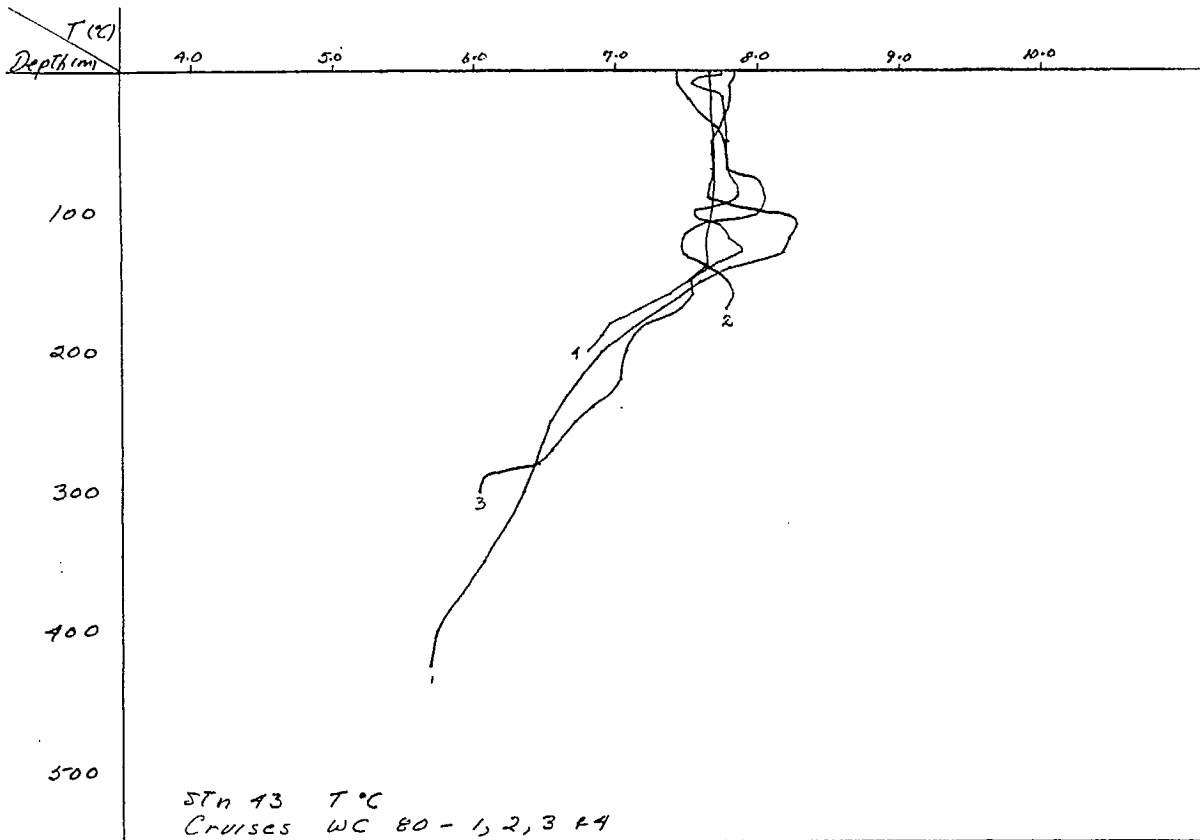


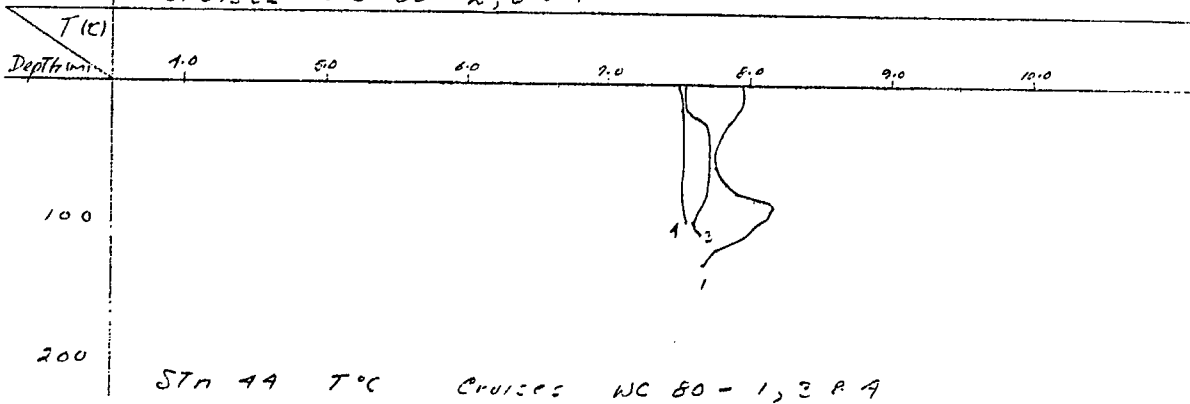
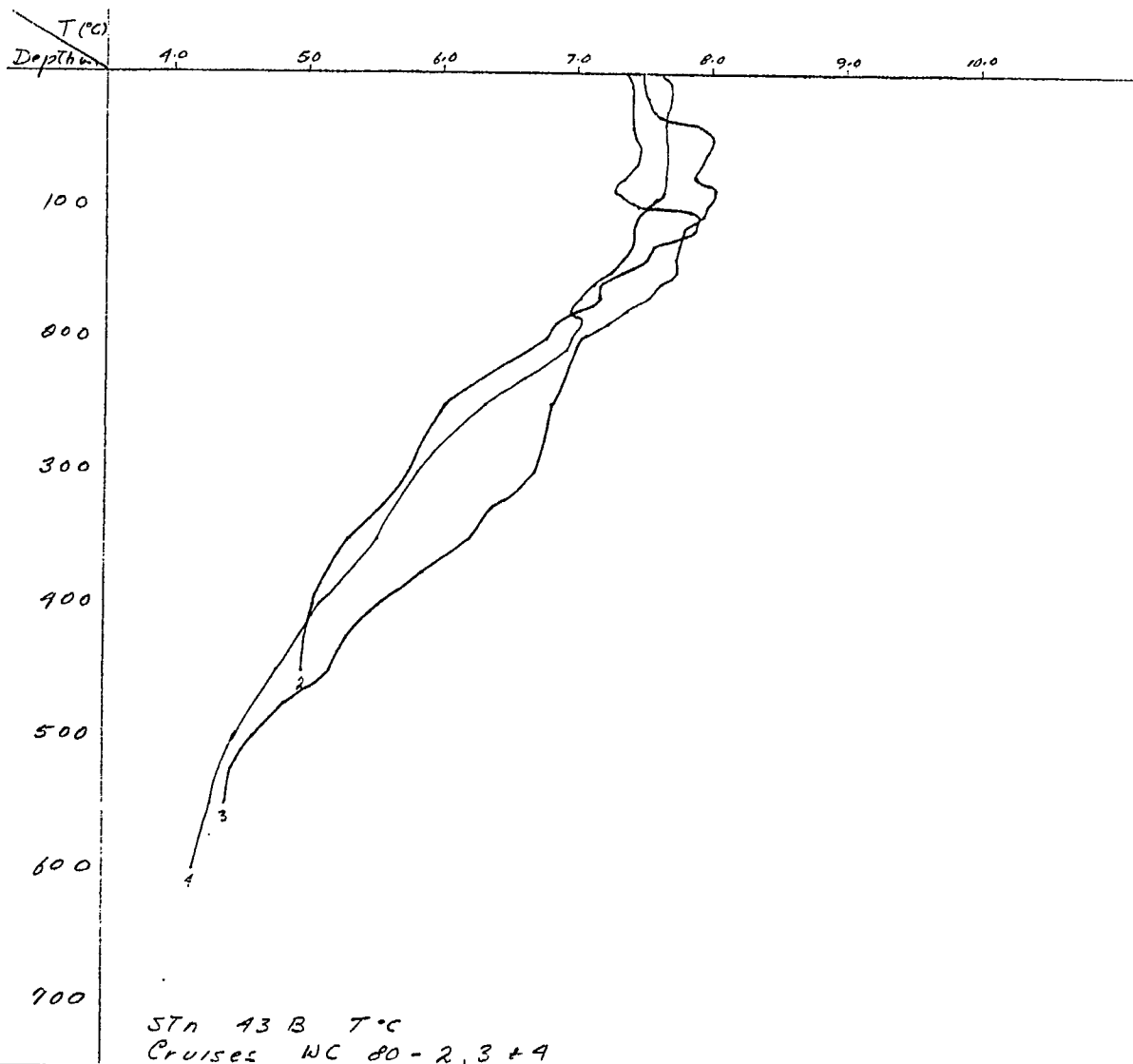


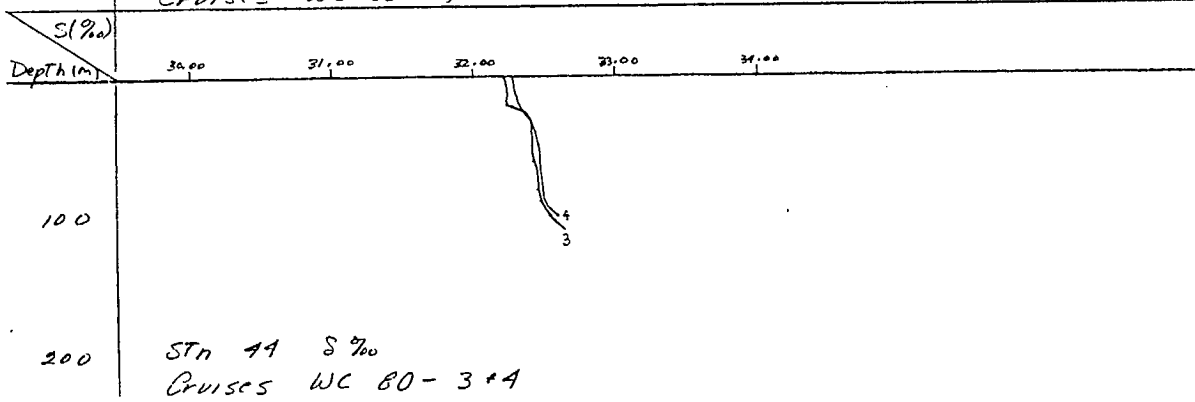
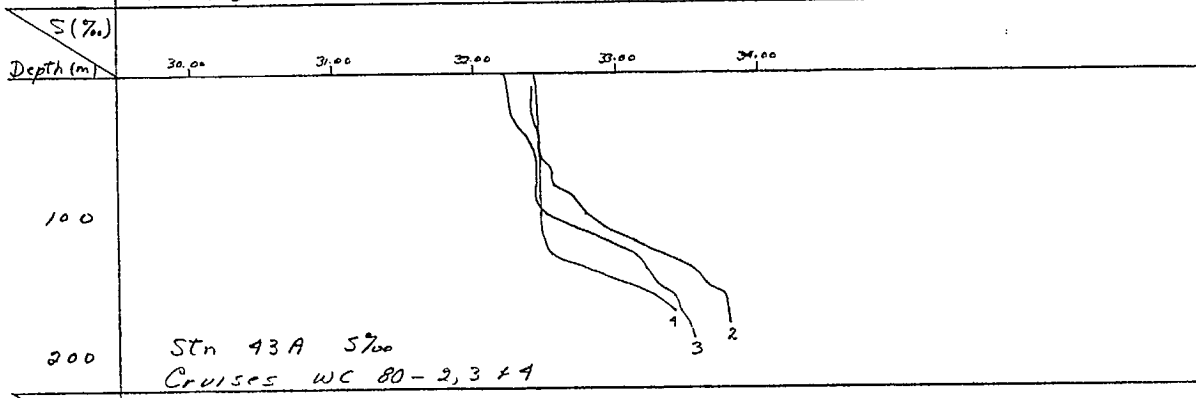
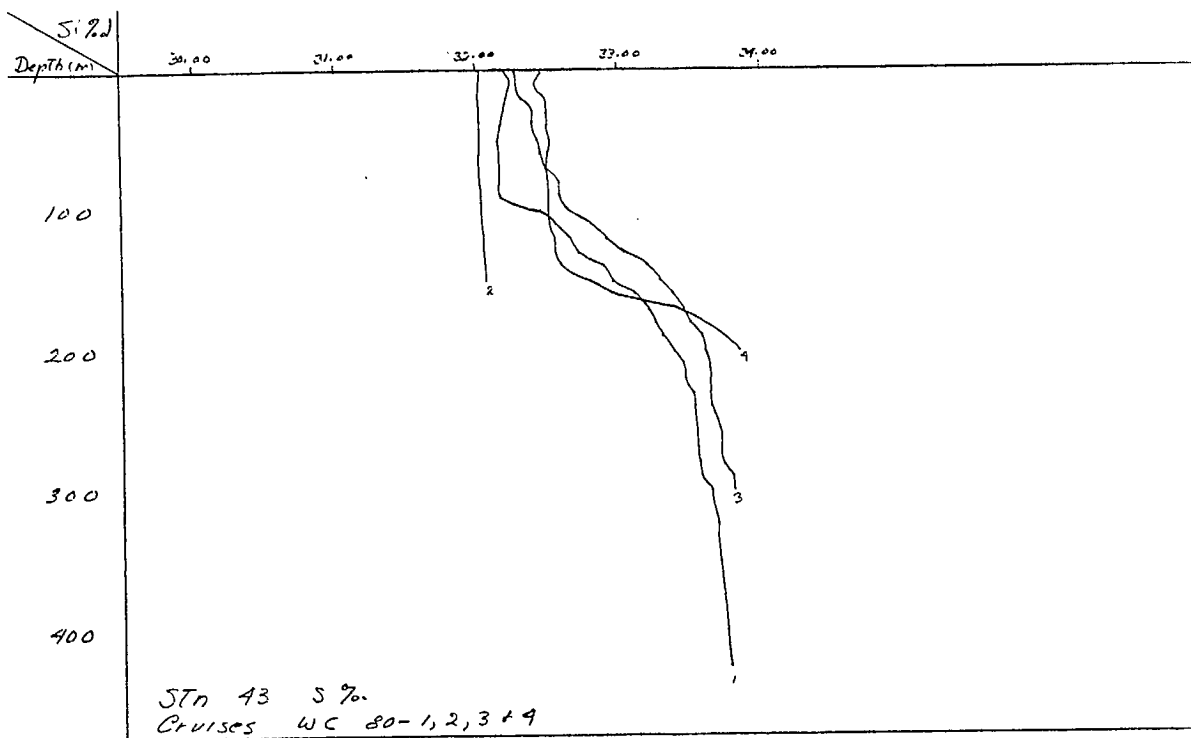
STn 12 S 700  
Cruise WC 80-2, 3 & 4

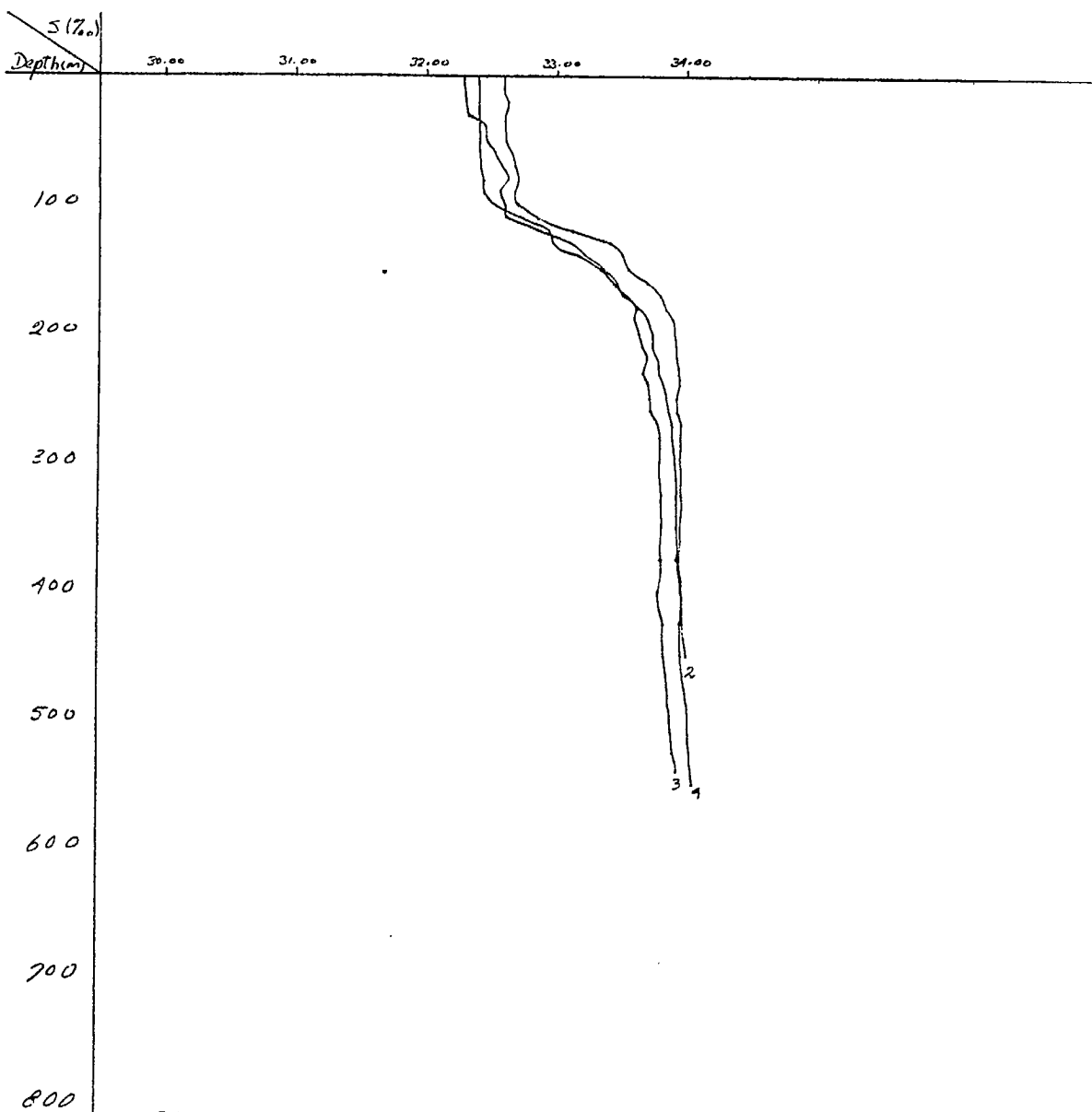




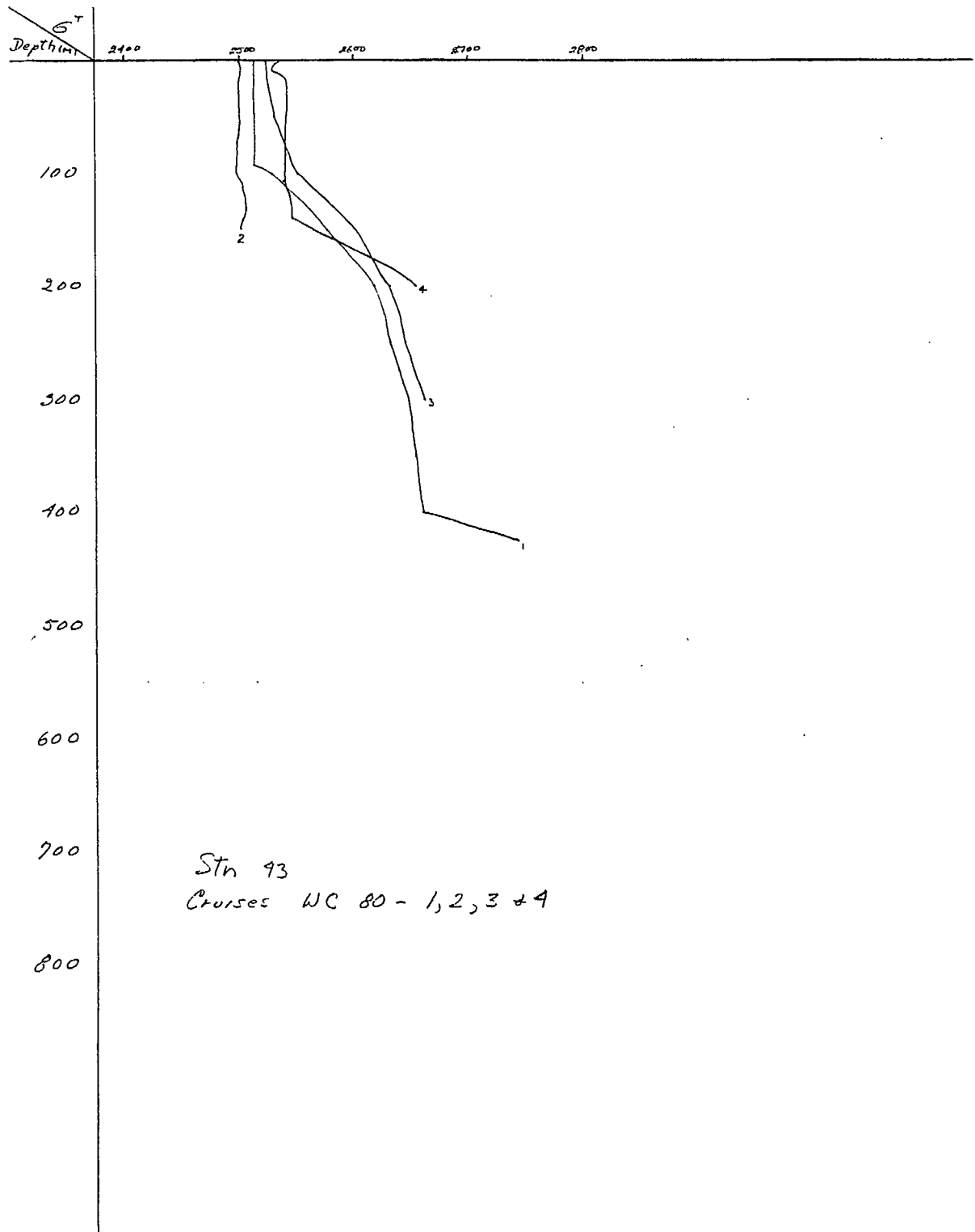


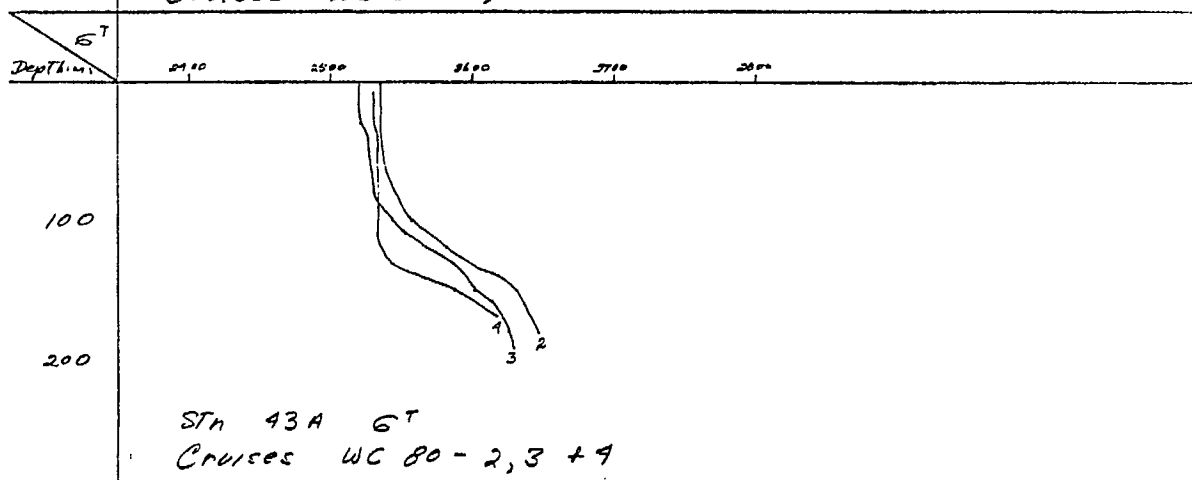
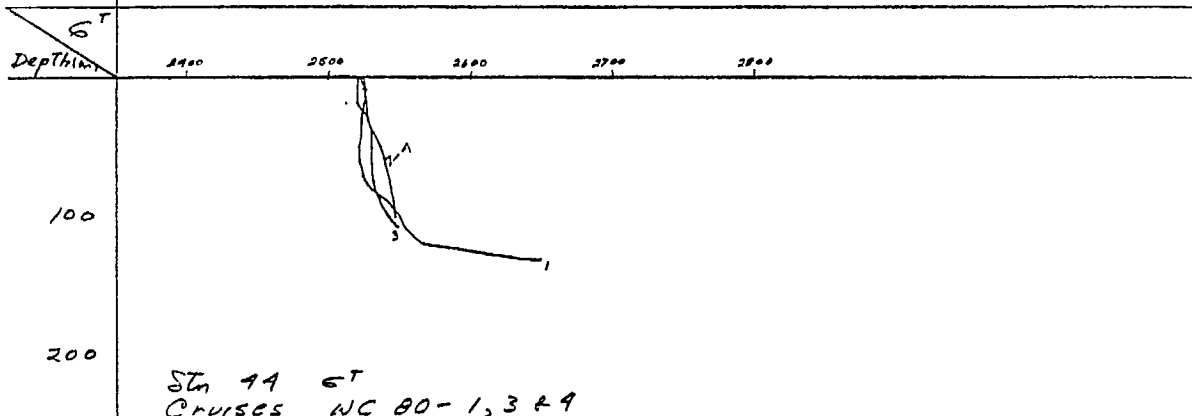
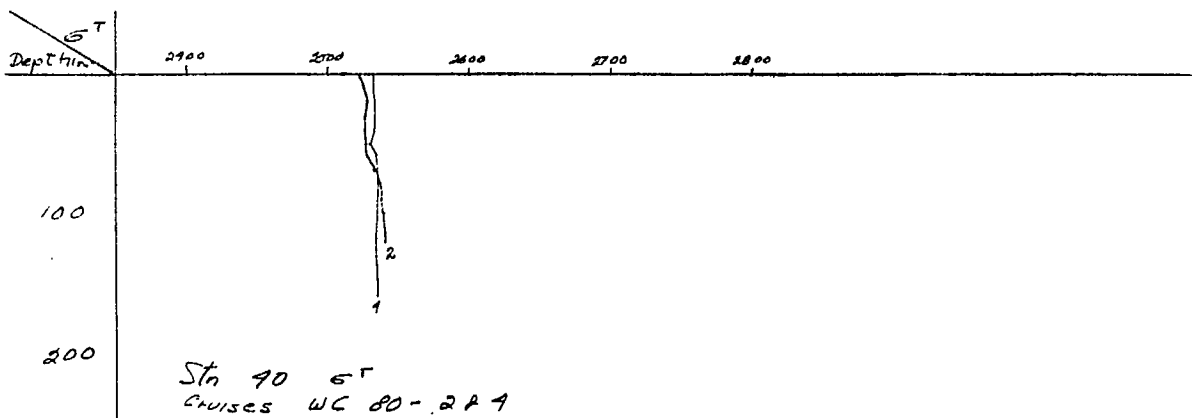


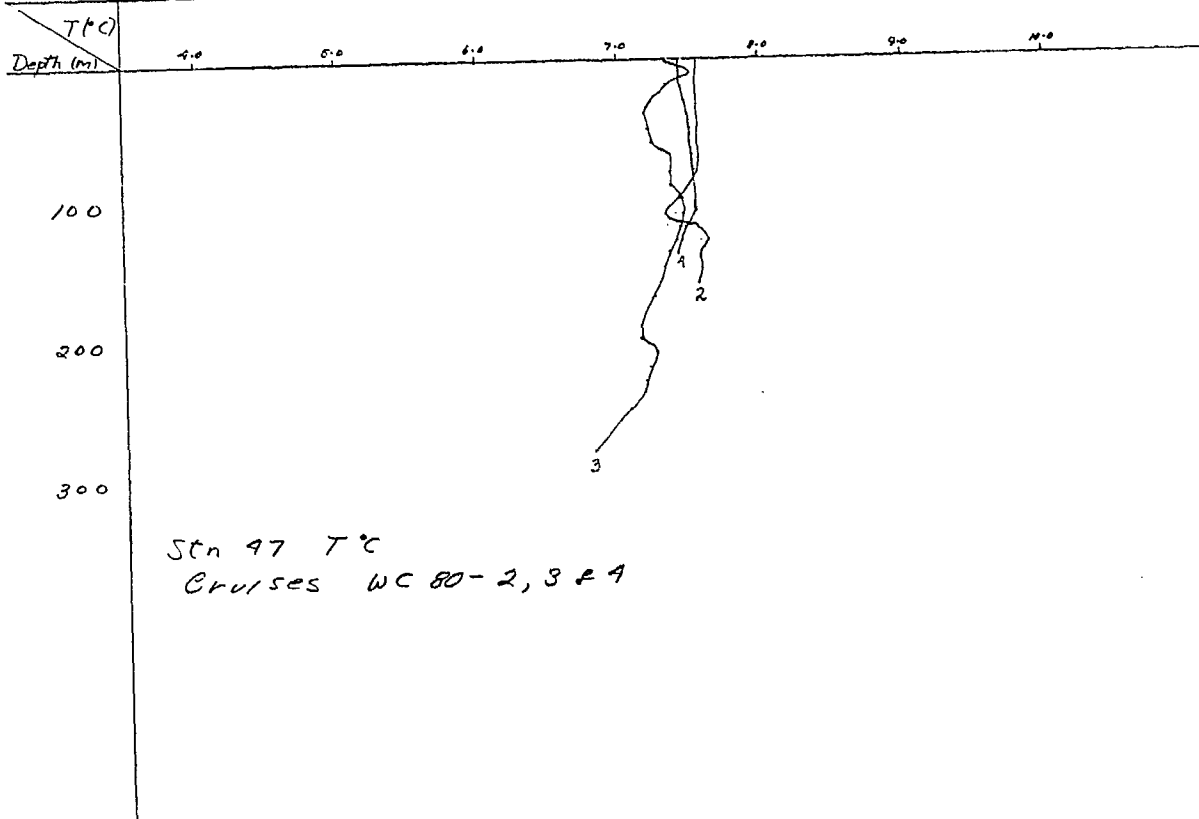
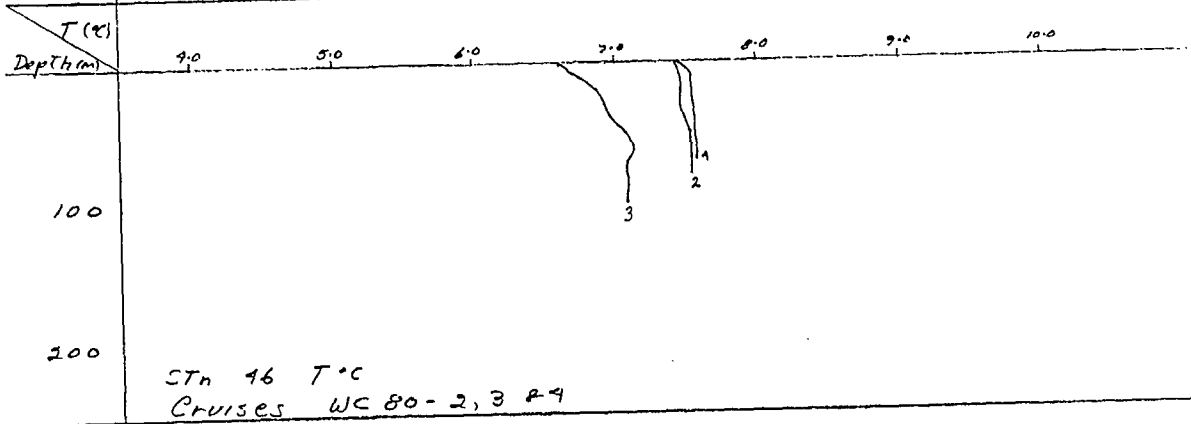
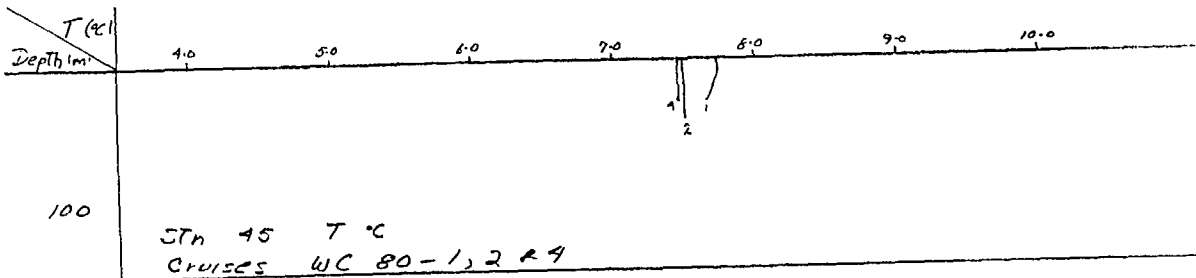


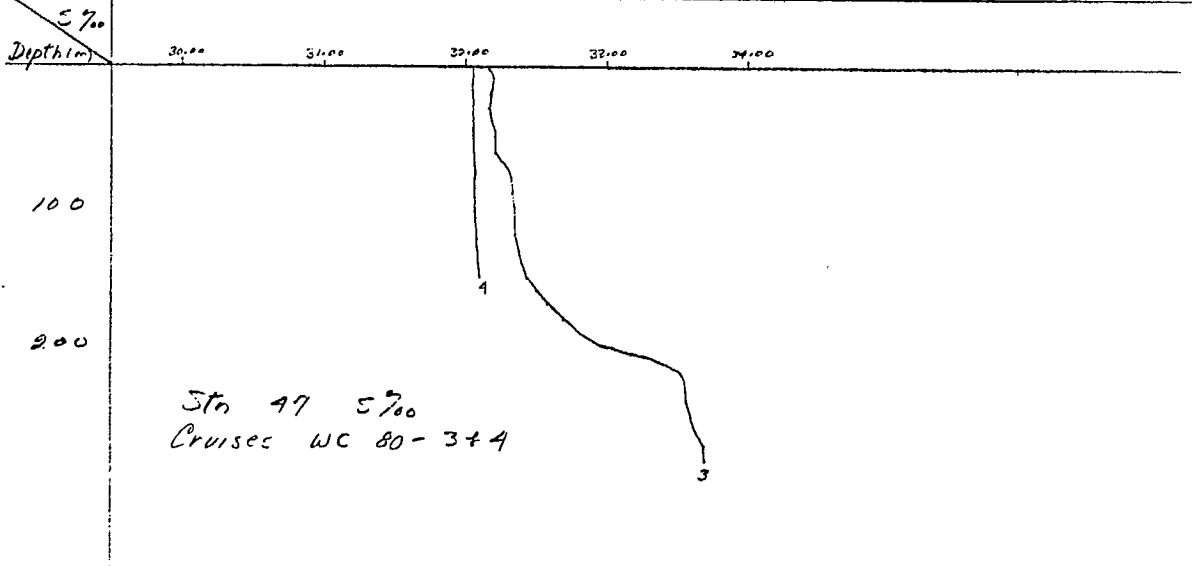
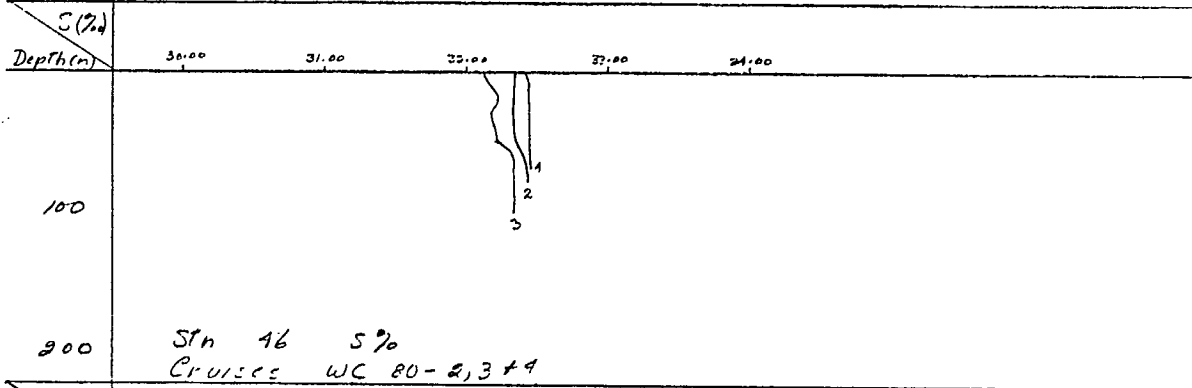
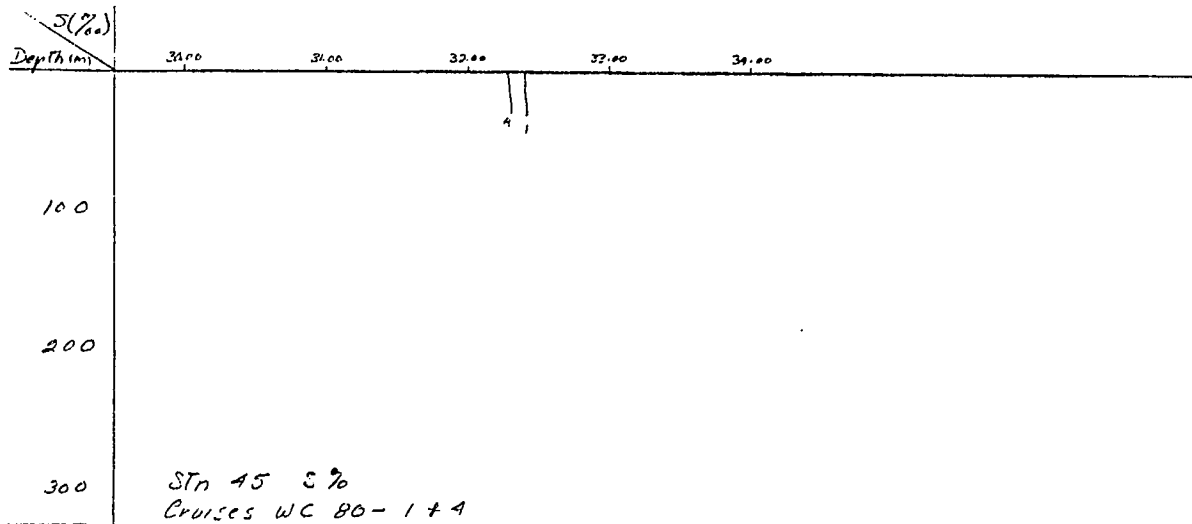


STn 43TB S‰  
Cruises WC 80-2, 3 + 4

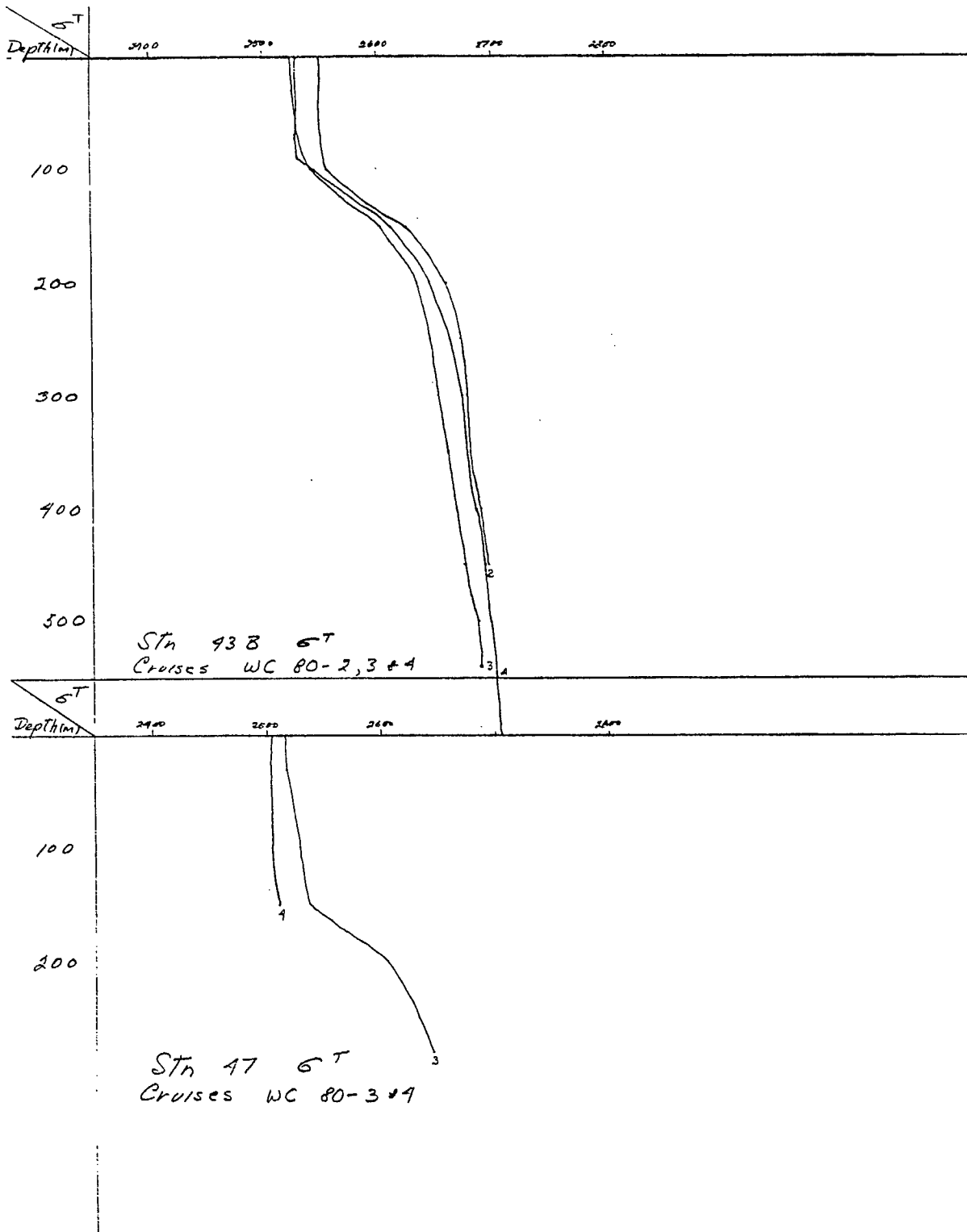


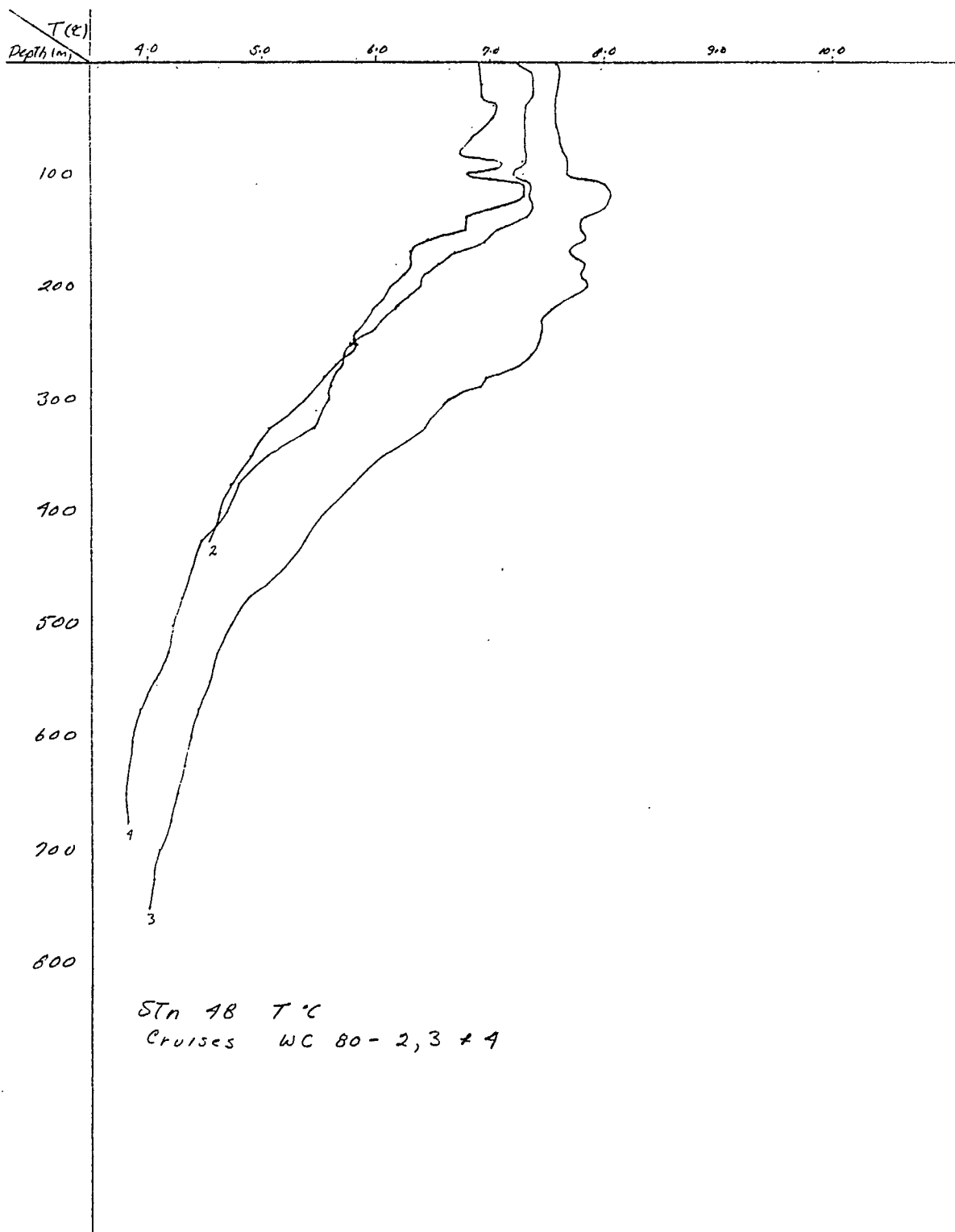


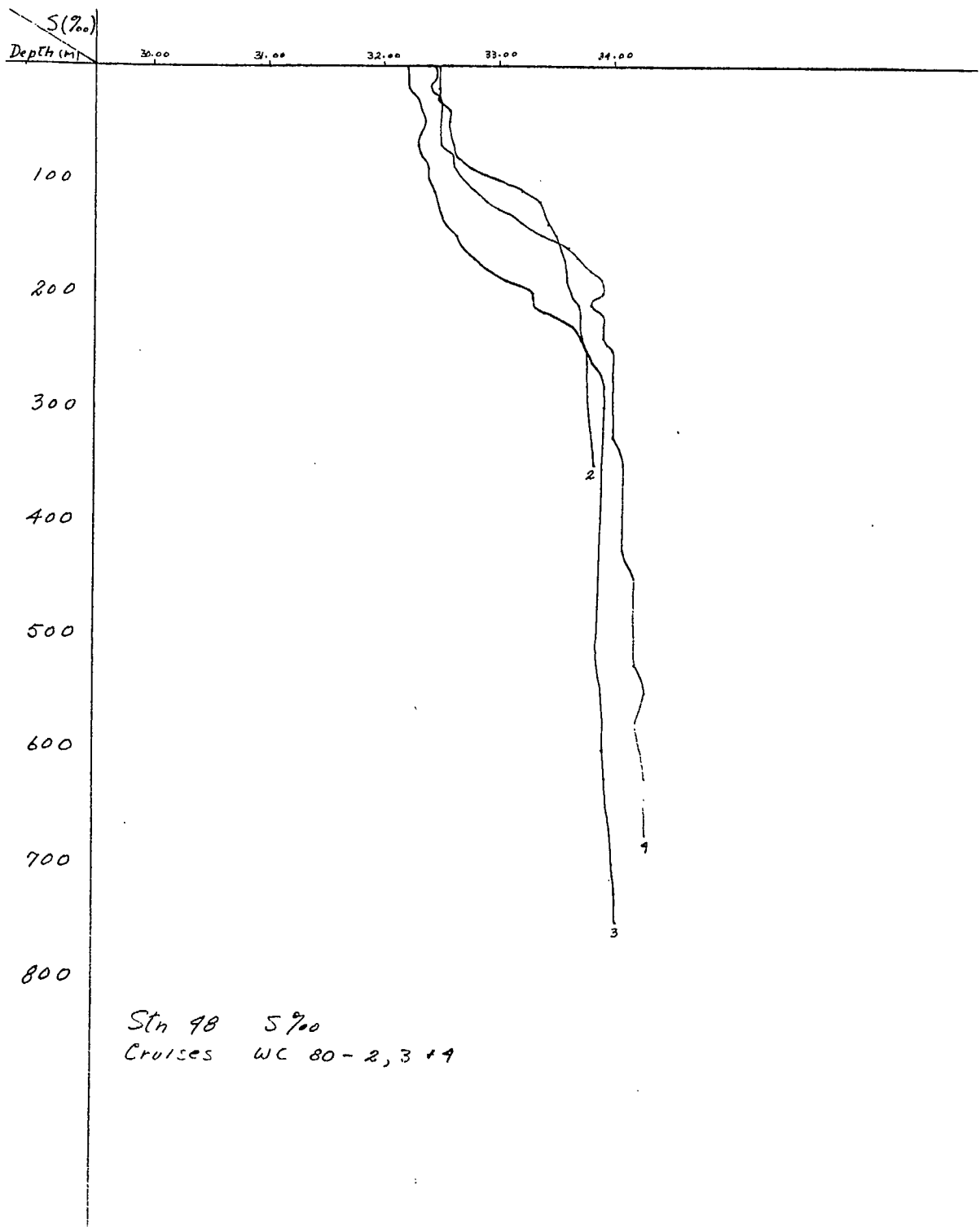




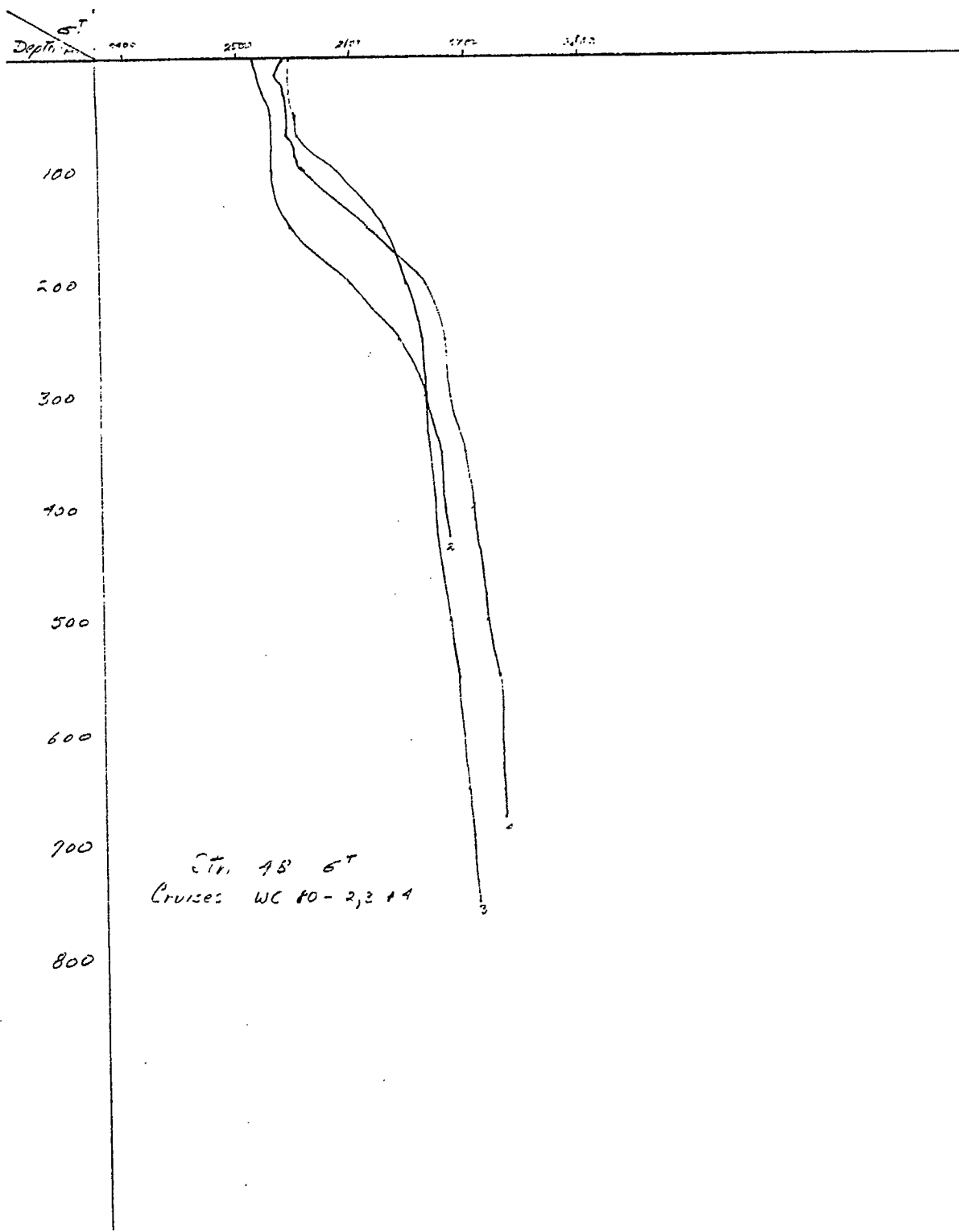






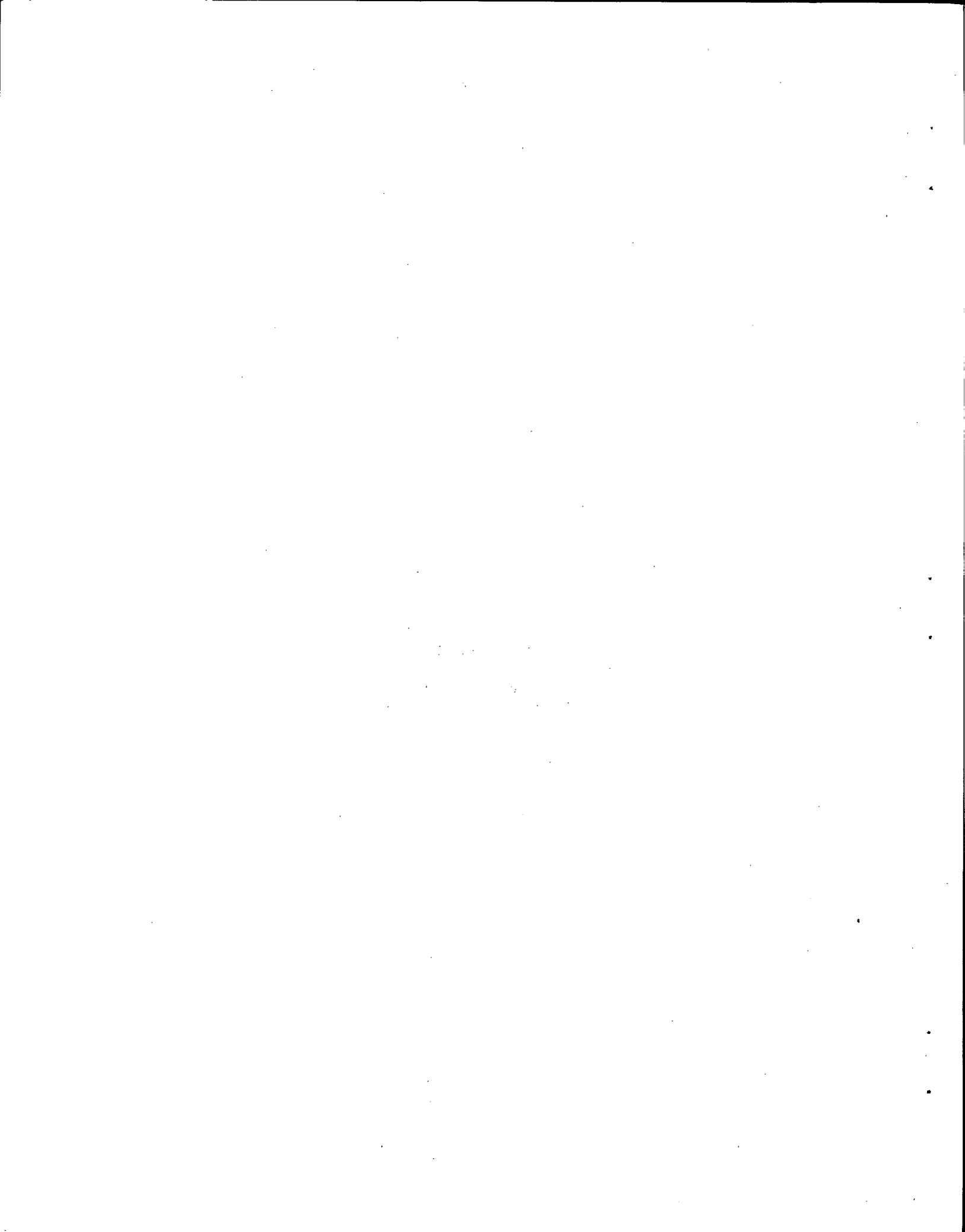


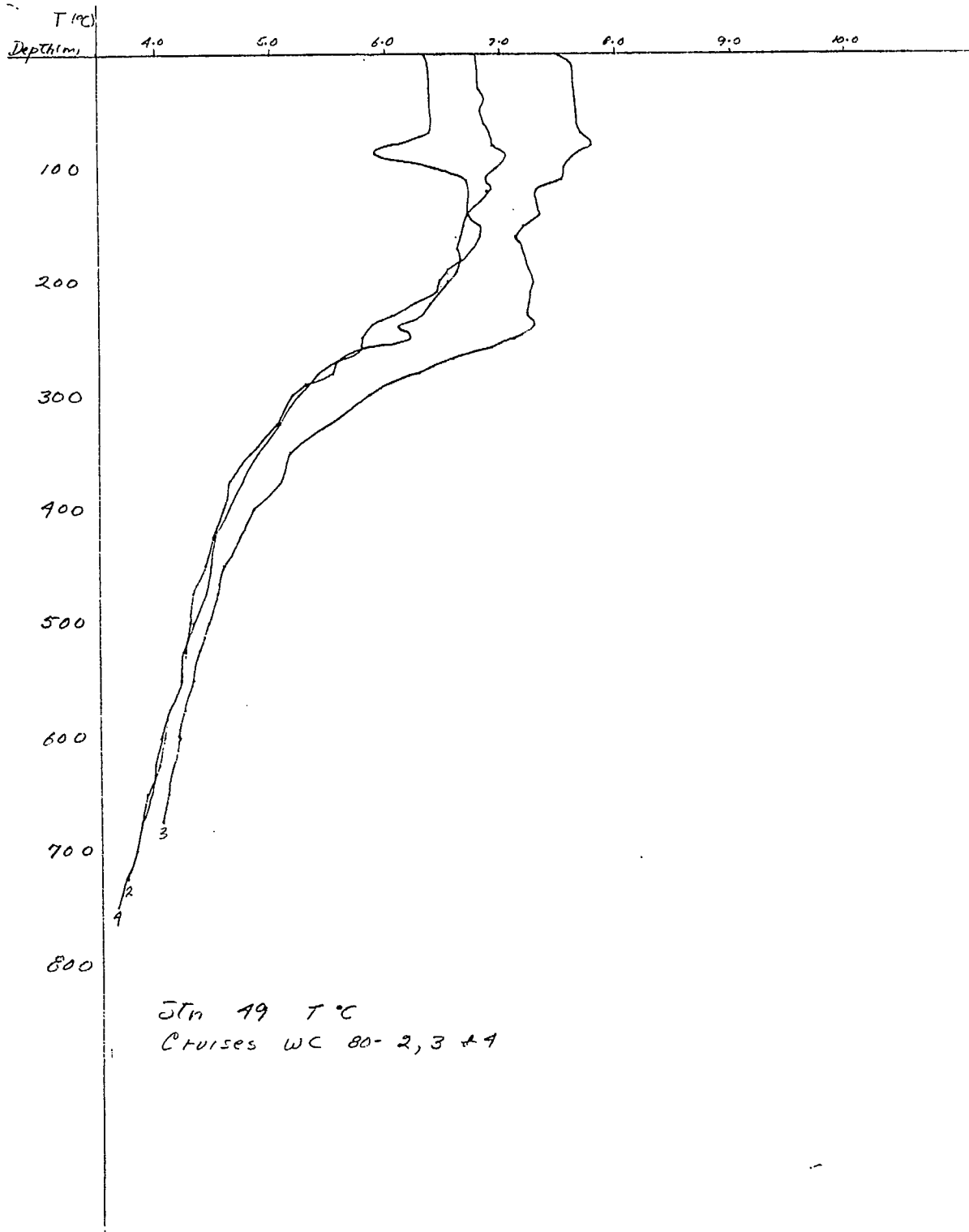
Stn 98 S 90  
Cruises WC 80-2, 3 + 4

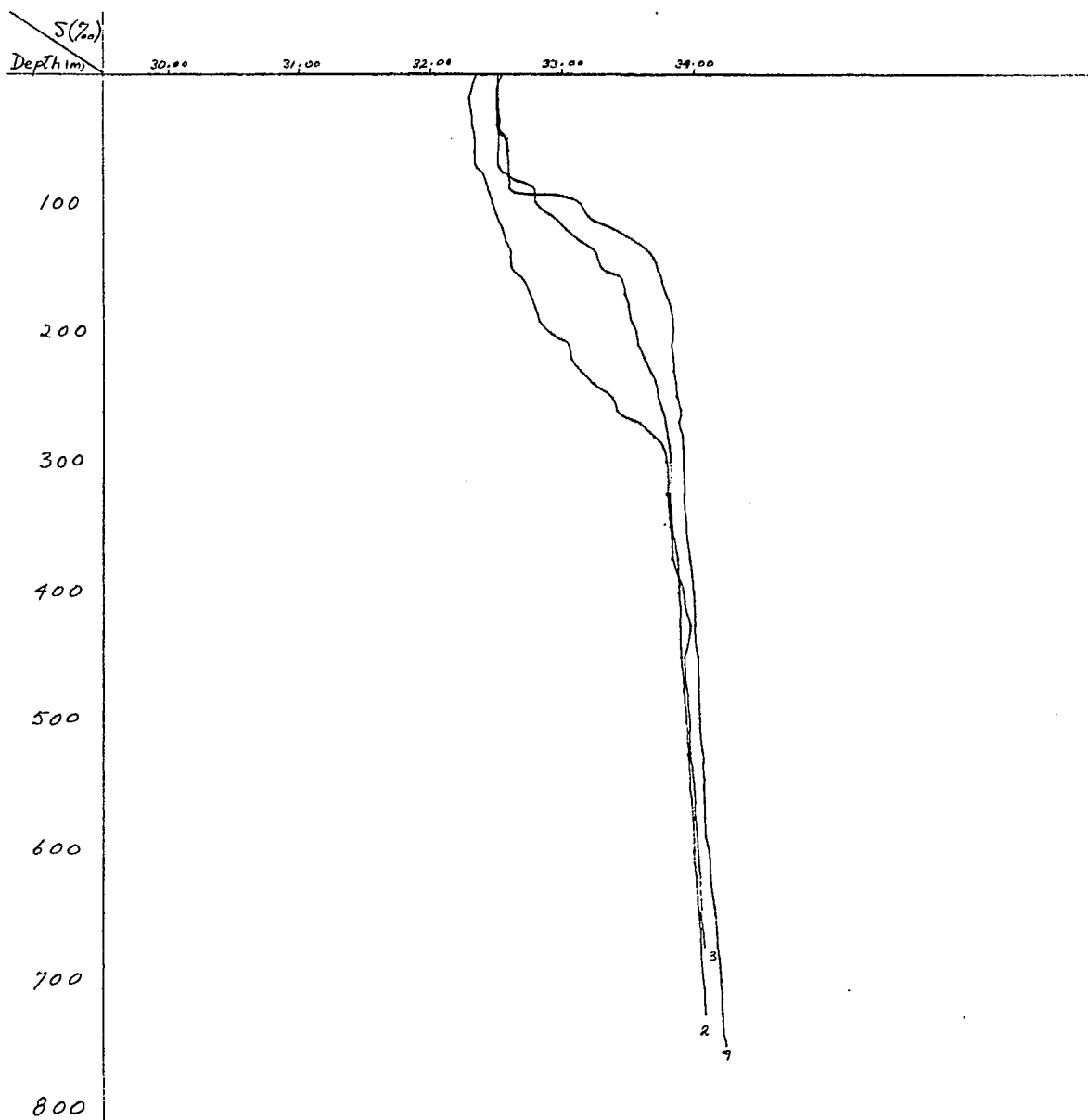


DIXON ENTRANCE

Transect Line 13  
Stations 49-56

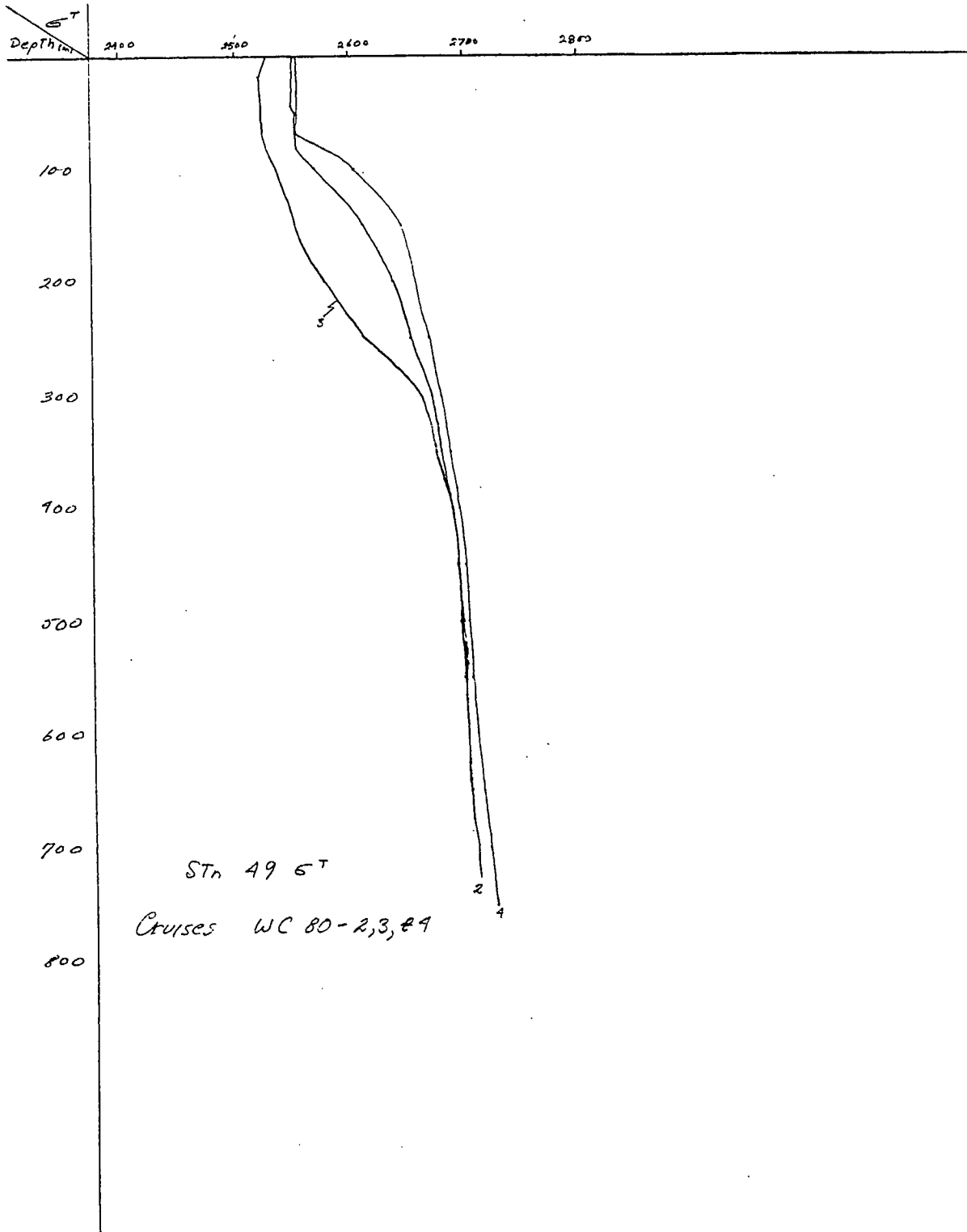


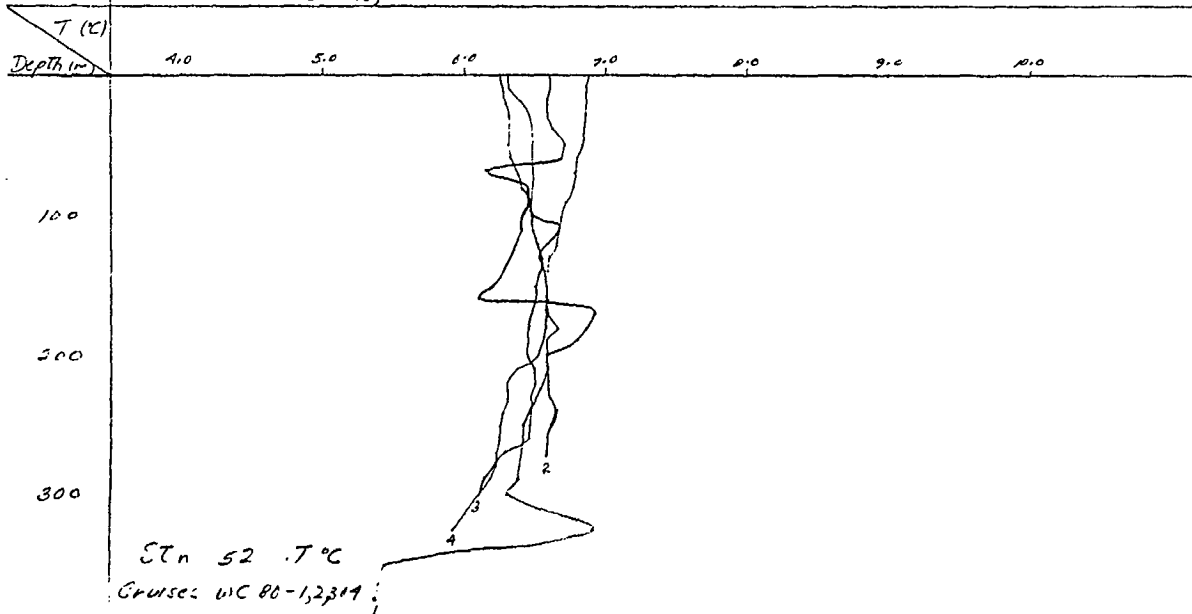
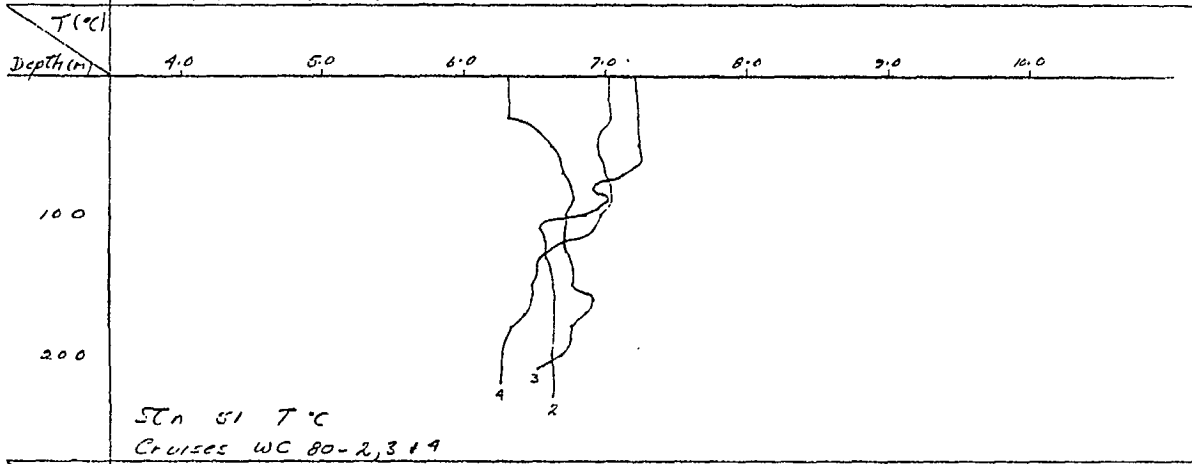
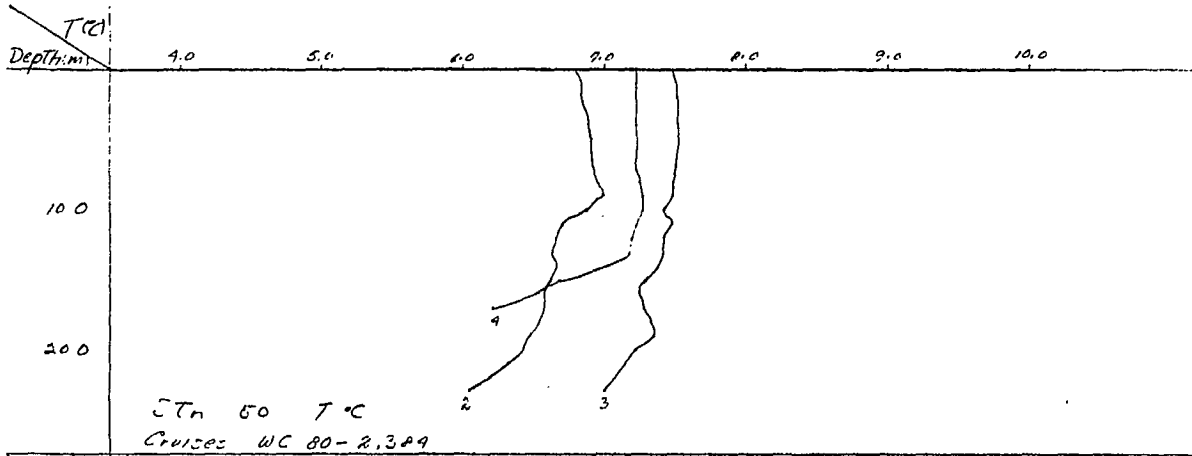


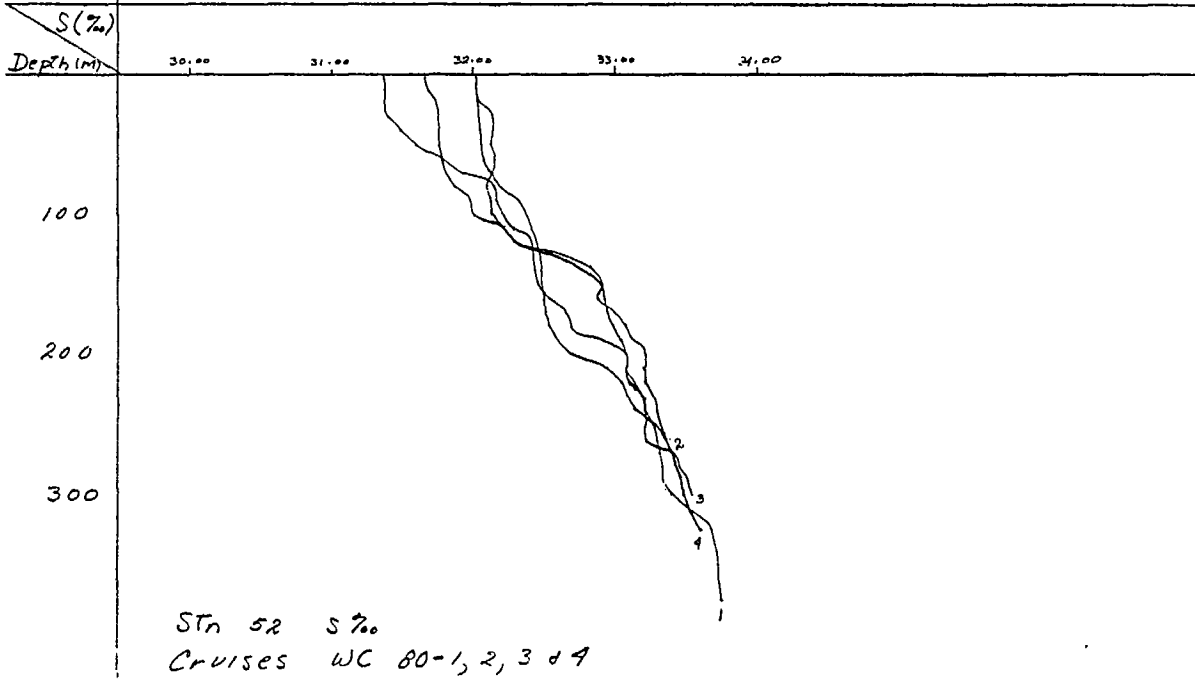
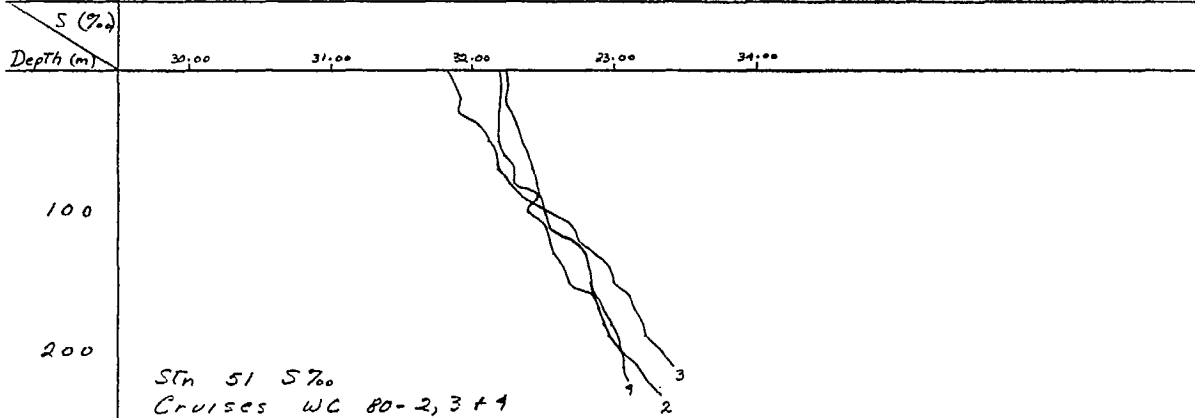
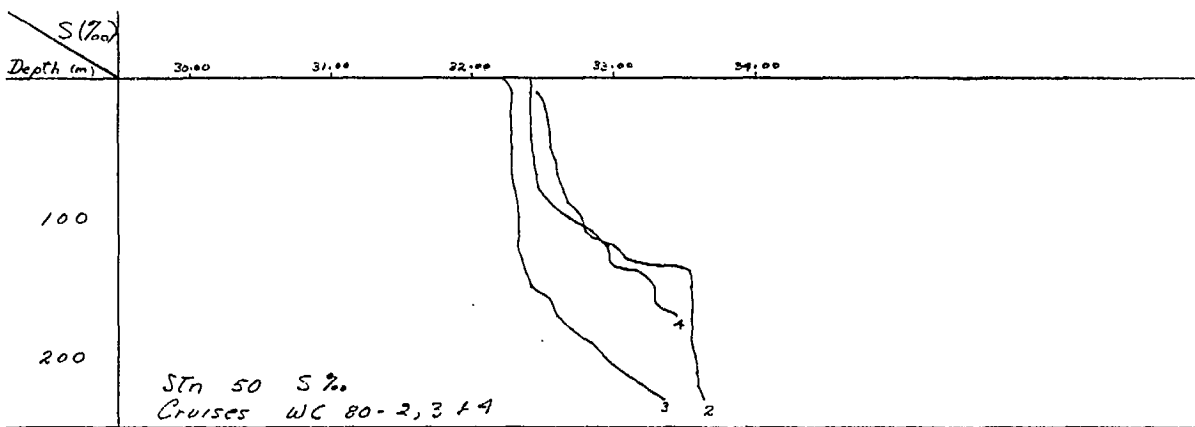


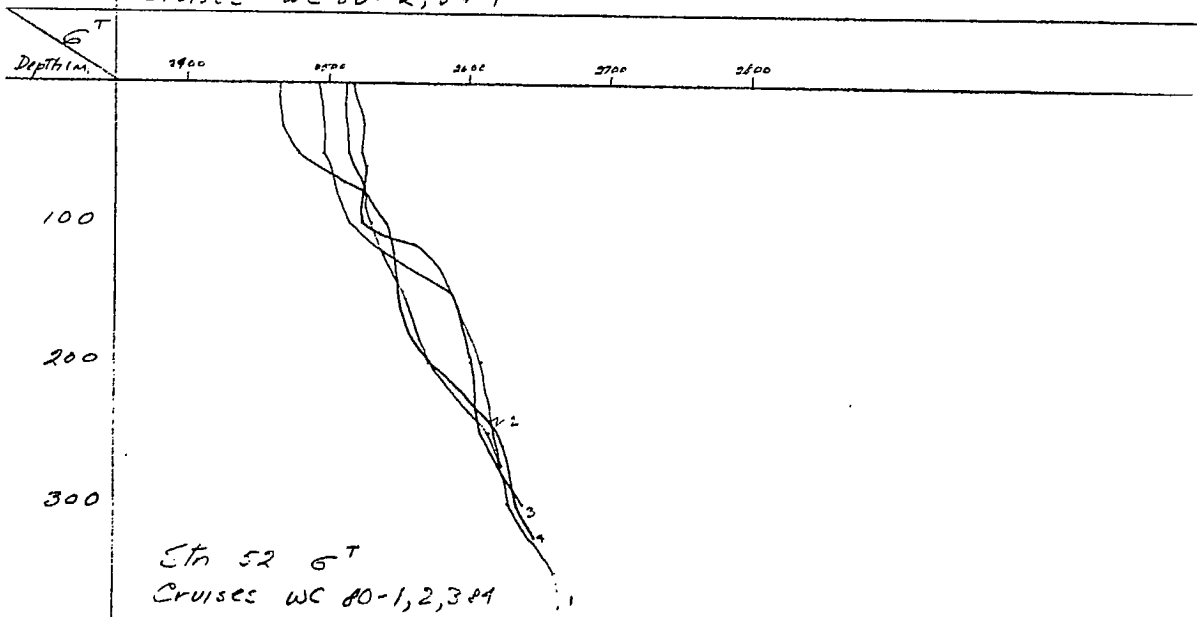
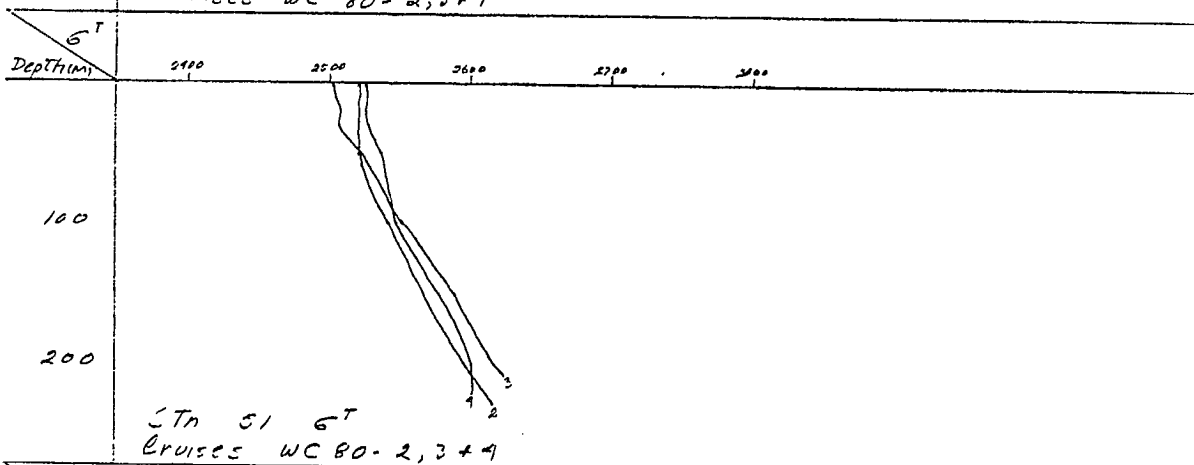
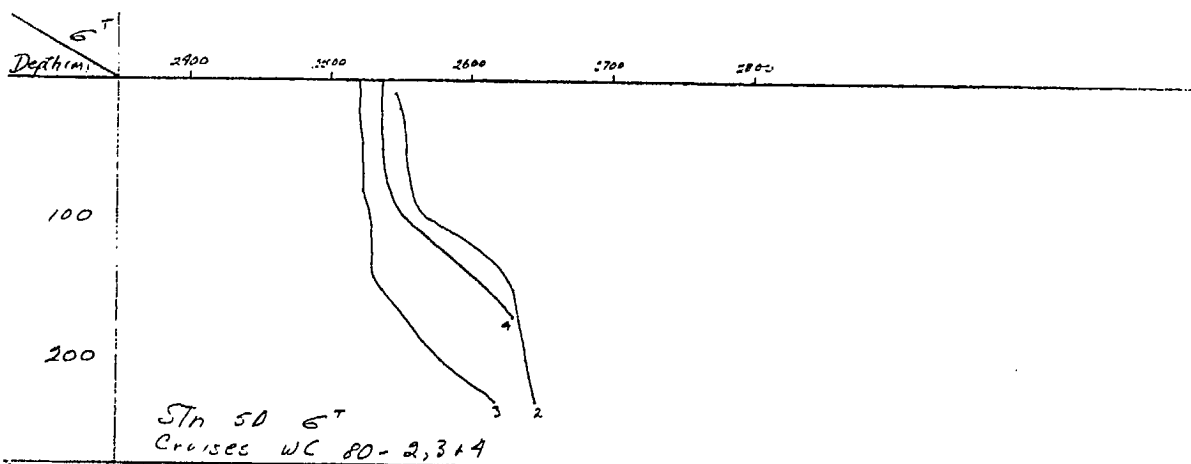
Stn 49 S 700  
Cruises WC 80-2, 3 + 4

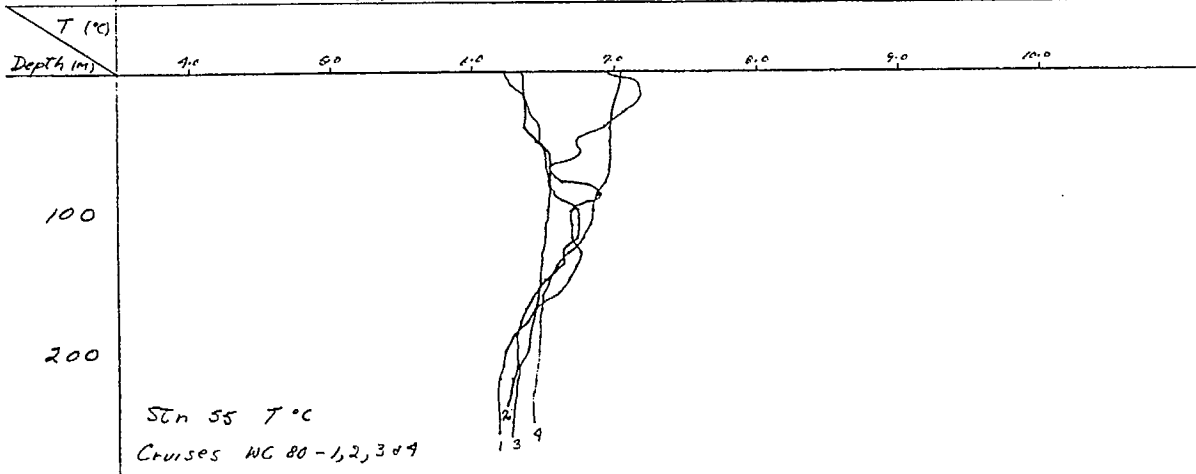
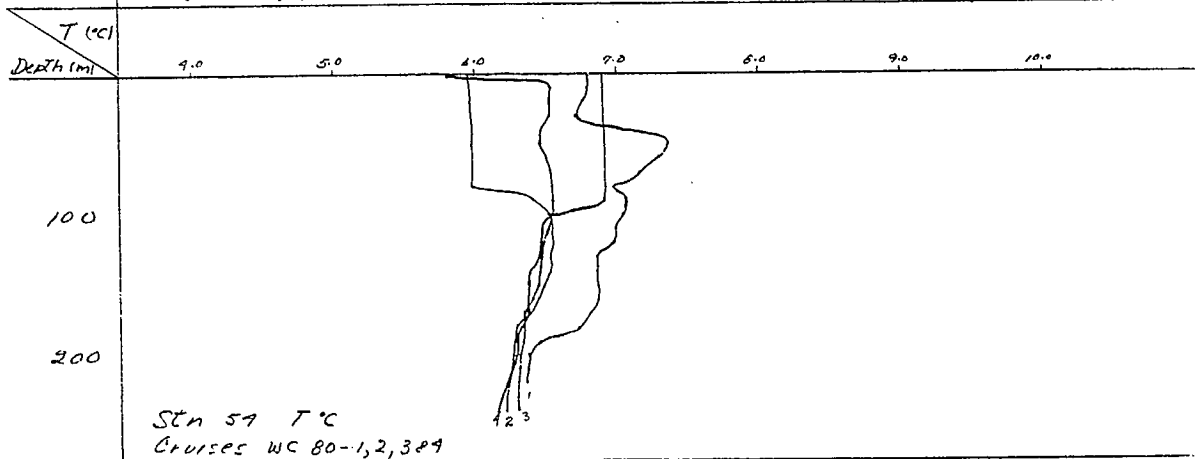
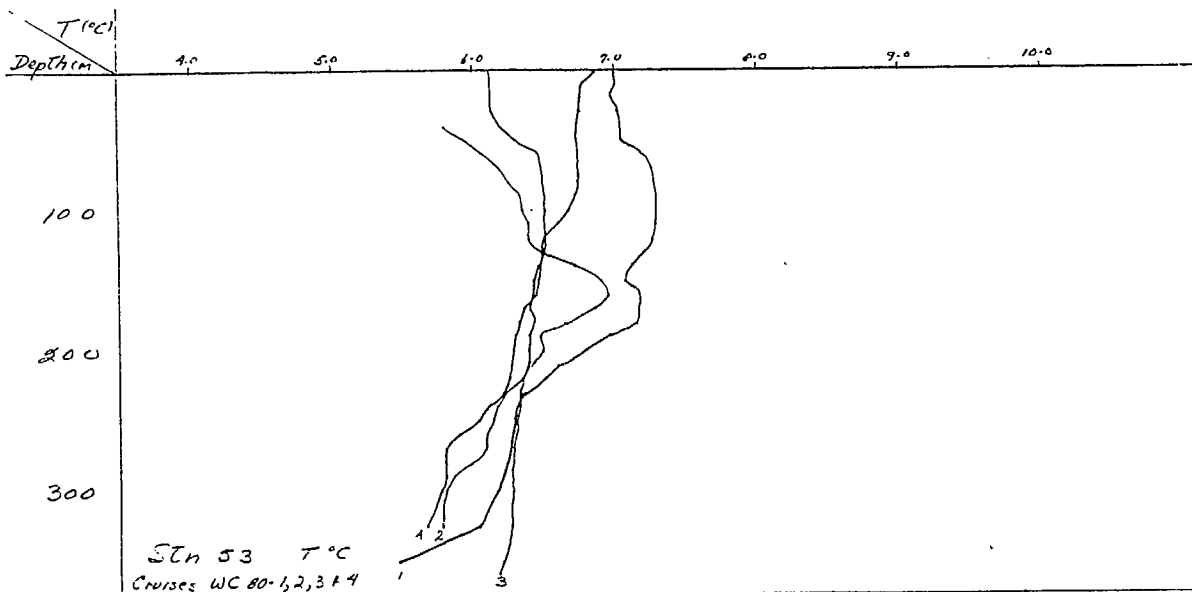


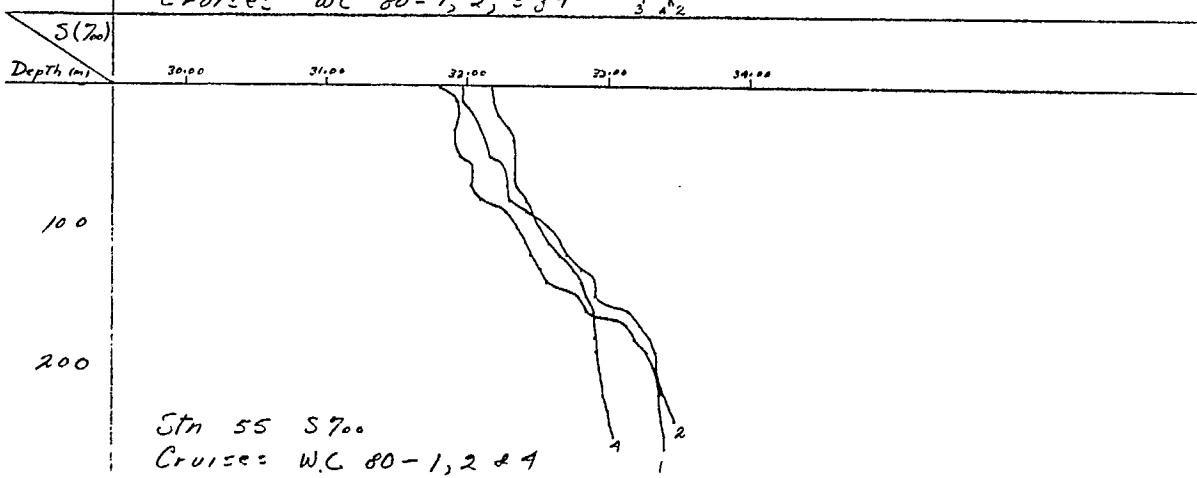
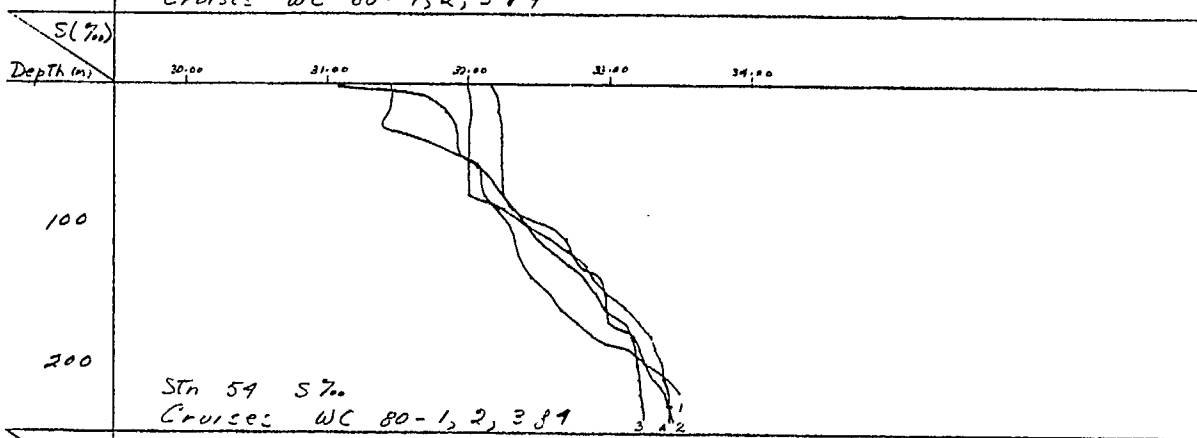
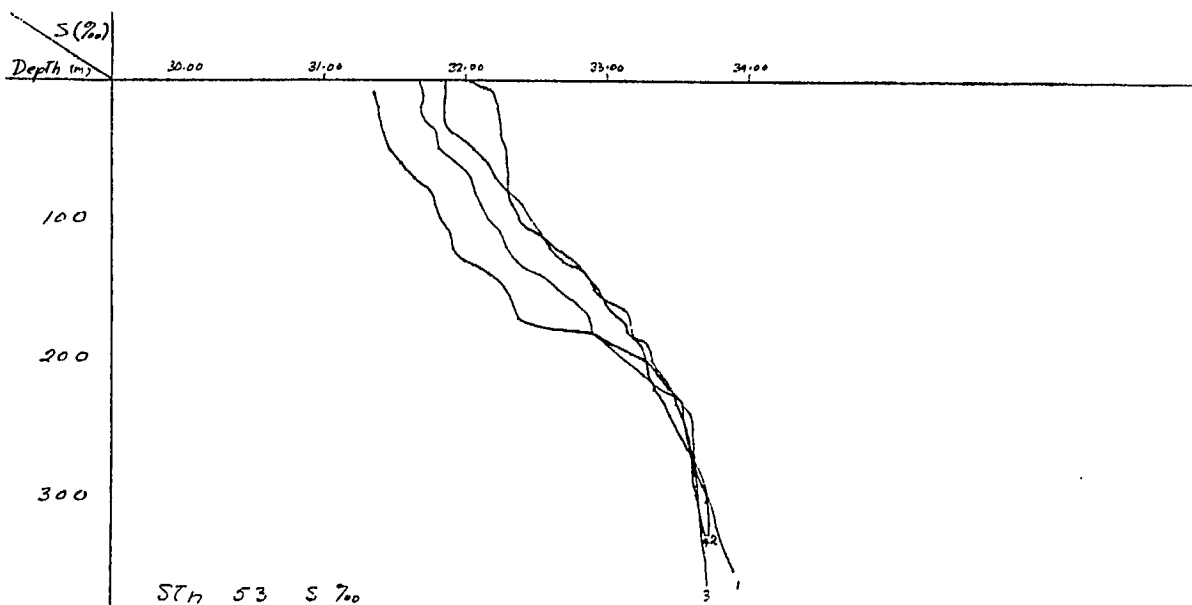


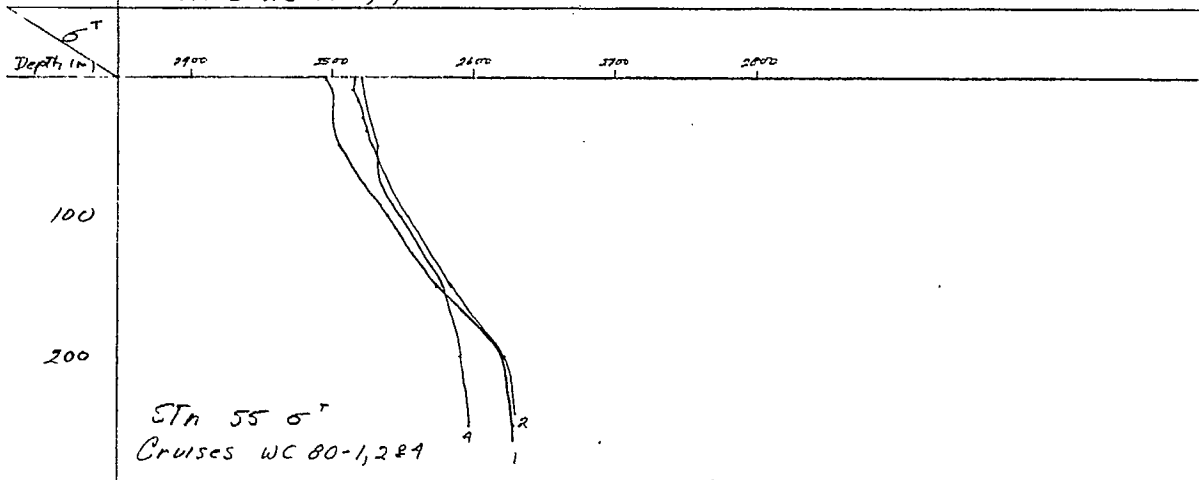
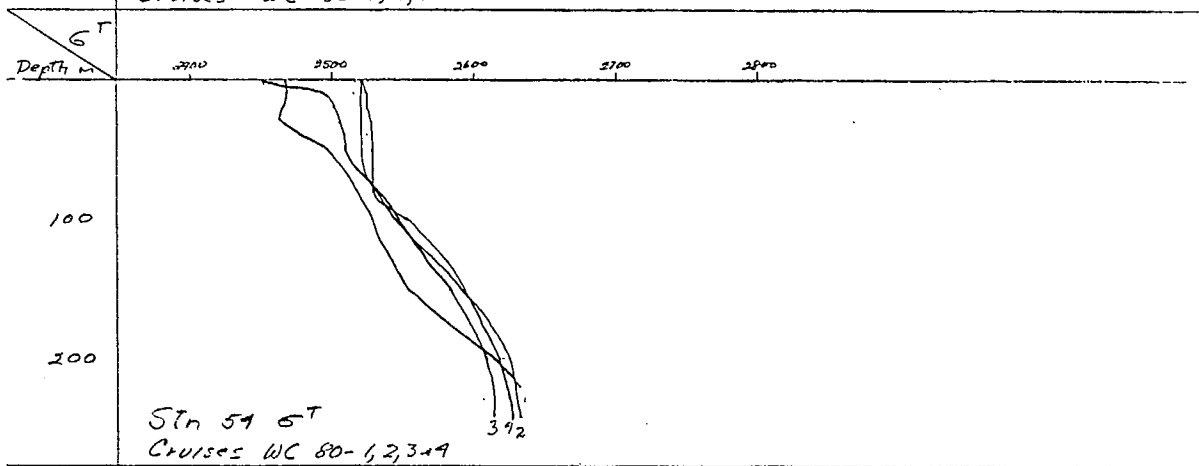
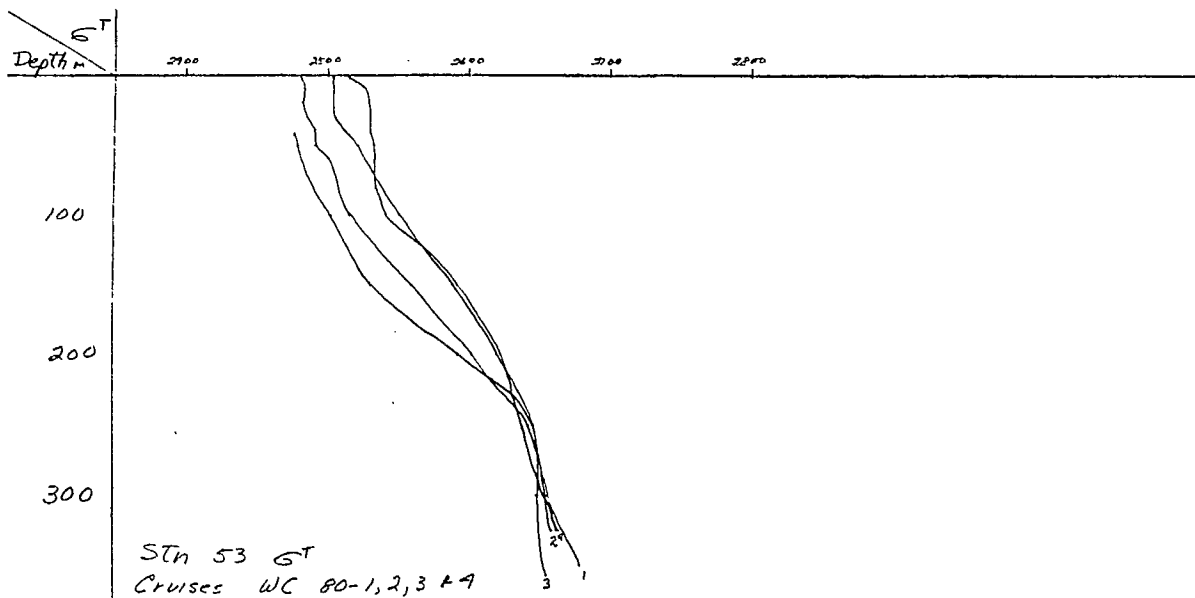


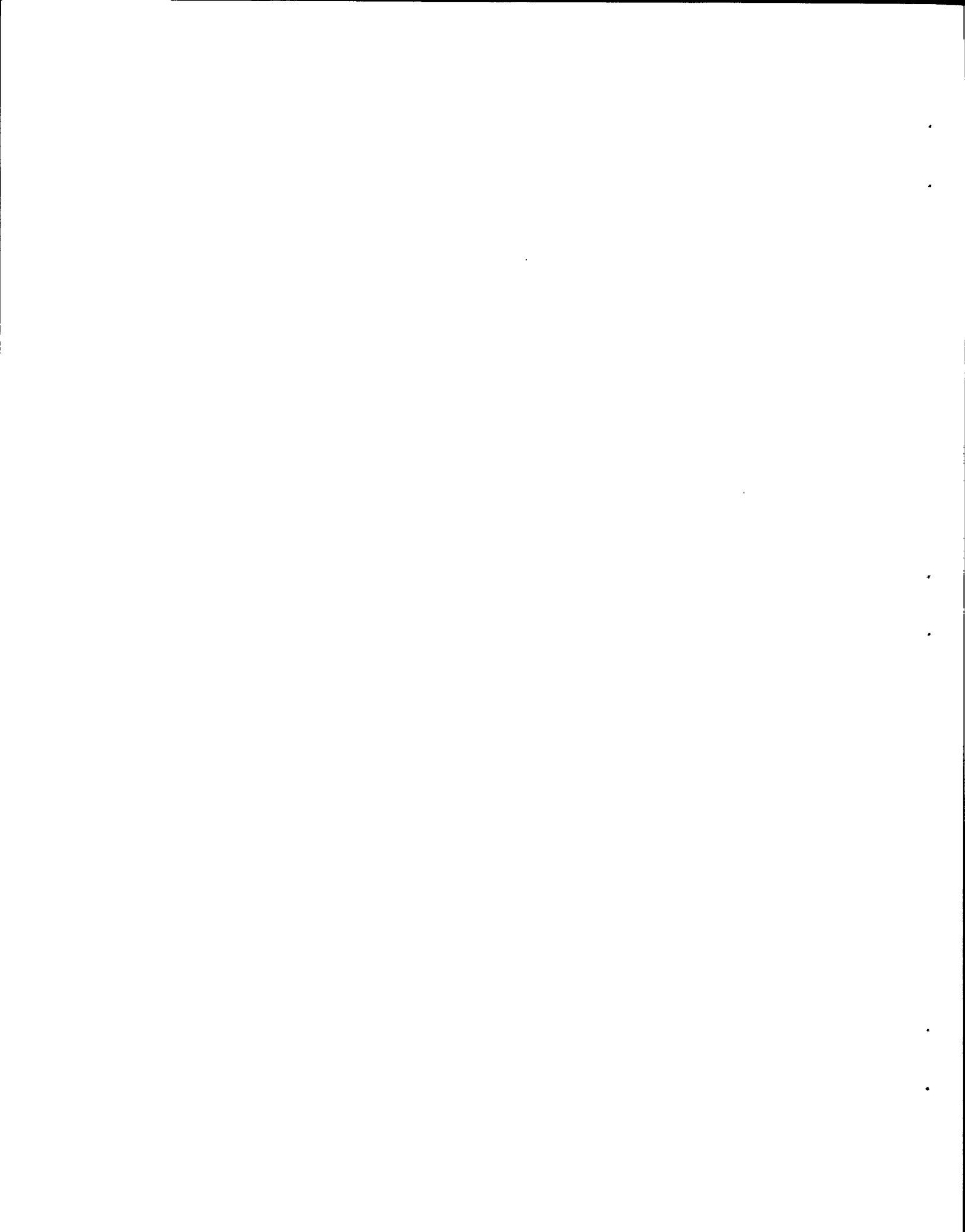








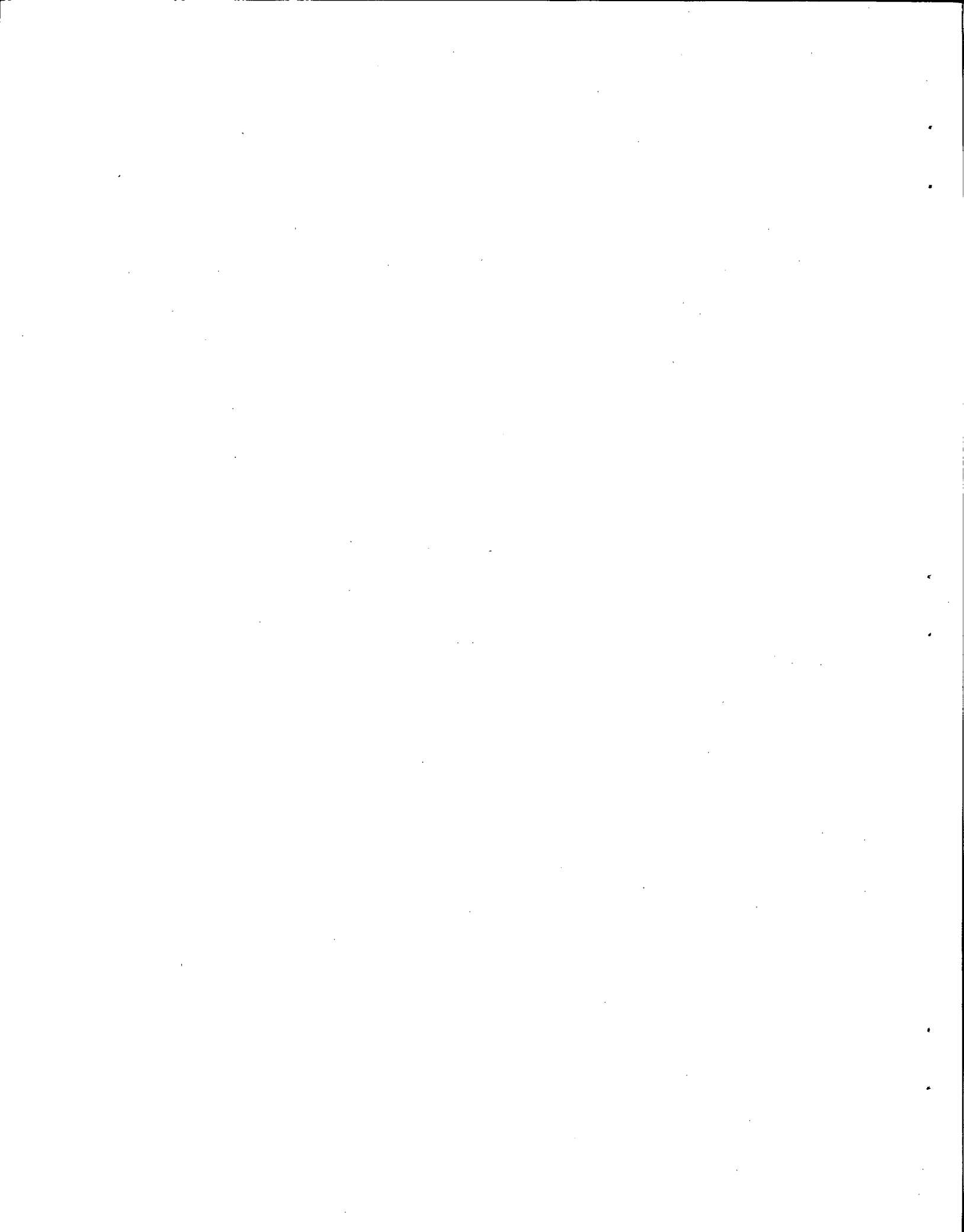


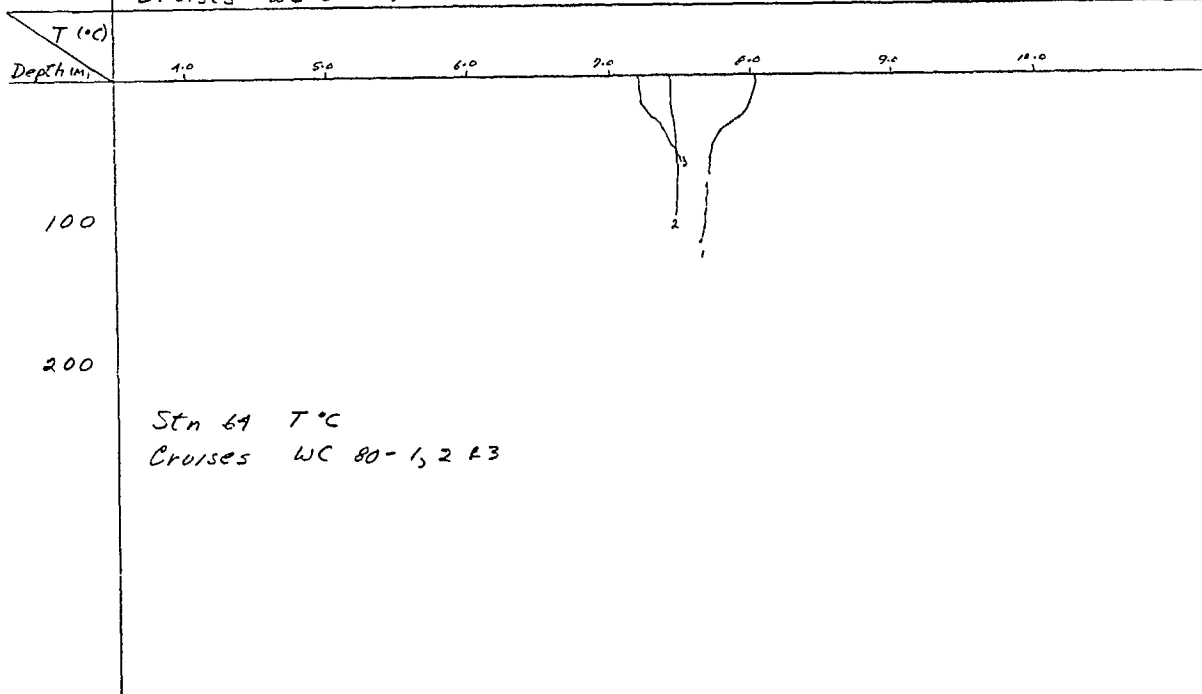
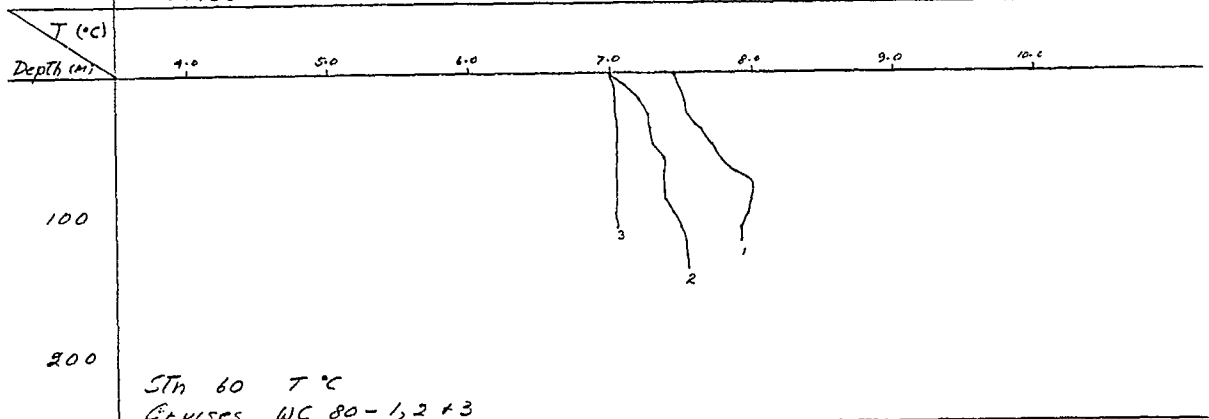
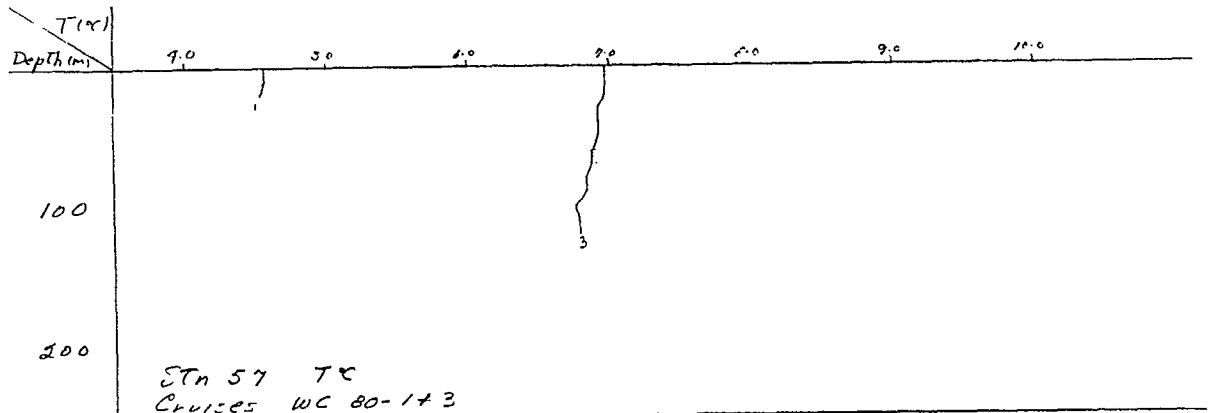


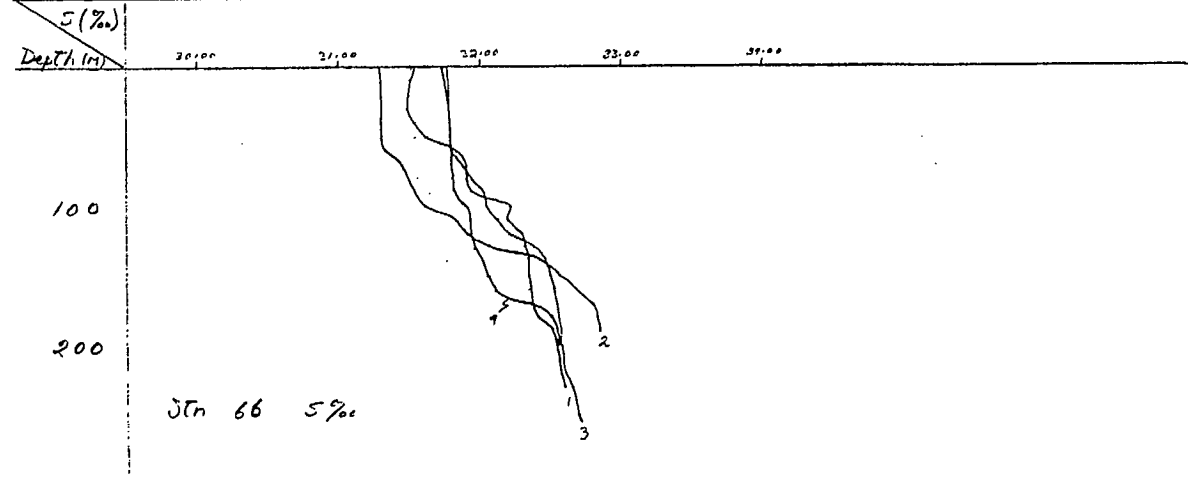
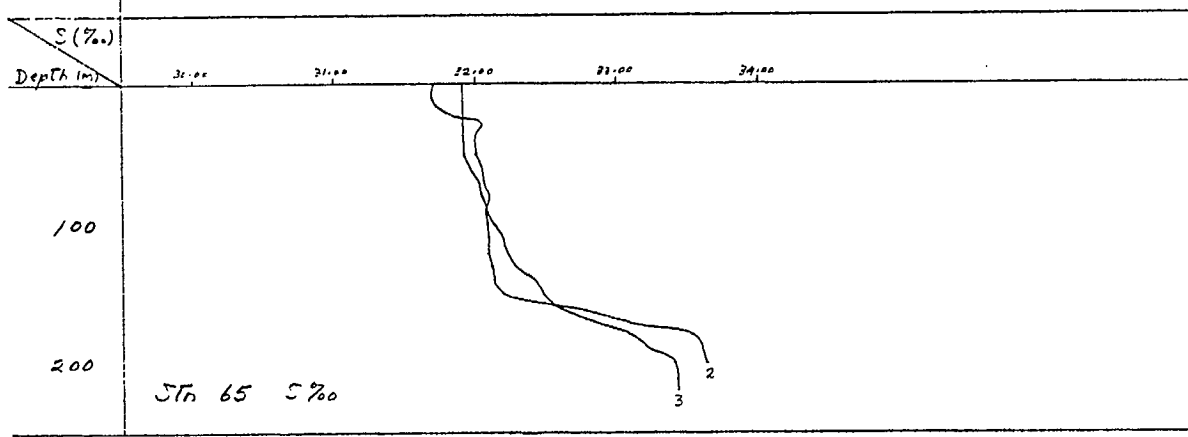
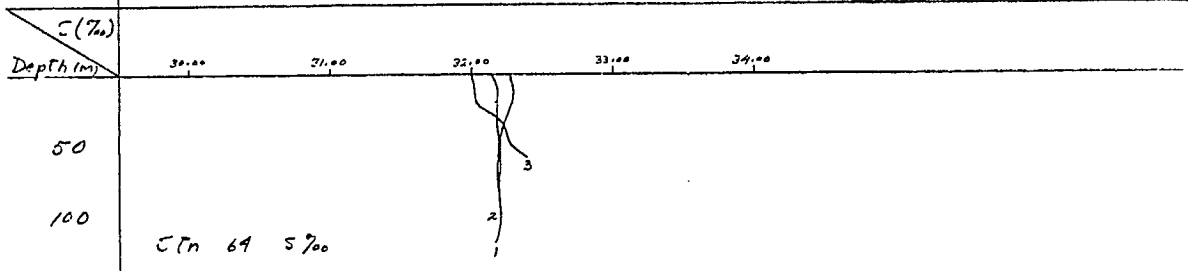
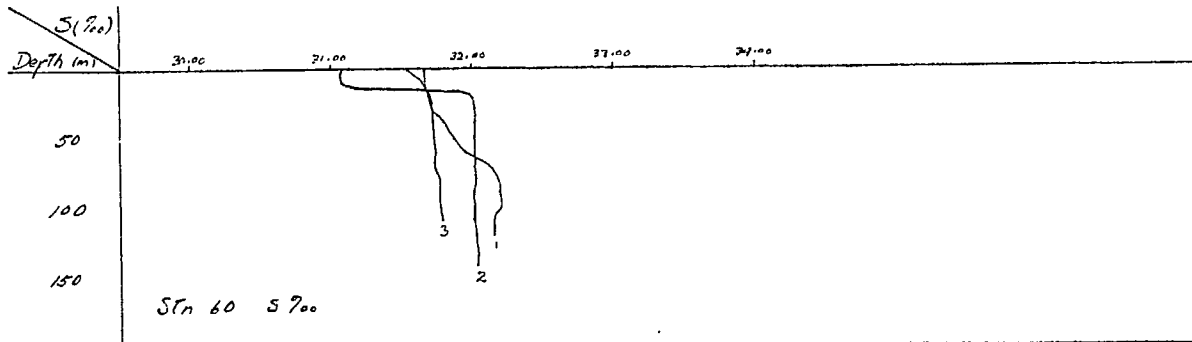


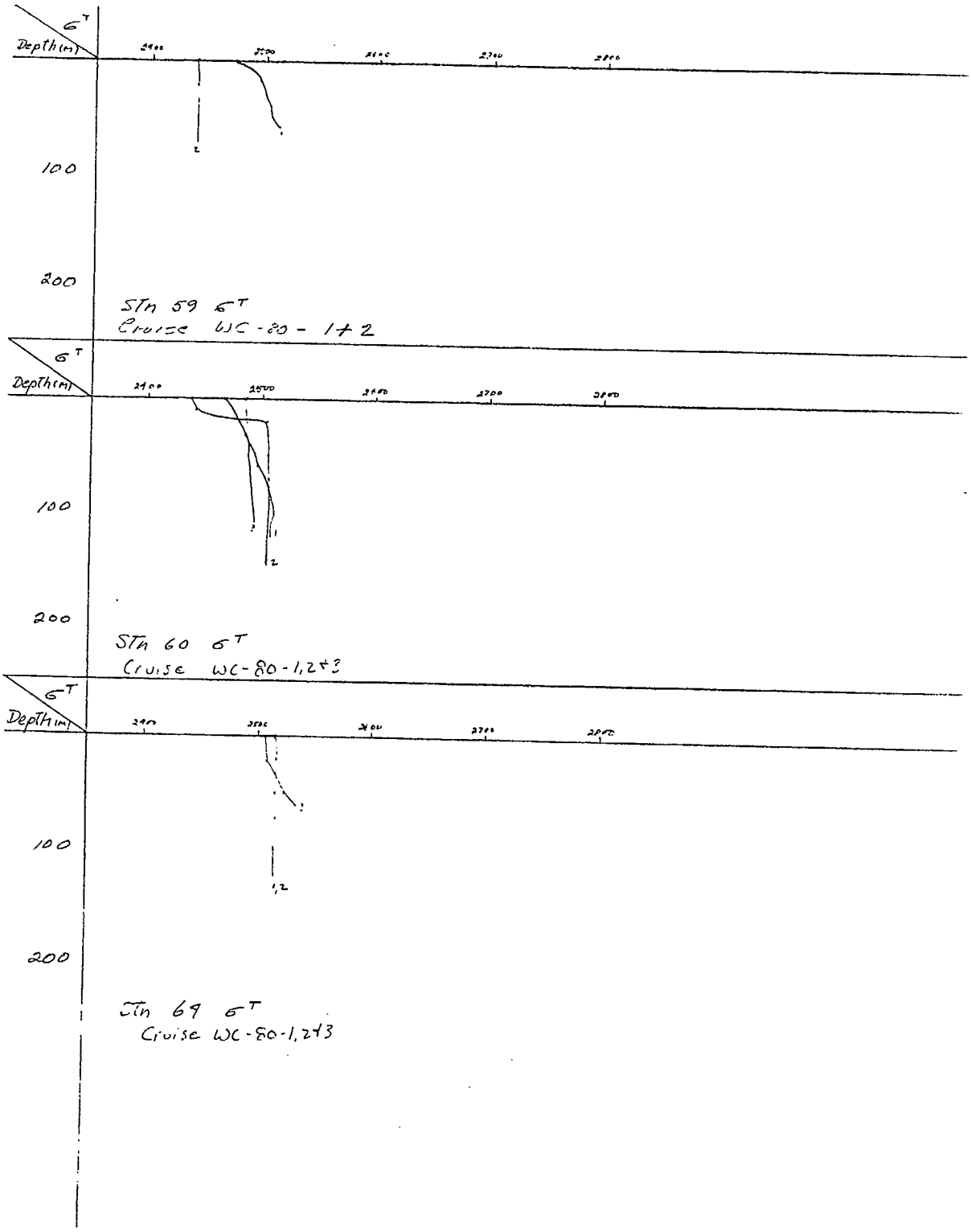
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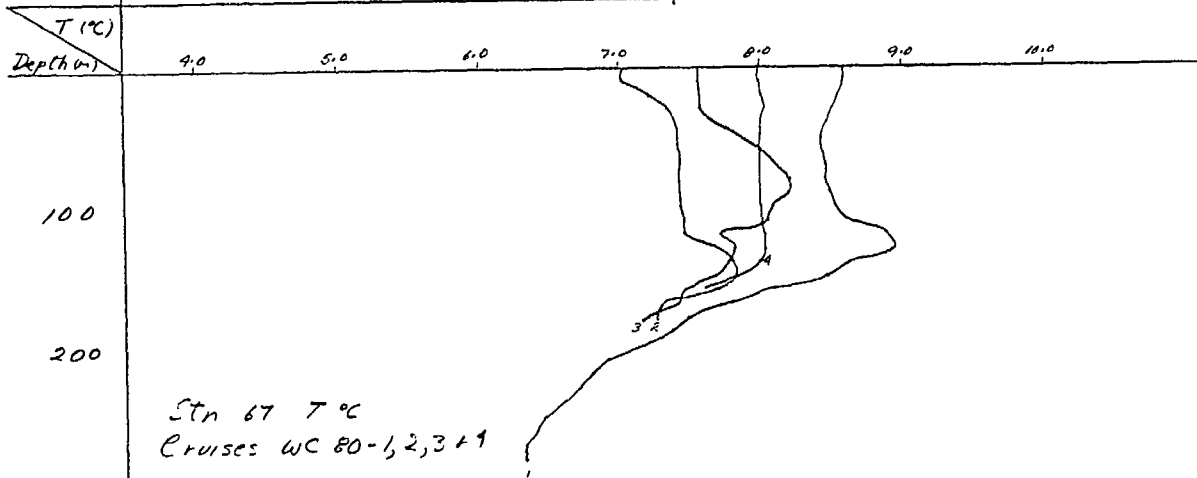
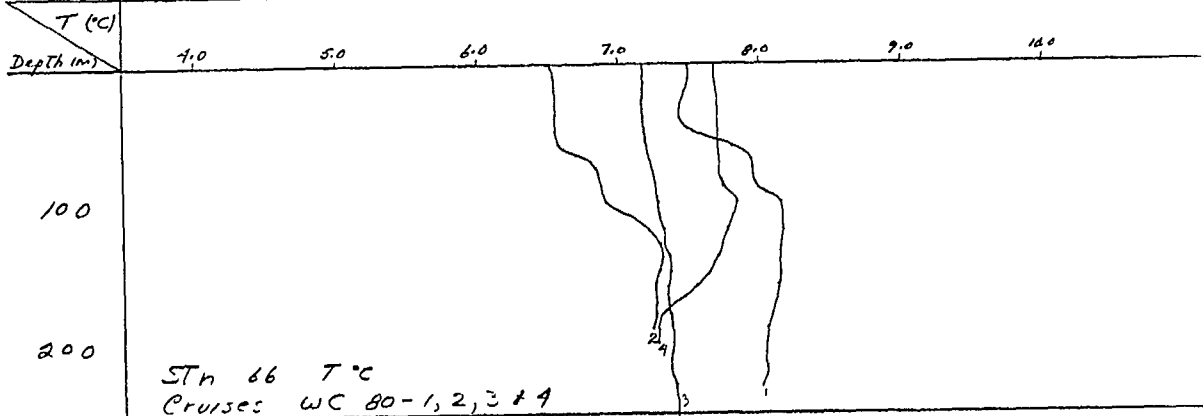
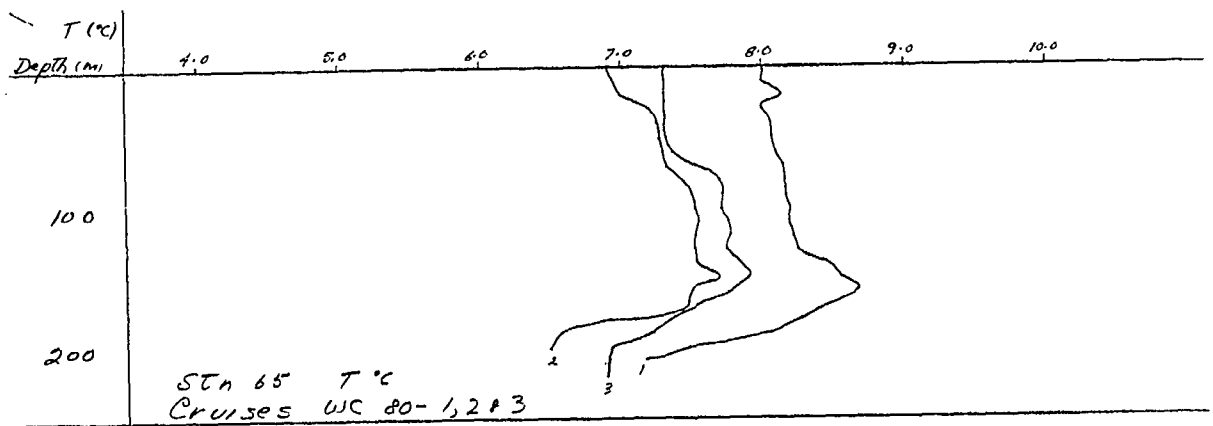
Transect Lines 14-18  
Stations 57-75

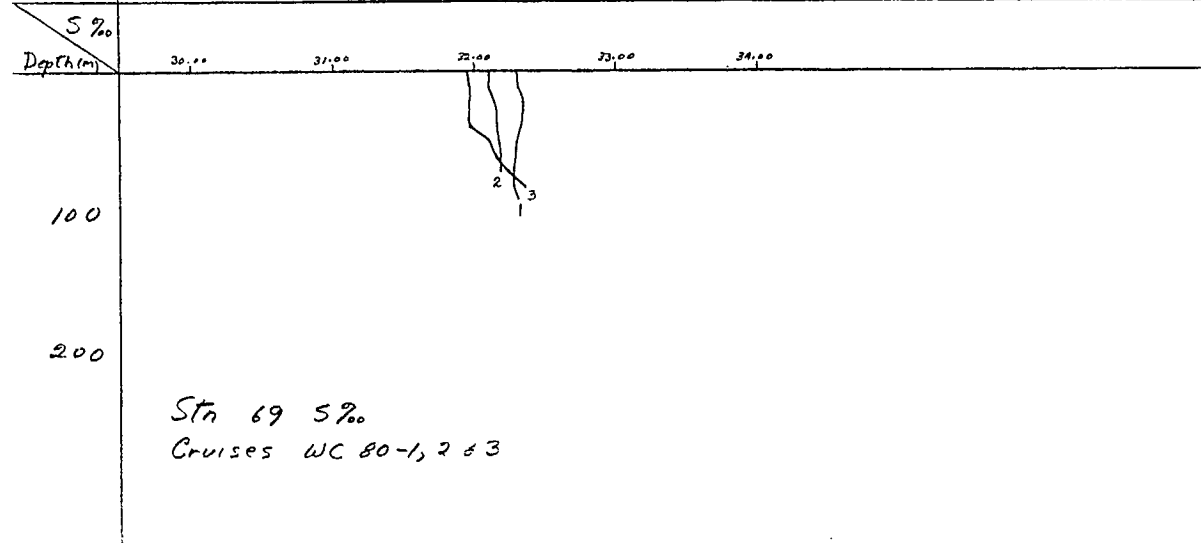
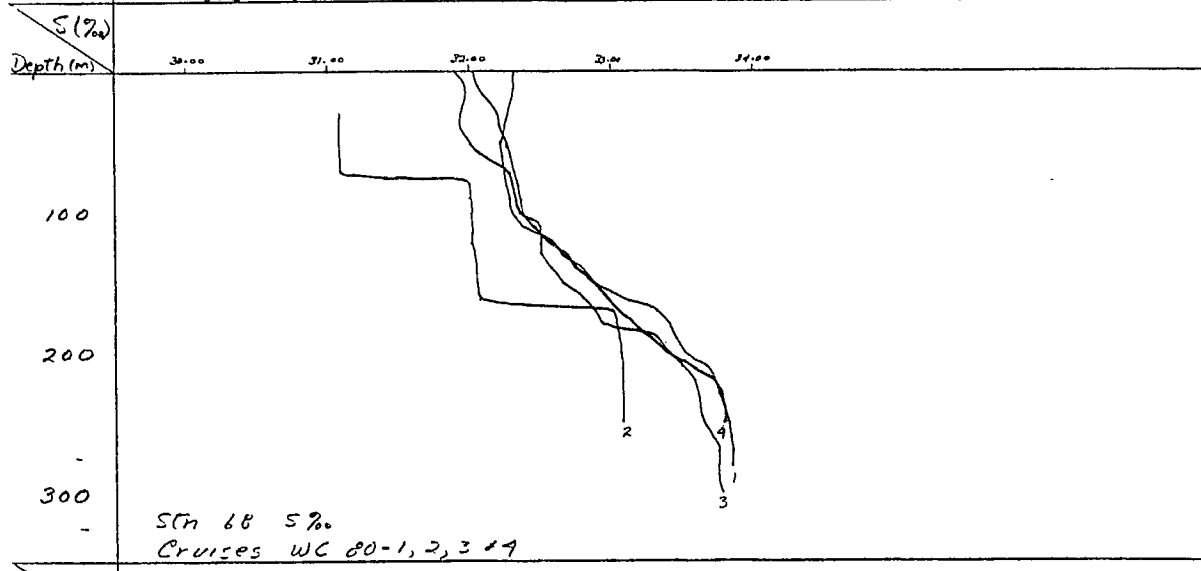
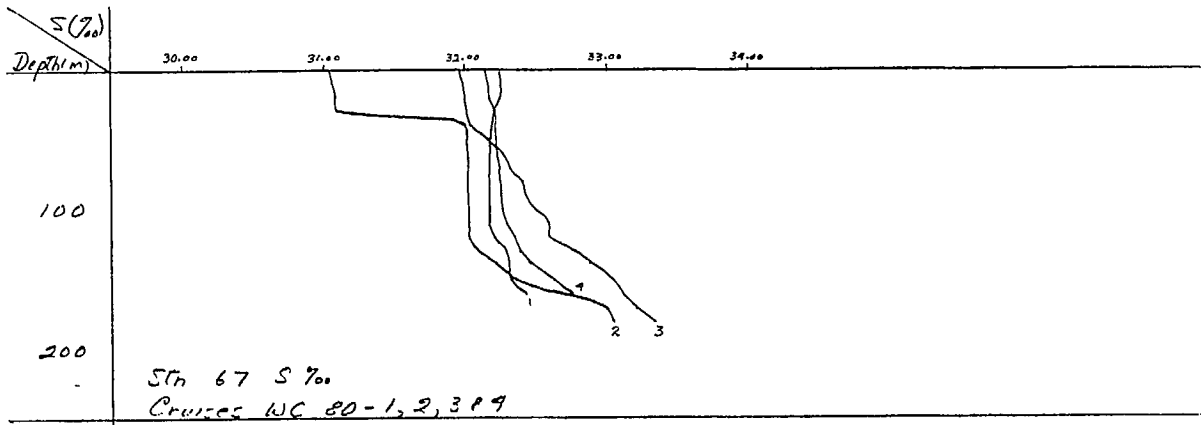


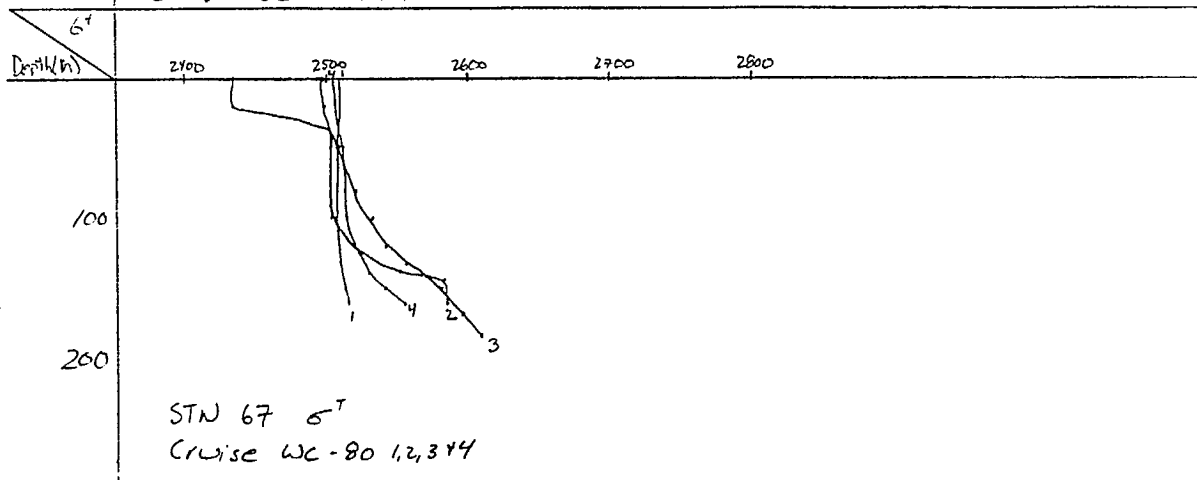
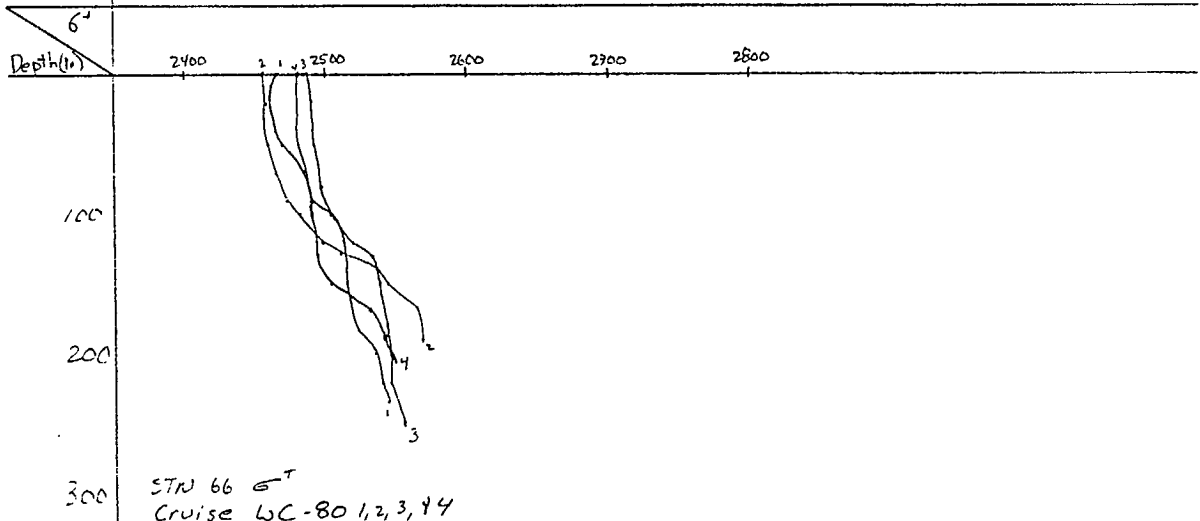
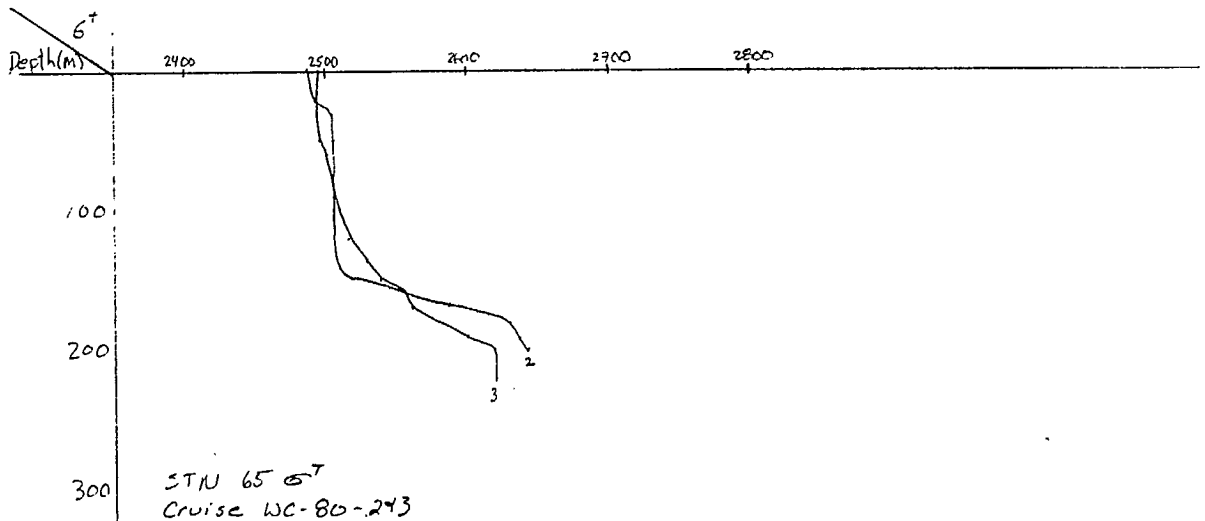




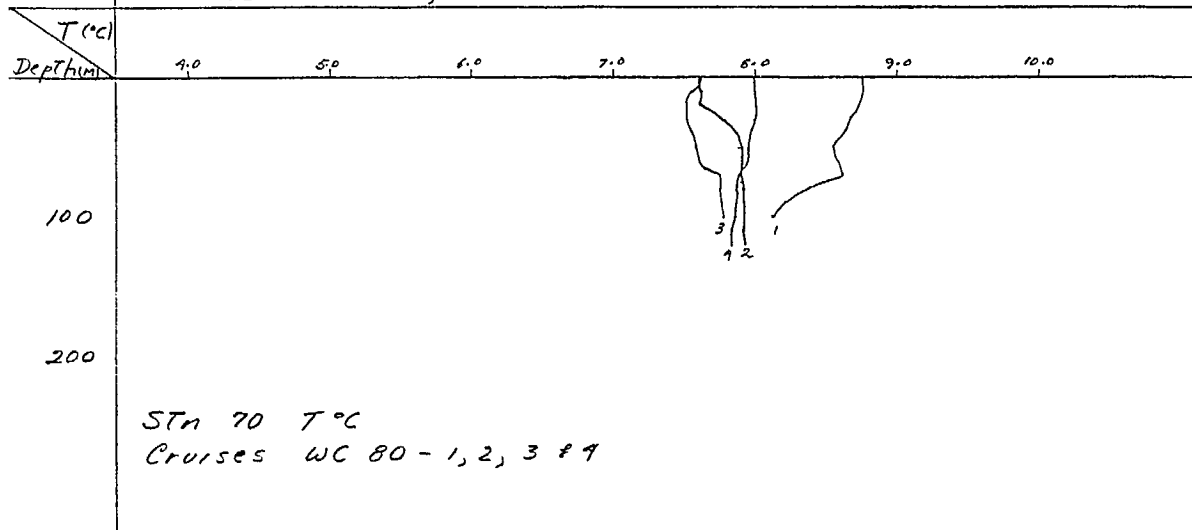
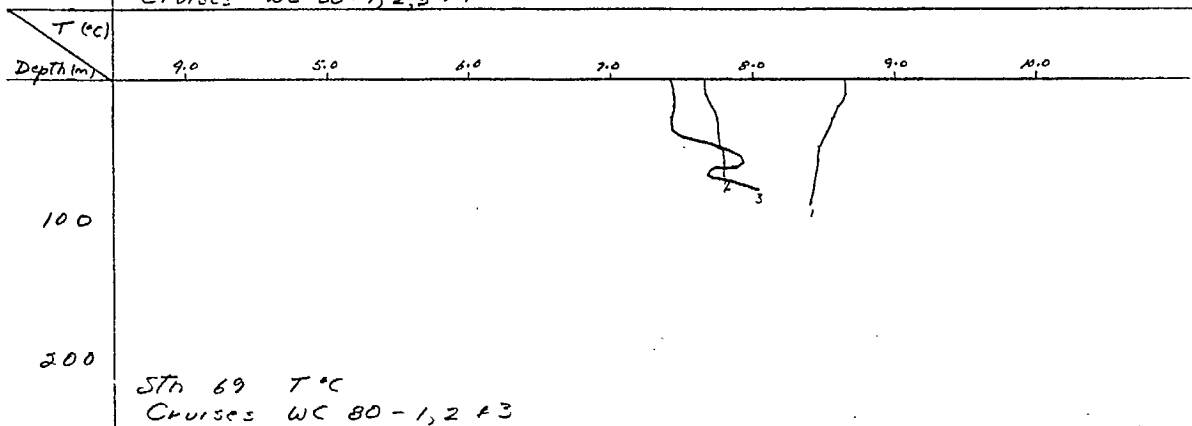
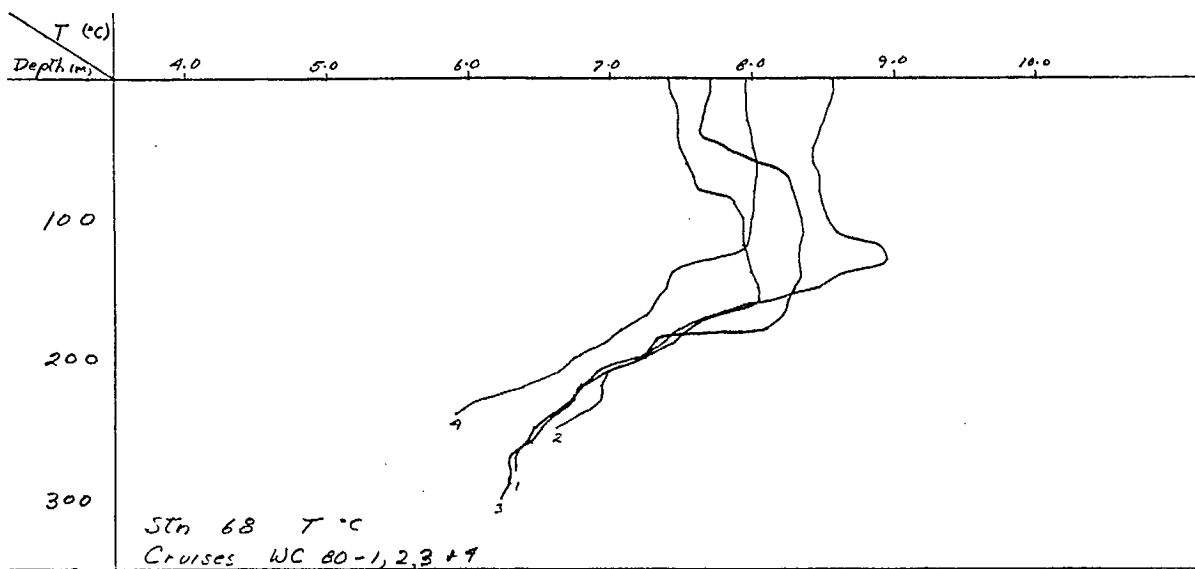


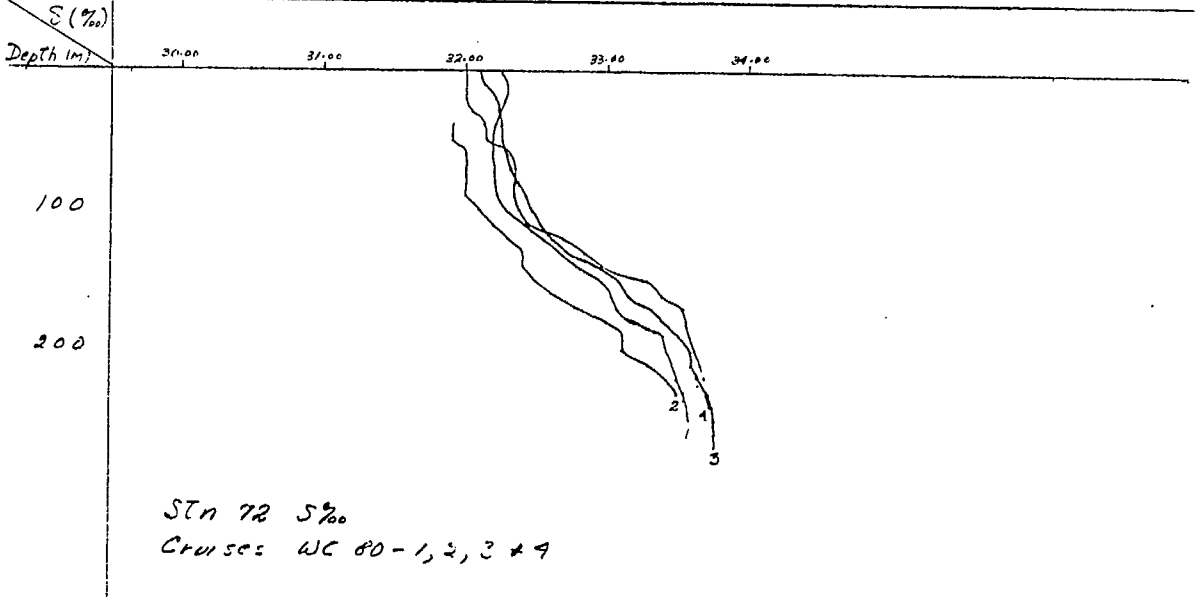
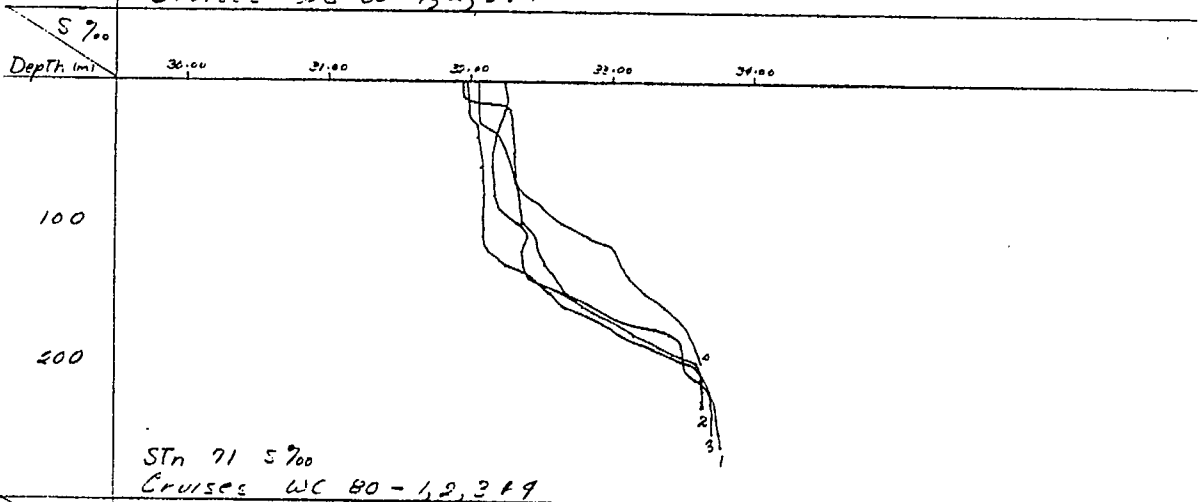
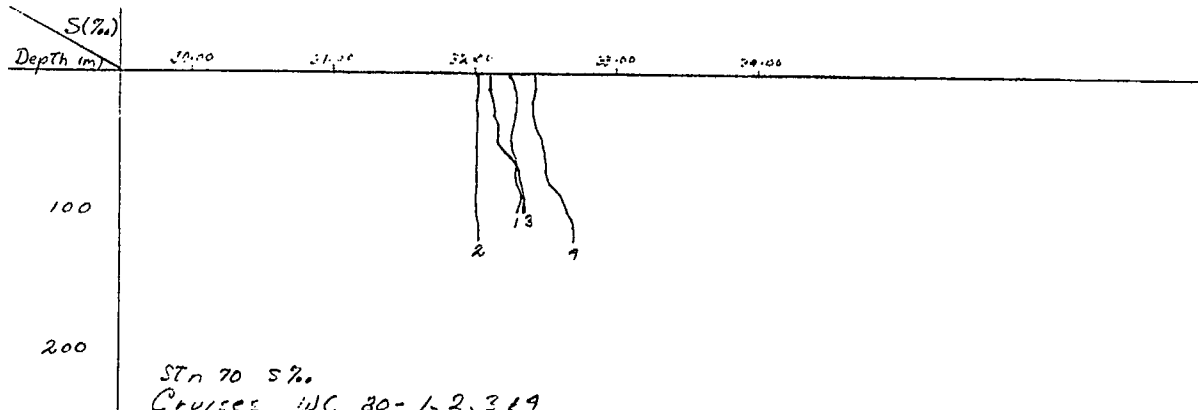


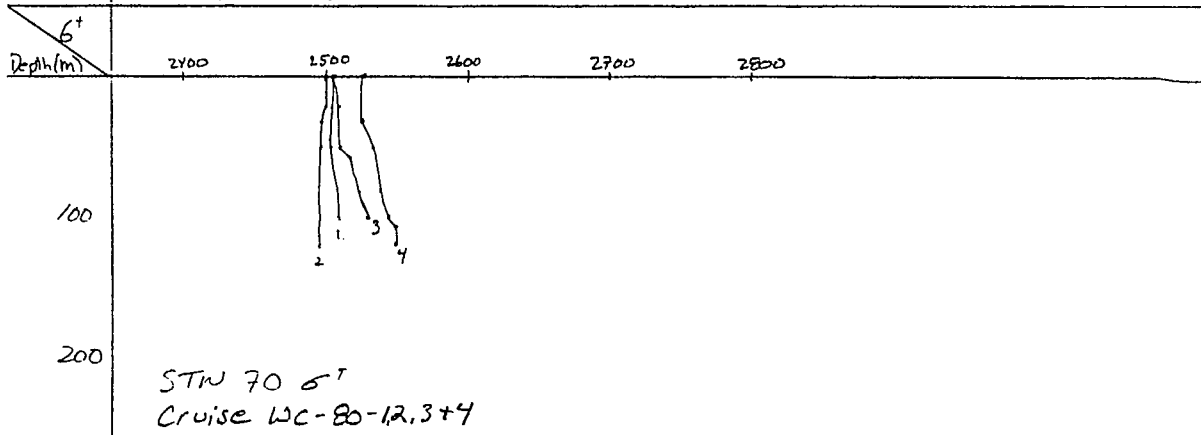
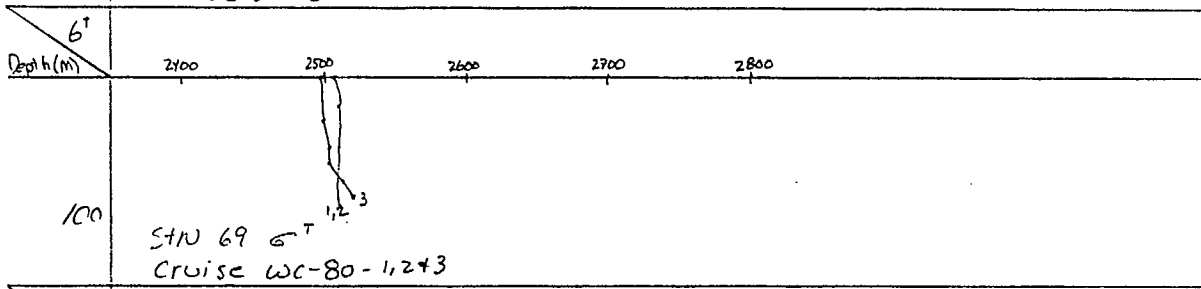
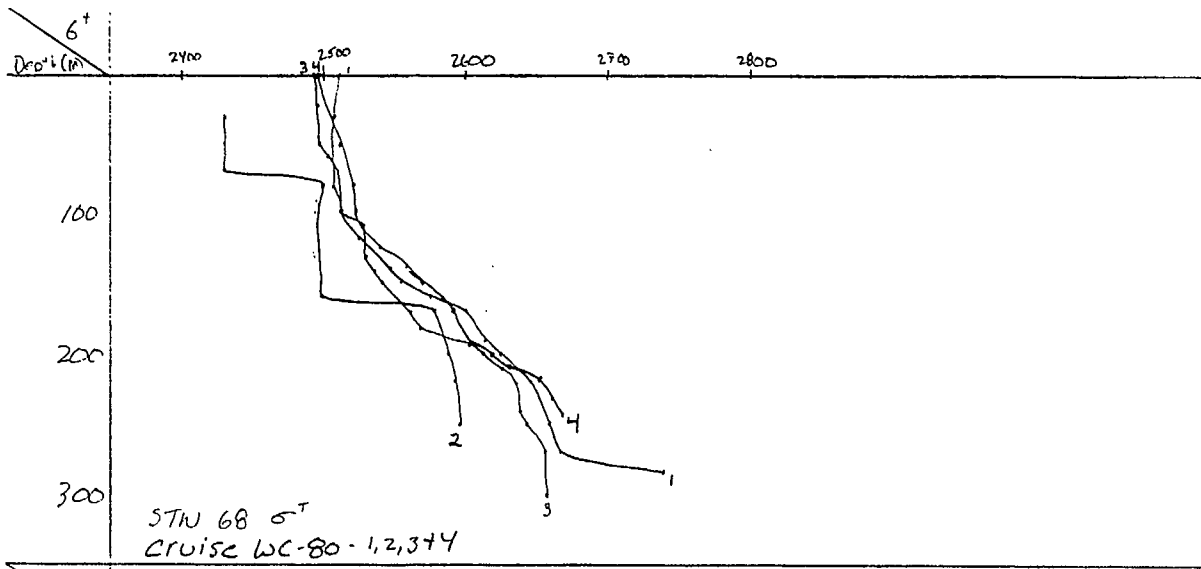


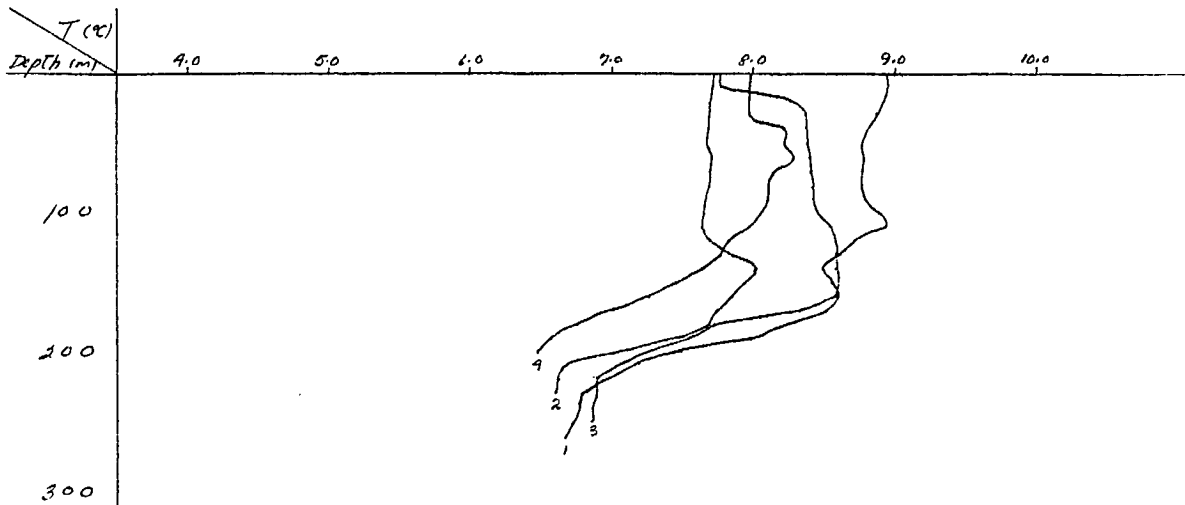




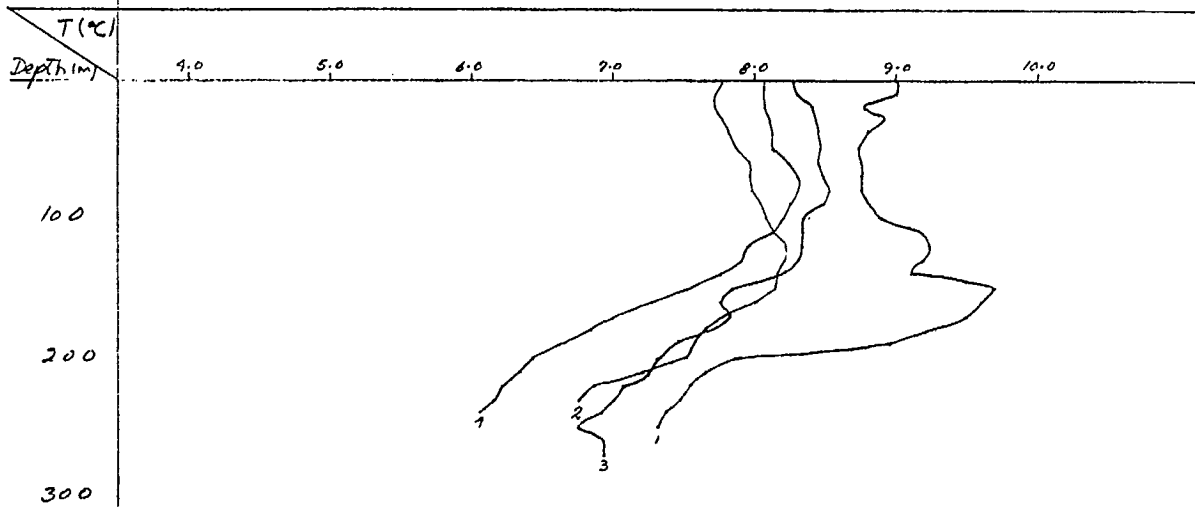




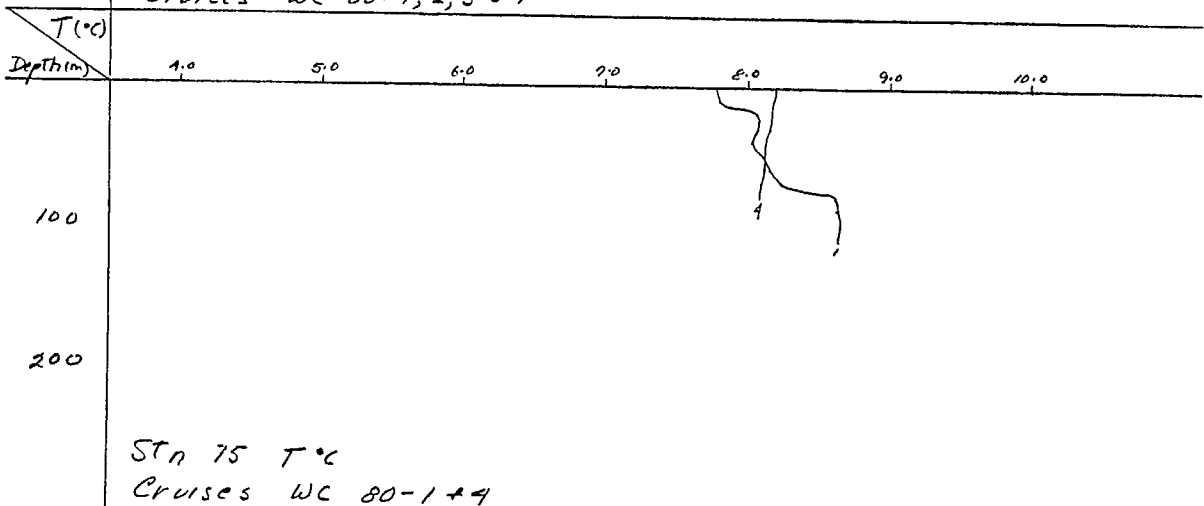
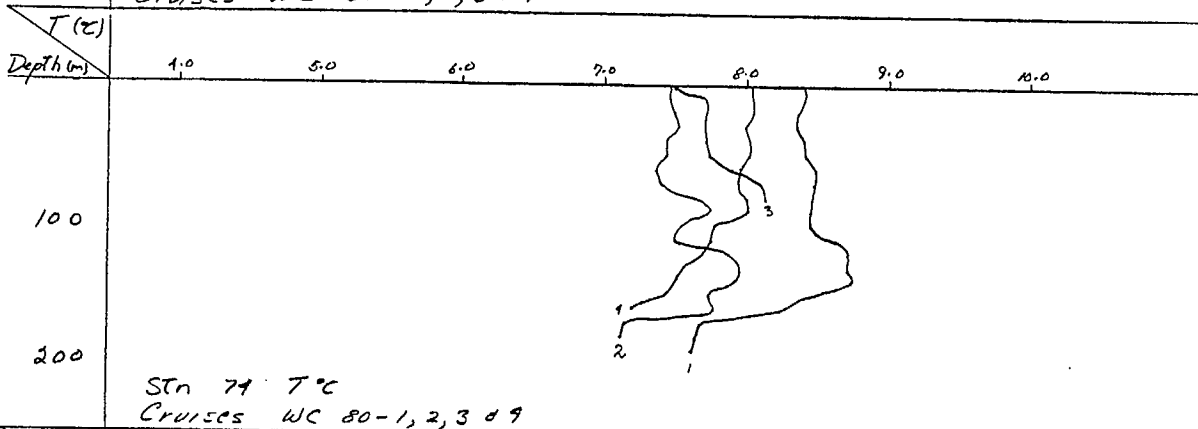
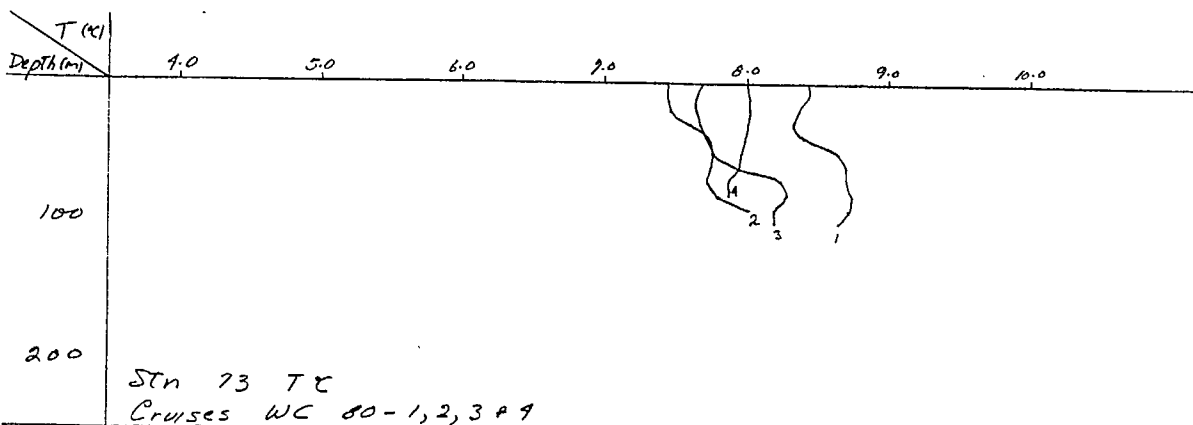


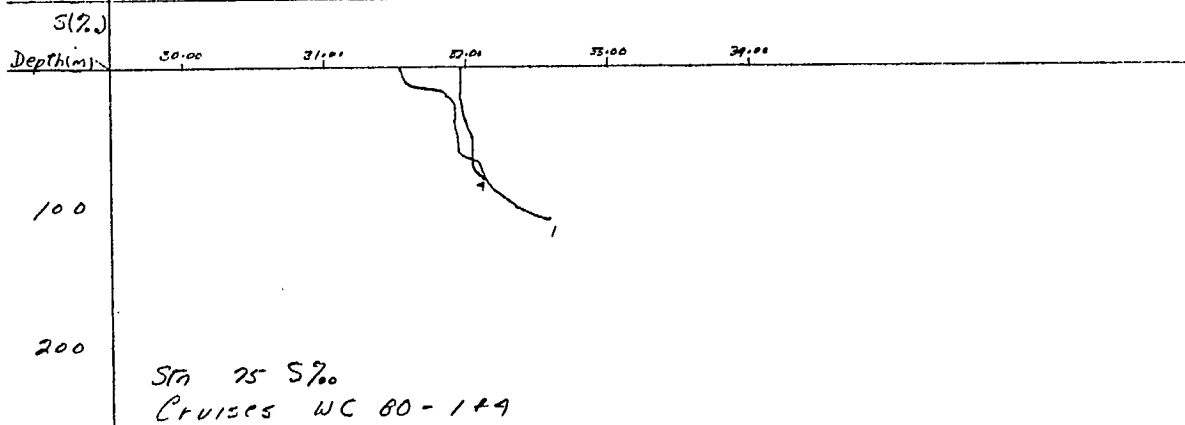
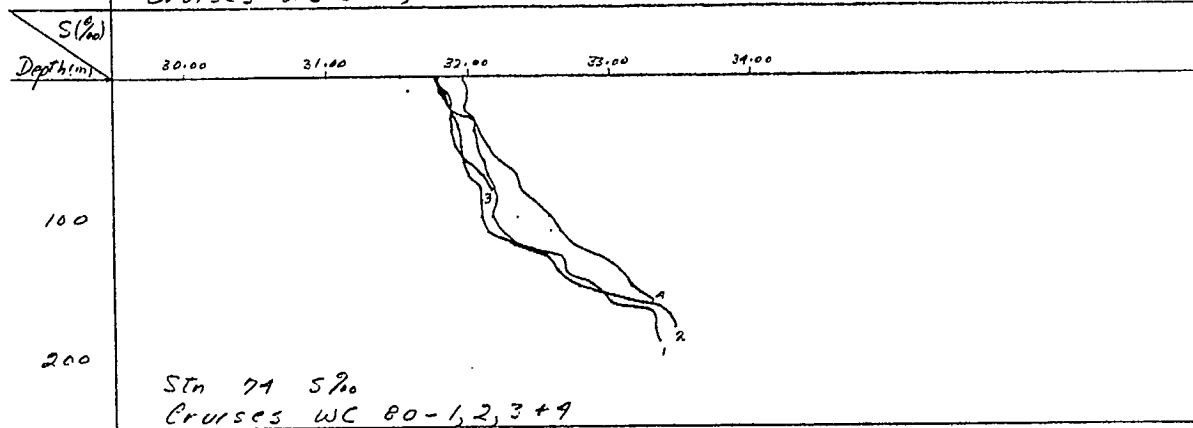
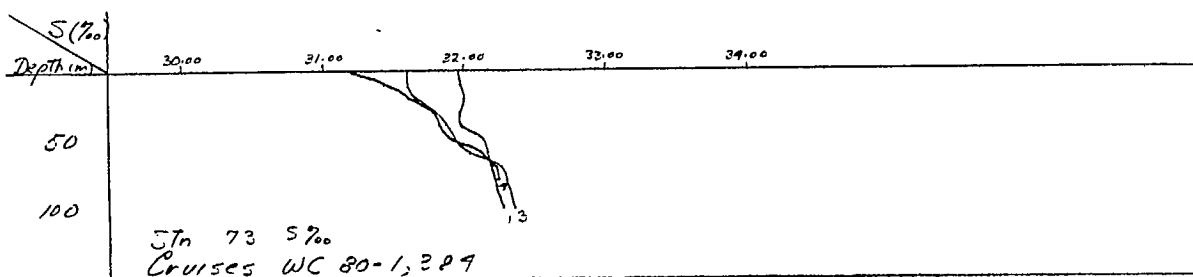


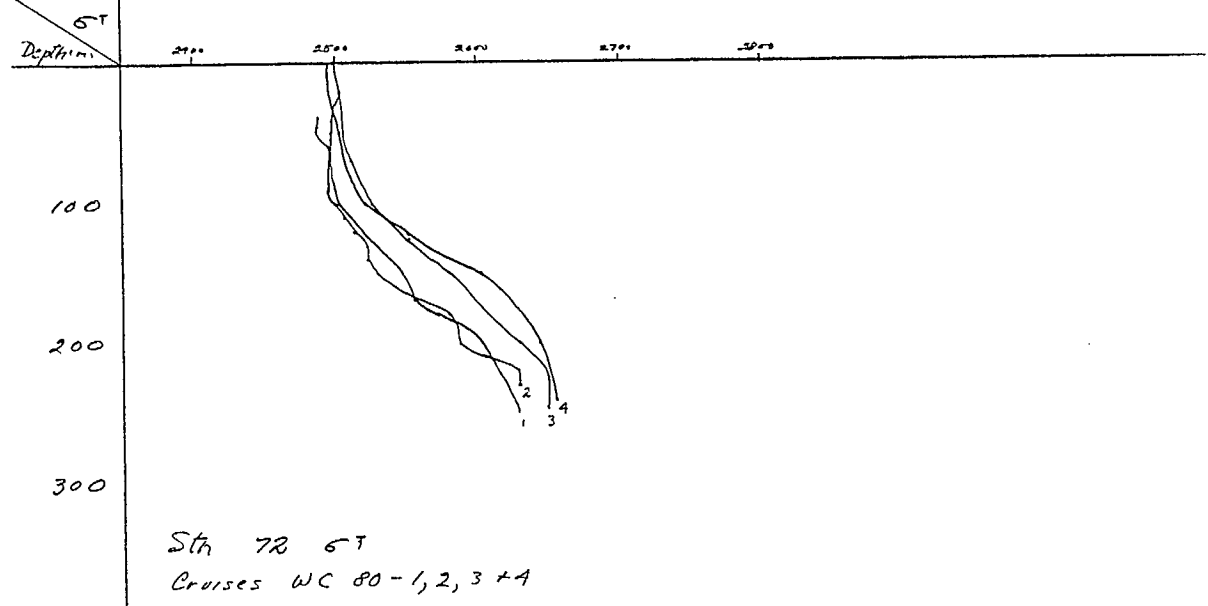
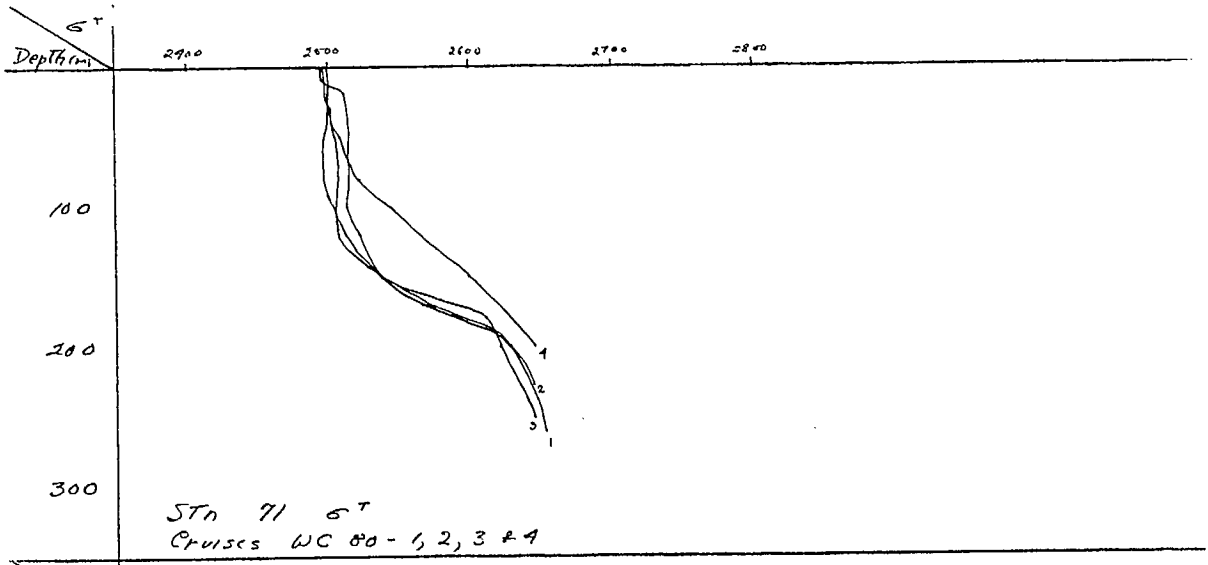
Stn 71 T °C  
Cruises WC 80-1, 2, 3 + 4

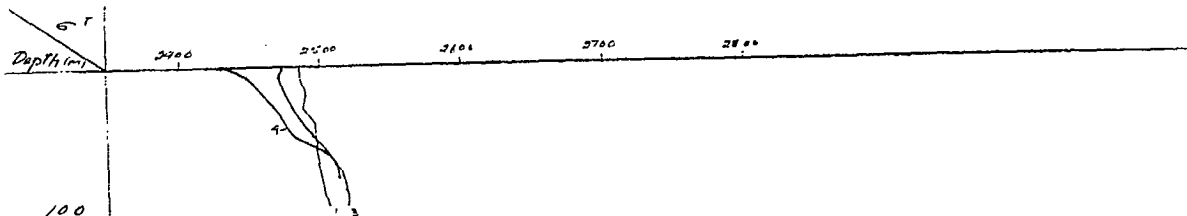


Stn 72 T °C  
Cruises WC 80-1, 2, 3 + 4

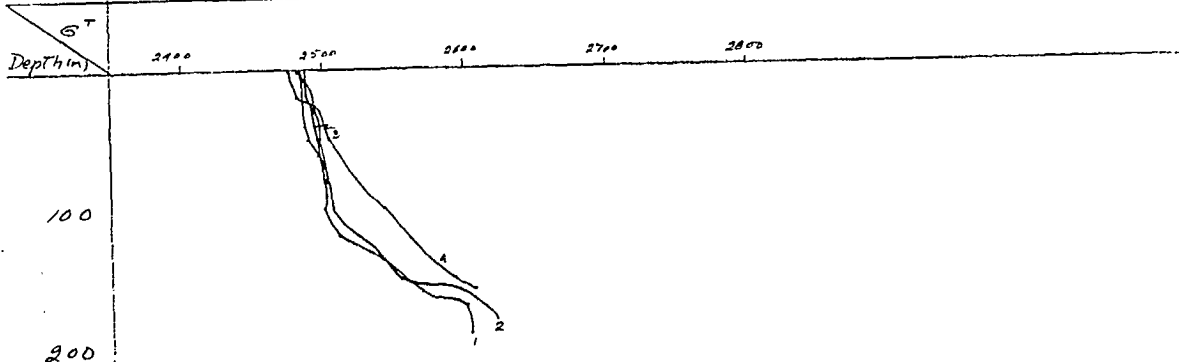




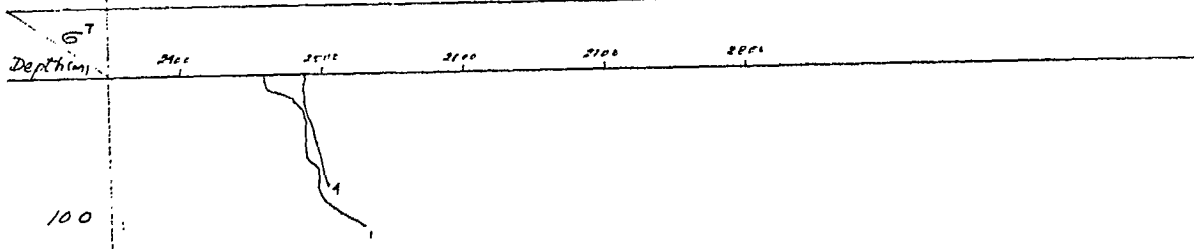




STN 73  $\sigma^T$   
CRUISES WC 80-1, 3 & 4



STN 74  $\sigma^T$   
CRUISES WC 80-1, 2, 3 & 9



STN 75  $\sigma^T$   
CRUISES WC 80-1 & 4



