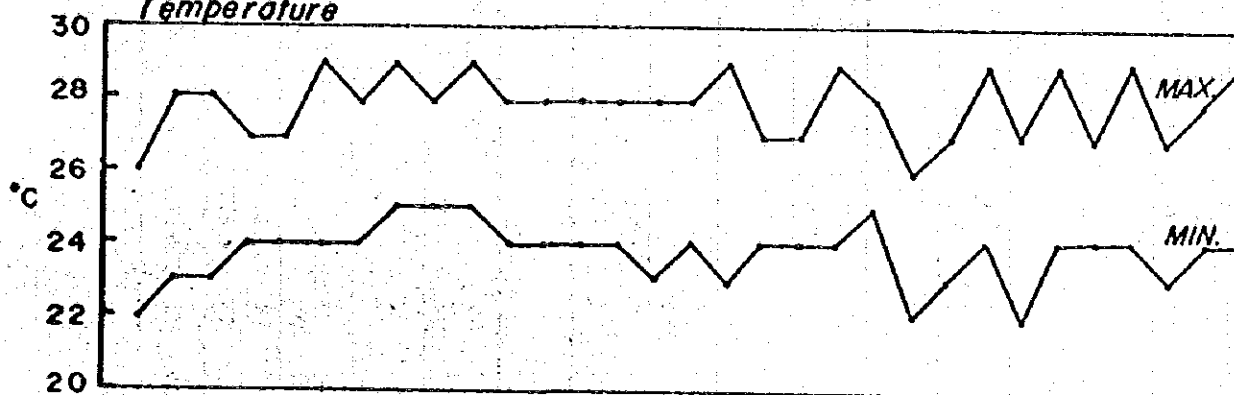
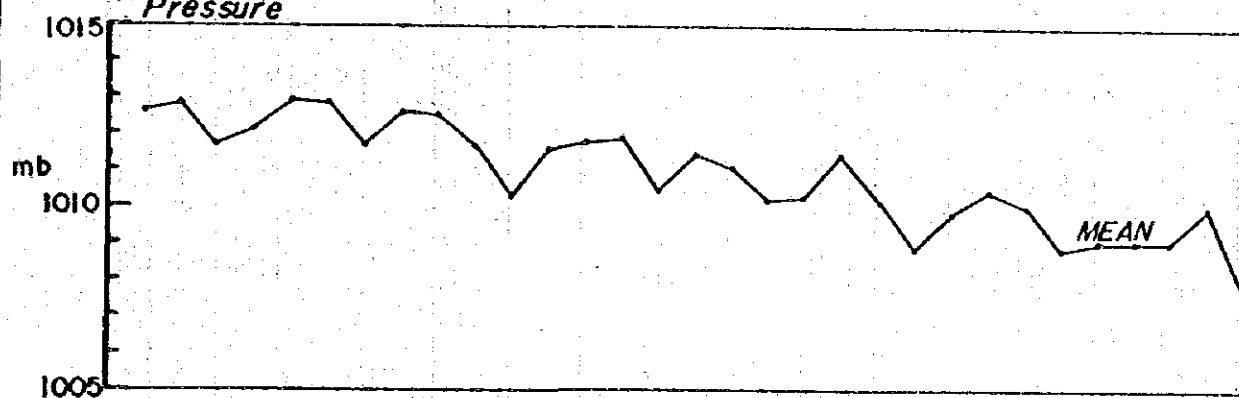


# *Daily Variation of Temp., Pressure, Relative Humidity and Precipitation At LAGOS*

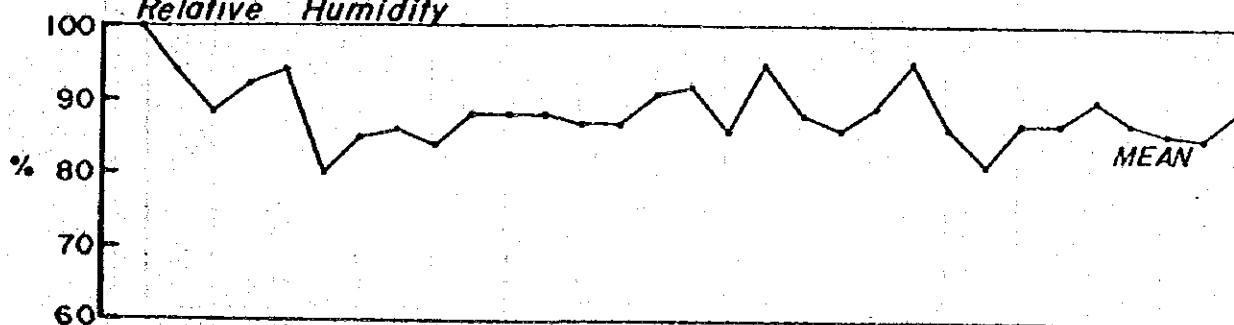
*Temperature*



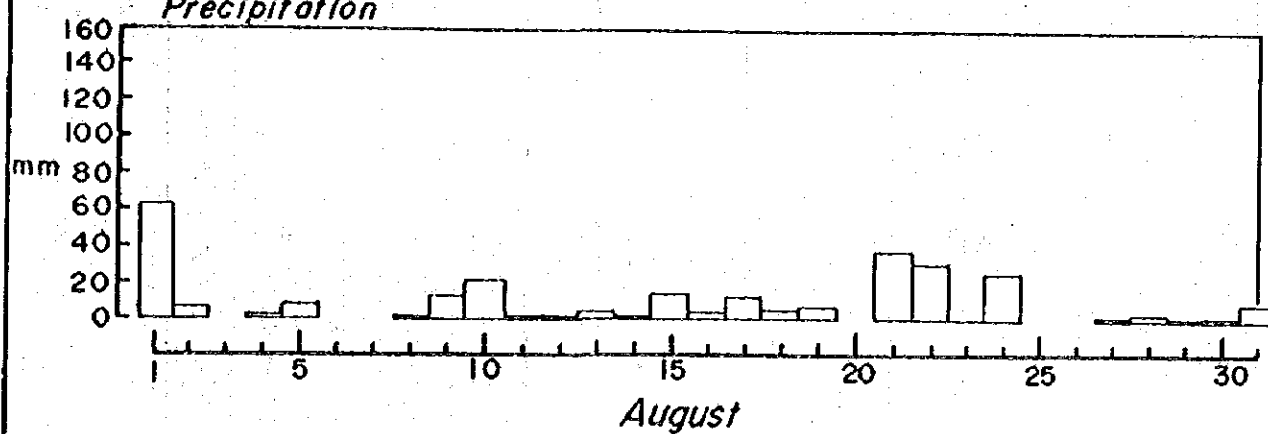
*Pressure*



*Relative Humidity*



*Precipitation*





# FREQUENCY OF OCCURRENCE OF WIND SPEED-DIRECTION GROUPS AT IGANDO

JULY 1979

DIR. m/s	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0 ~ 4.9	1.9 6	0.6 2							0.6 2	2.8 9	3.7 12	5.6 18	4.4 14	6.2 20	8.1 26	7.8 25	4.15% 134
5 ~ 9.9								0.9 3	3.4 11	12.1 39	29.1 94	12.1 39	0.6 2				58.2% 188
10 ~ 14.9									0.3 1								0.3% 1
TOTAL	1.9 6	0.6 2						0.9 3	4.3 14	14.9 48	32.8 106	17.7 57	5.0 16	6.2 20	8.1 26	7.8 25	100% 323

AUGUST 1979

0 ~ 4.9	2.3 17		0.1 1			0.1 1	0.5 4	0.3 2	0.5 4	1.2 9	2.7 20	2.2 16	1.7 13	2.2 16	2.2 16	2.7 20	18.7% 139
5 ~ 9.9									3.2 24	15.6 116	4.4 330	16.7 124	0.1 1		0.3 2		80.3% 597
10 ~ 14.9											0.5 4	0.4 3					0.9% 7
TOTAL	2.3 17		0.1 1			0.1 1	0.5 4	0.3 2	3.7 28	16.8 125	47.6 354	19.2 143	1.9 14	2.2 16	2.5 18	2.7 20	100% 743

SEPTEMBER 1979

0 ~ 4.9	1.8 67	1.8 10	0.2 1	0.2 1	0.2 1	0.7 4	0.2 1	1.1 6	2.3 13	6.0 34	5.8 33	3.3 19	3.3 19	3.0 17	4.4 25	7.7 44	51.8% 295
5 ~ 9.9					0.2 1	0.4 2	0.4 2	0.2 1	0.2 1	2.6 15	2.2 130	21.2 121	0.2 1				48.1% 274
10 ~ 14.9											0.2 1						0.2% 1
TOTAL	1.8 67	1.8 10	0.2 1	0.2 1	0.4 2	1.1 6	0.5 3	1.2 7	2.5 14	8.6 49	28.8 164	24.6 140	3.5 20	3.0 17	4.4 25	7.7 44	100% 570



FREQUENCY OF OCCURRENCE OF WIND SPEED-DIRECTION GROUPS AT LAGOS

JULY 1979

DIR. m/s	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0~49	52 24	0.9 4	1.3 6	2.2 10	3.1 14	1.7 8		6.3 29	16.6 76	11.8 54	0.4 2	2.8 13	12.0 55	19.7 90	0.7 3	5.9 27	90.6% 415
5~99	0.2 1				0.2 1	0.2 1	0.2 1	0.7 3	2.4 11	3.3 15		0.2 1	0.4 2	1.1 5		0.4 2	9.9% 43
10~149																	
TOTAL	55 25	0.9 4	1.3 6	2.2 10	3.3 15	2.0 9	0.2 1	7.0 32	19.0 87	15.1 69	0.4 2	3.1 14	12.4 57	20.7 95	0.7 3	6.3 29	100% 458

AUGUST 1979

DIR. m/s	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0~49	34 14	4.9 20	0.5 2	2.5 10	2.9 12	3.9 16	0.7 3	11.5 47	21.3 87	17.9 73	0.2 1	3.4 14	7.8 32	9.8 40	0.2 1	4.4 18	95.3% 390
5~99	0.2 1				0.2 1			0.5 2	1.5 6	2.0 8							4.4% 18
10~149																	
TOTAL	37 15	4.9 20	0.5 2	2.5 10	3.2 13	3.9 16	0.7 3	12.0 49	22.8 93	19.9 81	0.2 1	3.4 14	7.8 32	9.8 40	0.2 1	4.4 18	100% 408



# FREQUENCY OF OCCURRENCE OF WIND SPEED-DIRECTION GROUPS AT LAGOS

JULY 1978

DIR. m/s	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0 ~ 4.9	0.2 1	0.2 1		0.2 1	2.1 10	1.0.9 52	6.3 30	19.4 93	20.7 99	15.1 72	3.1 15	12.9 62	4.6 22	1.0 5			96.7% 463
5 ~ 9.9						0.6 3	0.4 2	0.4 2	0.6 3	0.2 1		0.9 4	0.2 1				3.3% 16
TOTAL	0.2 1	0.2 1		0.2 1	2.1 10	1.1.5 55	6.7 32	19.8 95	21.3 102	15.3 73	3.1 15	13.8 66	4.8 23	1.0 5			100% 479

AUGUST 1978

0 ~ 4.9	0.4 2	0.6 3		0.8 4	1.6 8	1.3.1 64	5.3 26	15.1 74	13.3 65	22.7 111	3.5 17	16.9 83	4.5 22	1.2 6			99.0% 485
5 ~ 9.9						0.2 1	0.2 1	0.4 2		0.2 1							1.0% 5
TOTAL	0.4 2	0.6 3		0.8 4	1.6 8	1.3.3 65	5.5 27	15.5 76	13.3 65	22.9 112	3.5 17	16.9 83	4.5 22	1.2 6			100% 490

SEPTEMBER 1978

0 ~ 4.9	0.4 2	1.3 6		0.8 4	3.4 16	2.0.6 96	6.9 32	14.4 67	7.8 36	17.4 81	2.8 13	16.6 77	4.7 22	0.9 4	0.6 3	1.4 6	100.0% 465
5 ~ 9.9																	
TOTAL	0.4 2	1.3 6		0.8 4	3.4 16	2.0.6 96	6.9 32	14.4 67	7.8 36	17.4 81	2.8 13	16.6 77	4.7 22	0.9 4	0.6 3	1.4 6	100% 465

OCTOBER 1978

0 ~ 4.9																	
5 ~ 9.9																	
TOTAL																	

NO RECORD





# FREQUENCY OF OCCURRENCE OF WIND SPEED-DIRECTION GROUPS AT LAGOS

NOVEMBER 1978

DIR m/s	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0 ~ 4.9	13 6	19.2 90	15.0 71	16.3 77	3.8 18	7.0 33	4.1 19	7.6 36	7.9 37	7.4 35	1.7 8	5.3 25	1.3 6	1.9 9		0.2 1	99.8% 471
5 ~ 9.9				0.2 1													0.2% 1
TOTAL	13 6	19.2 90	15.0 71	16.5 78	3.8 18	7.0 33	4.1 19	7.6 36	7.9 37	7.4 35	1.7 8	5.3 25	1.3 6	1.9 9		0.2 1	100% 472

DECEMBER 1978

0 ~ 4.9	10 5	21.6 103	13.8 66	15.7 75	4.5 21	6.2 29		3.1 15	9.0 43	6.5 31	5.2 25	1.7 8	5.7 27	4.4 21	0.6 3	0.8 4	99.8% 476
5 ~ 9.9				0.2 1													0.2% 1
TOTAL	10 5	21.6 103	13.8 66	15.9 76	4.5 21	6.2 29		3.1 15	9.0 43	6.5 31	5.2 25	1.7 8	5.7 27	4.4 21	0.6 3	0.8 4	100% 477

JANUARY 1979

0 ~ 4.9	11 5	18.8 92	19.2 94	20.0 98	2.2 11	5.5 27	2.9 14	6.5 32	8.0 39	5.9 29	0.6 3	4.5 22	2.7 13	1.0 5	0.7 3	0.4 2	100.0% 489
5 ~ 9.9																	
TOTAL	11 5	18.8 92	19.2 94	20.0 98	2.2 11	5.5 27	2.9 14	6.5 32	8.0 39	5.9 29	0.6 3	4.5 22	2.7 13	1.0 5	0.7 3	0.4 2	100% 489

FEBRUARY 1979

0 ~ 4.9	11 5	18.1 81	16.2 72	19.6 88	5.1 23	5.8 26	3.8 17	7.8 35	10.0 45	4.9 22	0.9 4	1.1 5	2.7 12	0.7 3	0.2 1	2.0 9	100.0% 448
5 ~ 9.9																	
TOTAL	11 5	18.1 81	16.2 72	19.6 88	5.1 23	5.8 26	3.8 17	7.8 35	10.0 45	4.9 22	0.9 4	1.1 5	2.7 12	0.7 3	0.2 1	2.0 9	100% 448



# FREQUENCY OF OCCURRENCE OF WIND SPEED-DIRECTION GROUPS AT LAGOS

MARCH 1979

DIR m/s	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
0 ~ 4.9	3.0 14	11.0 52	5.9 28	7.4 35	2.7 13	4.6 22	2.7 13	7.0 33	21.4 101	18.2 86	0.4 2	4.7 22	3.6 17	2.7 13	0.6 3	1.5 7	97.4% 461
5 ~ 9.9								0.2 1	1.1 5	1.1 5			0.2 1				2.6% 12
TOTAL	3.0 14	11.0 52	5.9 28	7.4 35	2.7 13	4.6 22	2.7 13	7.2 34	22.4 106	19.3 91	0.4 2	4.7 22	3.8 18	2.7 13	0.6 3	1.5 7	100% 473

APRIL 1979

0 ~ 4.9	2.2 10	0.9 4	0.7 3	2.4 11	3.7 17	3.1 14	0.7 3	7.5 34	31.5 143	21.8 99	0.4 2	2.4 11	4.6 21	2.9 13	0.2 1	5.7 26	90.7% 412
5 ~ 9.9						0.3 1		0.2 1	4.6 21	4.0 18						0.2 1	9.3% 42
TOTAL	2.2 10	0.9 4	0.7 3	2.4 11	3.7 17	3.4 15	0.7 3	7.7 35	36.1 164	25.8 117	0.4 2	2.4 11	4.6 21	2.9 13	0.2 1	5.9 27	100% 454

MAY 1979

0 ~ 4.9	4.3 20	4.2 19	0.9 4	2.6 12	3.1 14	3.7 17	0.2 1	7.4 34	25.2 115	21.7 99	0.2 1	0.7 3	8.1 37	3.1 14		7.7 35	93.1% 425
5 ~ 9.9								0.4 2	2.0 9	3.5 16		0.4 2	0.2 1			0.2 1	6.7% 31
TOTAL	4.3 20	4.2 19	0.9 4	2.6 13	3.1 14	3.7 17	0.2 1	7.8 36	27.2 124	25.2 115	0.2 1	1.1 5	8.3 38	3.1 14		7.9 36	100% 457

10~14.9 ENE  
1 (0.2%)

JUNE 1979

0 ~ 4.9	3.5 16	2.6 12	0.7 3	2.4 11	3.7 17	2.0 9	0.9 4	4.4 20	20.3 93	16.3 75	0.7 3	2.0 9	14.6 67	10.9 50	0.9 4	6.1 28	92.0% 422
5 ~ 9.9		0.2 1						0.2 1	3.4 16	2.8 13			0.6 3	0.2 1		0.4 2	8.0% 37
TOTAL	3.5 16	2.8 13	0.7 3	2.4 11	3.7 17	2.0 9	0.9 4	4.6 21	23.7 109	19.1 88	0.7 3	2.2 10	15.2 70	11.1 51	0.9 4	6.5 30	100% 459

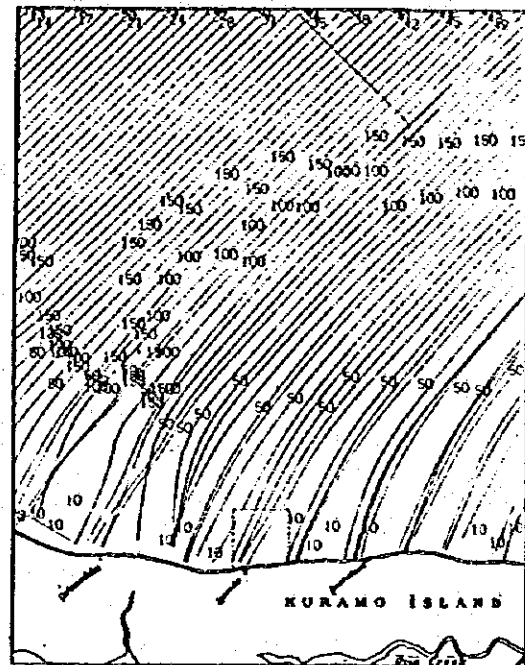


# REFRACTION DIAGRAM

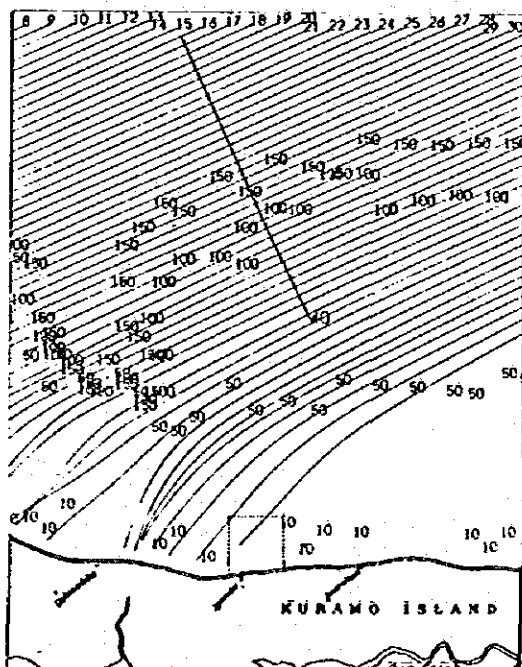
T = 11.0 SW



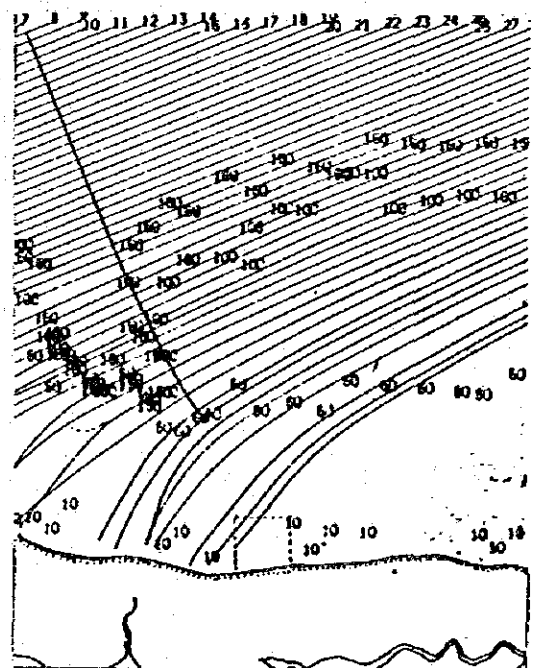
T = 13.0 SW



T = 11.0 WSW



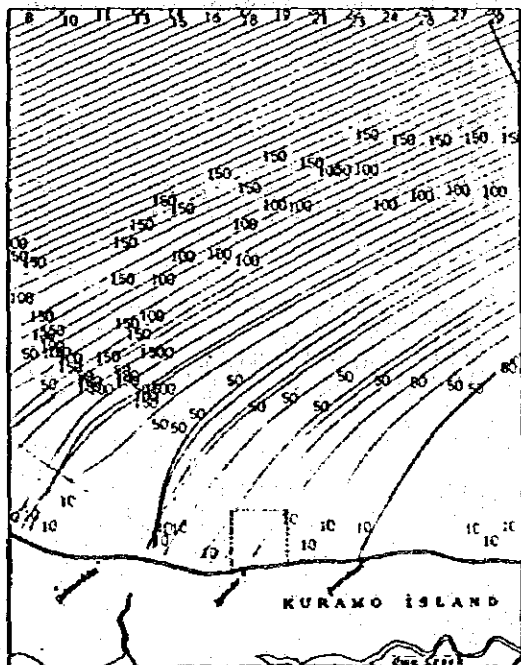
T = 12.0 WSW





# REFRACTION DIAGRAM

T = 13.0 WSW



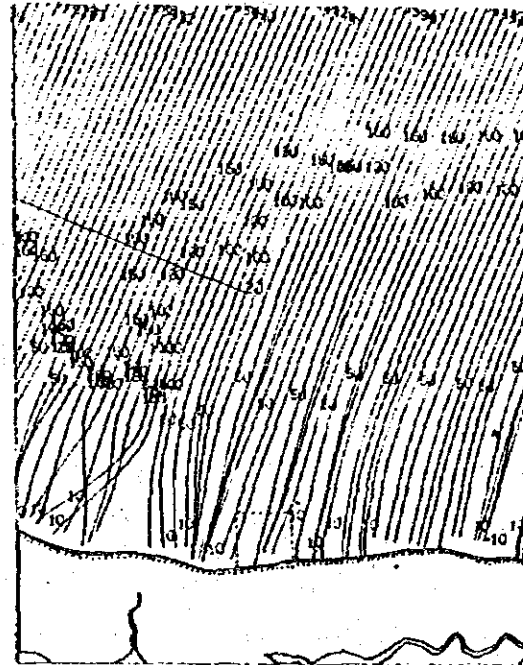
T = 11.0 SSW



T = 12.0 SSW



T = 13.0 SSW





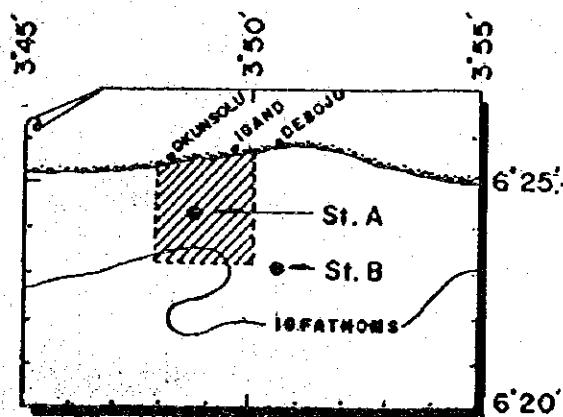


# RESULTS OF COASTAL CURRENT OBSERVATION

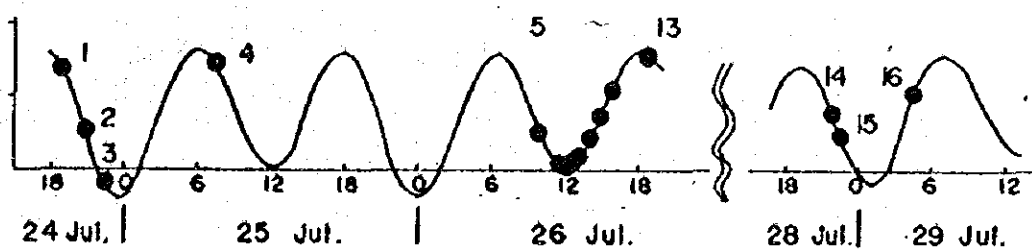
Observed by Electric Current Meter

Type: CM-2S

On 24 July '79 ~ 28 July '79

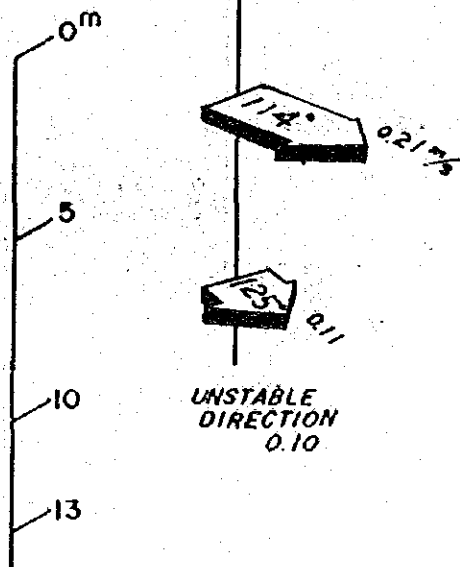


LOCATION MAP

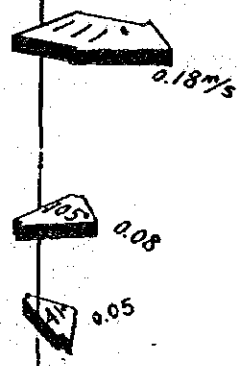




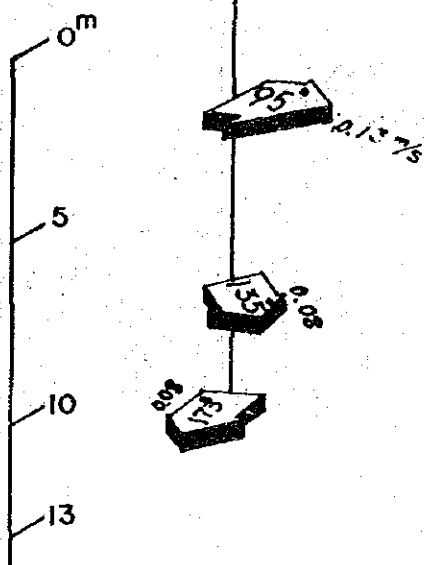
①  
24 July '79  
St. A



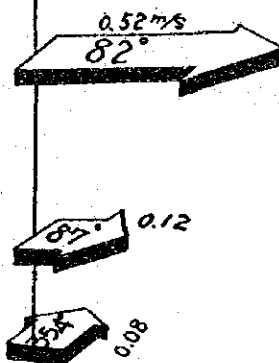
②  
St. A



③  
St. A



④  
25 July '79  
St. A





⑤  
26 July '79  
St. A

W ——— E  
S ——— N

0m  
5  
10  
13

0.54 m/s  
85°

0.23  
108°

0.05

⑥

St. A  
W ——— E  
S ——— N

0.40 m/s  
86°

0.12  
120°

UNSTABLE  
DIRECTION  
0.08

⑦

St. A  
W ——— E  
S ——— N

0m  
5  
10  
13

0.44 m/s  
90°

0.13  
110°

0.13

⑧

St. A  
W ——— E  
S ——— N

0.43 m/s  
92°

0.13  
70°

0.11



⑨  
26 July '79  
SIA N

W — E  
S —

0m  
5  
10  
13

0.41 m/s  
90°

0.15  
72°

0.08  
154°

⑩

SIA N  
W — E  
S —

0.45 m/s  
87°

0.25  
92°

0.08

⑪

SIA N  
W — E  
S —

0m  
5  
10  
13

0.54 m/s  
82°

0.29  
91°

0.08  
105°

⑫

SIA N  
W — E  
S —

0.46 m/s  
82°

0.21  
104°

UNSTABLE  
DIRECTION  
0.05

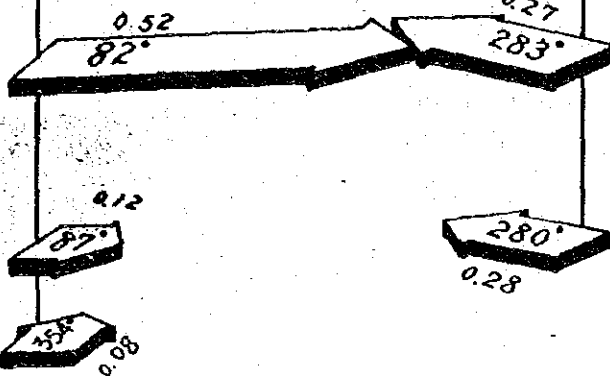




⑬  
26 July '79  
St. A

⑭  
28 July '79  
St. B

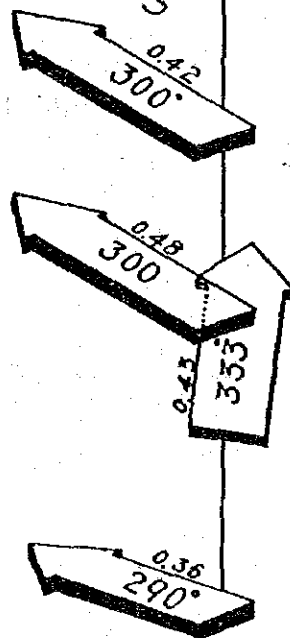
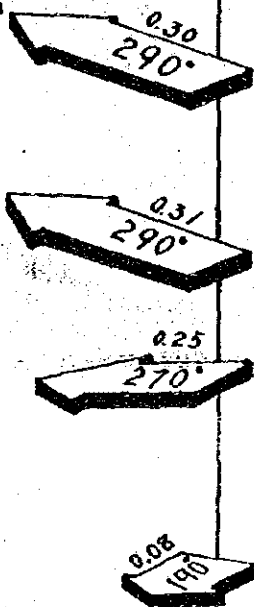
0m  
5  
10  
13



⑮  
St. B

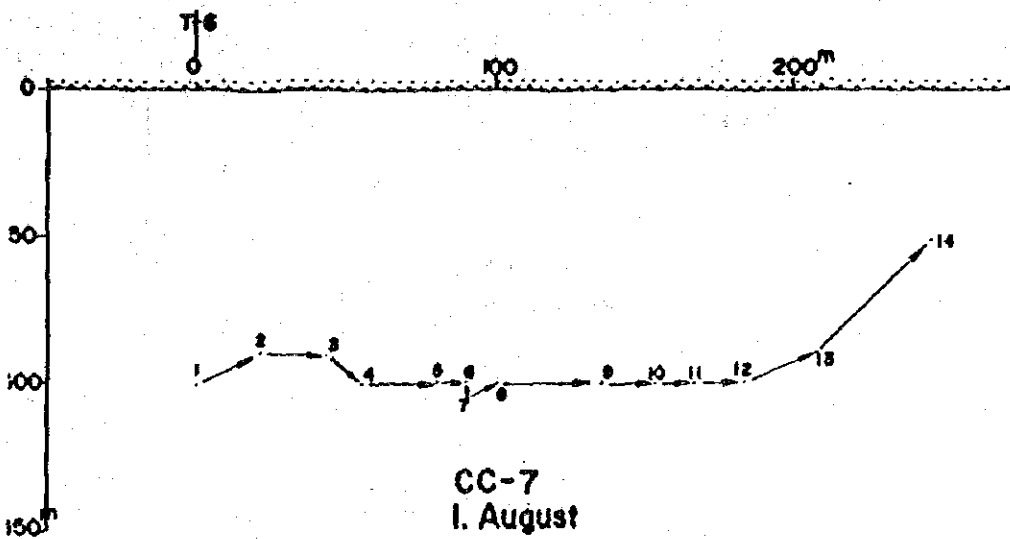
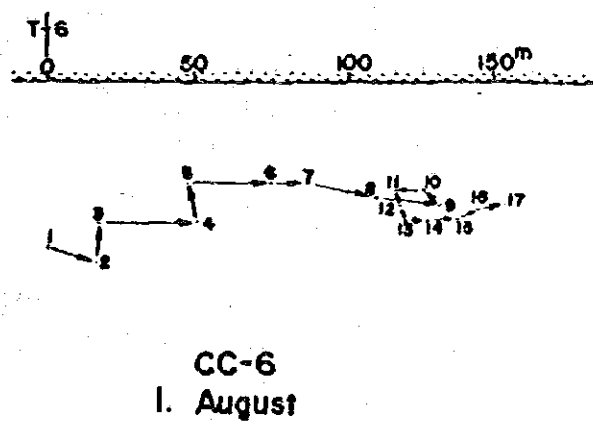
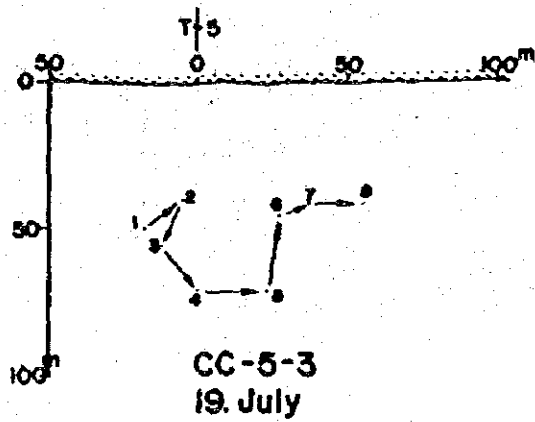
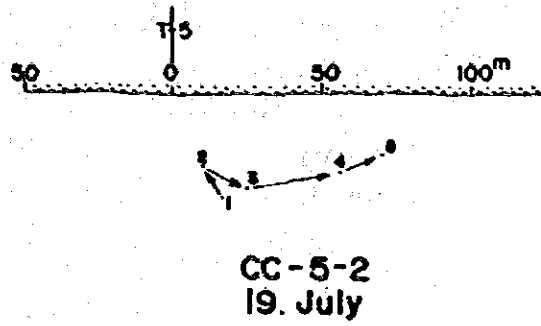
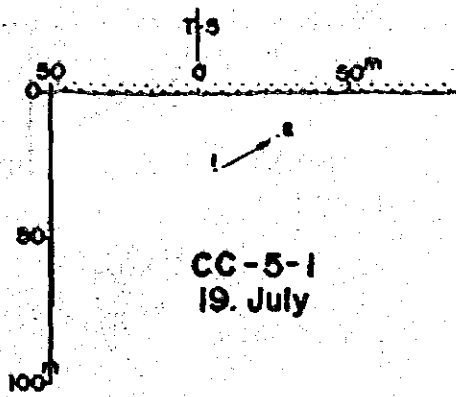
⑯  
29 July '79  
St. B

0m  
5  
10  
13  
18

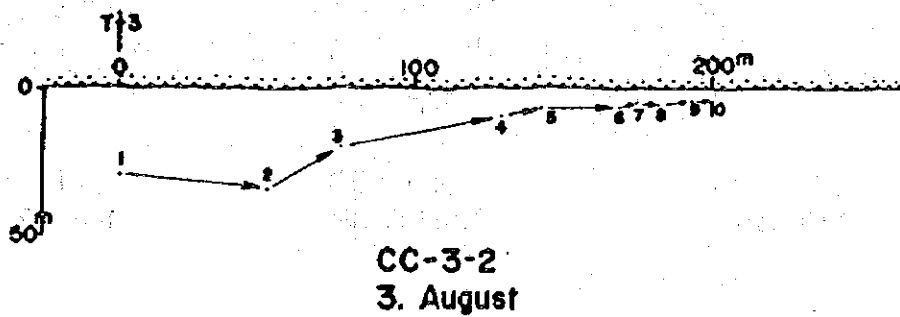
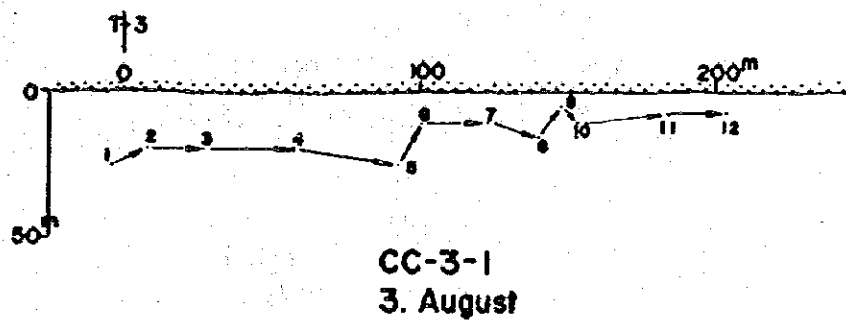
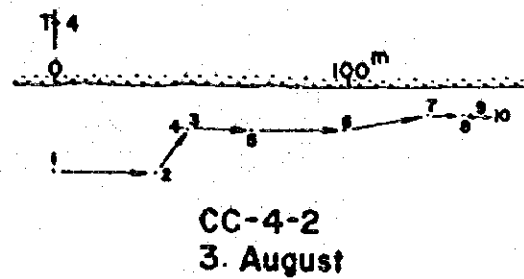
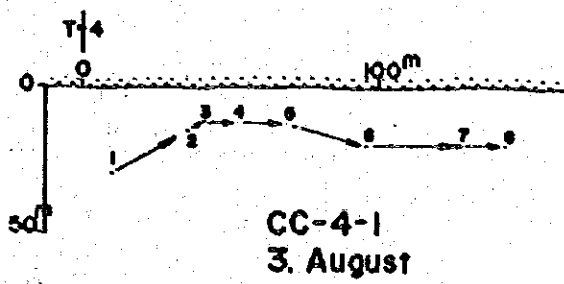




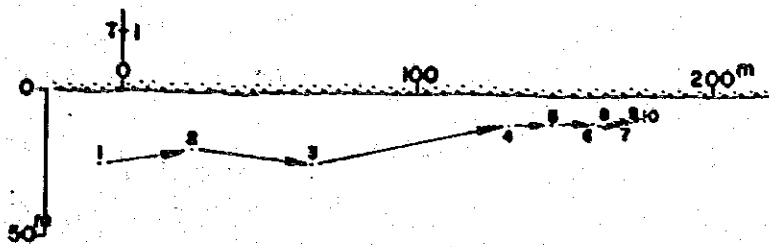
# TRACING CHARTS OF FLOATING BUOYS



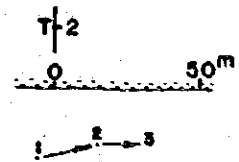




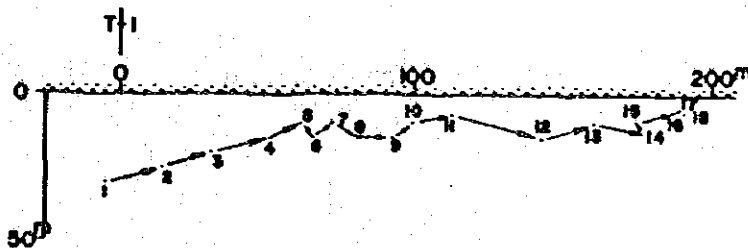




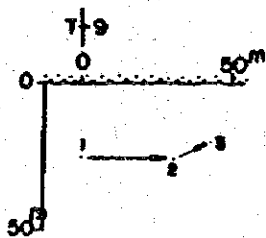
CC-1-1  
3. August



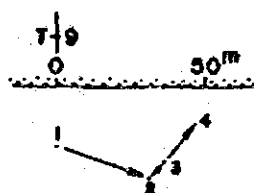
CC-2  
3. August



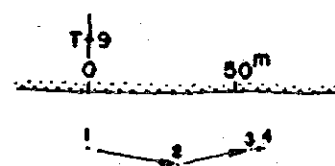
CC-1-2  
3. August



CC-9-1  
14. August



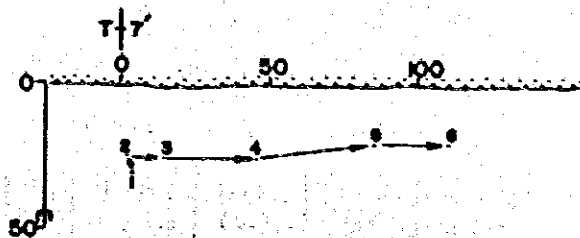
CC-9-2  
14. August



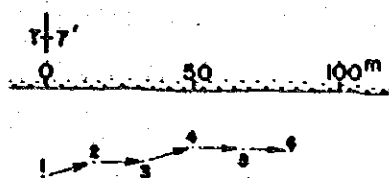
CC-9-3  
14. August



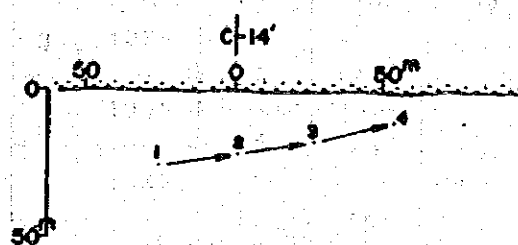




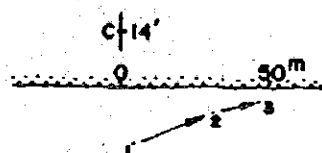
**CC-8-1**  
**14. August**



**CC-8-2**  
**14 August**



**CC-10-1**  
**18. September**



**CC-10-2**  
**18. September**



# Surface Current Velocity at Breaker Zone

CC-5-1

St. NO.	TIME h. m.	DIS. (m)	TIME INTER. (sec)	VELOC. m/sec
1	1028	25	60	0.42
2	1029			

CC-5-2

1	1035	13	60	0.22
2	1036			
3	1038	16	120	0.13
4	1039	32	60	0.53
5	1040	15	60	0.25

MEAN 0.28

CC-5-3

1	1058	16	60	0.27
2	1059			
3	1100	16	60	0.27
4	1101	19	60	0.32
5	1102	24	60	0.40
6	1103	25	60	0.42
7	1104	11	60	0.18
8	1105	18	60	0.30

MEAN 0.31

CC-6

St. NO.	TIME h. m.	DIS. (m)	TIME INTER. (sec)	VELOC. m/sec
1	1635	17	60	0.28
2	1636			
3	1637	13	60	0.22
4	1638	33	60	0.55
5	1640	13	120	0.11
6	1642	28	120	0.23
7	1644	11	120	0.09
8	1645	24	60	0.40
9	1646	22	60	0.37
10	1647	8	60	0.13
11	1648	10	60	0.17
12	1649	5	60	0.08
13	1650	6	60	0.10
14	1651	8	60	0.13
15	1652	11	60	0.18
16	1653	8	60	0.13
17	1654	9	60	0.15

MEAN 0.21



CC-3-1

St. NO.	TIME h. m.	DIS. (m)	TIME INTER (sec)	VELOC. m/sec
1	1418			
2	1419	50	60	0.83
3	1420	29	60	0.48
4	1421	55	60	0.90
5	1422	13	60	0.22
6	1423	27	60	0.45
7	1424	6	60	0.10
8	1425	7	60	0.12
9	1426	10	60	0.17
10	1427	9	60	0.15

MEAN 0.38

CC-1-1

St. NO.	TIME h. m.	DIS. (m)	TIME INTER (sec)	VELOC. m/sec
1	1436			
2	1437	32	60	0.53
3	1438	41	60	0.68
4	1439	68	60	1.13
5	1440	15	60	0.25
6	1441	15	60	0.25
7	1442	5	60	0.08
8	1443	6	60	0.10
9	1444	2	60	0.03
10	1445	3	60	0.05

MEAN 0.34

CC-3-2

1	1432			
2	1433	13	60	0.22
3	1434	19	60	0.32
4	1435	31	60	0.52
5	1436	35	60	0.58
6	1437	17	60	0.28
7	1438	22	60	0.37
8	1439	17	60	0.28
9	1440	13	60	0.22
10	1441	8	60	0.13
11	1442	31	60	0.52
12	1443	20	60	0.33

MEAN 0.34

CC-1-2

1	1514			
2	1515	19	60	0.32
3	1516	17	60	0.28
4	1517	20	60	0.33
5	1518	12	60	0.20
6	1519	6	60	0.10
7	1520	8	60	0.13
8	1528	10	60	0.17
9	1522	11	60	0.18
10	1523	8	60	0.13
11	1524	14	60	0.23
12	1525	31	60	0.52
13	1526	19	60	0.32
14	1527	16	60	0.27
15	1528	4	60	0.07
16	1529	13	60	0.22
17	1530	3	60	0.05
18	1531	2	60	0.03

MEAN 0.39



CC-7

St. NO.	TIME h. m.	DIS. (m)	TIME INTER. (sec)	VELOC m/sec
1	1714	24	120	0.20
2	1716			
3	1718	22	120	0.18
4	1720	15	120	0.19
5	1722	25	120	0.21
6	1723	10	60	0.17
7	1724	5	60	0.08
8	1725	11	60	0.18
9	1726	35	60	0.58
10	1729	18	180	0.10
11	1730	13	60	0.22
12	1731	17	60	0.28
13	1732	26	60	0.43
14	1736	54	240	0.23

MEAN 0.32

CC-4-1

St. NO.	TIME h. m.	DIS. (m)	TIME INTER. (sec)	VELOC m/sec
1	1350	29	60	0.48
2	1351			
3	1352	6	60	0.10
4	1353	11	60	0.18
5	1354	16	60	0.27
6	1355	28	60	0.47
7	1356	32	60	0.53
8	1357	14	60	0.23

MEAN 0.32

CC-4-2

1	1400	35	60	0.58
2	1401			
3	1402	18	60	0.30
4	1403	2	60	0.03
5	1404	22	60	0.37
6	1405	31	60	0.52
7	1406	30	60	0.50
8	1407	12	60	0.20
9	1408	5	60	0.08
10	1409	5	60	0.08

MEAN 0.30





## CC-2

St. NO.	TIME h. m.	DIS. (m)	TIME INTER. (sec)	VELOC m/sec
1	1546	21	60	035
2	1547			
3	1548	14	60	023

MEAN 029

## CC-9-1

1	1317	31	60	052
2	1318			
3	1319	13	60	022

MEAN 037

## CC-9-2

1	1320	33	60	055
2	1321			
3	1322	8	60	013
4	1323	16	60	027

MEAN 032

## CC-9-3

1	1325	31	60	052
2	1326			
3	1327	25	60	042
4	1328	4	60	007

MEAN 034

## CC-8-1

St. NO.	TIME h. m.	DIS. (m)	TIME INTER. (sec)	VELOC m/sec
1	1420	5	60	008
2	1421			
3	1422	12	60	020
4	1423	31	60	052
5	1424	41	60	068
6	1425	25	60	042

MEAN 038

## CC-8-2

1	1427	18	60	030
2	1428			
3	1429	17	60	028
4	1430	18	60	030
5	1431	17	60	028
6	1432	17	60	028

MEAN 029

## CC-10-1

1	0920	26	60	043
2	0921			
3	0922	26	60	043
4	0923	28	60	047

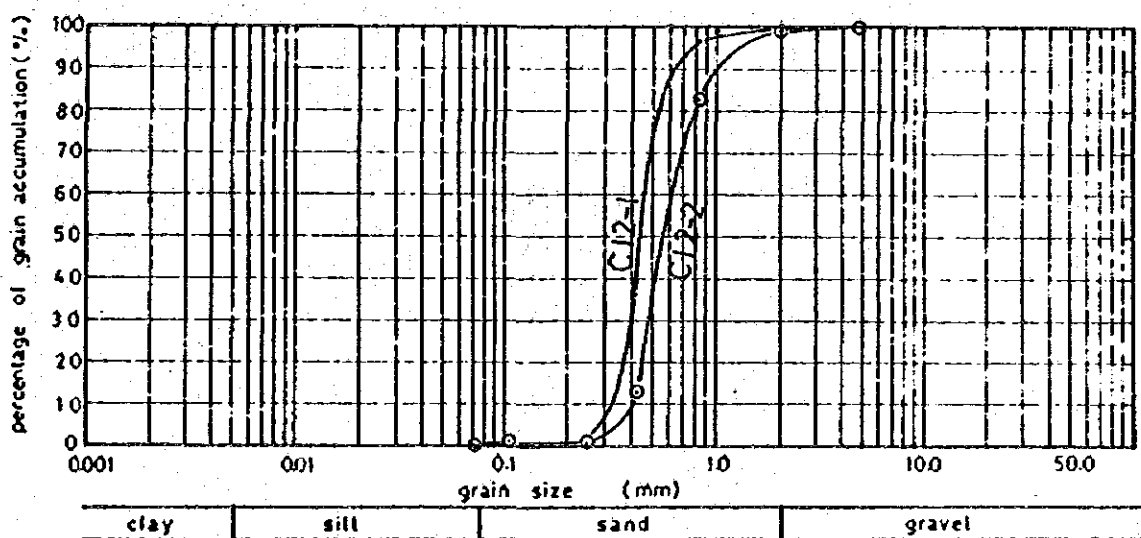
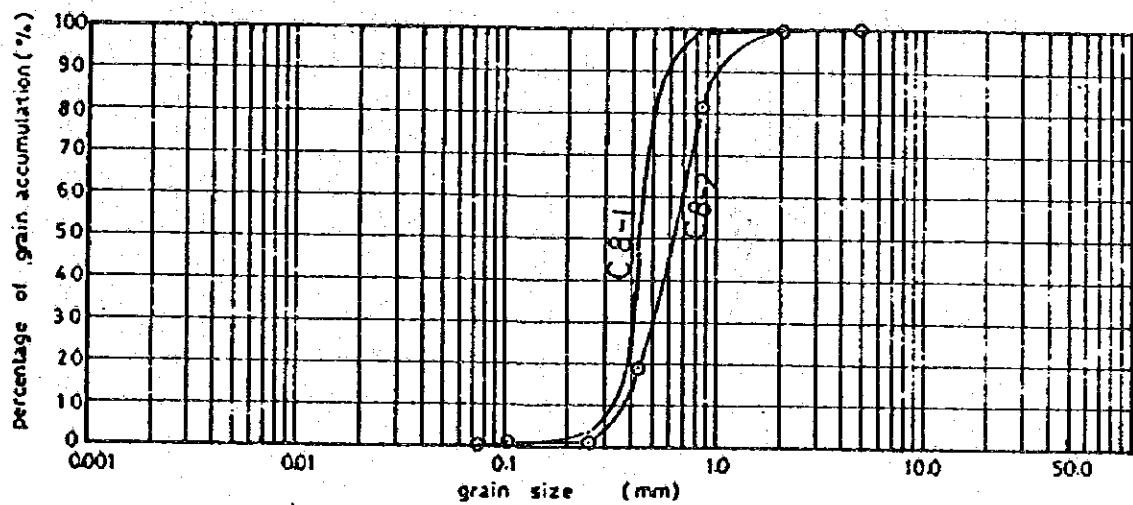
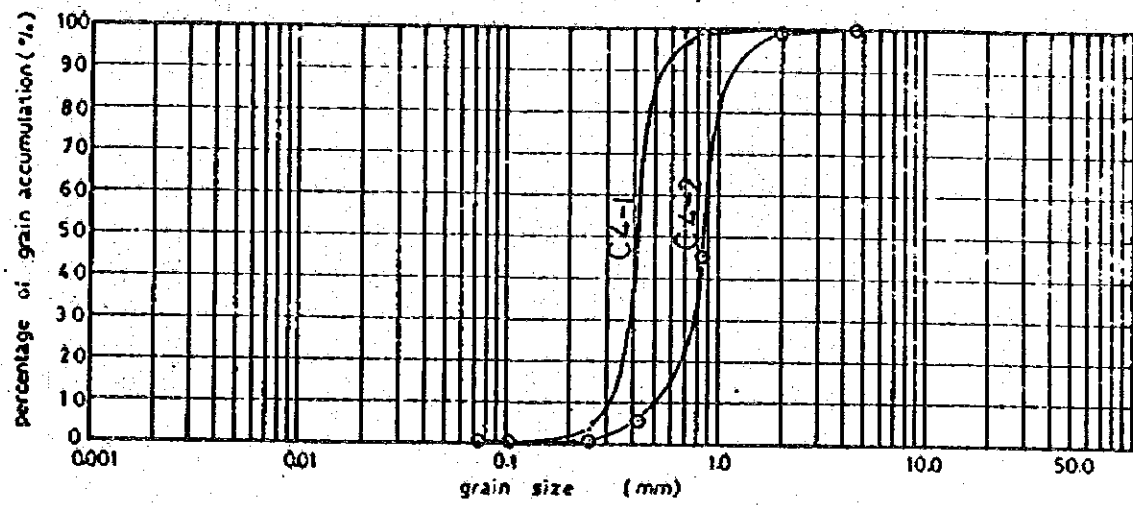
MEAN 044

## CC-10-2

1	0932	29	60	048
2	0933			
3	0934	16	60	027

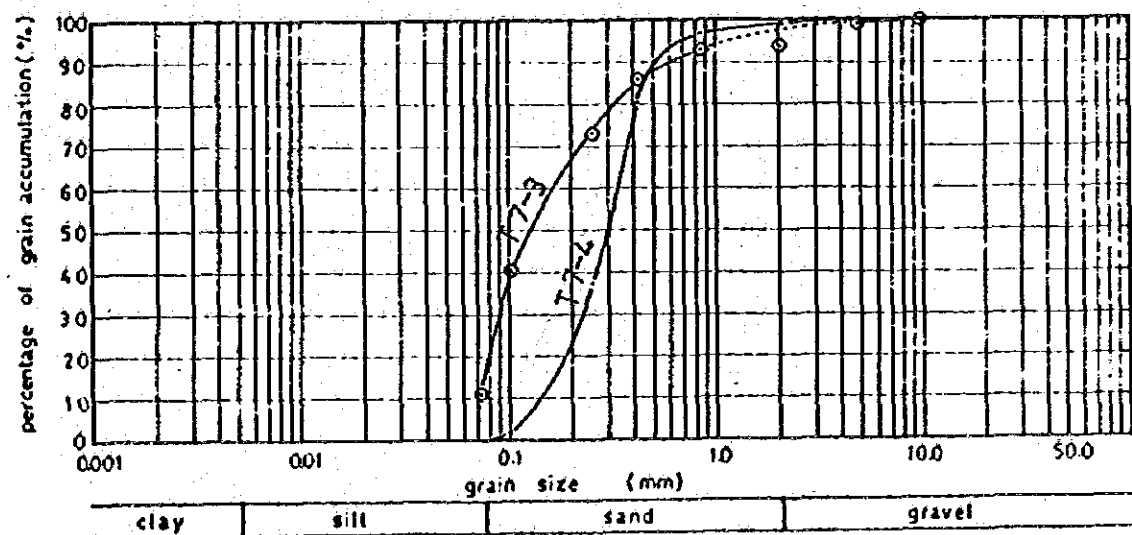
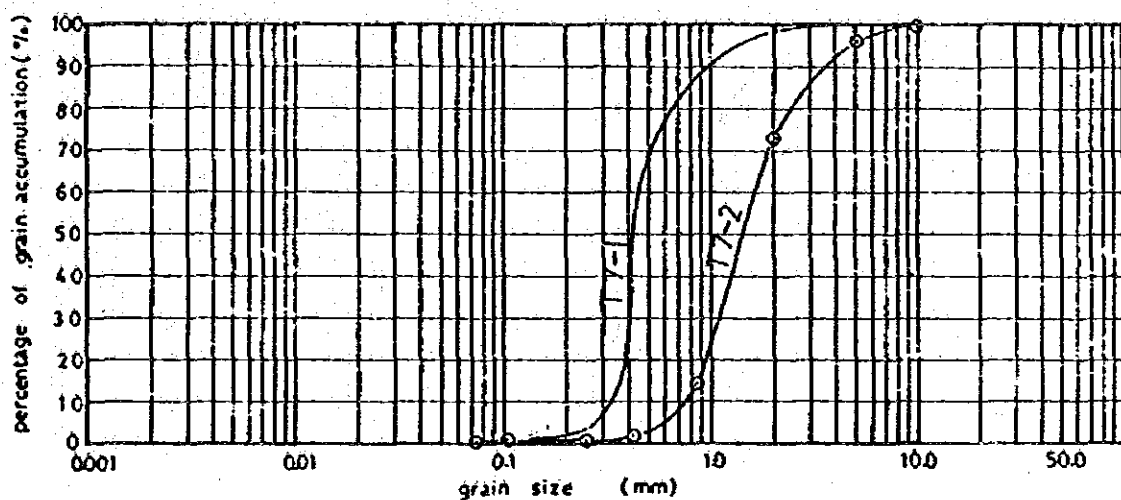
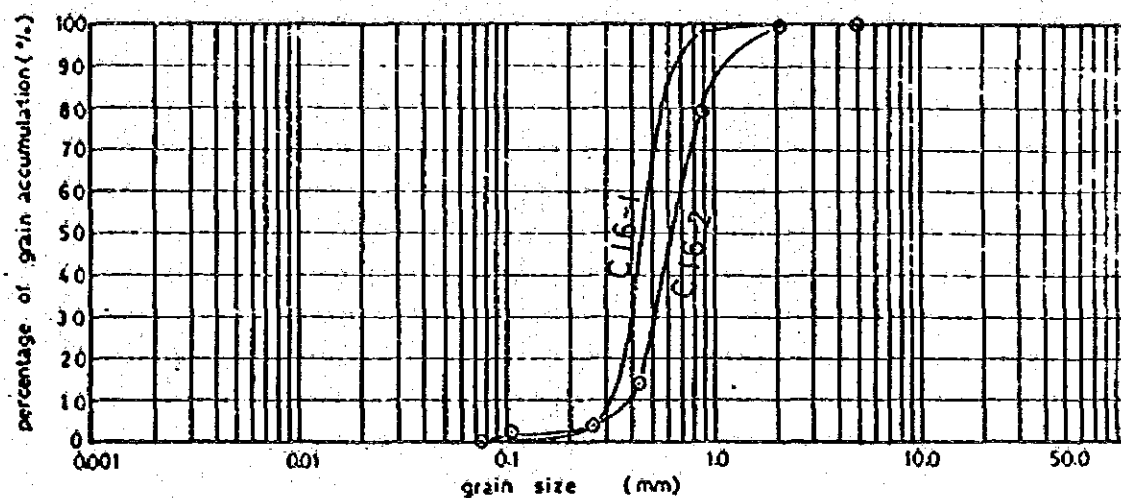
MEAN 038





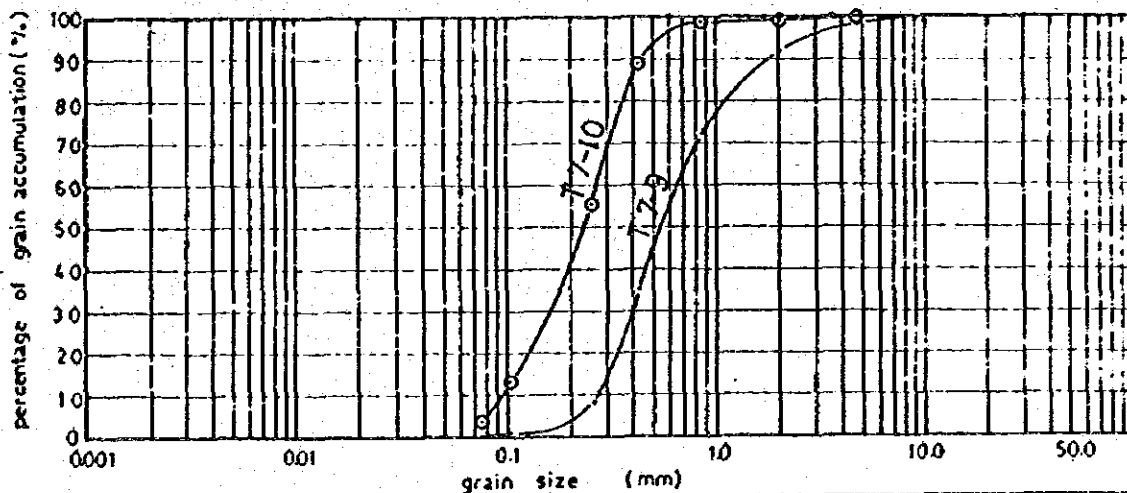
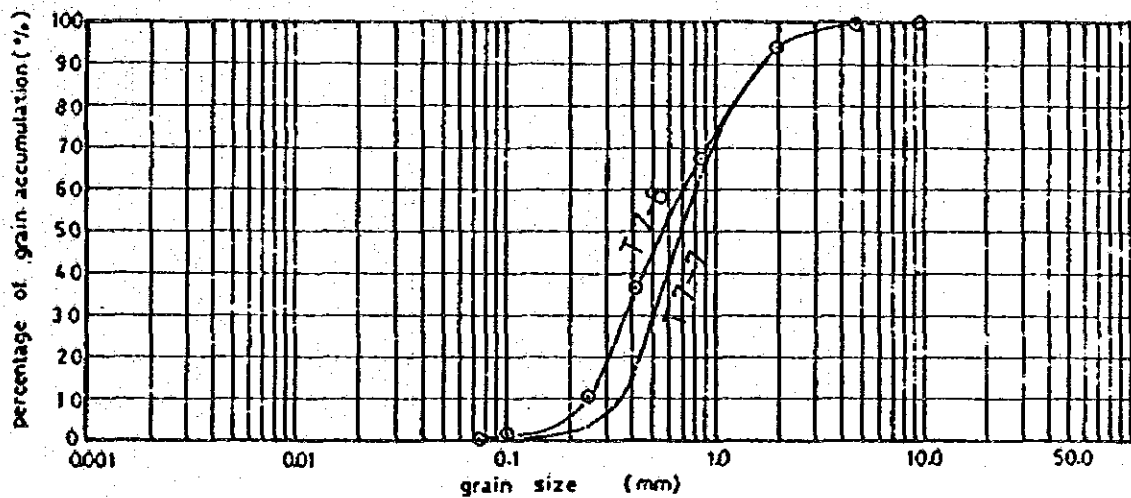
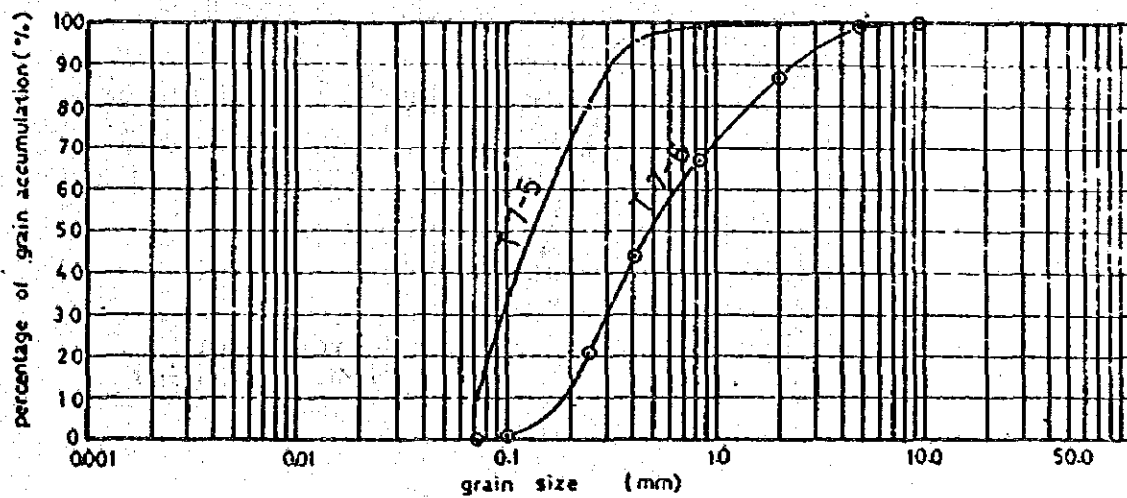
Grain Size Accumulation Curves





Grain Size Accumulation Curves



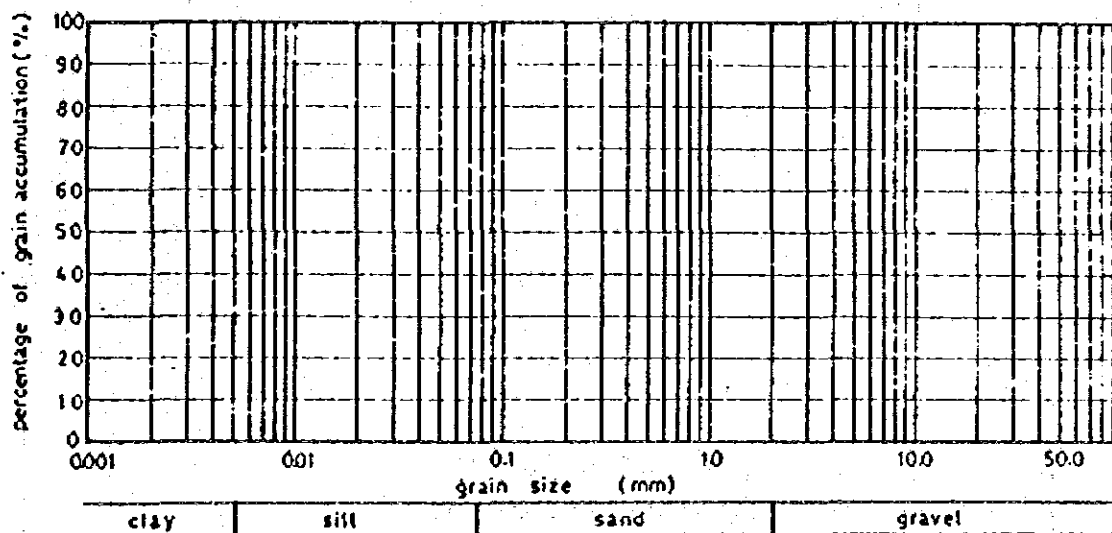
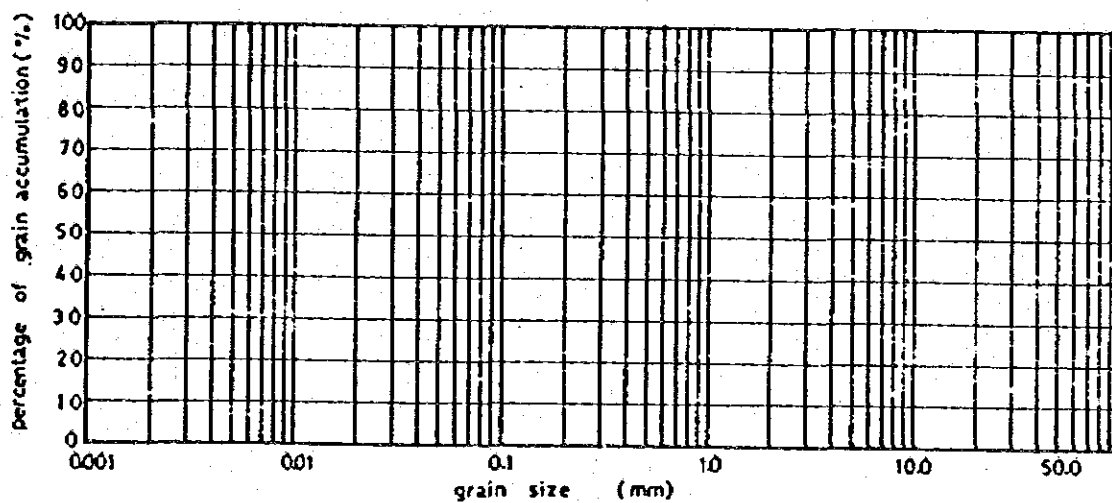
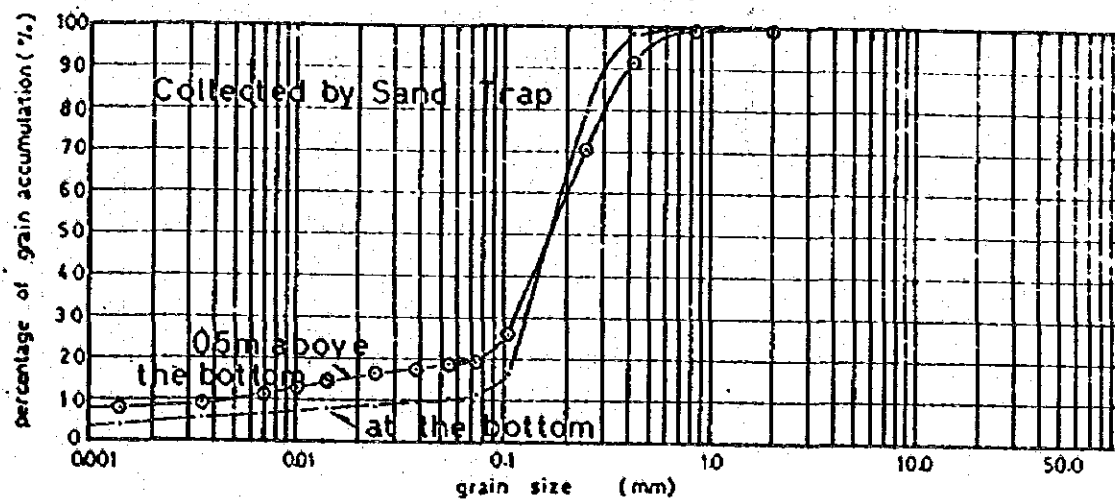


clay	silt	sand	gravel
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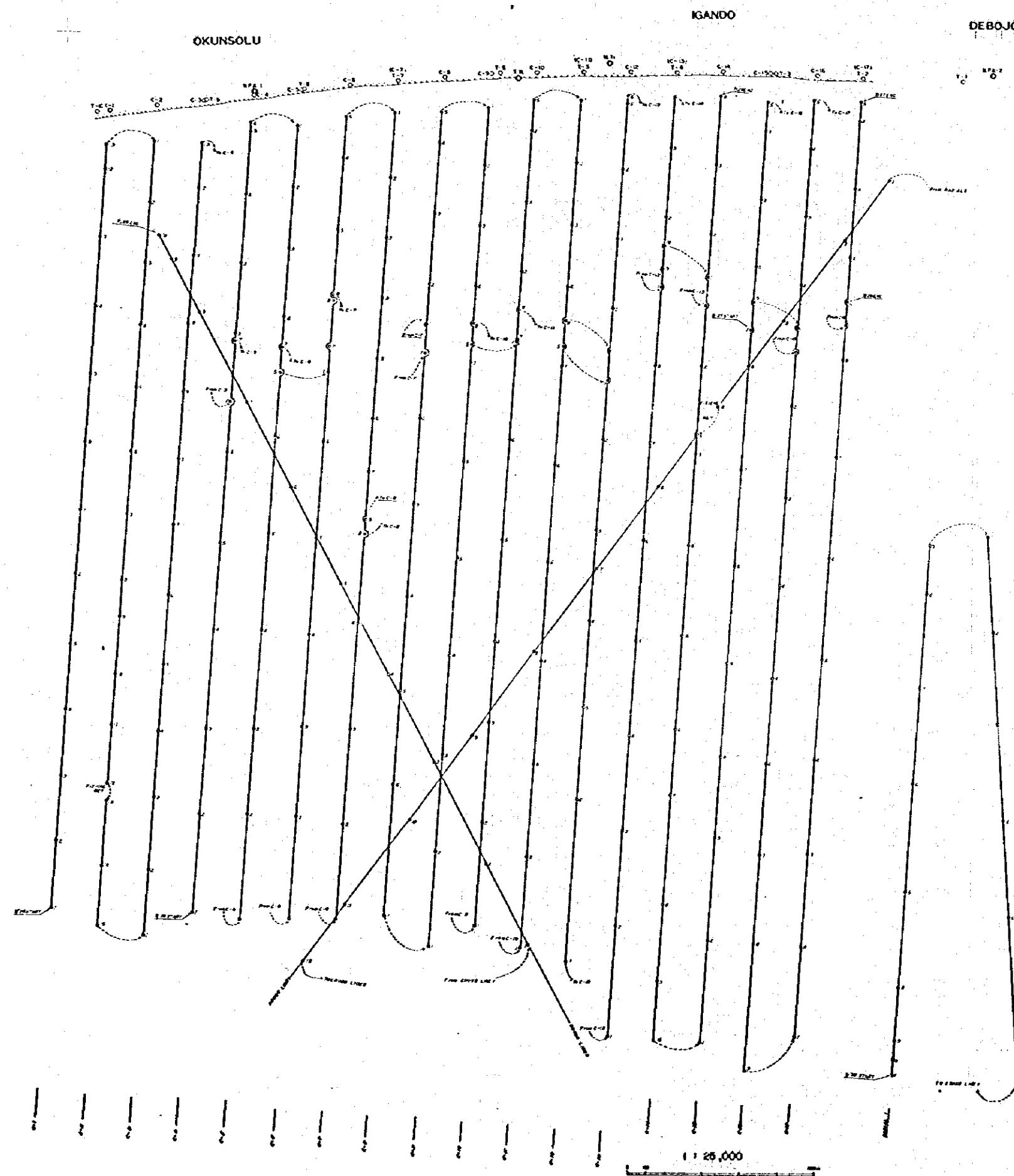
Grain Size Accumulation Curves







Grain Size Accumulation Curves



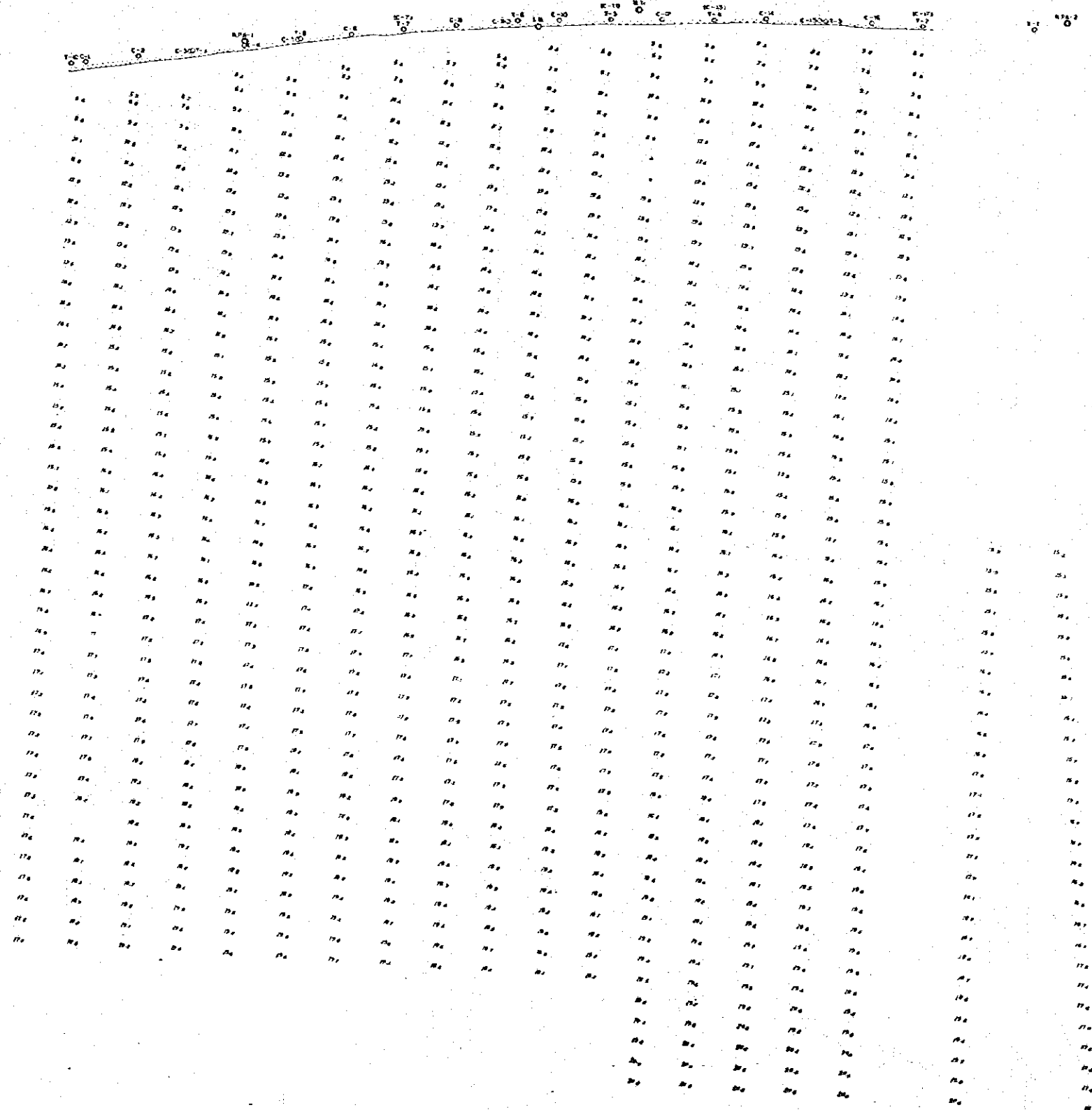
THE FEDERAL REPUBLIC OF NIGERIA  
THE NEW OCEAN TERMINAL PROJECT  
LAGOS PHASE-II  
TRACK CHART

SURVEYED ON 26th JULY - 29th JULY, 1978

OKUNSOLU

IGANDO

DEBOJO

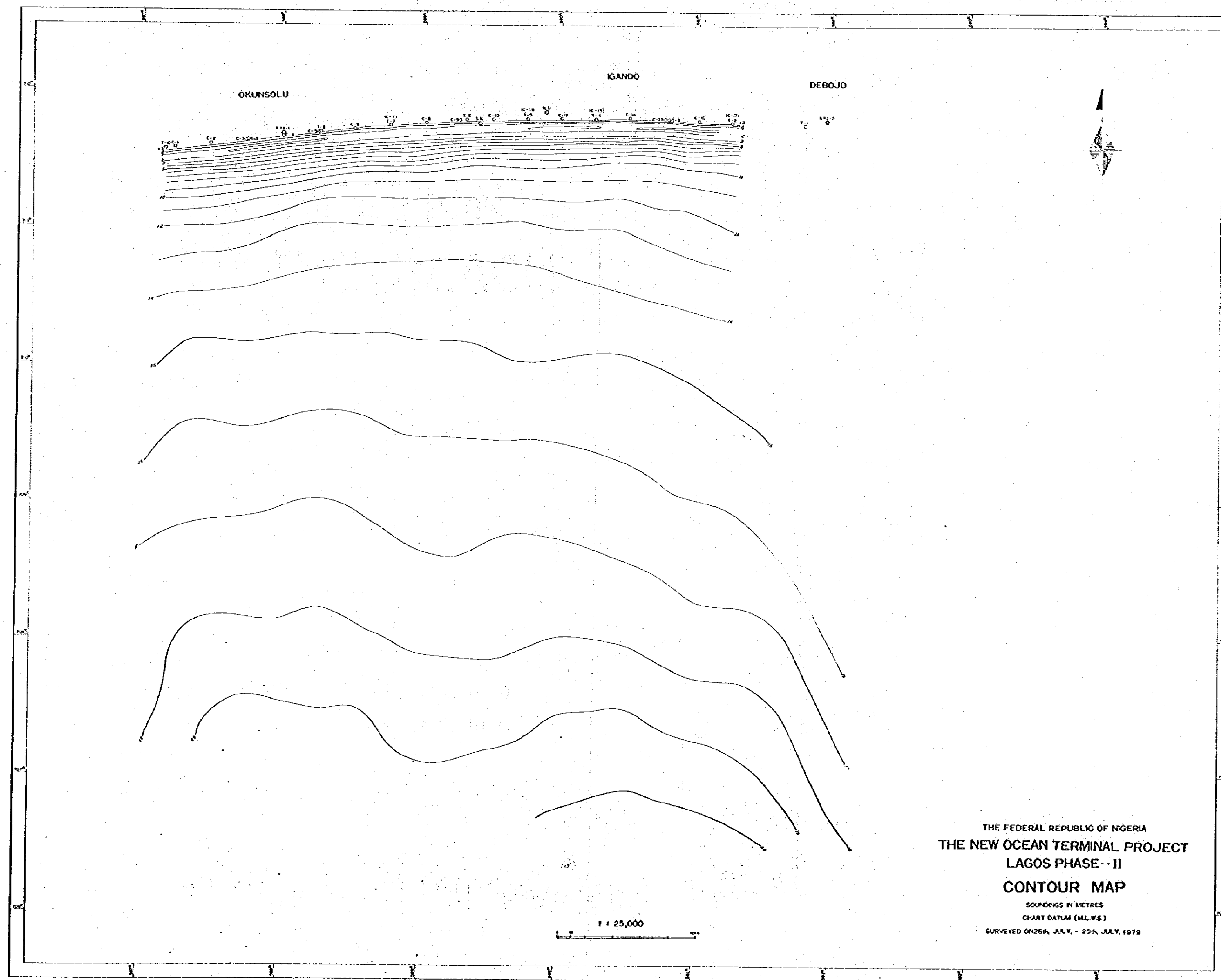


THE FEDERAL REPUBLIC OF NIGERIA  
THE NEW OCEAN TERMINAL PROJECT  
LAGOS PHASE-II  
SOUNDING CHART

SOUNDINGS IN METRES  
CHART DATUM (M.L.W.S.)

SURVEYED ON 26th, JULY, - 29th, JULY, 1979

1:25,000





# CROSS SECTION OF THE BEACH

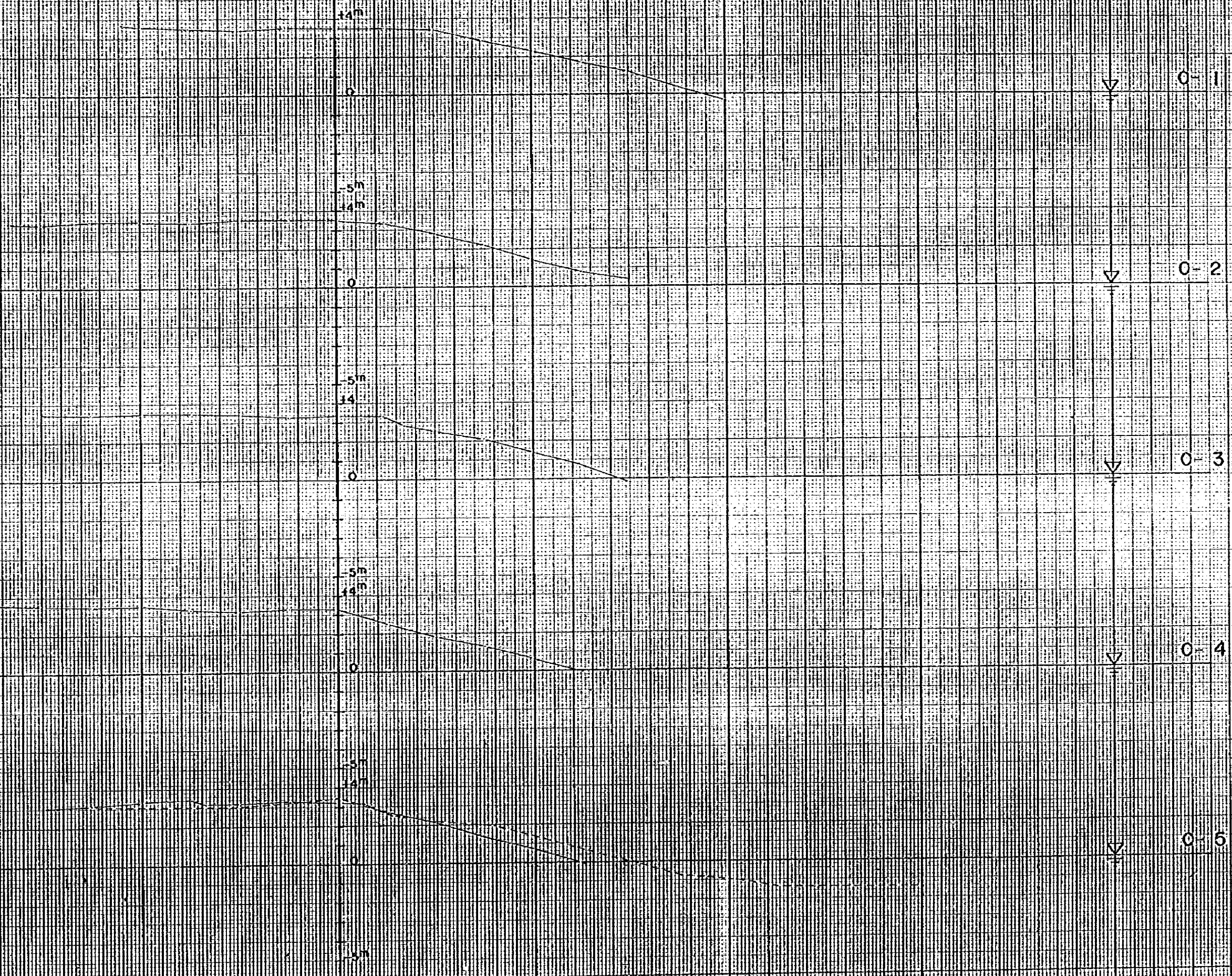
SCALE      V = 1 : 200  
              H = 1 : 400

----- Surveyed on 18~21 DEC. 1978  
----- ,            21 JUL. 1979

# CROSS SECTION OF THE BEACH

SCALE V.H. 1/200 H.V. 1/400

50m 40 30 20 10 navigation point 0 10 20 30 40 50 60 70 80 90m

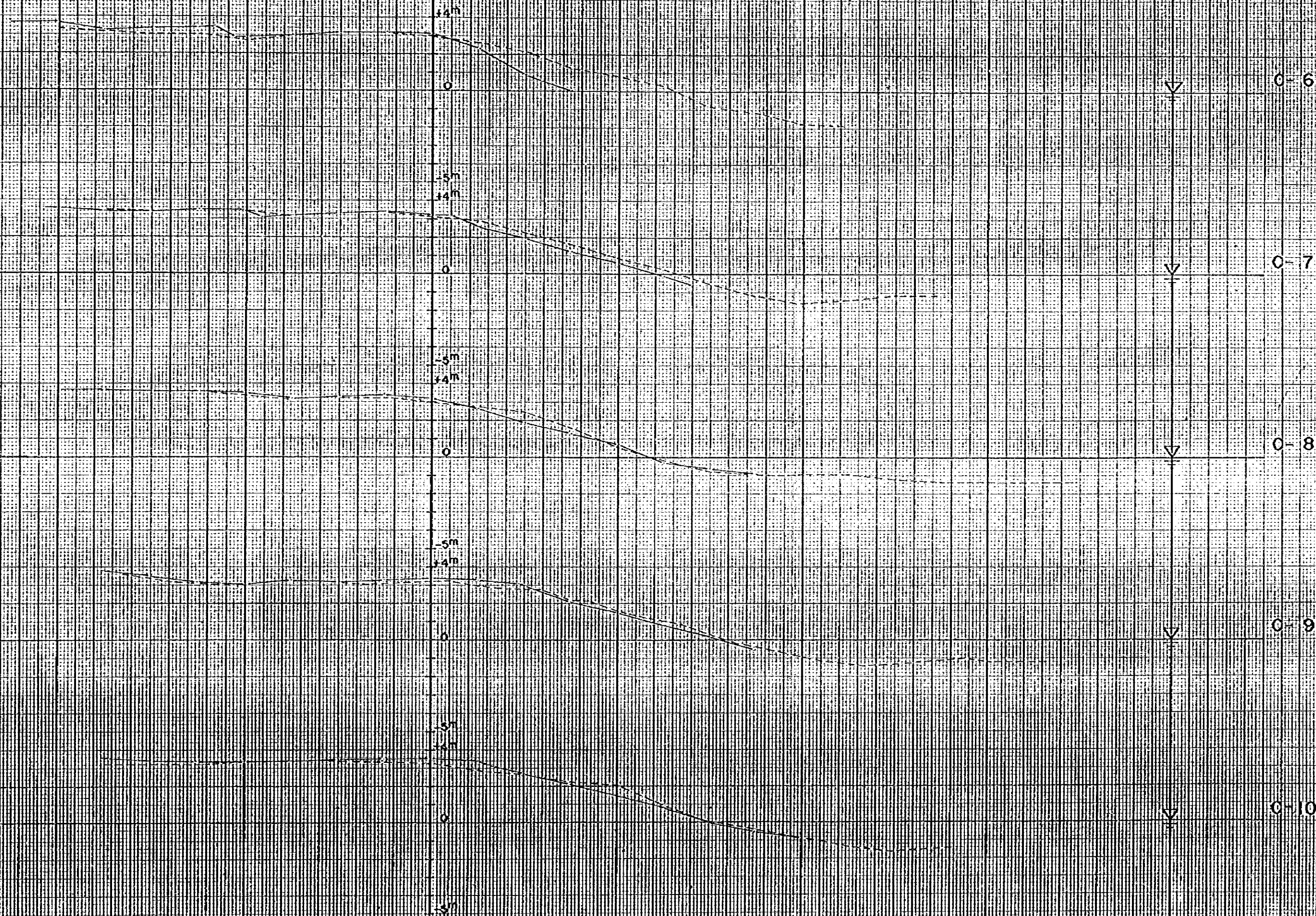




# CROSS SECTION OF THE BEACH

SCALE V: H = 1:200  
H: 1:400

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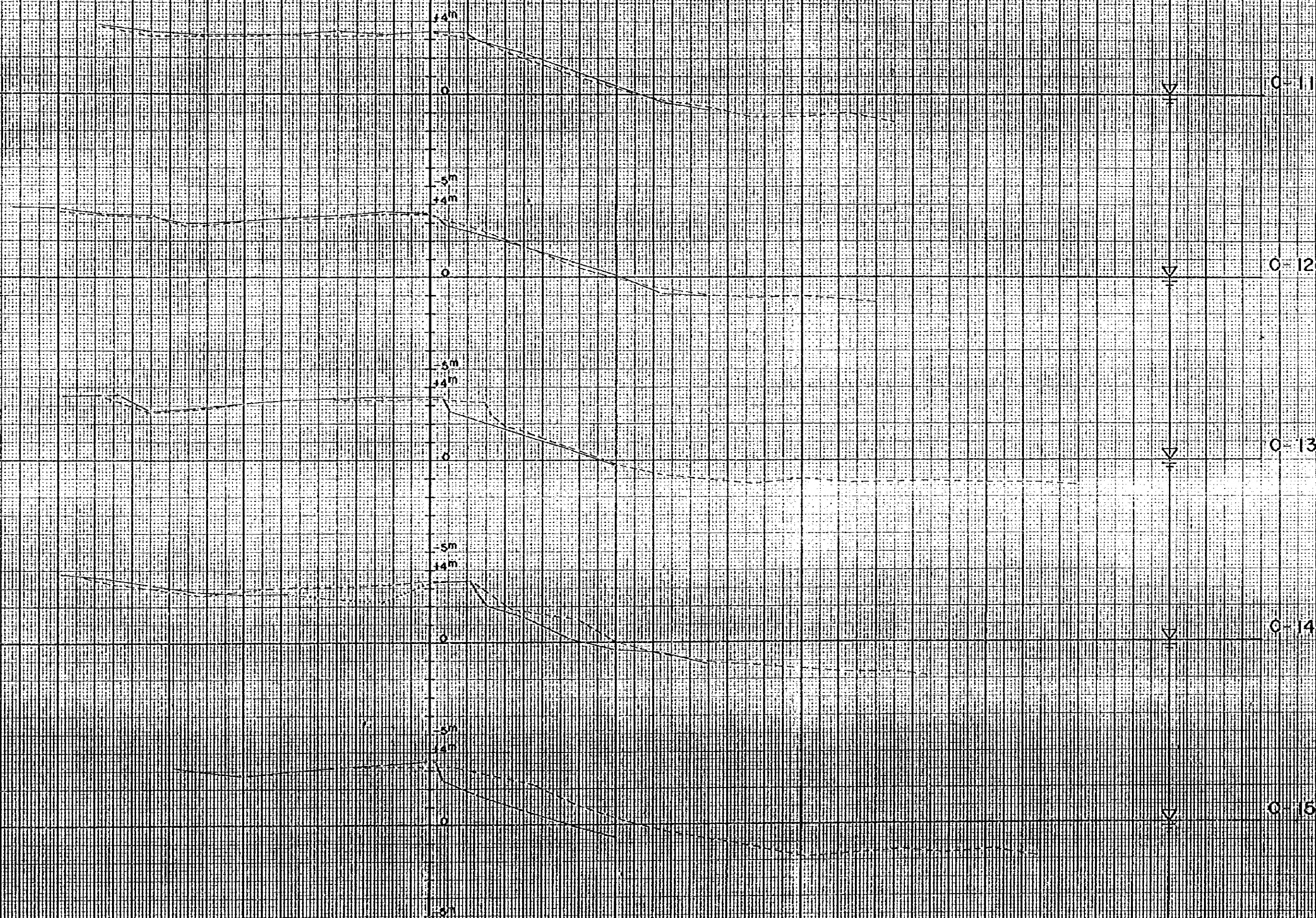


# CROSS SECTION OF THE BEACH

SCALE

V. 1/200  
H. 1/400

50m 40 30 20 10 navigation point 0 10 20 30 40 50 60 70 80 90m





# CROSS SECTION OF THE BEACH

SCALE

V.S. 1/200  
H.S. 1/400

50m 40 30 20 10 navigation point 0 10 20 30 40 50 60 70 80 90m

4m

0

▽

C-16

5m

4m

0

▽

C-17

5m

4m

0

▽

C-

5m

4m

0

▽

C-

5m

4m

0

▽

C-

5m