

JICA
THE STUDY ON FISHERY COMPLEX ON THE ANDAMAN SEA COAST

DATA BOOK

July 1997

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JAPAN INTERNATIONAL COOPERATION AGENCY
DEPARTMENT OF FISHERIES
MINISTRY OF AGRICULTURE AND COOPERATIVES
KINGDOM OF THAILAND

THE STUDY
ON
FISHERY COMPLEX
ON
THE ANDAMAN SEA COAST

DATA BOOK

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J 1137952 (6)

July 1997

TETRA CO.,LTD.
SYSTEM SCIENCE CONSULTANTS INC.

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1137952 [6]

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1. Wave Measurement

Table 3.3
Duration of Joint Occurrence of Wave Height and Wave Period (Hours) in June 1996.

T _{1/3}	H _{1/3}			Total Hours	%
	0.0-0.10	0.10-0.20	0.20-0.30		
0-1					
1-2					
2-3					
3-4					
4-5					
5-6					
6-7					
7-8		1	1	2	1.13
8-9		4	4	8	4.52
9-10		6	2	8	4.52
10-11		10	1	11	6.22
11-12		12	1	13	7.34
12-13	1	24	2	27	15.25
13-14		24	3	27	15.25
14-15	1	18		19	10.73
15-16	1	19	2	22	12.43
16-17		18		18	10.17
17-18	2	6	4	12	6.78
18-19			4	4	2.26
19-20		2	2	4	2.26
20-21					
21-22		1		1	0.57
22-23					
23-24		1		1	0.57
Total Hour	5	146	26	177	
%	2.82	82.49	14.69		100.00

Table 3.4
Duration of Joint Occurrence of Wave Height and Wave Period (Hours) in July 1996.

$T_{1/3}$	$H_{1/3}$											Total Hours	%
	0.0-0.10	0.10-0.20	0.20-0.30	0.30-0.40	0.40-0.50	0.50-0.60	0.60-0.70	0.70-0.80	0.80-0.90	0.90-1.00			
0-1	1											1	0.14
1-2													
2-3													
3-4													
4-5													
5-6	2											2	0.28
6-7	3	6	6	3	1		1					20	2.85
7-8	3	16	47	46	27	14	7	1		1		162	23.08
8-9	4	49	94	45	16	5	1	1				215	30.63
9-10	3	50	67	31	4	1						156	22.22
10-11	5	31	22		1							59	8.41
11-12	2	17	18									37	5.27
12-13	1	15	11	1								28	3.99
13-14		7	3									10	1.43
14-15		4	2									6	0.86
15-16		1	1									2	0.28
16-17		1										1	0.14
17-18	1											1	0.14
18-19		1										1	0.14
19-20													
20-21		1										1	0.14
Total Hours	25	199	271	126	49	20	9	2		1		702	
%	3.56	28.35	38.60	17.95	6.98	2.85	1.28	0.29		0.14			100.00

Table 3.5
Duration of Joint Occurrence of Wave Height and Wave Period (Hours) in August 1996.

T _{1/3}	H _{1/3}										Total Hours	%	
	0.0-0.10	0.10-0.20	0.20-0.30	0.30-0.40	0.40-0.50	0.50-0.60	0.60-0.70						
0-1													
1-2													
2-3	1										1	0.14	
3-4													
4-5	6										6	0.81	
5-6	4	8									12	1.63	
6-7	9	25	10	6	1						51	6.94	
7-8	9	51	80	53	17	2	2				214	29.11	
8-9	7	84	67	19	5						182	24.76	
9-10	11	57	44	8	1						121	16.46	
10-11	8	20	27	2							57	7.75	
11-12	5	12	12	2							31	4.22	
12-13	4	14	6	2							26	3.53	
13-14	1	4	5								10	1.36	
14-15	1	4	3								8	1.09	
15-16	1	4	1								6	0.82	
16-17		2	3								5	0.68	
17-18		1									1	0.14	
18-19			1								1	0.14	
19-20		1									1	0.14	
20-21	1										1	0.14	
22-23	1										1	0.14	
Total Hours	69	287	259	92	24	2	2				735		
%	9.39	39.05	35.24	12.52	3.26	0.27	0.27						100.00

Table 3.6
Duration of Joint Occurrence of Wave Height and Wave Period (Hours) in September 1996.

T _{1/3}	H _{1/3}											Total Hours	%	
	0.0-0.10	0.10-0.20	0.20-0.30	0.30-0.40	0.40-0.50	0.50-0.60	0.60-0.70	0.70-0.80	0.80-0.90					
0-1														
1-2														
2-3														
3-4	1												1	0.15
4-5	3												3	0.46
5-6	14	1											15	2.28
6-7	5	8	6	4	1	1							23	3.50
7-8	8	51	65	72	32	13	8	3	1				253	38.45
8-9	12	53	33	24	12	6	3	3					143	21.73
9-10	4	39	9	15	12	2	1						82	12.46
10-11	11	32	9		2								54	8.21
11-12	11	15	9		1								36	5.47
12-13	6	8	2										16	2.43
13-14	4	5	1										10	1.52
14-15	3	5											8	1.22
15-16	3	2	1										6	0.91
16-17		4											4	0.61
17-18		1											1	0.15
18-19														
19-20		2											2	0.30
20-21														
21-22	1												1	0.15
Total Hours	84	226	135	115	60	22	9	6	1				658	
%	12.76	34.35	20.52	17.48	9.12	3.34	1.37	0.91	0.15					100.00

Table 3.7
Duration of Joint Occurrence of Wave Height and Wave Period (Hours) in November 1996.

T _{1/10}	H _{1/10}															Total Hours	%
	0.0-0.10	0.10-0.20	0.20-0.30	0.30-0.40	0.40-0.50	0.50-0.60	0.60-0.70	0.70-0.80	0.80-0.90	0.90-1.00	1.00-1.10	1.10-1.20	1.30-1.40				
0-1																	
1-2																	
2-3	7															7	1.05
3-4	16							1								17	2.54
4-5	17															17	2.54
5-6	24	7									1					32	4.79
6-7	26	25	5	4											1	61	9.13
7-8	26	52	28	16	9	2										133	19.91
8-9	35	58	18	3	2											116	17.37
9-10	25	26	7	3	1											62	9.28
10-11	35	19	1													55	8.23
11-12	32	16	2													50	7.49
12-13	27	15														42	6.29
13-14	19	6														25	3.74
14-15	10	8														18	2.69
15-16	7	9														16	2.40
16-17	3															3	0.45
17-18	4															4	0.60
18-19	2	1														3	0.45
19-20	2															2	0.30
20-21	1	1														2	0.30
21-22		1														1	0.15
22-23	1															1	0.15
23-24																	
24-25																	
25-26																	
26-27																	
27-28		1														1	0.15
Total Hour	319	245	61	26	12	2		1			1		1		1	668	
%	47.75	36.68	9.13	3.89	1.80	0.30		0.15			0.15		0.15		0.15	100.00	

Table 3.8
Duration of Joint Occurrence of Wave Height and Wave Period (Hours) in December 1996.

T _{1/3}	H _{1/3}											Total Hours	%
	0.0-0.10	0.10-0.20	0.20-0.30	0.30-0.40	0.40-0.50	0.50-0.60	0.60-0.70						
0-1	1											1	0.44
1-2													
2-3	3											3	1.31
3-4	4				1							5	2.19
4-5	5					1	1					7	3.07
5-6	8	3										11	4.82
6-7	7	8					1					16	7.02
7-8	23	32	2									57	25.00
8-9	10	50	16		1							77	33.77
9-10	12	15		3	1							31	13.60
10-11	5	5										10	4.38
11-12	1	1										2	0.88
12-13	1											1	0.44
13-14	1											1	0.44
14-15	2											2	0.88
15-16	1											1	0.44
16-17	1											1	0.44
17-18	1											1	0.44
18-19													
19-20													
20-21													
21-22													
22-23	1											1	0.44
Total Hours	87	114	18	3	3	2	1					228	
%	38.15	50.00	7.89	1.32	1.32	0.88	0.44						100.00

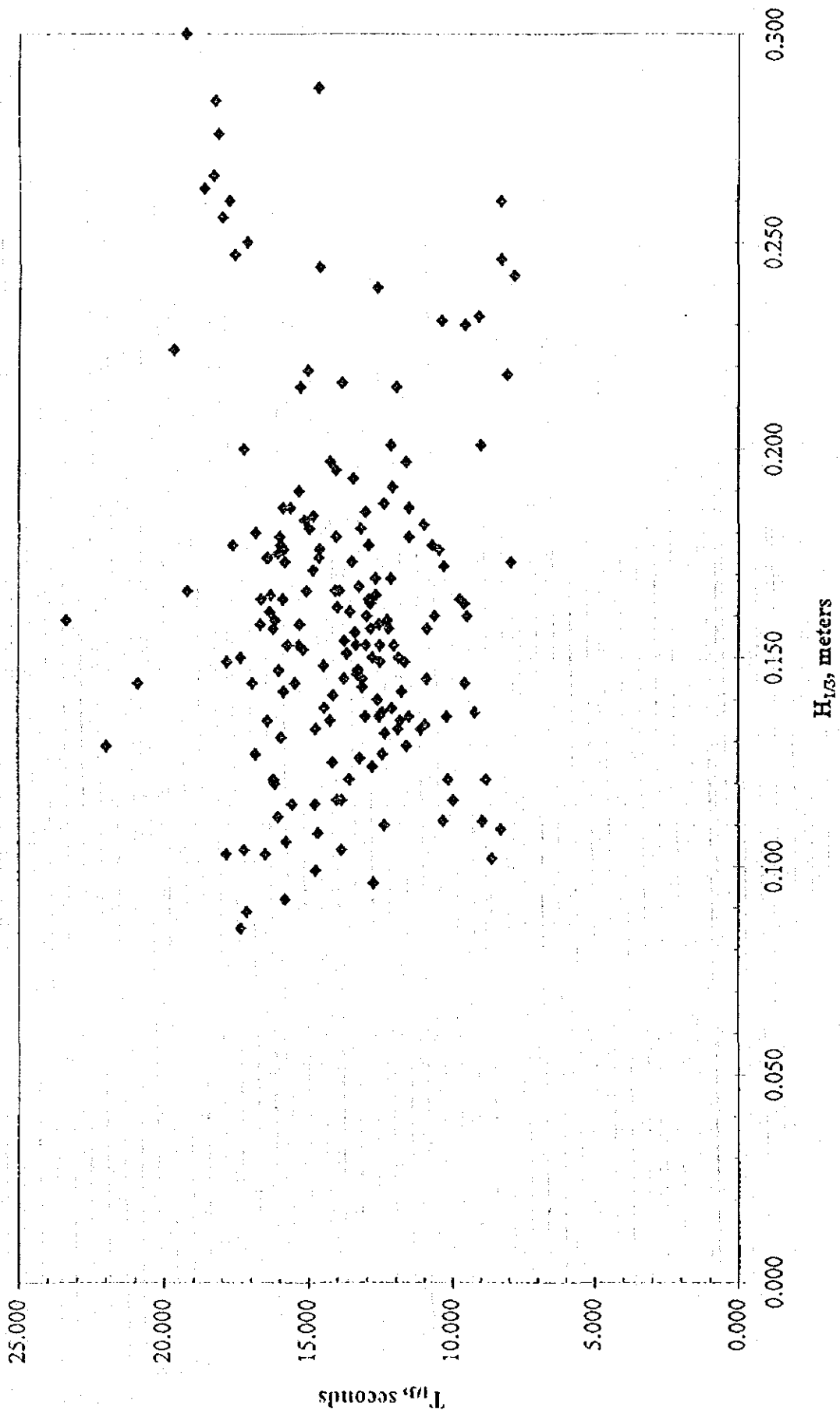


Figure 3.1. Plot of $H_{1/3}$ and $T_{1/3}$ in June 1996.

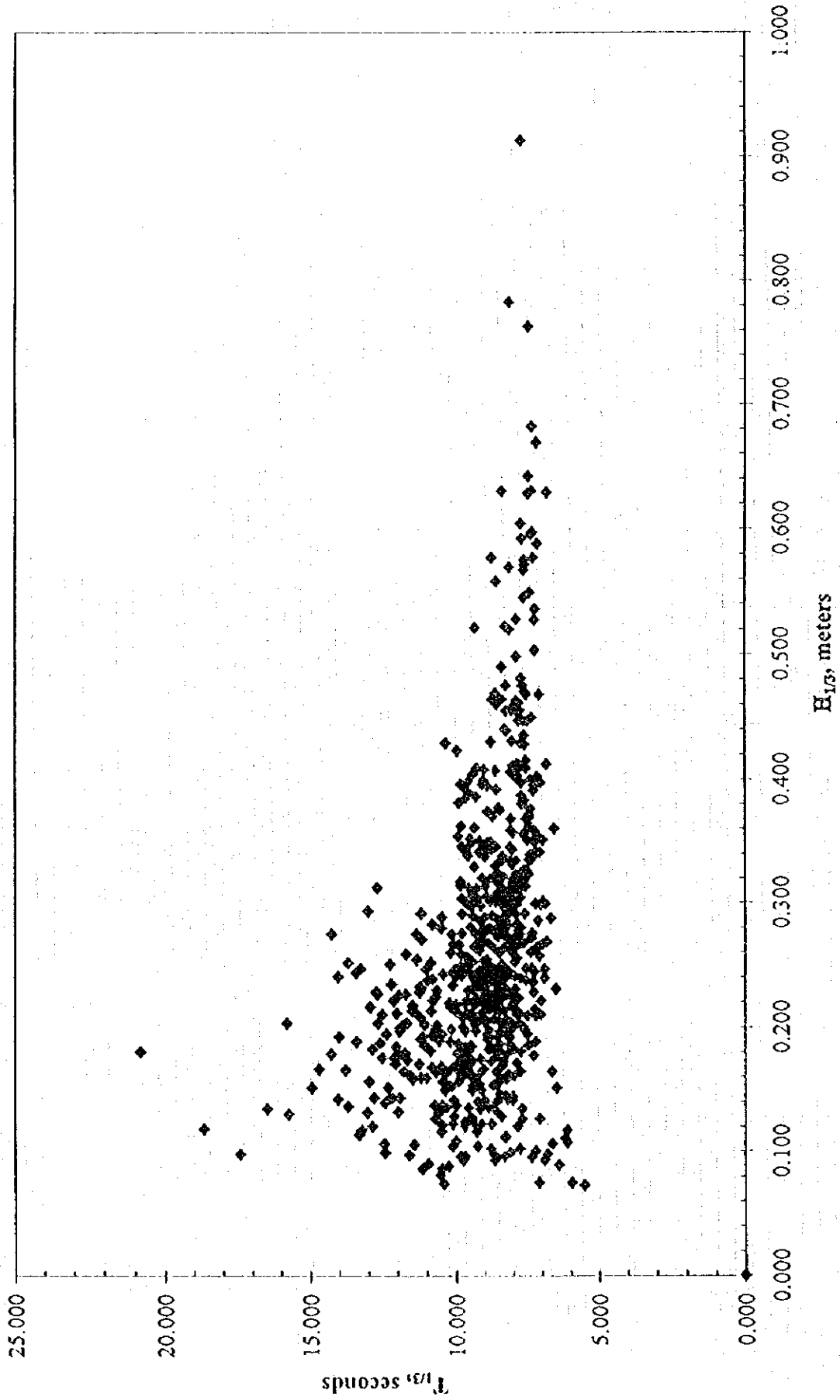


Figure 3.2. Plot of $H_{1/3}$ and $T_{1/3}$ in July 1996.

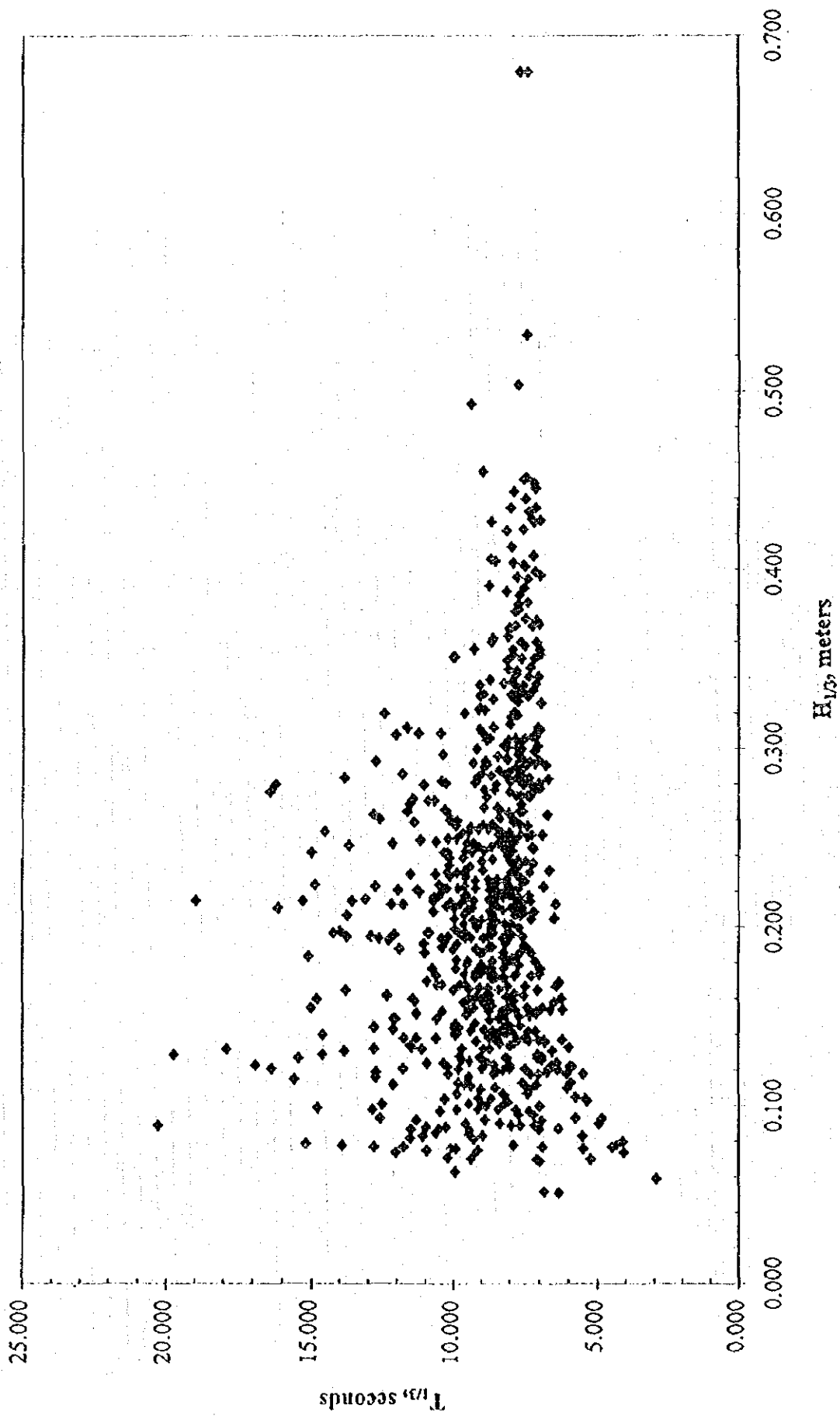


Figure 5.3. Plot of $H_{1/3}$ and $T_{1/3}$ in August 1996.

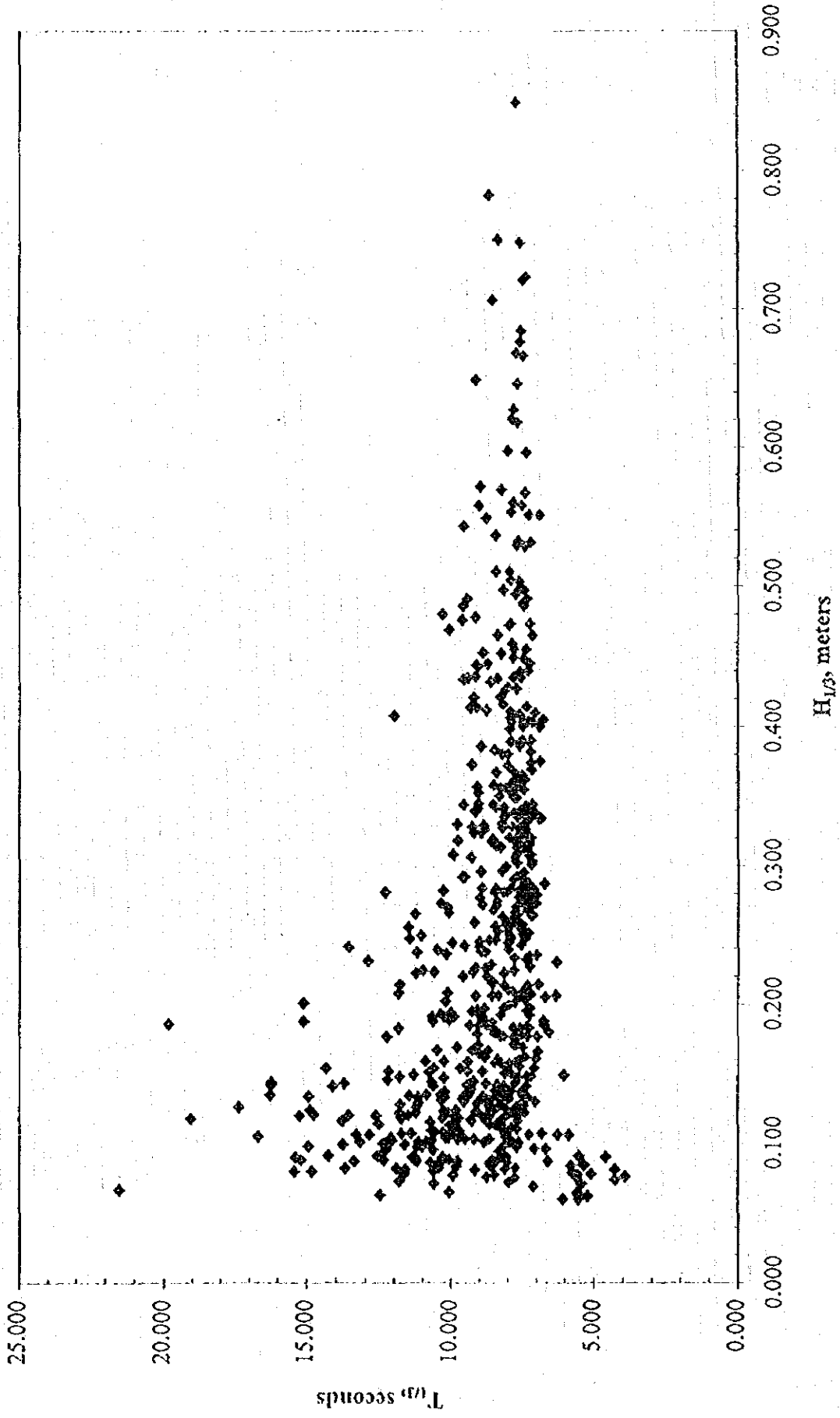


Figure 3.4. Plot of $H_{1/3}$ and $T_{1/3}$ in September 1996.

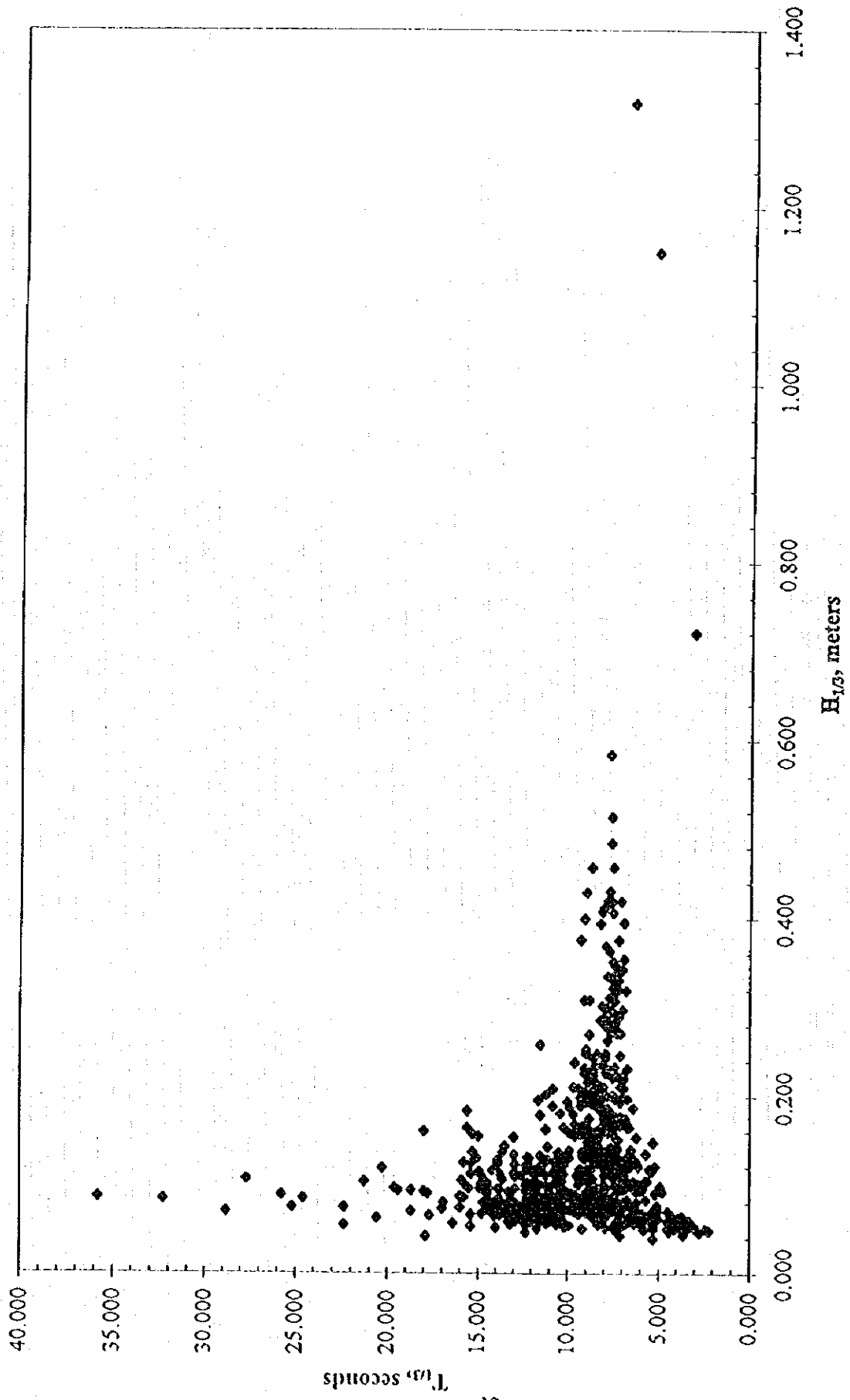


Figure 3.5. Plot of $H_{1/3}$ and $T_{1/3}$ in November 1996.

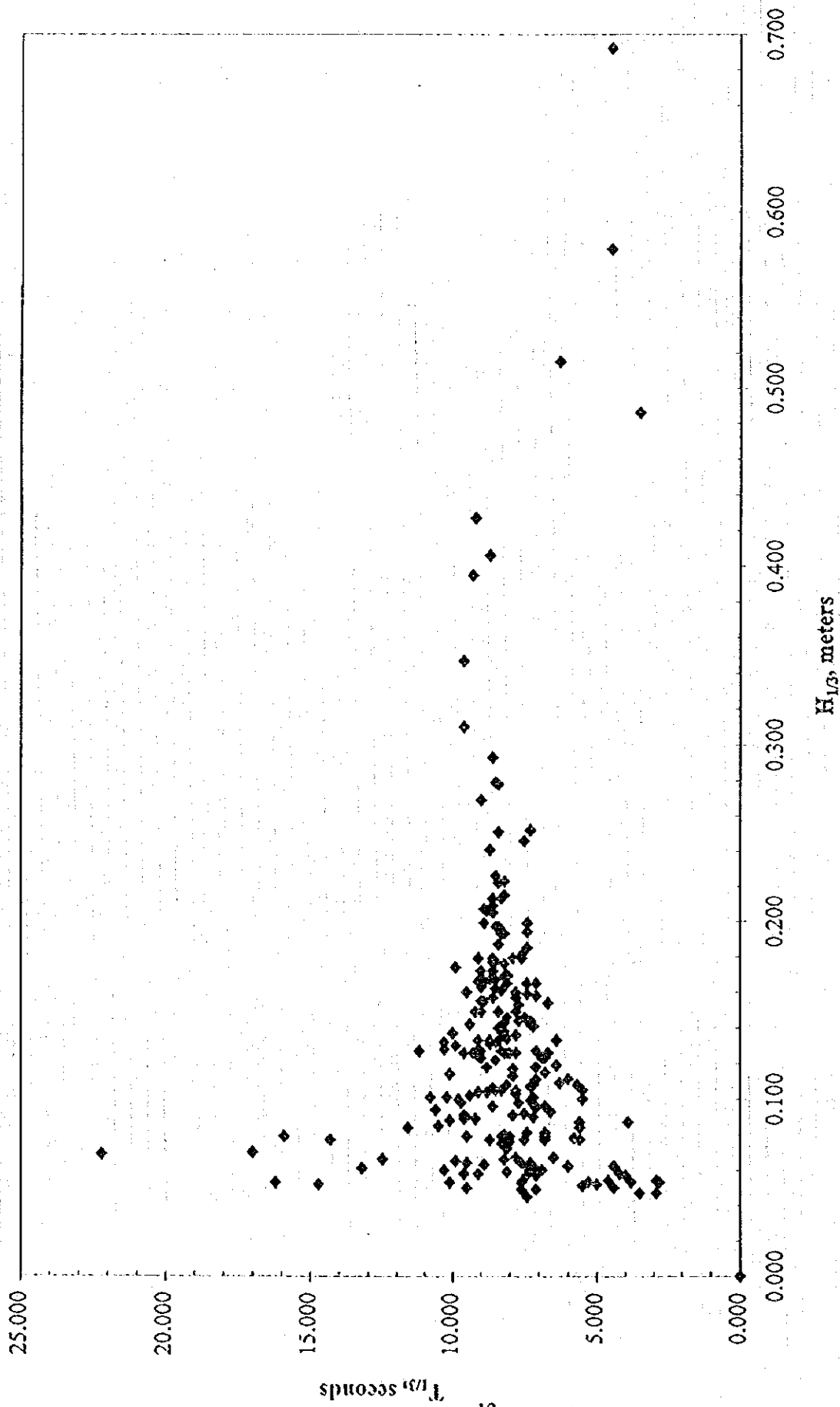


Figure 3.6. Plot of $H_{1/3}$ and $T_{1/3}$ in December 1996.

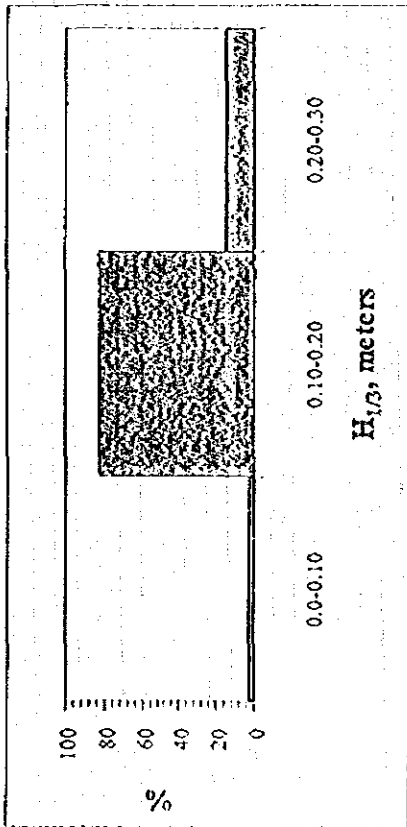


Figure 3.8A. Probability of Occurrence ($H_{1/3}$) in June 1996.

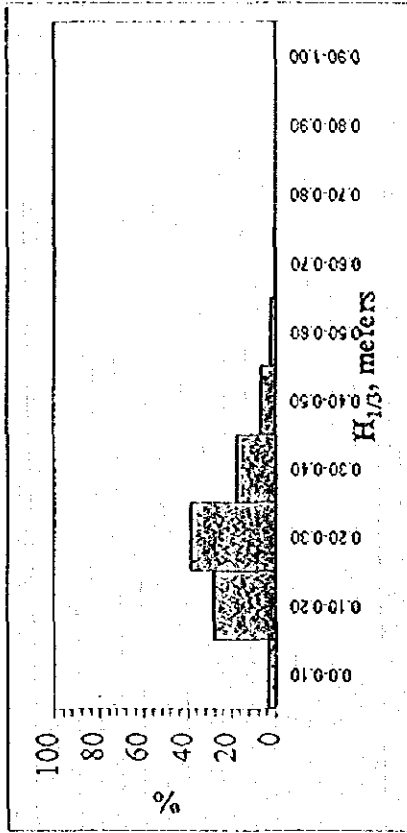


Figure 3.9A. Probability of Occurrence ($H_{1/3}$) in July 1996.

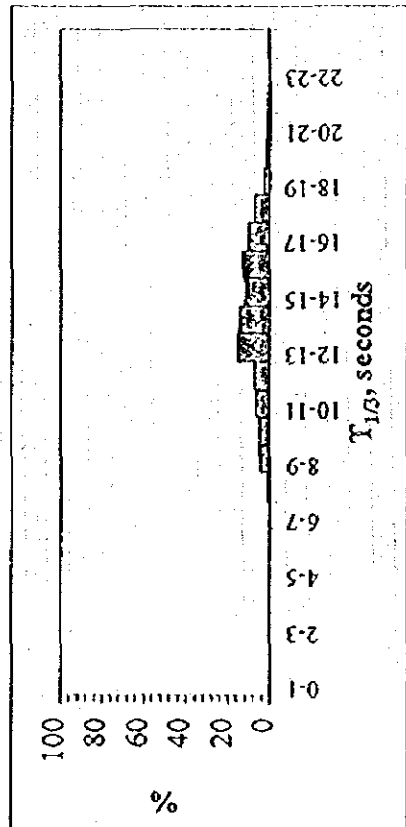


Figure 3.8B. Probability of Occurrence ($T_{1/3}$) in June 1996.

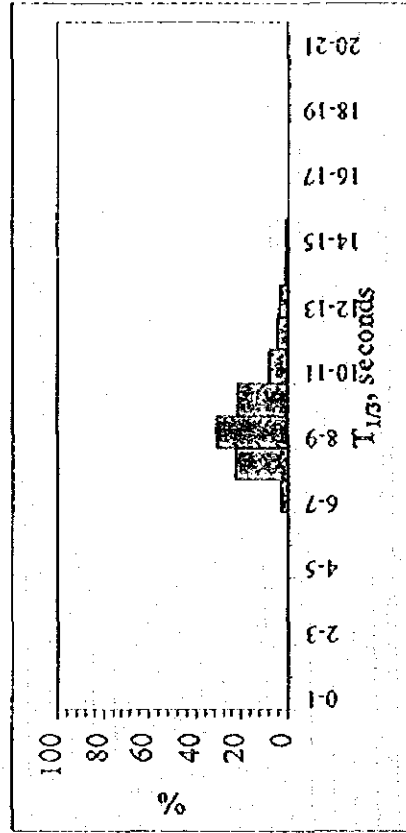


Figure 3.9B. Probability of Occurrence ($T_{1/3}$) in July 1996.

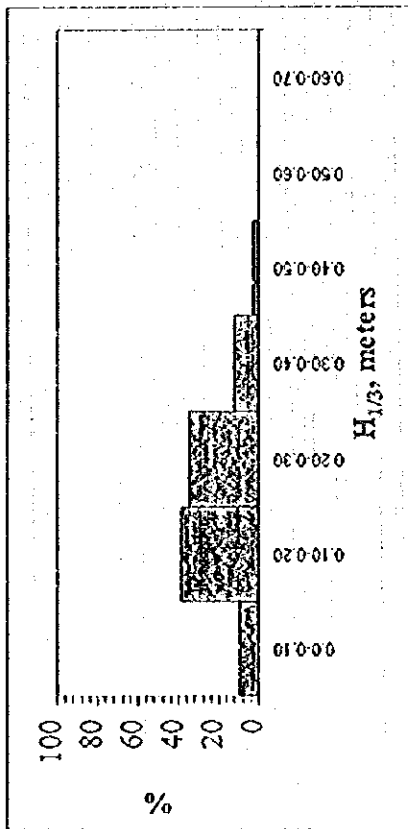


Figure 3.10A. Probability of Occurrence ($H_{1/3}$) in August 1996.

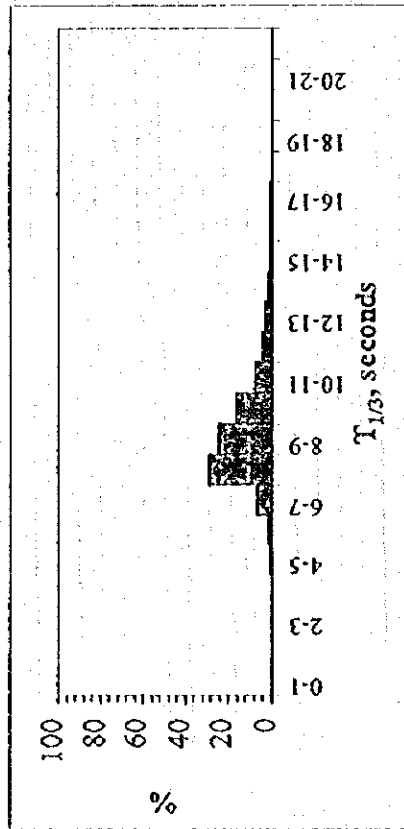


Figure 3.10B. Probability of Occurrence ($T_{1/3}$) in August 1996.

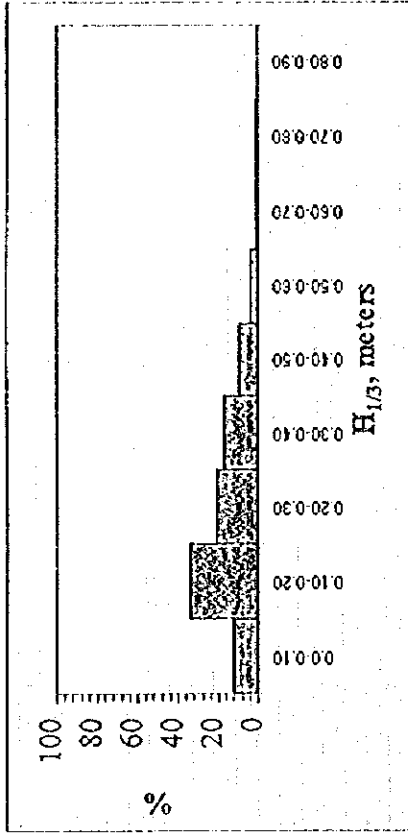


Figure 3.11A. Probability of Occurrence ($H_{1/3}$) in September 1996.

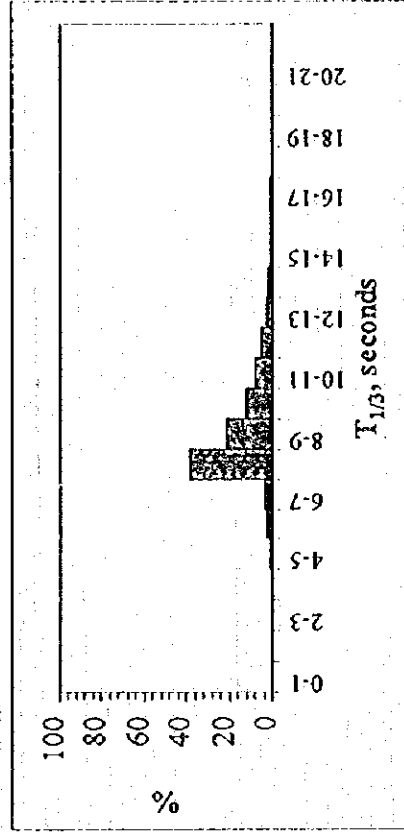


Figure 3.11B. Probability of Occurrence ($T_{1/3}$) in September 1996.

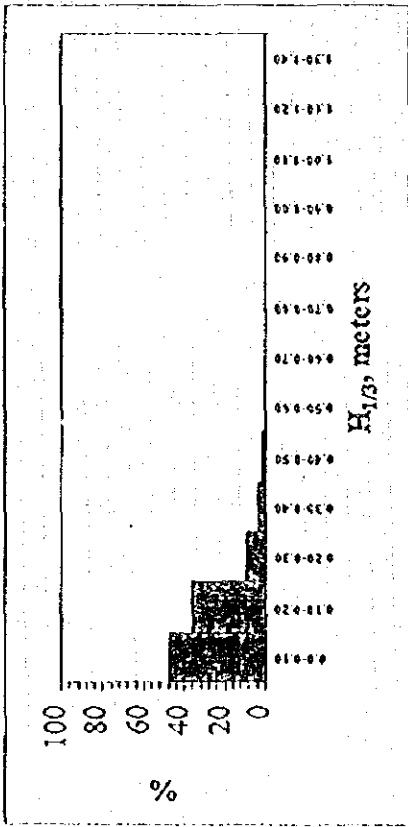


Figure 3.12A. Probability of Occurrence ($H_{1/3}$) in November 1996.

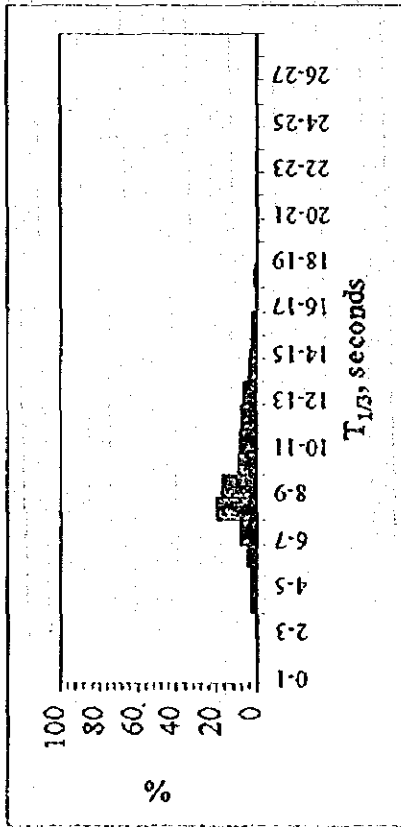


Figure 3.12B. Probability of Occurrence ($T_{1/3}$) in November 1996.

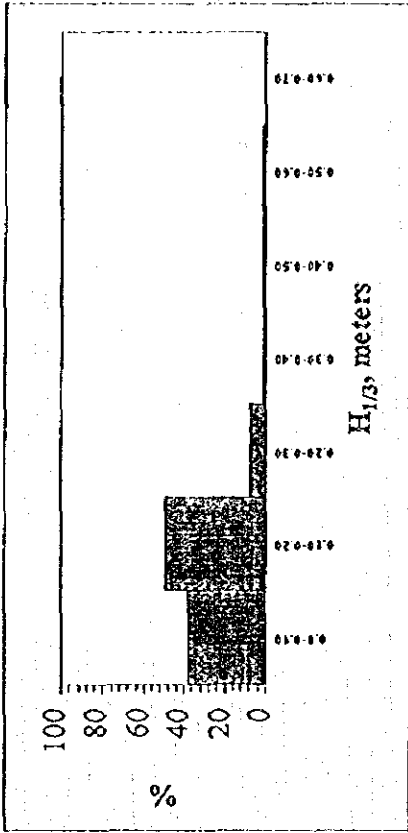


Figure 3.13A. Probability of Occurrence ($H_{1/3}$) in December 1996.

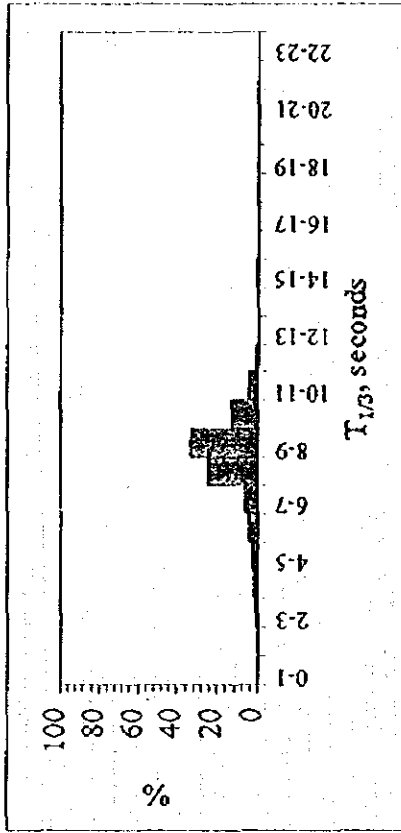


Figure 3.13B. Probability of Occurrence ($T_{1/3}$) in December 1996.

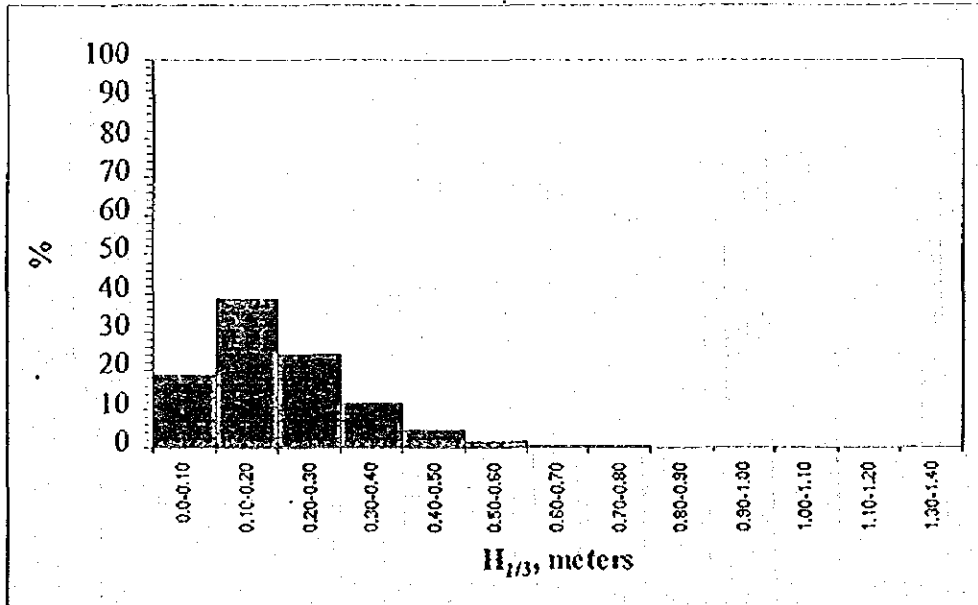


Figure 3.14A. Probability of Occurrence ($H_{1/3}$) from June-December 1996.

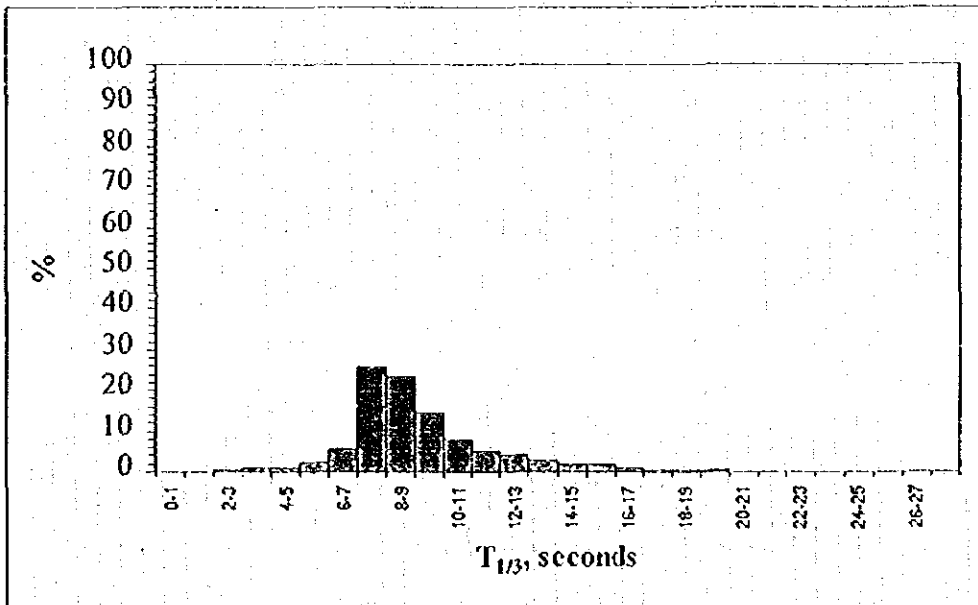


Figure 3.14B. Probability of Occurrence ($T_{1/3}$) from June-December 1996.

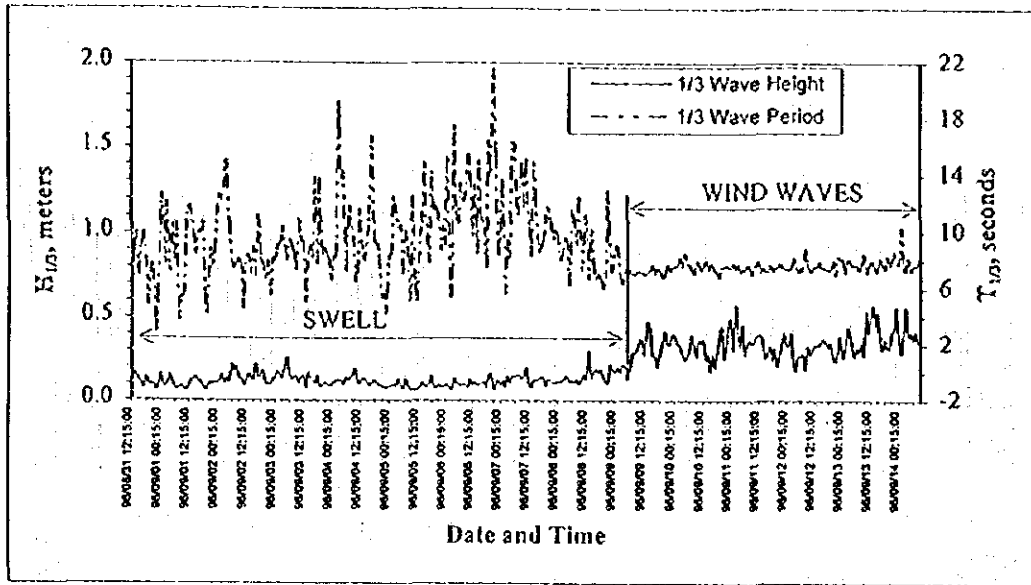
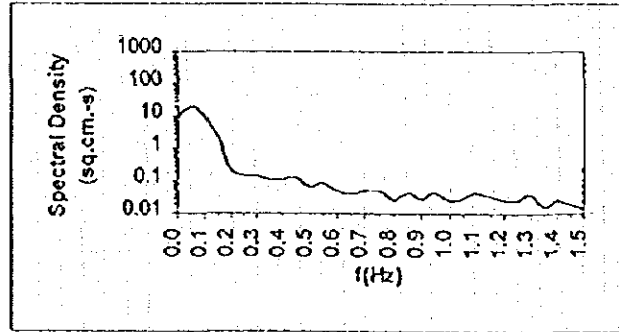
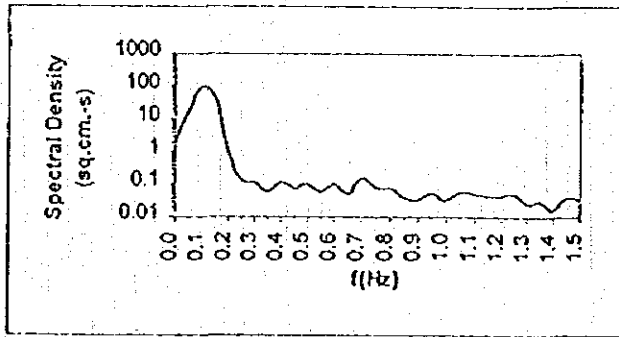


Fig. 3.15 Plot of Significant Wave Height and Wave period for Swell and Wind Wave



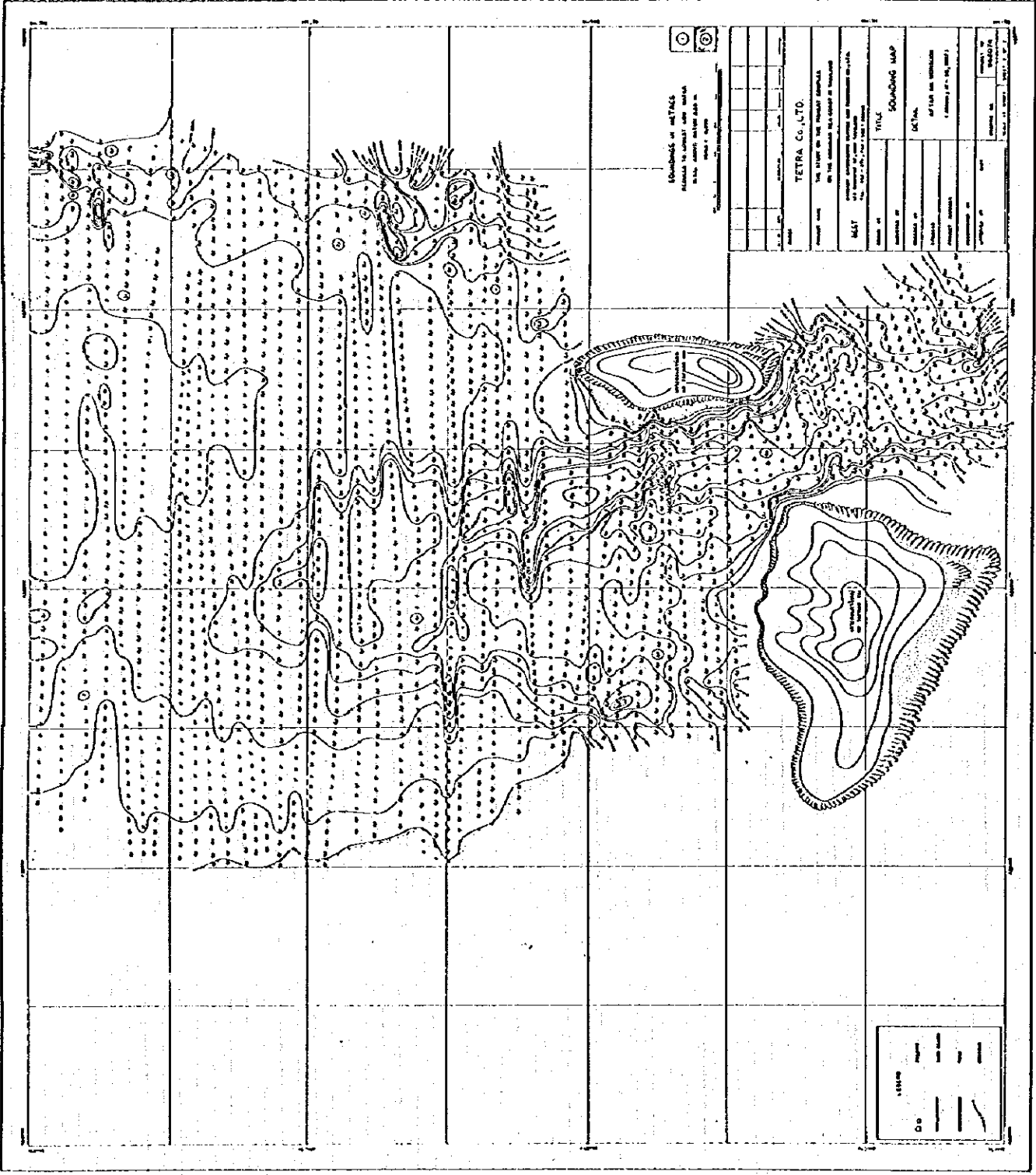
03 September 1996 - 13:15 Hours

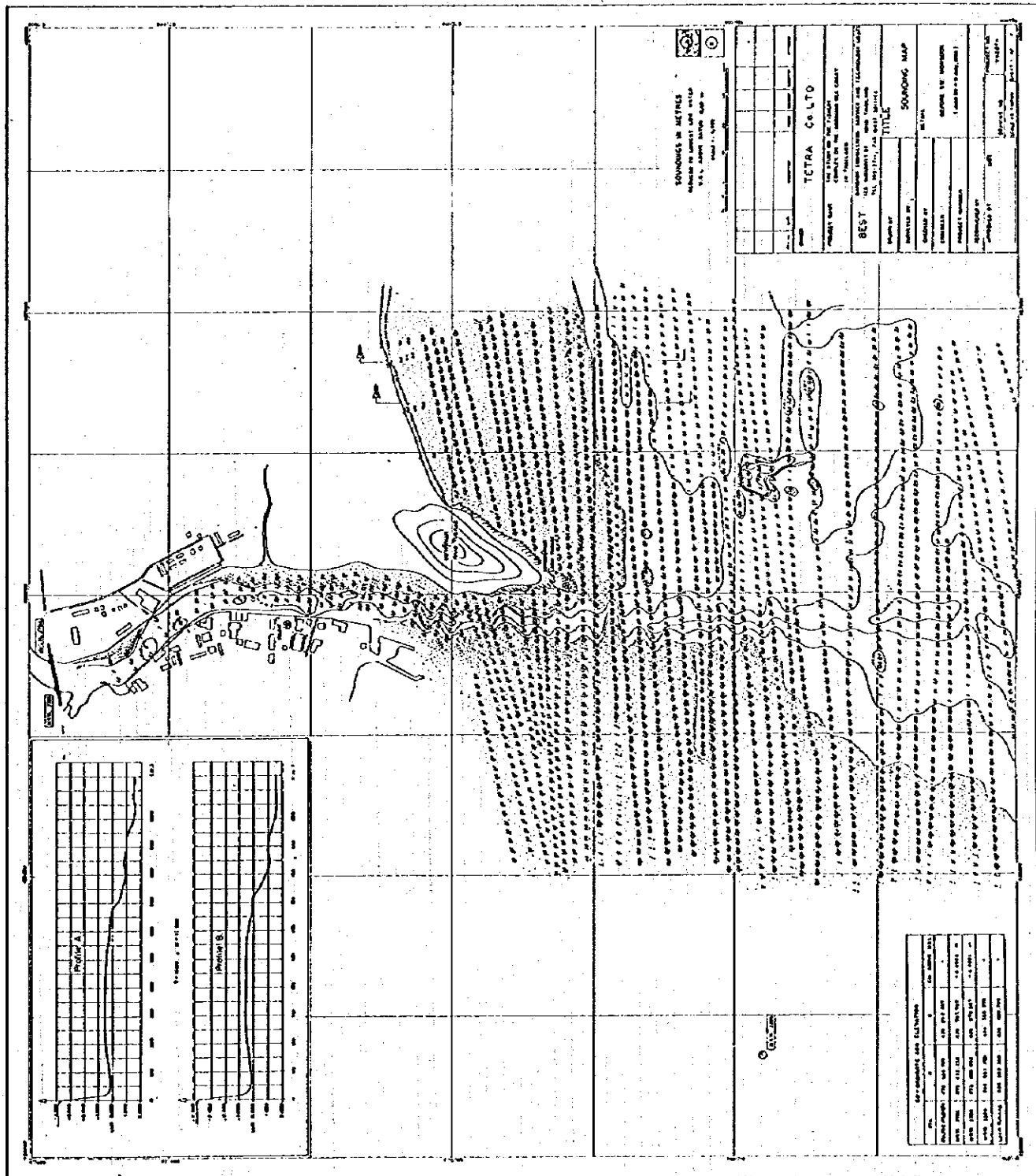


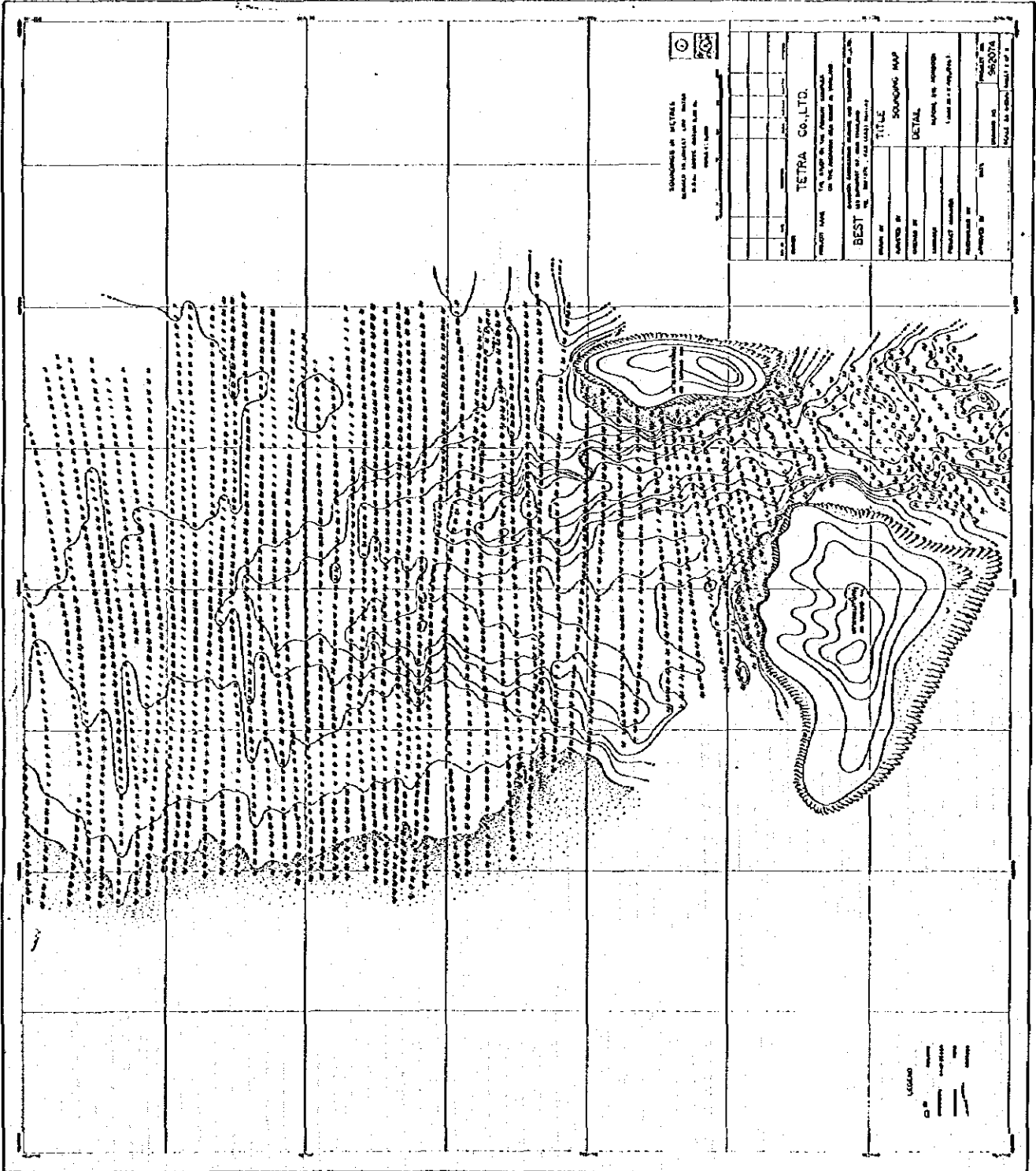
11 September 1996 - 05:15 Hours

Fig. 3.16 Spectra of Swell (September 3,1996) and Wind Wave (September 11,1996)

2. Sounding Survey









 SOUNDINGS IN METRES
 SURVEYED IN JANUARY AND MARCH
 1954. WATER DEPTH 500 M.
 TETRA CO., LTD.

TETRA CO., LTD.
 175, NIPPON Bldg., THE ARCADE, SHIBUYA
 DISTRICT, TOKYO, JAPAN

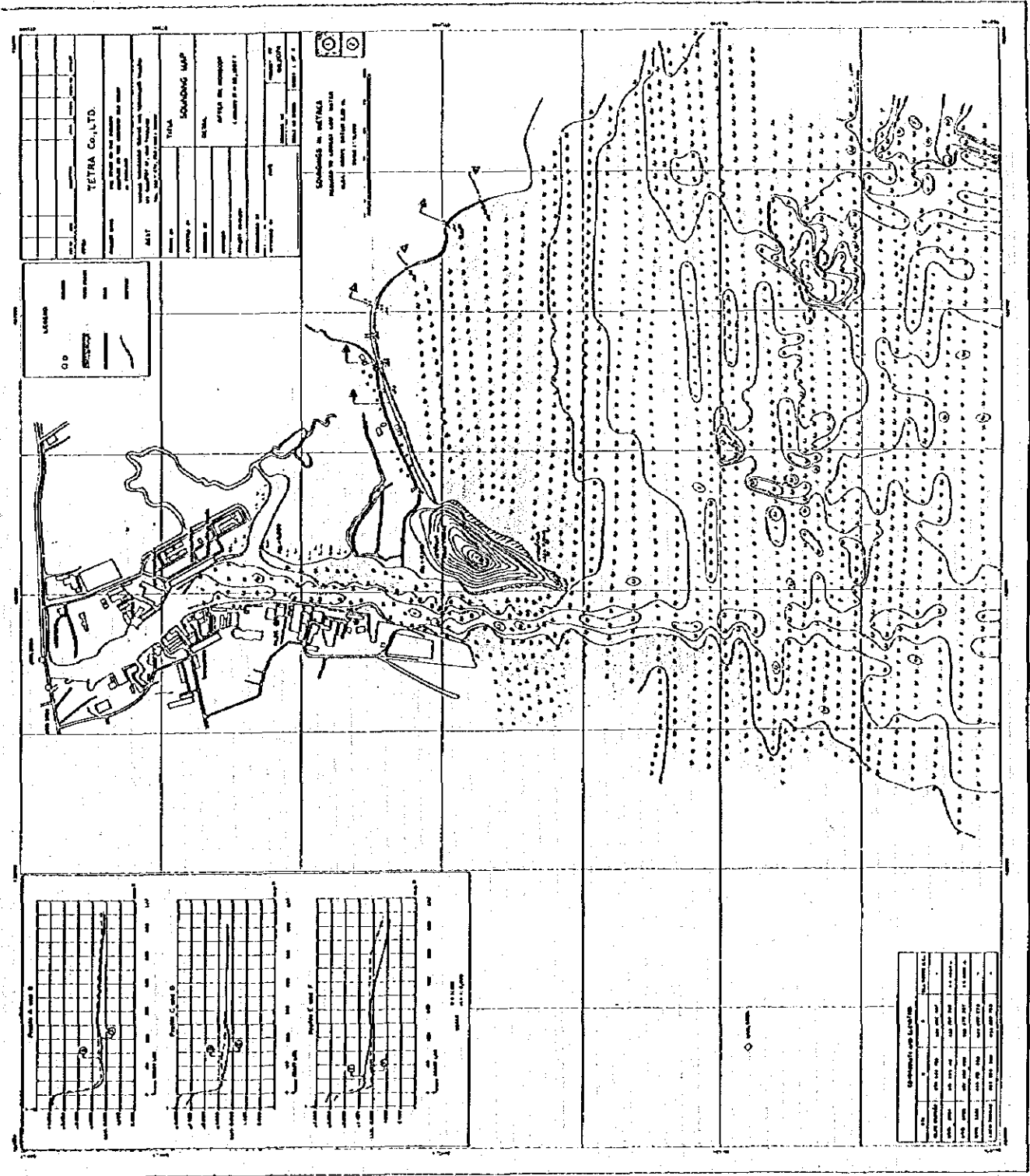
BEST
 SOUNDING MAP
 SOUNDING MAP
 DETAIL

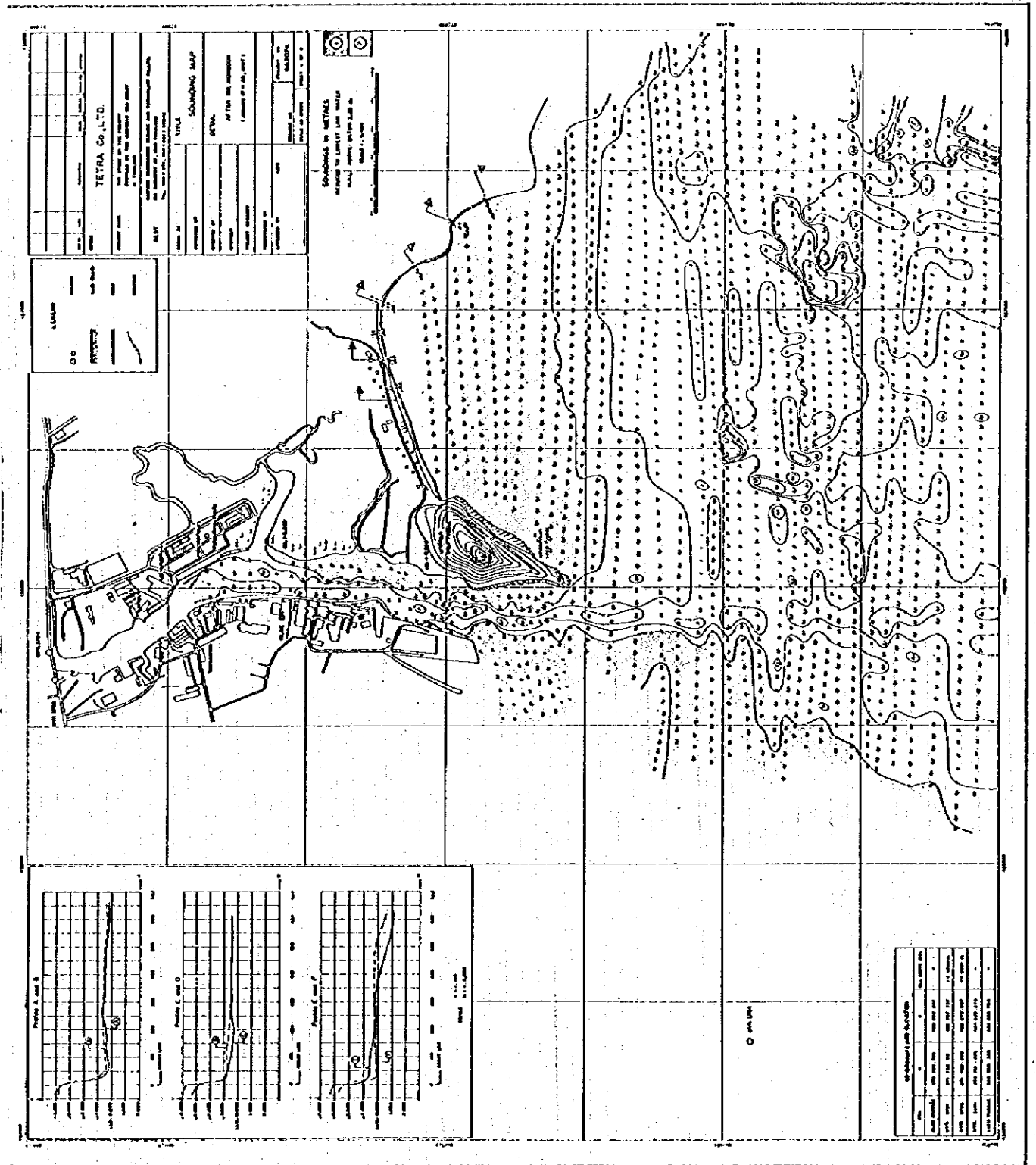
TITLE
 SOUNDING MAP
 DETAIL

PROJECT NO.
 SHEET NO.
 DATE

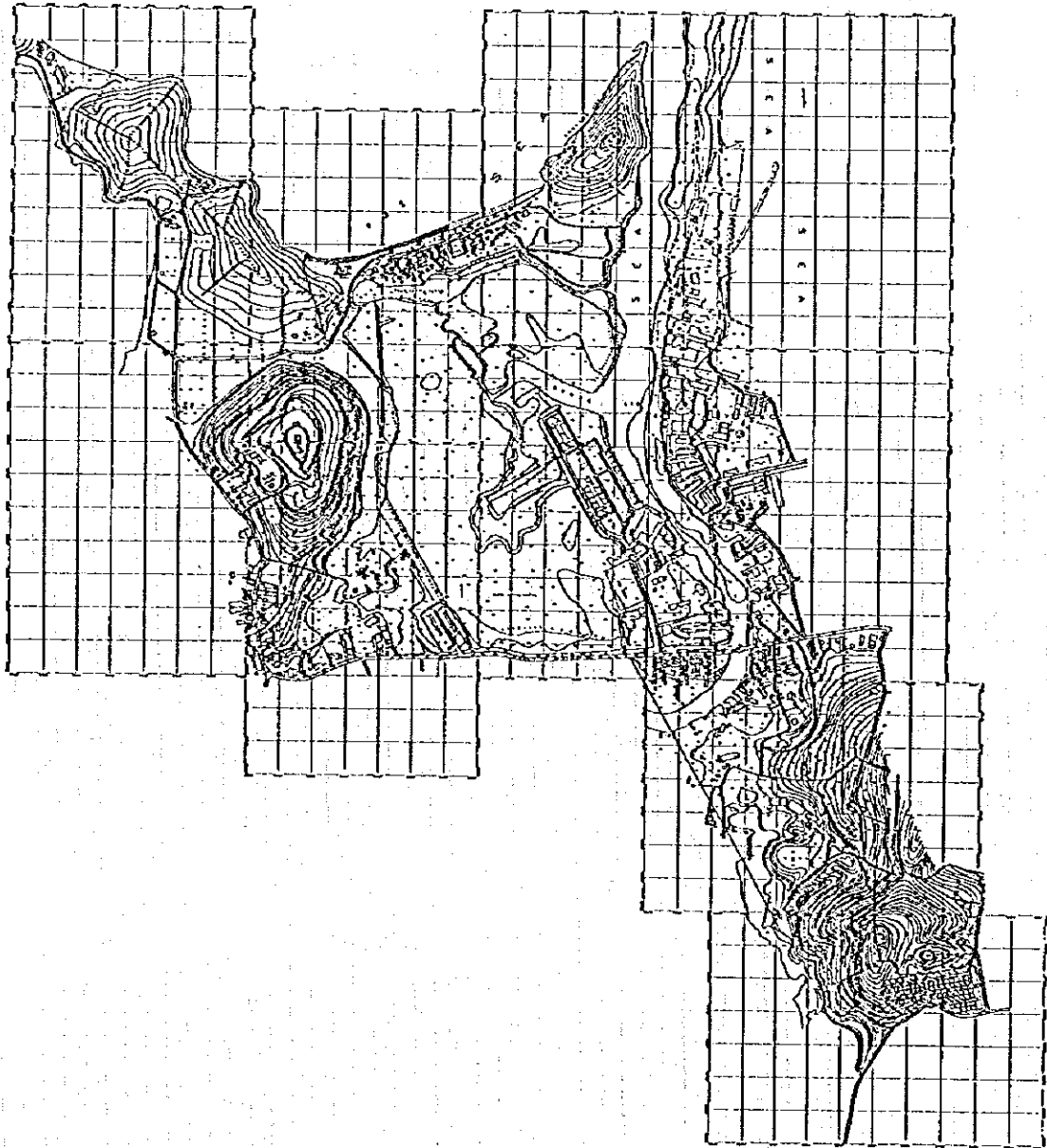
DRAWN BY
 CHECKED BY
 APPROVED BY

LEGEND
 Contour
 Sounding





3. Topographic Survey



TETRA COMPANY LIMITED
 TOPOGRAPHIC MAP
 BEST
 1:50,000
 SHEET NO. 100/100

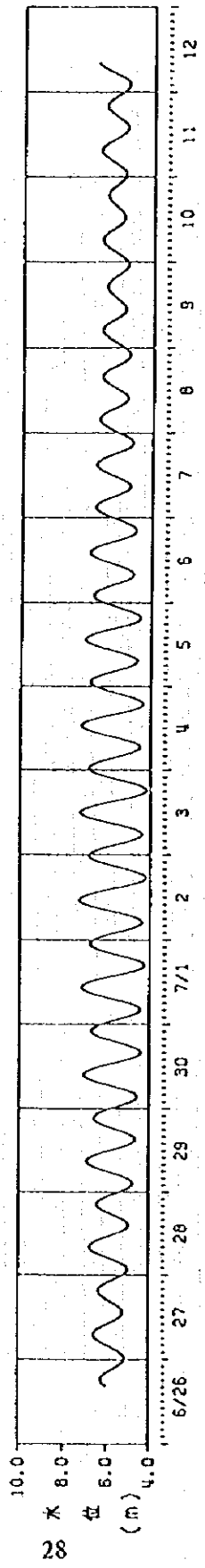
Scale 1:50,000
 Contour Interval 20 Feet
 Vertical Datum Mean Sea Level
 Horizontal Datum Everest Spheroid
 Projection Transverse Mercator
 Grid System UTM
 Grid Zone Designation YG 10

Legend:
 Contour Interval 20 Feet
 Spot Height in Feet
 Spot Height in Meters
 Spot Height in Feet and Meters
 Spot Height in Feet and Meters (with 10m interval)

Scale 1:50,000
 Contour Interval 20 Feet
 Vertical Datum Mean Sea Level
 Horizontal Datum Everest Spheroid
 Projection Transverse Mercator
 Grid System UTM
 Grid Zone Designation YG 10

TETRA COMPANY LIMITED
 TOPOGRAPHIC MAP
 BEST
 1:50,000
 SHEET NO. 100/100

4. Tide Measurement



5. Seabed Material Analysis

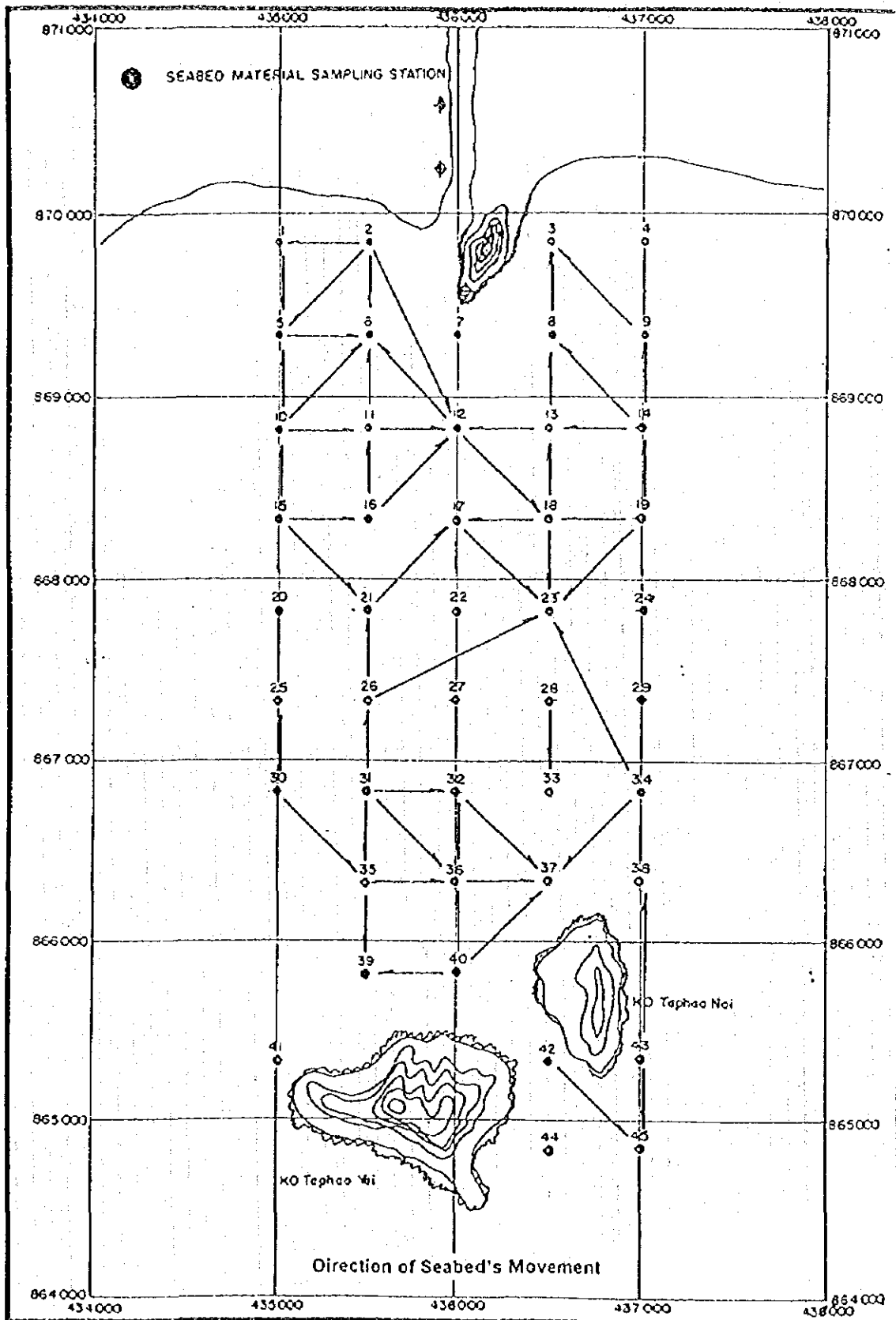


Figure 5.2.12 Direction of Seabed's Movement

SUMMARY OF TEST RESULTS												MADE BY		DATE			
PROJECT <u>FISHERY COMPLEX</u>												RONAYUT		11-Jul-96			
LOCATION <u>PHUKET BAY, MAUNG, PHUKET</u>												BORING NO.		CHECKED BY		DATE	
												DEPTH(m)		L. NOPPARAT		12-Jul-96	
												COORD. <u>BESI</u>					
SAMPLE NO.	DEPTH (m)		USCS GROUP	GRADATION (% CONTAINED)			W _n (%)	ATTERBERG LIMITS & INDICES				G _s					
	FROM	TO		GRAVEL	SAND	SILT		CLAY	LL	PL	PI		LI				
2	SEA BASE		SP	-	-	22.34	47.39					2.66					
3	SEA BASE		SP-SM	0.00	45.09	41.61	42.16					2.69					
4	SEA BASE		SP	2.69	92.39	4.92	28.54					2.77					
15	SEA BASE		SP	-	-	26.33	37.31					2.68					
17	SEA BASE		SM	-	20.71	53.29	69.25					2.71					
19	SEA BASE		SM	-	34.31	48.87	75.04					2.54					
28	SEA BASE		SP	1.23	97.53	1.24	32.25					2.71					
31	SEA BASE		SM	-	37.69	43.09	67.63					2.74					
37	SEA BASE		SP	3.37	93.5	3.13	58.18					2.76					

GRAIN SIZE ANALYSIS

Project: **FISHERY COMPLEX**
 Location: **PHUKET BAY** Depth of sample
 Boring No.: Sample no. **No. 3**
 Soil Description: **Sandy SILT**

Client:
 Tested By: **RONAKHIT**
 Check By: **C.POTHICHADYA**

SIEVE ANALYSIS

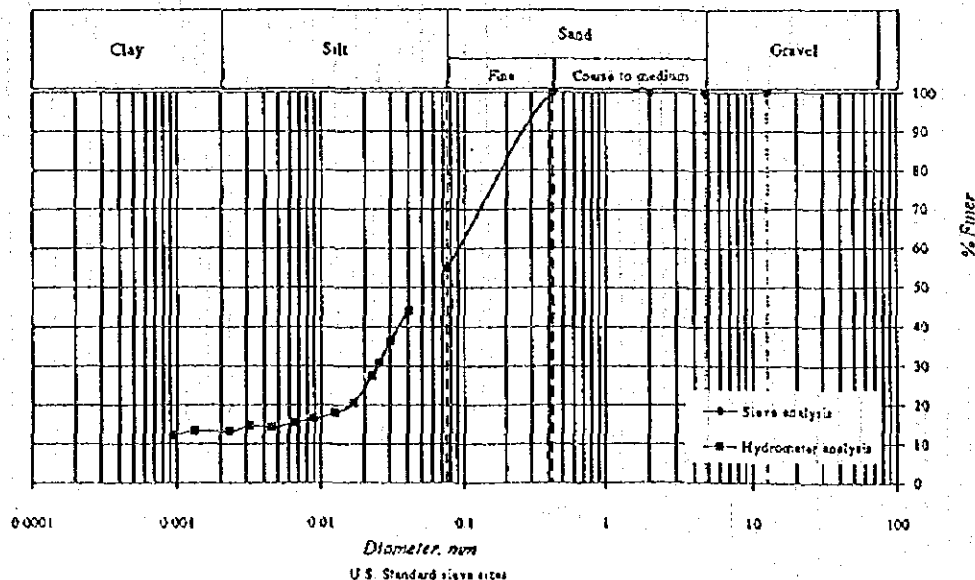
Sieve no.	Diam. (mm)	Soil retained (gn)	% retained	% Finer
1"				100
1/2"	125			100
#4	4.75			100
#10	2			100
#40	0.425			100
#200	0.075	30.36	45.09	54.91

HYDROMETER ANALYSIS

Meniscus: **1** Dispersing agent: **Calgon** Wt. of soil + can: **91.23** gm
 Zero correction: **-3** Specific gravity of soil: **2.69** Wt. of can: **41.32** gm
 % passed sieve #200: **54.91** Wt. of soil: **49.41** gm

Date	Time of reading	Elapsed time, min	Temp., C	Ra	Rc	N	R	Lt	D, mm	N'
08/06/1996	9.48	1	27	35	40.00	80.23	36.00	10.50	0.0403	34.06
08/06/1996		2	27	28	33.00	66.19	29.00	5.85	0.0501	36.35
08/06/1996		3	27	25	28.00	56.16	24.00	4.17	0.0254	30.84
08/06/1996		4	27	20	25.00	50.15	21.00	3.25	0.0224	27.53
08/06/1996		8	26	14	18.65	37.41	15.00	1.75	0.0156	20.54
08/06/1996	9.03	15	25	12	16.30	32.69	13.00	0.95	0.0124	17.95
08/06/1996	10.18	30	24	11	15.00	30.09	12.00	0.48	0.0089	16.52
08/06/1996	10.48	60	24	10	14.00	28.08	11.00	0.25	0.0064	15.42
08/06/1996	11.48	120	24	9	13.00	26.08	10.00	0.12	0.0045	14.32
08/06/1996	13.48	240	23	9	13.30	26.68	10.00	0.66	0.0072	14.65
08/06/1996	17.48	480	24	8	12.00	24.07	9.00	0.03	0.0023	13.22
09/06/1996	9.48	1440	24	8	12.00	24.07	9.00	0.01	0.0013	13.22
10/06/1996	9.48	2880	24	7	11.00	22.06	8.00	0.01	0.0009	12.12

GRAIN SIZE DISTRIBUTION



GRAIN SIZE ANALYSIS

Project : FISHERY COMPLEX **Client :**
Location : PIVKET BAY **Depth of sample**
Boring No. : **Sample no.** No. 12 **Tested By :** RONAYUT
Soil Description : Sandy SILT **Check By :** C. POINICHAYLA

SIEVE ANALYSIS

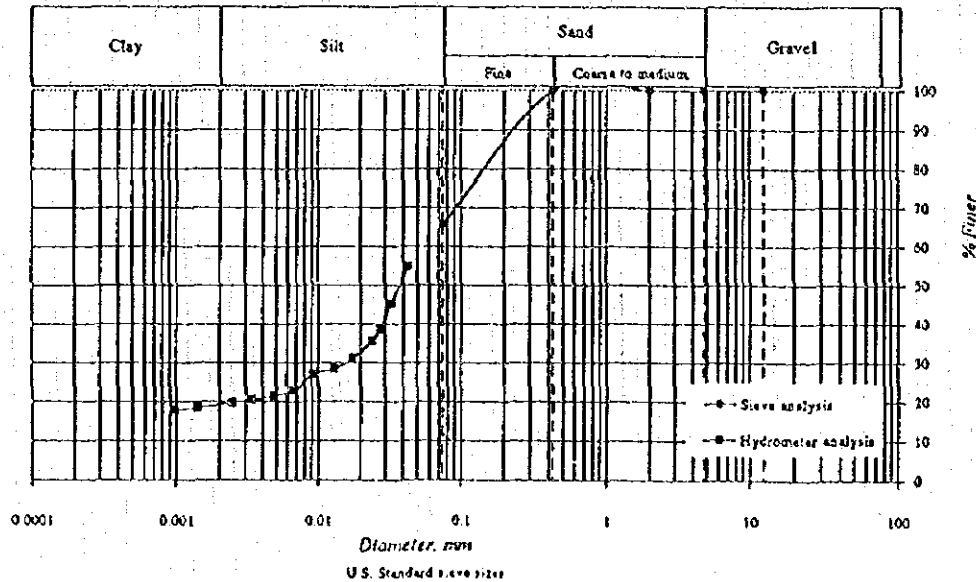
Sieve no	Diain (mm)	Soil retained (gn)	% retained	% Finer
1"				100
1/2"	12.5			100
#4	4.75			100
#10	2.00			100
#20	0.875			100
#200	0.075	33.05	34.31	65.69

HYDROMETER ANALYSIS

Mensicus	1	Dispersing agent	Calgon	Wt. of soil + can	91.45	gn
Zero mass	-1	Specific gravity of soil	2.54	Wt. of can	42.23	gn
		% passed sieve #200	65.69	Wt. of soil	49.22	gn

Date	Time of reading	Elapsed time, min	Temp, C	Ra	Rc	N	R	LA	Durna	N
08/06/1996	10.43	1	24	35	40.00	93.45	35.00	10.50	0.0436	54.92
08/06/1996		2	24	29	33.00	68.53	29.00	5.85	0.0325	45.23
08/06/1996		3	24	23	28.00	58.42	24.00	4.17	0.0275	38.38
08/06/1996		4	24	21	26.00	54.23	22.00	3.23	0.0242	35.64
08/06/1996		8	23	18	22.70	47.35	19.00	1.66	0.0176	31.11
08/06/1996	10.37	15	23	15	20.70	43.19	17.00	0.91	0.0130	28.37
08/06/1996	11.12	30	23	15	19.70	41.10	16.00	0.46	0.0092	27.00
08/06/1996	11.43	50	23	12	16.70	34.34	13.00	0.24	0.0067	22.99
08/06/1996	12.43	120	23	11	15.70	32.76	12.00	0.12	0.0047	21.52
08/06/1996	14.43	240	24	10	15.00	31.30	11.00	0.06	0.0033	20.56
08/06/1996	18.43	480	22	10	14.40	30.04	11.00	0.03	0.0024	19.74
09/06/1996	10.43	1440	22	9	13.40	27.96	10.00	0.01	0.0014	18.37
10/06/1996	10.43	2880	24	8	13.00	27.13	9.00	0.01	0.0010	17.82

GRAIN SIZE DISTRIBUTION



GRAIN SIZE ANALYSIS

Project : FISHERY COMPLEX **Client :**
Location : PHUKET BAY **Depth of sample :**
Boring No. : **Sample no. :** No. 17
Soil Description : Sandy SILT **Tristed By :** RONAYLIT
Check By : C. ROTHUSAIYA

SIEVE ANALYSIS

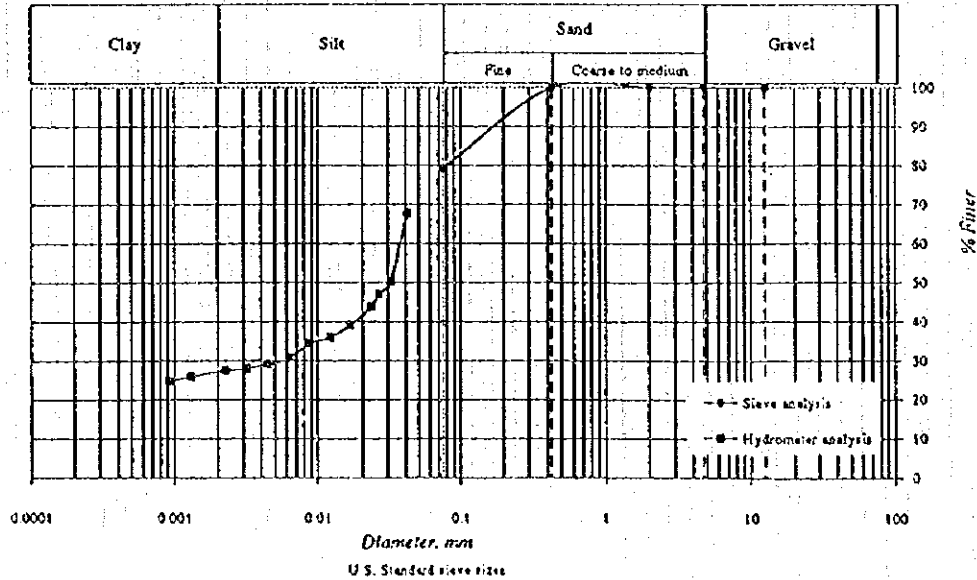
Sieve no	Dist. (mm)	Soil retained (gm)	% retained	% Finer
1"				100
1/2"	12.5			100
#4	4.75			100
#10	1.00			100
#40	0.425			100
#200	0.075	10.63	20.71	79.29

HYDROMETER ANALYSIS

Meniscus : 1 **Dispersing agent :** Calgon **Wt. of soil + can :** 95.38 gm
Levelling time : 4 **Specific gravity of soil :** 2.71 **Wt. of can :** 46.53 gm
% passed sieve #200 : 79.29 **Wt. of soil :** 49.35 gm

Date	Time of reading	Elapsed time, min	Temp., C	R _a	R _c	N	R	L _t	D, mm	N'
08/06/1996	11.01	1	23	38	42.70	85.38	29.00	10.10	0.0411	67.70
08/06/1996		2	23	27	31.70	63.38	28.00	5.95	0.0316	50.25
08/06/1996		3	23	23	29.70	59.39	26.00	4.07	0.0261	47.09
08/06/1996		4	23	23	27.70	55.39	24.00	3.13	0.0229	43.92
08/06/1996		5	23	20	24.70	49.39	21.00	1.61	0.0165	39.15
08/06/1996	11.15	15	23	18	22.70	45.39	19.00	0.89	0.0122	35.99
08/06/1996	11.3	30	23	17	21.70	43.39	18.00	0.45	0.0087	34.40
08/06/1996	12.00	60	22	15	19.40	38.79	16.00	0.23	0.0063	30.76
08/06/1996	13.00	120	22	14	18.40	36.79	15.00	0.12	0.0045	29.17
08/06/1996	15.00	240	23	13	17.70	35.39	14.00	0.06	0.0031	28.06
08/06/1996	19.00	480	22	13	17.40	34.79	14.00	0.03	0.0023	27.59
09/06/1996	11.01	1410	22	12	16.40	32.79	13.00	0.01	0.0013	25.00
10/06/1996	11.01	2880	23	11	15.70	31.39	12.00	0.01	0.0009	24.89

GRAIN SIZE DISTRIBUTION



GRAIN SIZE ANALYSIS

Project : FISHERY COMPLEX **Client :**
Location : PHUKET BAY **Depth of sample :**
Boring No. : **Sample no. :** No. 31
Soil Description : Sandy SILT **Tested By :** ROMAYICE
Check By : C. ROTHICHALAYA

SEIVE ANALYSIS

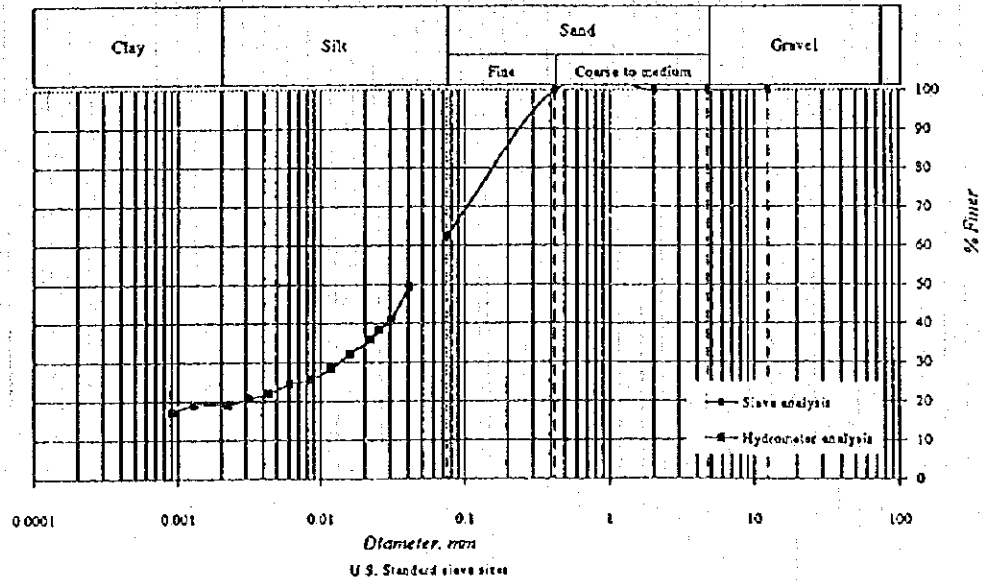
Seive no.	Di. (mm)	Soil retained (gm)	% retained	% Finer
1"				100
1/2"	12.5			100
#4	4.75			100
#10	2.00			100
#40	0.425			100
#200	0.075	39.92	37.69	62.31

HYDROMETER ANALYSIS

Meniscus	1	Dispersing agent	Calgon	Wt. of soil + can	94.73	gm
Can correction	-4	Specific gravity of soil	2.74	Wt. of can	44.83	gm
		% passed sieve #100	62.31	Wt. of soil	49.9	gm

Date	Time of reading	Elapsed time, min	Temp., C	Ra	Re	N	R	L _A	D, mm	N'
08/06/1996	10.15	1	25	35	40.30	79.19	55.00	10.50	0.0406	49.34
08/06/1996		2	25	28	33.30	65.43	29.00	5.35	0.0303	40.77
08/06/1996		3	25	26	31.30	61.50	27.00	4.00	0.0251	38.32
08/06/1996		4	25	24	29.30	57.57	25.00	3.10	0.0221	35.37
08/06/1996		8	25	21	25.30	51.68	22.00	1.61	0.0159	32.20
08/06/1996		13	25	18	23.30	45.78	19.00	0.89	0.0118	28.53
08/06/1996	10.45	30	24	15	21.00	41.26	17.00	0.46	0.0066	25.71
08/06/1996	11.15	60	24	15	20.00	39.30	16.00	0.23	0.0061	24.49
08/06/1996	12.15	120	24	13	18.00	35.37	14.00	0.12	0.0044	22.04
08/06/1996	14.15	240	24	12	17.00	33.40	13.00	0.06	0.0031	20.81
08/06/1996	18.15	480	23	11	15.70	30.85	12.00	0.03	0.0022	19.22
09/06/1996	10.15	1440	23	11	15.70	30.85	12.00	0.01	0.0019	19.22
10/06/1996	10.15	2880	24	9	14.00	27.51	10.00	0.01	0.0009	17.14

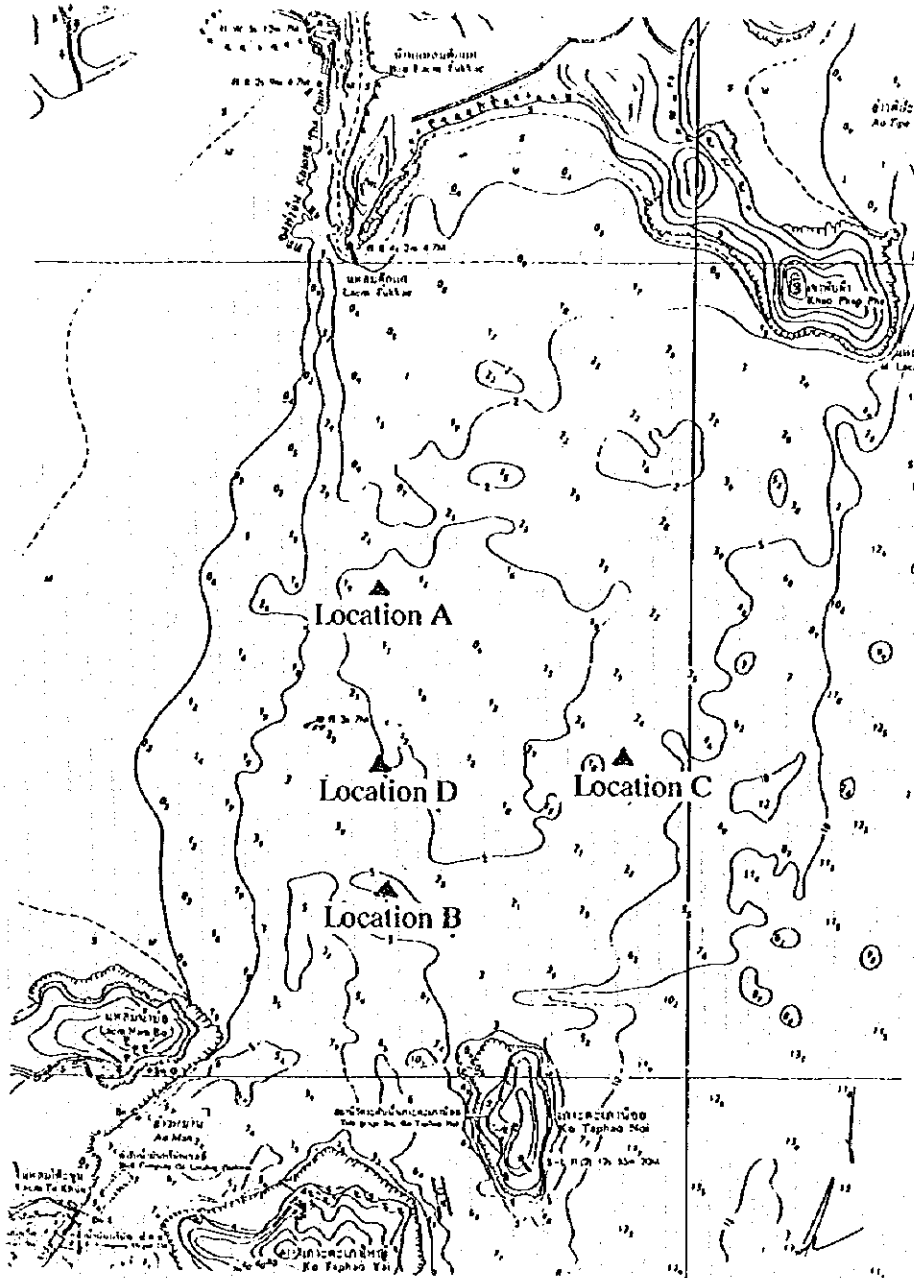
GRAIN SIZE DISTRIBUTION



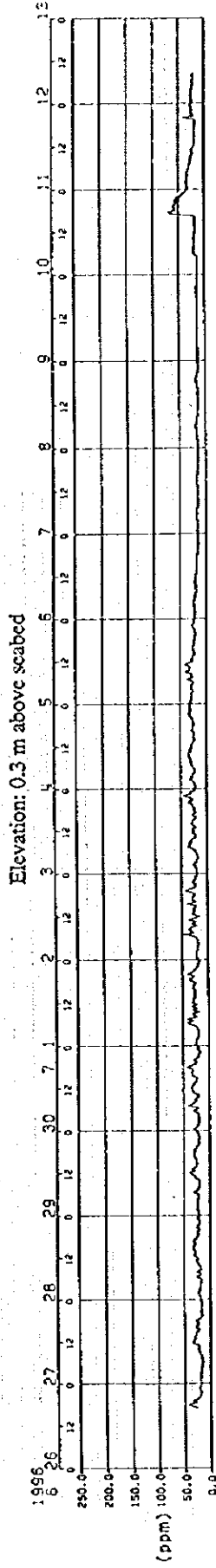
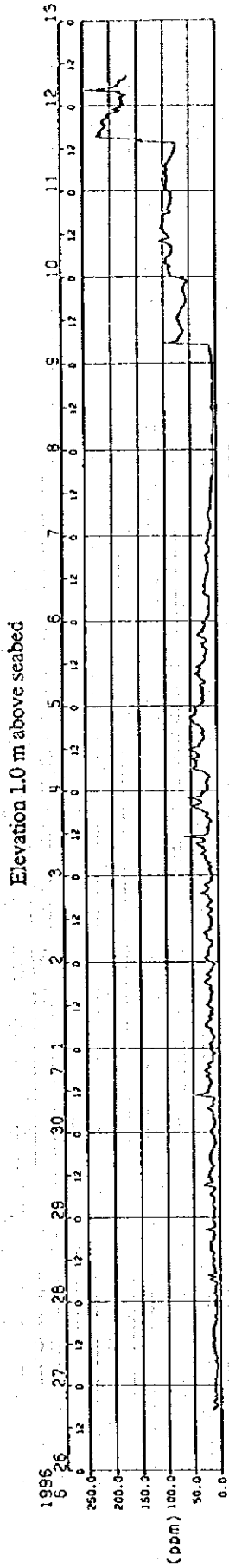
SUMMARY OF TEST RESULTS												MADE BY <u>RONAYUT</u>	
PROJECT <u>FISHERY COMPLEX</u>												DATE <u>11-Jul-96</u>	
LOCATION <u>PHUKET BAY, MAUNG, PHUKET</u>												CHECKED BY <u>L. NOPPARAI</u>	
BORING NO. <u>BESI</u>												DATE <u>12-Jul-96</u>	
SAMPLE NO.	DEPTH (m)		USCS GROUP	GRADATION (% CONTAINED)			W _n (%)	ATTERBERG LIMITS & INDICES					
	FROM	TO		GRAVEL	SAND	SILT		CLAY	LL	PL	PI	LI	G _s
2	SEA BASE		SP	-	-	22.34	47.39						2.66
3	SEA BASE		SP-SM	0.00	45.09	41.61	13.22	42.16					2.69
4	SEA BASE		SP	2.69	92.39	4.92	28.54						2.77
15	SEA BASE		SP	-	-	26.33	37.31						2.68
17	SEA BASE		SM	-	20.71	53.29	26	69.25					2.71
19	SEA BASE		SM	-	34.31	48.87	17.82	75.04					2.54
28	SEA BASE		SP	1.23	97.53	1.24	32.25						2.71
31	SEA BASE		SM	-	37.69	43.09	19.22	67.63					2.74
37	SEA BASE		SP	3.37	93.5	3.13	58.18						2.76



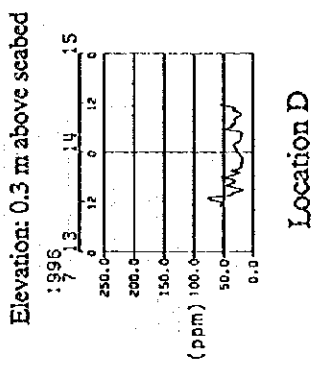
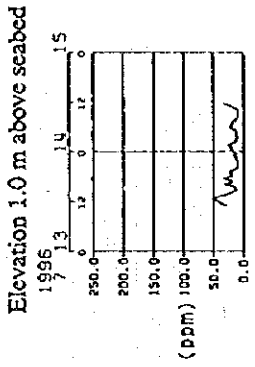
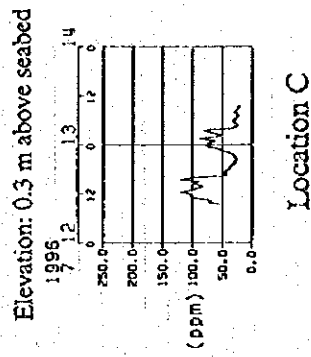
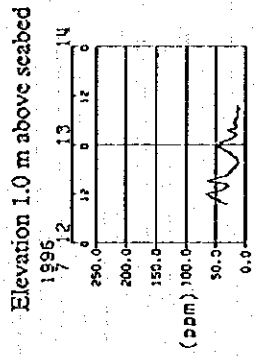
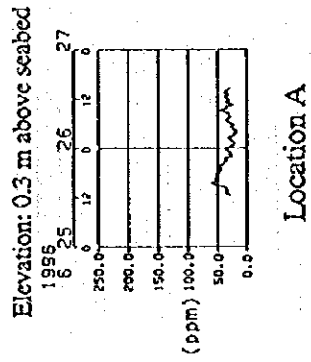
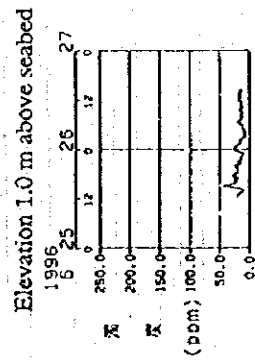
6. Turbidity Measurement



Locations of a turbidity meter



Records of turbidity (1) Location B



Records of turbidity (2)