

BERICHTE
AUS DEM
INSTITUT FÜR MEERESKUNDE
AN DER
CHRISTIAN-ALBRECHTS-UNIVERSITÄT KIEL

NR. 103

D01 10.3289/IFM-BER-103

C T D - DATA FROM THE NORTH CANARY BASIN

- "POSEIDON" CRUISE 86/2 -

26 MARCH - 13 APRIL, 1982

VON

R. KÄSE & J. RATHLEV

Kopien dieser Arbeit können bezogen werden von:
Institut für Meereskunde an der Universität Kiel
Abt. Theoretische Ozeanographie
23/Kiel
Düsternbrooker Weg 20

ZUSAMMENFASSUNG

Im Rahmen des Sonderforschungsbereichs 133 (Warmwassersphäre des Atlantiks) wurden im Frühjahr 1982 während der 86. Reise von F.S. POSEIDON durch Mitglieder des Instituts für Angewandte Physik und des Instituts für Meereskunde umfangreiche hydrographische Messungen mit der Kieler Multisonde im nördlichen Kanarenbecken vorgenommen. Dieser Datenband erlaubt durch die Darstellung vertikaler Profile und Schnitte von Temperatur, Salzgehalt und Anomalien des spezifischen Volumens sowie von T/S-Diagrammen erste Einblicke in die mesoskaligen hydrographischen Verhältnisse des Seegebiets zwischen Madeira und den Azoren.

SUMMARY

During the "POSEIDON" cruise 86/2 in early spring 1982 a mesoscale hydrographic survey was carried out by groups of the Institut für Angewandte Physik and the Institut für Meereskunde. The experiment took place in the northern Canary Basin between Madeira and the Azores. This data report presents vertical profiles and sections of temperature, salinity and specific volume anomalies as well as selected T/S diagrammes obtained by means of the Kiel Multisonde.

INTRODUCTION

This report presents observations of temperature and salinity in the upper 1500 m of the North Canary Basin. The observations were made in a mesoscale box onboard FS "Poseidon" between Madeira and the Azores (Fig. 1, 2). The cruise was part of the research programme of the SFB 133 ("Warmwassersphäre des Atlantiks") sponsored by the German Research Society (DFG). The main scientific aim was to obtain a quasi-synoptic mesoscale data set to be compared with currents from geostrophic calculations and satellite-tracked drift buoys with a drogue at 100 m depth deployed earlier in this area by FS "Meteor". No scientific interpretation of the data is given in this paper. A first insight into the geostrophic current field as resulting from objective analysis can be obtained from Fig. 4 showing a meandering jet-like surface current connected with a thermohaline front. Preliminary scientific results are discussed in Käse & Siedler (1982).

INSTRUMENTATION AND DATA STORAGE

The instrument used during the cruise was the "Multisonde" which was constructed by the Institute of Applied Physics of the Kiel University. The Multisonde was equipped with standard CTD sensors and sensors measuring the extinction of light (red, difference red-blue), oxygen and sound velocity.

In addition, several newly developed fast responding platinum-thermometers (Kroebel, 1981) were included in the Multisonde-system. These high resolution sensors were sampled at a rate in between 50 and 100 Hz. A pair of fast responding thermometers was used to determine the horizontal temperature finestructure. Table 1 summarizes the specifications of the sensors.

Table 1

Parameter	Symbol	Units	Resolution	Accuracy	
PRESSURE	P1	dbar	0.1	5	CTD
TEMPERATURE	T1	deg C	0.001	0.005	CTD
CONDUCTIVITY	L1	mS/cm	0.001	0.005	CTD
TEMPERATURE	T0	deg C	0.001	0.005	0.5m above T ₁
TEMPERATURE	T4	deg C	0.001	0.05	fast respons.
TEMPERATURE	T7	deg C	0.001	0.05	"
TEMPERATURE	T9	deg C	0.001	0.1	"
DIFF.Temperature	T8	deg C	0.0001	0.05	"
ATTENUATION	R0	1/m	0.0001	0.02	red light
ATTENUATION	R1	1/m	0.001	0.1	"
DIFF.ATTENUATION	RB	1/m	0.001	0.1	red-blue
OXYGEN	O2	mg/l	0.001	1	
SOUND VELOCITY	V1	m/s	0.01	0.05	
<u>derived quantities</u>					
SALINITY (*)	S0	ppt	0.001	0.005	Unesco 81
ANOMALY (*)	D0	cm ³ /kg	0.001	0.005	"
SOUND VELOCITY	DG	m/s	0.01	0.01	DelGrosso

(*) from P1, T0, L1.

Since the telemetric device using a 60 KHz transmission only allows the sampling at 1/640 Hz, not all the sensors could be deployed simultaneously. We applied several combinations in addition to the standard CTD sensors P1, T1, L1, T0.

Original data and derived quantities were recorded on magnetic tapes using a NOVA Computer, run with special operational systems (DT7. Rathlev, 1981). Simultaneously, CTD data were transmitted at a lower sampling rate (0.4Hz) to a second NOVA Computer where further calculations (e.g. dynamic height, depth of isothermes etc.) and quick look display were carried out (see Fig. 3).

GRAPHICAL PRESENTATION

All the profile graphics presented here were made onboard right after the cast. When a section had been completed, contours of isolines were determined and plotted automatically.

Included in this volume are only CTD data; other parameters will be presented elsewhere.

Preliminary checks of salinity and temperature revealed no significant deviations from the laboratory calibration of the Multisonde. In order to present data as soon as possible after the cruise no corrections were performed with the data set at this stage.

The figures shown are grouped into three chapters. Chapter 1 contains vertical profiles of temperature, salinity and anomaly of specific volume. Since the electronic circuit of T1 had a fault at high temperatures, the values of the second sensor T0 are shown in all graphics. All derived parameters are computed from T0, too. Chapter 2 shows selected T/S diagrammes and Chapter 3 includes several meridional sections with different vertical resolution.

LITERATURE

- Käse, R.H. & G. Siedler, 1982: Meandering of the sub-tropical front southeast of the Azores. NATURE, submitted
- Kroebel, W., 1981: A thermometer for oceanographic research with a time constant of about 1 ms and a resolution of less than 0.001K: Its properties and results of its application on cruises. IEEE-J. of Oceanic Engineering, vol. OE-6, 4. 118-124
- Rathlev J.. 1981: DT7 - Data Transfer Programme Rev. 7.5, User's Manual. Institute of Applied Physics, Kiel University. unpublished manuscript.

Acknowledgement:

The cooperation of the officers and crew of FS "Poseidon". Captain H. Schmickler commanding, is gratefully acknowledged. We are indebted to Mssrs. N.v. Bosse, K.H. Mahrt. P. Reimer. H.C. Waldmann of the Institut für Angewandte Physik and J. Brandt, W. Hiller, J. Holtorff of the Institut für Meereskunde an der Universität Kiel, whose efforts on the cruise made these data available.

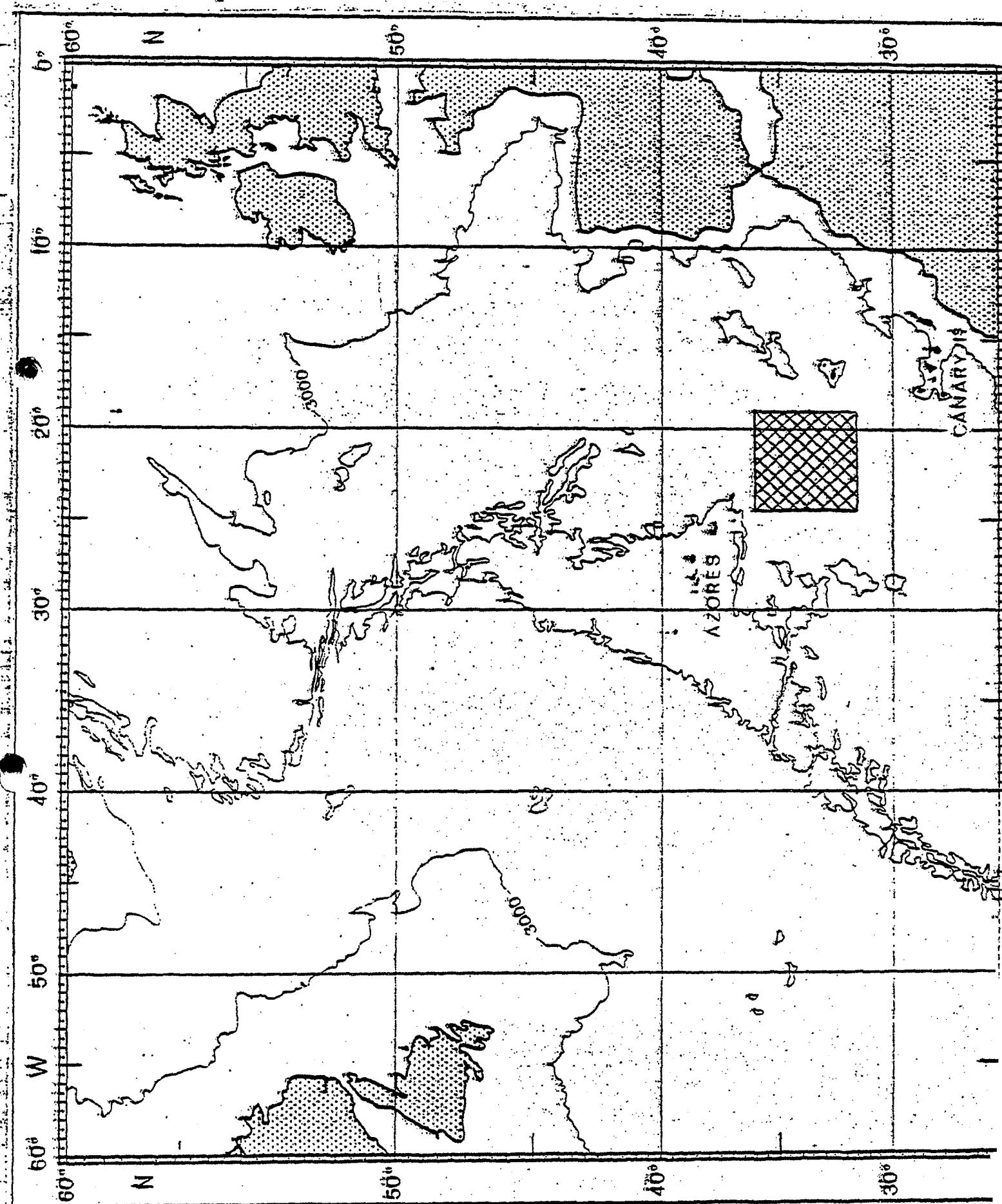


Fig. 1: LOCATION OF HYDROGRAPHIC BOX DURING POSEIDON CRUISE 86/2

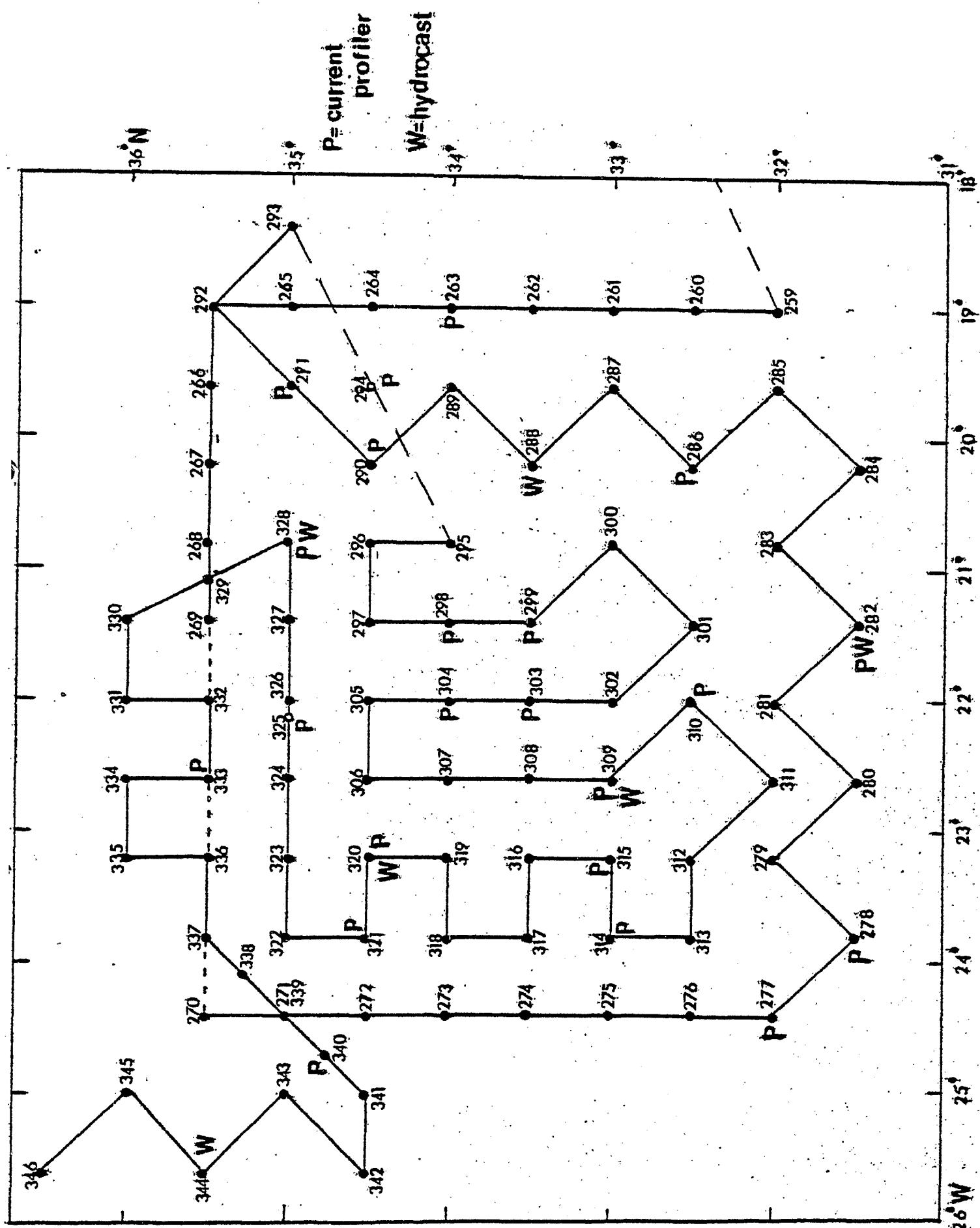
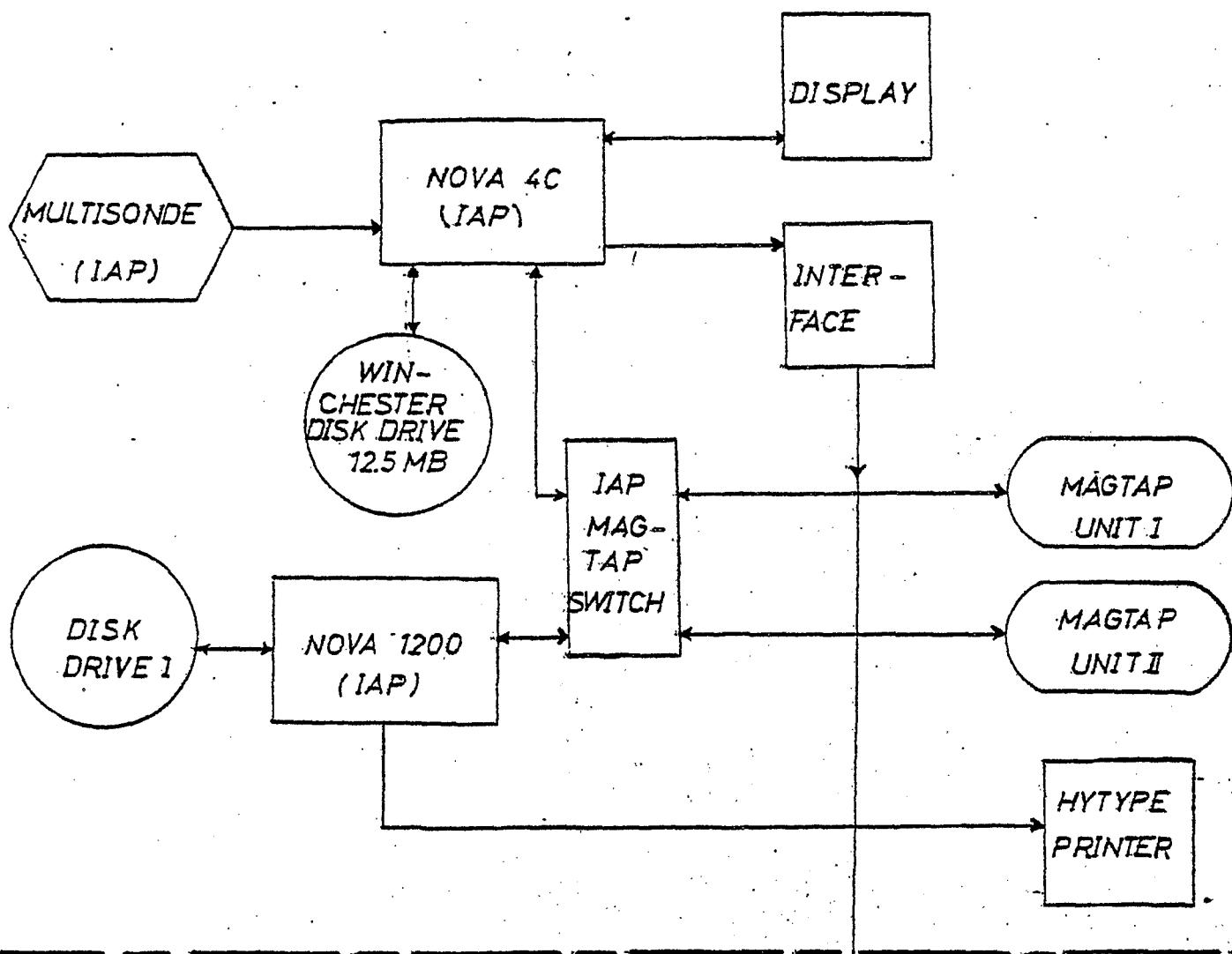
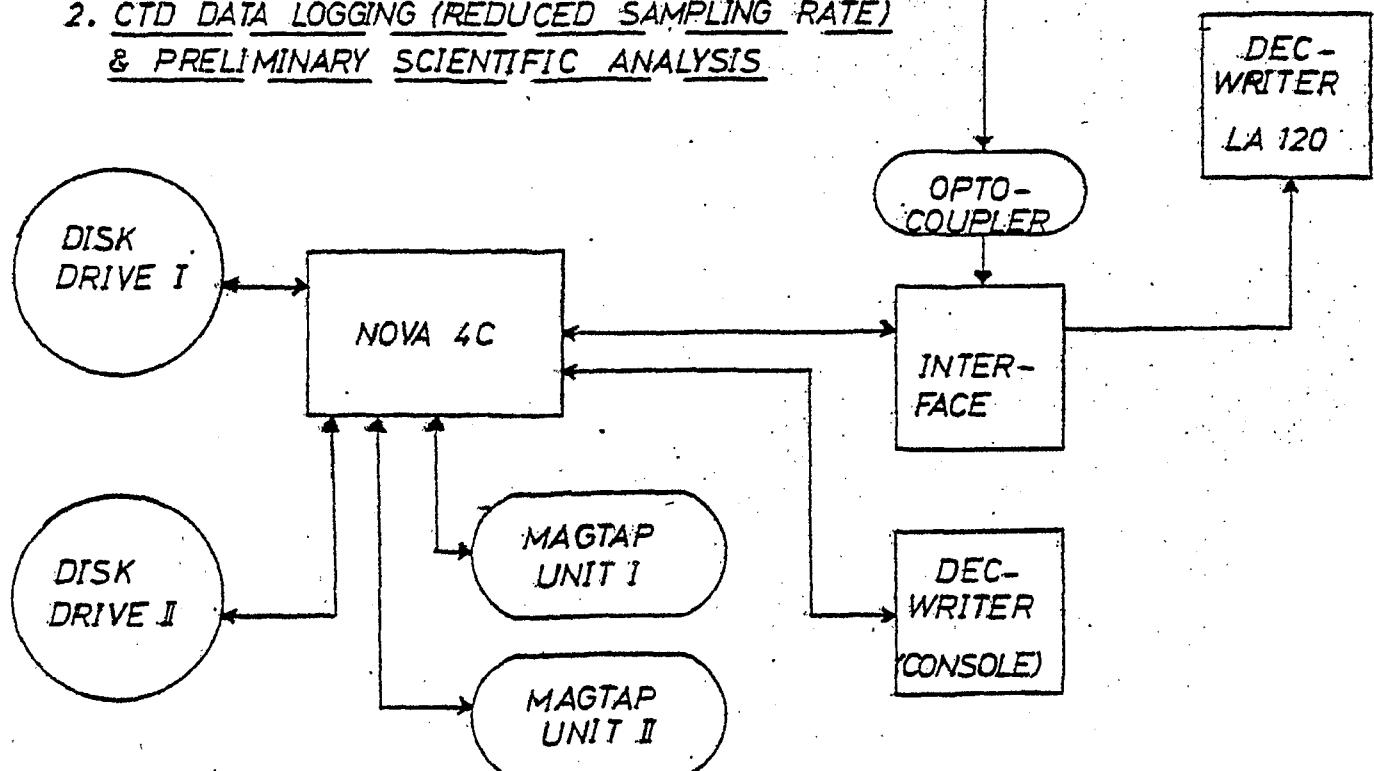


Fig. 2: LOCATION OF STATIONS

1. CTD DATA LOGGING (HIGH SAMPLING RATE)
& STANDARD PROCESSING (IAP)



2. CTD DATA LOGGING (REDUCED SAMPLING RATE)
& PRELIMINARY SCIENTIFIC ANALYSIS



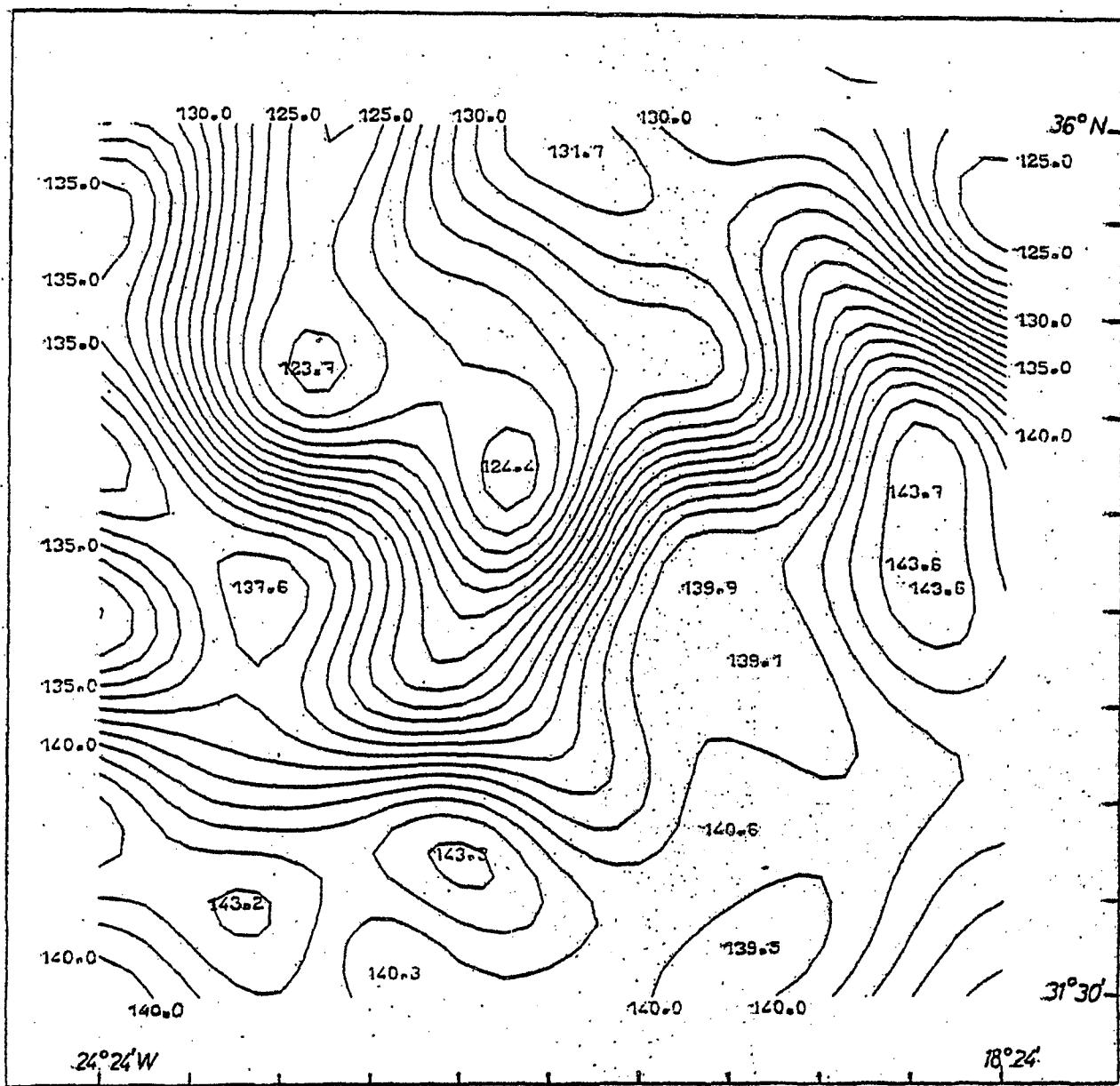


Fig. 4: ESTIMATED DYNAMIC HEIGHT CONTOURS (dyn cm) RELATING TO 1500 dBar

STATION LIST MULTISONDE

POSEIDON 86 - 2

FILE	STAT.	PROF.	DATE	TIME	LAT.	LONG.	DEF
* 0	255	1	19. 3.82	15: 6: 2.00	46:10:30	7:33: 0	45
* 1	256	2	20. 3.82	15: 3:26.00	42:37: 6	10:11: 6	16
* 2	257	3	21. 3.82	15:13:17.00	38:54: 0	12:55:48	32
3	259	4	26. 3.82	17:20:59.00	32: 0: 0	19: 0: 0	44
4	260	5	26. 3.82	21:20: 8.00	32:30: 0	19: 0: 0	39
5	261	6	27. 3.82	0:48:47.00	33: 0: 0	19: 0: 0	36
6	262	7	27. 3.82	5:20:30.00	33:30: 0	19: 0: 0	43
7	263	8	27. 3.82	9:52:38.00	34: 0: 0	19: 0: 0	42
8	264	9	27. 3.82	14: 8:44.00	34:30: 0	19: 0: 0	49
9	265	10	27. 3.82	18: 7: 8.00	35: 0: 0	19: 0: 0	46
10	266	11	28. 3.82	1:42:39.00	35:30: 0	19:36: 0	52
11	267	12	28. 3.82	5:40:58.00	35:30: 0	20:12: 0	51
12	268	13	28. 3.82	9:48: 0.00	35:30: 0	20:48: 0	54
13	269	14	28. 3.82	14:18:24.00	35:30: 0	21:24: 0	51
14	270	15	29. 3.82	7:26:28.00	35:30: 0	24:24: 0	41
15	271	16	29. 3.82	11:26:30.00	35: 0: 0	24:24: 0	51
16	272	17	29. 3.82	15: 4:0.00	34:30: 0	24:24: 0	41
17	273	18	29. 3.82	18:53:31.00	34: 0: 0	24:24: 0	4
18	274	19	29. 3.82	22:15: 7.00	33:30: 0	24:24: 0	5
19	275	20	30. 3.82	2:12:30.00	33: 0: 0	24:24: 0	5
20	276	21	30. 3.82	5:17:40.00	32:30: 0	24:24: 0	5
21	277	22	30. 3.82	8:58:22.00	32: 0: 0	24:24: 0	5
22	278	23	30. 3.82	15:13:31.00	31:30: 0	23:48: 0	5
23	279	24	30. 3.82	21:17:45.00	32: 0: 0	23:12: 0	5
24	280	25	31. 3.82	2:11:40.00	31:30: 0	22:36: 0	51
25	281	26	31. 3.82	7:33:51.00	32: 0: 0	22: 0: 0	5
26	282	27	31. 3.82	13:37:10.00	31:30: 0	21:24: 0	4
27	283	28	31. 3.82	20:18:18.00	32: 0: 0	20:48: 0	4
28	284	29	1. 4.82	1:11:17.00	31:30: 0	20:12: 0	4
29	285	30	1. 4.82	6:22:39.00	32: 0: 0	19:36: 0	4
30	286	31	1. 4.82	11:44:55.00	32:30: 0	20:12:30	4
31	287	32	1. 4.82	17: 6:43.00	33: 0: 0	19:36: 0	3
32	288	33	1. 4.82	22: 3:11.00	33:30: 0	20:12: 0	5
33	289	34	2. 4.82	4: 2:58.00	34: 0: 0	19:36: 0	4
34	290	35	4. 2.82	9:30:59.00	34:29:48	20:11:54	3
35	291	36	2. 4.82	15: 1:31.00	35: 0: 0	19:36: 0	4
36	292	37	2. 4.82	20:39: 0.00	35:30: 0	19: 0: 0	5
37	293	38	3. 4.82	1:36:35.10	35: 0: 0	18:24: 0	4
38	295	39	3. 4.82	20: 7:29.00	34: 0: 0	20:48: 0	4
39	296	40	4. 4.82	0:34:10.00	34:30: 0	20:48: 0	5
40	297	41	4. 4.82	6:17:35.00	34:30: 0	21:24: 0	5
41	298	42	4. 4.82	10:23:12.00	34: 0: 0	21:24: 0	5
42	299	43	4. 4.82	14:57:26.00	33:30: 0	21:24: 0	5
43	300	44	4. 4.82	20:40:27.00	33: 0: 0	20:48: 0	0
44	301	45	5. 4.82	1:50:11.00	32:30: 0	21:24: 0	0
45	302	46	5. 4.82	6:51:31.00	33: 0: 0	22: 0: 0	0
46	303	47	5. 4.82	11:17:56.00	33:30: 0	22: 0: 0	0
47	304	48	5. 4.82	15: 8: 2.00	34: 0: 0	22: 0: 0	0
48	305	49	5. 4.82	19: 7:44.00	34:30: 0	22:36: 0	0
49	306	50	5. 4.82	22:55:12.00	34:30: 0	22:36: 0	0
50	307	51	6. 4.82	2:37:15.00	34: 0: 0	22:36: 0	0
51	308	52	6. 4.82	6: 0:32.00	33:30: 0	22:36: 0	0
52	309	53	6. 4.82	9:40: 7.00	33: 0: 0	22:36: 0	0
53	310	54	6. 4.82	16:26:20.00	32:30: 0	22:36: 0	0
54	311	55	6. 4.82	22:23:40.00	32: 0: 0	22:36: 0	0
55	312	56	7. 4.82	3:36:21.00	32:30: 0	23:12: 0	0
56	313	57	7. 4.82	7:42:21.00	32:30: 0	23:48: 0	0
57	314	58	7. 4.82	11:30:18.00	33: 0: 0	23:48: 0	0
58	314	59	7. 4.82	15:33:30.00	33: 0: 0	23:12: 0	0

STATION LIST MULTISONDE

Poseidon 86-82

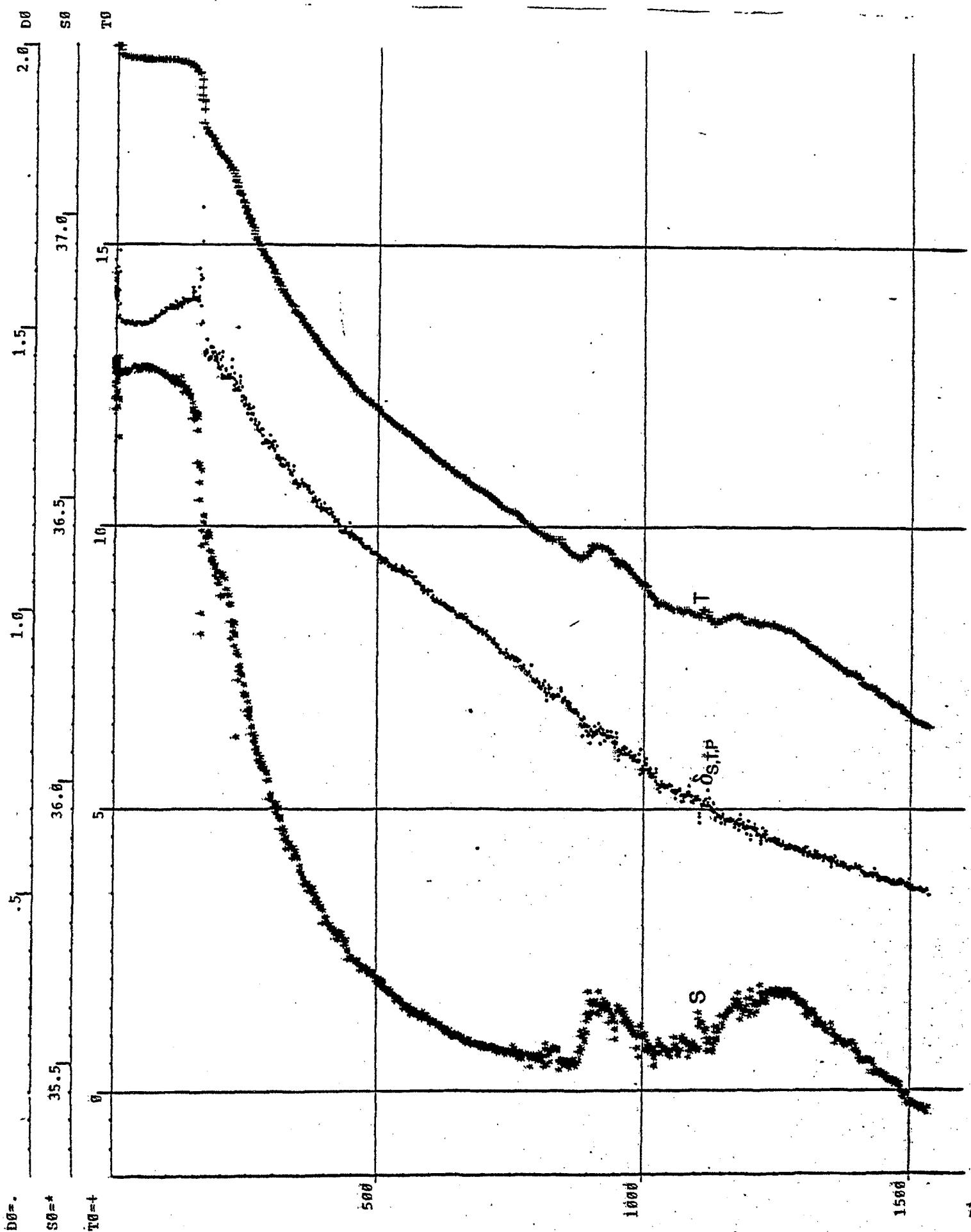
- 11 -

FILE	STAT.	PROF.	DATE	TIME	LAT.	LONG.	DEF
59	316	60	7. 4.82	19:40:43.00	33:30: 0	23:12: 0	53
60	317	61	7. 4.82	23:58:59.00	33:30: 0	23:48: 0	52
61	318	62	8. 4.82	3:28:25.00	34: 0: 0	23:48: 0	52
62	319	63	8. 4.82	6:46: 6.00	34: 0: 0	23:12: 0	52
63	320	64	8. 4.82	11:17:14.00	34:30: 0	23:12: 0	50
64	321	65	8. 4.82	16:56:38.00	34:30: 0	23:47:54	52
65	322	66	8. 4.82	20:48:21.00	35: 0: 0	23:48: 0	44
66	323	67	9. 4.82	0:28:23.00	35: 0: 0	23:12: 0	47
67	324	68	9. 4.82	3:47: 2.00	35: 0: 0	22:36: 0	50
68	326	69	9. 4.82	7:46: 0.00	35: 0: 0	22: 0: 0	50
69	327	70	9. 4.82	11:34:34.00	35: 0: 0	21:24: 0	51
70	328	71	9. 4.82	15:33:21.00	35: 0: 0	20:48: 0	51
71	329	72	9. 4.82	20:41: 7.00	35:30: 0	21: 7: 0	51
72	330	73	10. 4.82	1: 4:21.00	36: 0: 0	21:24: 0	46
73	331	74	10. 4.82	5: 3:58.00	36: 0: 0	22: 0: 0	42
74	332	75	10. 4.82	8:23:53.00	35:30: 0	22: 1: 6	56
75	333	76	10. 4.82	16: 6:24.00	35:30: 0	22:36: 0	50
76	334	77	10. 4.82	20:34:39.00	36: 0: 0	22:36: 0	39
77	335	78	11. 4.82	0:40:17.00	36: 0: 0	23:12: 0	39
78	336	79	11. 4.82	4:10:32.00	35:30: 0	23:12: 0	45
79	337	80	11. 4.82	7:32:25.00	35:30: 0	23:48: 0	48
80	338	81	11. 4.82	10:36:46.00	35:15: 0	24: 6: 0	49
81	339	82	11. 4.82	13:39:12.00	35: 0: 0	24:24:18	50
82	340	83	11. 4.82	17: 9:37.00	34:45: 0	24:43: 0	51
83	341	84	11. 4.82	19:43:18.00	34:30: 0	25: 0: 0	49
84	342	85	11. 4.82	23:22:50.00	34:30: 0	25:36: 0	51
85	343	86	12. 4.82	5: 3:42.00	35: 0: 0	25: 0: 0	48

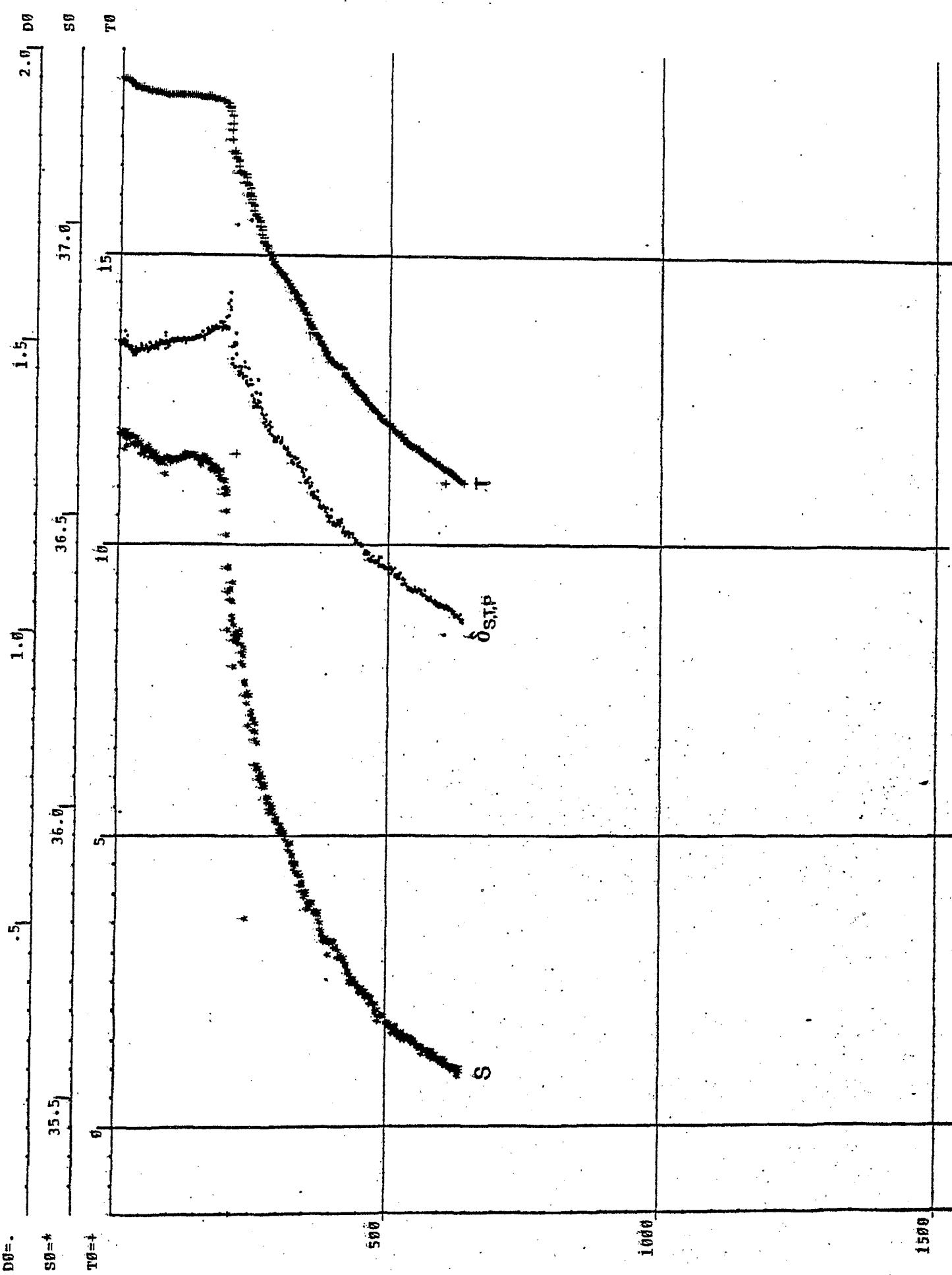
* Test stations during leg 1

VERTICAL PROFILES

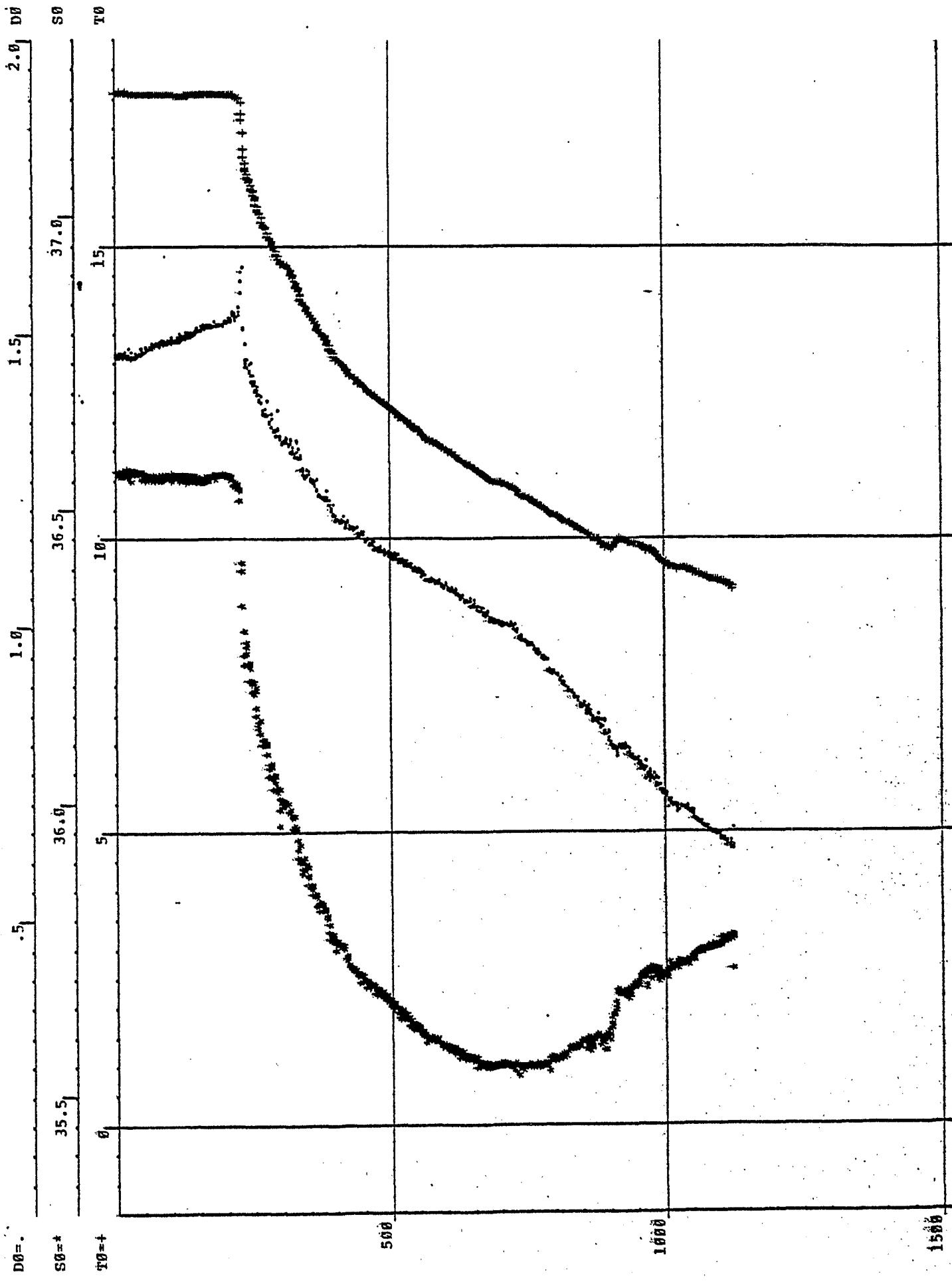
POSITION 86 DATE: 26. 3.82 STATION: 259 PROFILE:



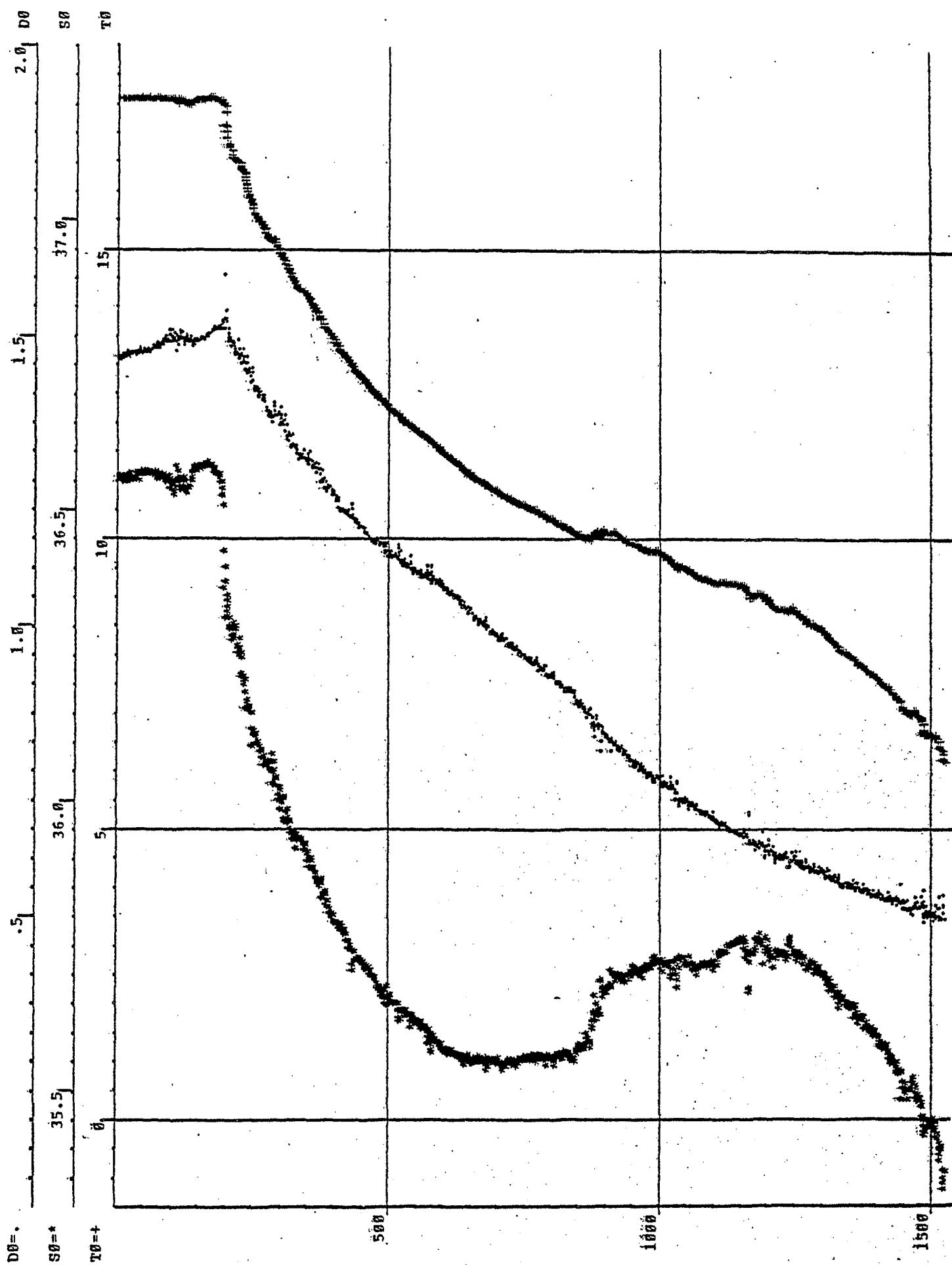
POSEIDON 06 DATE: 26. 3.82 STATION: 260 PROFILE: 5



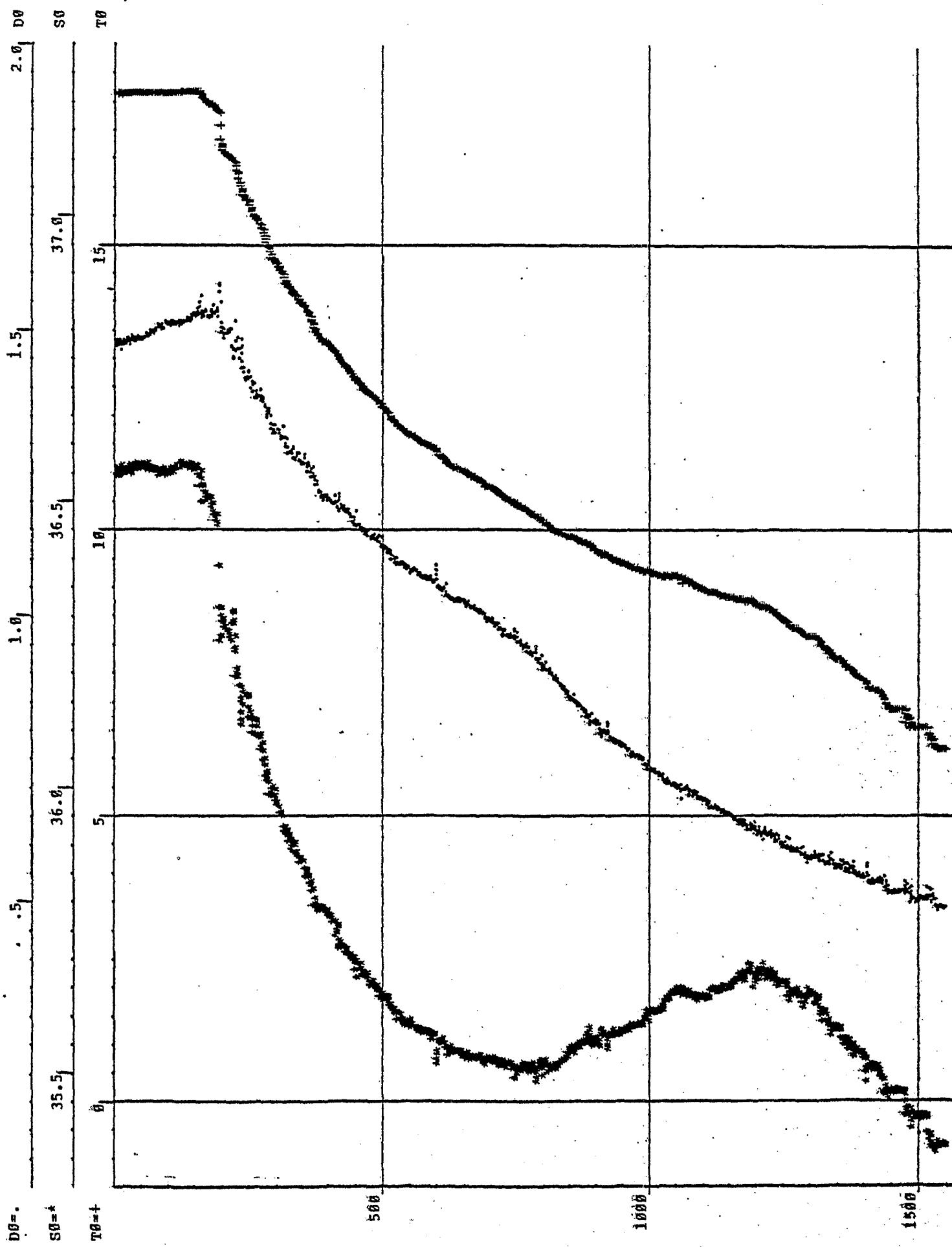
POSEIDON 86 DATE: 27, 3.82 STATION: 1 PROFILE: 6



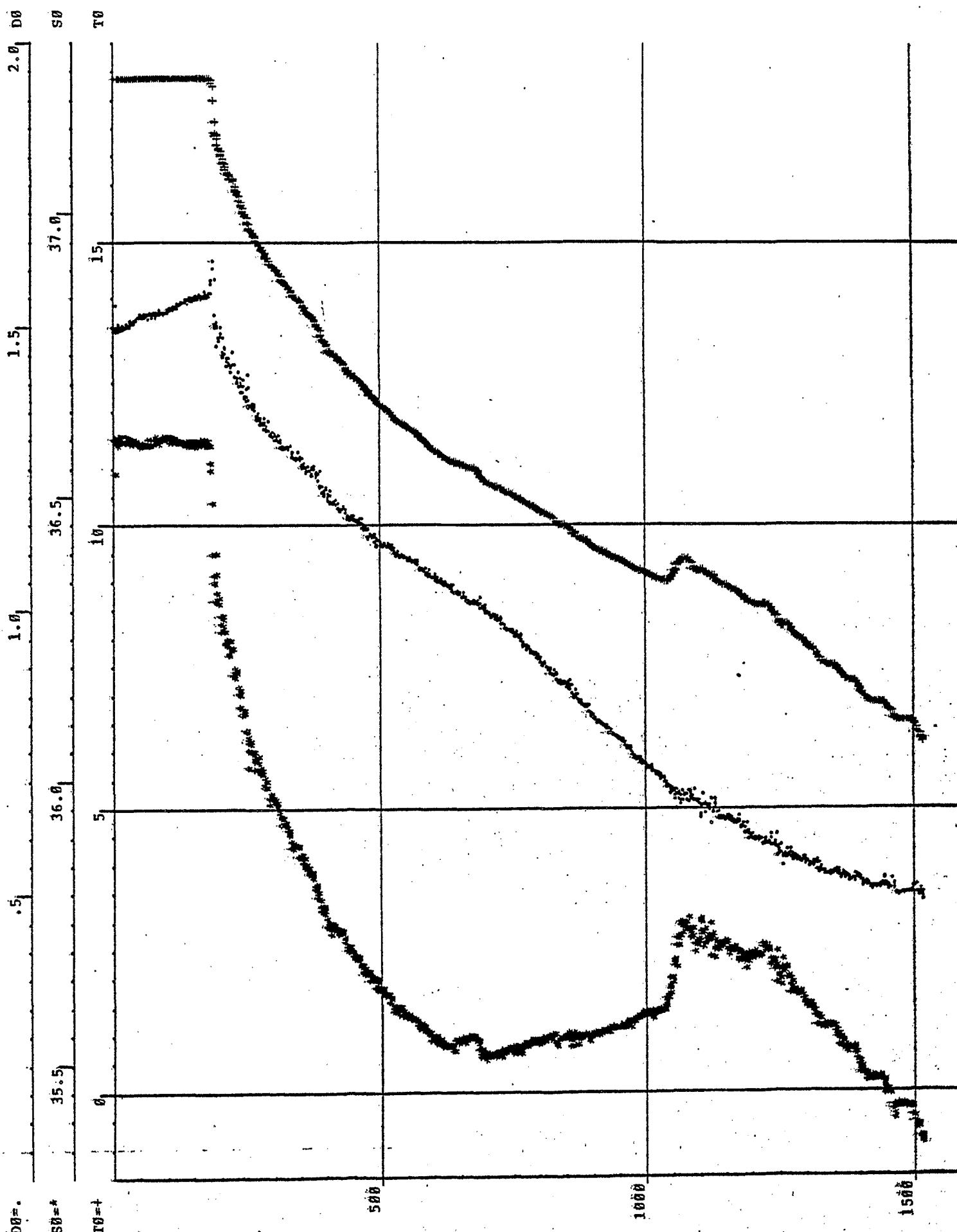
POSEIDON 06 DATE: 27. 3.02 STATION: 262 PROFILE: 7



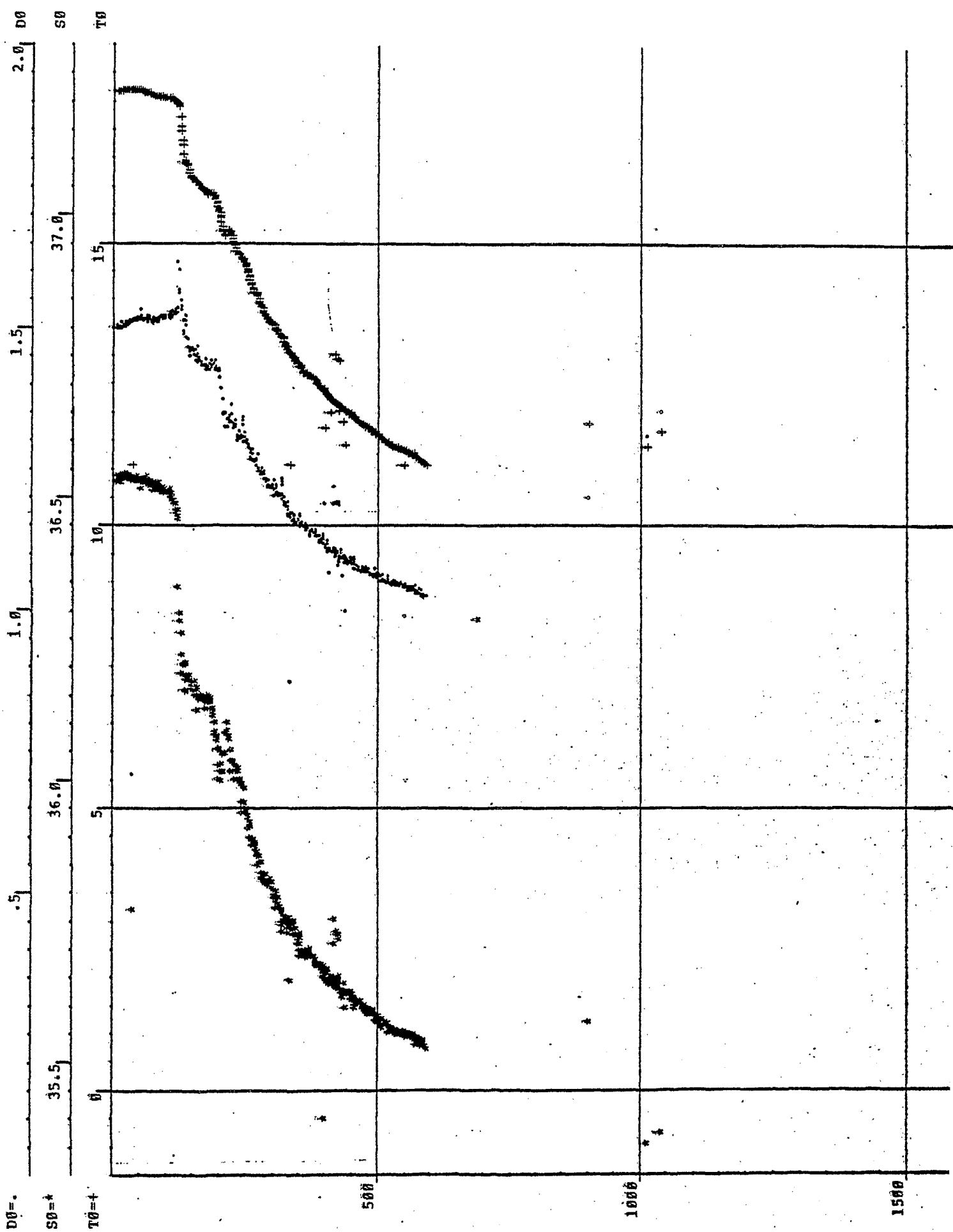
POSITION 86 DATE: 27. 3.82 STATION 3 PROFILE: 8



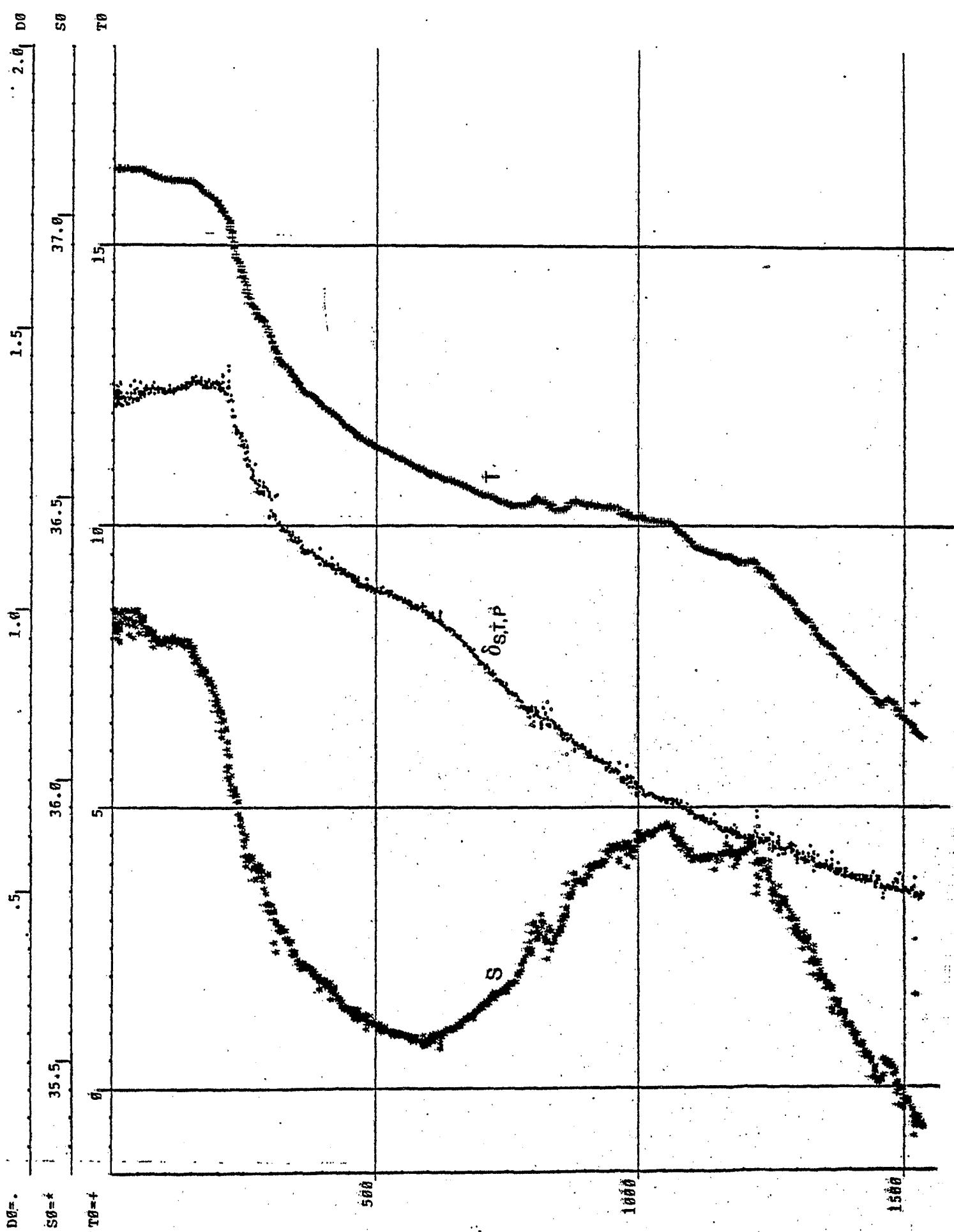
POSITION 86 DATE: 27. 3.82 STATION 94 PROFILE: 9



POSITION 86 DATE: 27. 3.82 STATION 15 PROFILE: 16



POSEIDON 86 DATE: 28. 3.82 STATION: 11 PROFILE: 11

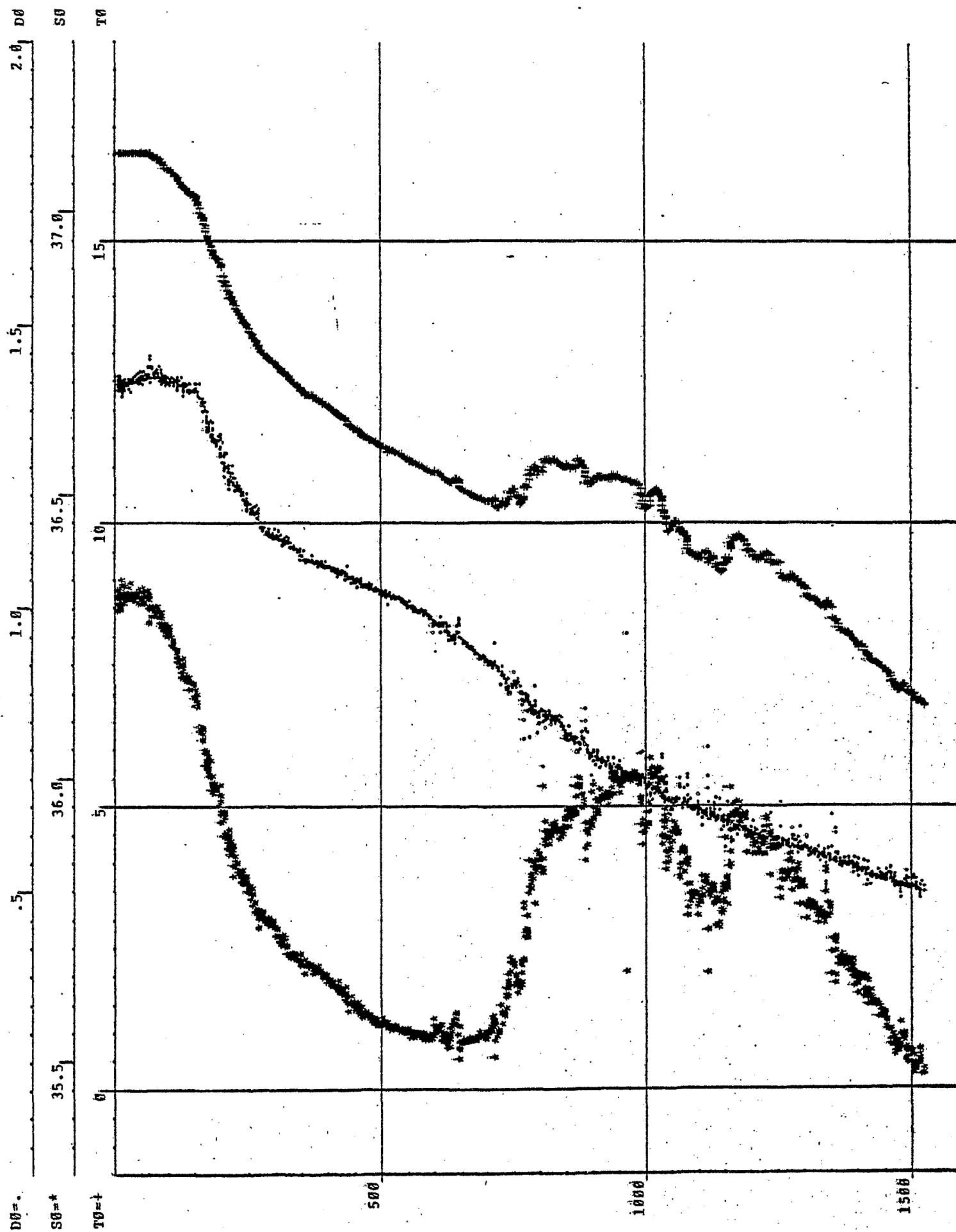


POSITION 86 DATE: 28. 3.82 STATION 57 PROFILE: 12

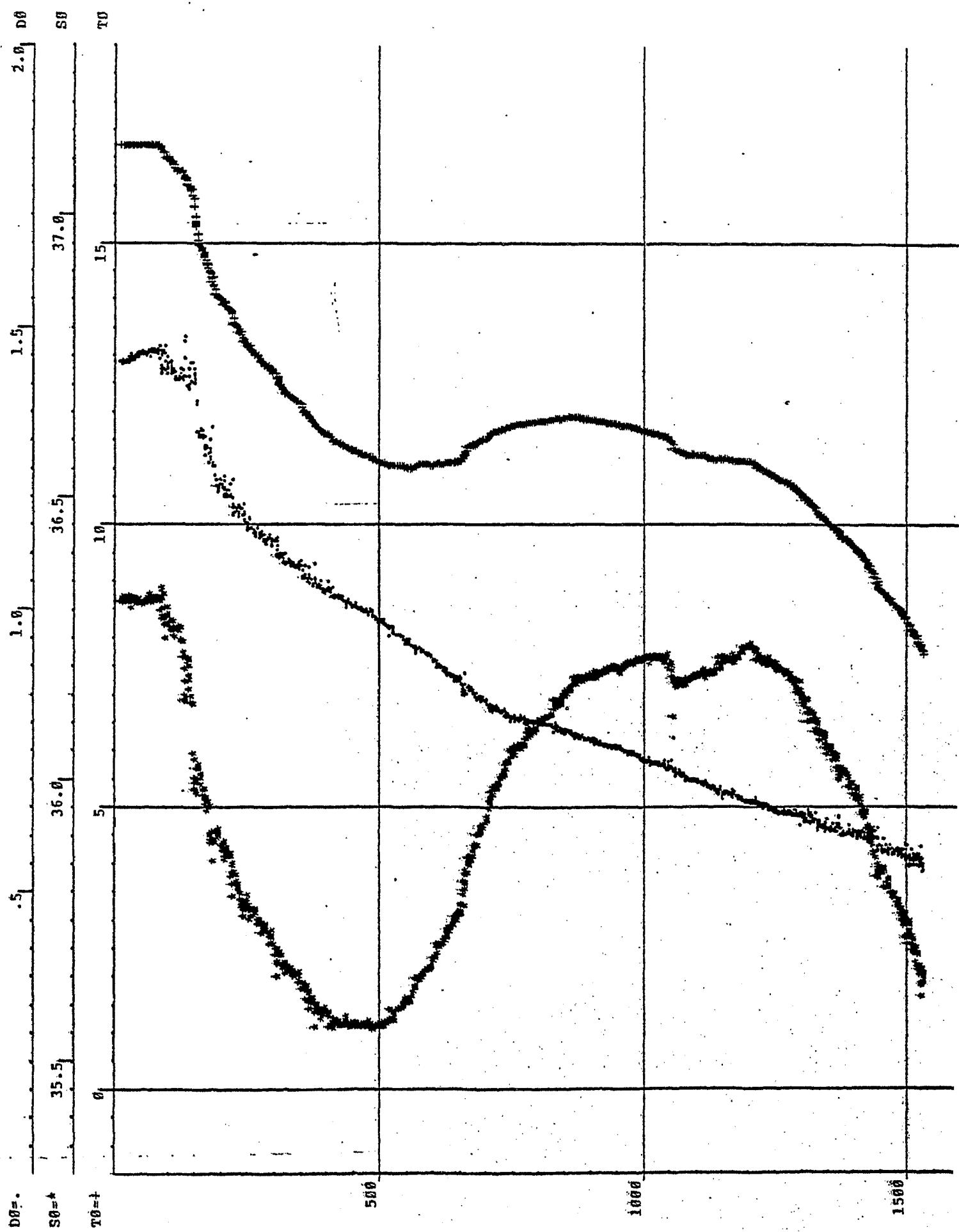
Dθ=0 Sθ=*

Sθ=0 Tθ=*

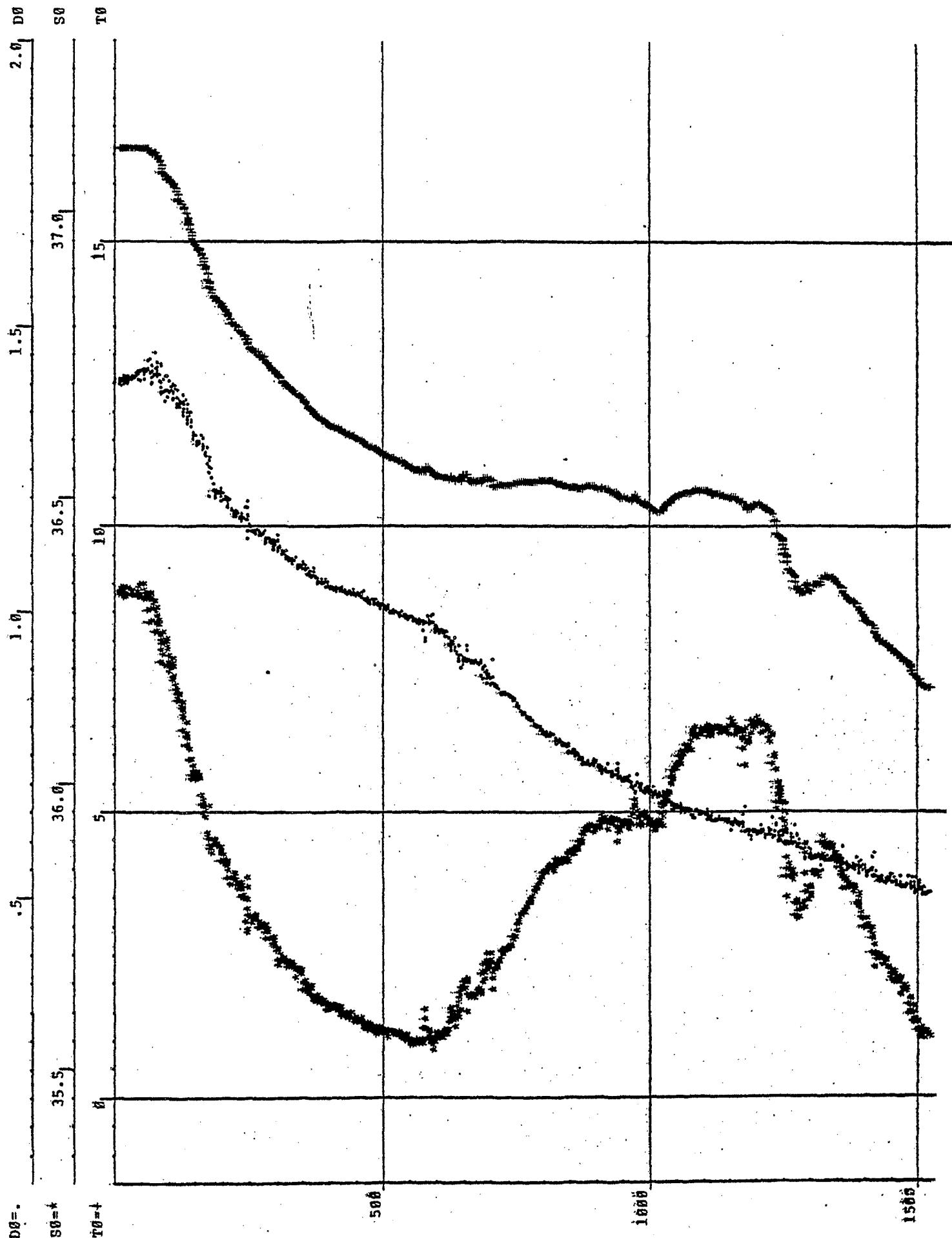
Tθ=0



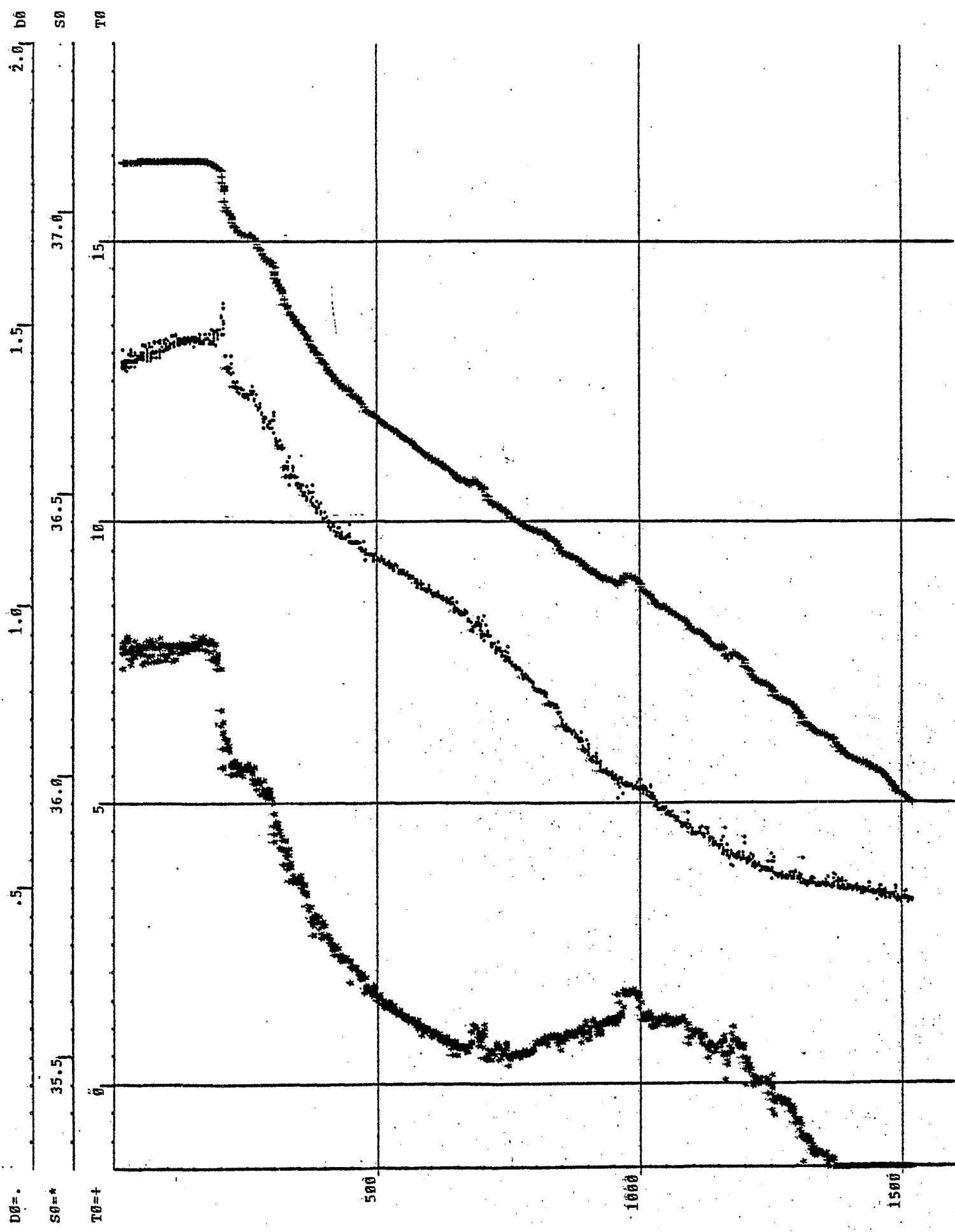
POSEIDON 86 DATE: 28. 3.82 STATION: 13 PROFILE: 13



POSITION 86 DATE: 28. 3.82 STATION: 269 PROFILE: 14

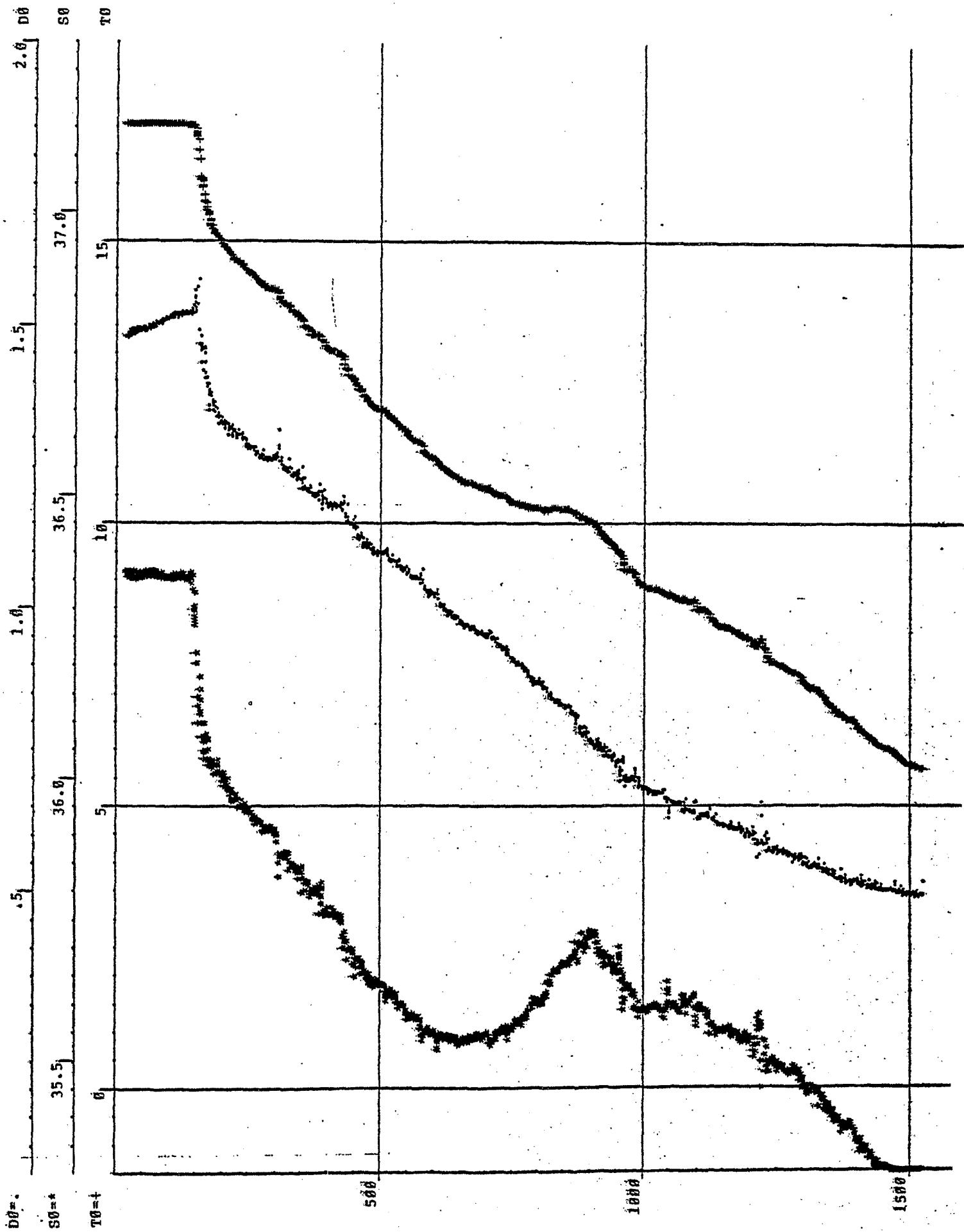


POSITION - 86 DATE: 29. 3.82 STATION 270 PROFILE: 15

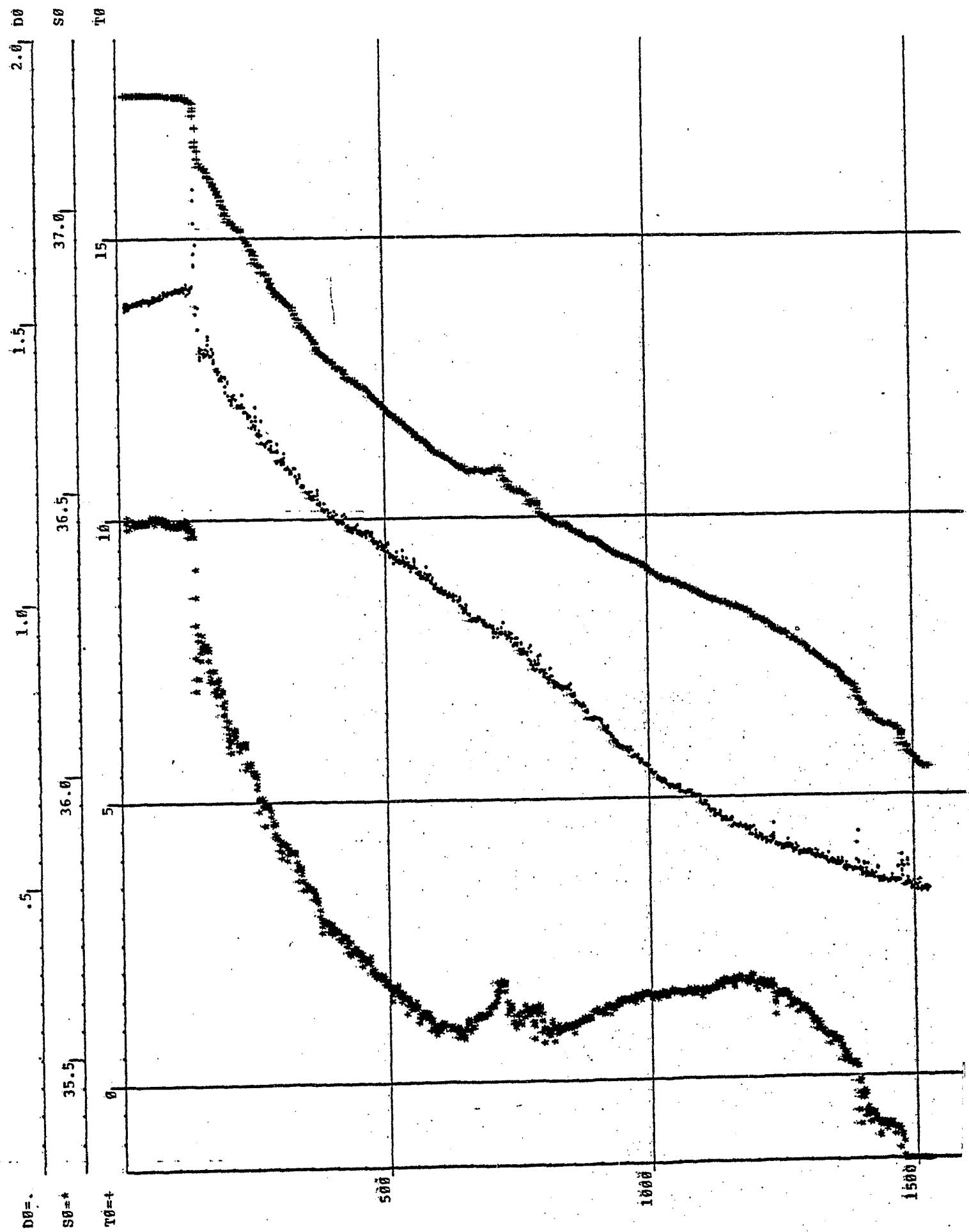


POSEIDON 86 DATE: 29. 3.82 STATION: 16 PROFILE: 16

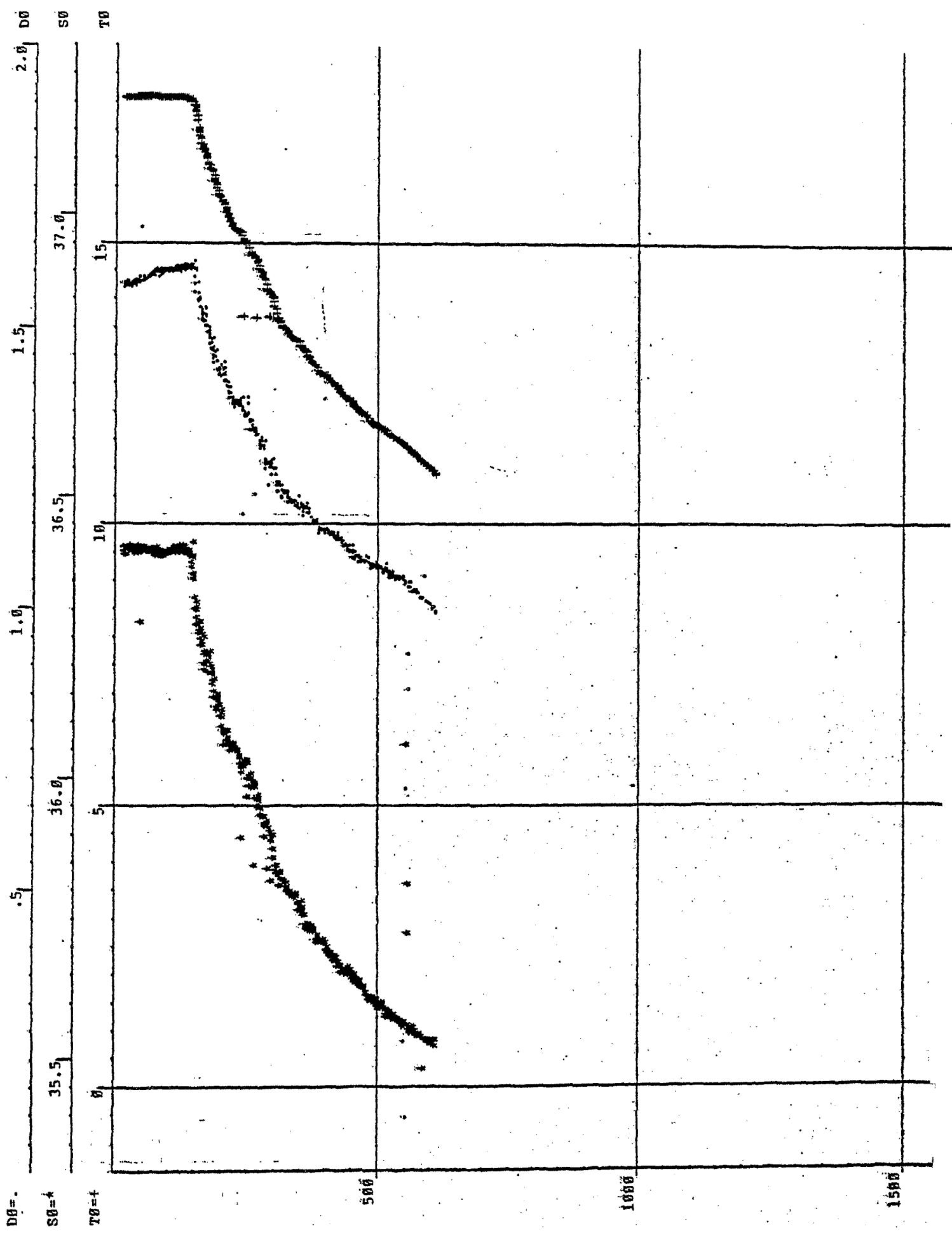
-24-



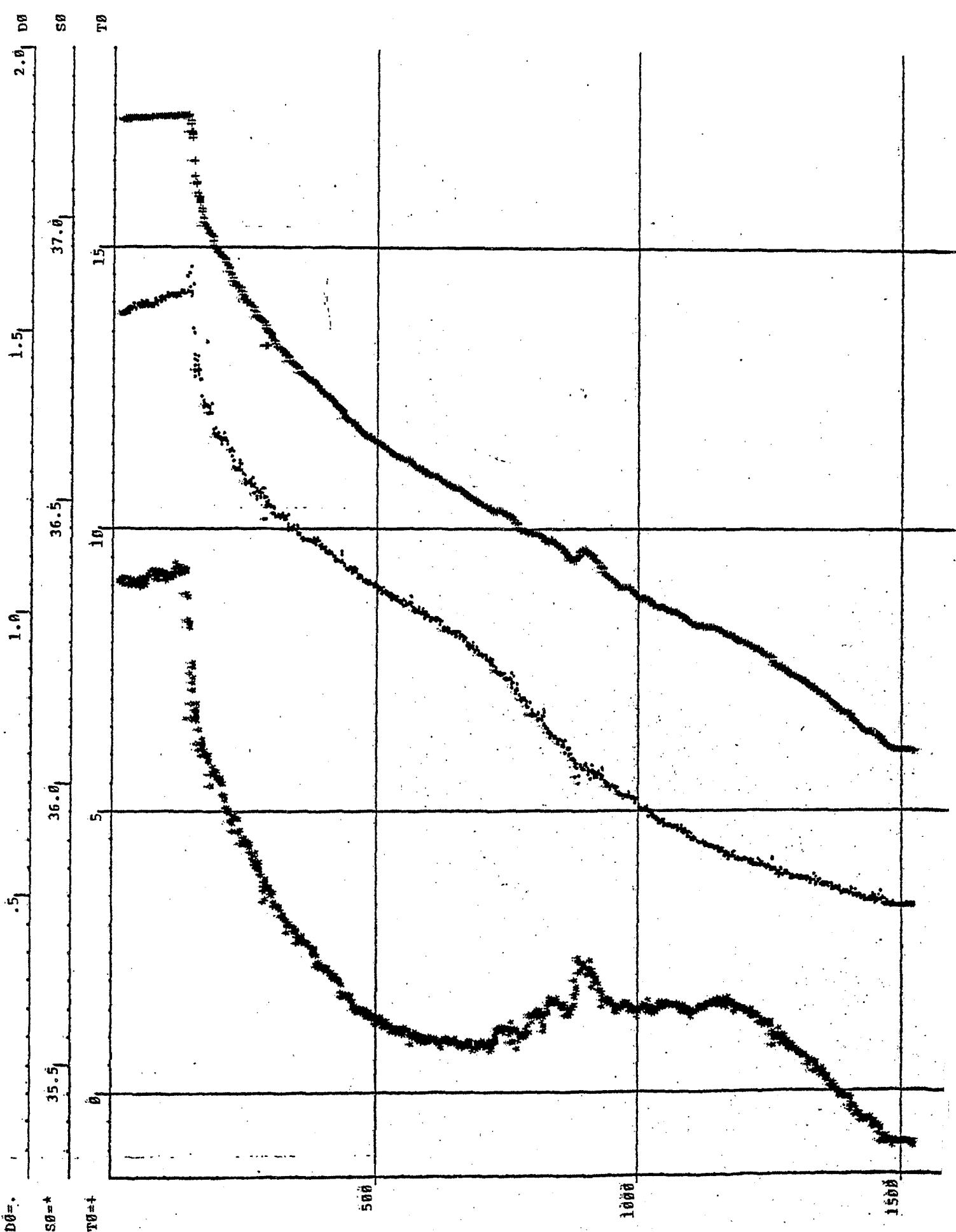
POSITION 86 DATE: 29. 3.82 STATION: 17 PROFILE: 17

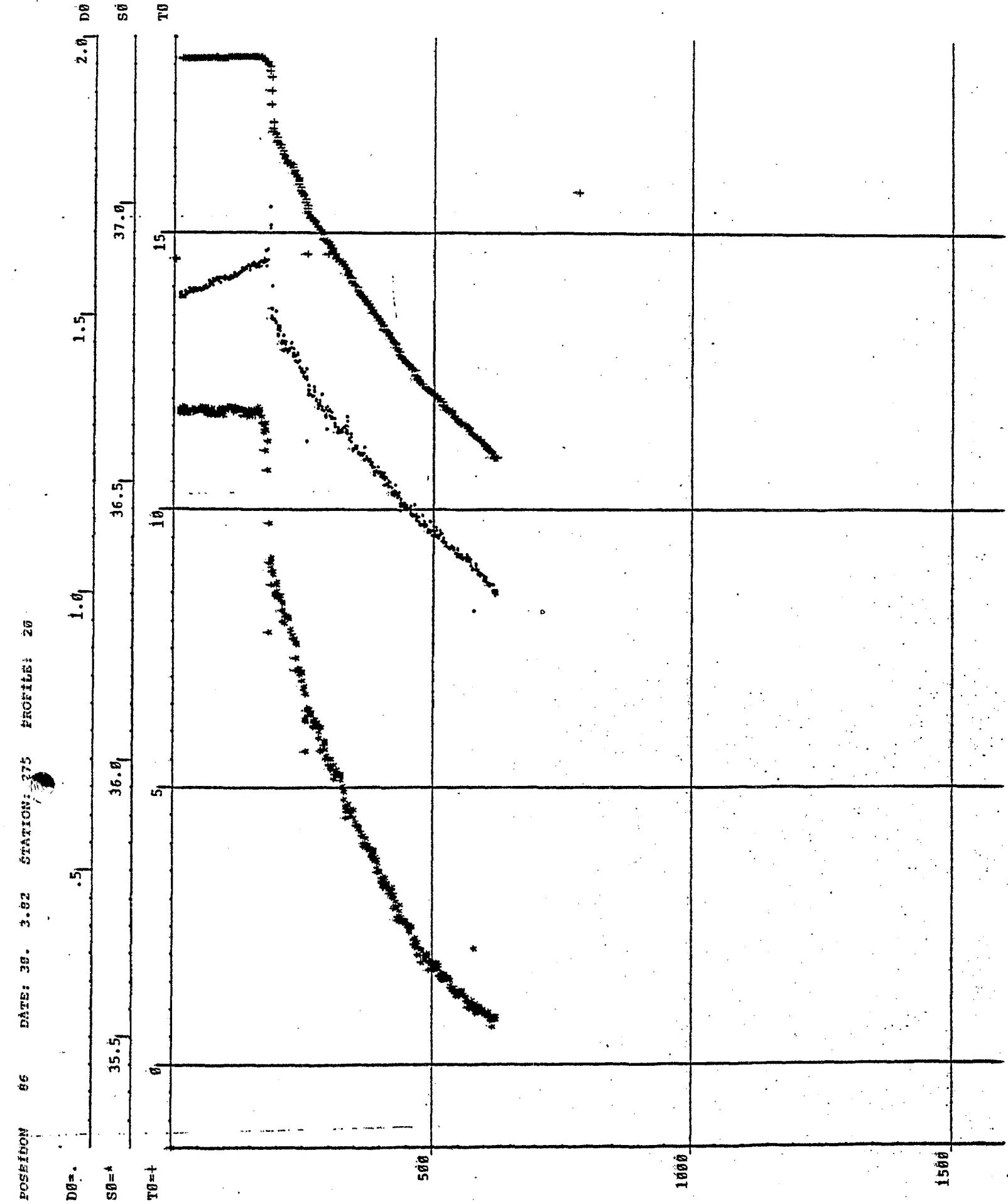


POSITION 86 DATE: 29. 3.62 STATION 3 PROFILE: 18

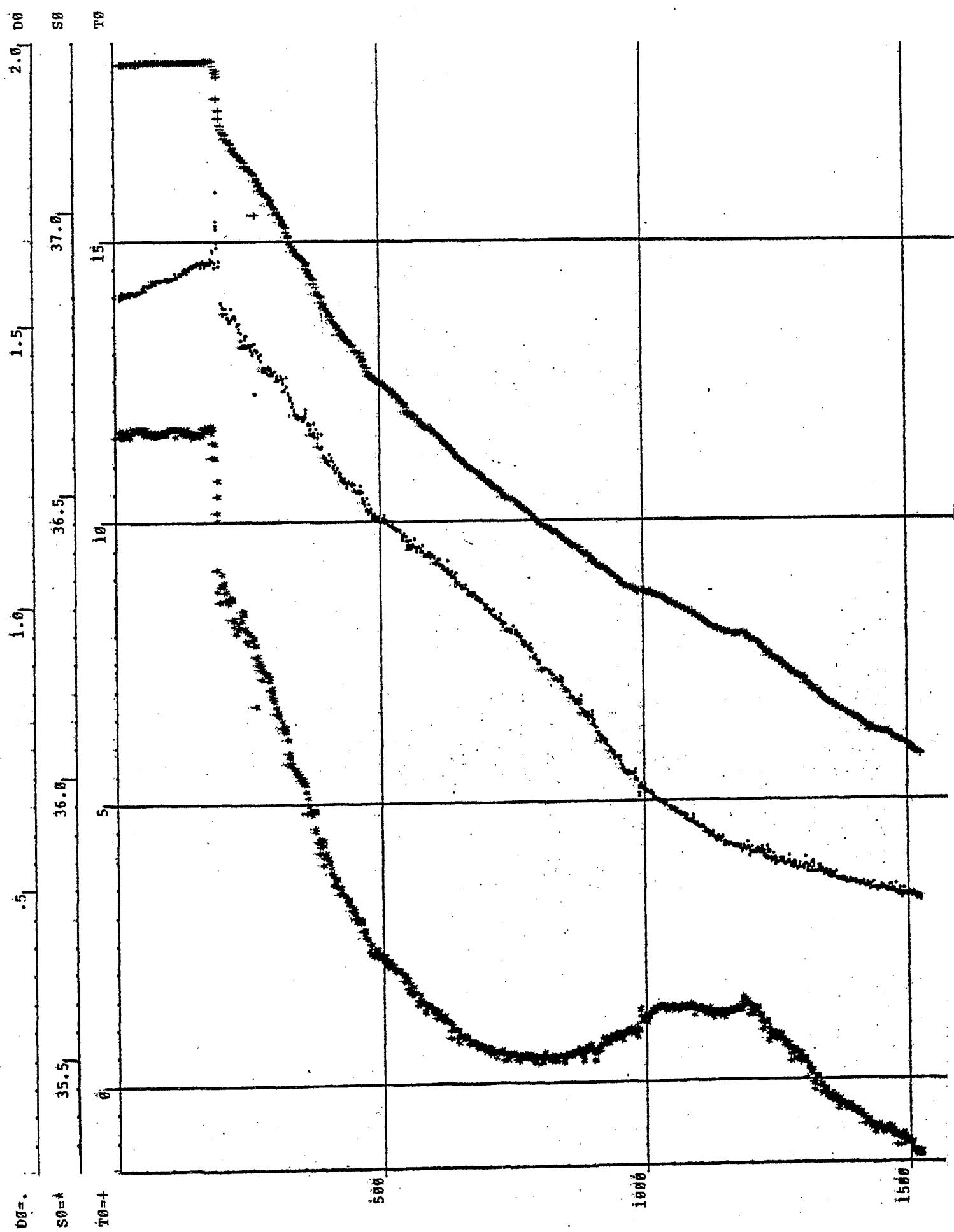


POSITION 66 DATE: 25. 3.62 STATION: 4 PROFIL: 19

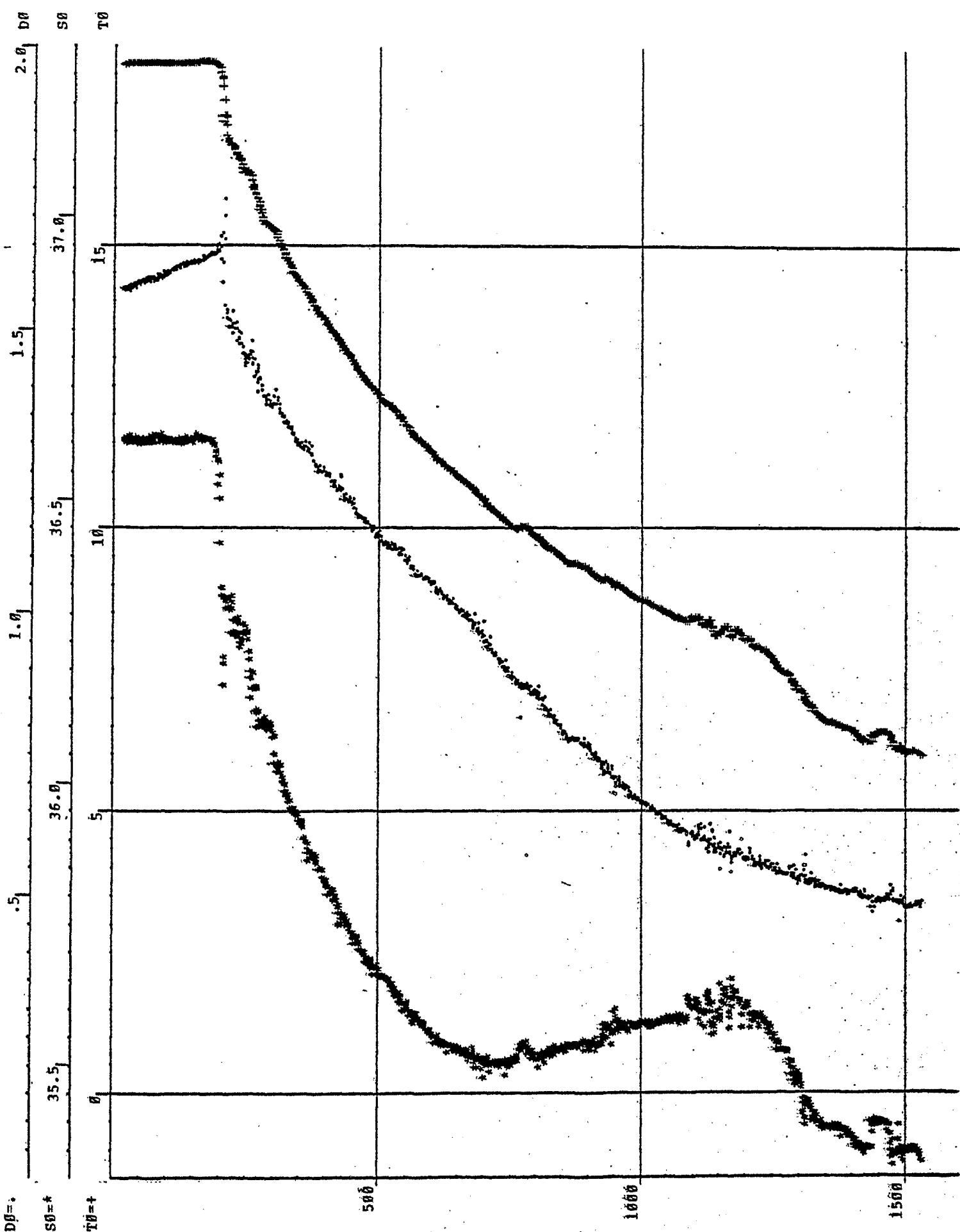




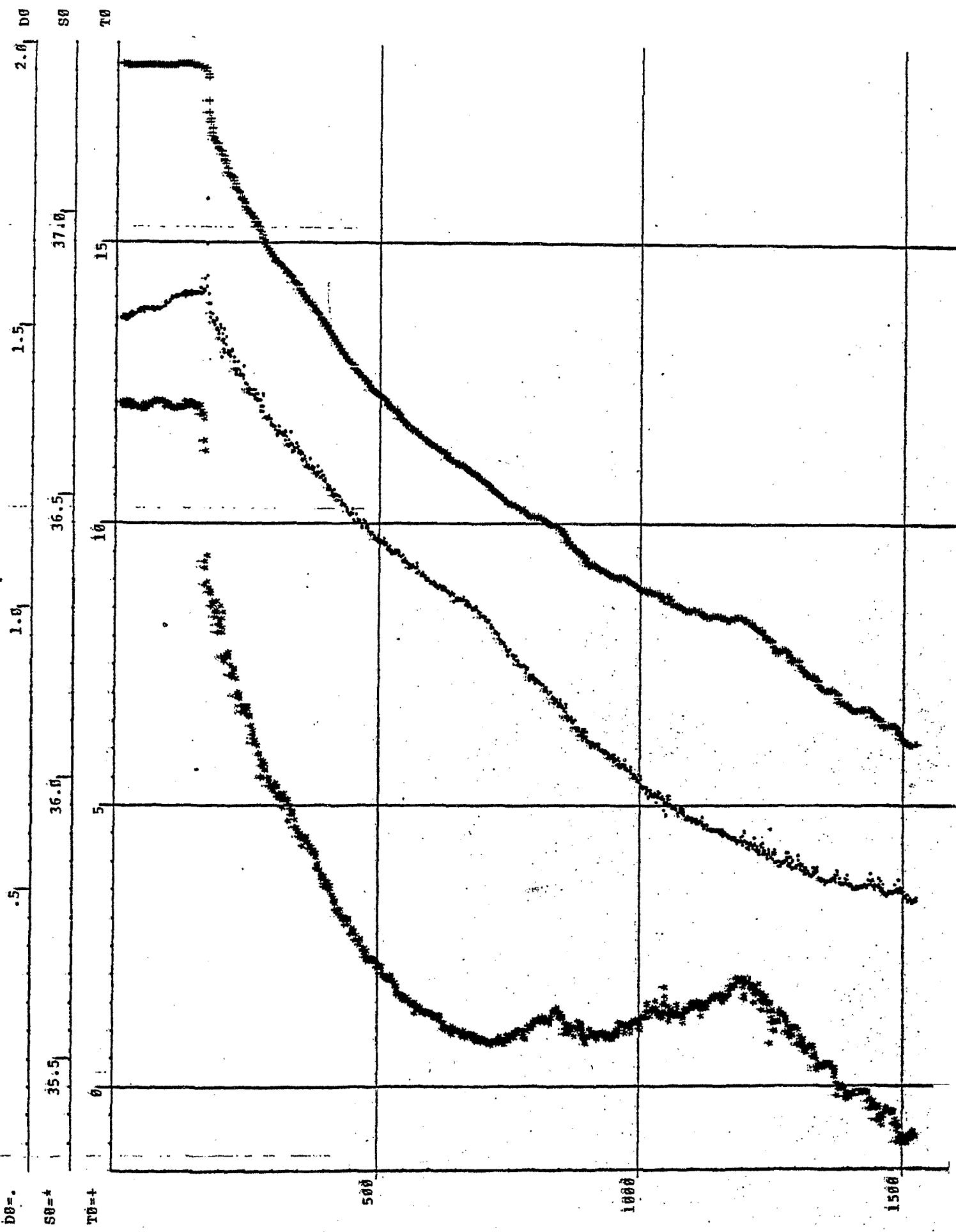
POSITION 86 DATE: 36. 3.82 STATION 76 PROFILE: 21



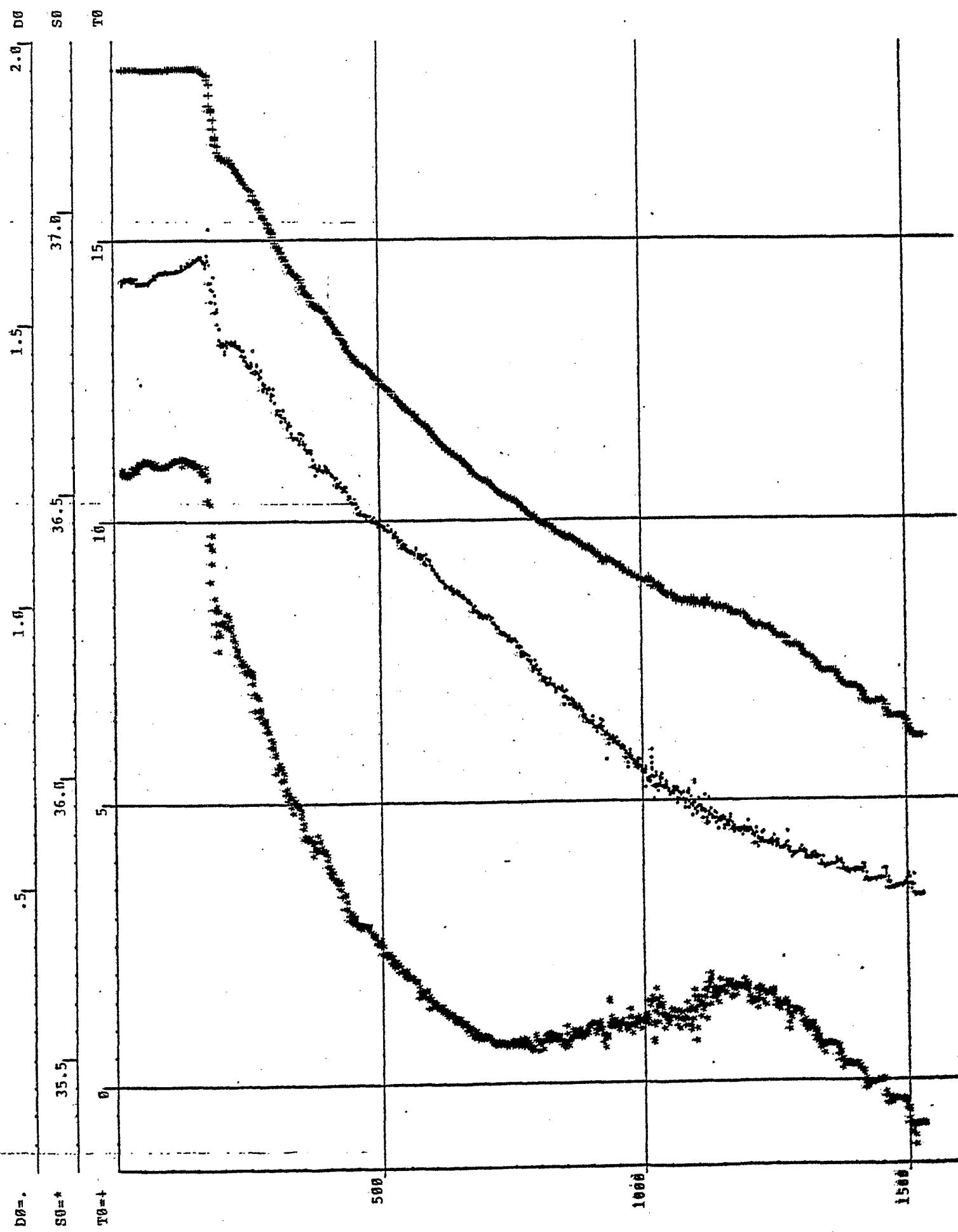
POSITION 96 DATE: 30. 3.62 STATION: 277 PROFILE: 22



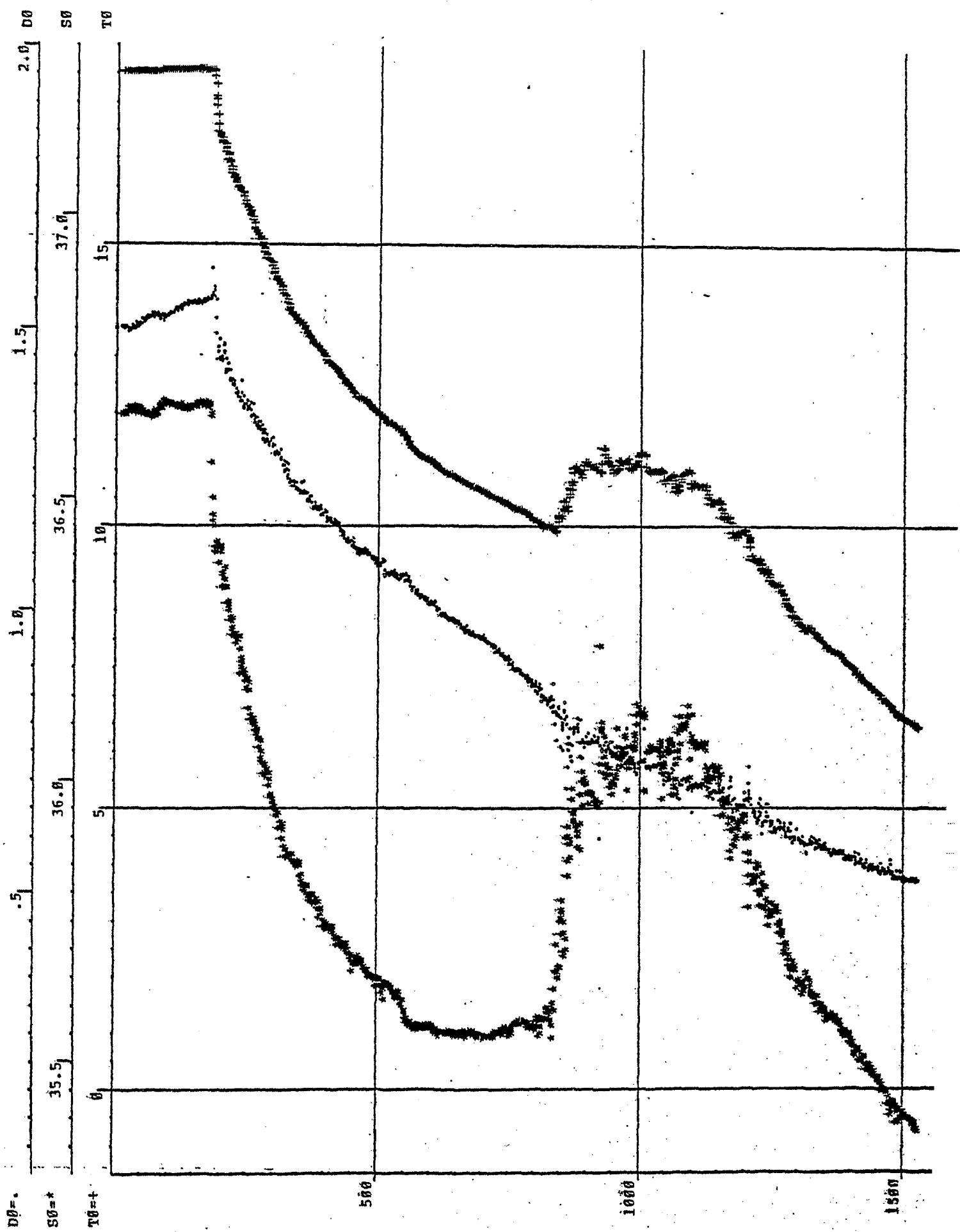
POSITIONS DATE: 30. 3.62 STATION: 78 PROFILE: 23



POSEIDON 86 DATE: 36. 3.82 STATION 79 PROFILE: 24



POSEIDON 86 DATE: 31. 3.82 STATION. 280 PROFILE: 25

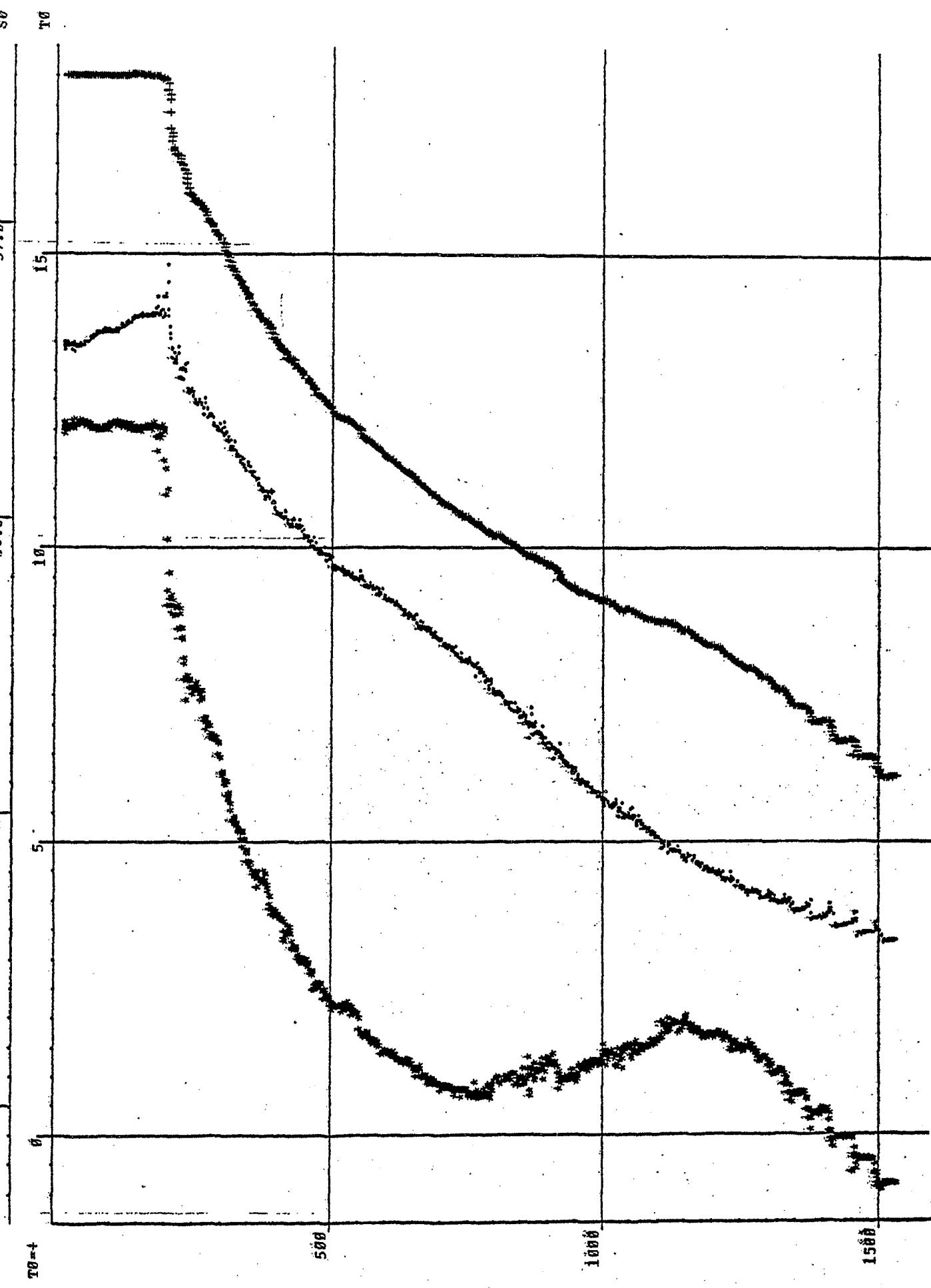


POSITION 86 DATE: 31. 3.82 STATION 31 PROFILE: 26

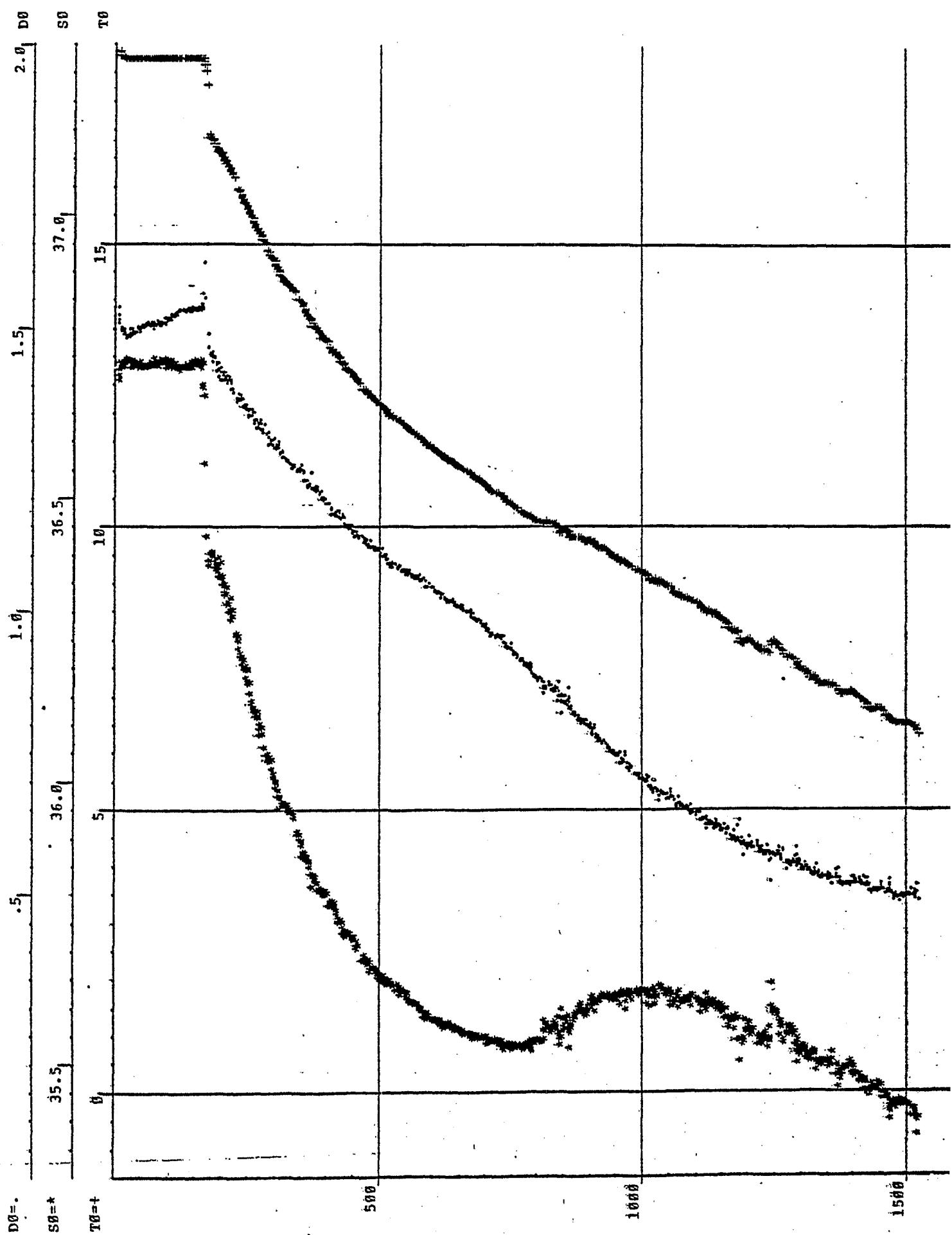
DO= .5 S0=.4 T0=.4

35.5 36.0 36.5 37.0

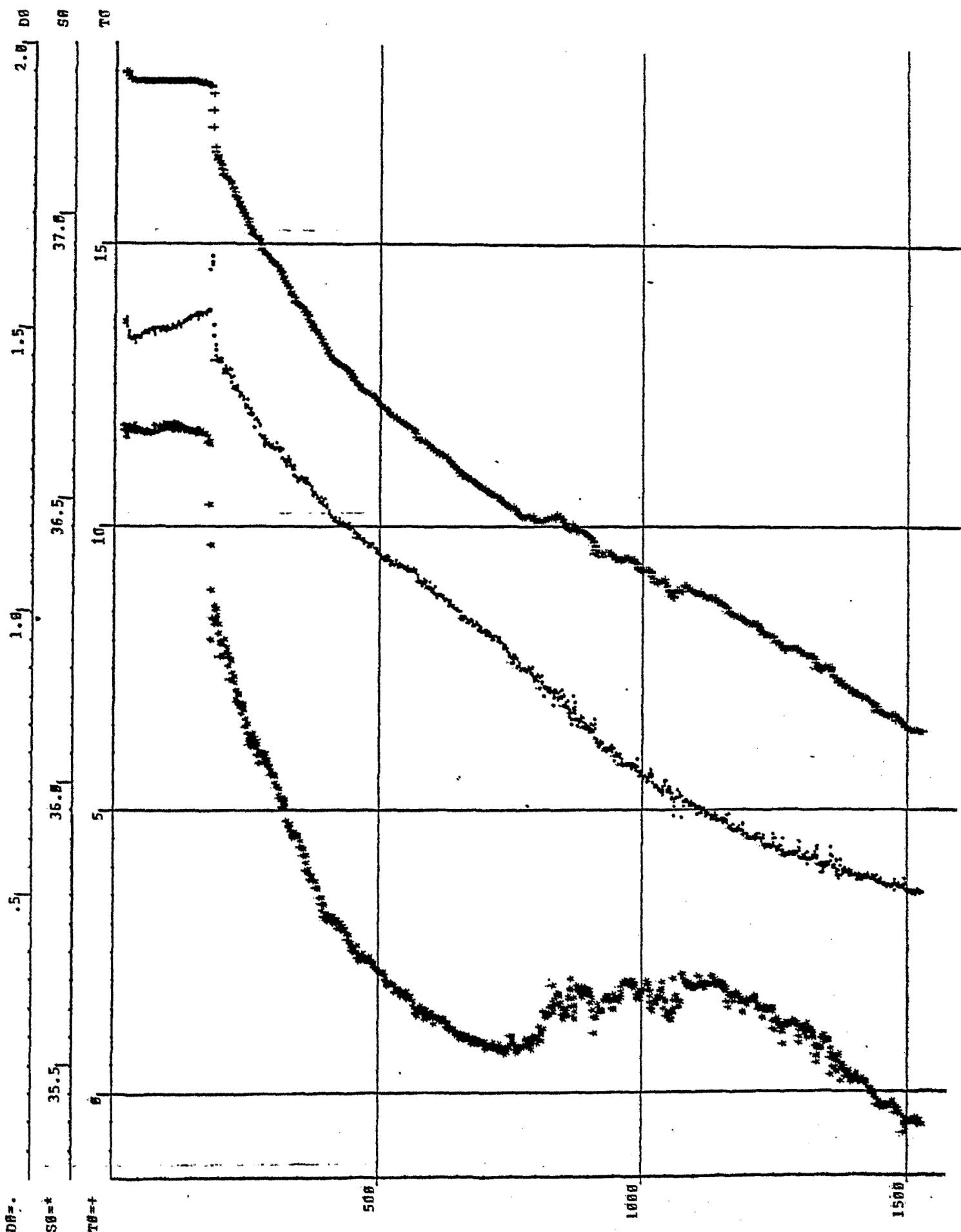
1000 1000 1000



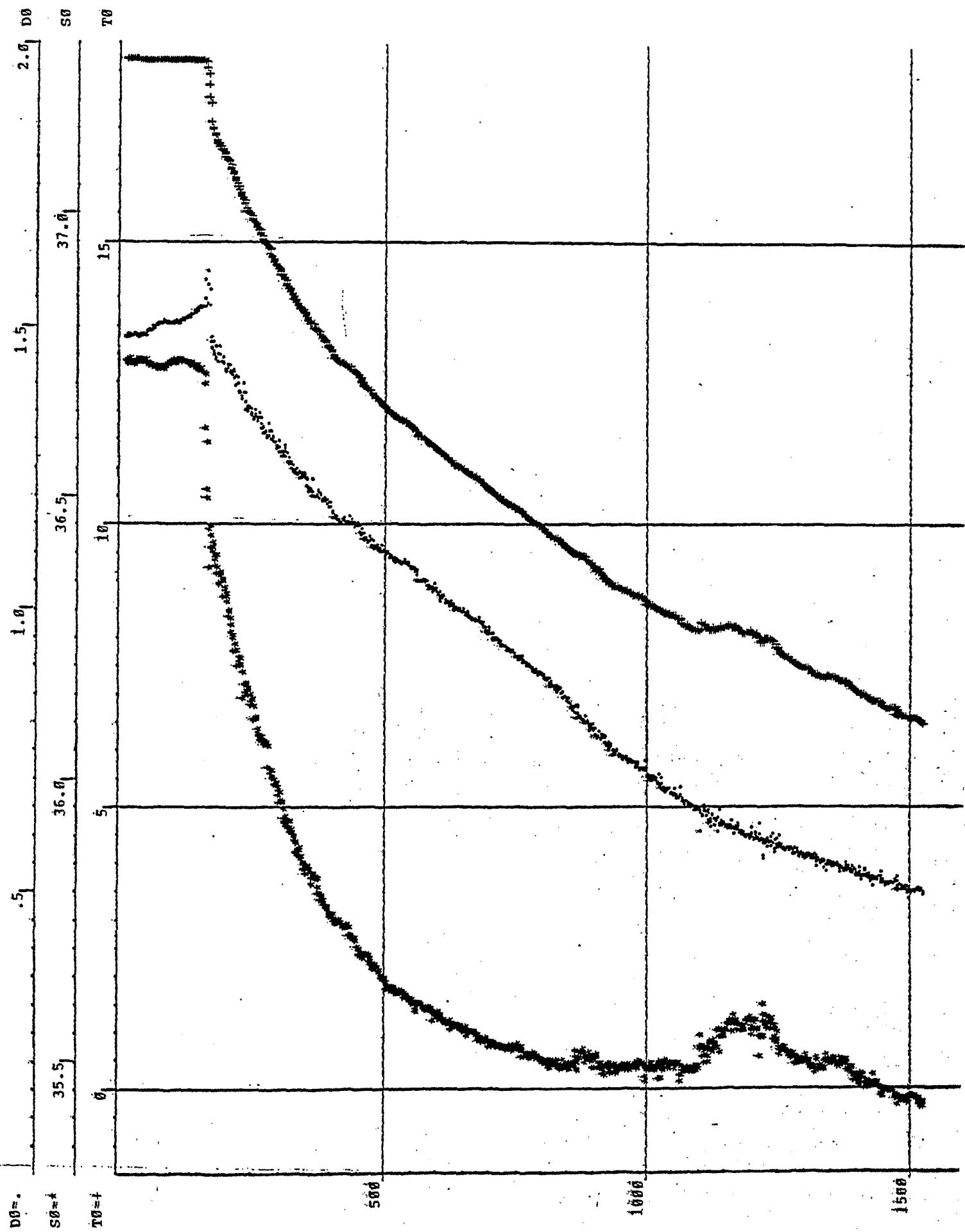
POSITION 86 DATE: 31. 3.82 STATION: 282 PROFILE: 27



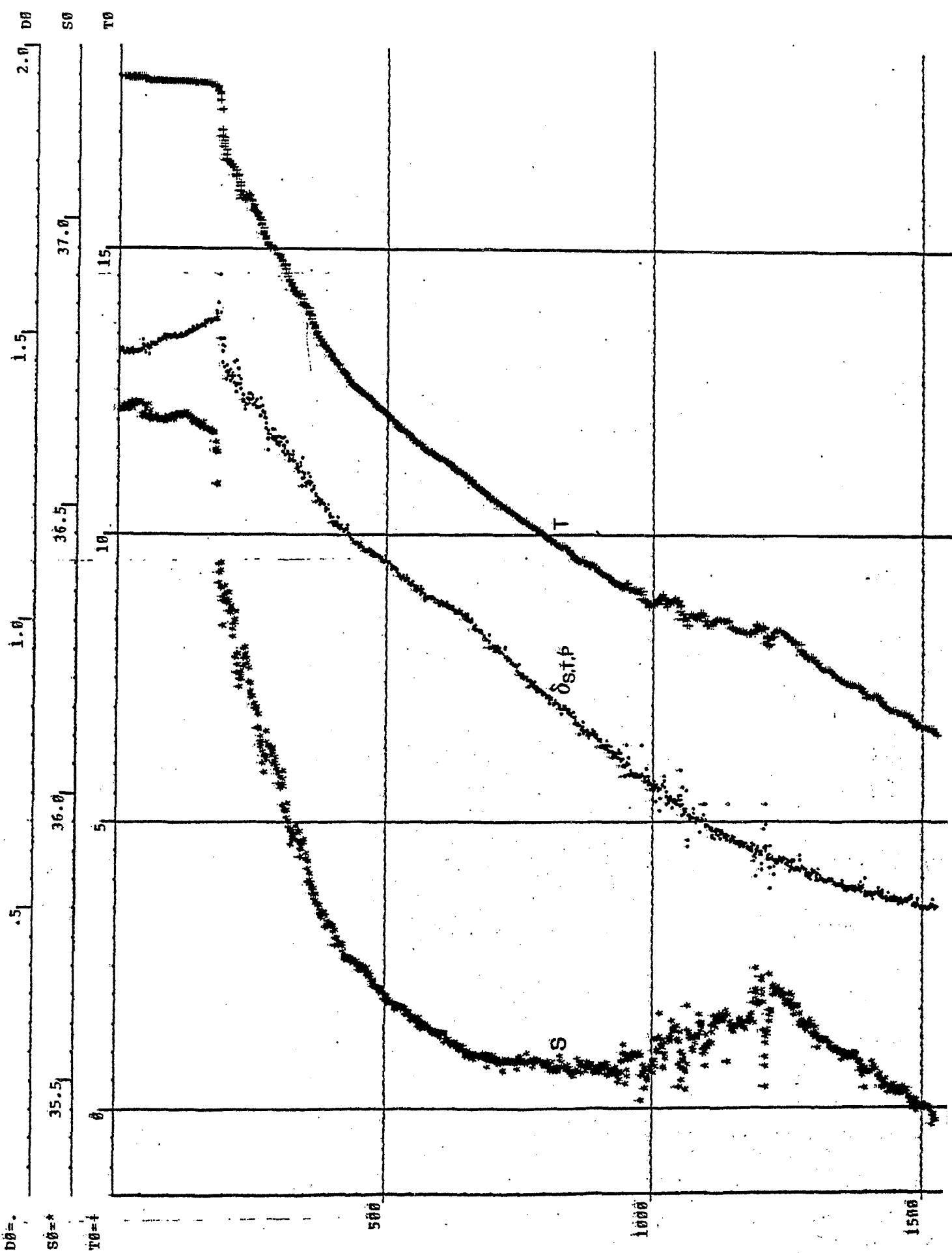
POSEIDON 86 DATE: 31. 3.82 STATION: B PROFILE: 28



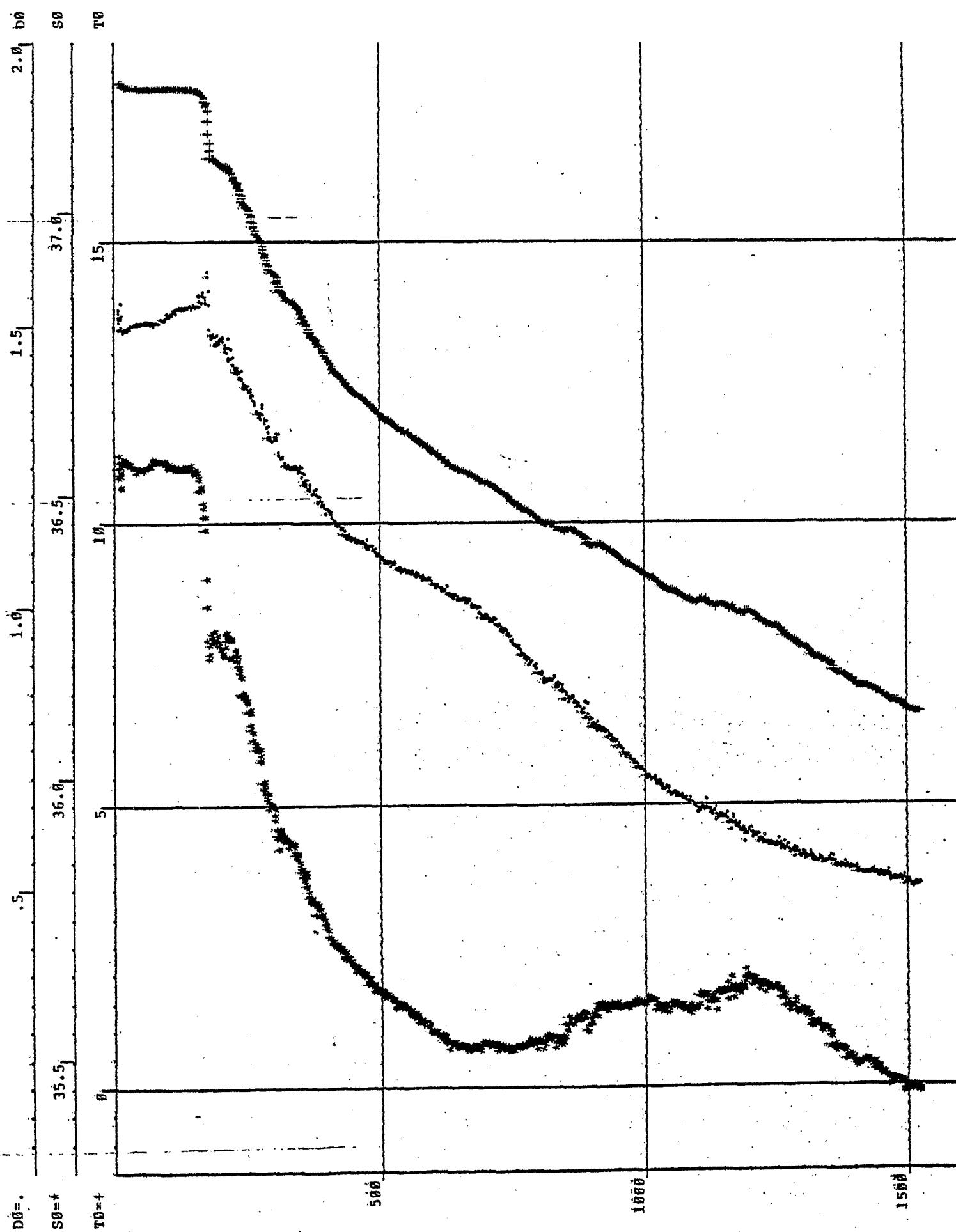
POSITION 86 DATE: 1. 4.82 STATION 364 PROFILE: 29



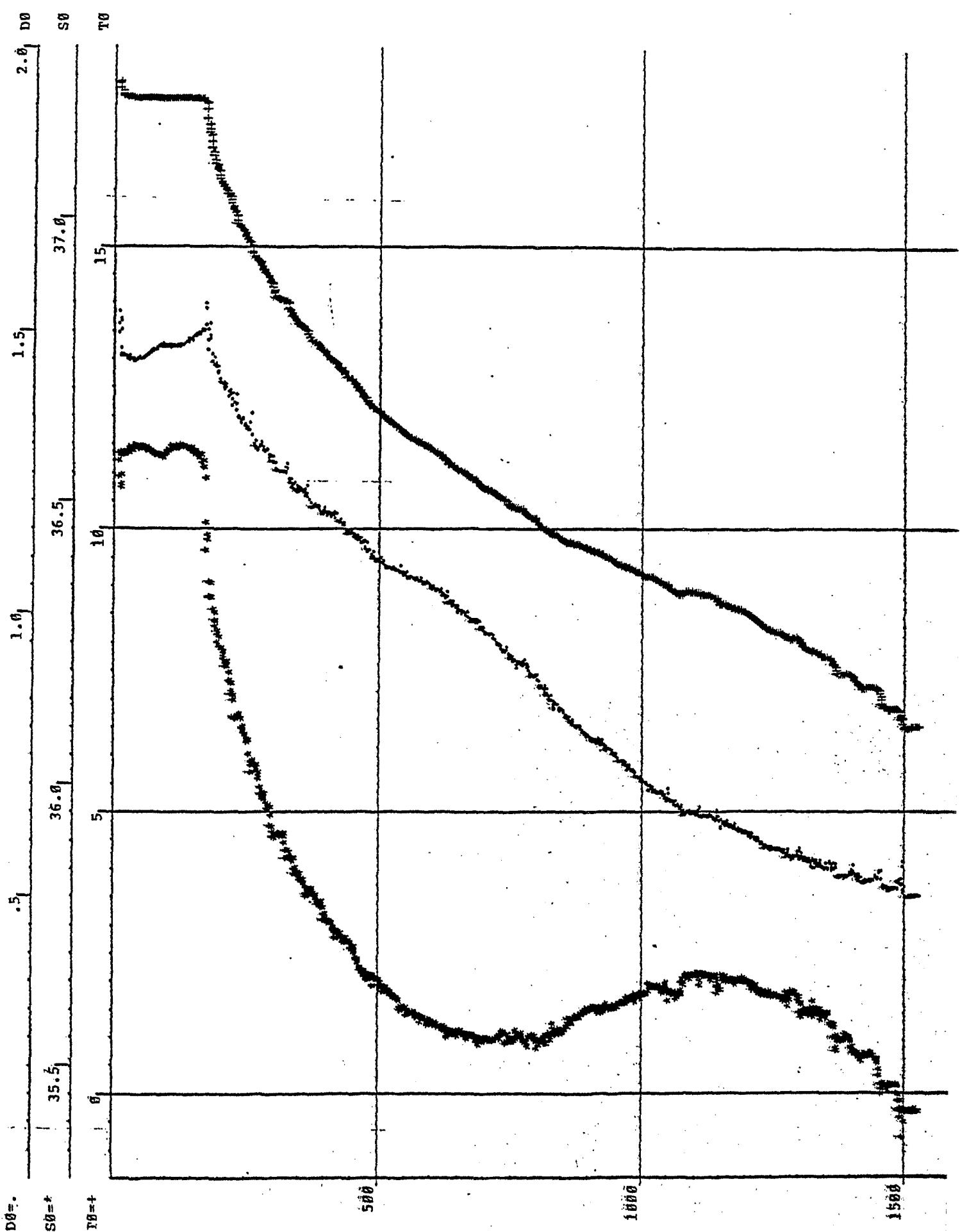
POSEIDON 86 DATE: 1. 4.82 STATION: 285 PROFILE: 30



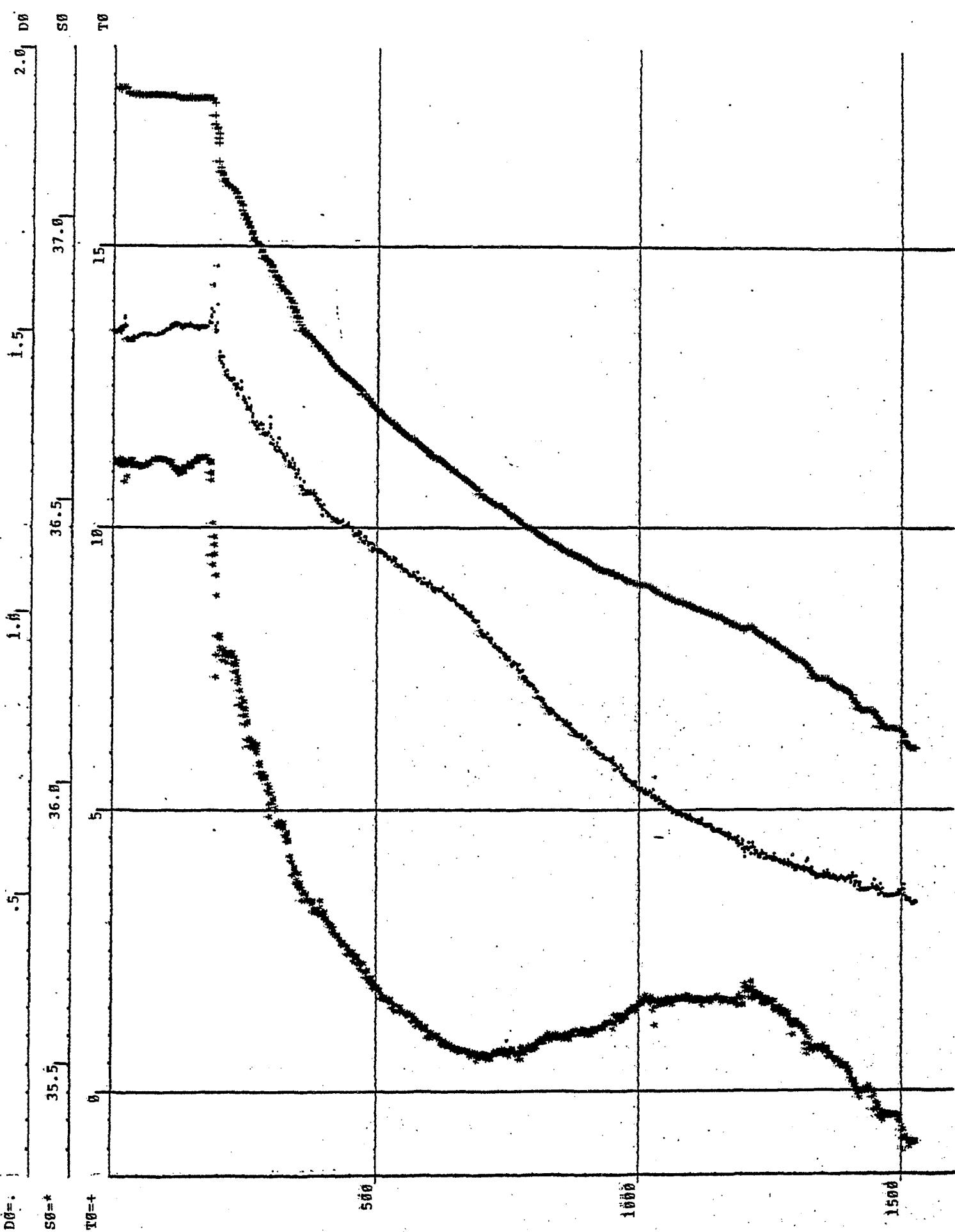
POSEIDON 66 DATE: 1. 4.02 STATION 306 PROFILE: 31



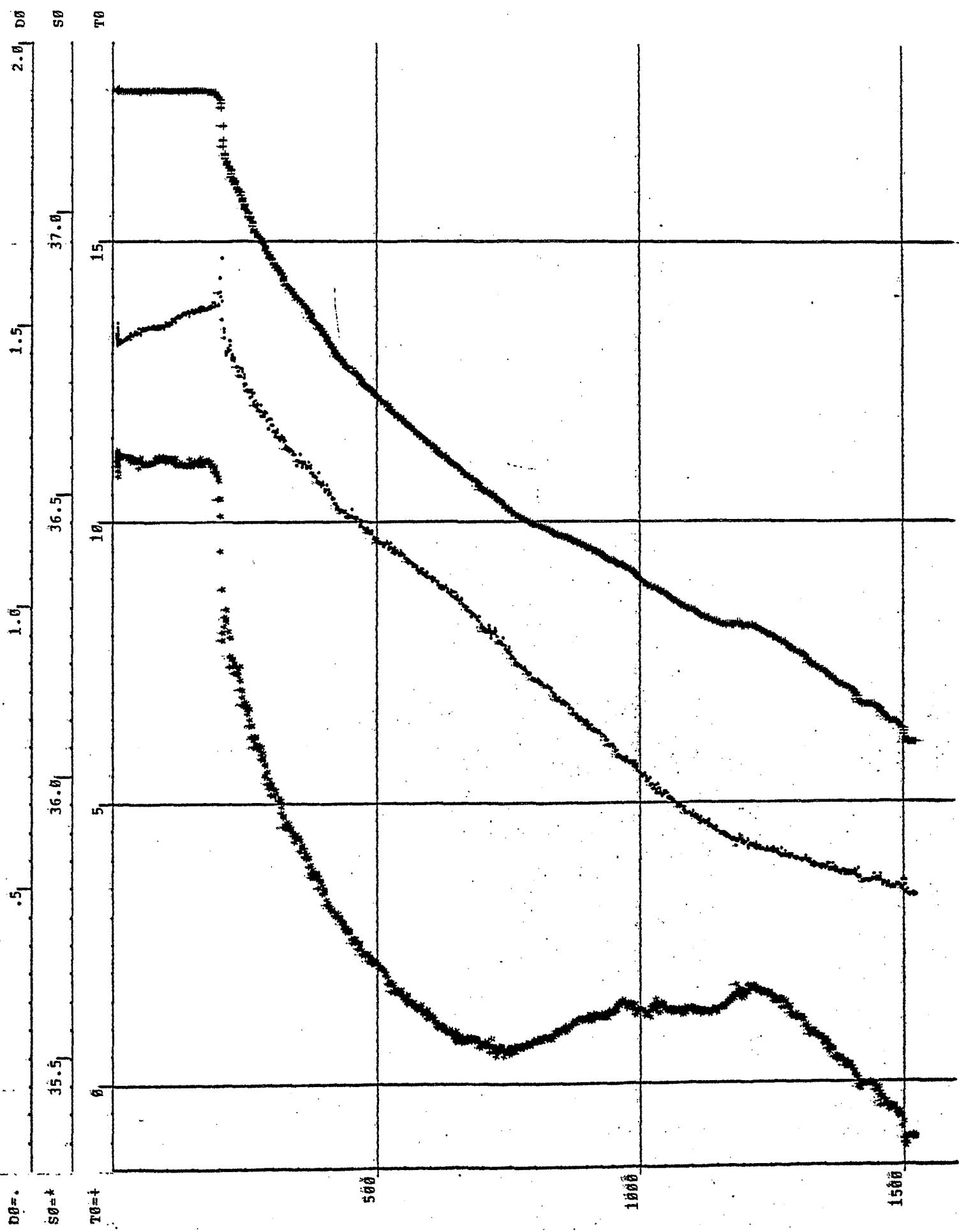
POSEIDON 86 DATE: 1. 4.82 STATION: 32 PROFILE: 32



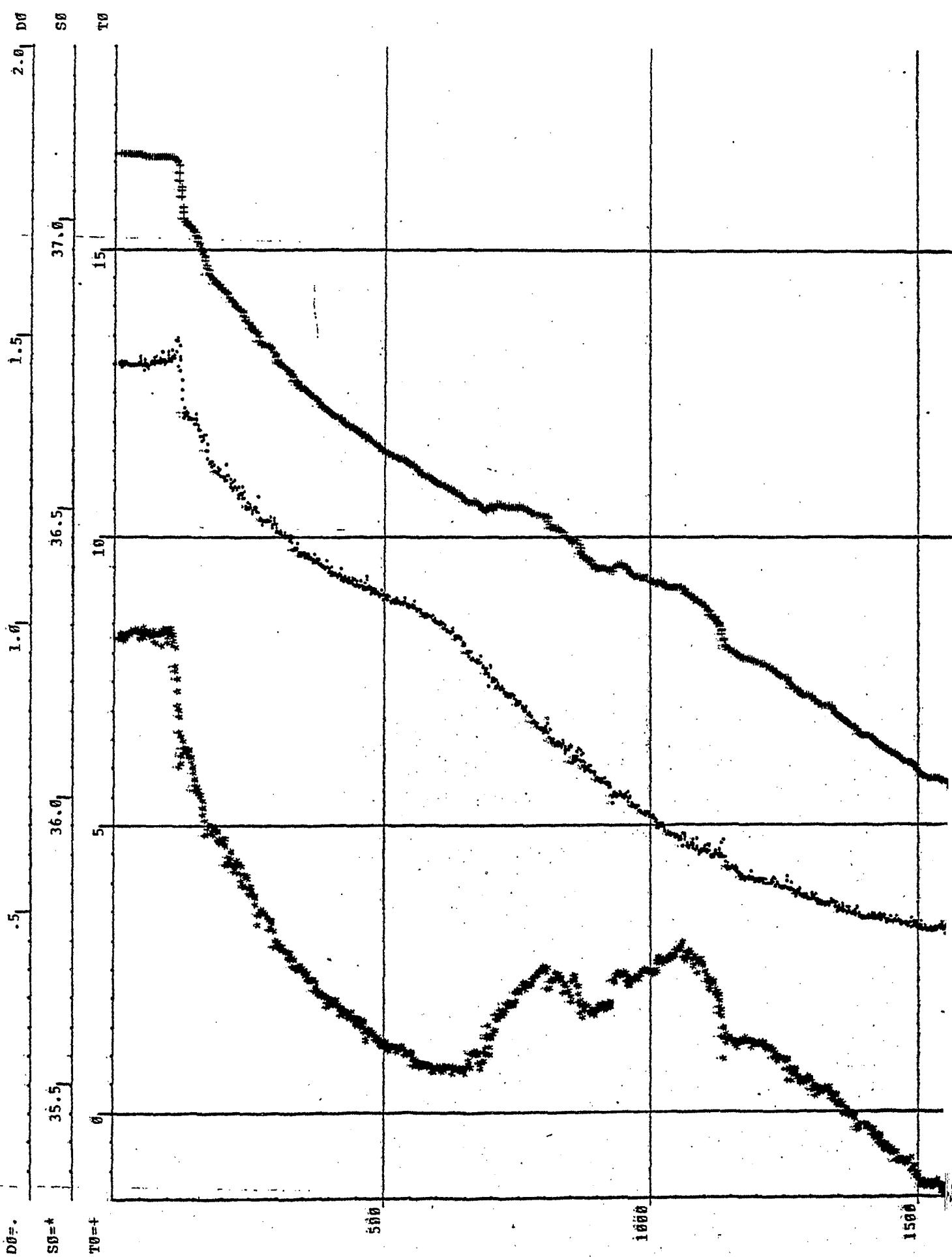
POSITION DATE: 1. 4.62 STATION: 288 PROFILE: 33



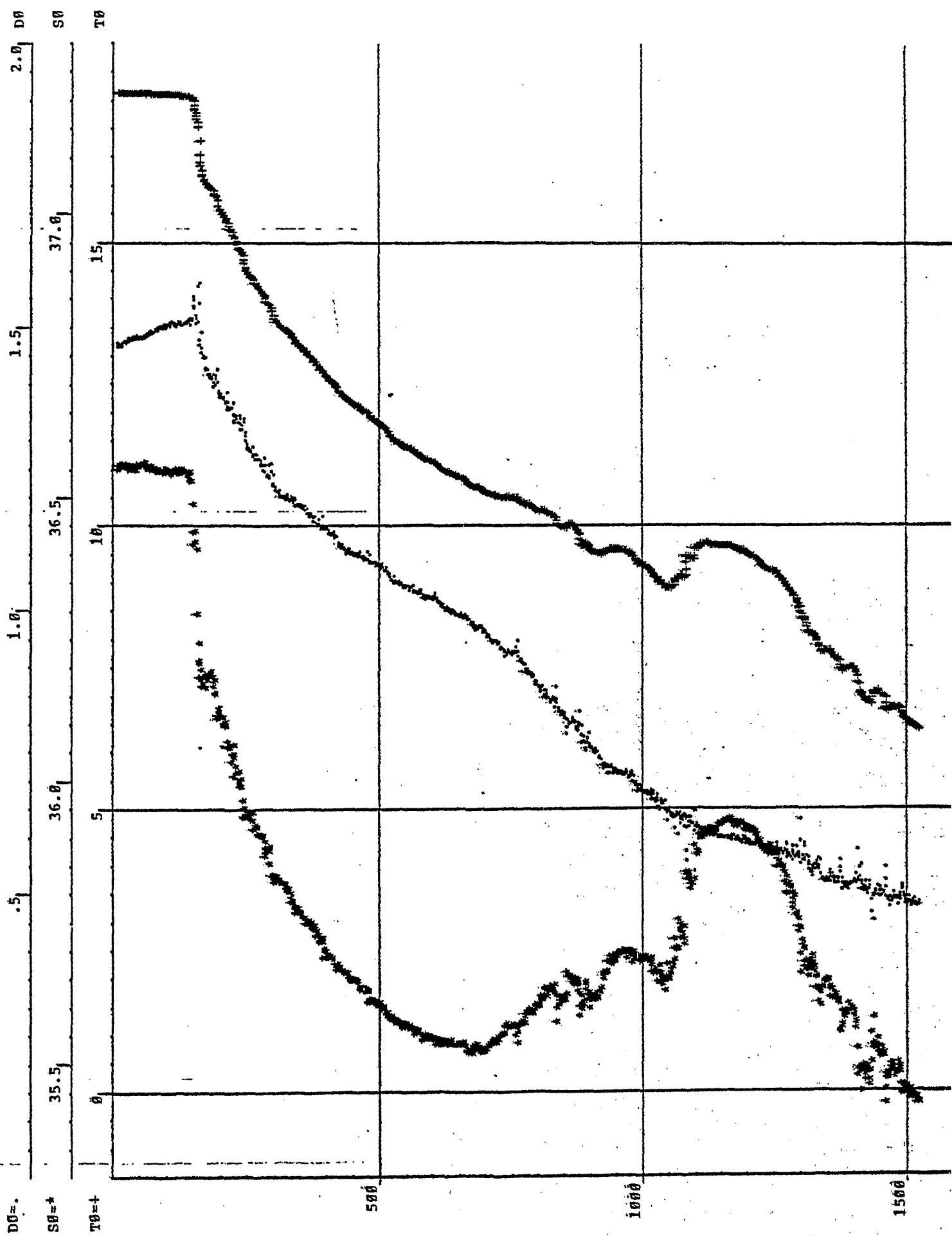
POSITION 86 DATE: 2. 4.82 STATION: 289 PROFILE: 34



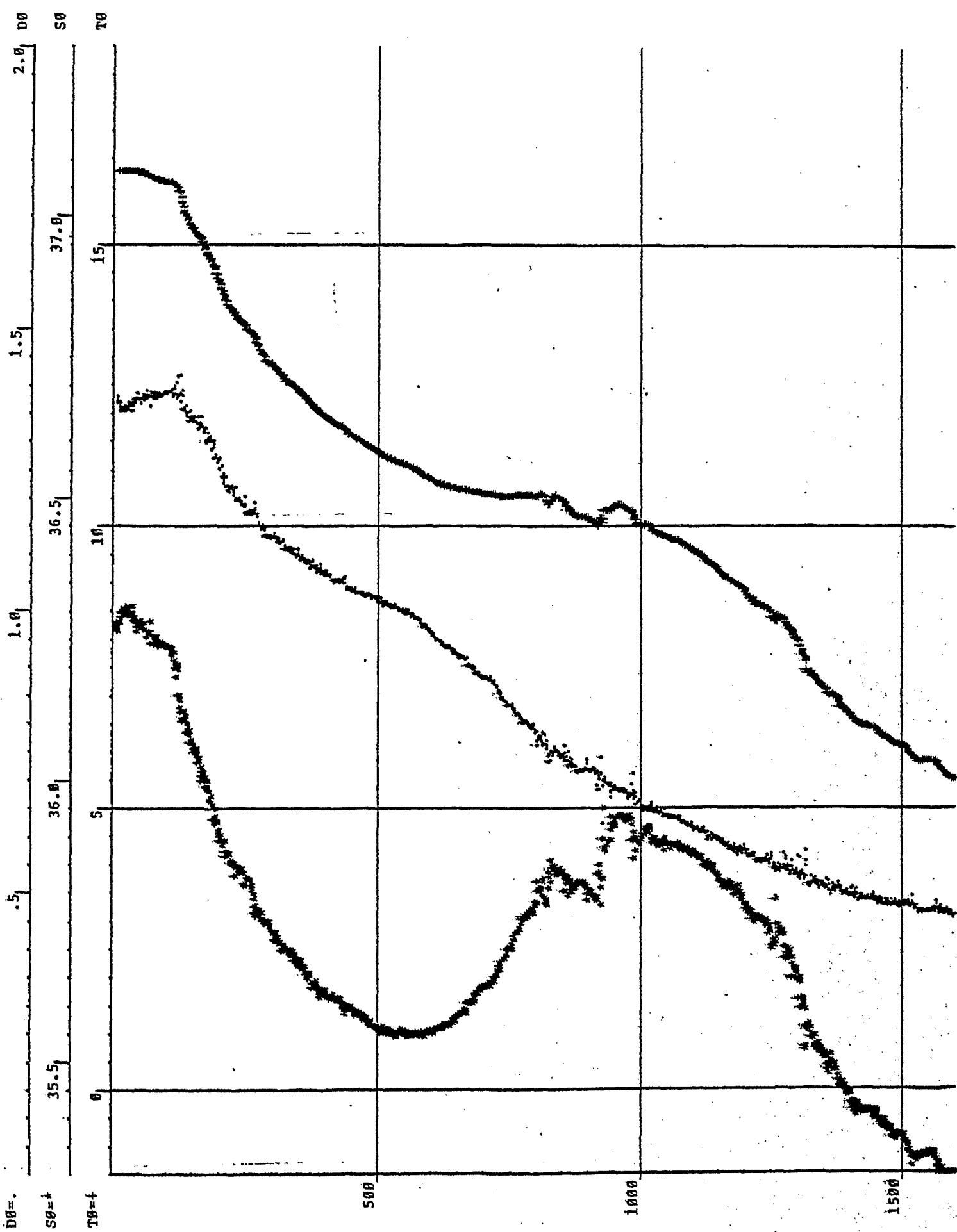
POSITION 86 DATE: 4. 2.82 STATION: 296 PROFILE: 35



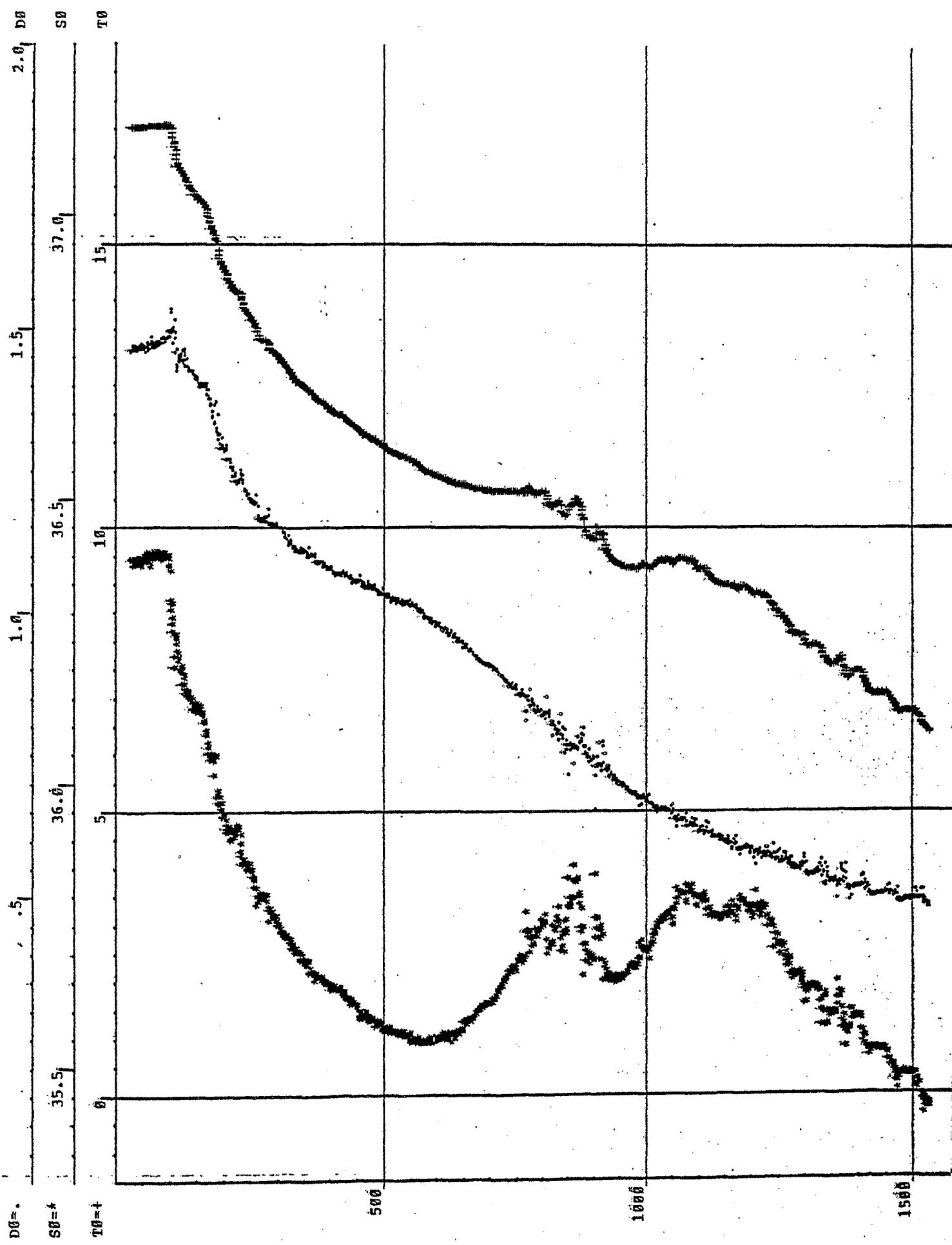
POSEIDON 86 DATE: 2. 4.82 STATION: 91 PROFILE: 36



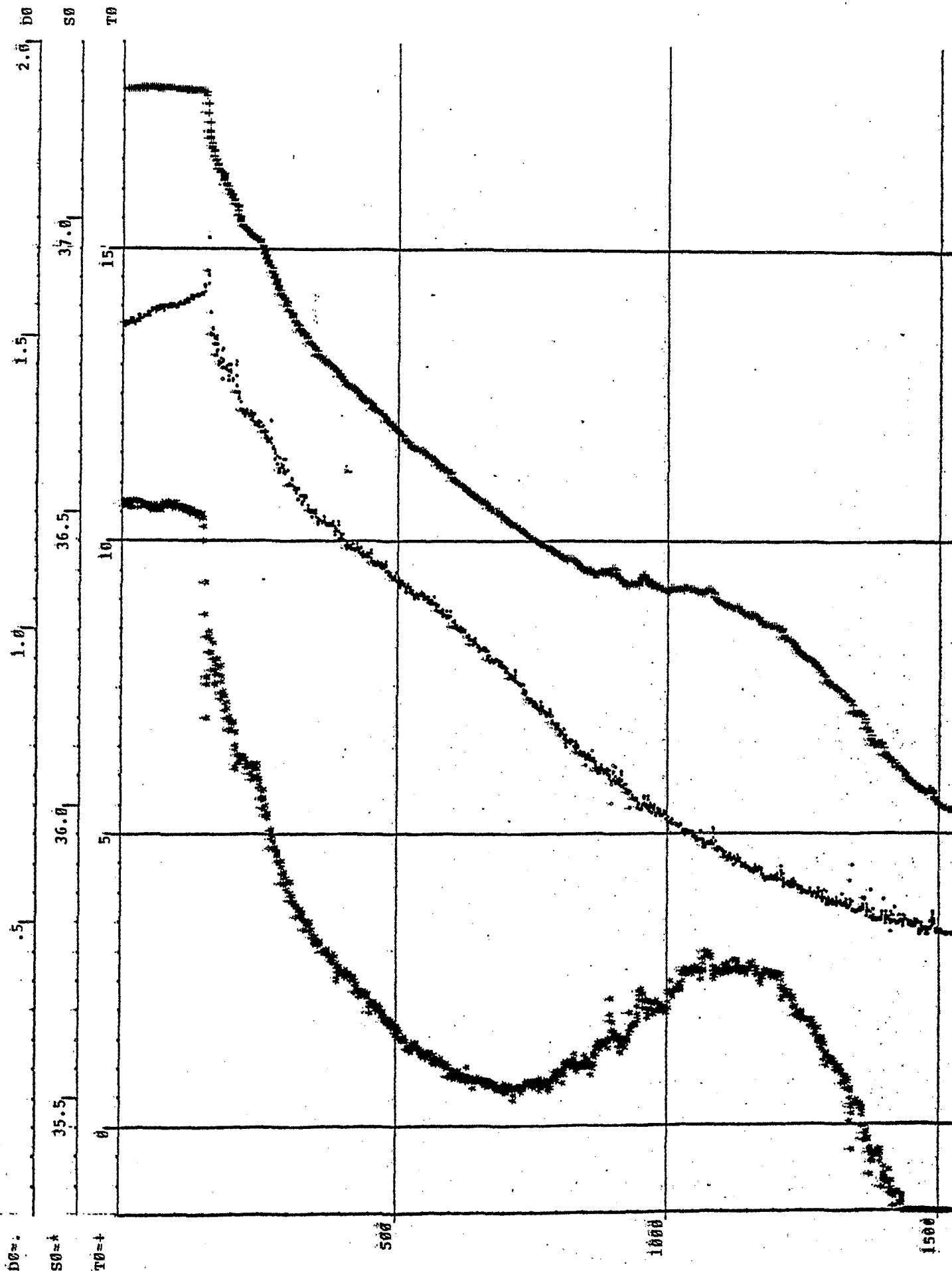
POSITION 86 DATE: 2. 4.82 STATION 292 PROFILE: 37

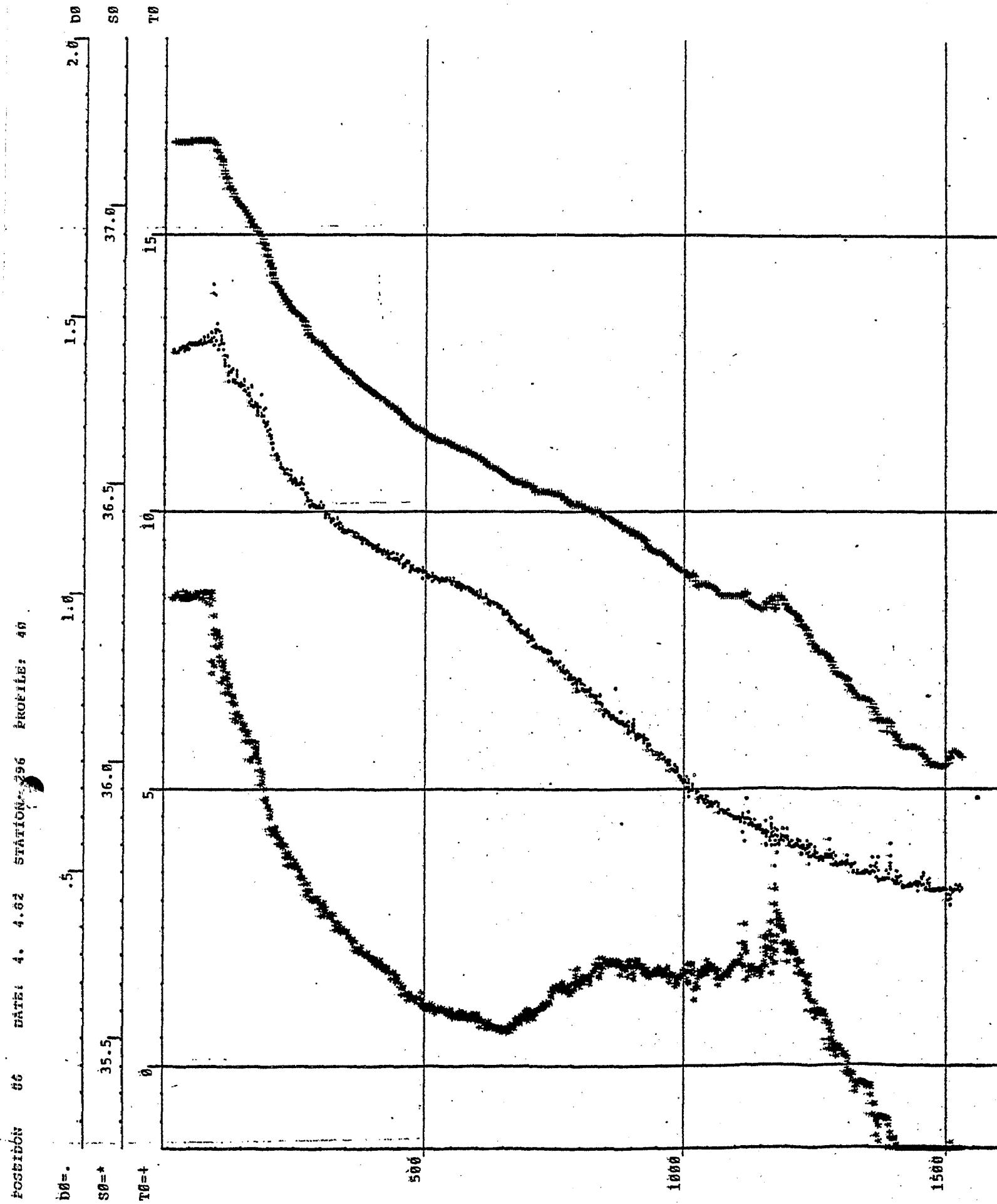


POSEIDON 86 DATE: 3. 4.82 STATION 293 PROFILE: 38

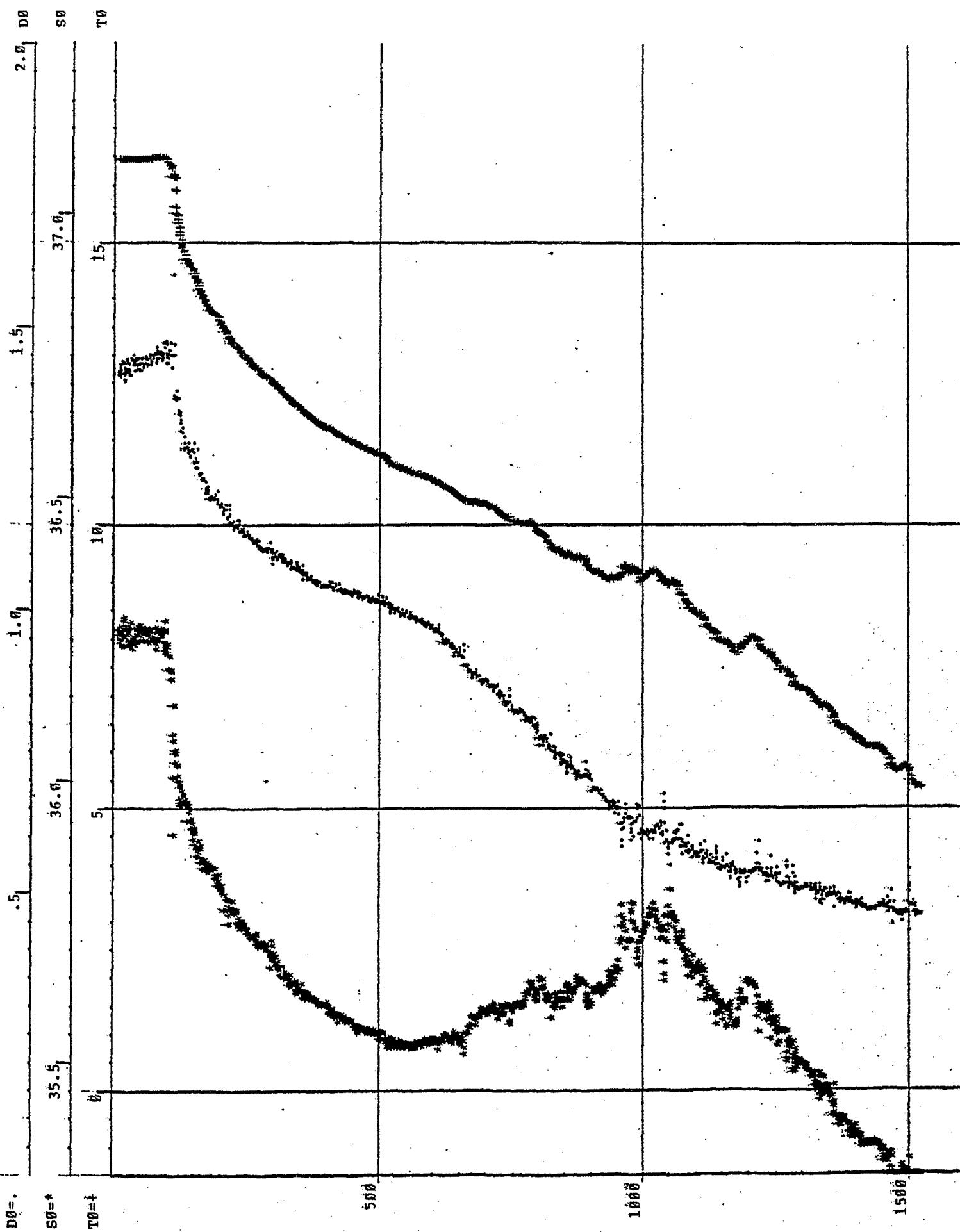


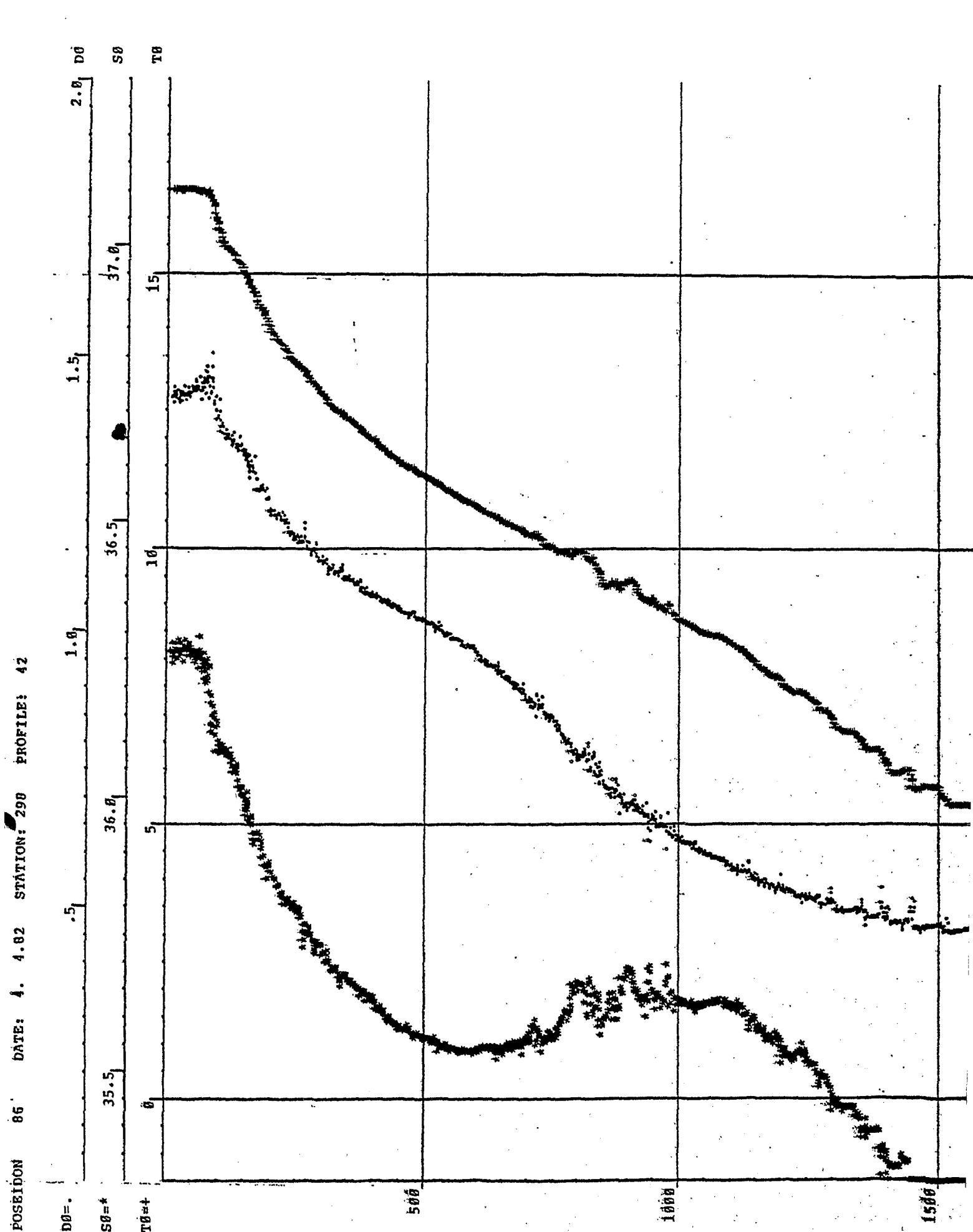
POSITION 86 DATE: 3. 4.82 STATION: 295 PROFILÉ: 39



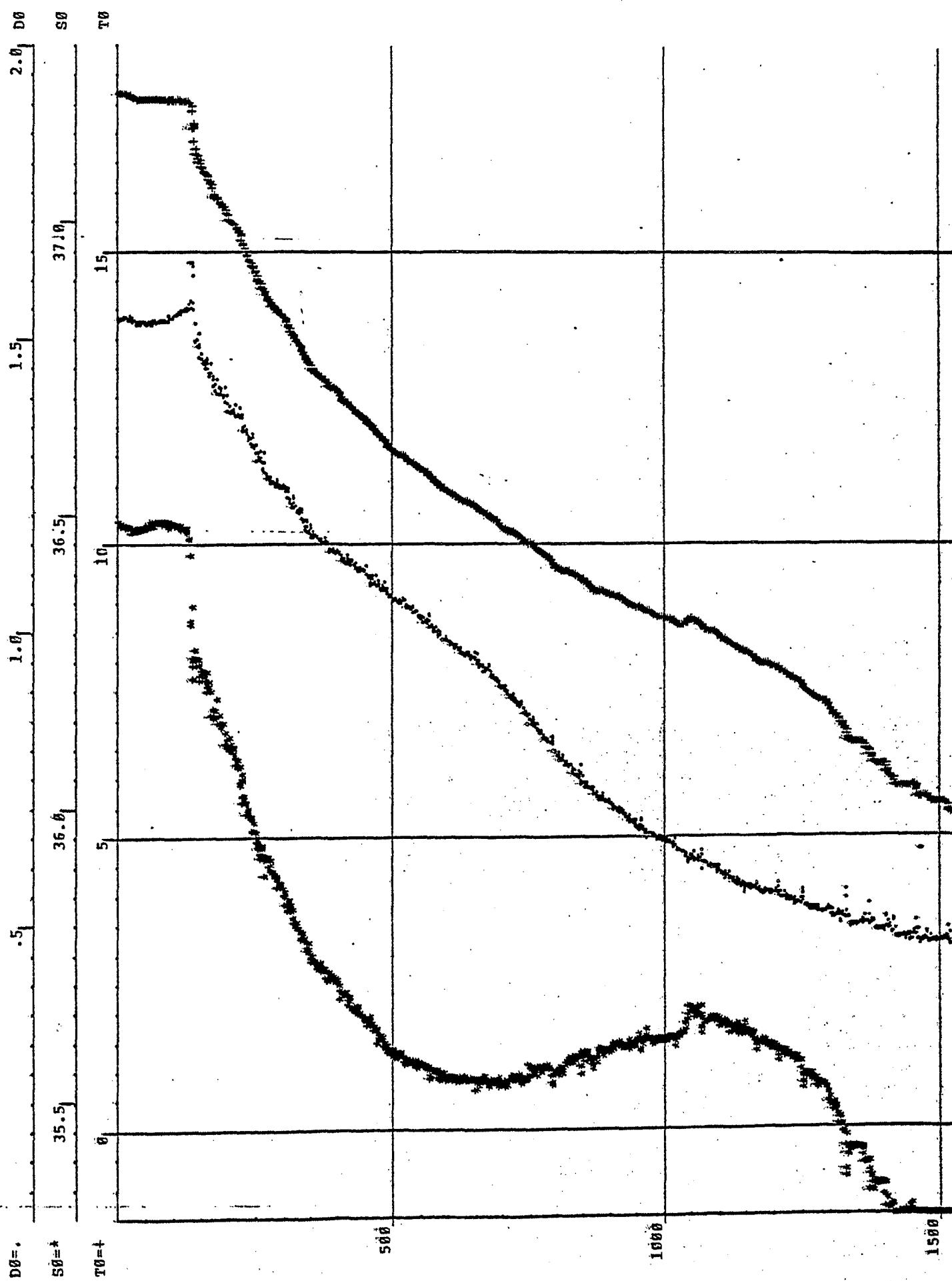


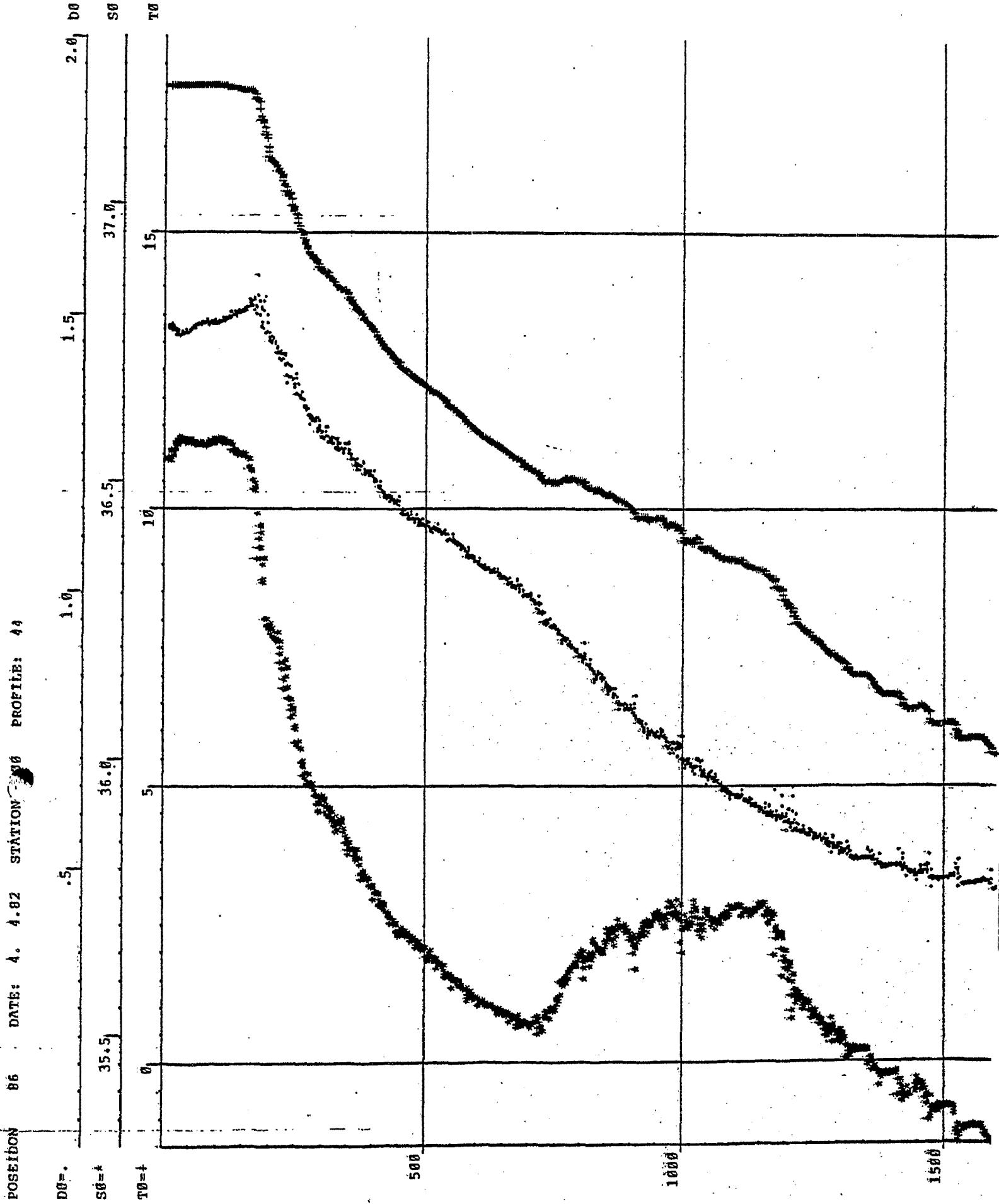
POSITION 86 DATE: 4. 4.92 STATION: 297 PROFILE: 41



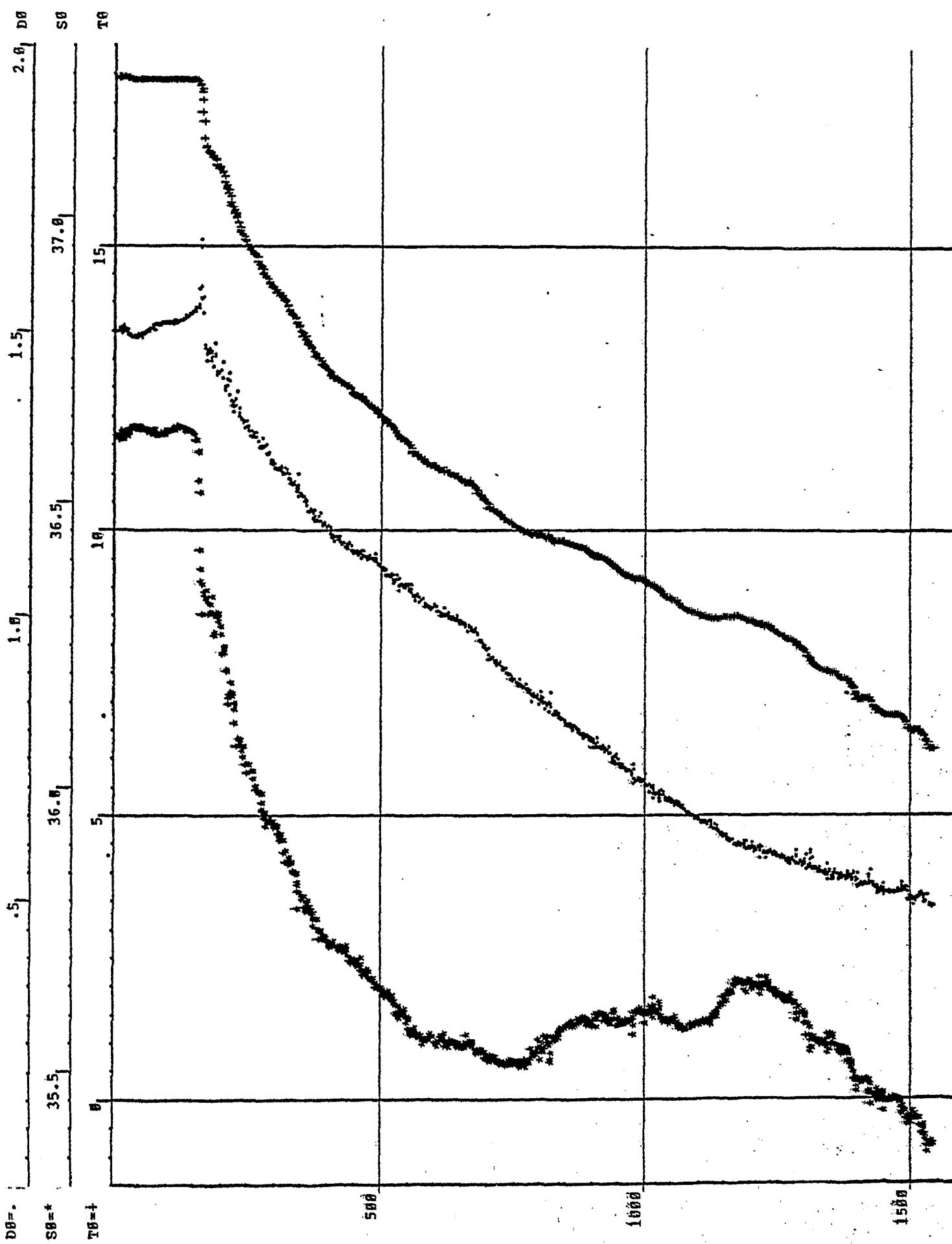


POSITION 86 DATE: 4. 4.82 STATION: 299 PROFILE: 43





POSEIDON 86 DATE: 5. 4.82 STATIC 61 PROFILE: 45



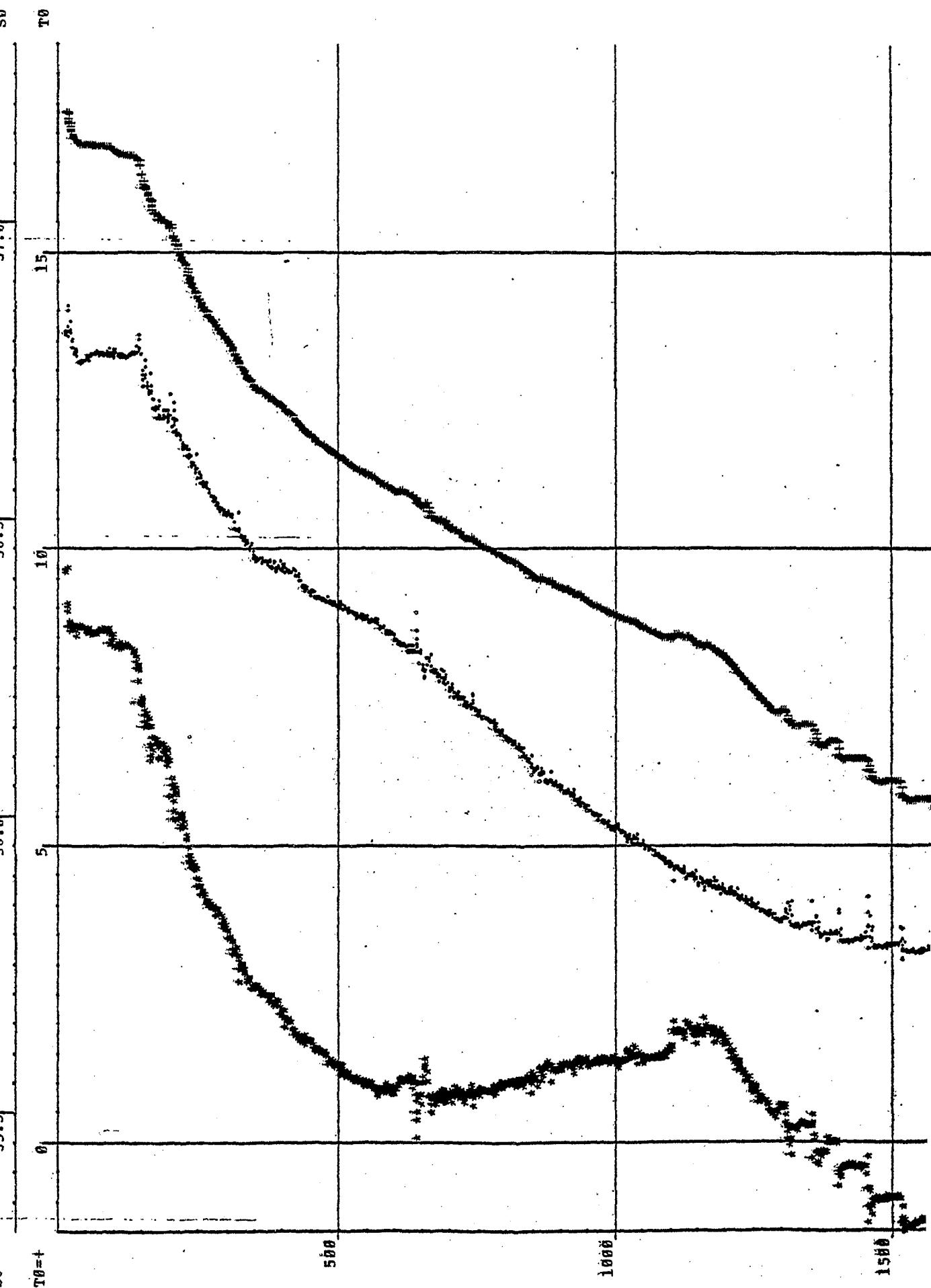
POSEIDON 86 DATE: 5. 4.82 STATION: 22 PROFILE: 46

Dθ = .50 Sθ = 35.5 Tθ = 0

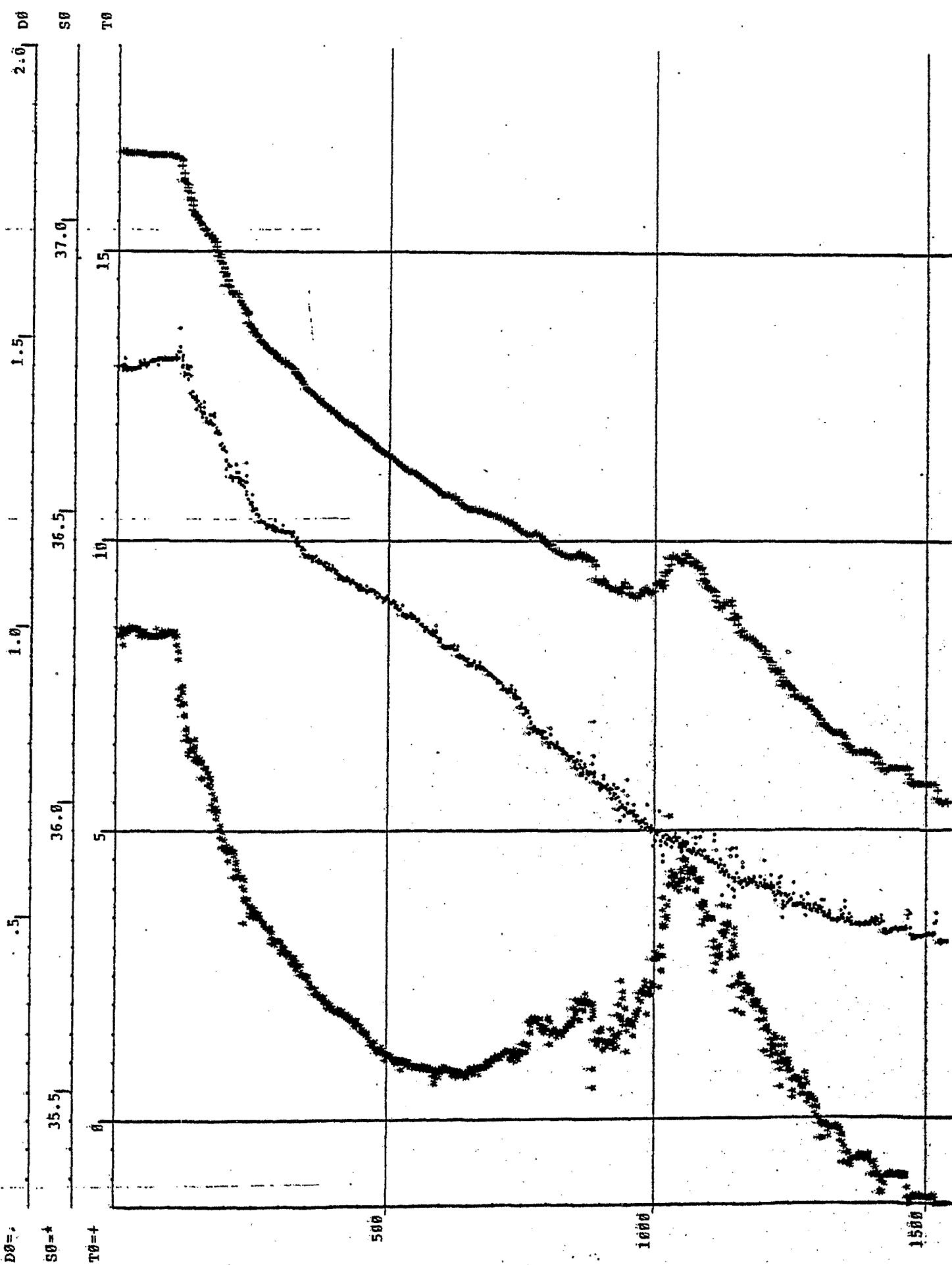
.5 1.0 1.5 2.0 Dθ

50 Sθ

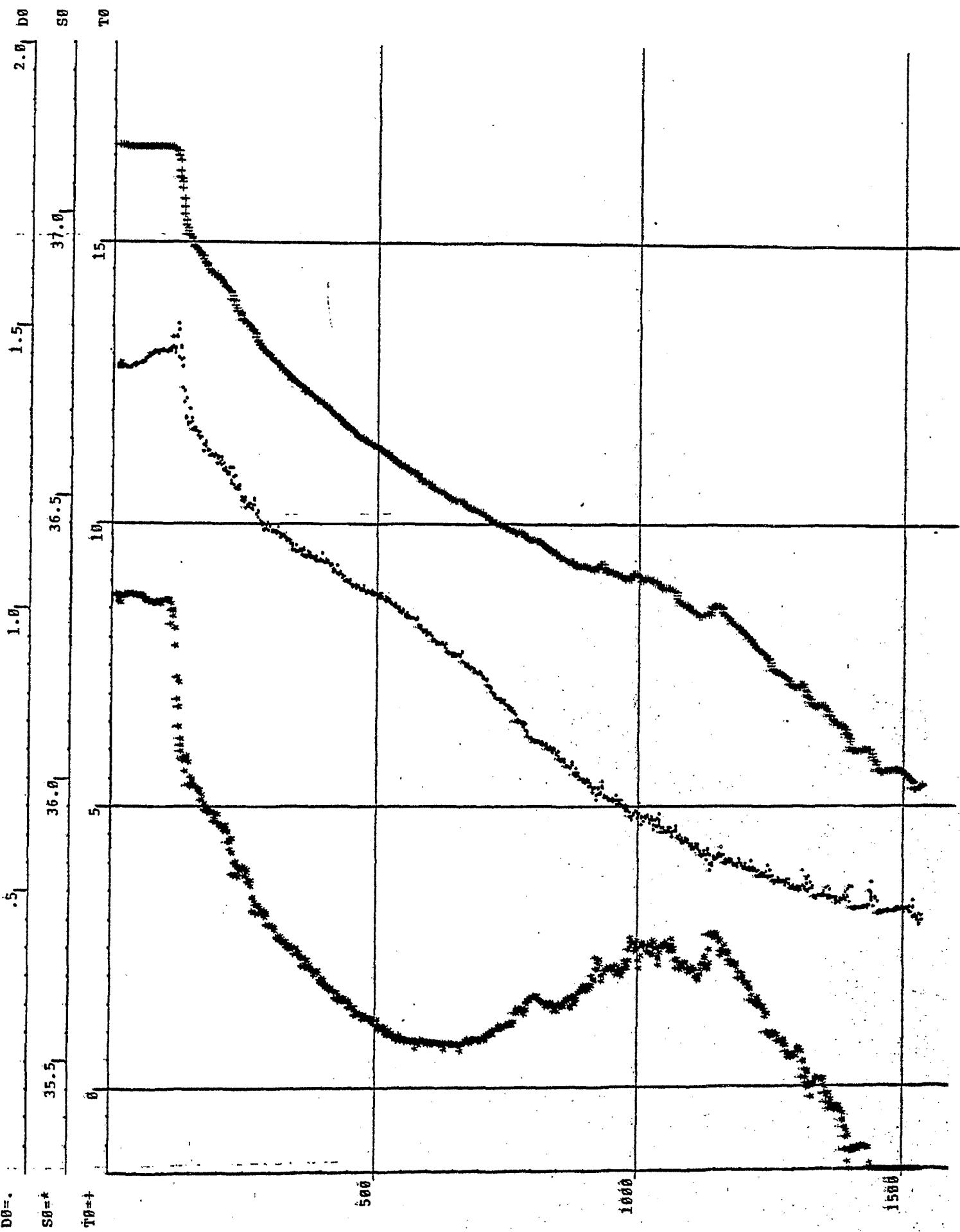
Tθ

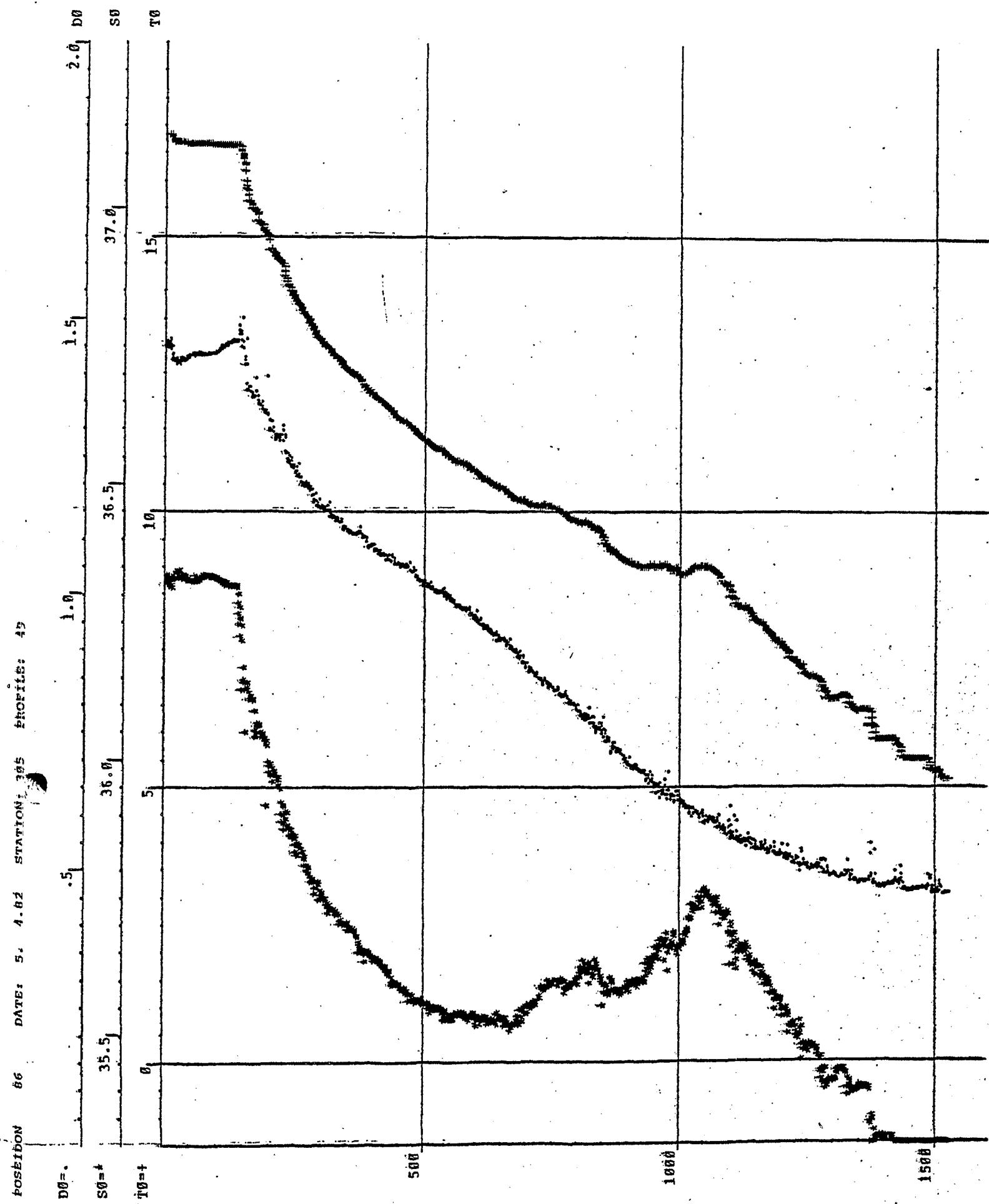


POSEIDON DATE: 5. 4.62 STATION: 363 PROFILE: 47

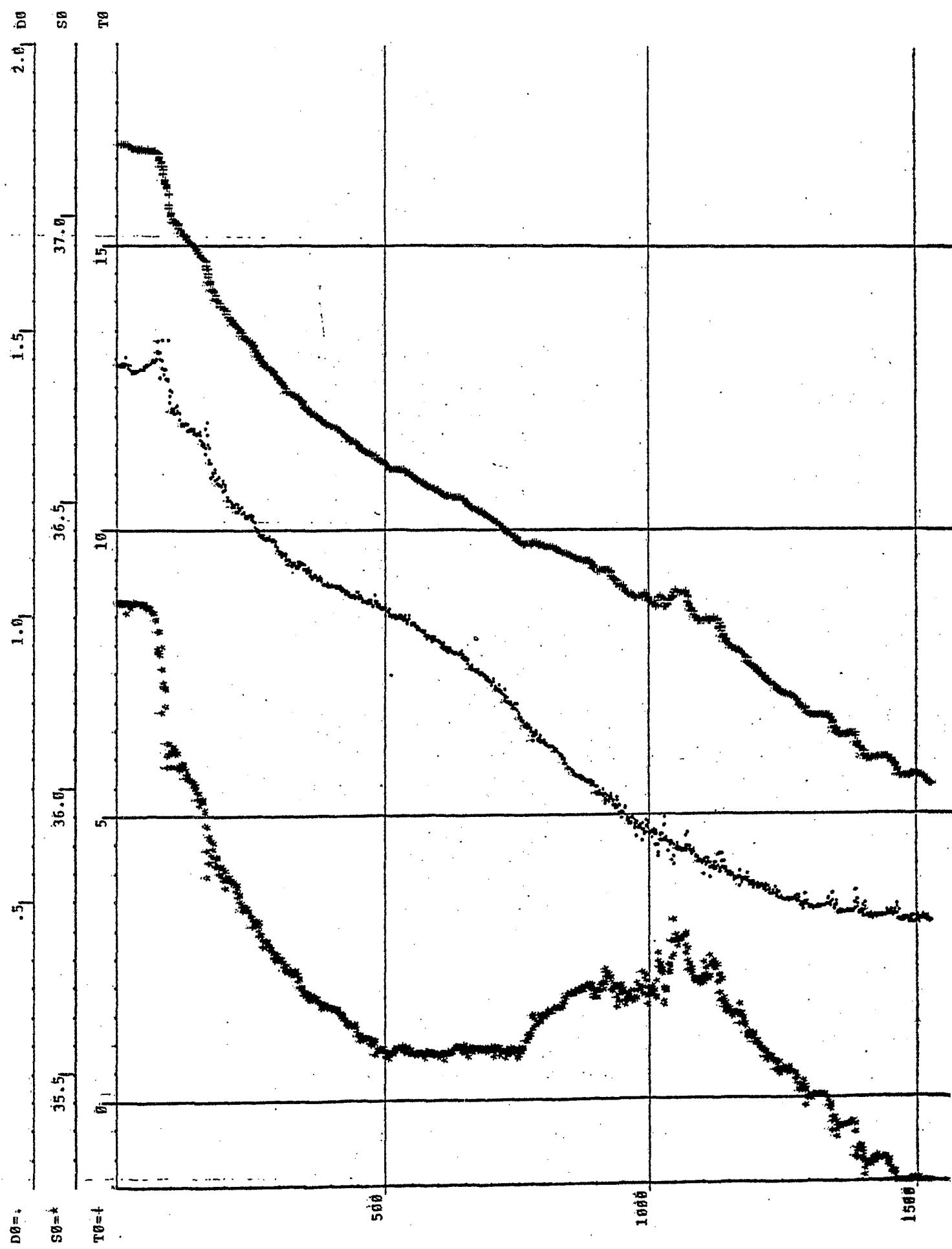


POSITION 66 DATE: 5. 4.82 STATION 54 PROFILE: 48

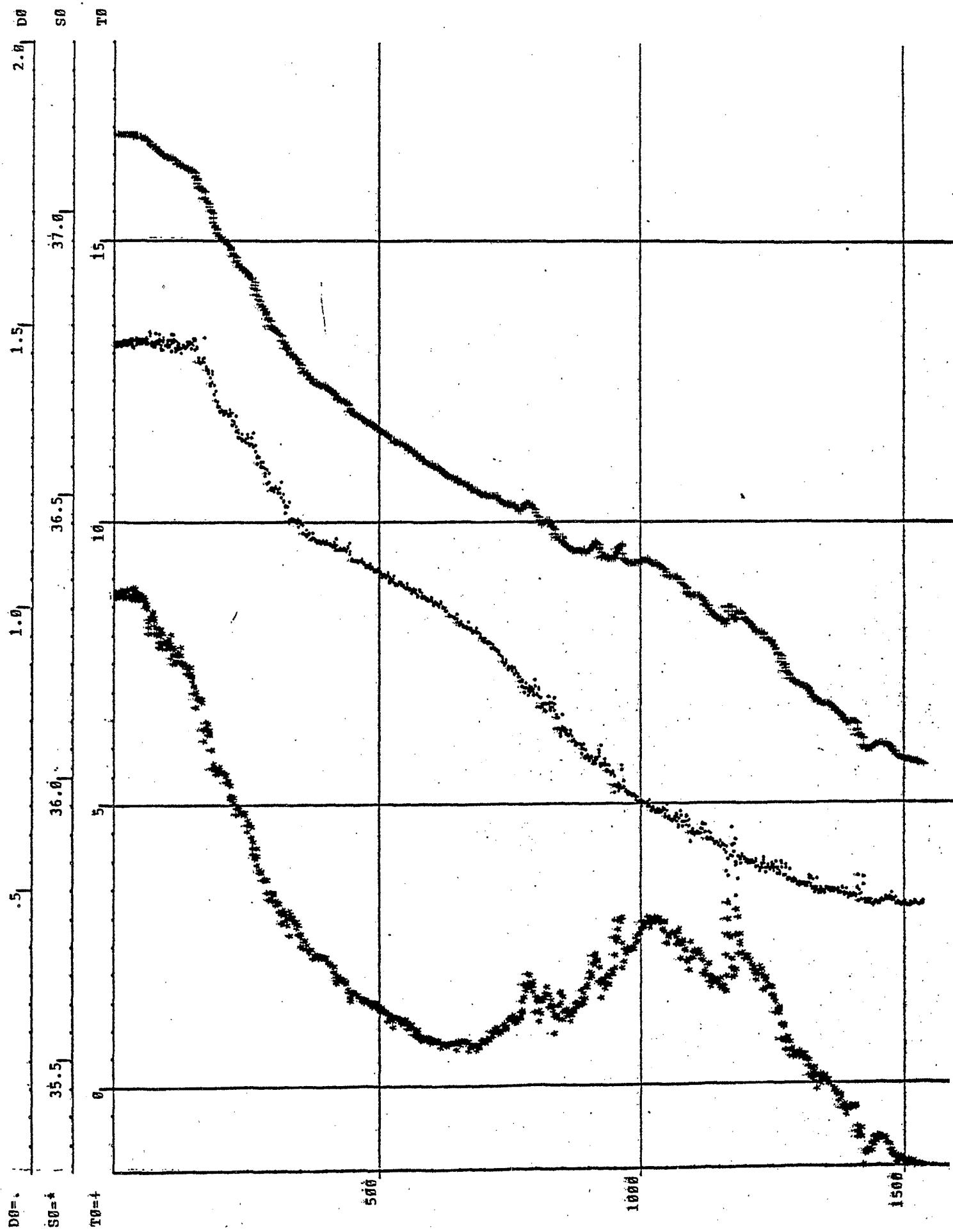




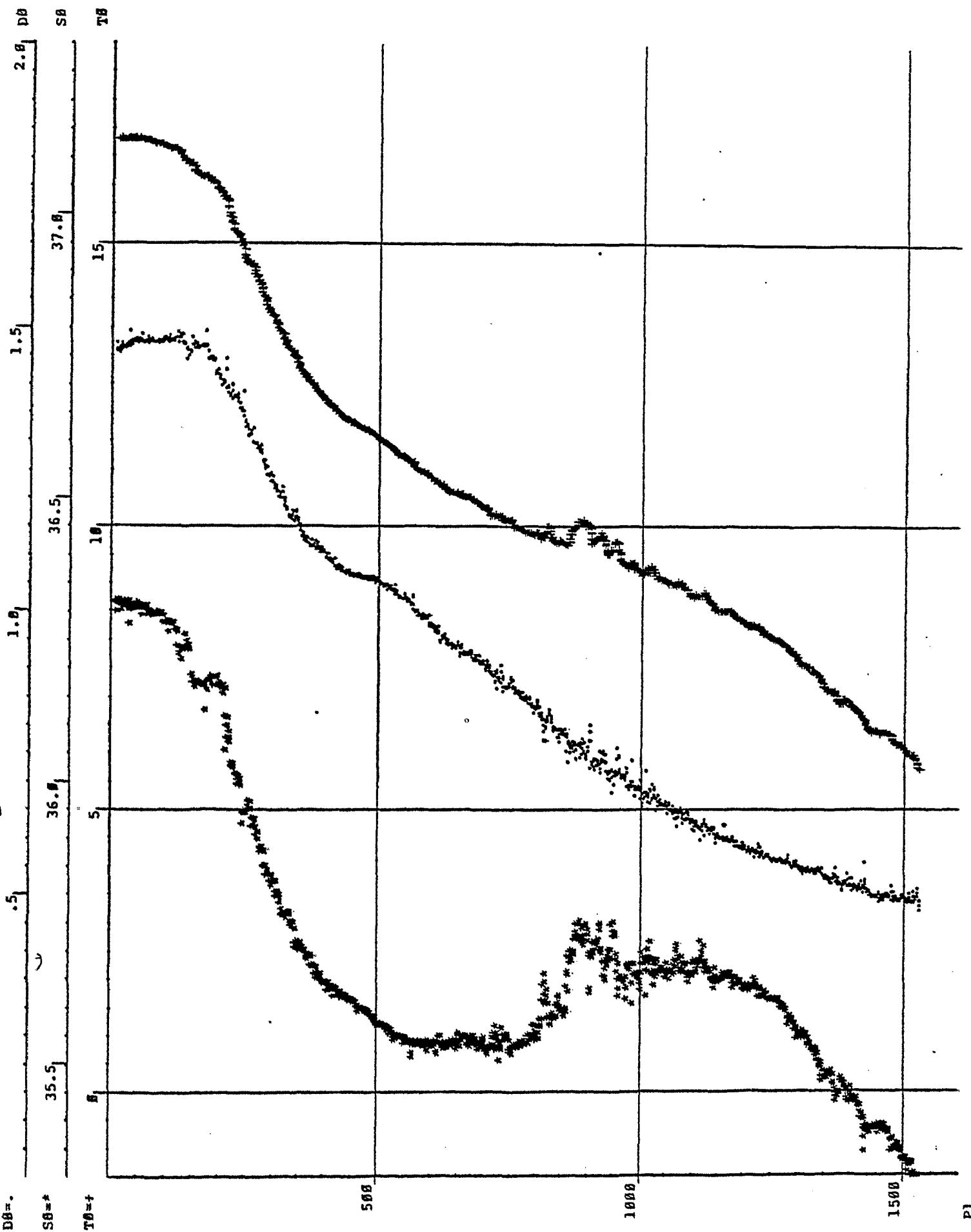
POSEIDON 86 DATE: 5. 4.82 STATION: 56 PROFILE: 50



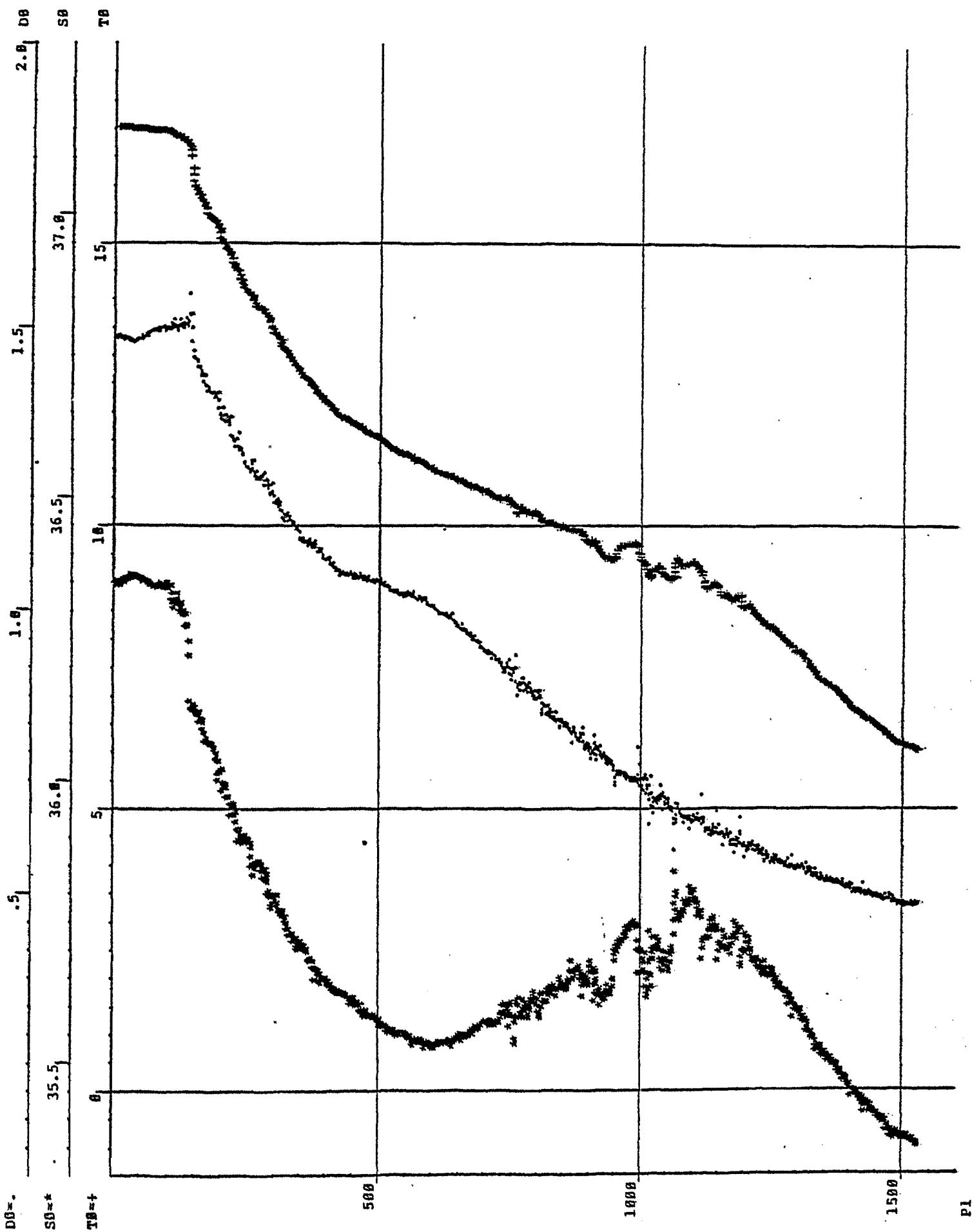
POSEIDON 86 DATE: 6. 4.82 STATION 51 PROFILE: 51



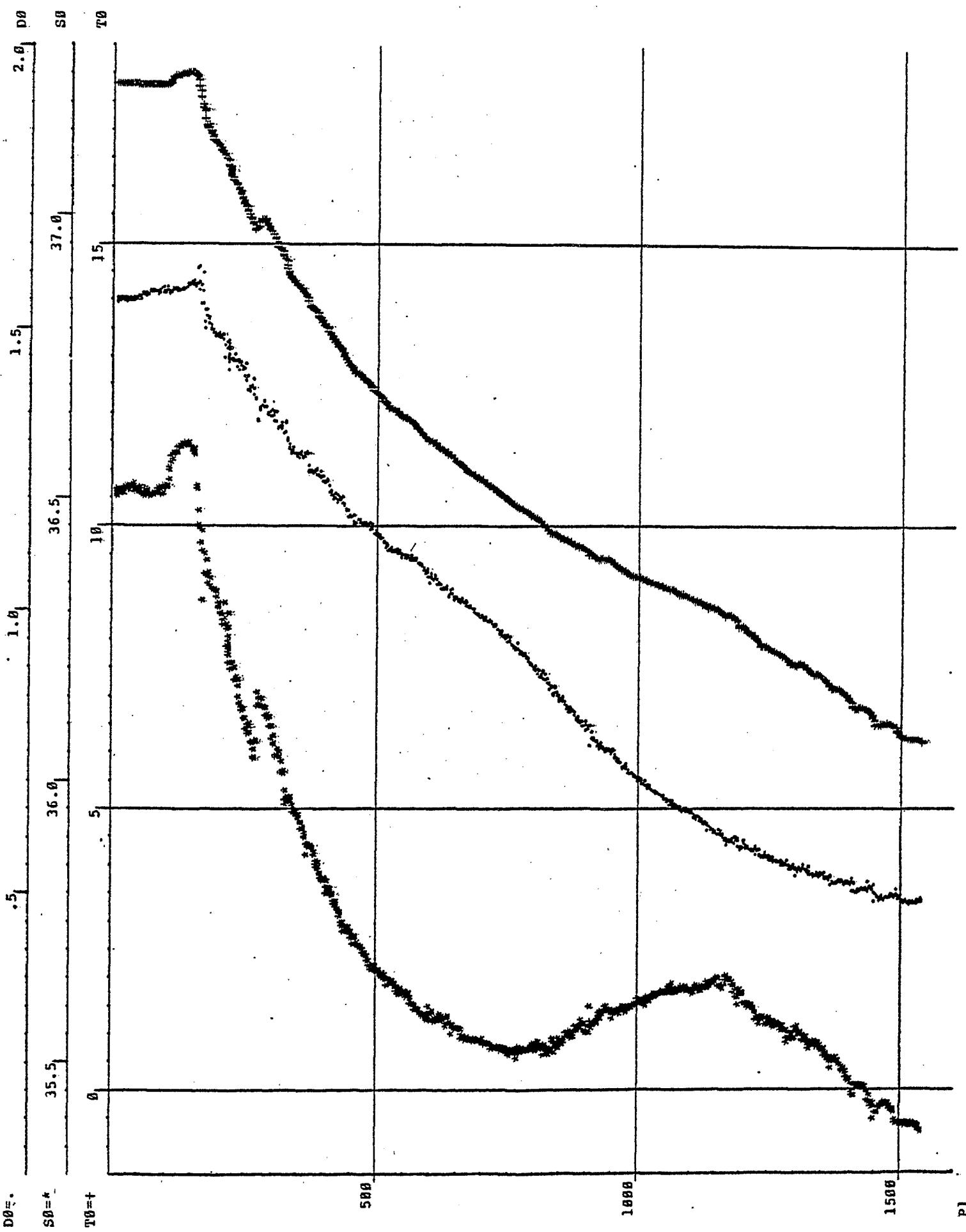
POSEIDON 86 DATE: 6. 4.02 STATION: 368 PROFILE: 52

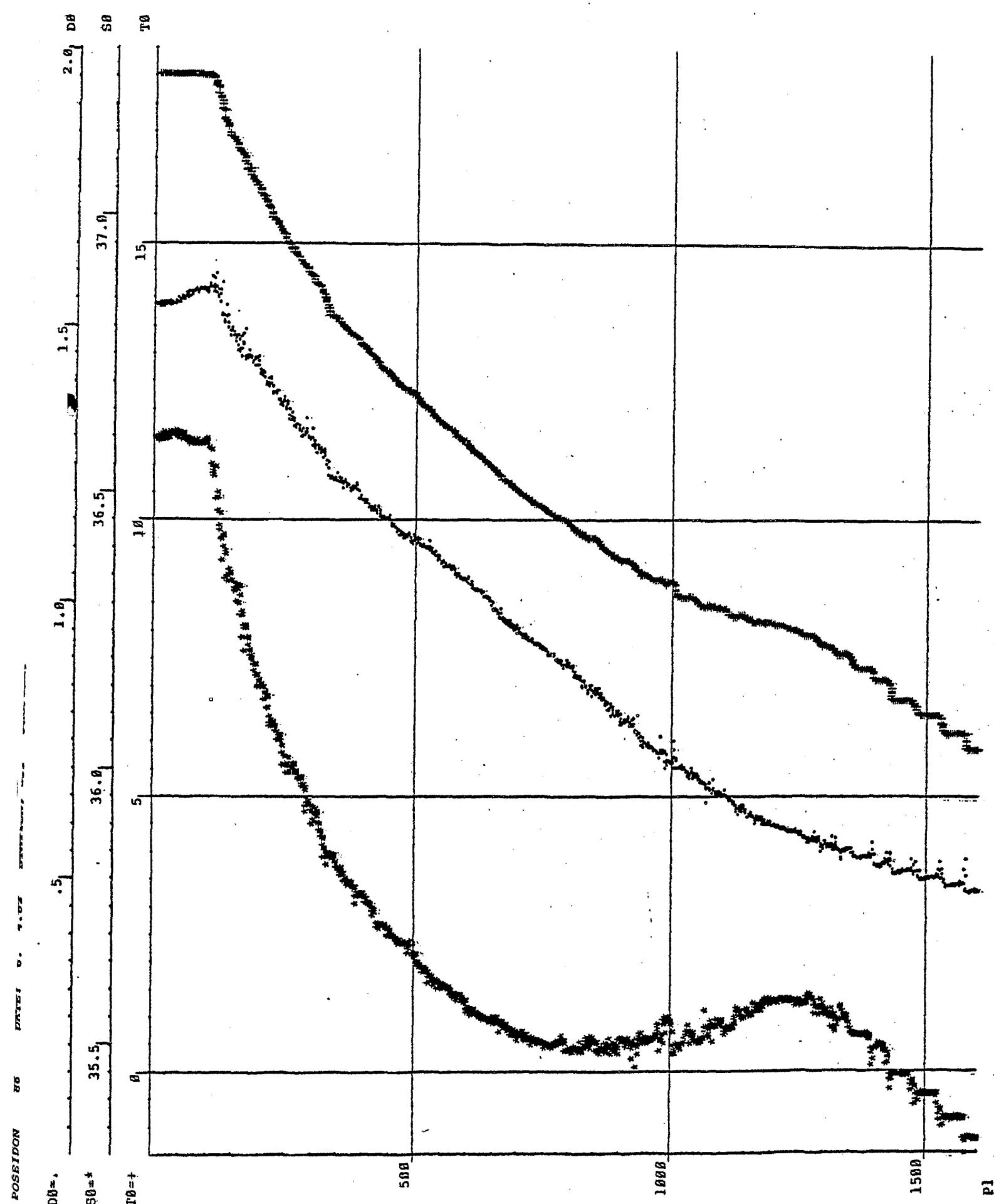


POSEIDON 86 DATE: 6. 4.82 STATION: 389 PROFILE: 53



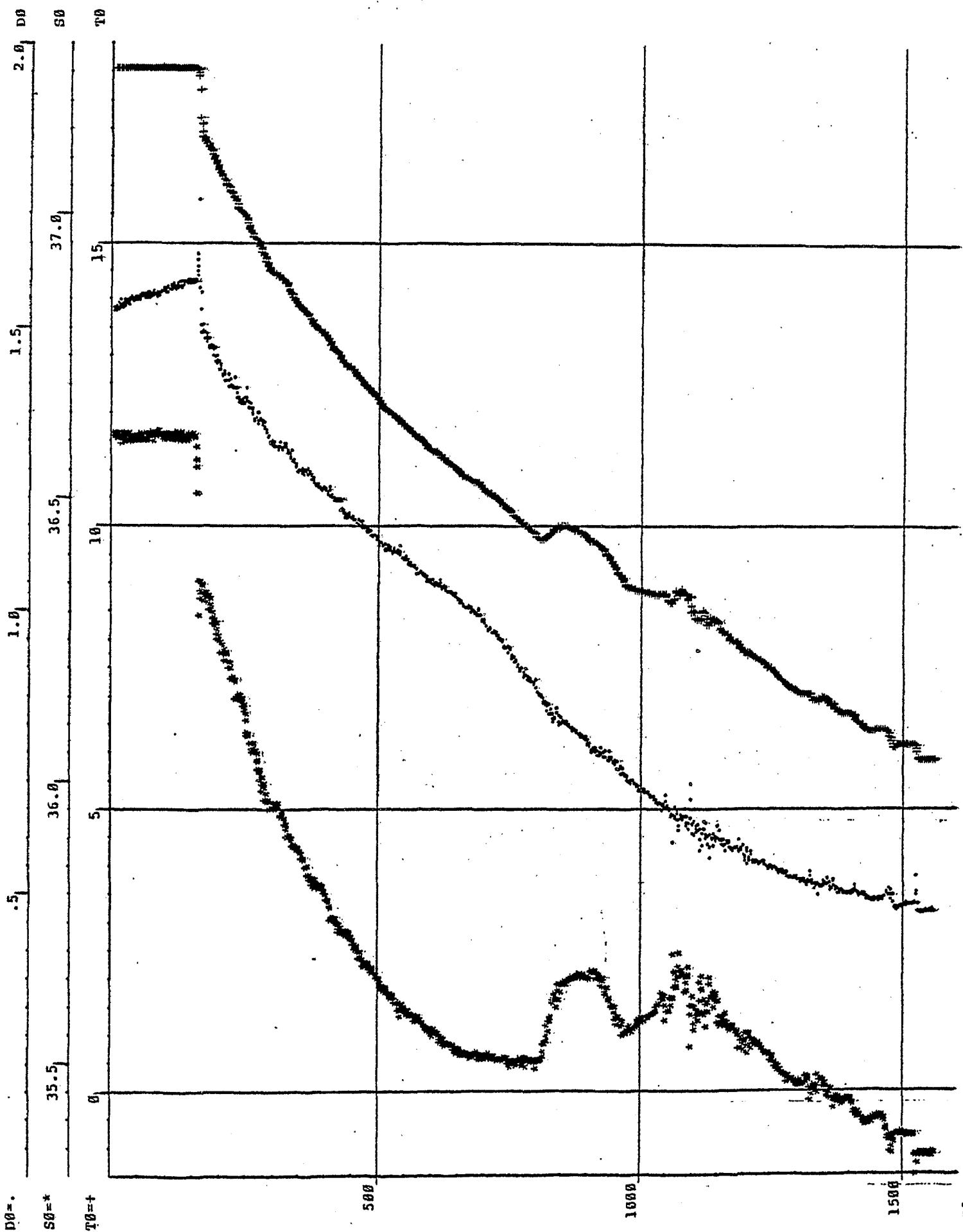
POSEIDON 86 DATE: 6-4-82 STATION: 310 PROFILE: 54



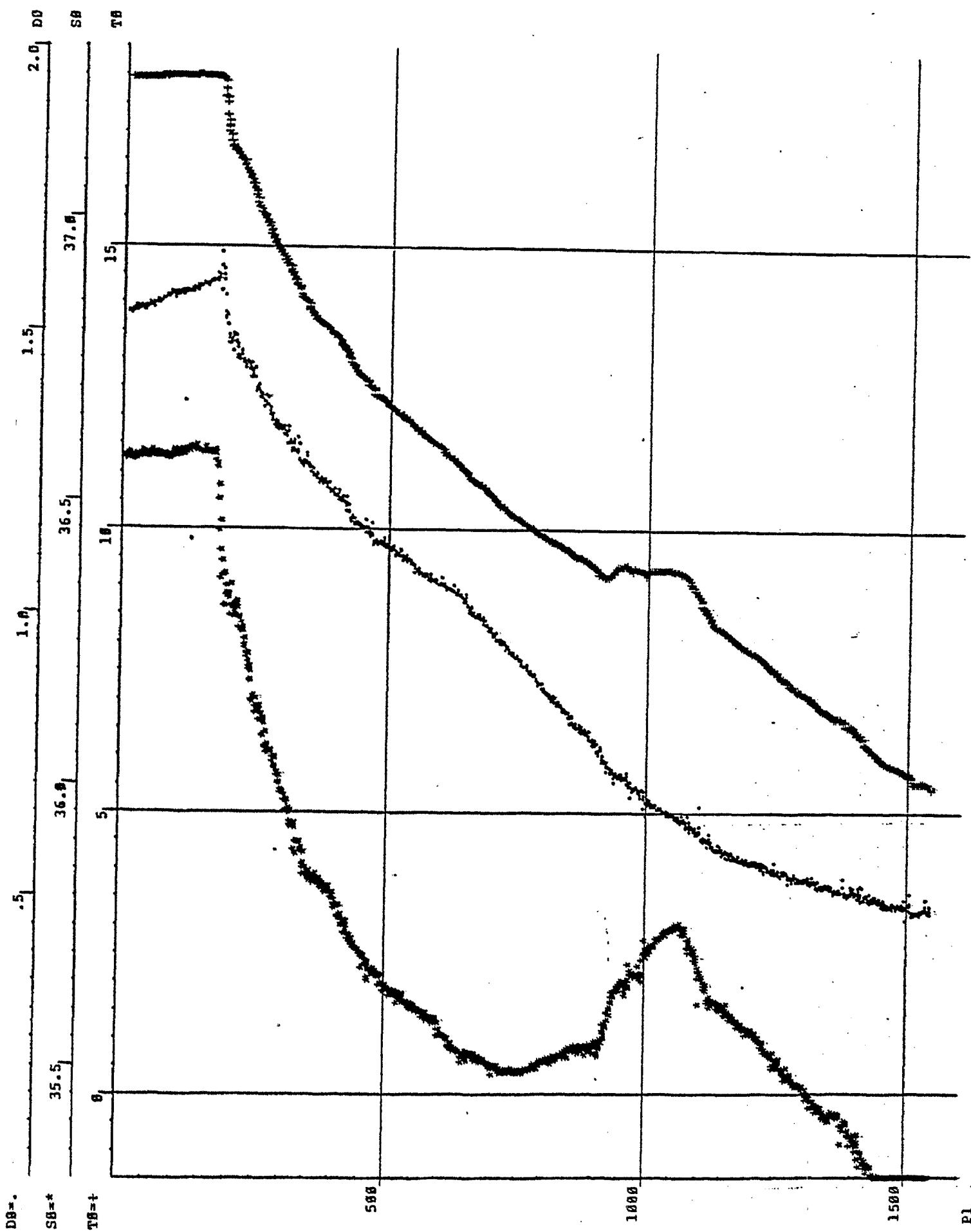


POSEIDON 86 DATE: 7. 4.82 STATION: 312 PROFILE: 56

-04-

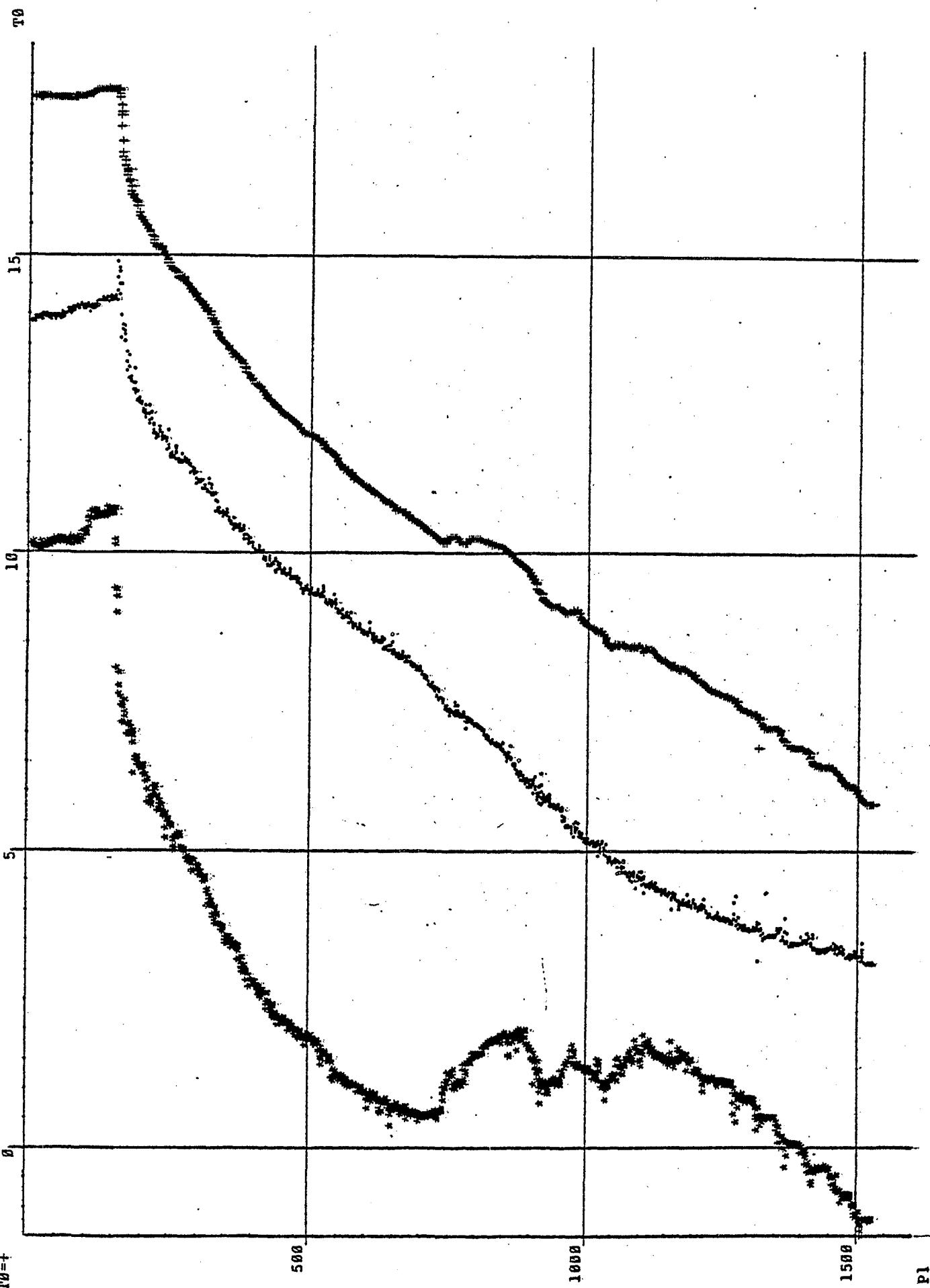


POSEIDON 86 DATE: 7. 4.82 STATION: 313 PROFILE: 57

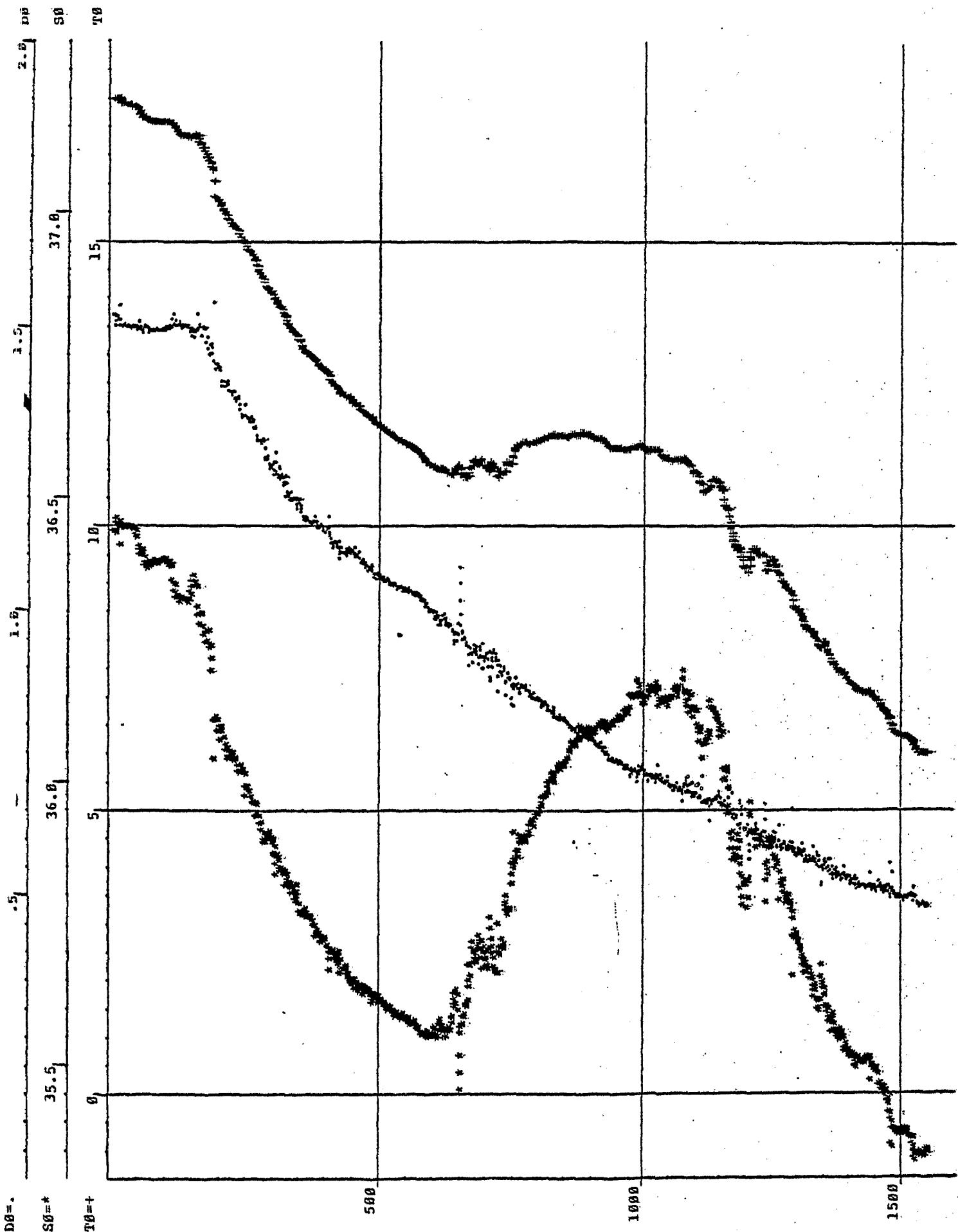


POSEIDON 86 DATE: 7. 4.92 STATION: 314 PROFILE: 50

Dθ=+ 2.0 Dθ
Sθ=+ 35.5 36.0 36.5 37.0 Sθ
Tθ=+ 0.5 1.0 1.5 2.0 Tθ



POSITION 86 DATE: 7+ 4-82 STATION: 315 PROFILE



POSITION 66 DATE: 7-4-82 STATION: 316 PROFILE: 69

D0= 2.0 D0
S0=* 35.5 S0
T0=+ 36.0 T0

T0= 1.5 T0
37.0 T0
36.5 T0
36.0 T0
35.5 T0
35.0 T0
34.5 T0
34.0 T0
33.5 T0
33.0 T0
32.5 T0
32.0 T0
31.5 T0
31.0 T0
30.5 T0
30.0 T0
29.5 T0
29.0 T0
28.5 T0
28.0 T0
27.5 T0
27.0 T0
26.5 T0
26.0 T0
25.5 T0
25.0 T0
24.5 T0
24.0 T0
23.5 T0
23.0 T0
22.5 T0
22.0 T0
21.5 T0
21.0 T0
20.5 T0
20.0 T0
19.5 T0
19.0 T0
18.5 T0
18.0 T0
17.5 T0
17.0 T0
16.5 T0
16.0 T0
15.5 T0
15.0 T0
14.5 T0
14.0 T0
13.5 T0
13.0 T0
12.5 T0
12.0 T0
11.5 T0
11.0 T0
10.5 T0
10.0 T0
9.5 T0
9.0 T0
8.5 T0
8.0 T0
7.5 T0
7.0 T0
6.5 T0
6.0 T0
5.5 T0
5.0 T0
4.5 T0
4.0 T0
3.5 T0
3.0 T0
2.5 T0
2.0 T0
1.5 T0
1.0 T0
0.5 T0
0.0 T0

500

1000

1500

P1

$\delta_{S,T,P}$

S

T

C

POSEIDON 86 DATE: 7. 4.92 STATION: 317 PROFILE: 61

Dθ=, 2.0 Dθ
Sθ=*, 35.5 36.0 37.0 Sθ

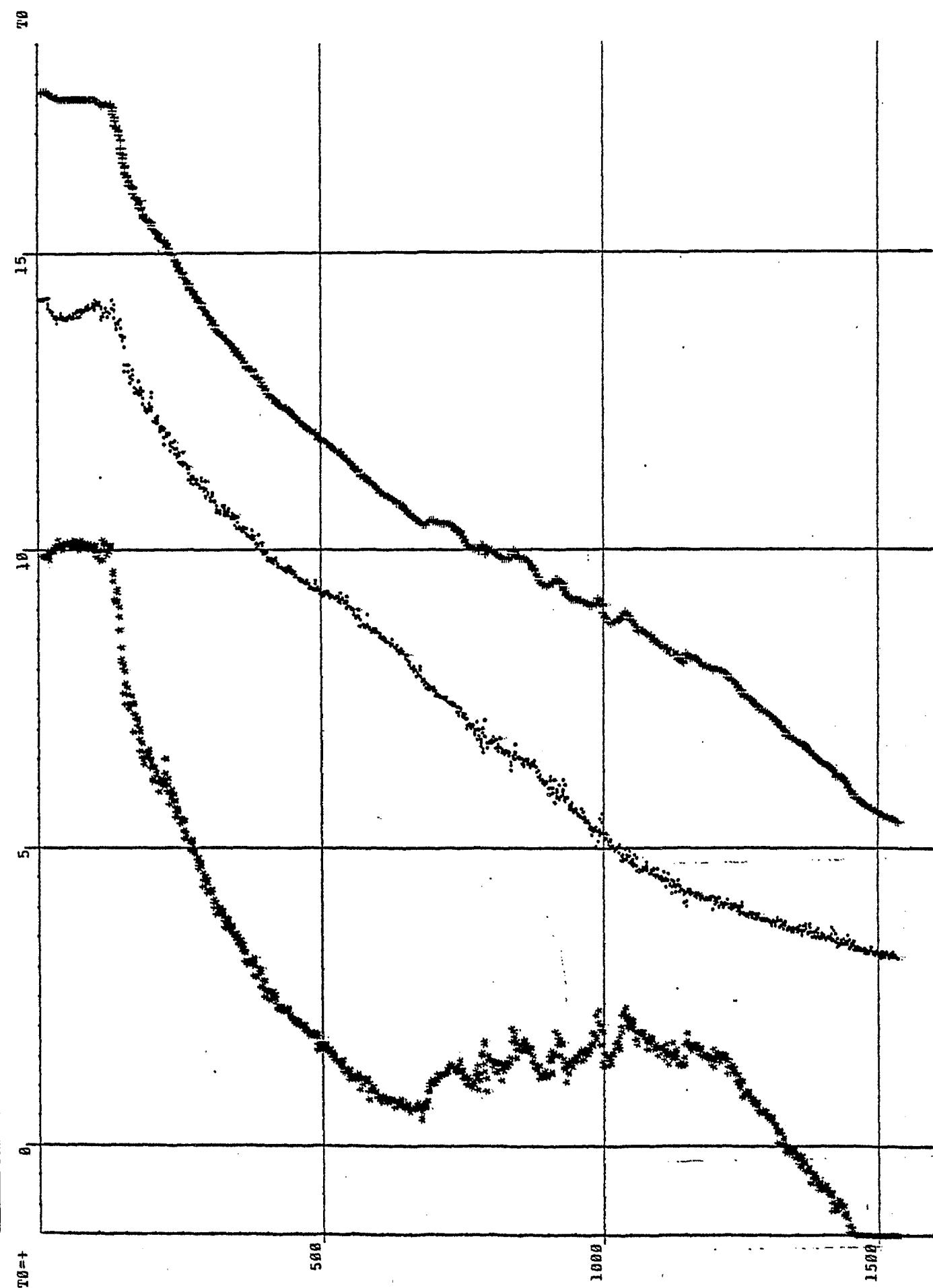
Tθ=, 0 5 10 15 Tθ

500

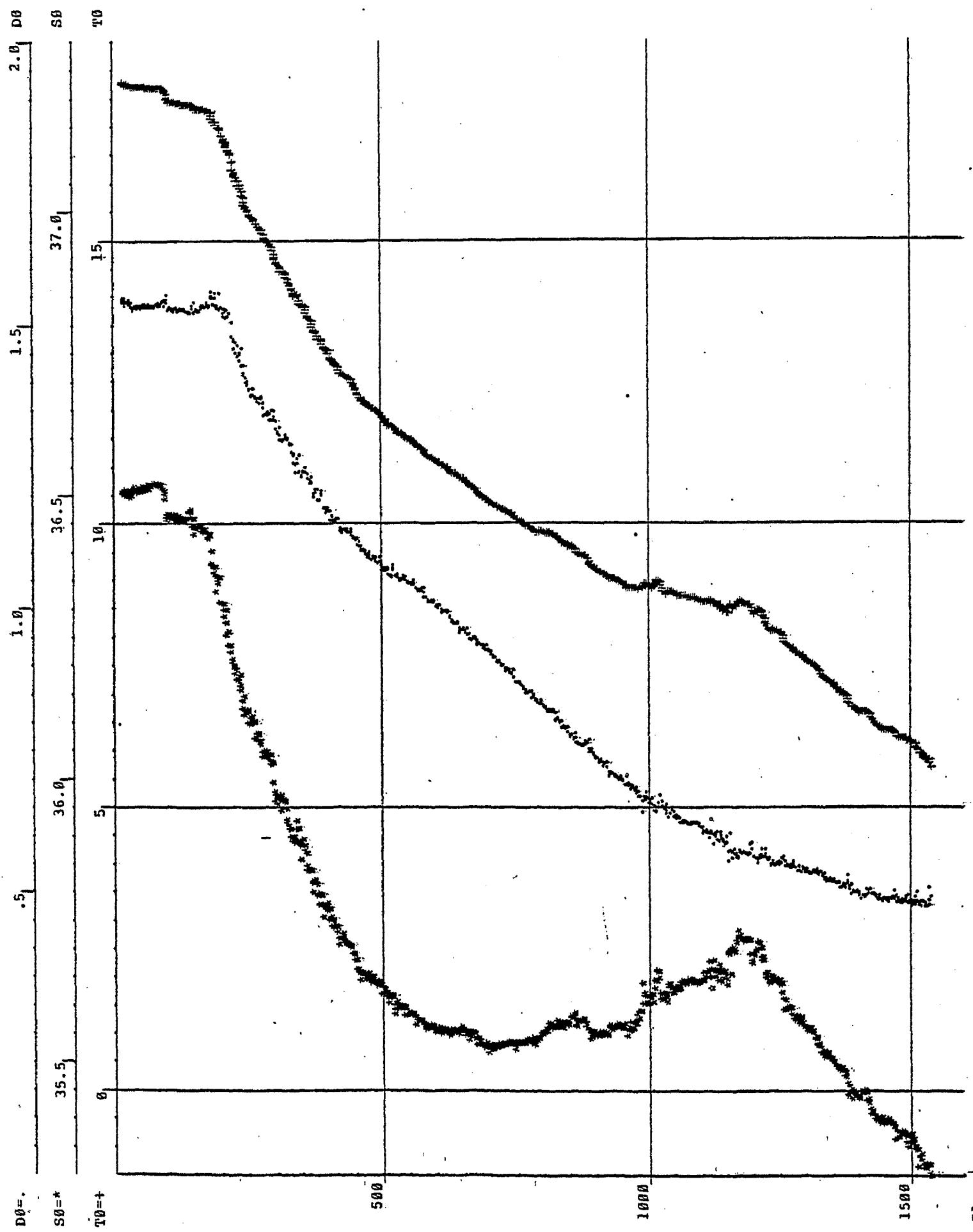
1000

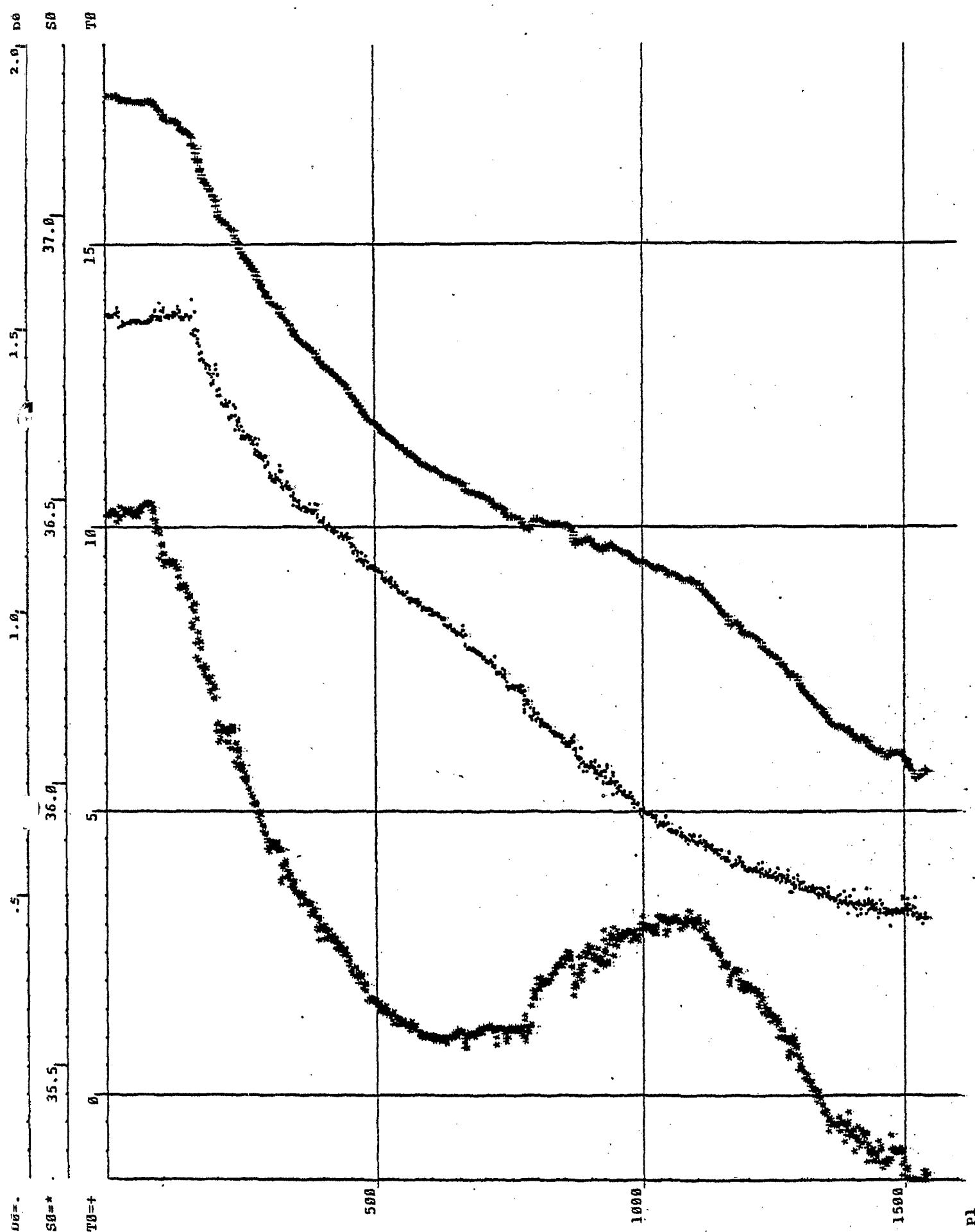
1500

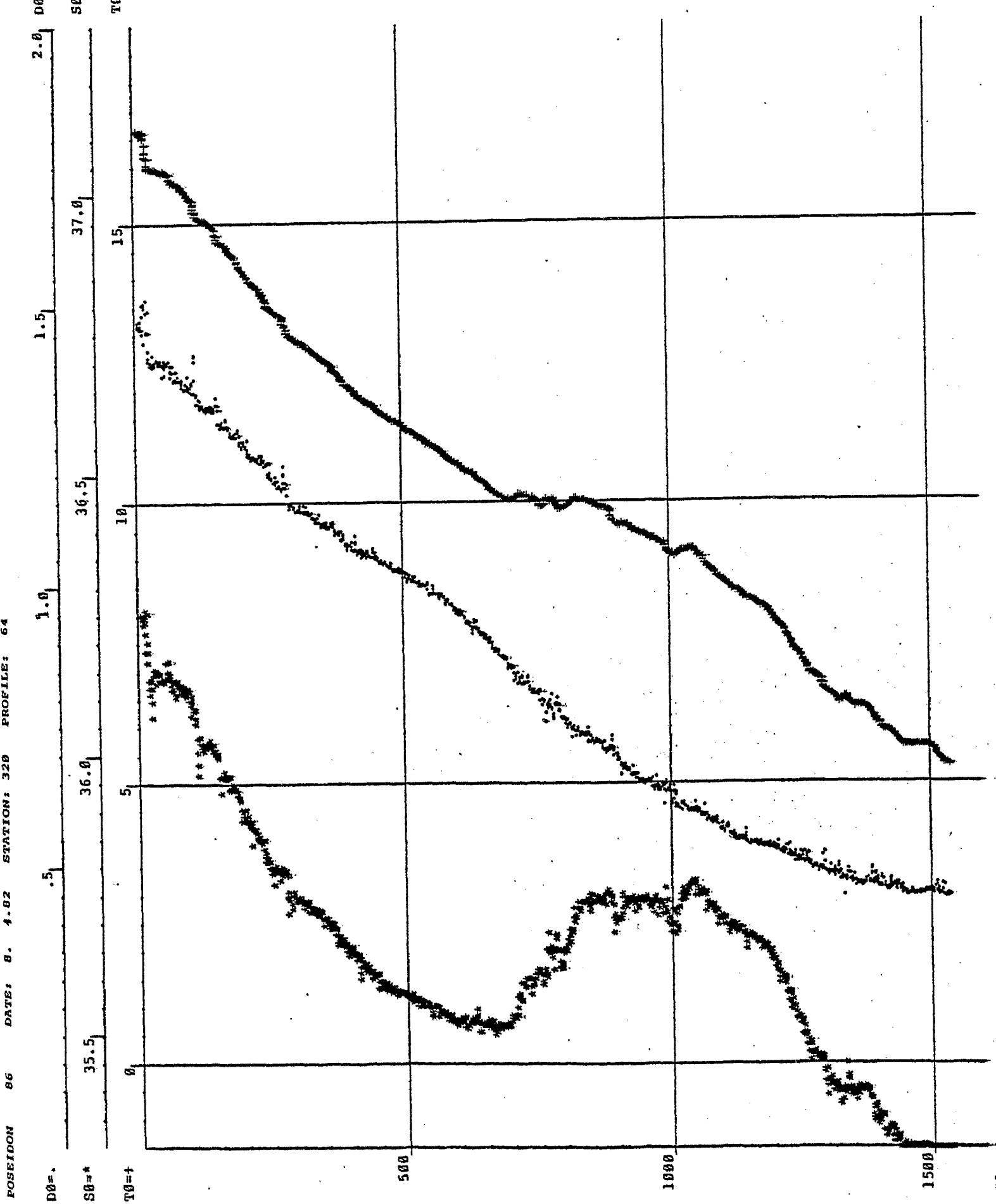
P1



POSEIDON 86 DATE: 8. 4.82 STATION: 318 PROFILE: 62







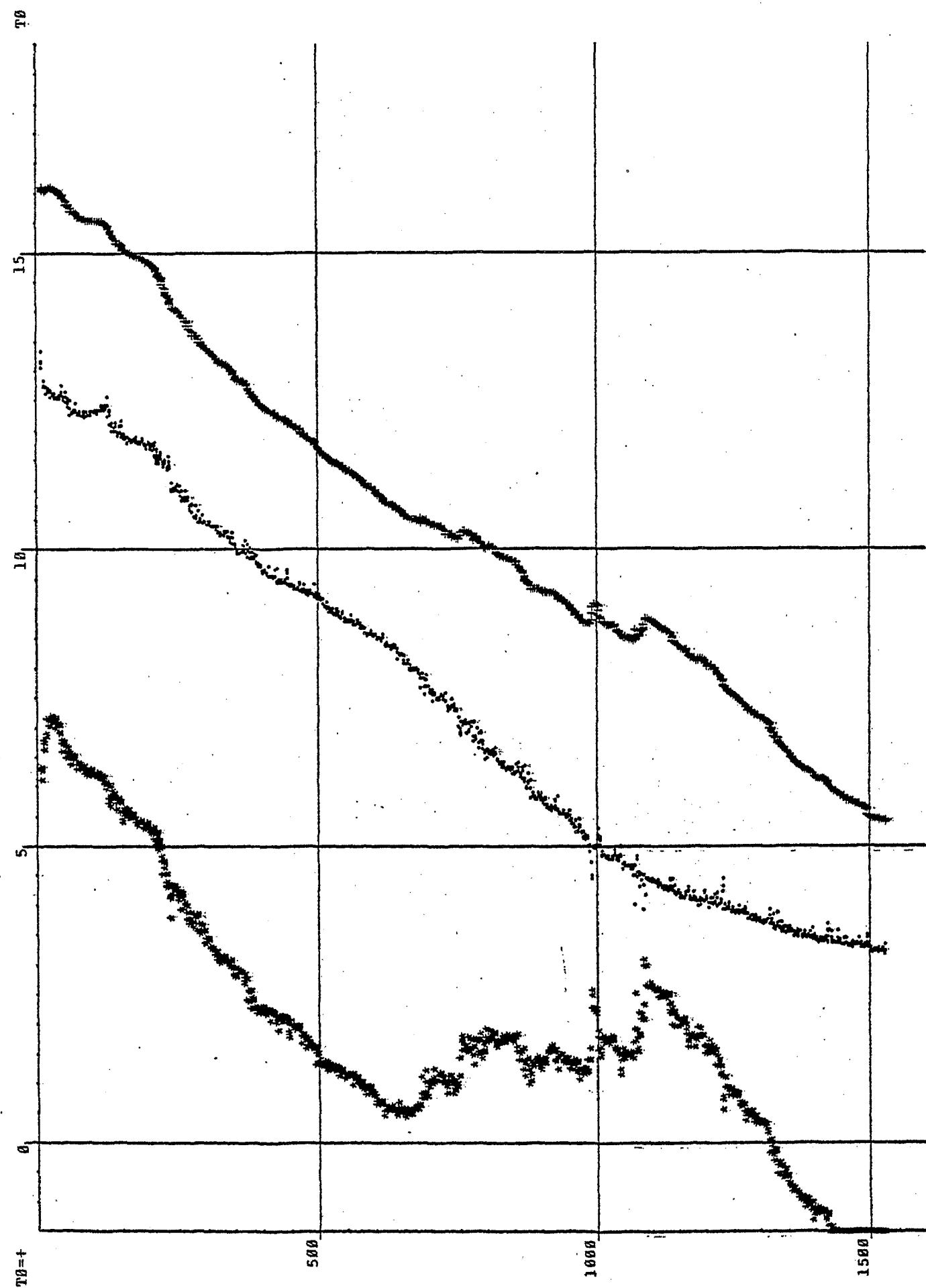
POSITION 86 DATE: 8. 4.82 STATION: 321 PROFILE: 65

Dθ=+ 2.0 | Dθ
Sθ=* 35.5 | Sθ

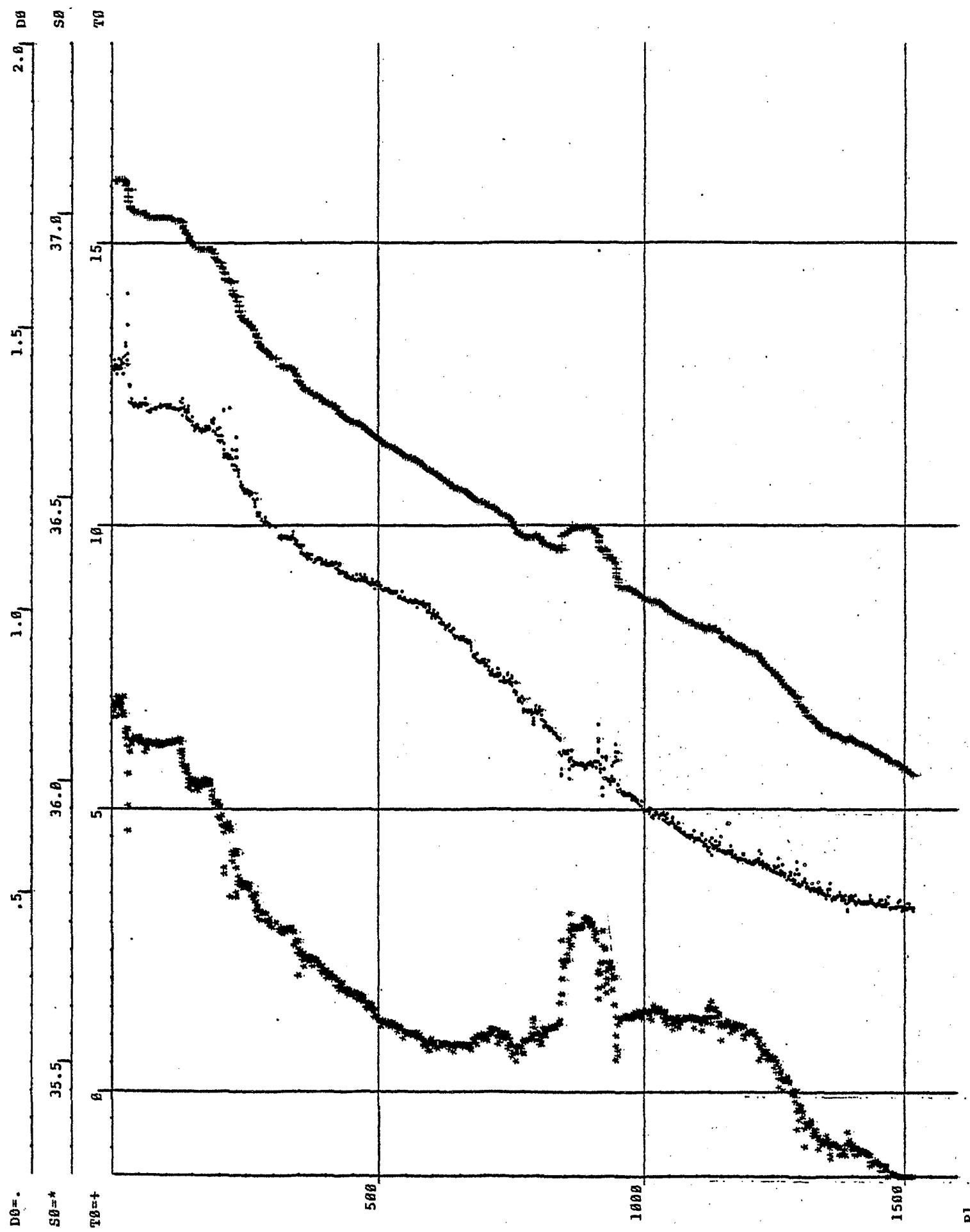
36.0 | 36.5 | 37.0 |
Tθ=+ 0 | 5 | 10 | 15 |

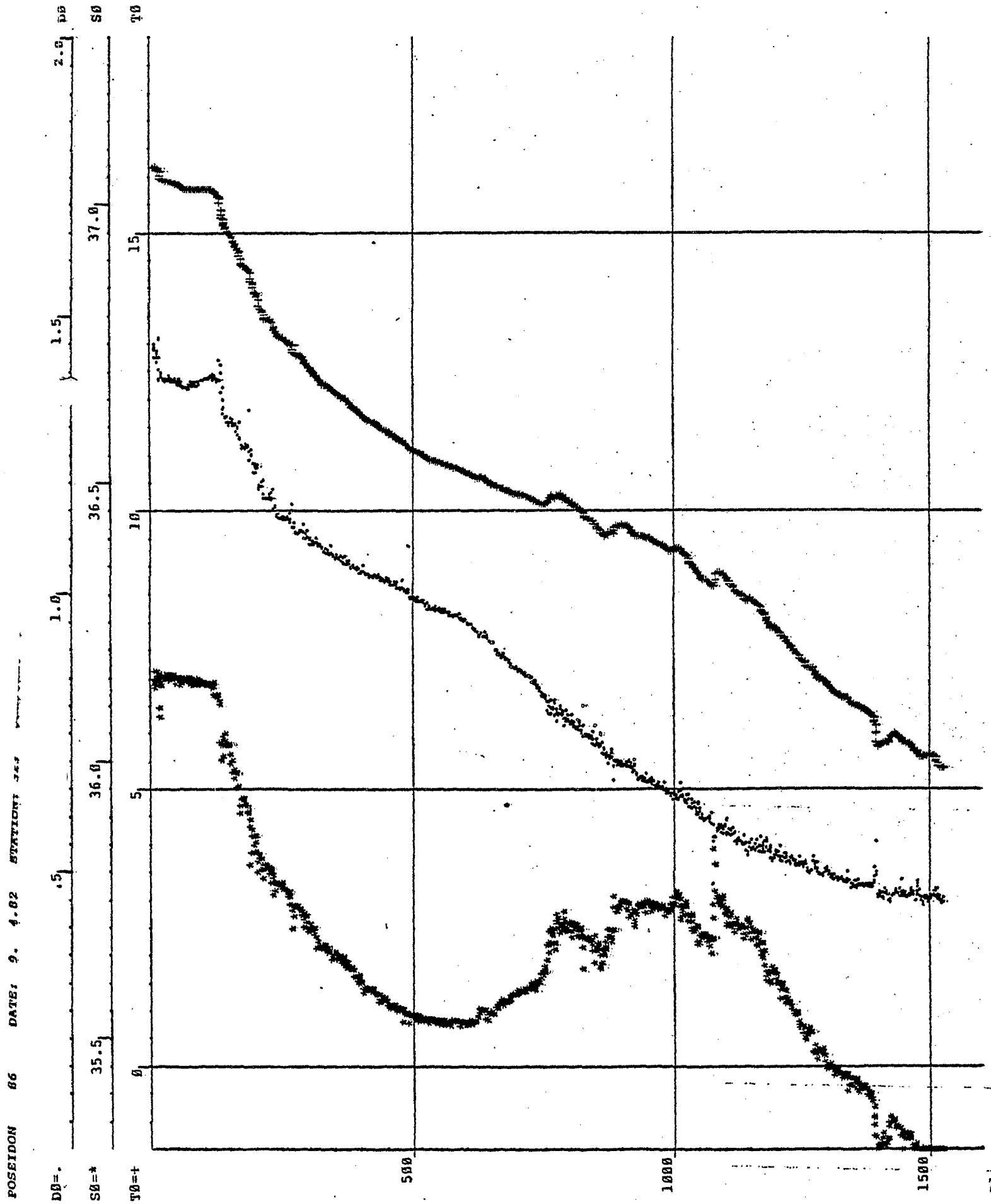
Tθ=- 0 | 5 | 10 | 15 | 20 |

500 | 1000 | 1500 | P1

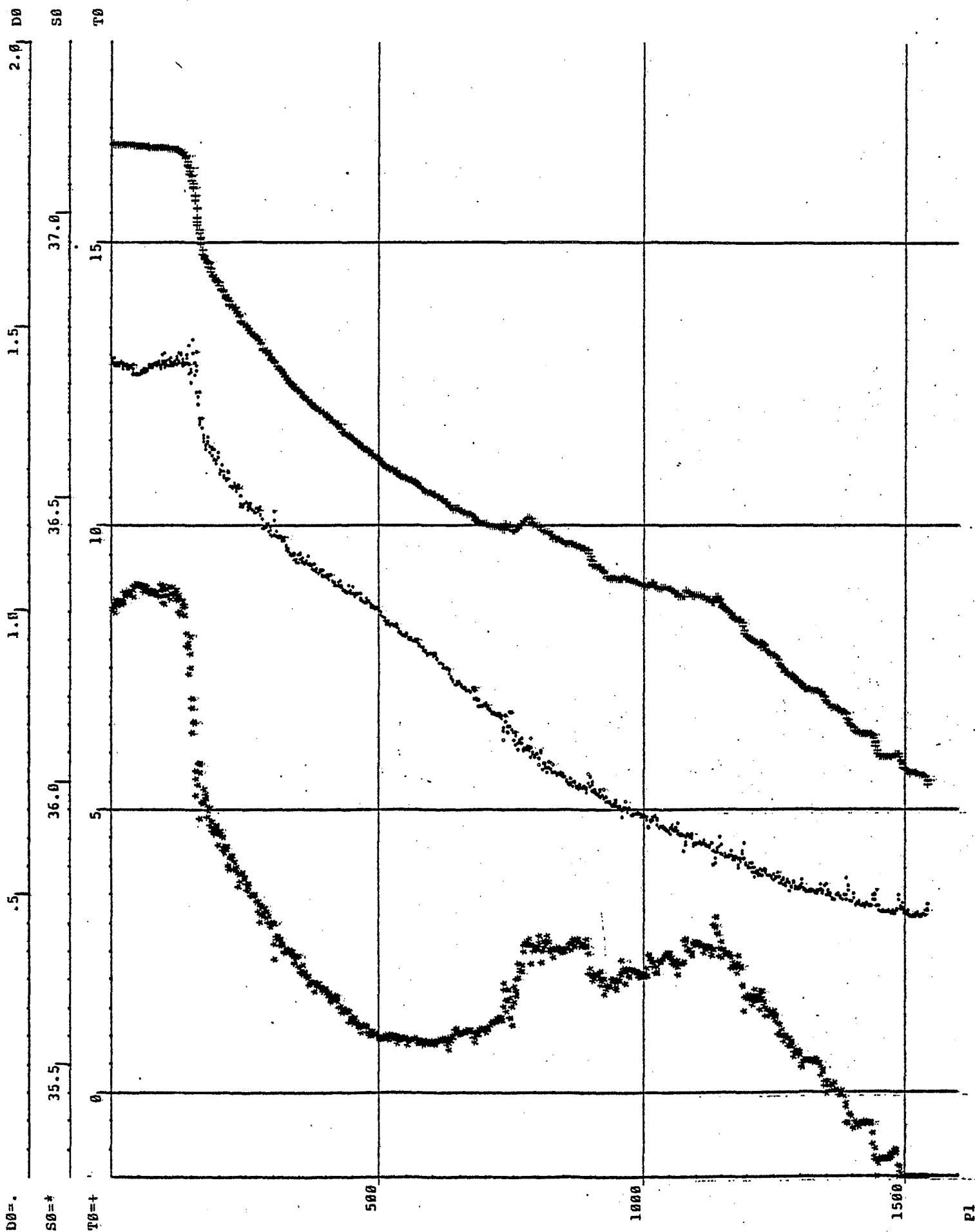


POSEIDON 86 DATE: 8. 4.82 STATION: 322 PROFILE: 66

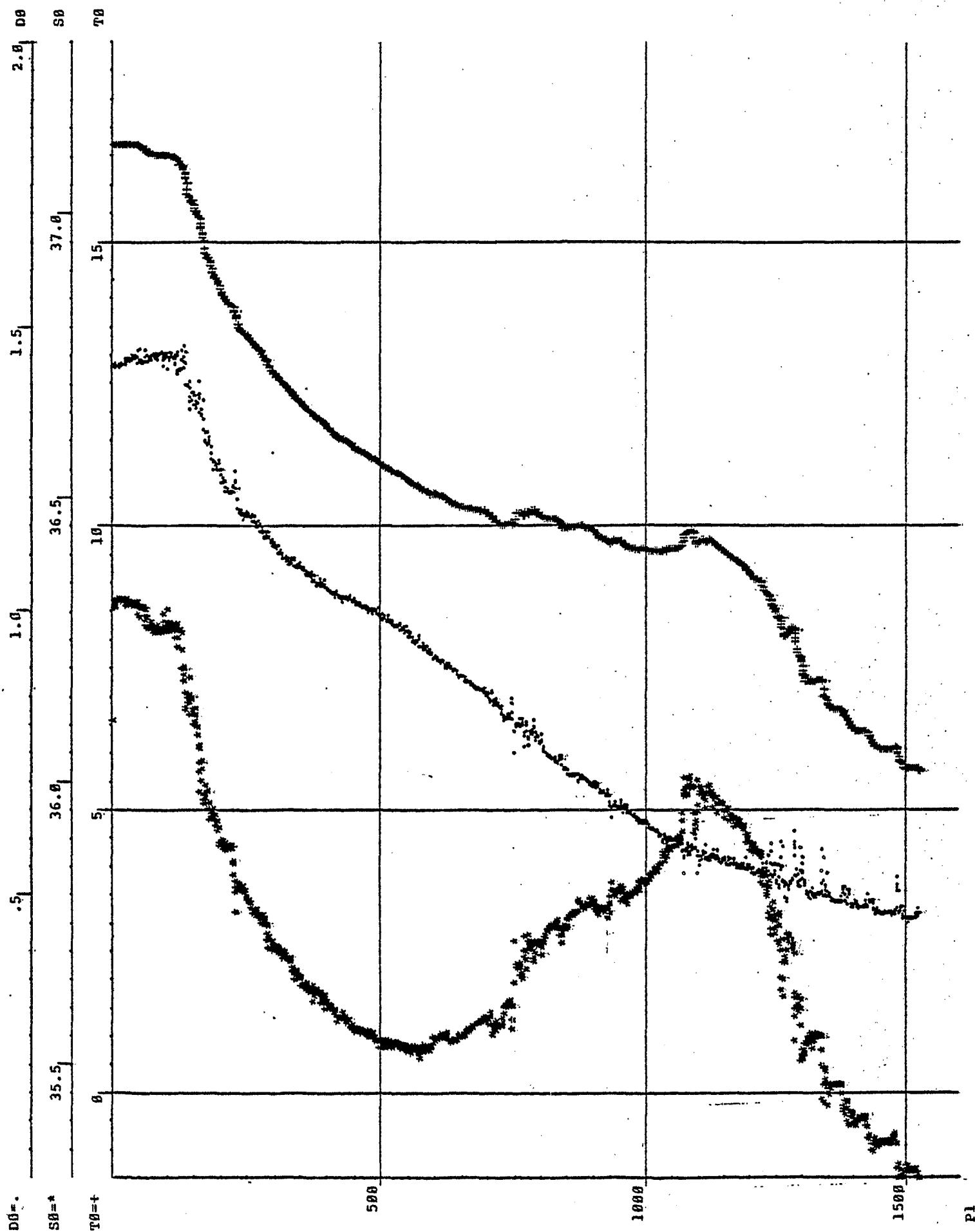




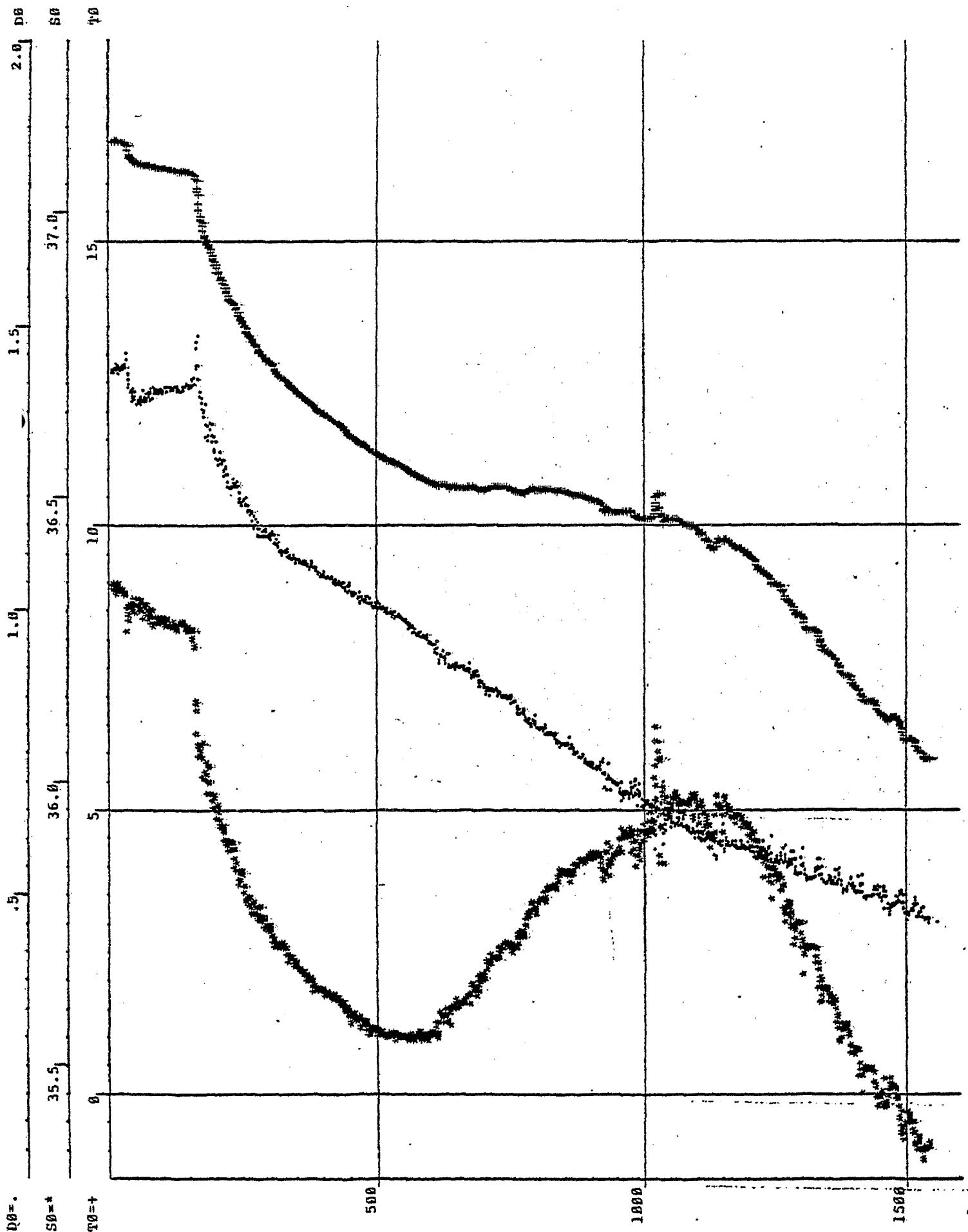
POSEIDON 86 DATE: 9. 4.82 STATION: 324 PROFILE: 60



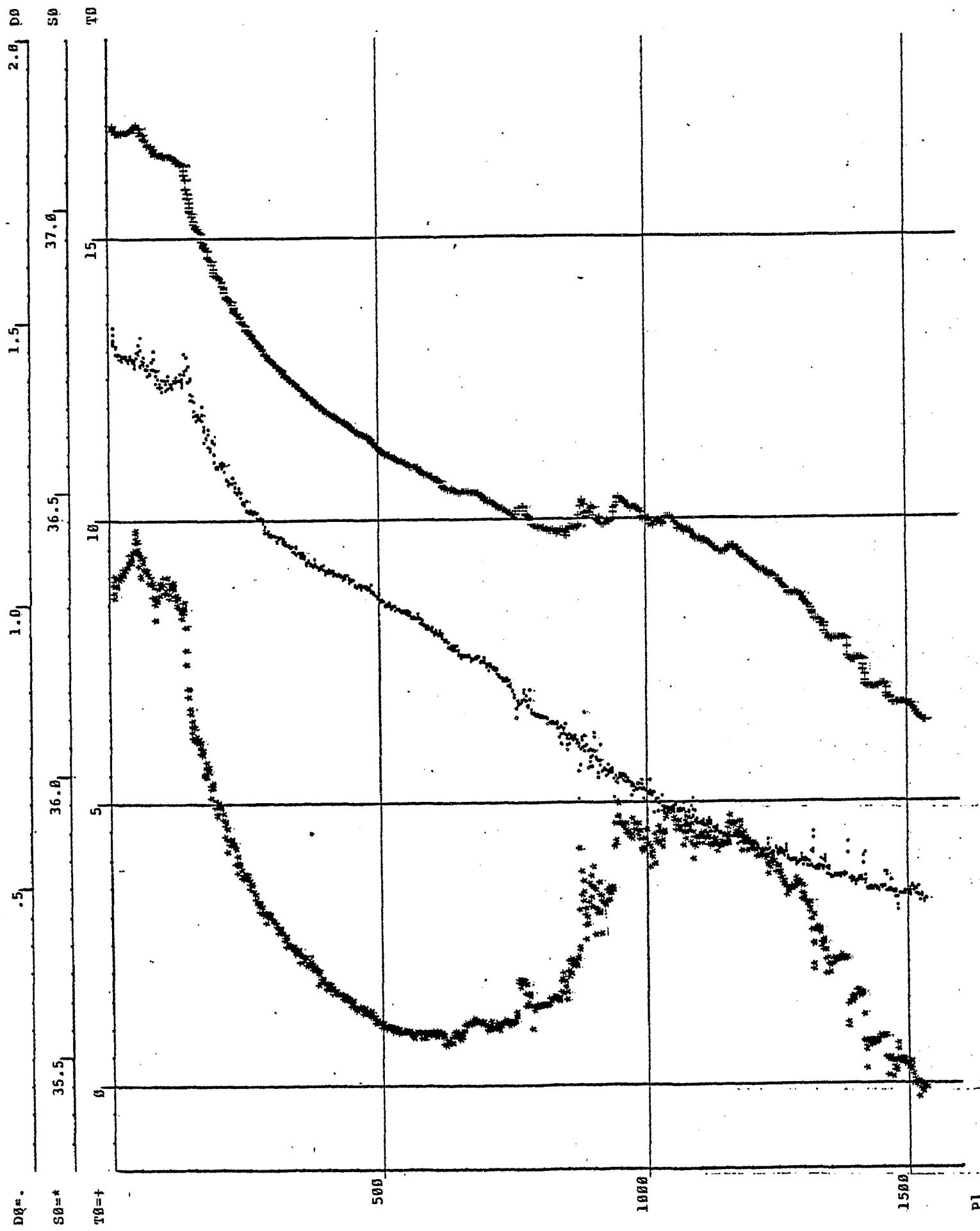
POSEIDON 66 DATE: 9. 4.82 STATION: 326 PROFILE: 69

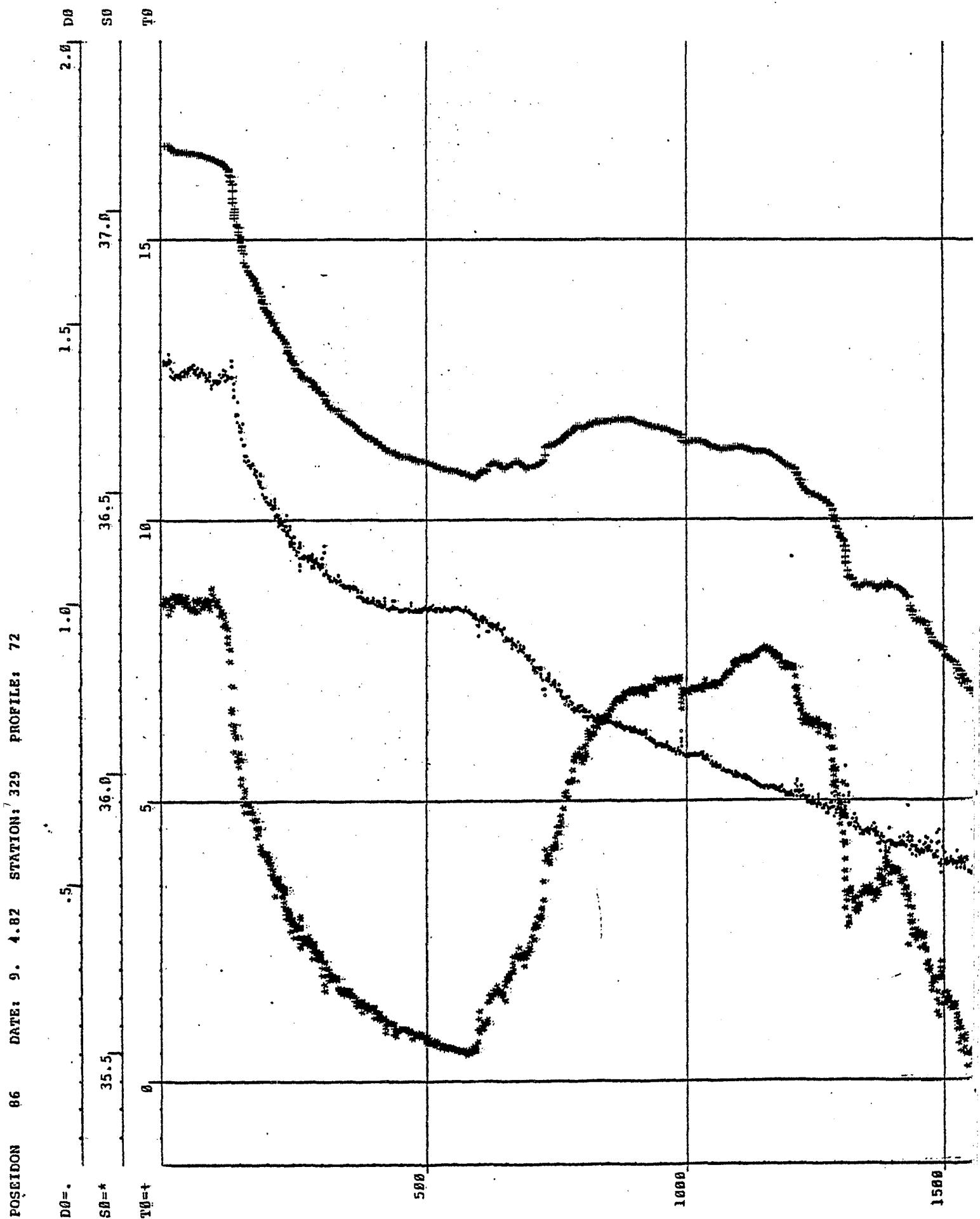


POSEIDON 86' DATE: 9. 4.82 STATION: 327 PROFILE: 7B

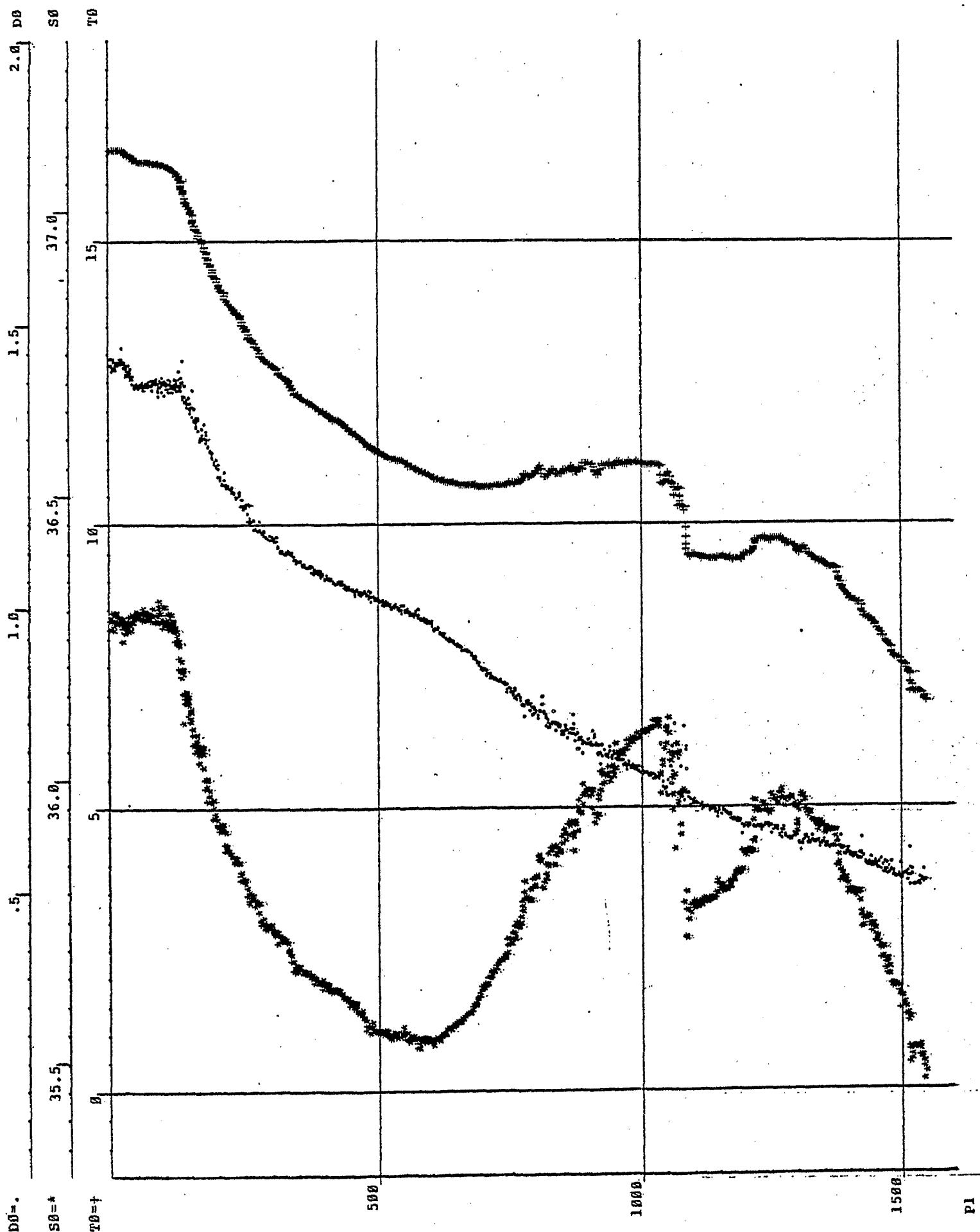


POSEIDON 86 DATE: 9. 4.82 STATION: 328 PROFILE: 71

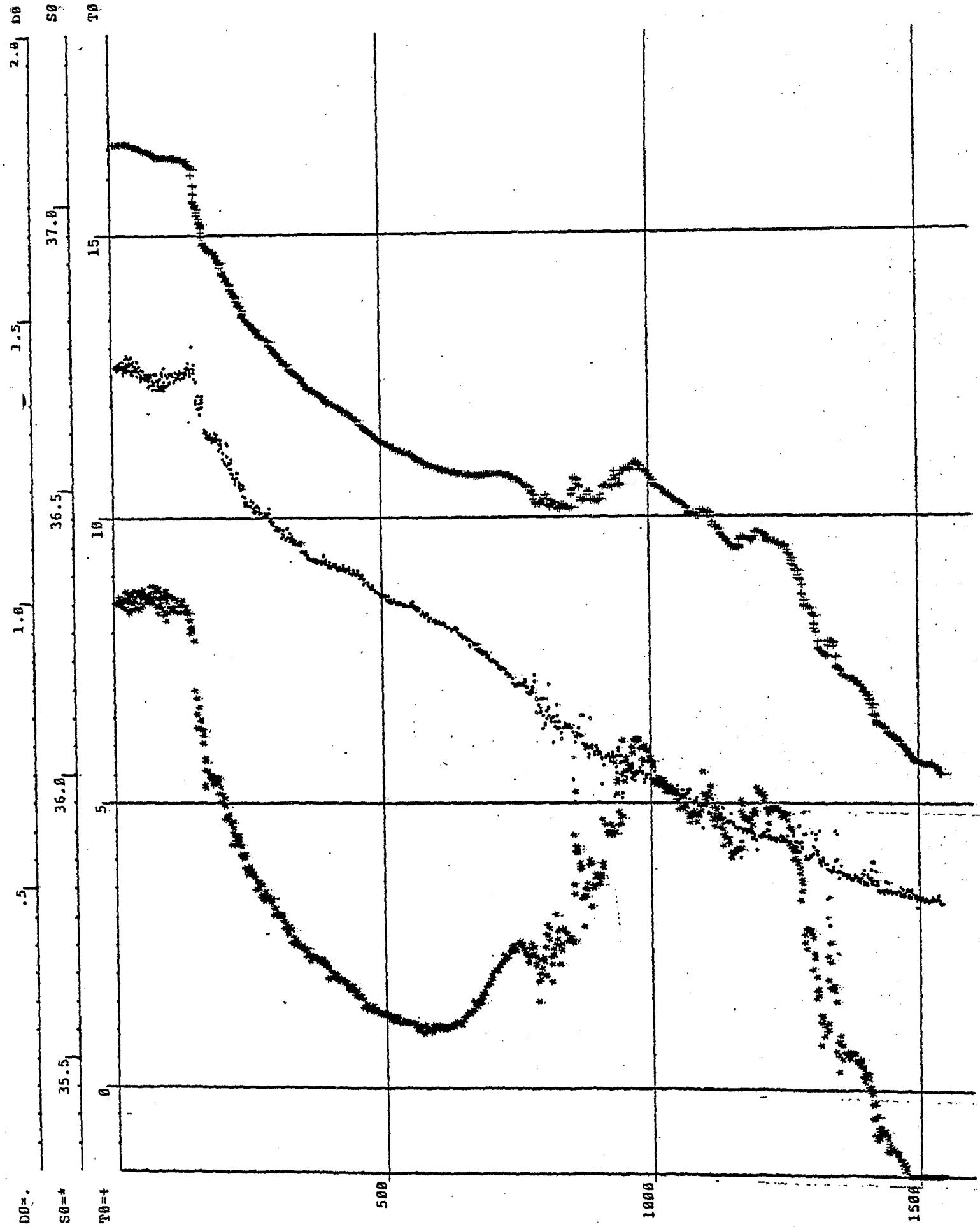




POSEIDON 86 DATE: 16. 4.82 STATION: 330 PROFILE: 73

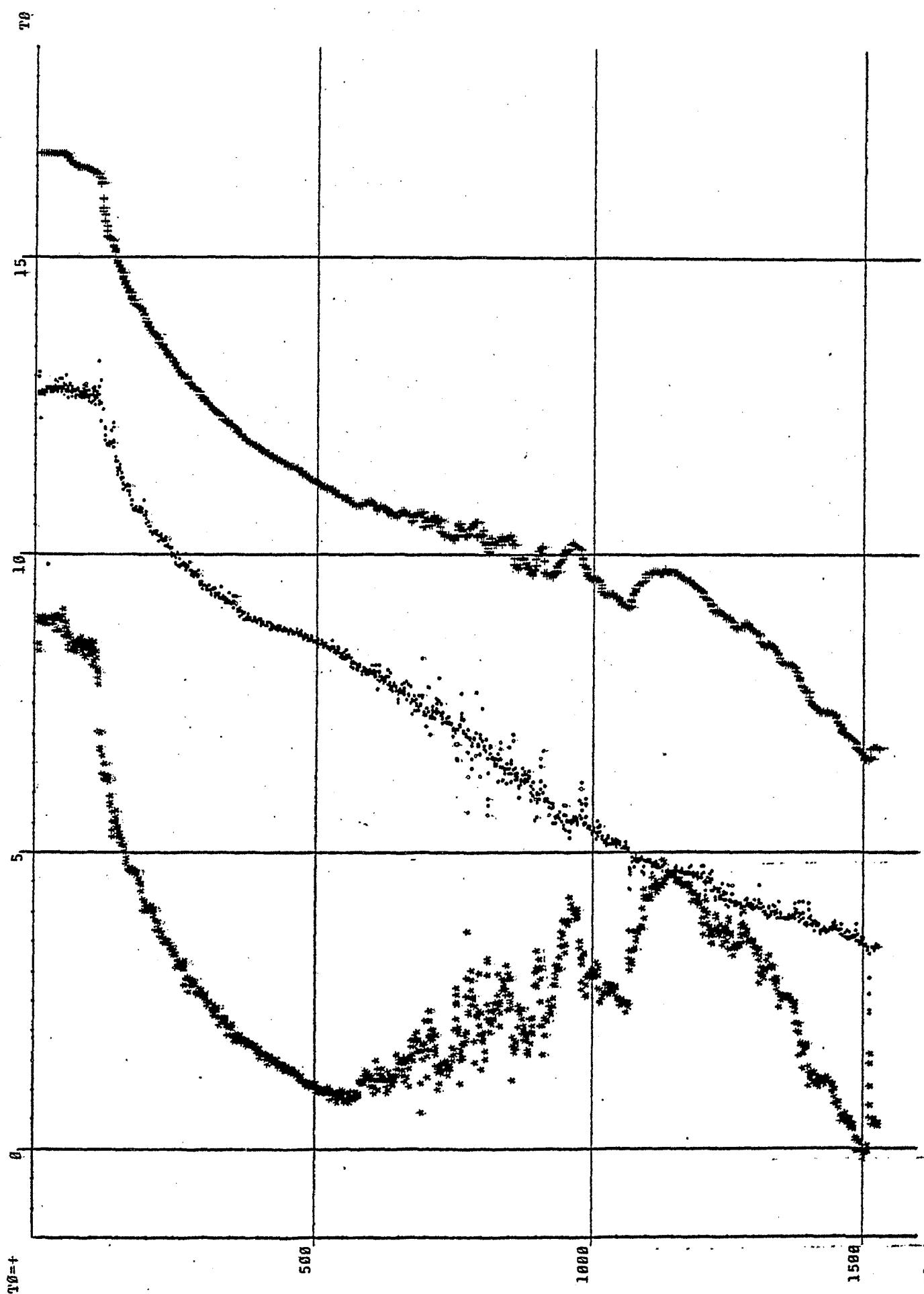


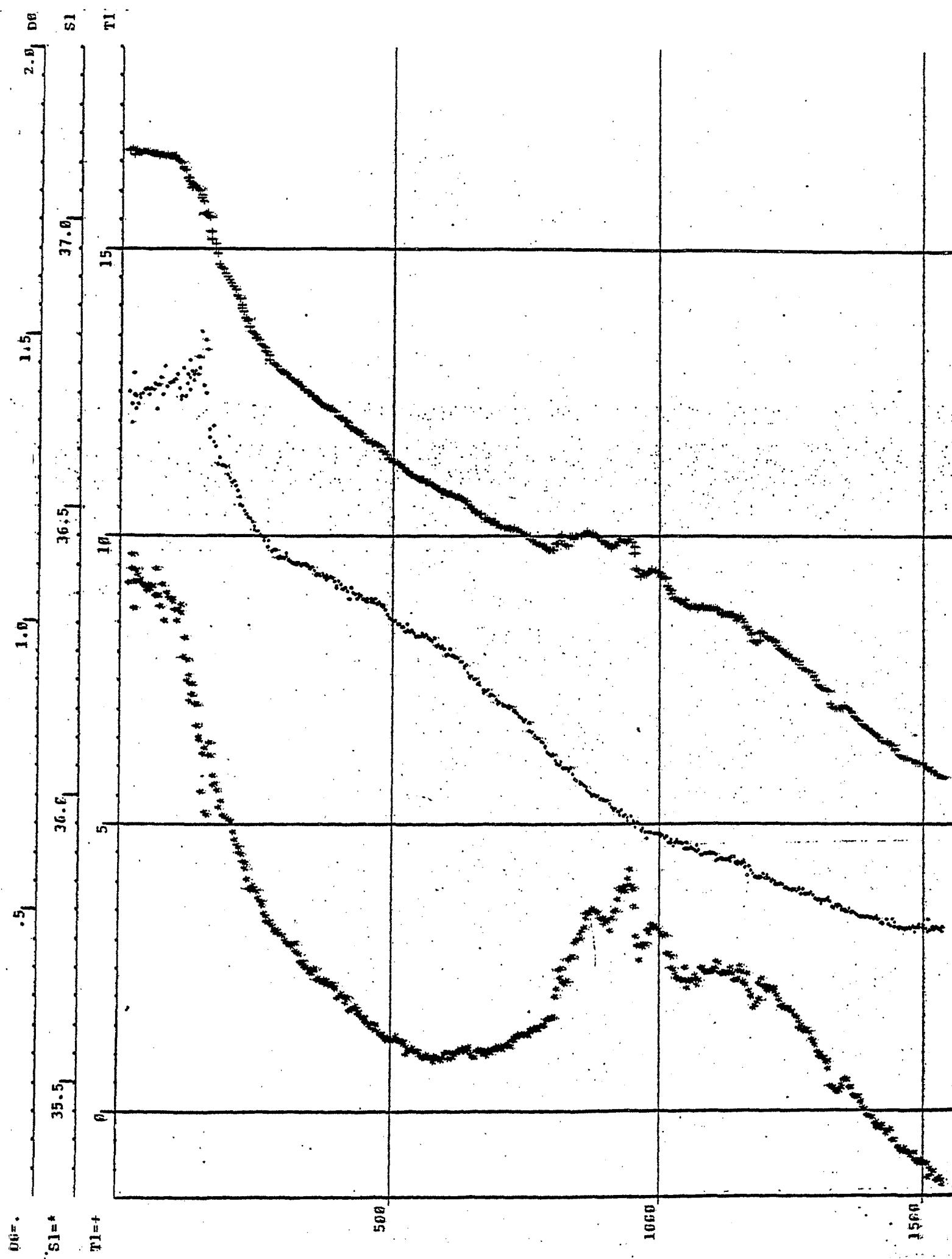
POSEIDON 86 DATE: 10. 4. 82 STATION: 331 PROFILES: 78



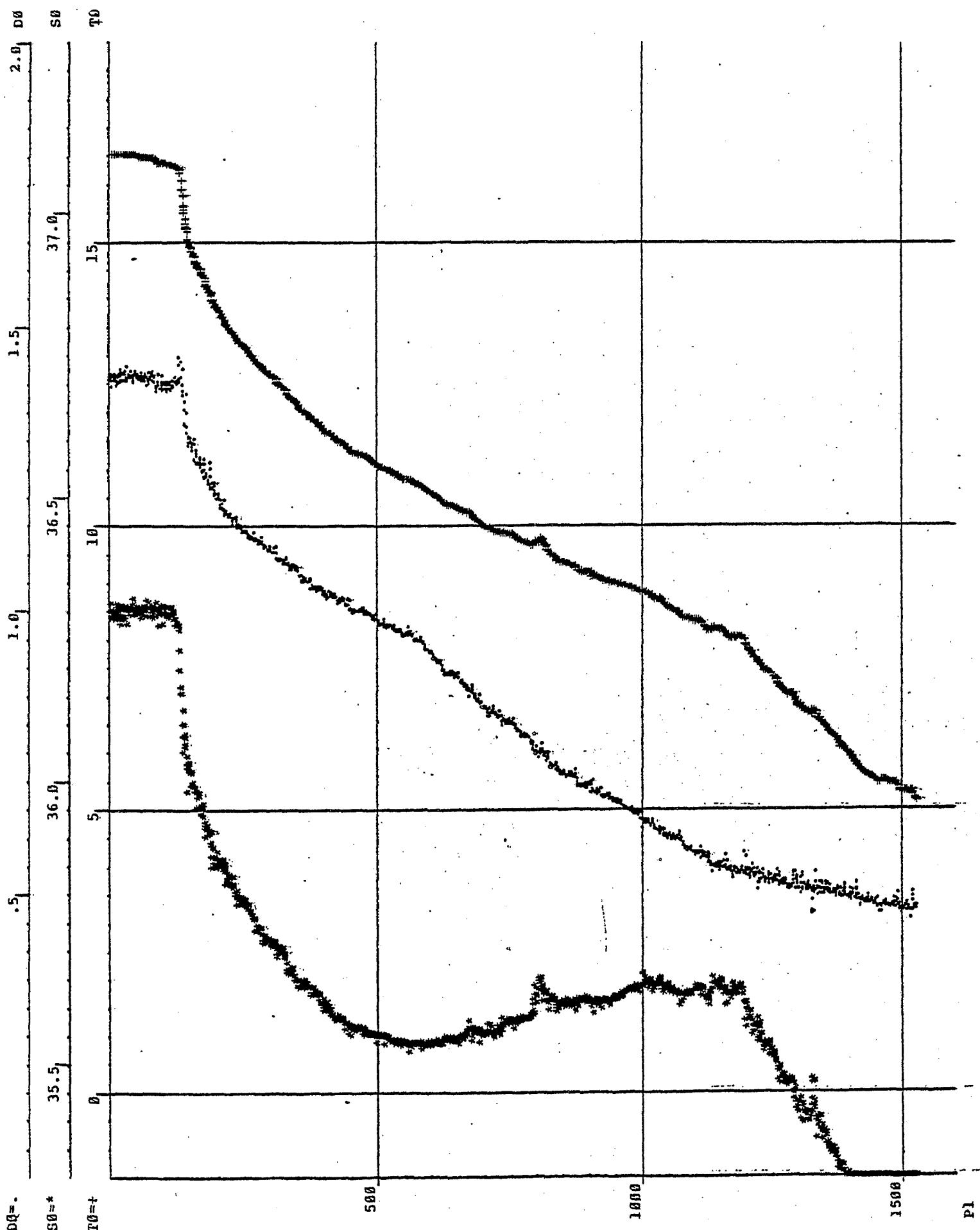
POSEIDON 86 DATE: 10. 4.82 STATION: 332 PROFILE: 75

DB=+ 2.0 DB
SB=t 35.5 SB
TB=t 36.0 TB
1.0 36.5 TB
1.5 37.0 TB

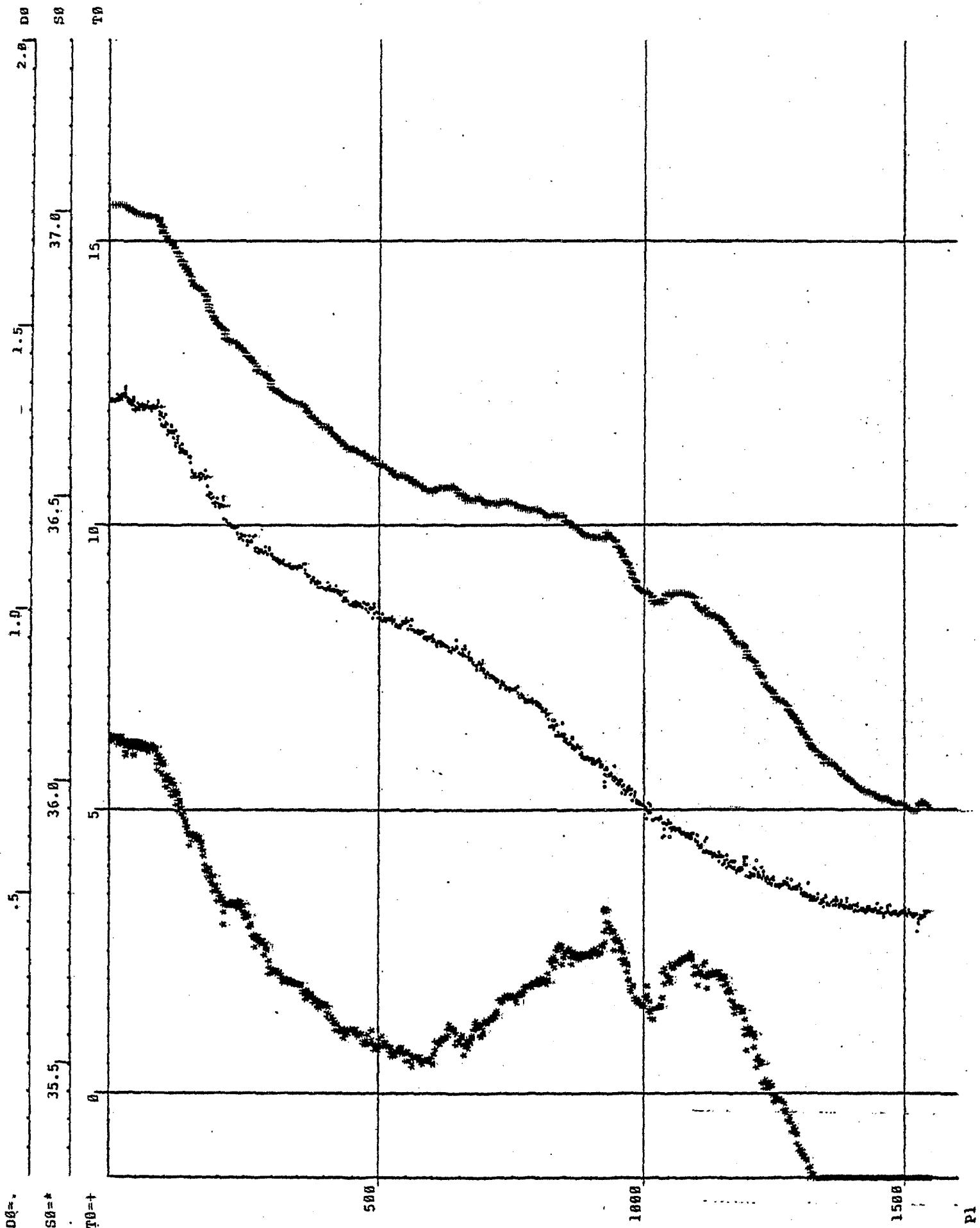




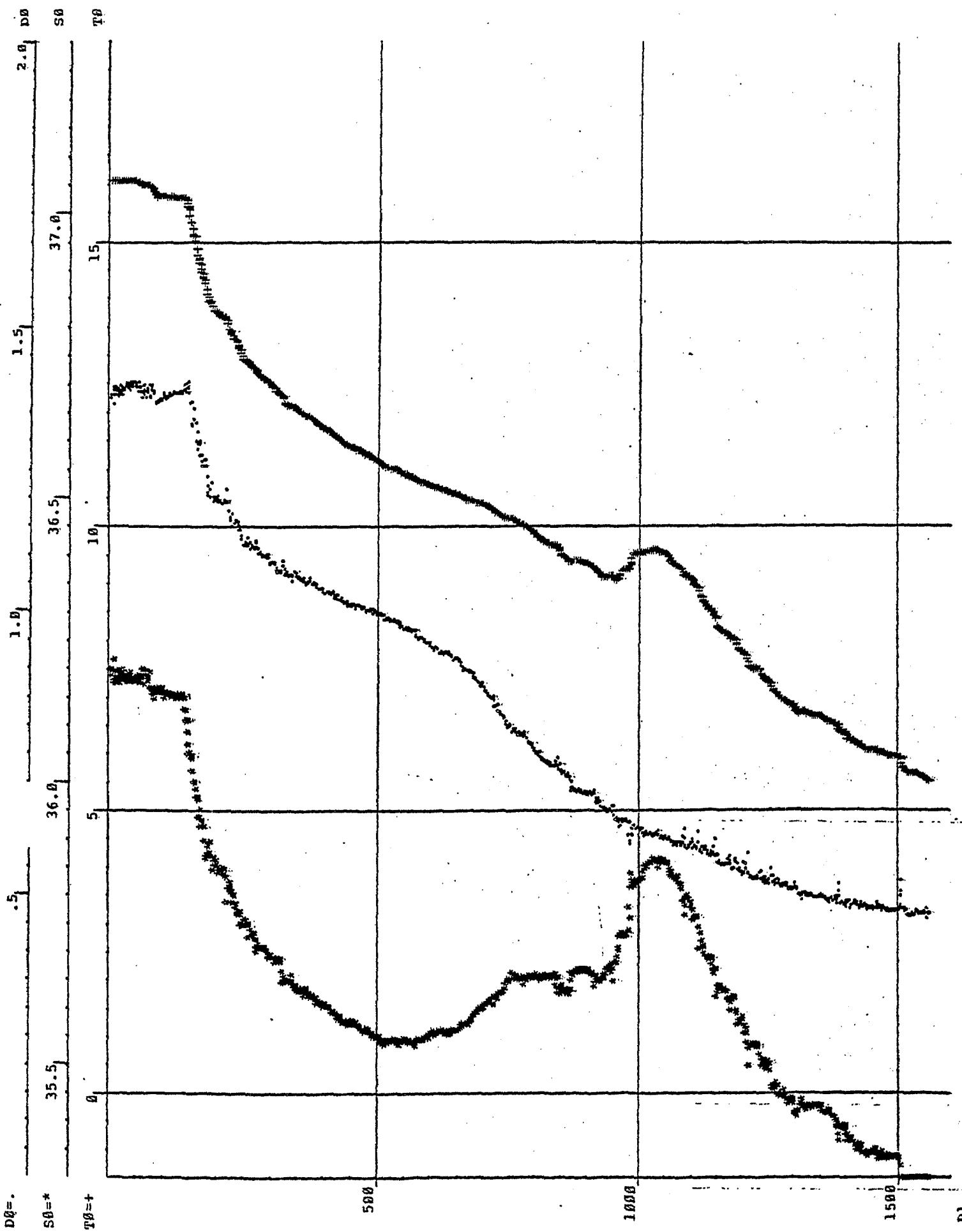
POSEIDON 66 DATE: 10. 4.82 STATION: 334 PROFILE: 77

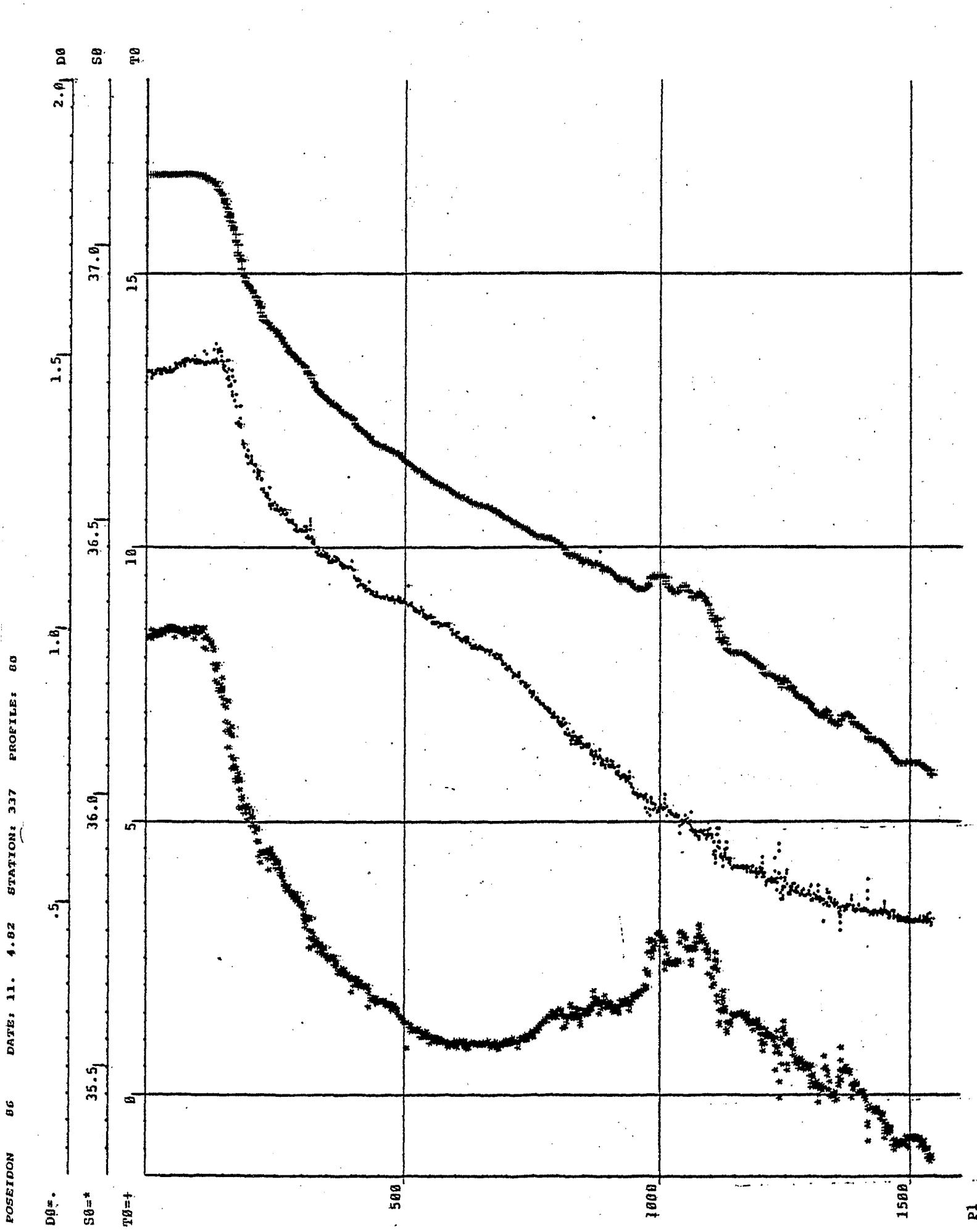


POSEIDON 96 DATE: 11. 4.82 STATION: 335 PROFILE: 78

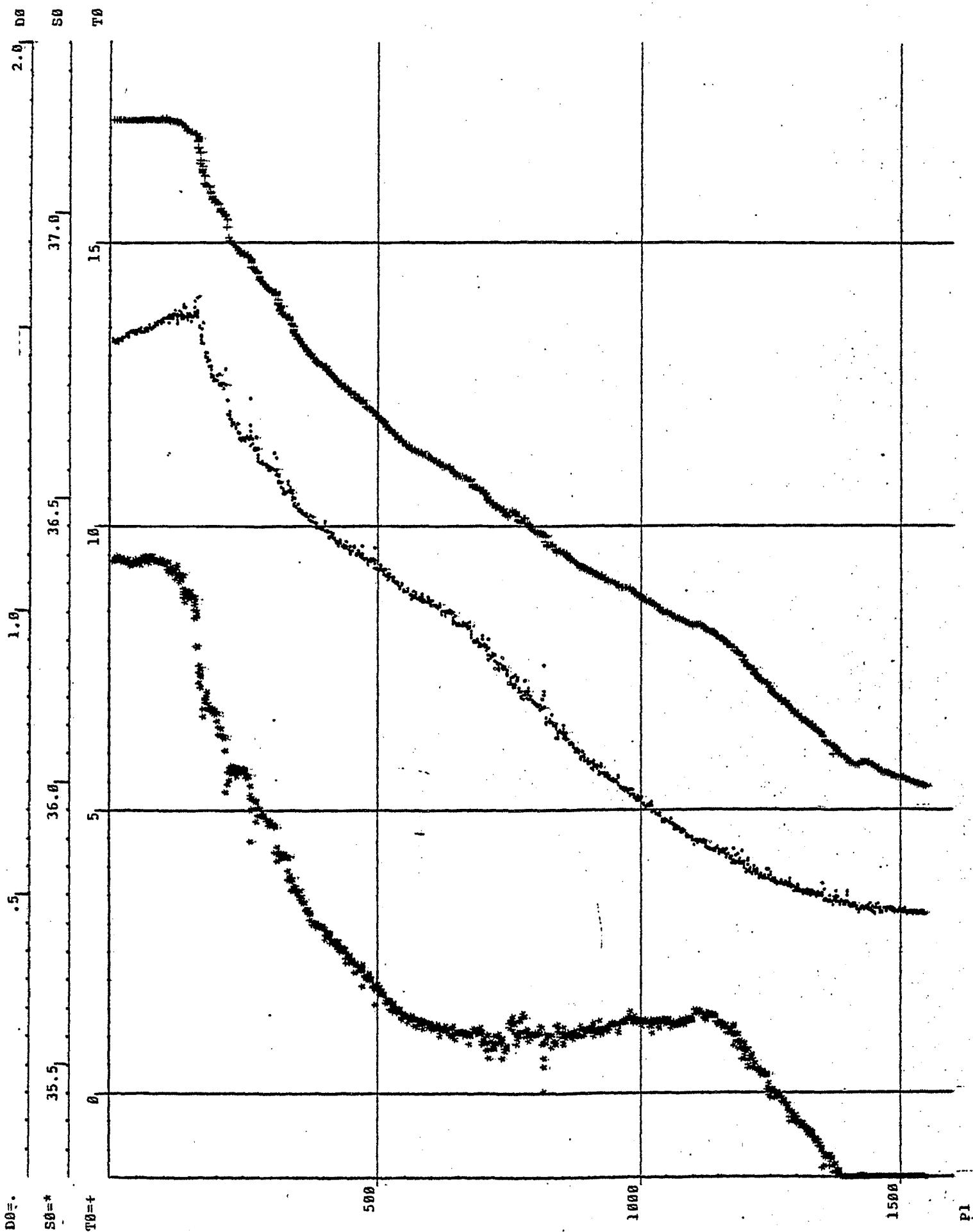


POSEIDON 86 DATE: 11. 4.82 STATION: 336 PROFILE: 79

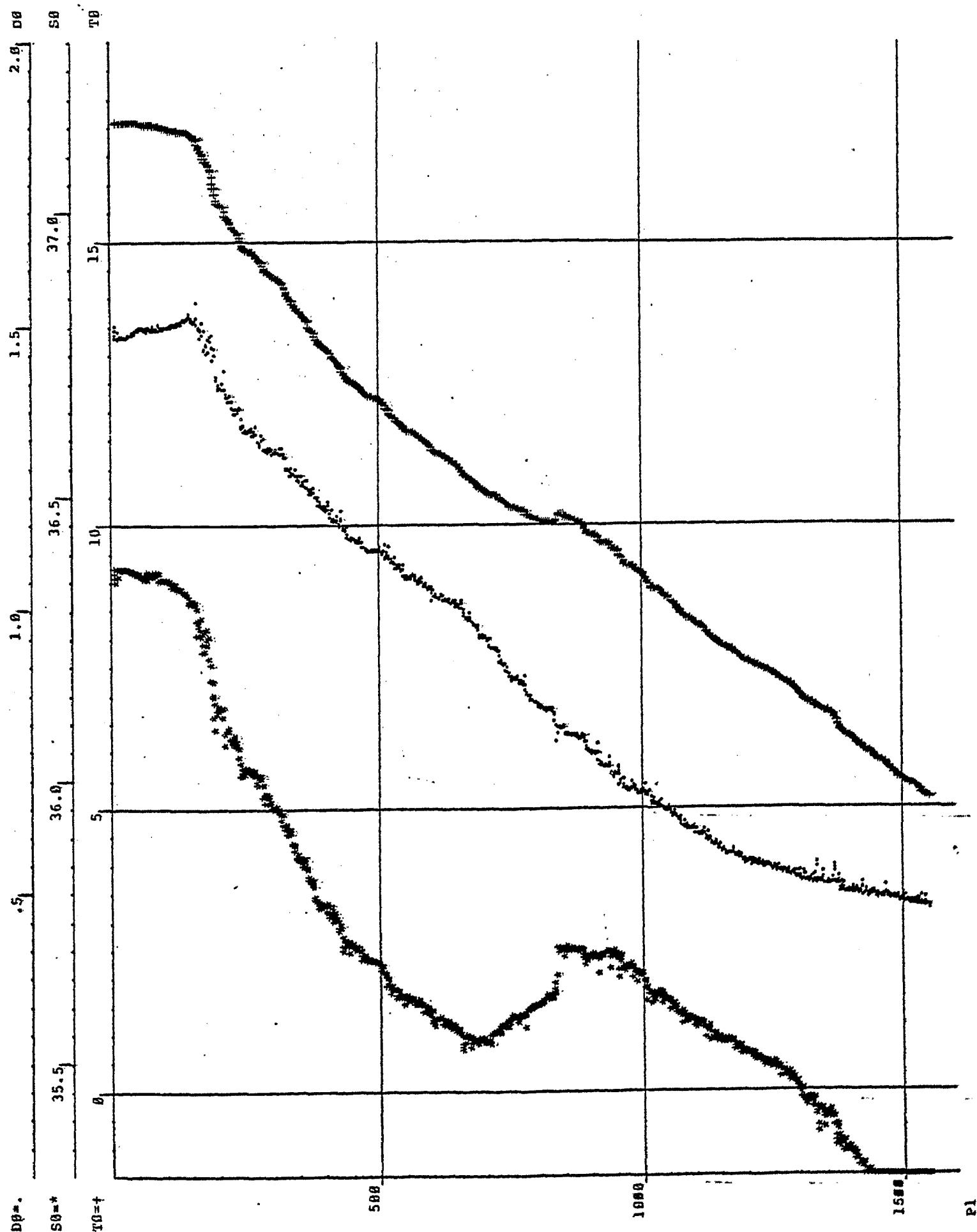


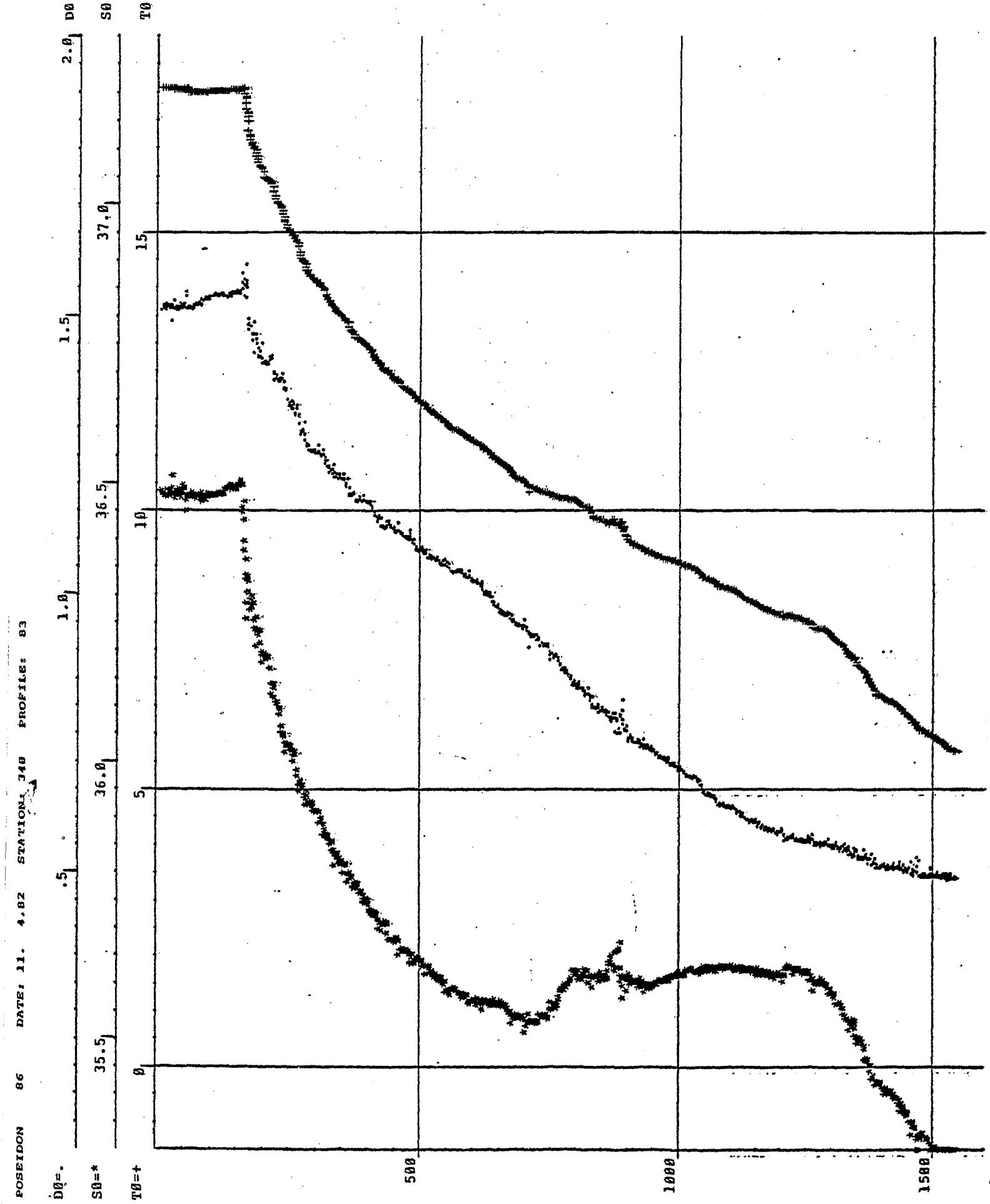


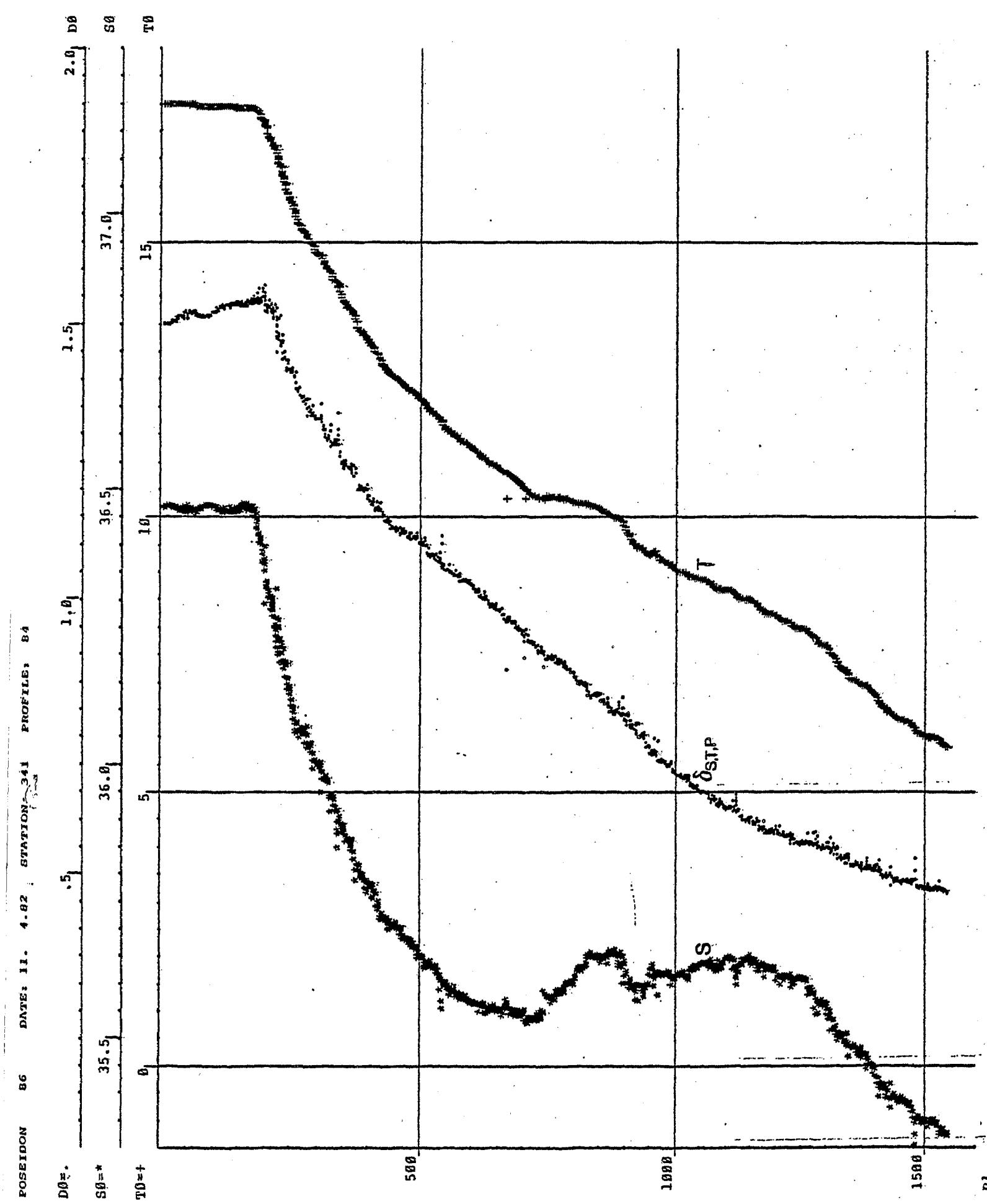
POSITION 86 DATE: 11. 4.82 STATION: 338 PROFILE: 81



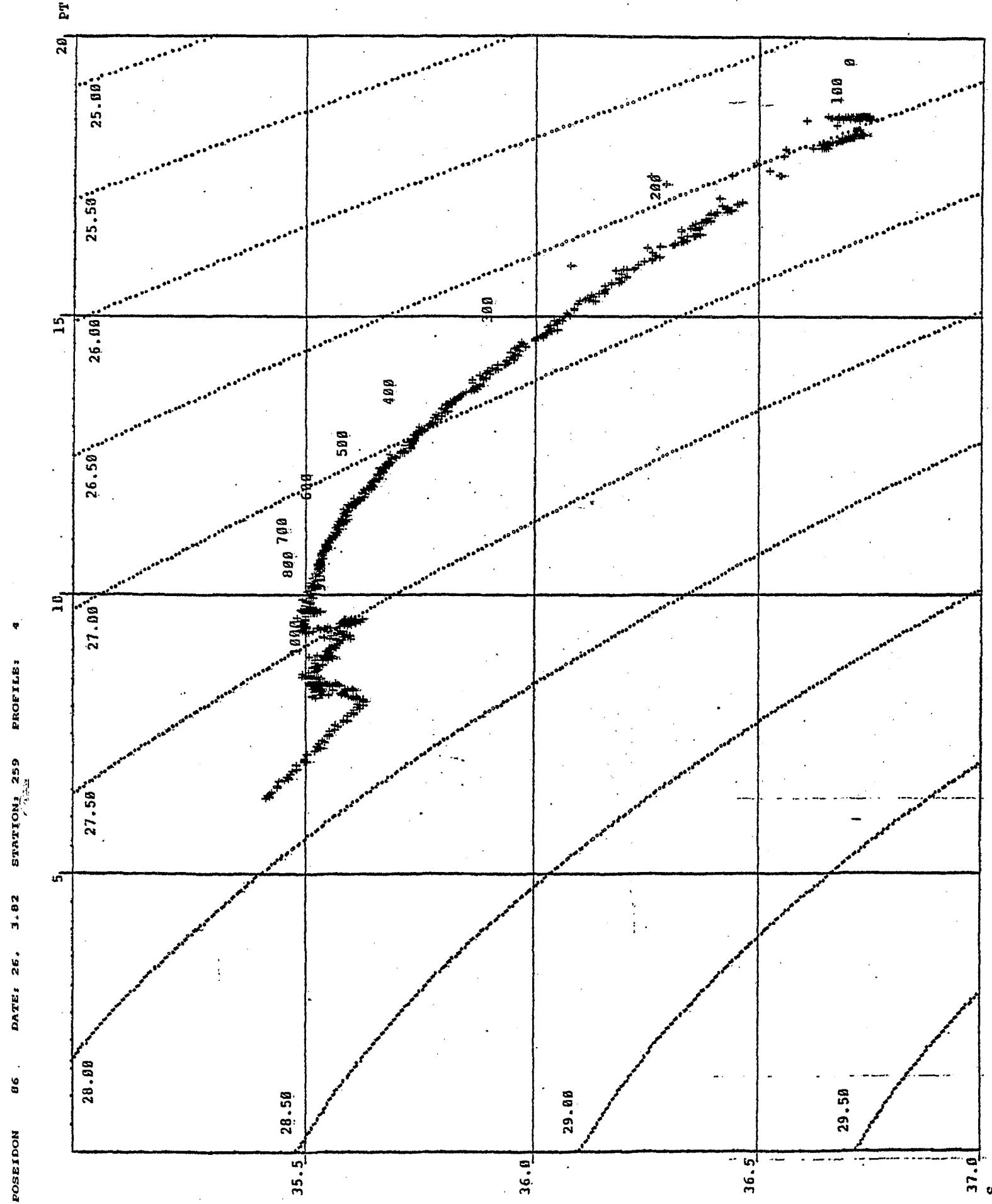
POSEIDON 86 DATE: 11. 4.62 STATION: 339 PROFILES: 82



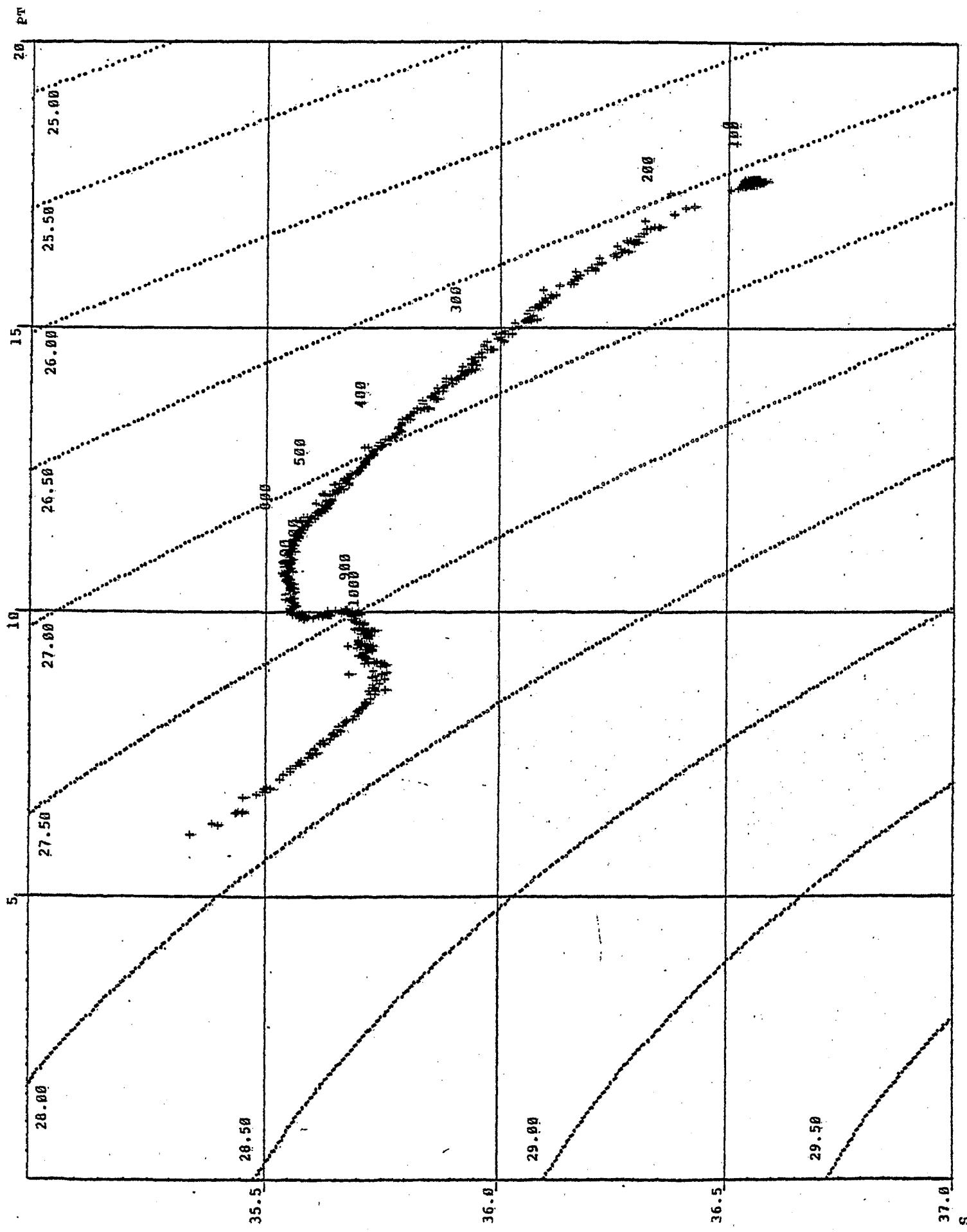


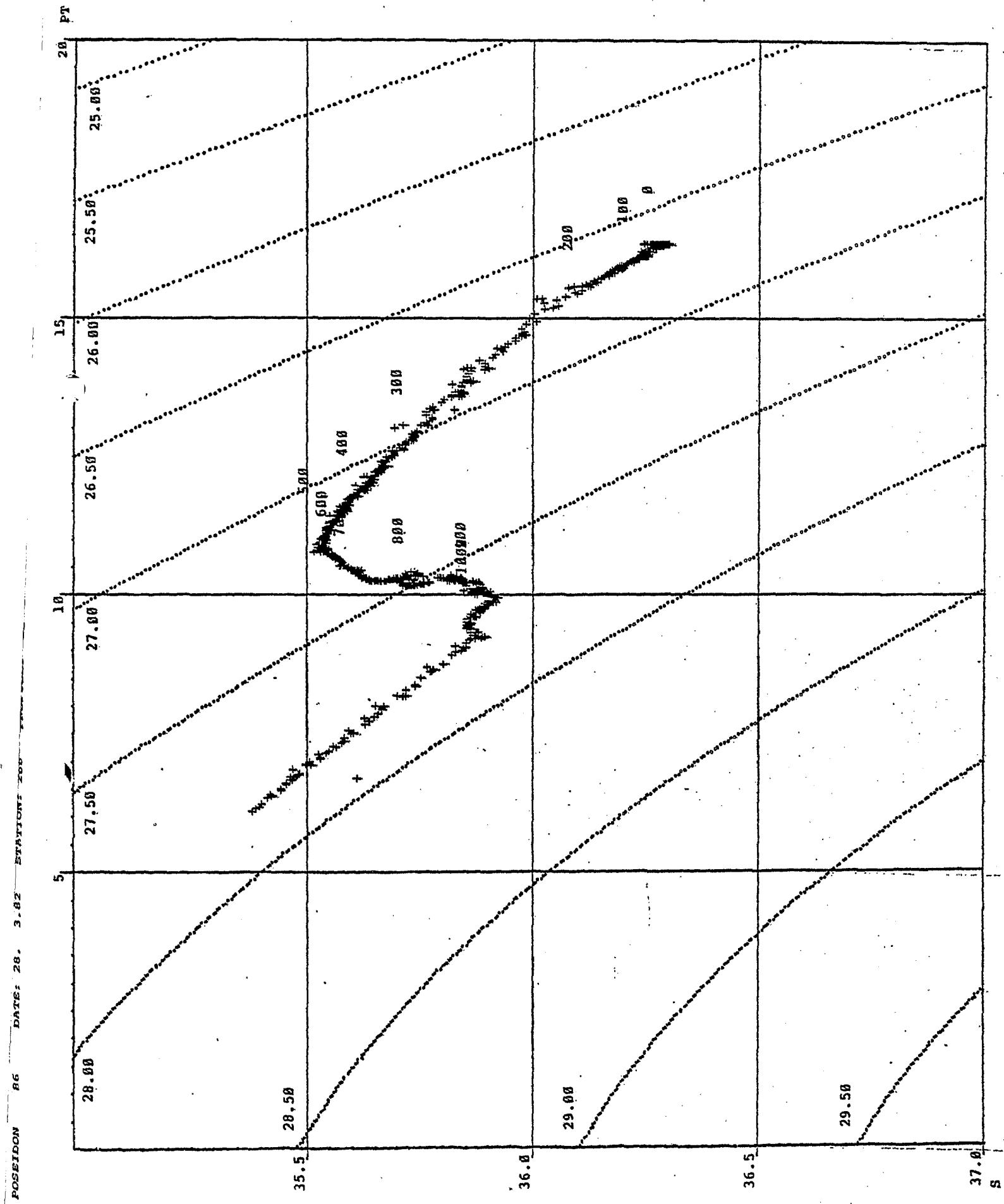


T/S - DIAGRAMMES

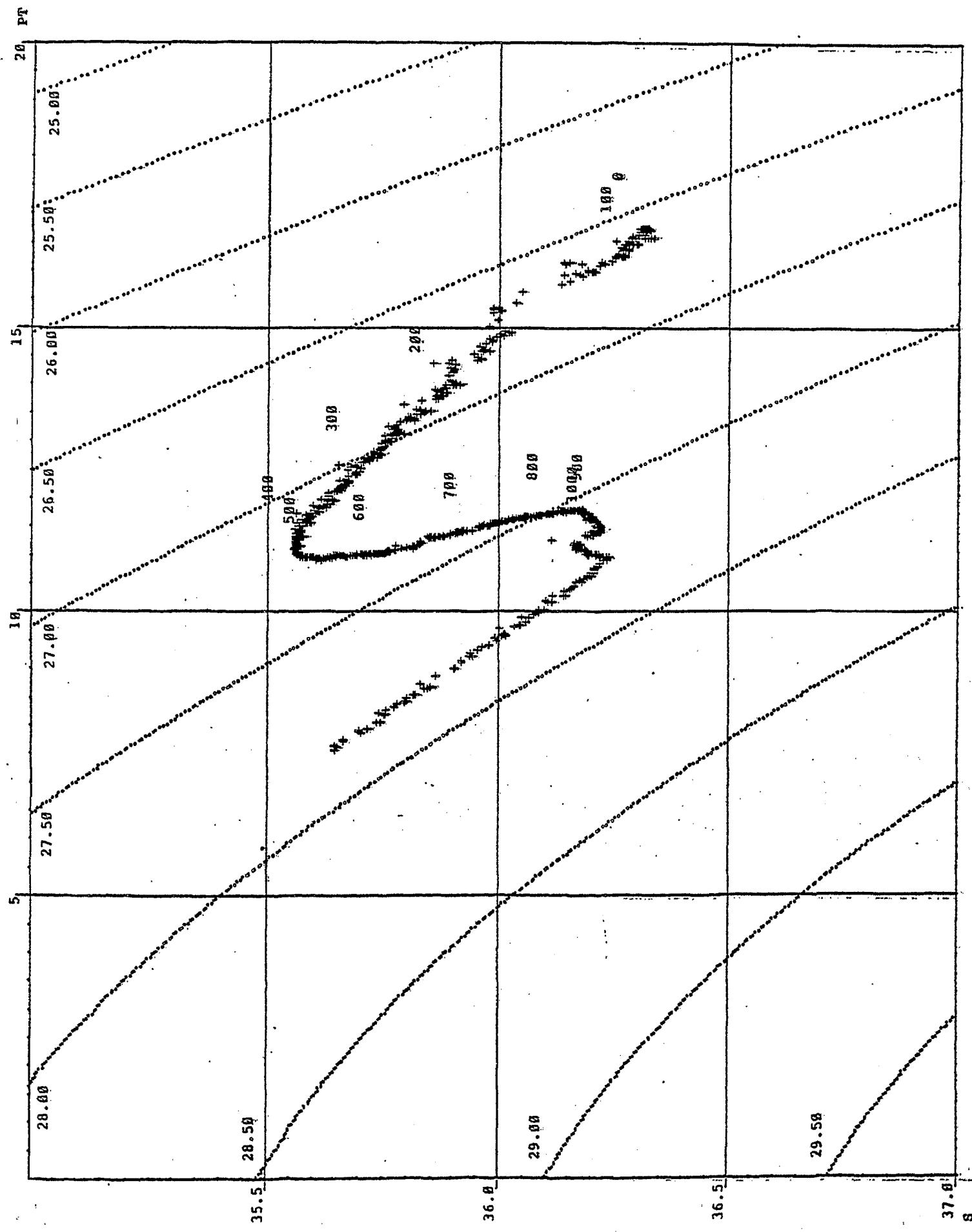


POSEIDON 06 DATE: 27. 3.82 STATION: 262 PROFILE:

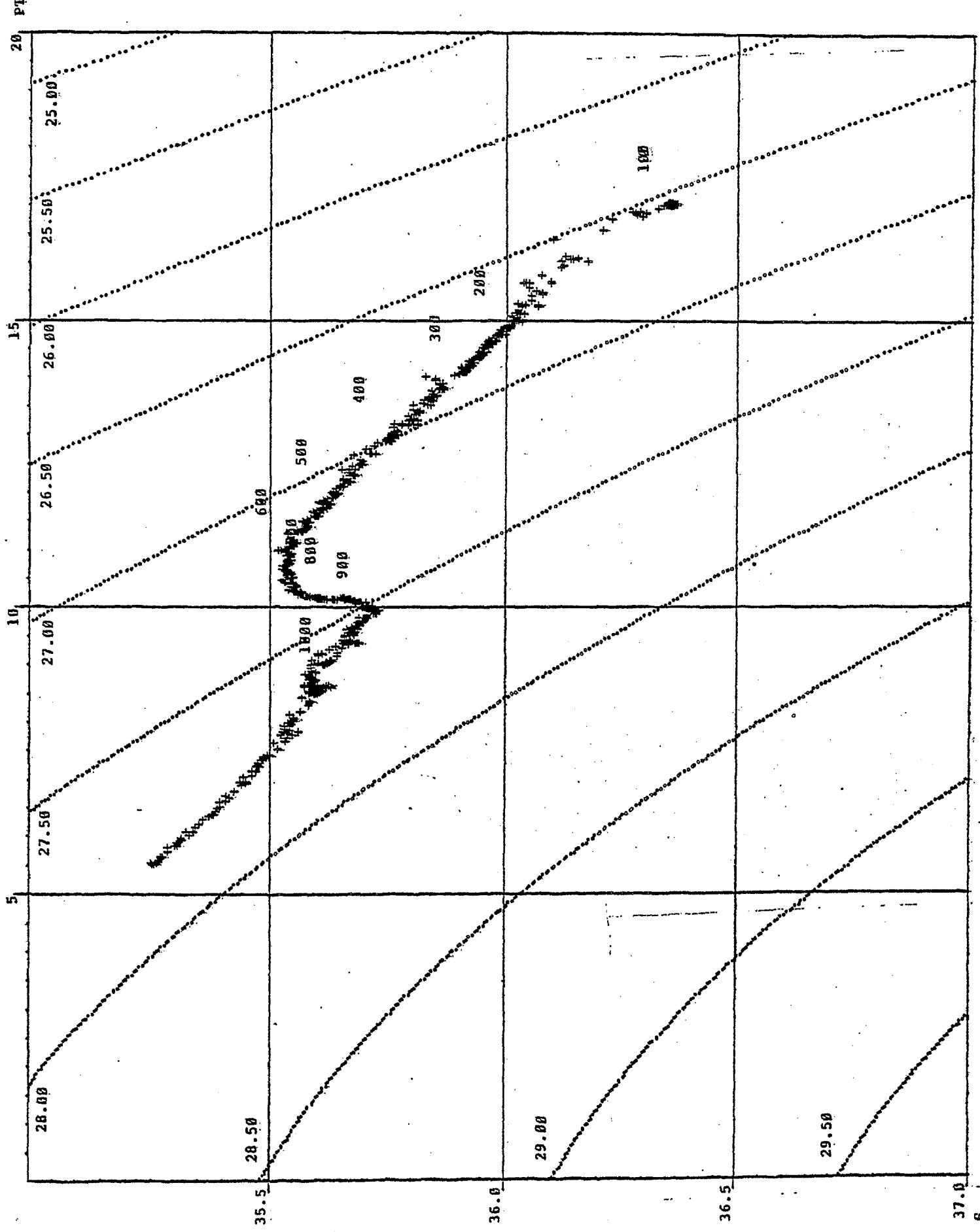




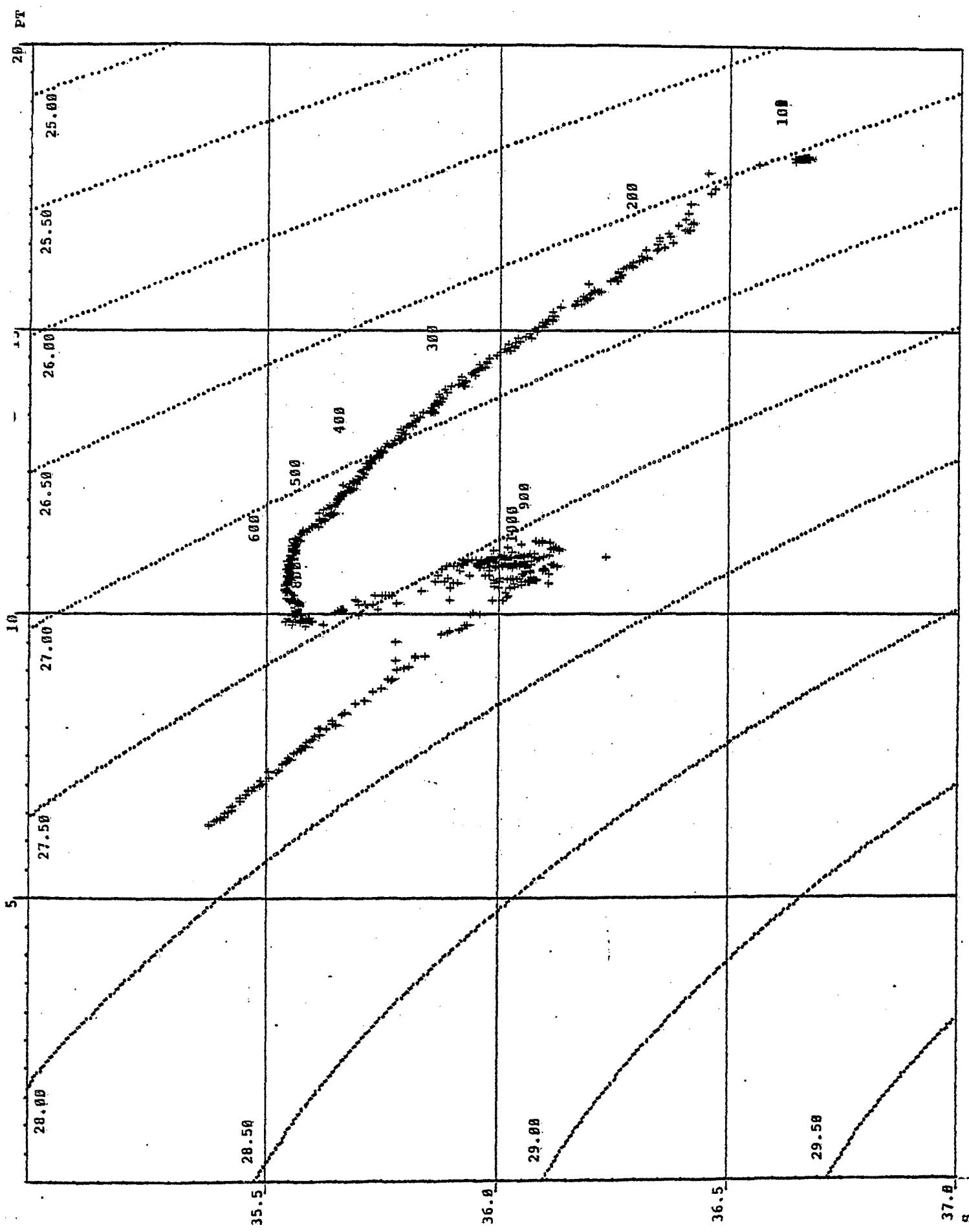
POSITION 86 DATE: 3.02 STATION: 268 PROFILE: 13



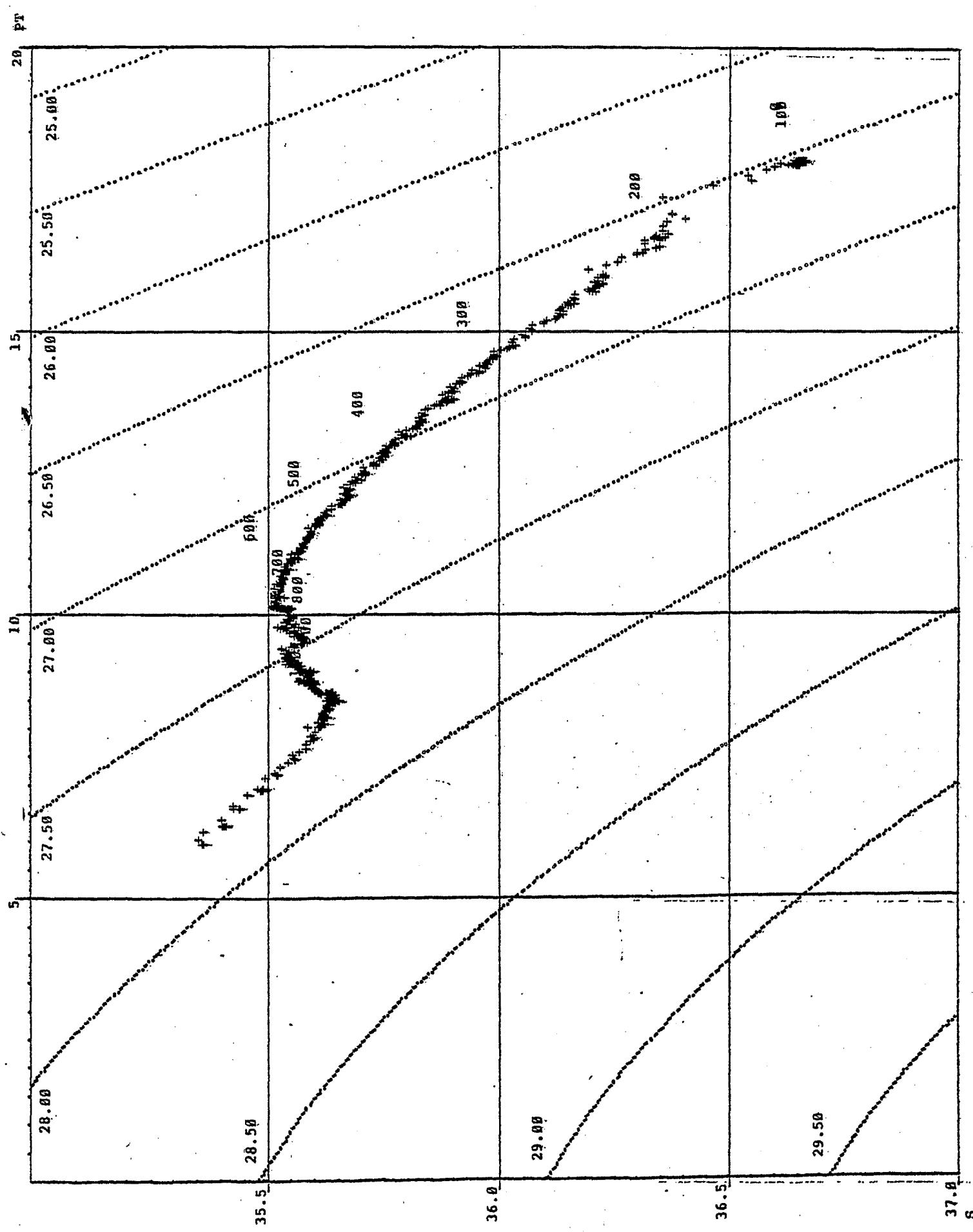
POSEIDON 86 DATE: 29, 3.82 STATION: 271 PROFILE: 16

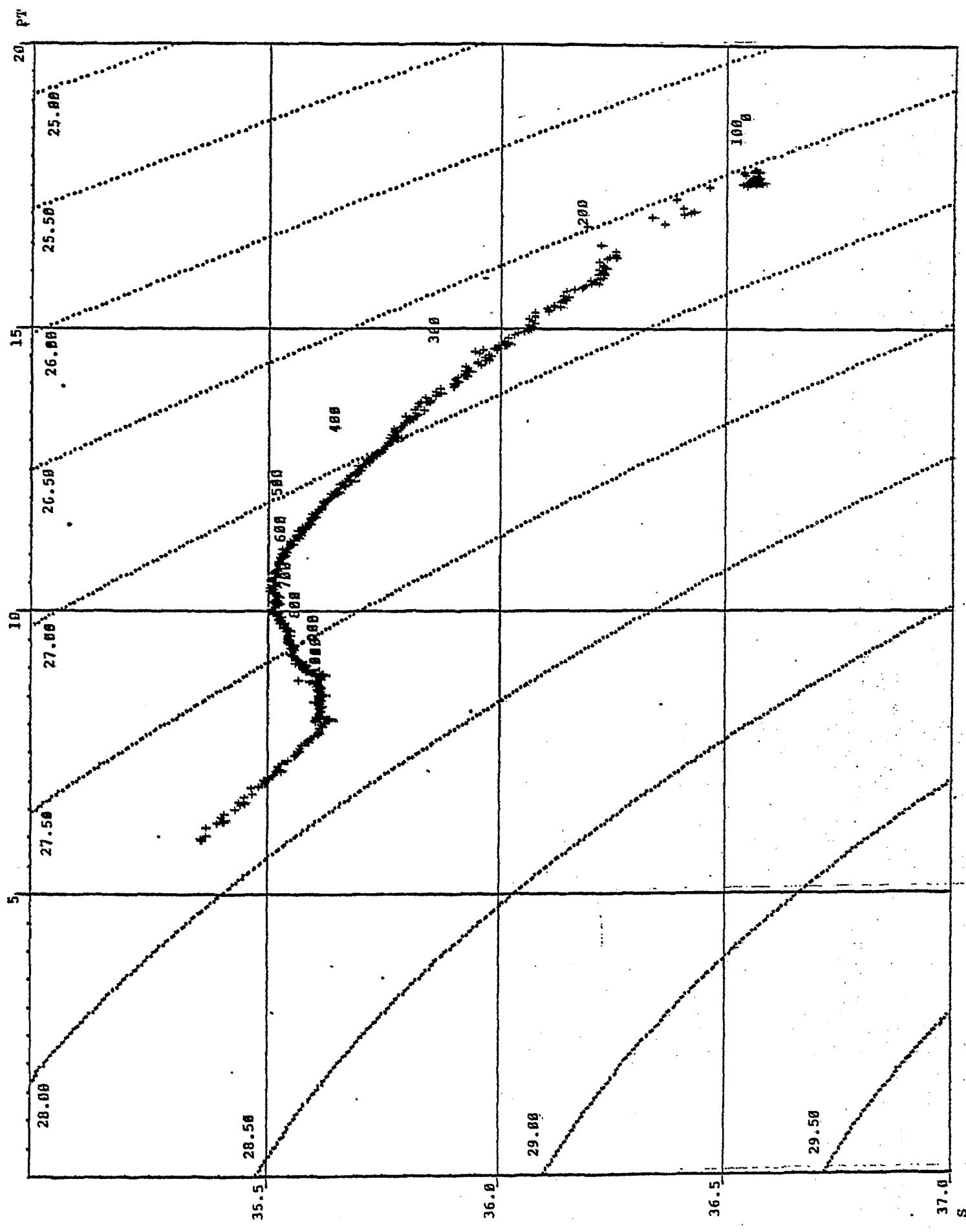


POSEIDON 86 DATE: 31. 3.82 STATION: 280 PROFILE: 25

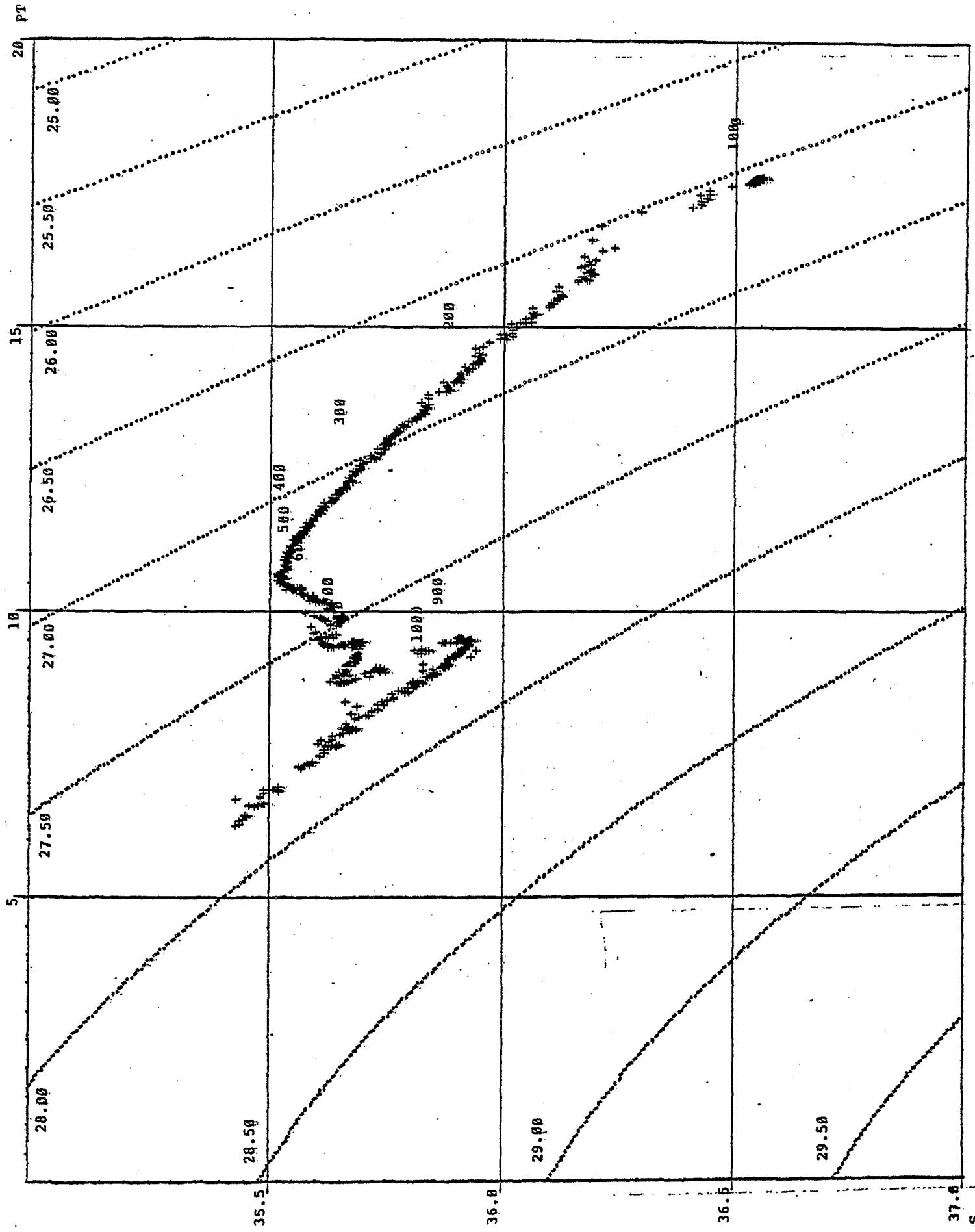


POSITION 66 DATE: 31. 1. 1957 INSTRUMENT 2022

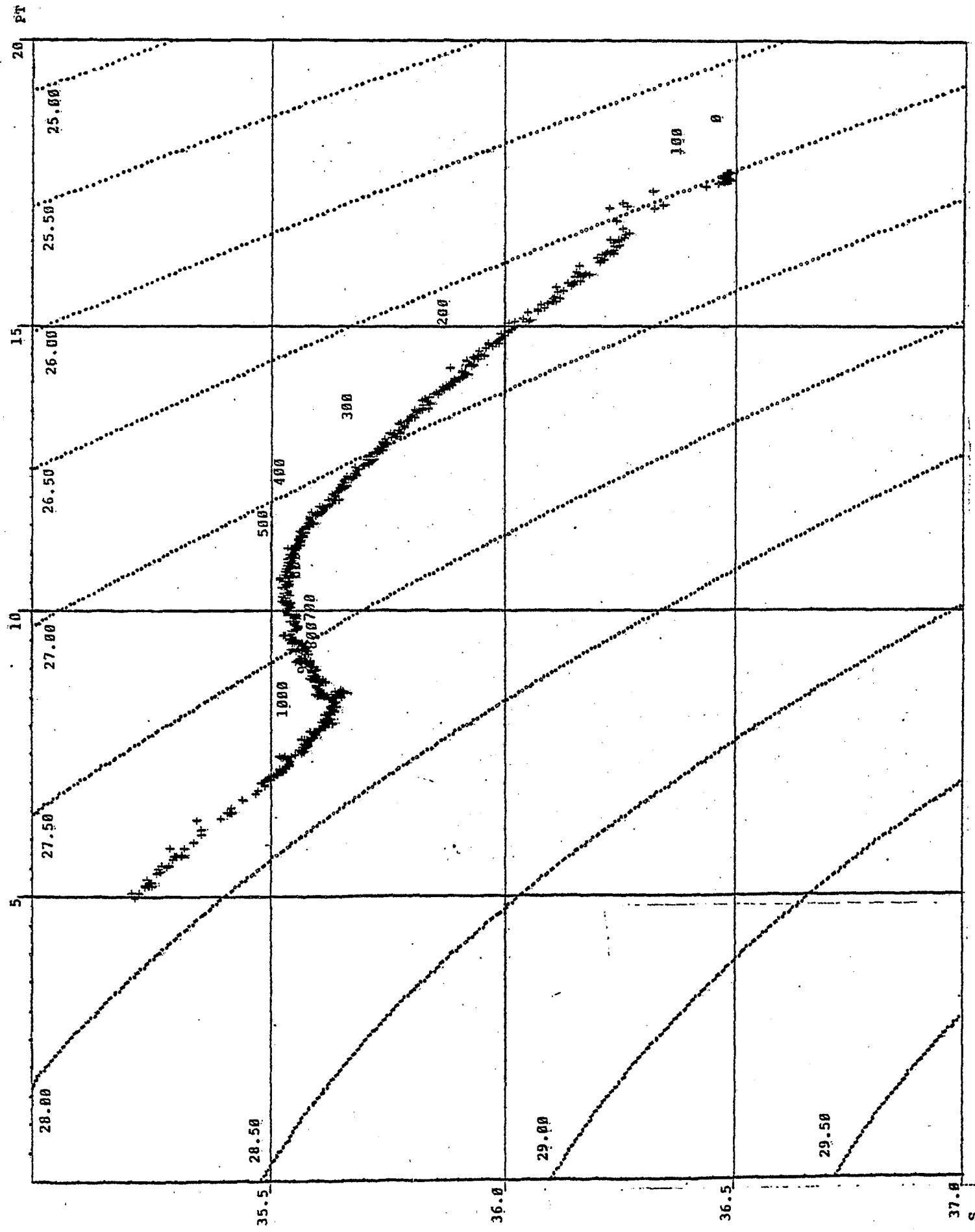




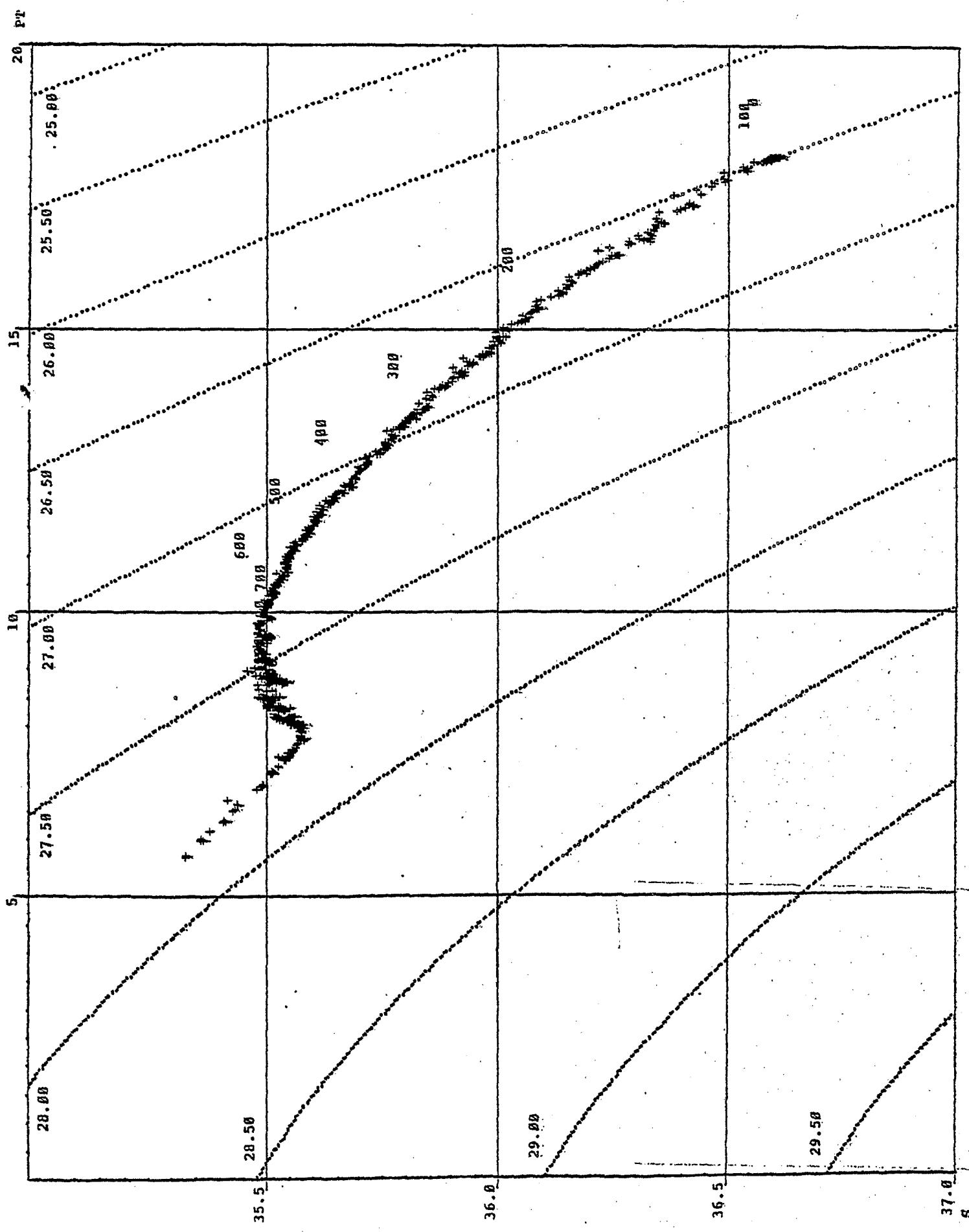
POSITION 86 , DATE: 2. 4.82 STATION: 291 PROFILE: 36



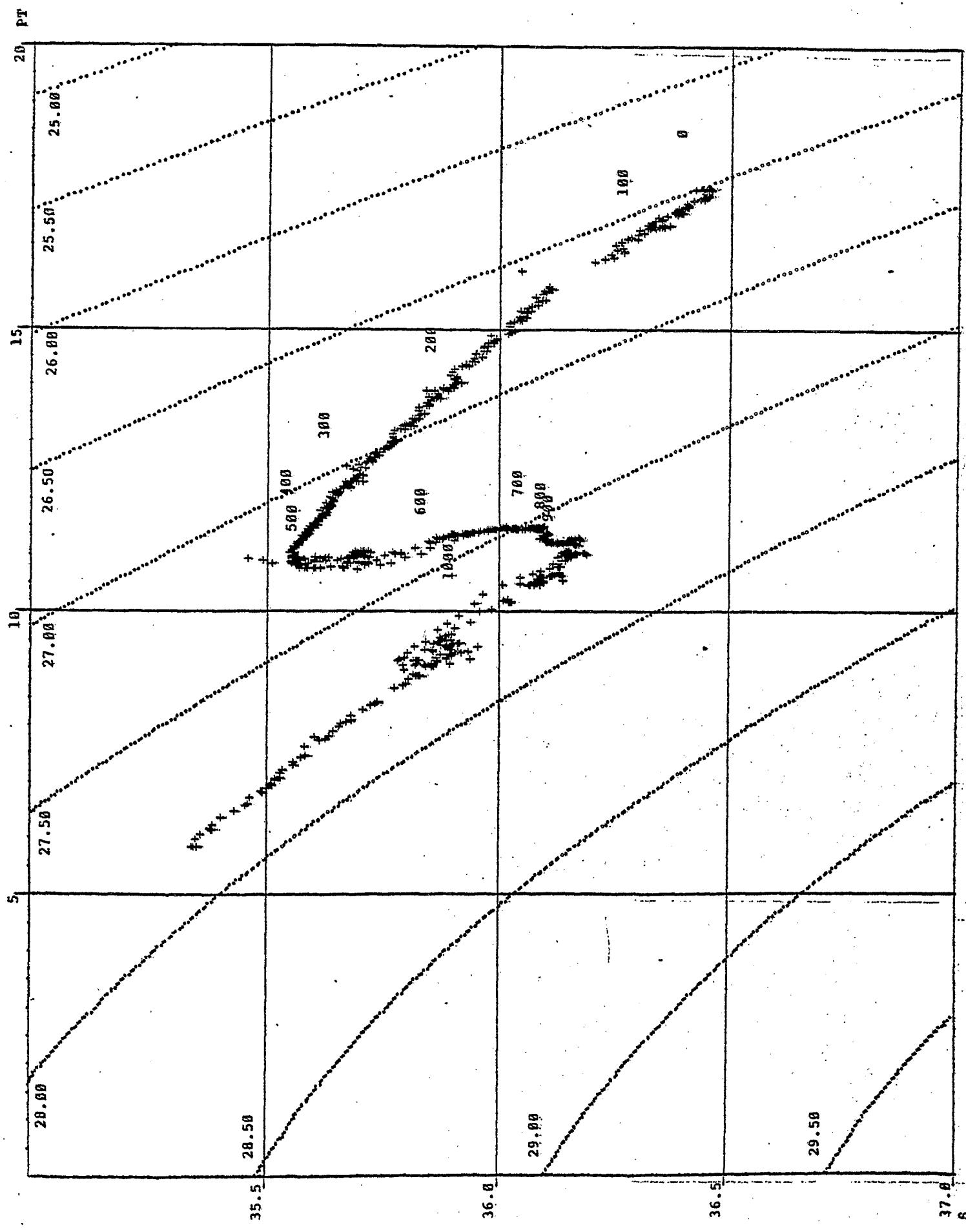
POSEIDON 06 DATE: 4. 4.82 STATION: 299 PROFILE: 43



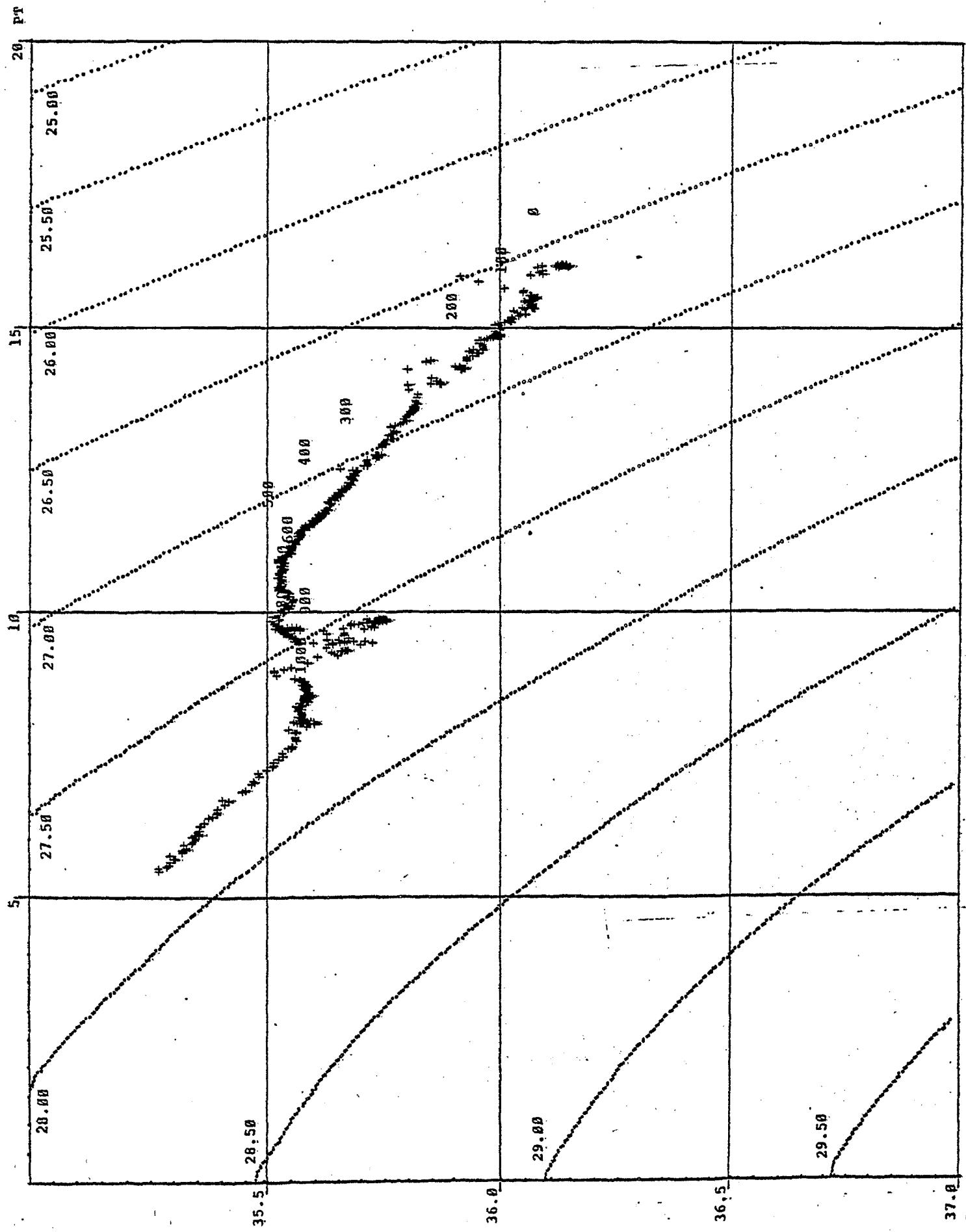
HOUSING 86 UNITS: 64 4.62 STATION: 332 FENCE LINE



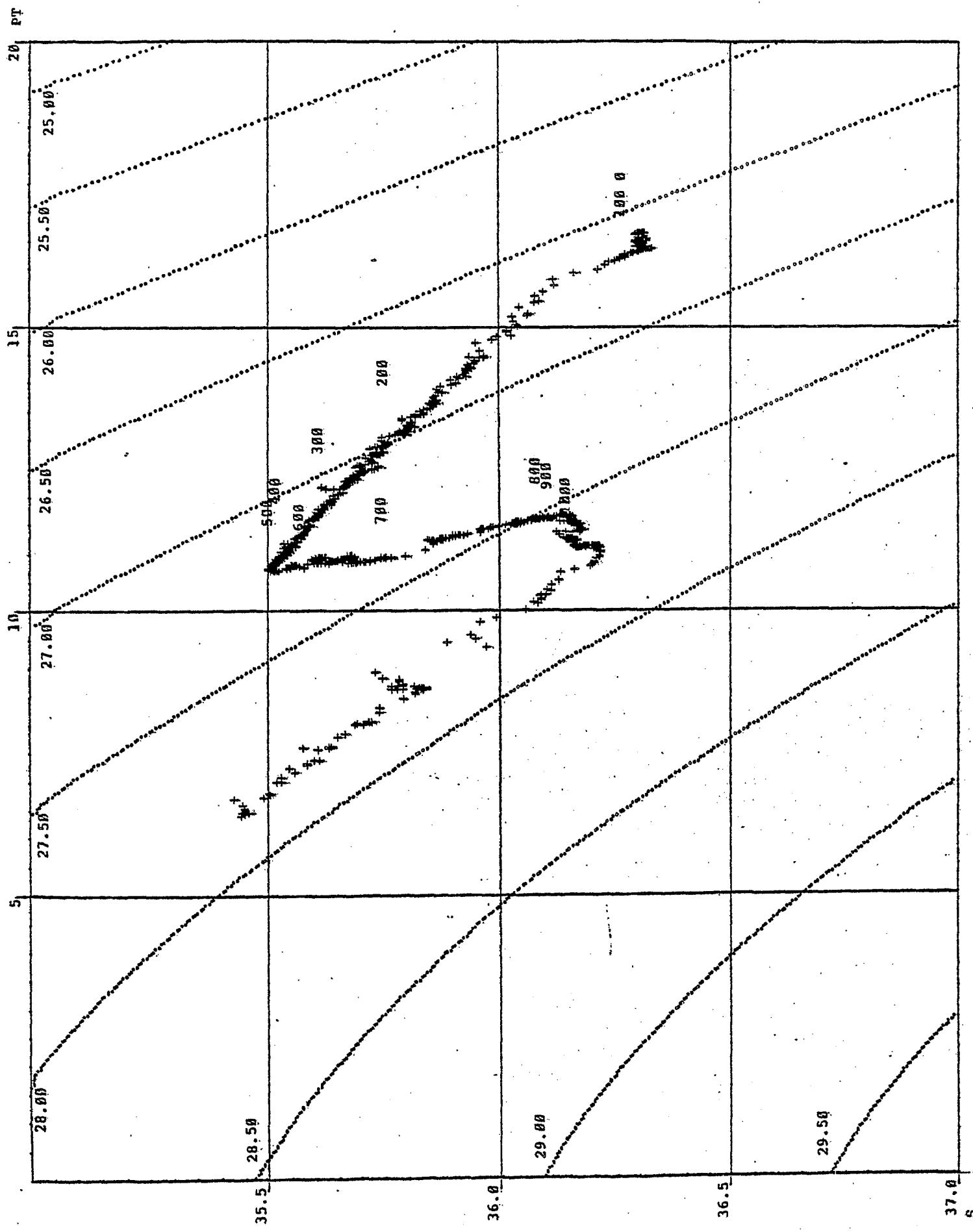
POSITION 86 DATE: 7. 4.62 STATION: 315 PROFILE: 69



POSITION 66 DATE: 6. 4.82 STATION: 322 PROFILE: 66

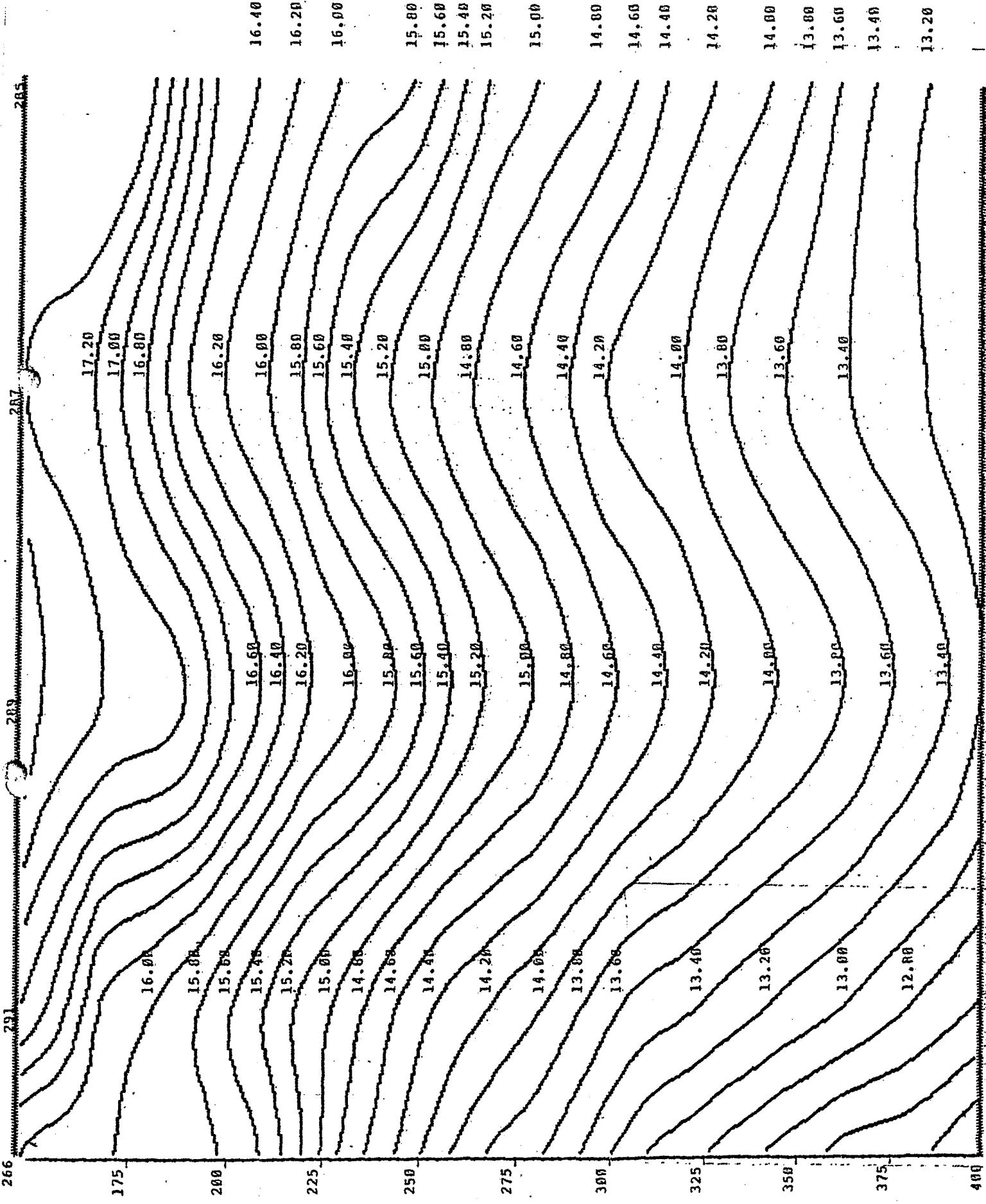


POSEIDON 86 DATE: 9. 4.82 STATION: 329 PROFILE: 72



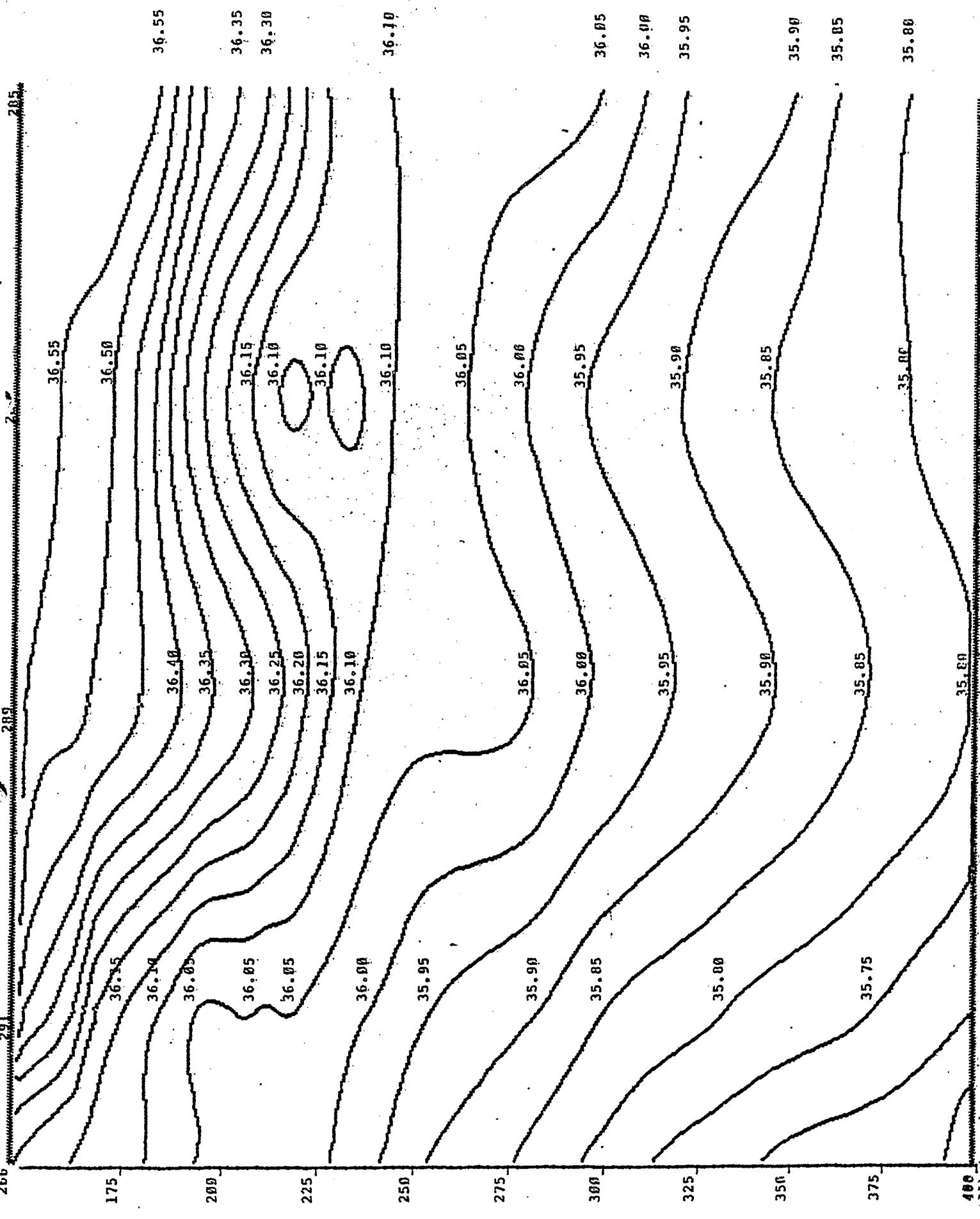
VERTICAL SECTIONS

POSEIDON 86 SCHNITT F. NORD - SUED AUF 19:36 WEST
VERTIKALSCHNITT VON T1 MIT ISOLINIENABSTAND .820



POSEIDON 66 SCHAFT F' NORD - SUED AUF 19136 WEST
VERTIKALSCHNITT VON SI MIT ISOLINIENABSTAND 0.050

18-



POGSEIGEN 35
VERTIKALSCHNITT VON T1 MIT ISGLINTENDSTAND 1.600

266 291 289

287 285

100

200

300

400

500

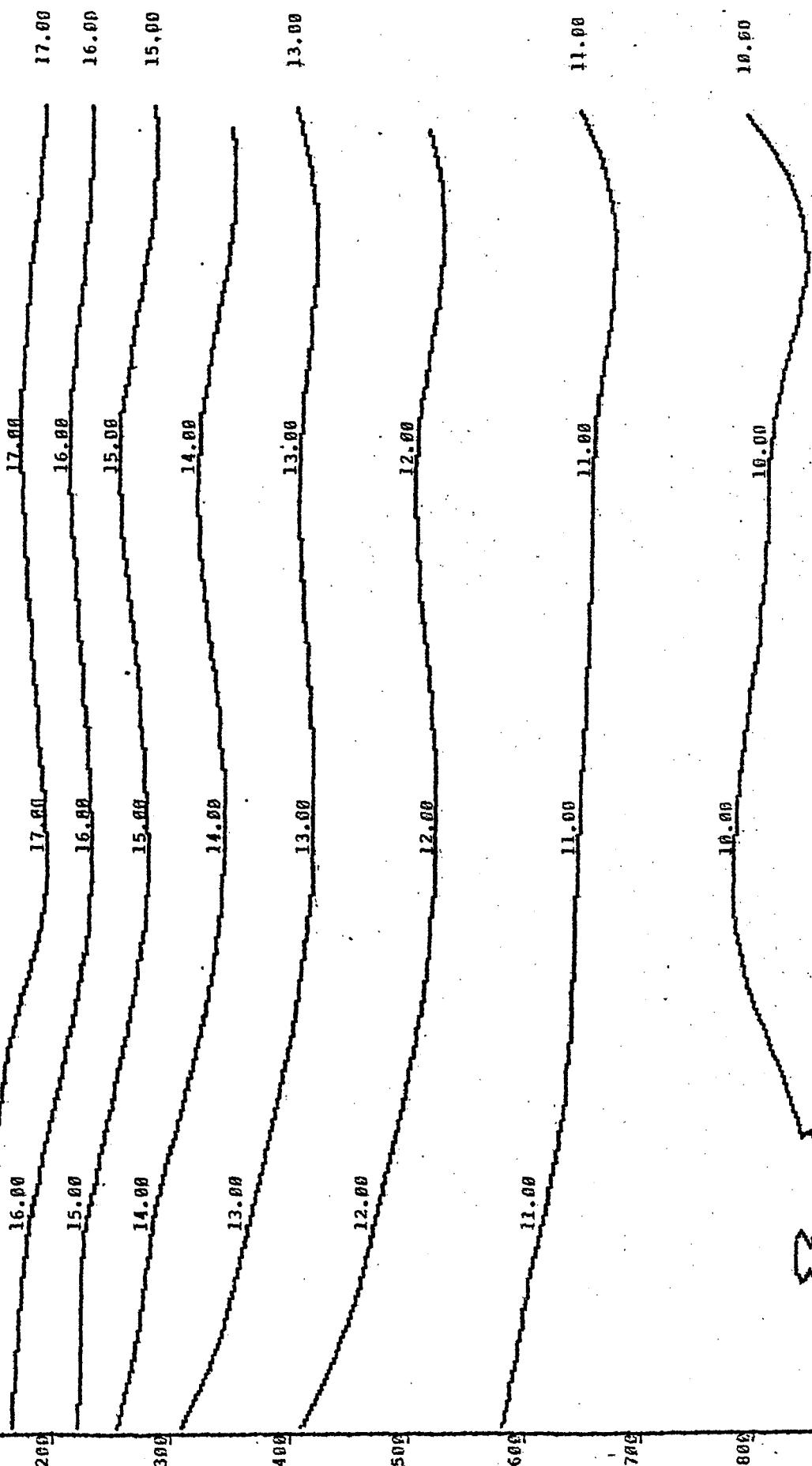
600

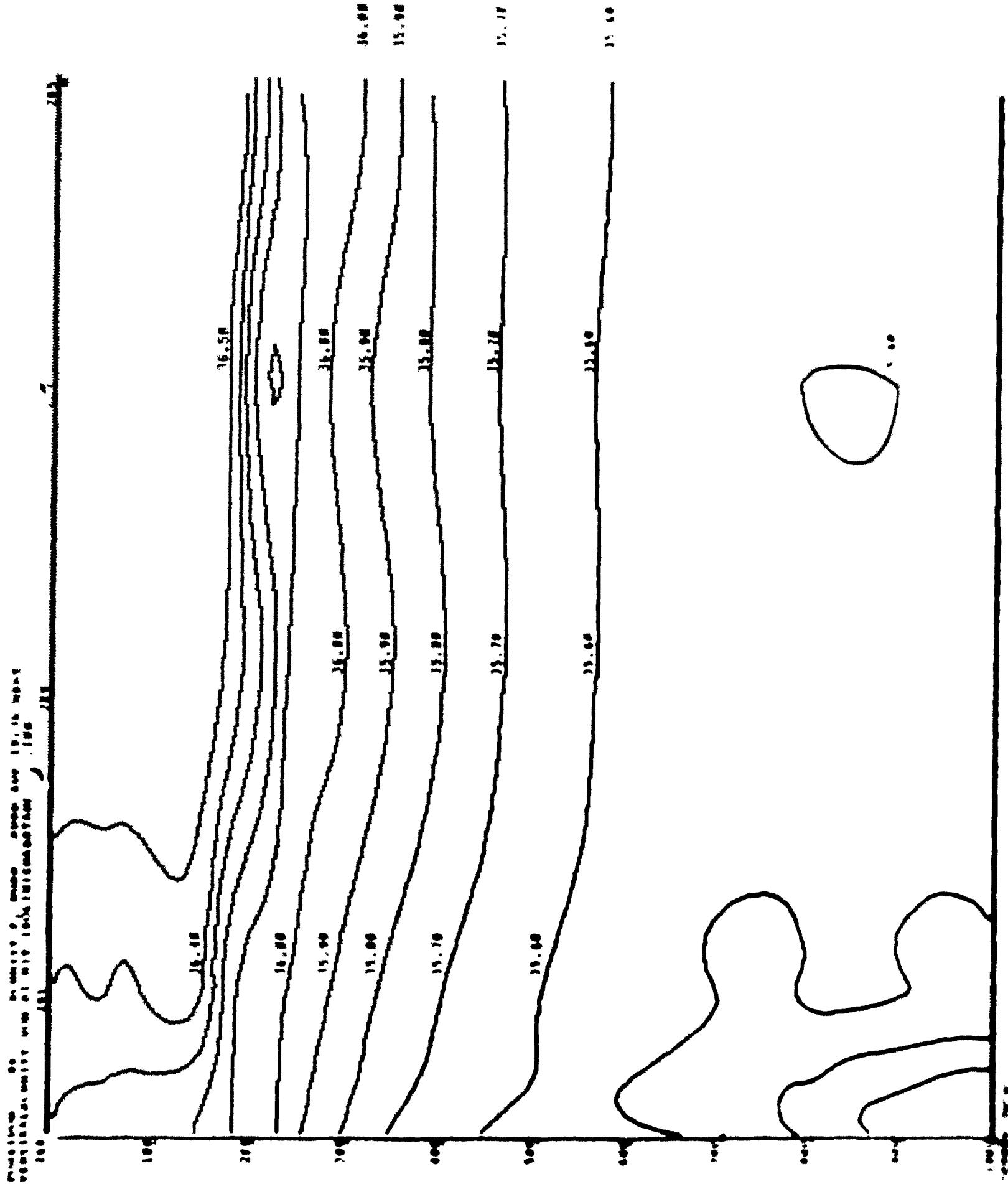
700

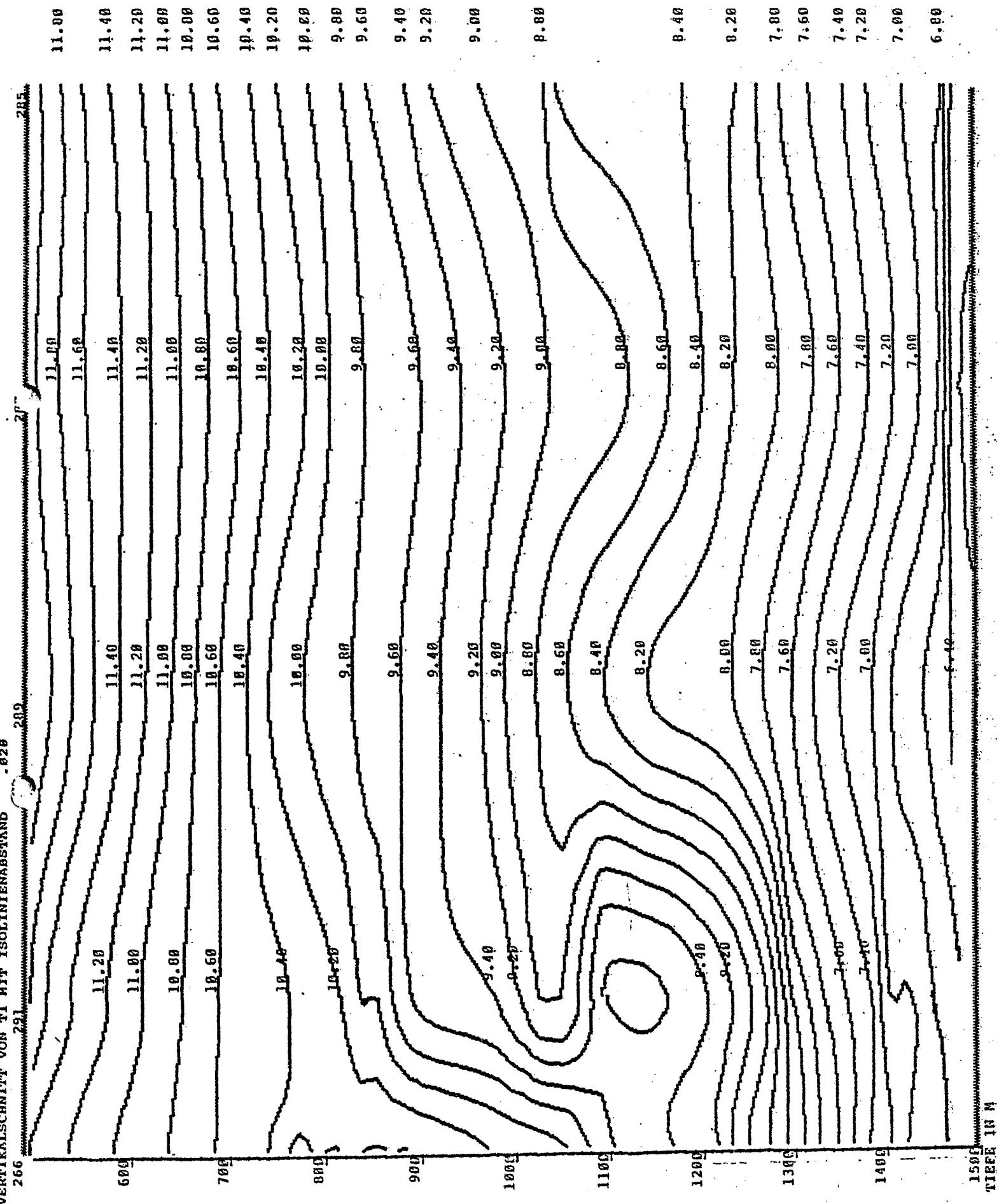
800

900

GRUNDE LINIE

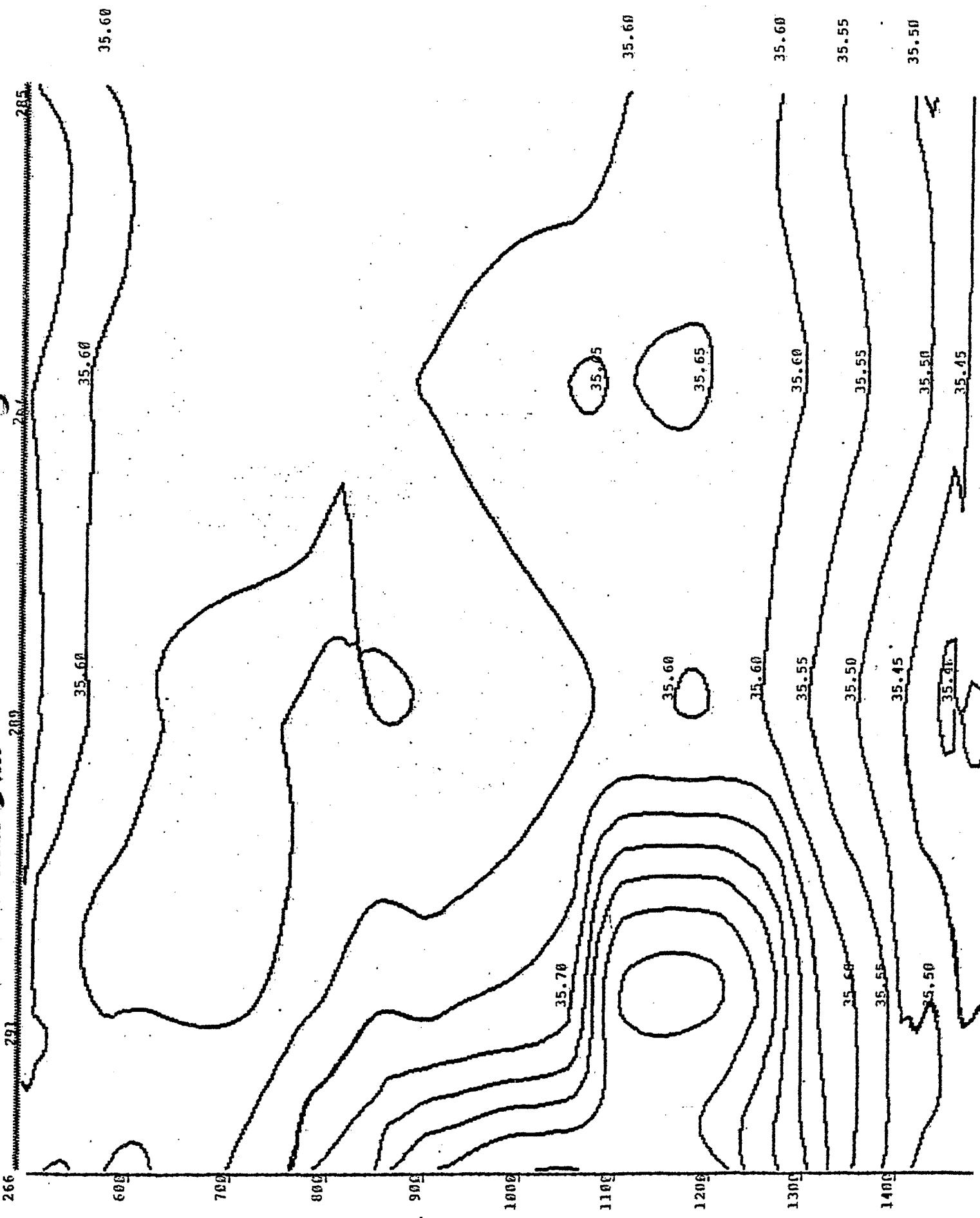




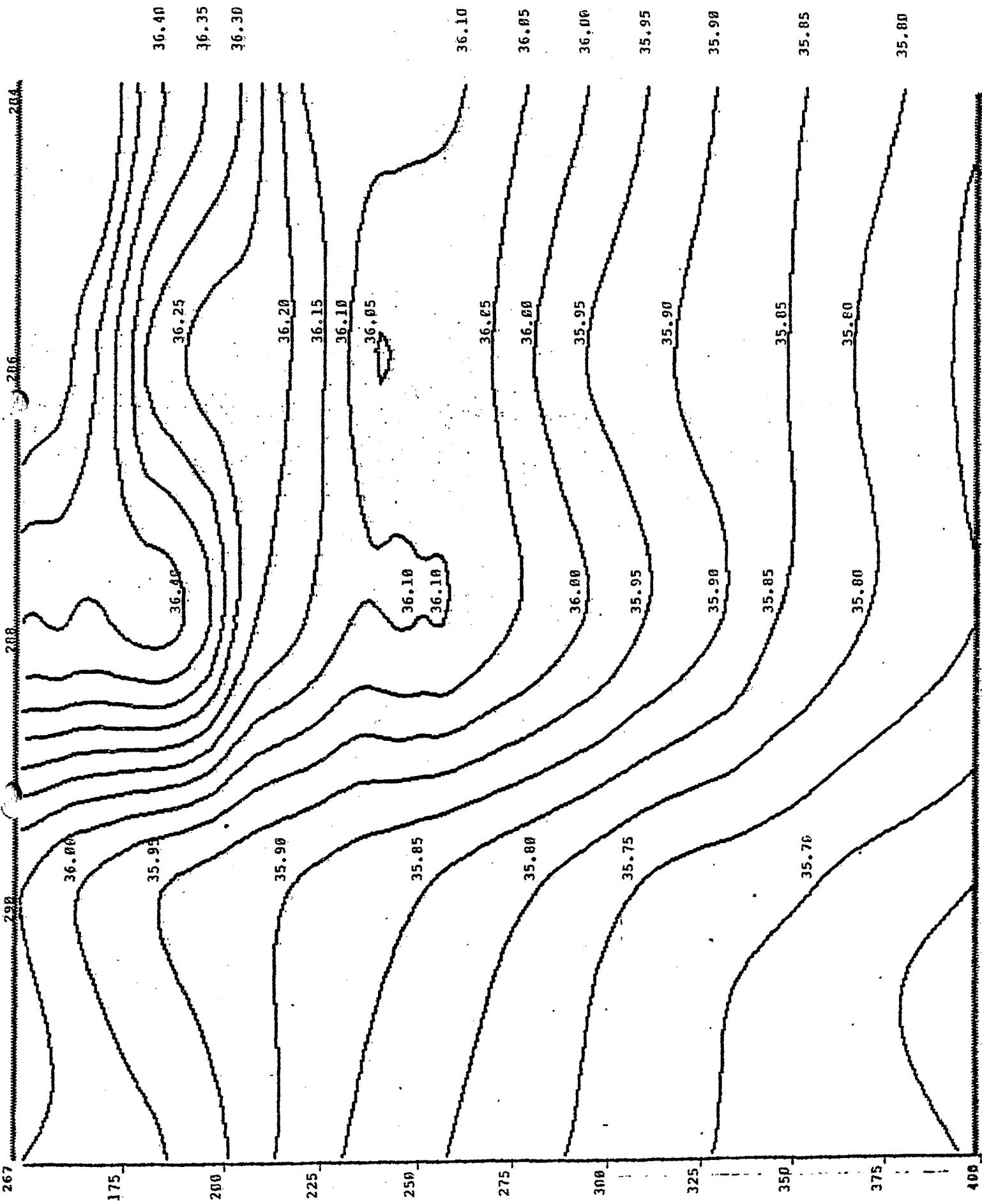


- 112 -

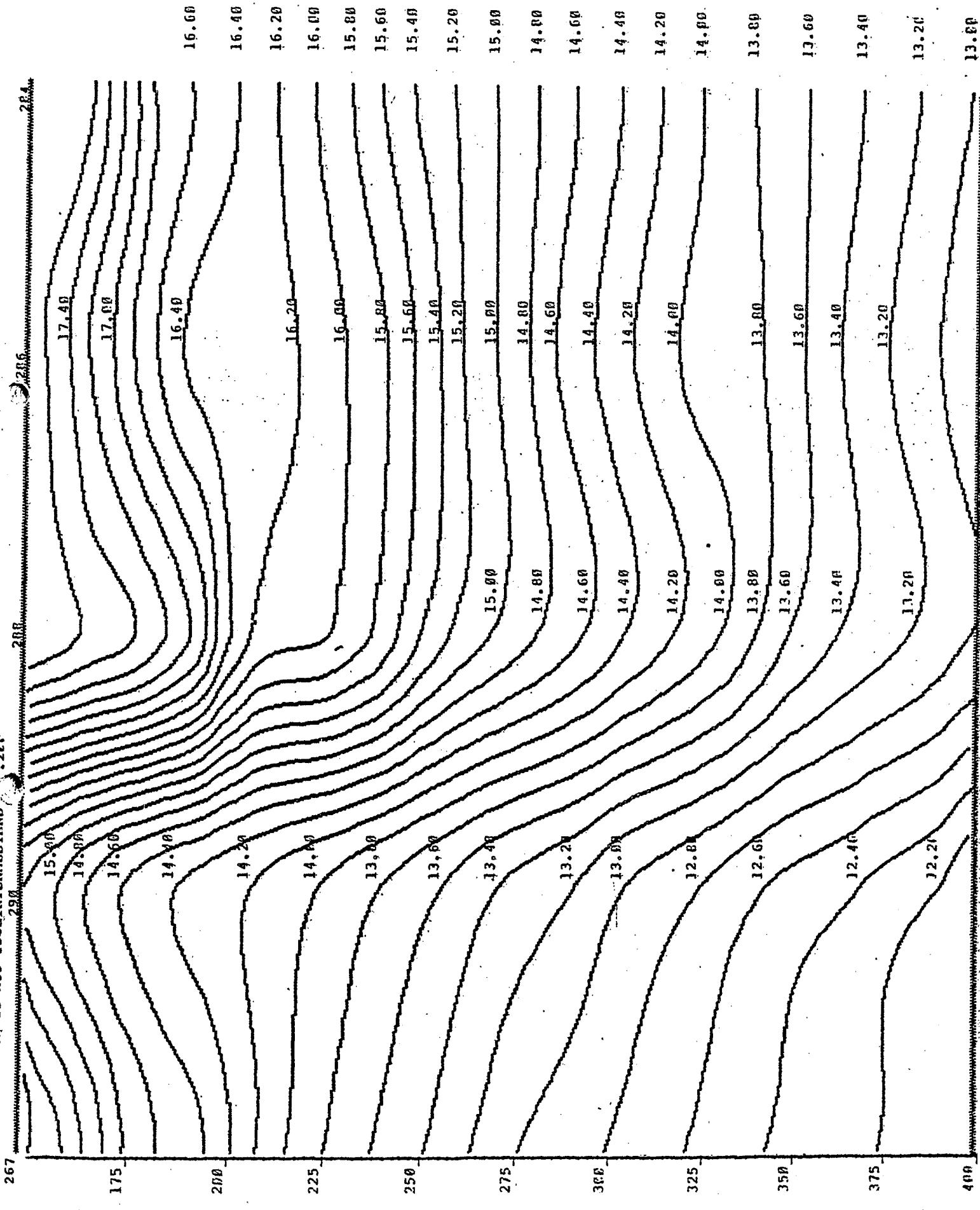
POSEIDON 86 SCHNITT F, NORD - SUED VERTIKALSCHNITT VON SI MIT ISOLINENADSTAND .050 266 291 200

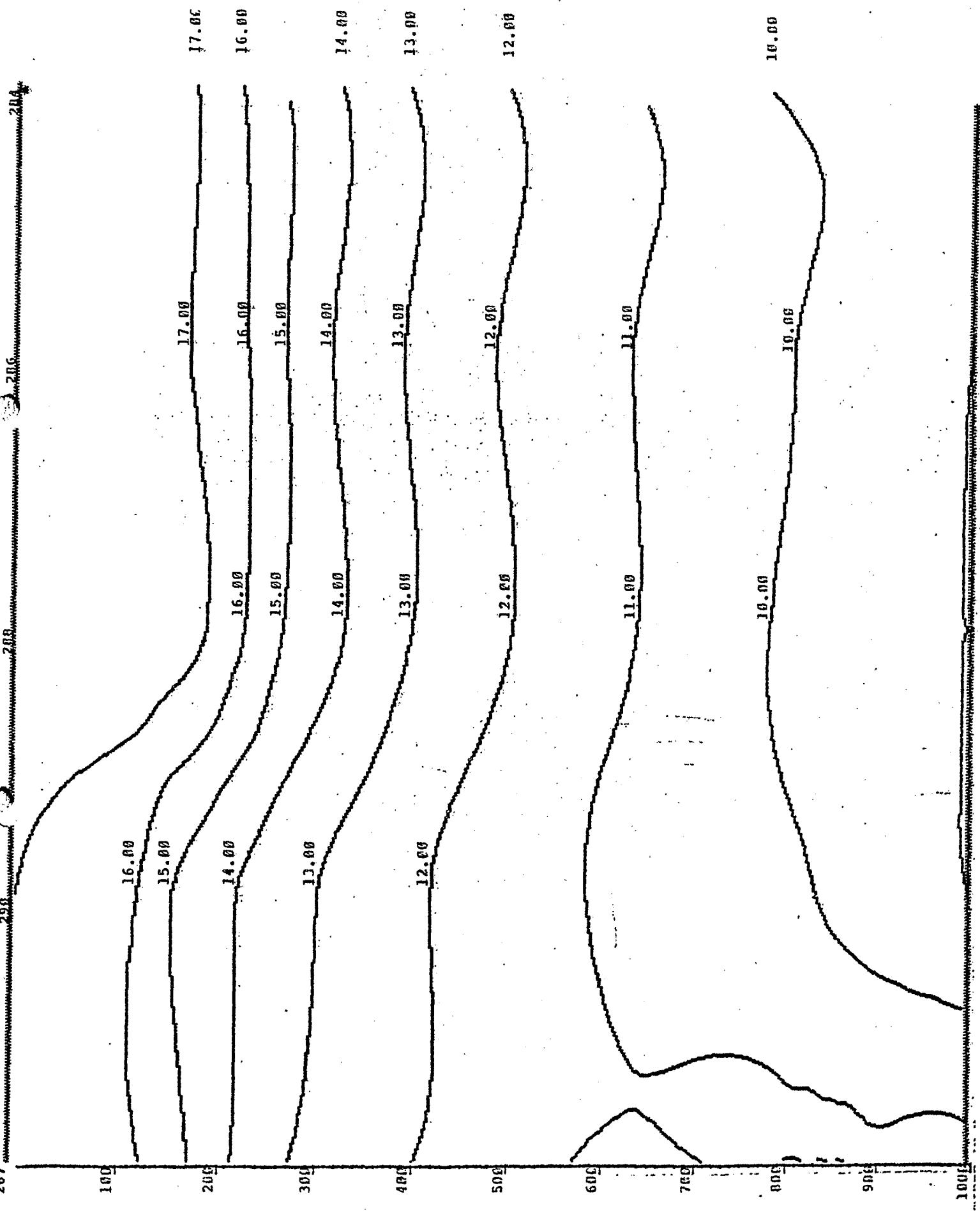


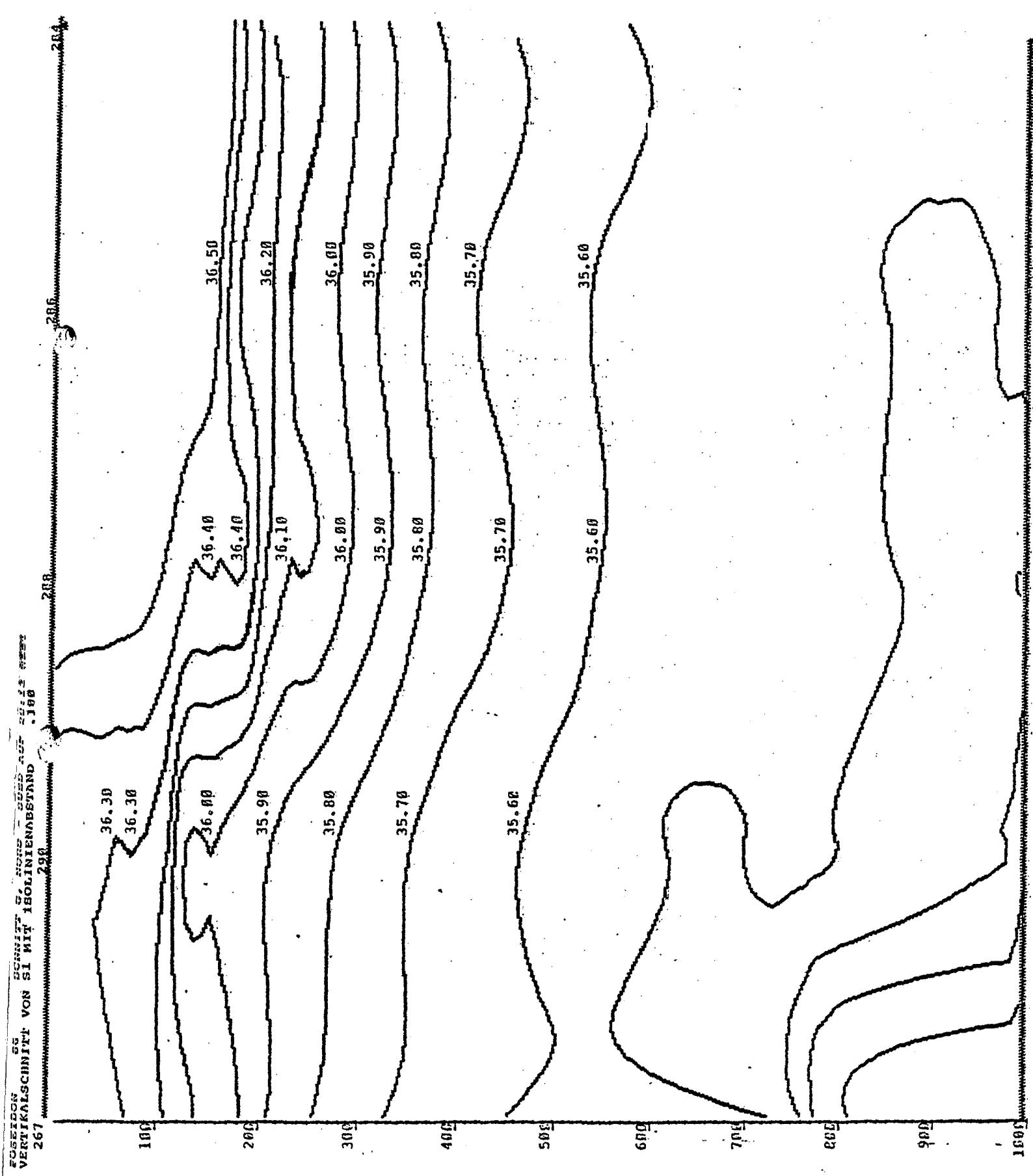
FOREGROUND 25° ECLIPSE U. NORD - BUED AUF 26.12 WEST
VERTIKALSCHNITT VON S3 MIT ISOLINIENTABSTAND 0.5°



POSITION 86 SCHNITT G NORD - SUED AUF 20:12 WEST
VERTRALSCHEIT VON T1 MIT ISOLINENABSTAND 250

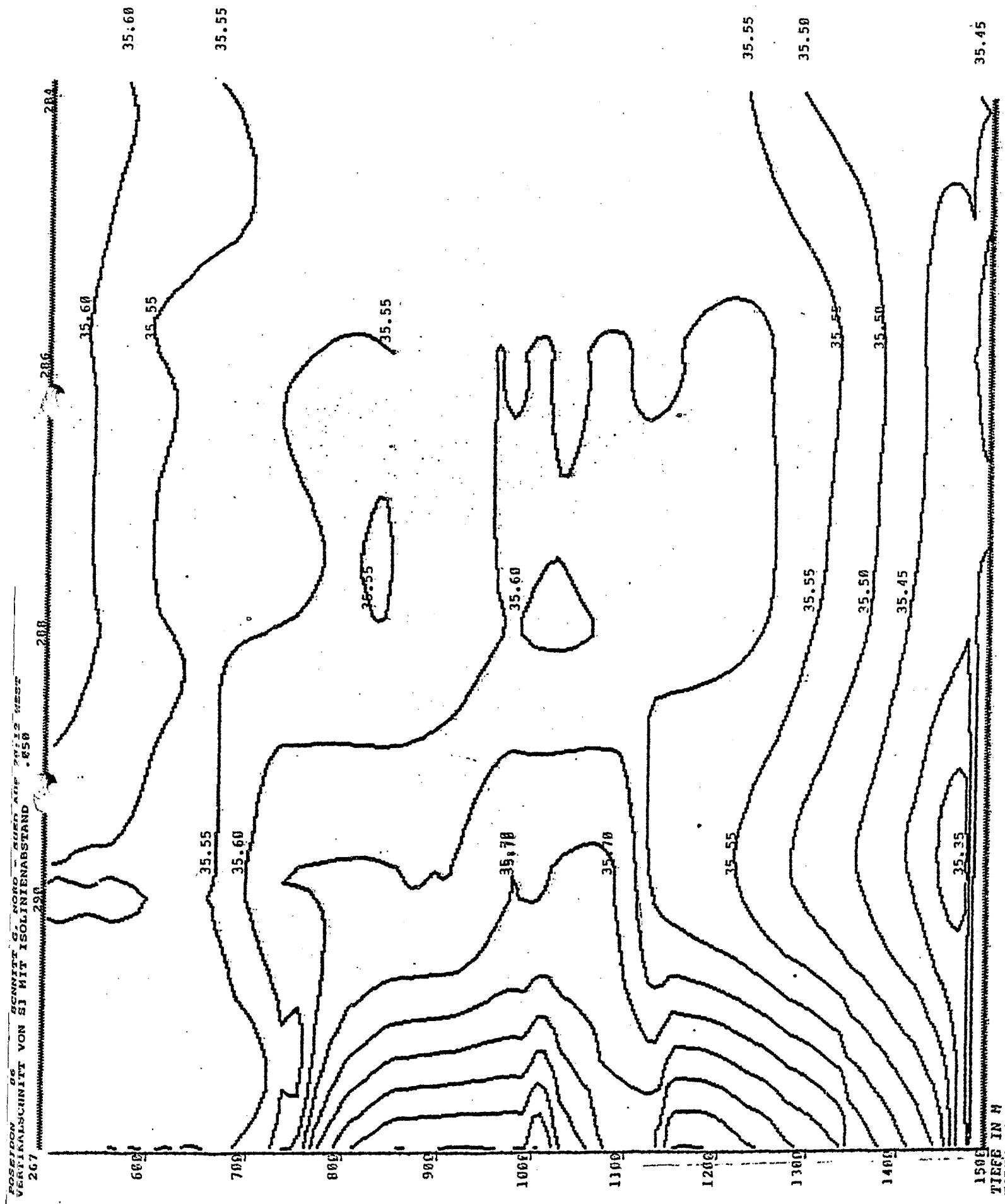


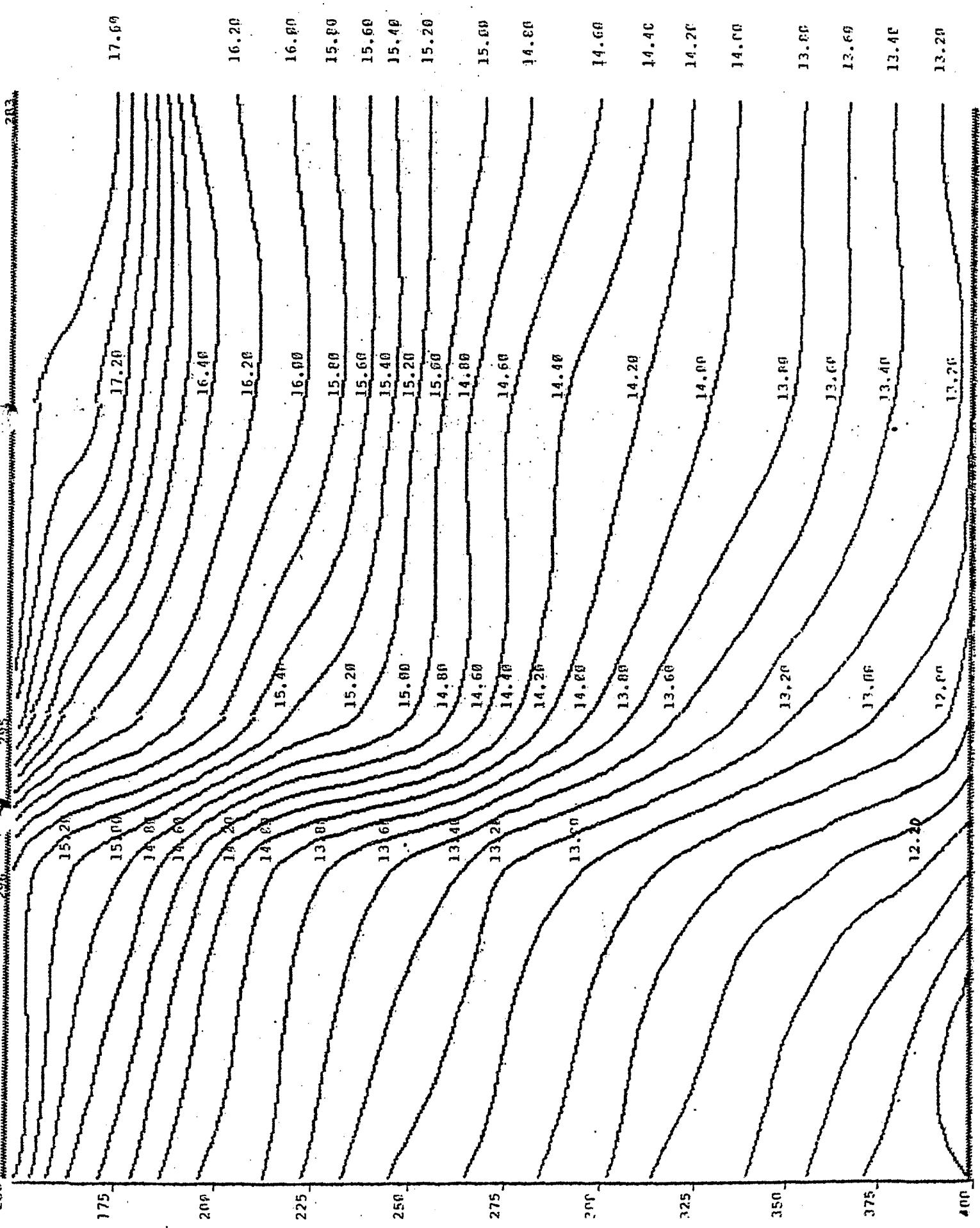




FOSEN 66 SCHNITT G NORD - SUED AUF 26:1:12 WEST
VERTIKALSCHNITT VON TI MIT ISOLINIENABSTAND .200

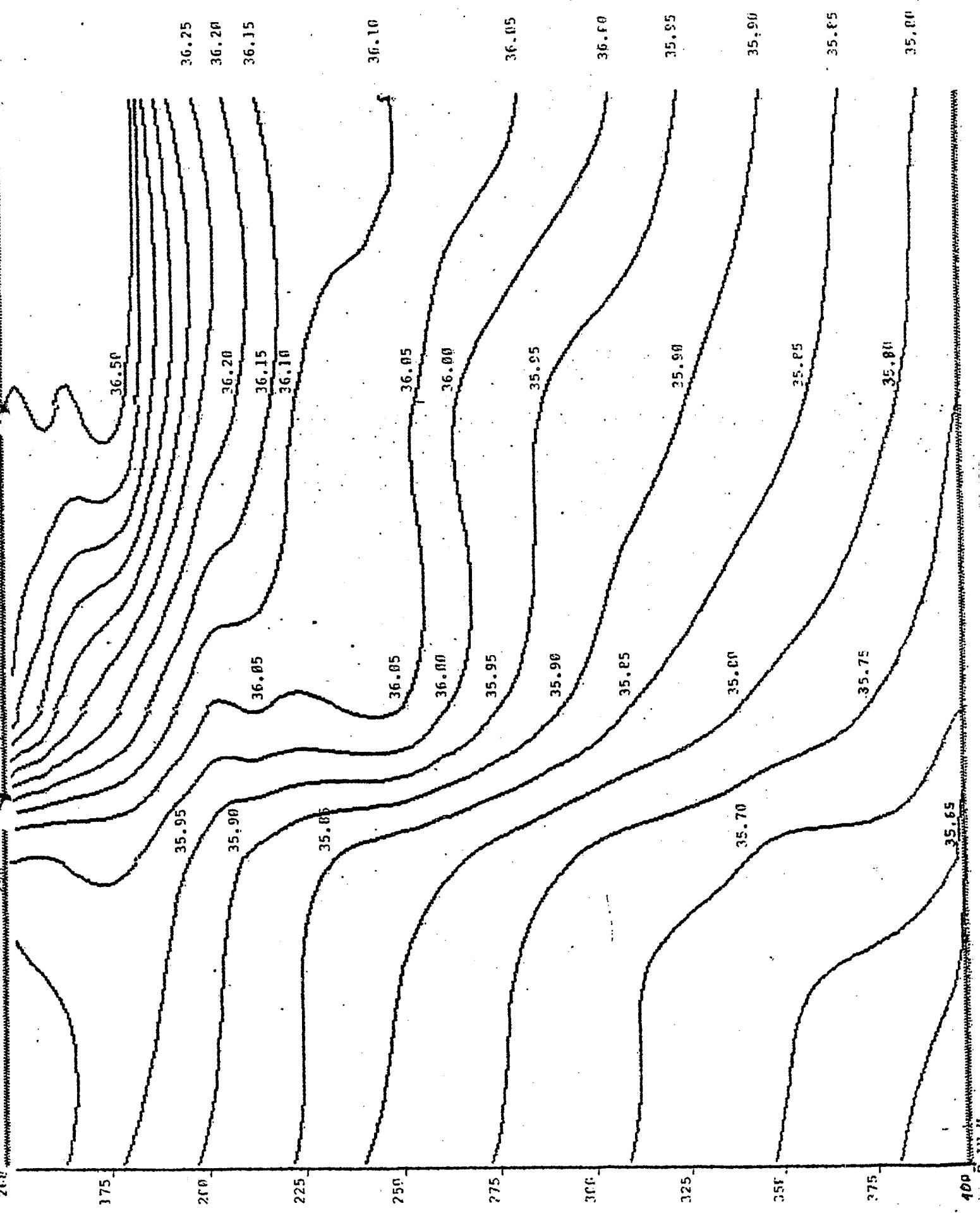
280 286 292 298 304 310 316 322 328 334 340 346 352 358 364 370 376 382 388 394 398 404 410 416 422 428 434 440 446 452 458 464 470 476 482 488 494 498 504 510 516 522 528 534 540 546 552 558 564 570 576 582 588 594 598 604 610 616 622 628 634 640 646 652 658 664 670 676 682 688 694 698 704 710 716 722 728 734 740 746 752 758 764 770 776 782 788 794 798 804 810 816 822 828 834 840 846 852 858 864 870 876 882 888 894 898 904 910 916 922 928 934 940 946 952 958 964 970 976 982 988 994 998 1004 1010 1016 1022 1028 1034 1040 1046 1052 1058 1064 1070 1076 1082 1088 1094 1098 1104 1110 1116 1122 1128 1134 1140 1146 1152 1158 1164 1170 1176 1182 1188 1194 1198 1204 1210 1216 1222 1228 1234 1240 1246 1252 1258 1264 1270 1276 1282 1288 1294 1298 1304 1310 1316 1322 1328 1334 1340 1346 1352 1358 1364 1370 1376 1382 1388 1394 1398 1404 1410 1416 1422 1428 1434 1440 1446 1452 1458 1464 1470 1476 1482 1488 1494 1498 1504 1510 1516 1522 1528 1534 1540 1546 1552 1558 1564 1570 1576 1582 1588 1594 1598 1604 1610 1616 1622 1628 1634 1640 1646 1652 1658 1664 1670 1676 1682 1688 1694 1698 1704 1710 1716 1722 1728 1734 1740 1746 1752 1758 1764 1770 1776 1782 1788 1794 1798 1804 1810 1816 1822 1828 1834 1840 1846 1852 1858 1864 1870 1876 1882 1888 1894 1898 1904 1910 1916 1922 1928 1934 1940 1946 1952 1958 1964 1970 1976 1982 1988 1994 1998 2004 2010 2016 2022 2028 2034 2040 2046 2052 2058 2064 2070 2076 2082 2088 2094 2098 2104 2110 2116 2122 2128 2134 2140 2146 2152 2158 2164 2170 2176 2182 2188 2194 2198 2204 2210 2216 2222 2228 2234 2240 2246 2252 2258 2264 2270 2276 2282 2288 2294 2298 2304 2310 2316 2322 2328 2334 2340 2346 2352 2358 2364 2370 2376 2382 2388 2394 2398 2404 2410 2416 2422 2428 2434 2440 2446 2452 2458 2464 2470 2476 2482 2488 2494 2498 2504 2510 2516 2522 2528 2534 2540 2546 2552 2558 2564 2570 2576 2582 2588 2594 2598 2604 2610 2616 2622 2628 2634 2640 2646 2652 2658 2664 2670 2676 2682 2688 2694 2698 2704 2710 2716 2722 2728 2734 2740 2746 2752 2758 2764 2770 2776 2782 2788 2794 2798 2804 2810 2816 2822 2828 2834 2840 2846 2852 2858 2864 2870 2876 2882 2888 2894 2898 2904 2910 2916 2922 2928 2934 2940 2946 2952 2958 2964 2970 2976 2982 2988 2994 2998 3004 3010 3016 3022 3028 3034 3040 3046 3052 3058 3064 3070 3076 3082 3088 3094 3098 3104 3110 3116 3122 3128 3134 3140 3146 3152 3158 3164 3170 3176 3182 3188 3194 3198 3204 3210 3216 3222 3228 3234 3240 3246 3252 3258 3264 3270 3276 3282 3288 3294 3298 3304 3310 3316 3322 3328 3334 3340 3346 3352 3358 3364 3370 3376 3382 3388 3394 3398 3404 3410 3416 3422 3428 3434 3440 3446 3452 3458 3464 3470 3476 3482 3488 3494 3498 3504 3510 3516 3522 3528 3534 3540 3546 3552 3558 3564 3570 3576 3582 3588 3594 3598 3604 3610 3616 3622 3628 3634 3640 3646 3652 3658 3664 3670 3676 3682 3688 3694 3698 3704 3710 3716 3722 3728 3734 3740 3746 3752 3758 3764 3770 3776 3782 3788 3794 3798 3804 3810 3816 3822 3828 3834 3840 3846 3852 3858 3864 3870 3876 3882 3888 3894 3898 3904 3910 3916 3922 3928 3934 3940 3946 3952 3958 3964 3970 3976 3982 3988 3994 3998 4004 4010 4016 4022 4028 4034 4040 4046 4052 4058 4064 4070 4076 4082 4088 4094 4098 4104 4110 4116 4122 4128 4134 4140 4146 4152 4158 4164 4170 4176 4182 4188 4194 4198 4204 4210 4216 4222 4228 4234 4240 4246 4252 4258 4264 4270 4276 4282 4288 4294 4298 4304 4310 4316 4322 4328 4334 4340 4346 4352 4358 4364 4370 4376 4382 4388 4394 4398 4404 4410 4416 4422 4428 4434 4440 4446 4452 4458 4464 4470 4476 4482 4488 4494 4498 4504 4510 4516 4522 4528 4534 4540 4546 4552 4558 4564 4570 4576 4582 4588 4594 4598 4604 4610 4616 4622 4628 4634 4640 4646 4652 4658 4664 4670 4676 4682 4688 4694 4698 4704 4710 4716 4722 4728 4734 4740 4746 4752 4758 4764 4770 4776 4782 4788 4794 4798 4804 4810 4816 4822 4828 4834 4840 4846 4852 4858 4864 4870 4876 4882 4888 4894 4898 4904 4910 4916 4922 4928 4934 4940 4946 4952 4958 4964 4970 4976 4982 4988 4994 4998 5004 5010 5016 5022 5028 5034 5040 5046 5052 5058 5064 5070 5076 5082 5088 5094 5098 5104 5110 5116 5122 5128 5134 5140 5146 5152 5158 5164 5170 5176 5182 5188 5194 5198 5204 5210 5216 5222 5228 5234 5240 5246 5252 5258 5264 5270 5276 5282 5288 5294 5298 5304 5310 5316 5322 5328 5334 5340 5346 5352 5358 5364 5370 5376 5382 5388 5394 5398 5404 5410 5416 5422 5428 5434 5440 5446 5452 5458 5464 5470 5476 5482 5488 5494 5498 5504 5510 5516 5522 5528 5534 5540 5546 5552 5558 5564 5570 5576 5582 5588 5594 5598 5604 5610 5616 5622 5628 5634 5640 5646 5652 5658 5664 5670 5676 5682 5688 5694 5698 5704 5710 5716 5722 5728 5734 5740 5746 5752 5758 5764 5770 5776 5782 5788 5794 5798 5804 5810 5816 5822 5828 5834 5840 5846 5852 5858 5864 5870 5876 5882 5888 5894 5898 5904 5910 5916 5922 5928 5934 5940 5946 5952 5958 5964 5970 5976 5982 5988 5994 5998 6004 6010 6016 6022 6028 6034 6040 6046 6052 6058 6064 6070 6076 6082 6088 6094 6098 6104 6110 6116 6122 6128 6134 6140 6146 6152 6158 6164 6170 6176 6182 6188 6194 6198 6204 6210 6216 6222 6228 6234 6240 6246 6252 6258 6264 6270 6276 6282 6288 6294 6298 6304 6310 6316 6322 6328 6334 6340 6346 6352 6358 6364 6370 6376 6382 6388 6394 6398 6404 6410 6416 6422 6428 6434 6440 6446 6452 6458 6464 6470 6476 6482 6488 6494 6498 6504 6510 6516 6522 6528 6534 6540 6546 6552 6558 6564 6570 6576 6582 6588 6594 6598 6604 6610 6616 6622 6628 6634 6640 6646 6652 6658 6664 6670 6676 6682 6688 6694 6698 6704 6710 6716 6722 6728 6734 6740 6746 6752 6758 6764 6770 6776 6782 6788 6794 6798 6804 6810 6816 6822 6828 6834 6840 6846 6852 6858 6864 6870 6876 6882 6888 6894 6898 6904 6910 6916 6922 6928 6934 6940 6946 6952 6958 6964 6970 6976 6982 6988 6994 6998 7004 7010 7016 7022 7028 7034 7040 7046 7052 7058 7064 7070 7076 7082 7088 7094 7098 7104 7110 7116 7122 7128 7134 7140 7146 7152 7158 7164 7170 7176 7182 7188 7194 7198 7204 7210 7216 7222 7228 7234 7240 7246 7252 7258 7264 7270 7276 7282 7288 7294 7298 7304 7310 7316 7322 7328 7334 7340 7346 7352 7358 7364 7370 7376 7382 7388 7394 7398 7404 7410 7416 7422 7428 7434 7440 7446 7452 7458 7464 7470 7476 7482 7488 7494 7498 7504 7510 7516 7522 7528 7534 7540 7546 7552 7558 7564 7570 7576 7582 7588 7594 7598 7604 7610 7616 7622 7628 7634 7640 7646 7652 7658 7664 7670 7676 7682 7688 7694 7698 7704 7710 7716 7722 7728 7734 7740 7746 7752 7758 7764 7770 7776 7782 7788 7794 7798 7804 7810 7816 7822 7828 7834 7840 7846 7852 7858 7864 7870 7876 7882 7888 7894 7898 7904 7910 7916 7922 7928 7934 7940 7946 7952 7958 7964 7970 7976 7982 7988 7994 7998 8004 8010 8016 8022 8028 8034 8040 8046 8052 8058 8064 8070 8076 8082 8088 8094 8098 8104 8110 8116 8122 8128 8134 8140 8146 8152 8158 8164 8170 8176 8182 8188 8194 8198 8204 8210 8216 8222 8228 8234 8240 8246 8252 8258 8264 8270 8276 8282 8288 8294 8298 8304 8310 8316 8322 8328 8334 8340 8346 8352 8358 8364 8370 8376 8382 8388 8394 8398 8404 8410 8416 8422 8428 8434 8440 8446 8452 8458 8464 8470 8476 8482 8488 8494 8498 8504 8510 8516 8522 8528 8534 8540 8546 8552 8558 8564 8570 8576 8582 8588 8594 8598 8604 8610 8616 8622 8628 8634 8640 8646 8652 8658 8664 8670 8676 8682 8688 8694 8698 8704 8710 8716 8722 8728 8734 8740 8746 8752 8758 8764 8770 8776 8782 8788 8794 8798 8804 8810 8816 8822 8828 8834 8840 8846 8852 8858 8864 8870 8876 8882 8888 8894 8898 8904 8910 8916 8922 8928 8934 8940 8946 8952 8958 8964 8970 8976 8982 8988 8994 8998 9004 9010 9016 9022 9028 9034 9040 9046 9052 9058 9064 9070 9076 9082 9088 9094 9098 9104 9110 9116 9122 9128 9134 9140 9146 9152 9158 9164 9170 9176 9182 9188 9194 9198 9204 9210 9216 9222 9228 9234 9240 9246 9252 9258 9264 9270 9276 9282 9288 9294 9298 9304 9310 9316 9322 9328 9334 9340 9346 9352 9358 9364 9370 9376 9382 9388 9394 9398 9404 9410 9416 9422 9428 9434 9440 9446 9452 9458 9464 9470 9476 9482 9488 9494 9498 9504 9510 9516 9522 9528 9534 9540 9546 9552 9558 9564 9570 9576 9582 9588 9594 9598 9604 9610 9616 9622 9628 9634 9640 9646 9652 9658 9664 9670 9676 9682 9688 9694 9698 9704 9710 9716 9722 9728 9734 9740 9746 9752 9758 9764 9770 9776 9782 9788 9794 9798 9804 9810 9816 9822 9828 9834 9840 9846 9852 9858 9864 9870 9876 9882 9888 9894 9898 9904 9910 9916 9922 9928 9934 9940 9946 9952 9958 9964 9970 9976 9982 9988 9994 9998 10004 10010 10016 10022 10028 10034 10040 10046 10052 10058 10064 10070 10076 10082 10088 10094 10098 10104 10110 10116 10122 10128 10134 10140 10146 10152 10158 10164 10170 10176 10182 10188 10194 10198 10204 10210 10216 10222 10228 10234 10240 10246 10252 10258 10264 10270 10276 10282 10288 10294 10298 10304 10310 10316 10322 10328 10334 10340 10346 10352 10358 10364 10370 10376 10382 10388 10394 10398 10404 10410 10416 10422 10428 10434 10440 10446 10452 10458 10464 10470 10476 10482 10488 10494 10498 10504 10510 10516 10522 10528 10534 10540 10546 10552 10558 10564 10570 10576 10582 10588 10594 10598 10604 10610 10616 10622 10628 10634 10640 10646 10652 10658 10664 10670 10676 10682 10688 10694 10698 10704 10710 10716 10722 10728 10734 10740 10746 10752 10758 10764 10770 10776 10782 10788 10794 10798 10804 10810 10816 10822 10828 10834 10840 10846 10852 10858 10864 10870 10876 10882 10888 10894 10898 10904 10910 10916 10922 10928 10934 10940 10946 10952 10958 10964 10970 10976 10982 10988 10994 10998 11004 11010 11016 11022 11028 11034 11040 11046 11052 11058 11064 11070 11076 11082 11088 11094 11098 11104 11110 11116 11122 11128 11134 11140 11146 11152 11158 11164 11170 11176 11182 11188 11194 11198 11204 11210 11216 11222 11228 11234 11240 11246 11252 11258 11264 11270 11276 11282 11288 11294 11298 11304 11310 11316 11322 11328 11334 11340 11346 11352 11358 11364 11370 11376 11382 11388 11394 11398 11404 11410 11416 11422 11428 11434 11440 11446 11452 11458 11464 11470 11476 11482 11488 11494 11498 11504 11510 11516 11522 11528 11534 11540 11546 11552 11558 11564 11570 11576 11582 11588 11594 11598 11604 11610 11616 11622 11628 11634 11640 11646 11652 11658 11664 11670 11676 11682 11688 11694 11698 11704 11710 11716 11722 11728 11734 11740 11746 11752 11758 11764 11770 11776 11782 11788 11794 11798 11804 11810 11816 11822 11828 11834 11840 11846 11852 11858 11864 11870 11876 11882 11888 11894 11898 11904 11910 11916 11922 11928 11934 11940 11946 11952 11958 11964 11970 11976 11982 11988 11994 11998 12004 12010 12016 12022 12028 12034 12040 12046 12052 12058 12064 12070 12076 12082 12088 12094 12098 12104 12110 12116 12122 12128 12134 12140 12146 12152 12158 12164 12170 12176 12182 12188 12194 12198 12204 12210 12216 12222 12228 12234 12240 12246 12252 12258 12264 12270 12276 12282 12288 12294 12298 12304 12310 12316 12322 12328 12334 12340 12346 12352 12358 12364 12370 12376 12382 12388 12394 12398 12404 12410 12416 12422 12428 12434 12440



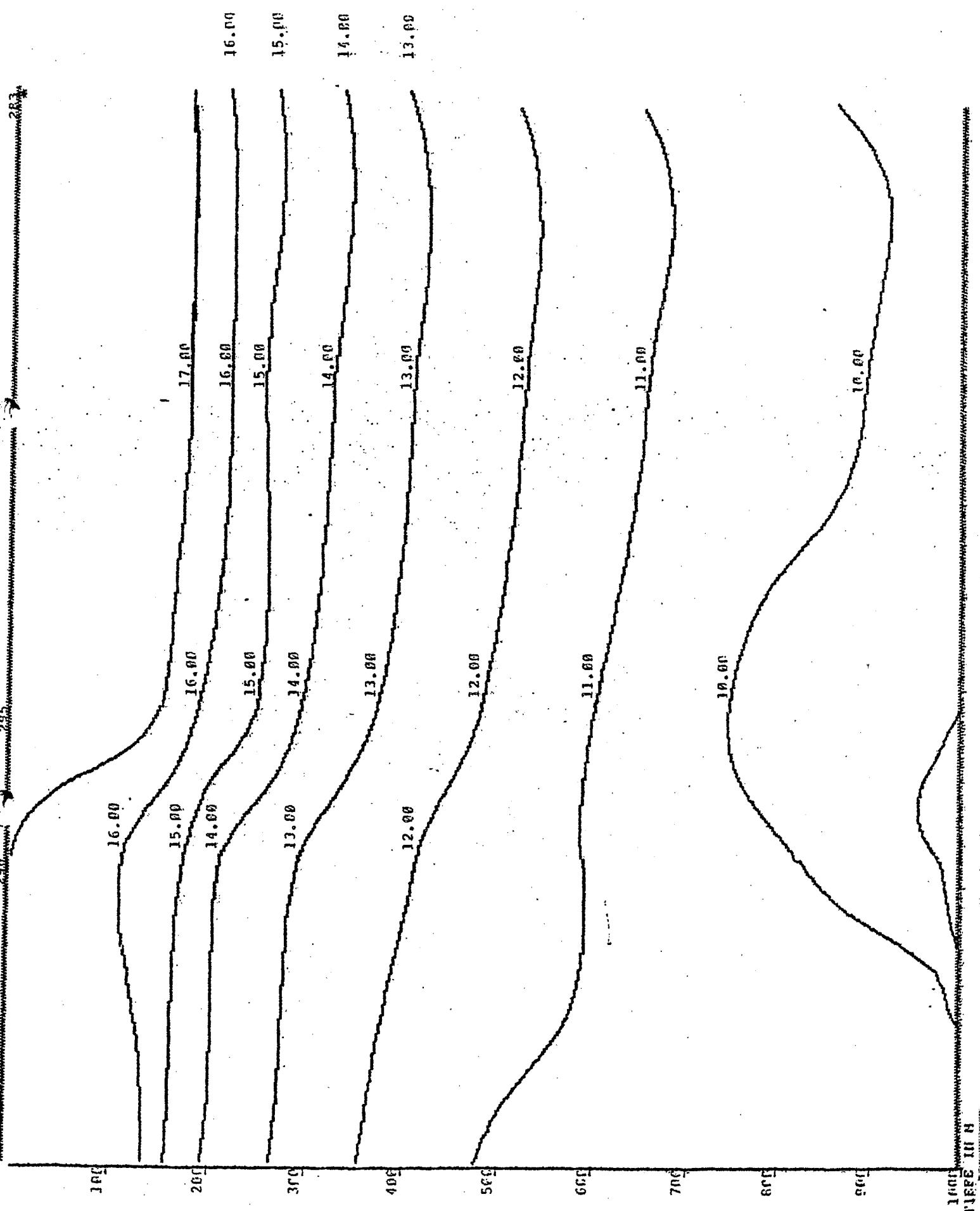


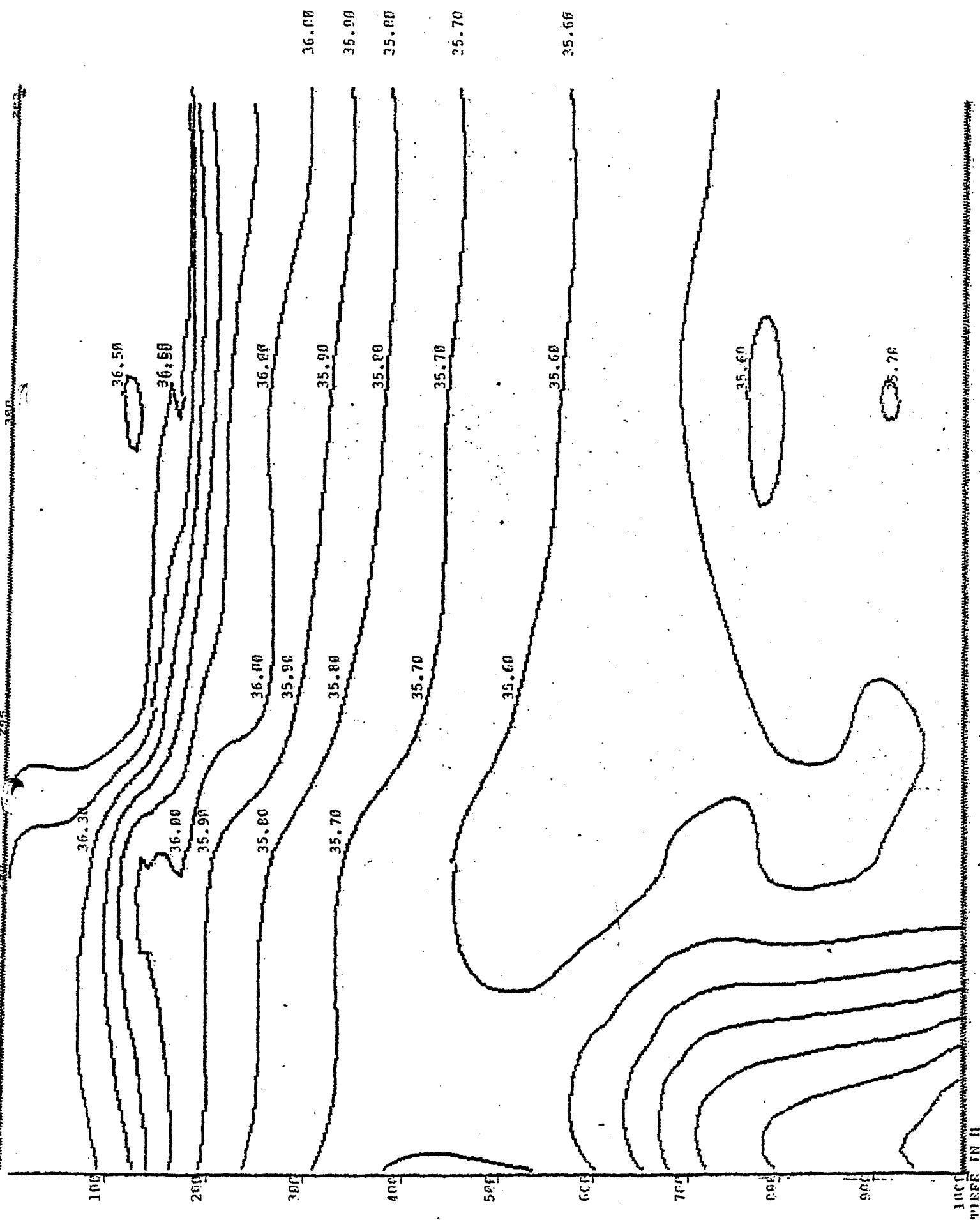
POSITION 86 SCHNITT N. NORD - SUD AUF 26140 WEST
VERTIKALSCHNITTE VON SI MIT ISOLINENESTND 205

283

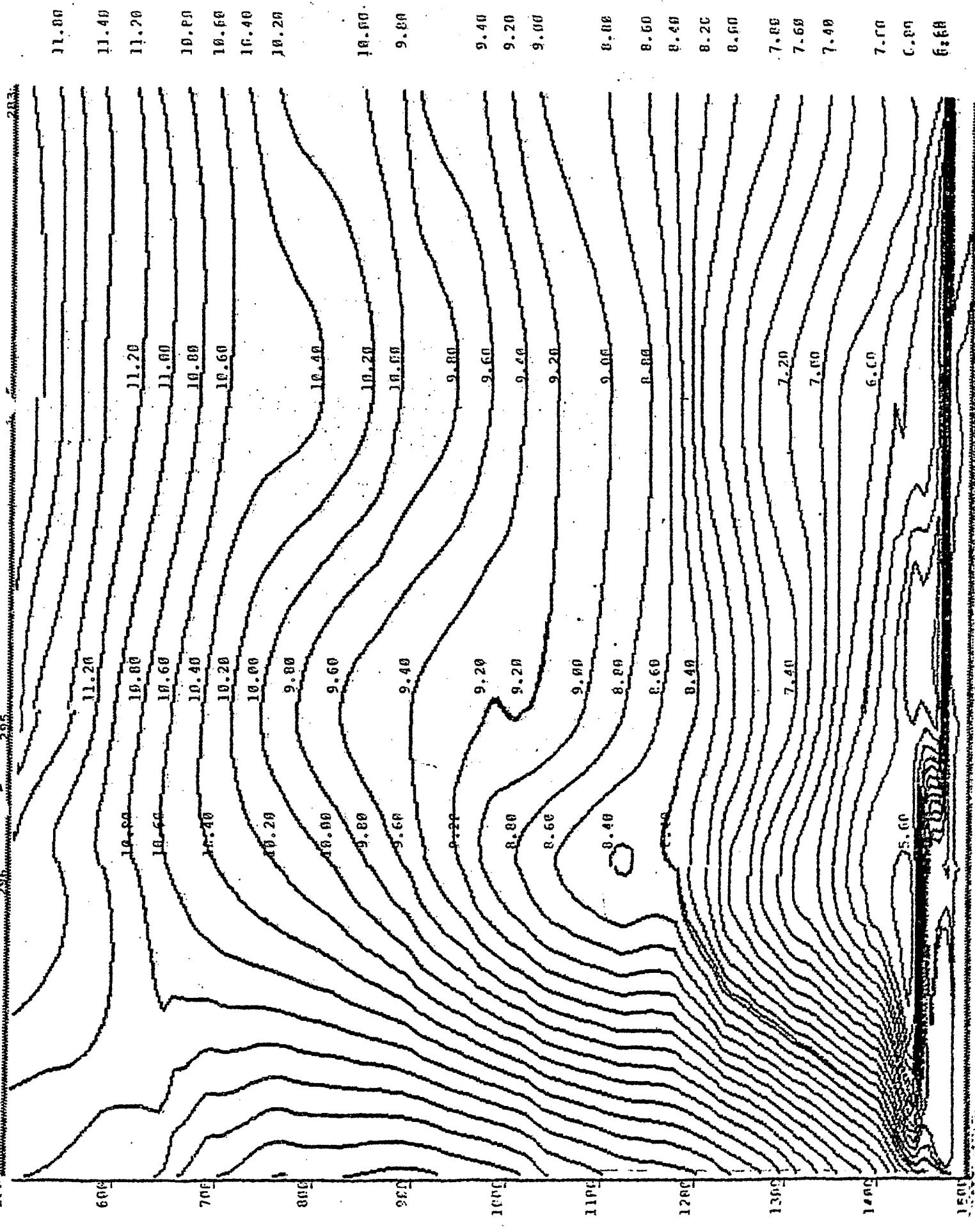


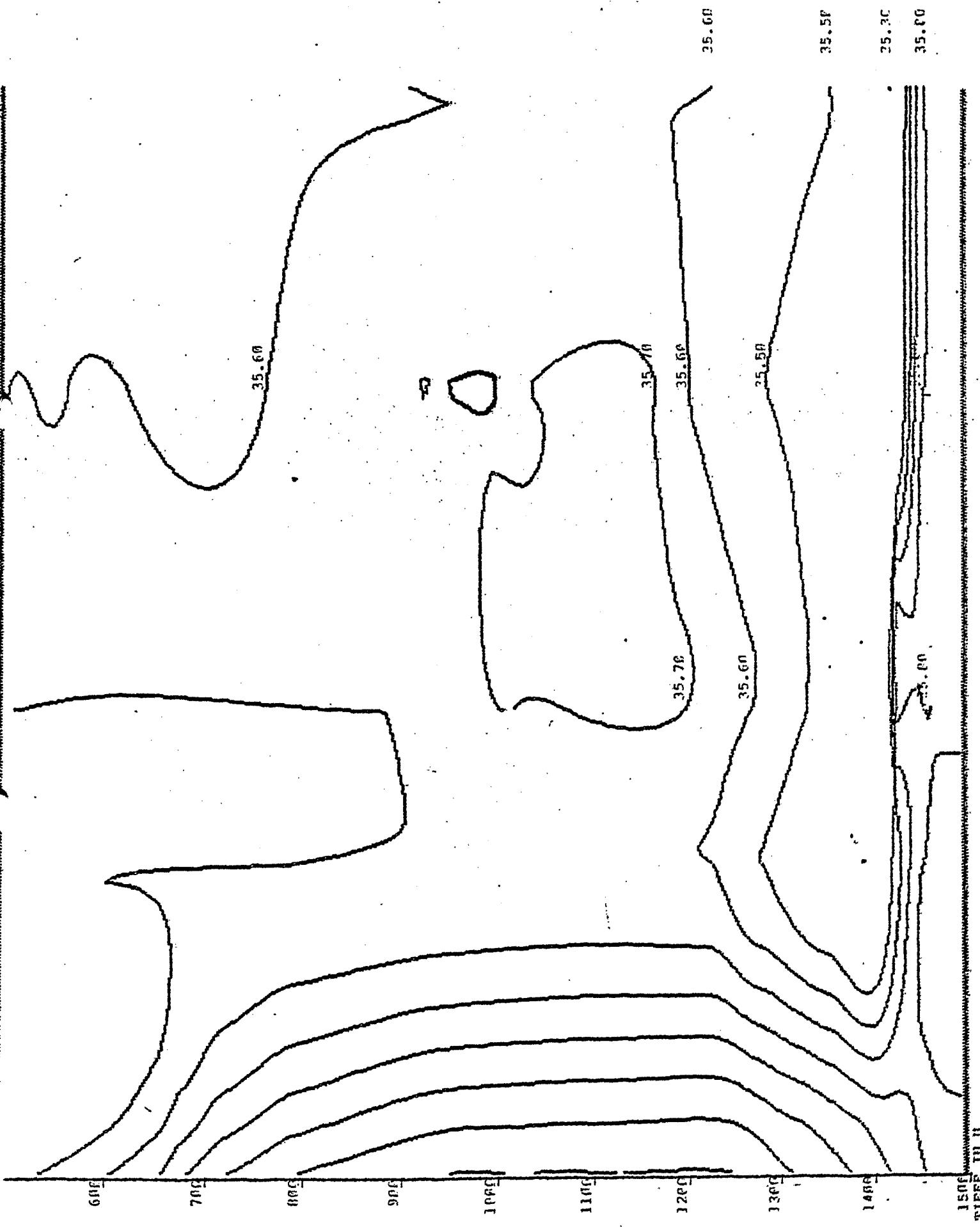
SONDERKLAUSCHEN VON SCHNITT H. FORD - SÜND' AUF 2000 m HOHE
260 295 296 297

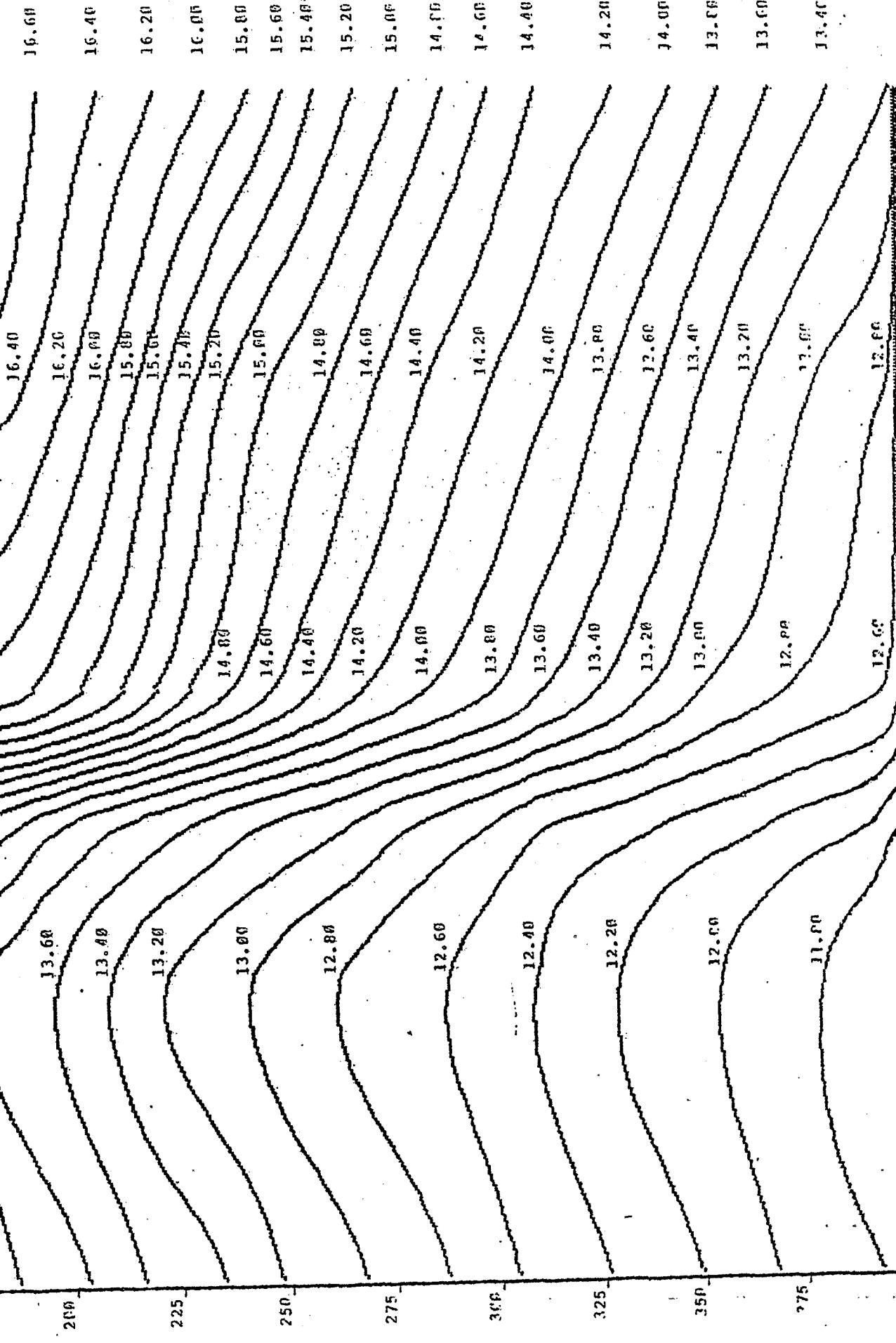


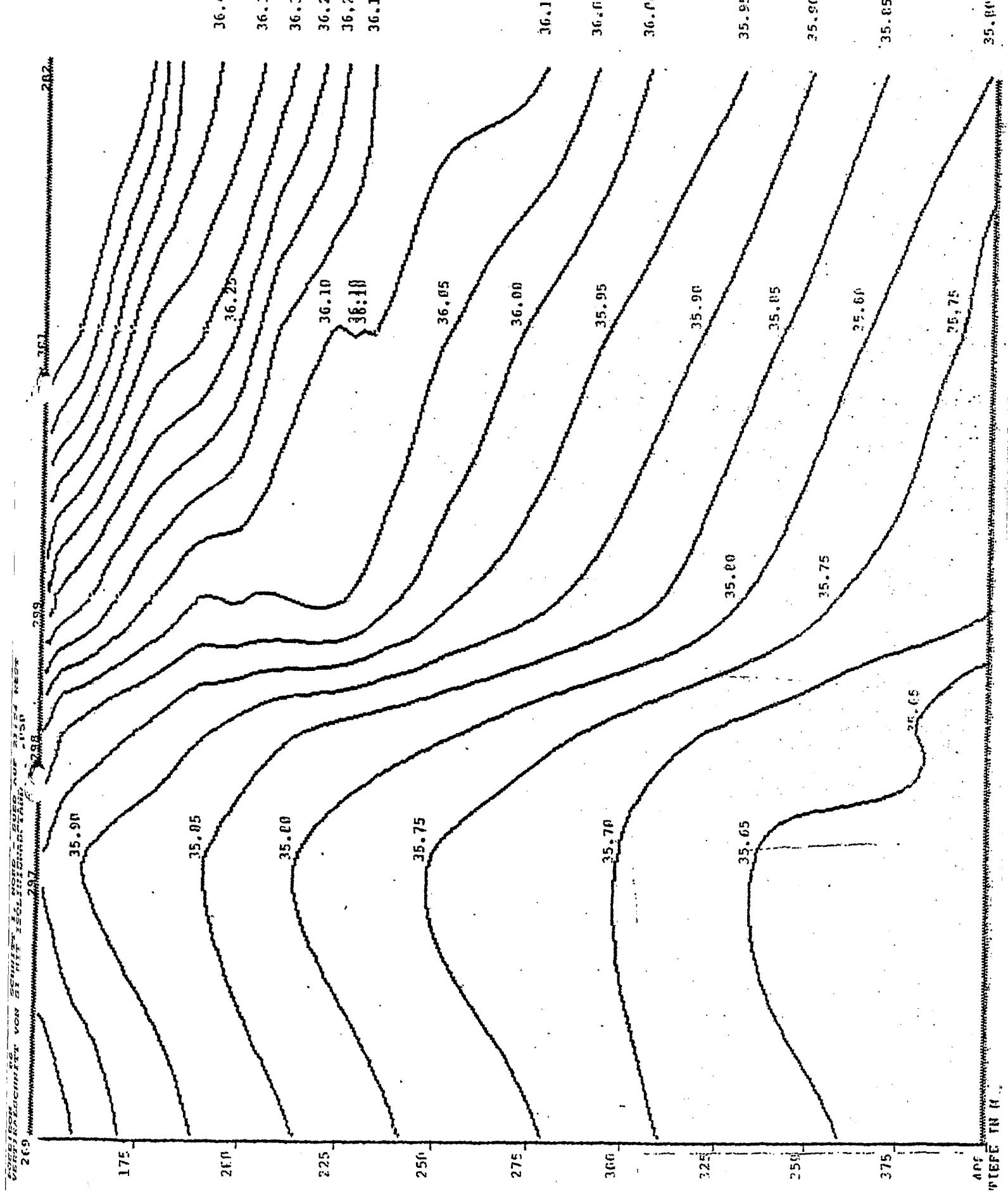


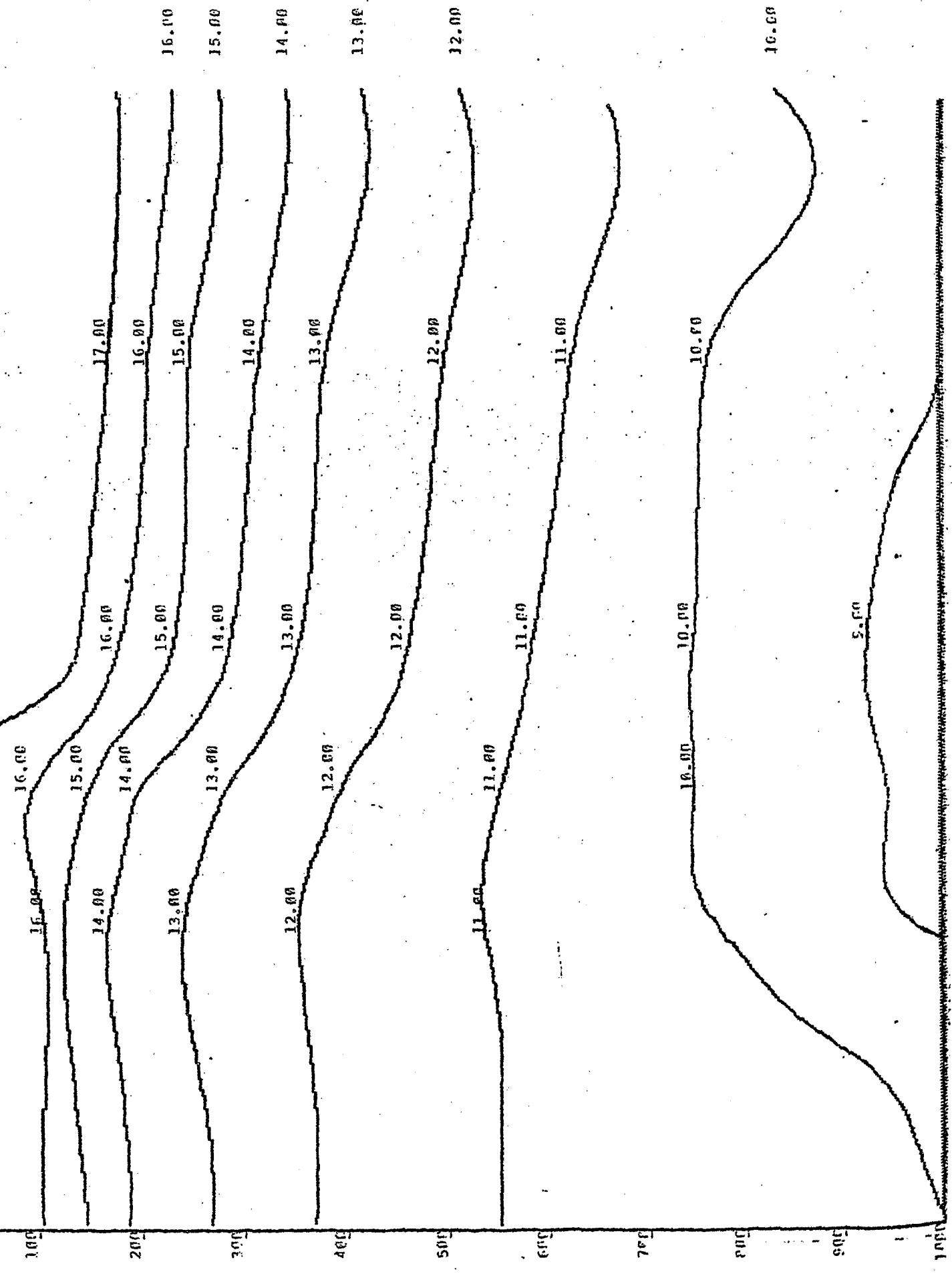
ZUGTEILSCHNITT VON T1 MIT ISOLINIENABSTAND 250 m
268

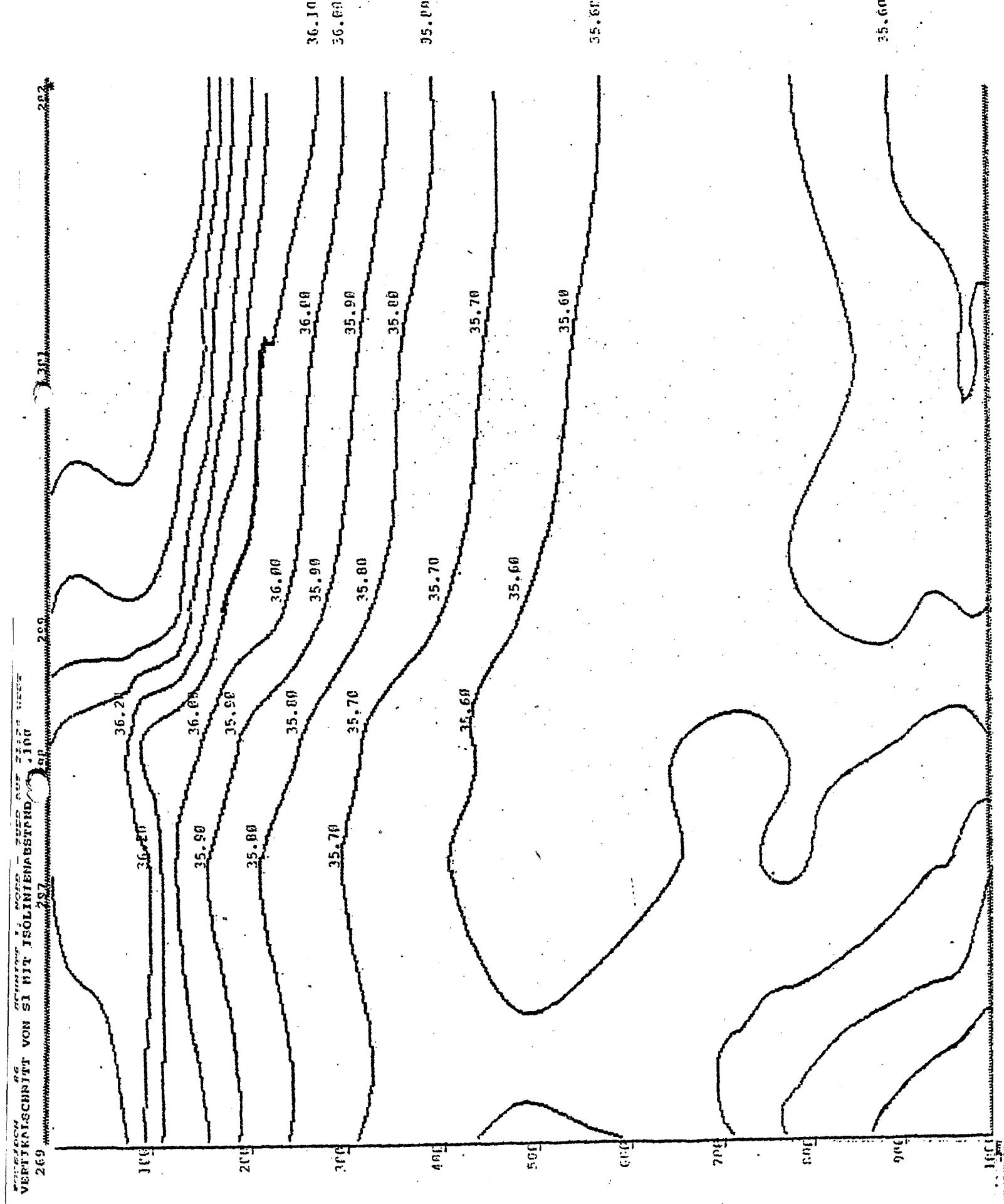






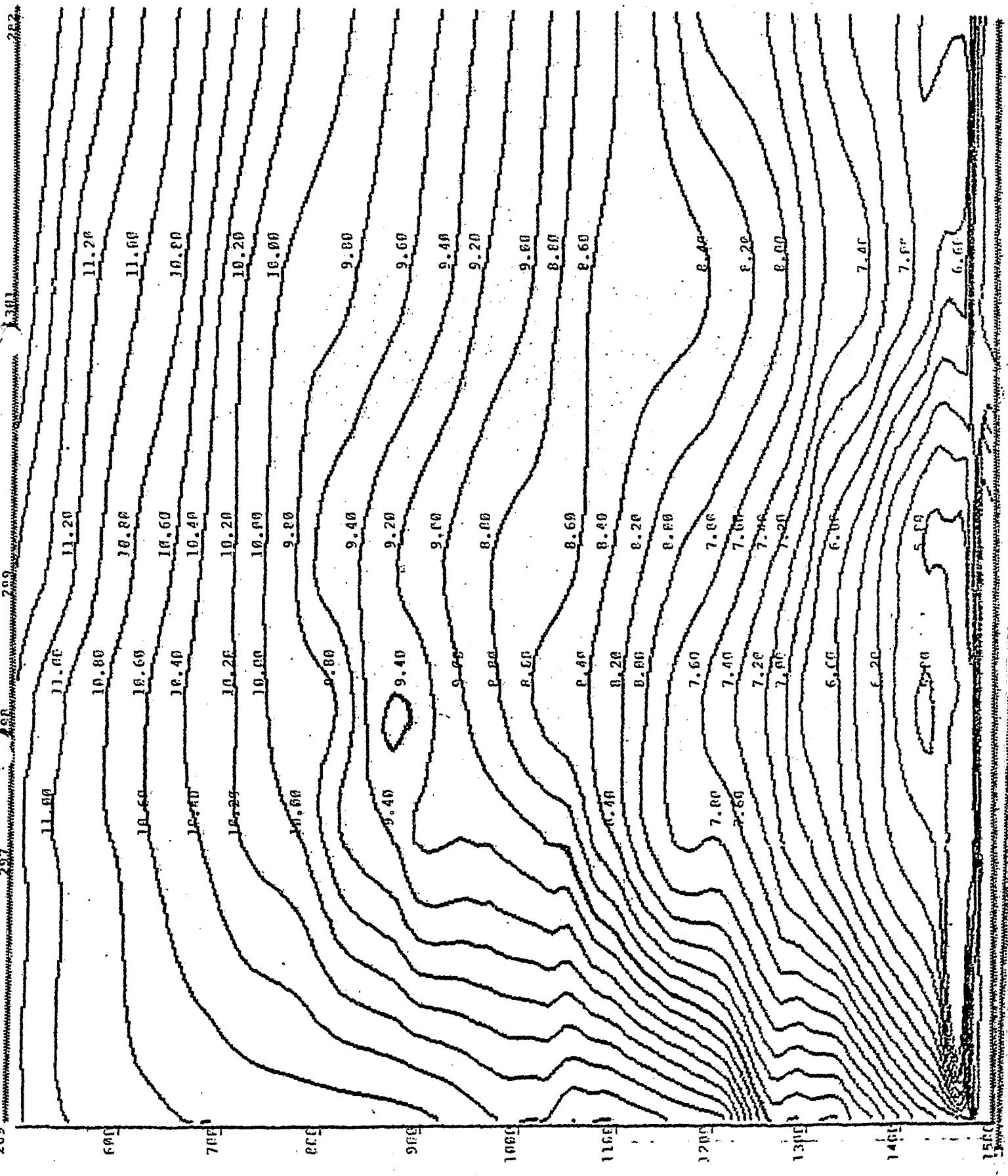






ZUGANGSRECHEN
VERMIKTAUSCHNITT VON TI MIT ISOLIENABSTAND - 21172 - 269 - 268

297 298 299



35.60

35.45

35.35

35.25

35.15

35.05

35.00

34.95

34.90

34.85

34.80

34.75

34.70

34.65

34.60

34.55

34.50

34.45

34.40

34.35

34.30

34.25

34.20

34.15

34.10

34.05

34.00

33.95

33.90

33.85

33.80

33.75

33.70

