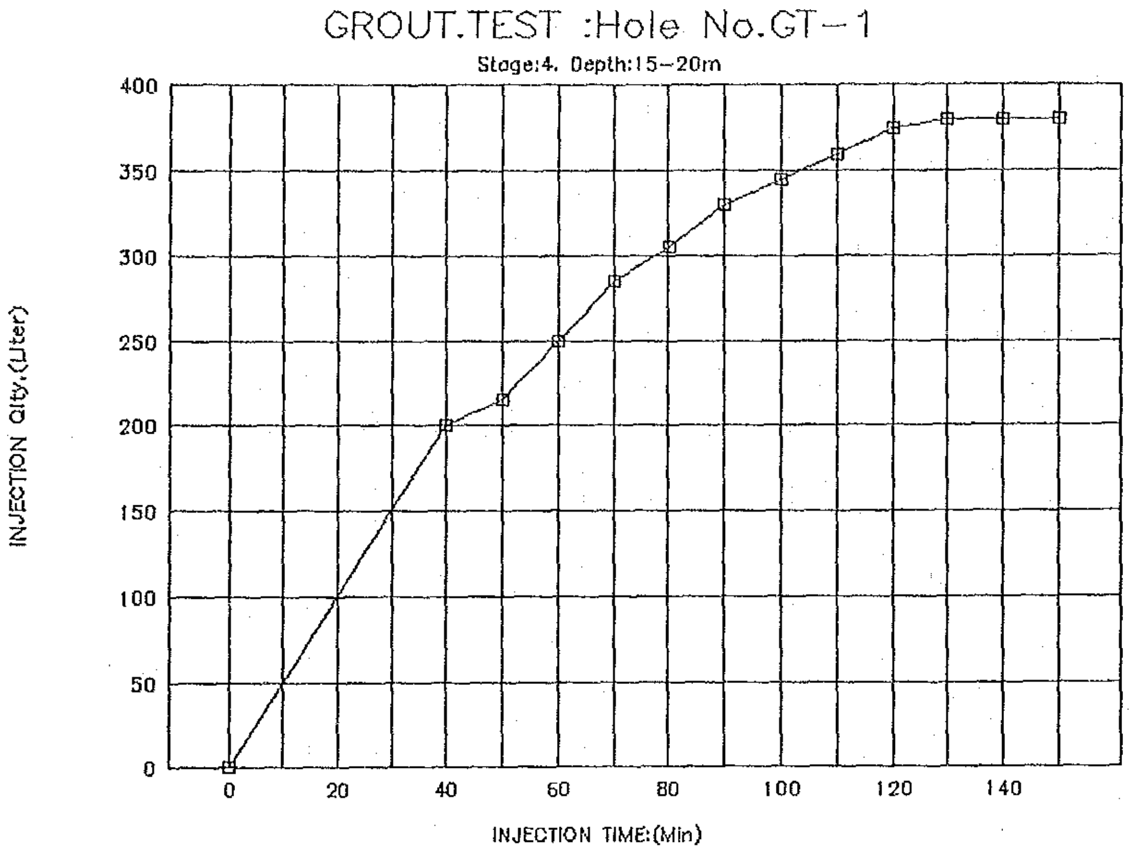
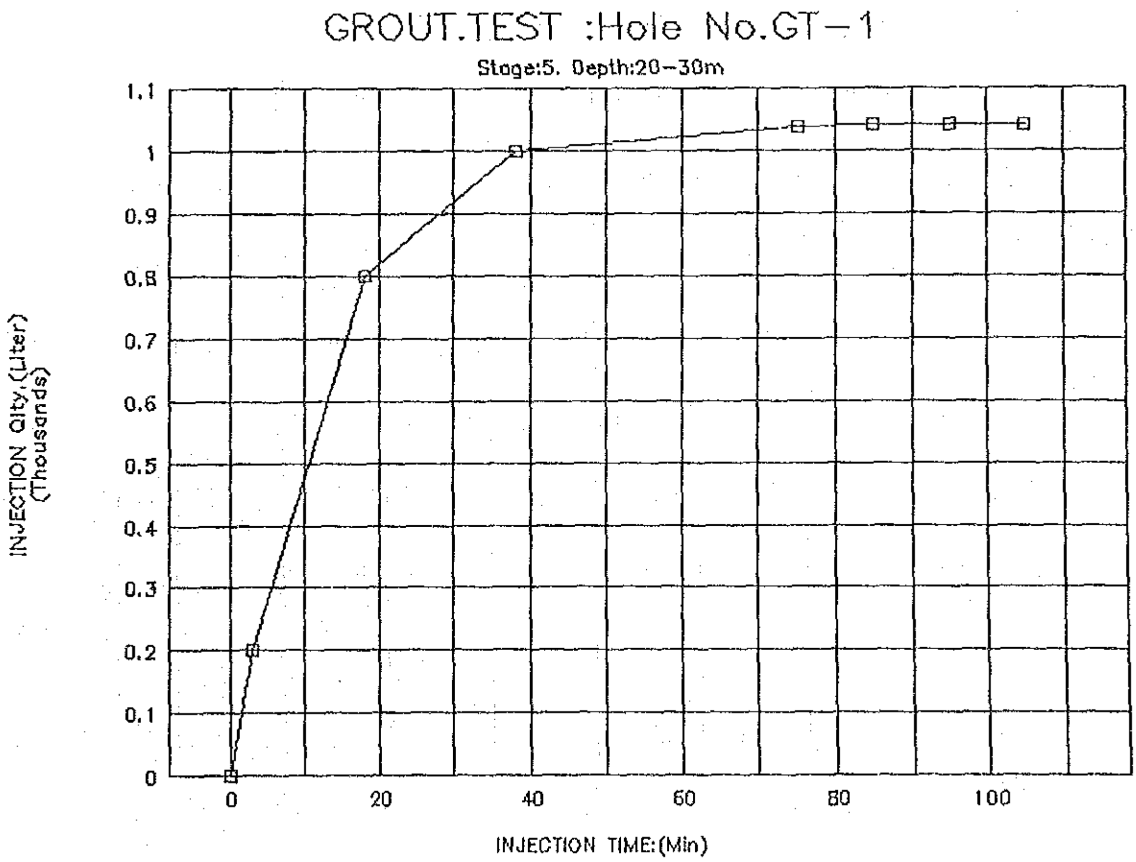
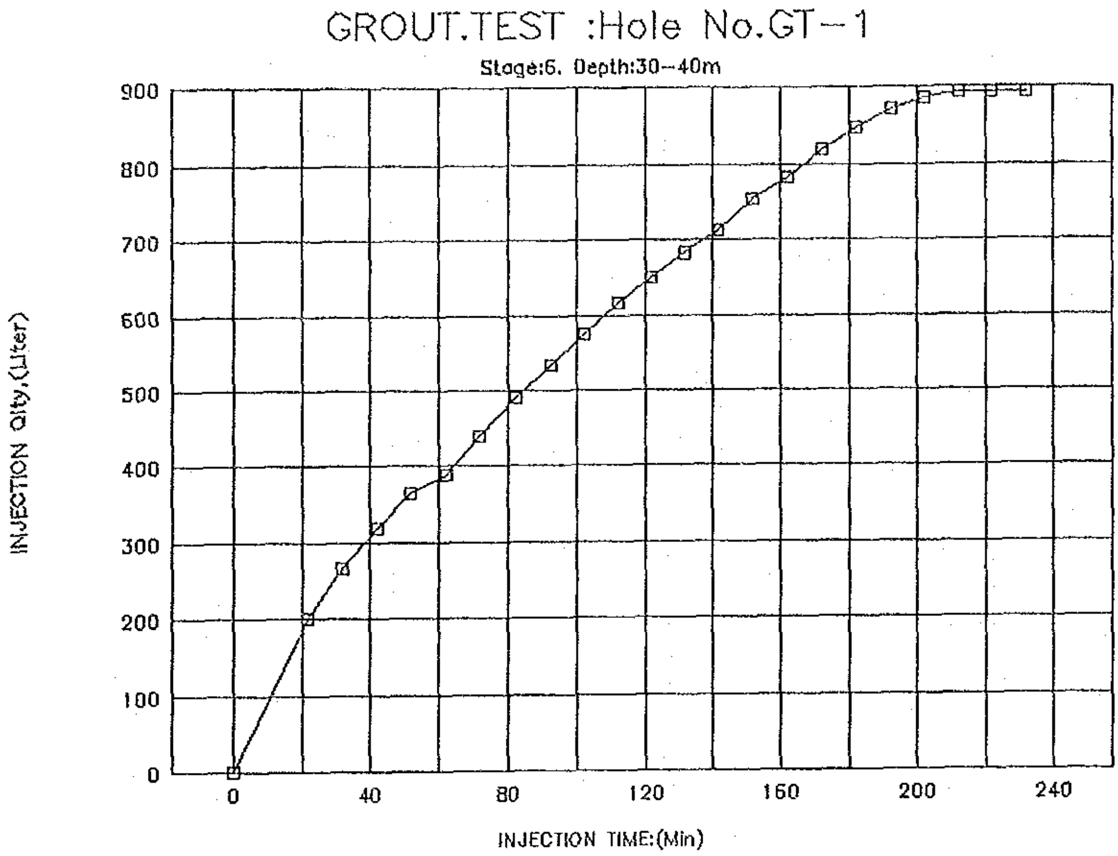
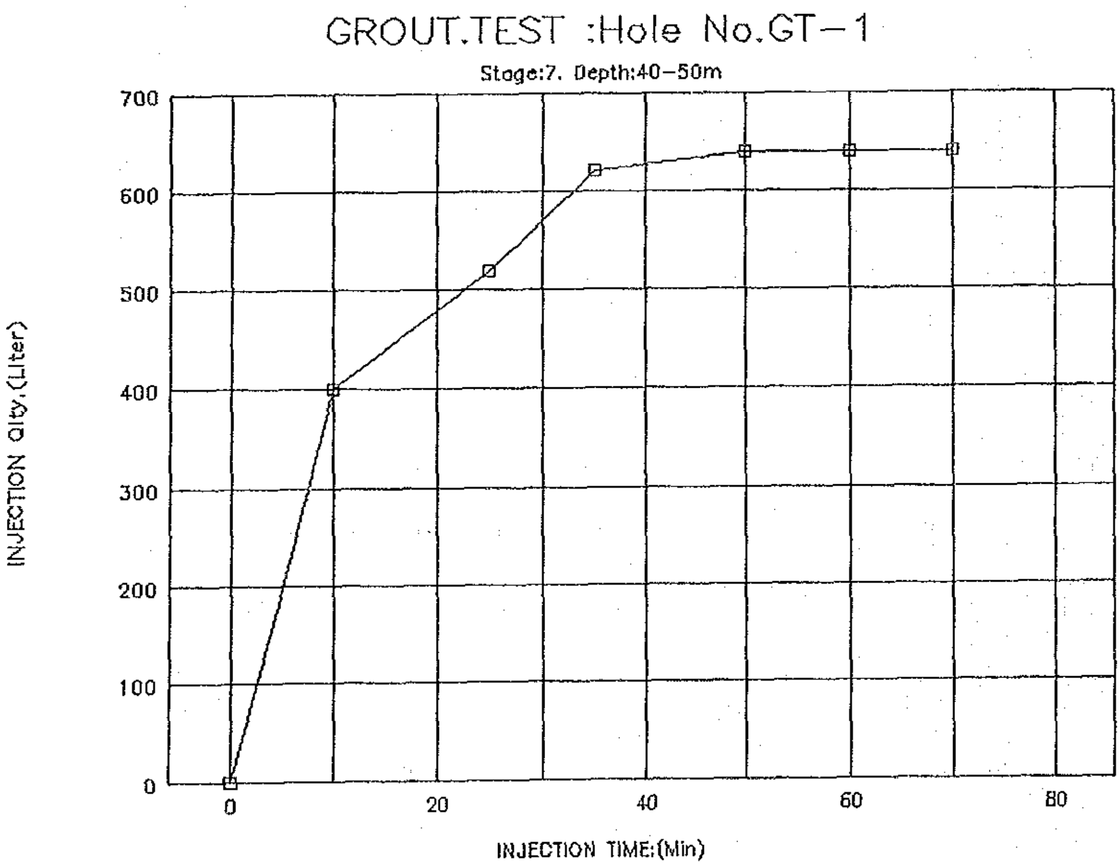
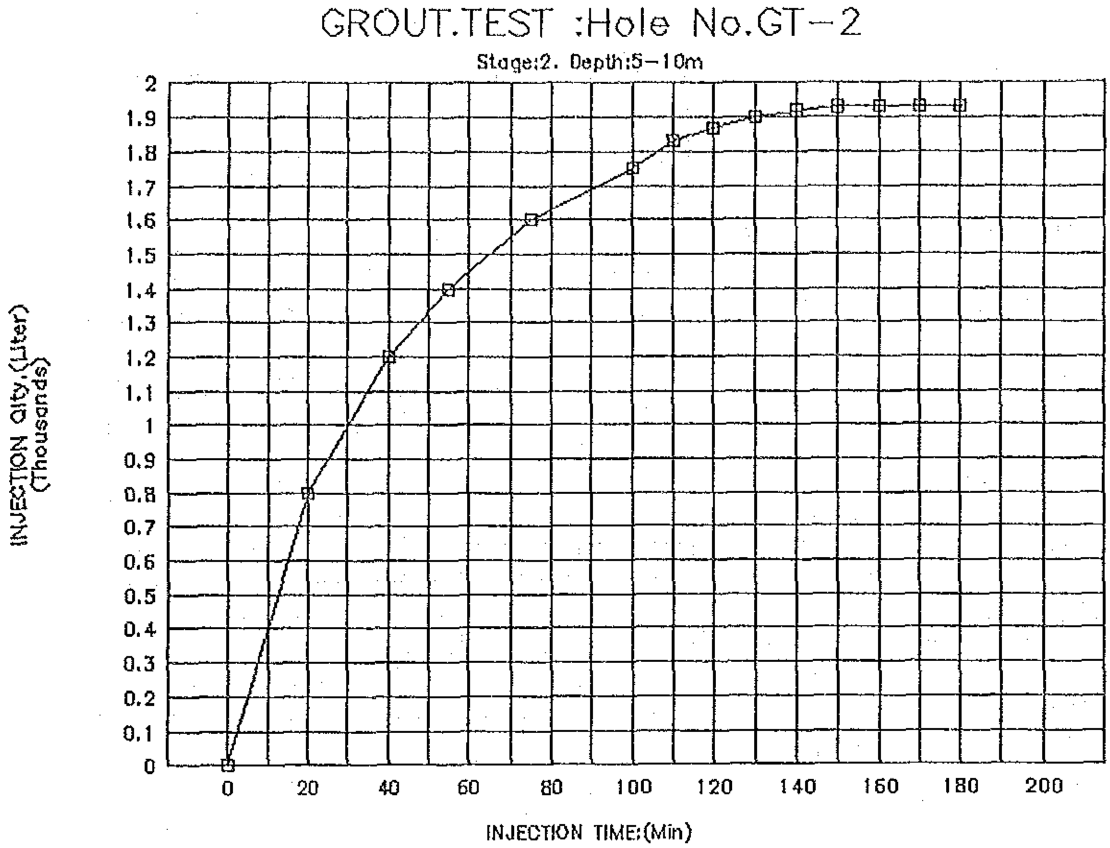
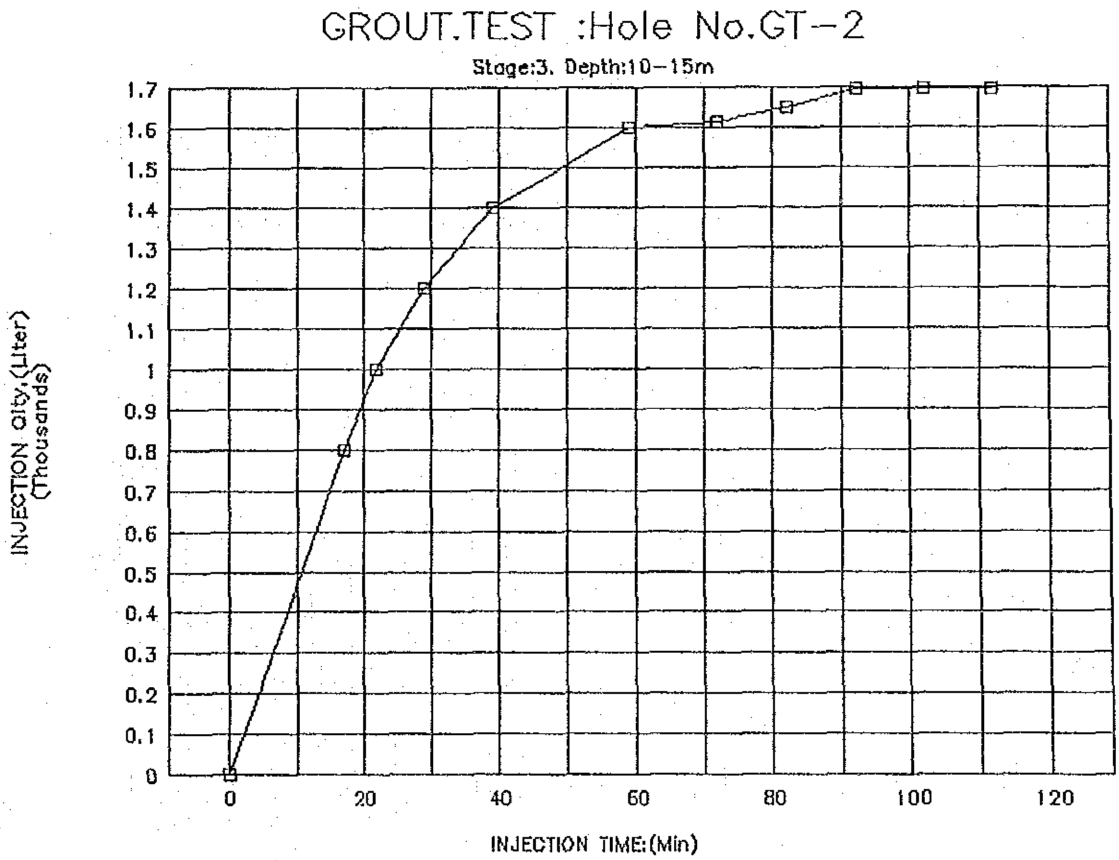

GROUT.TEST :Hole No.GT-1
Stage:4. Depth:15-20m
INJECTION Qty.(Liter)
INJECTION TIME:(Min)
400
350
300
250
200
150
100
50
0
0
20
40
60
80
100
120
140

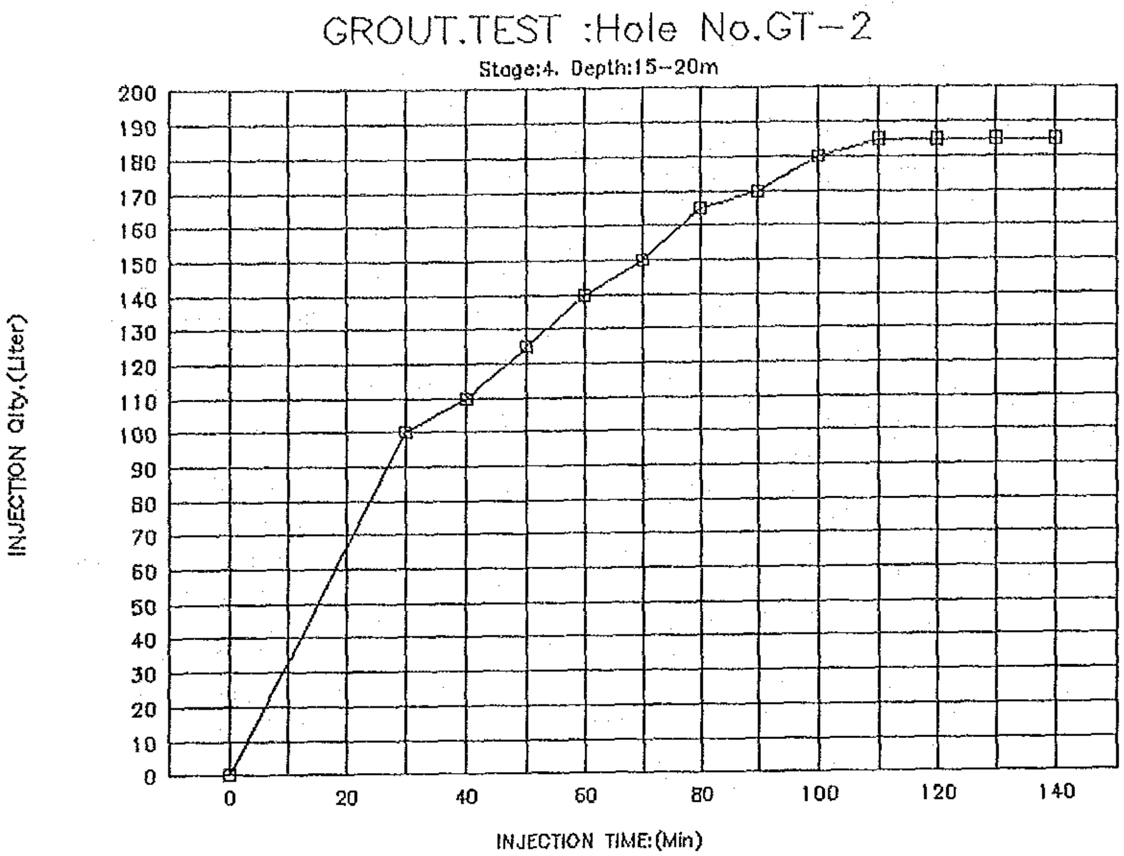

GROUT.TEST :Hole No.GT-1
Stage:5. Depth:20-30m
INJECTION Qty.(Liter)
(Thousands)
INJECTION TIME:(Min)
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
20
40
60
80
100

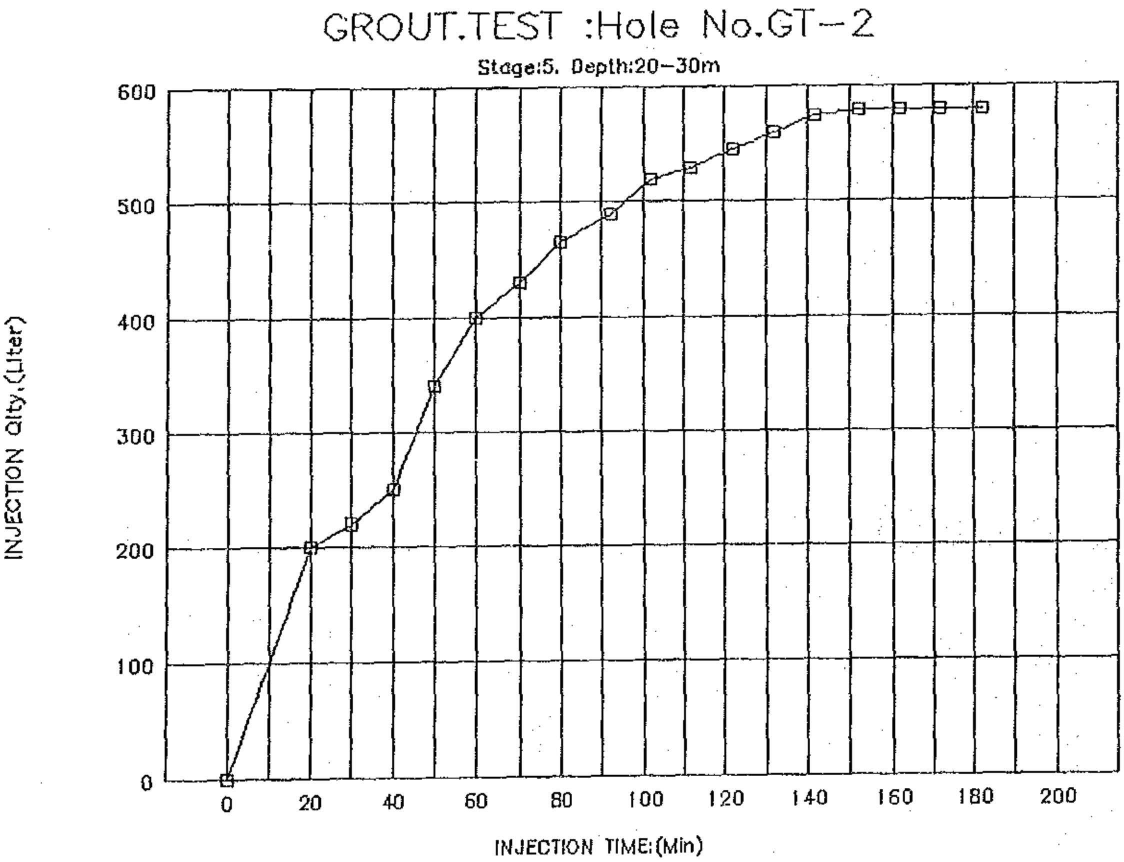

GROUT.TEST :Hole No.GT-1
Stage:6. Depth:30-40m
INJECTION Qty.(Liter)
900
800
700
600
500
400
300
200
100
0
0
40
80
120
160
200
240
INJECTION TIME:(Min)

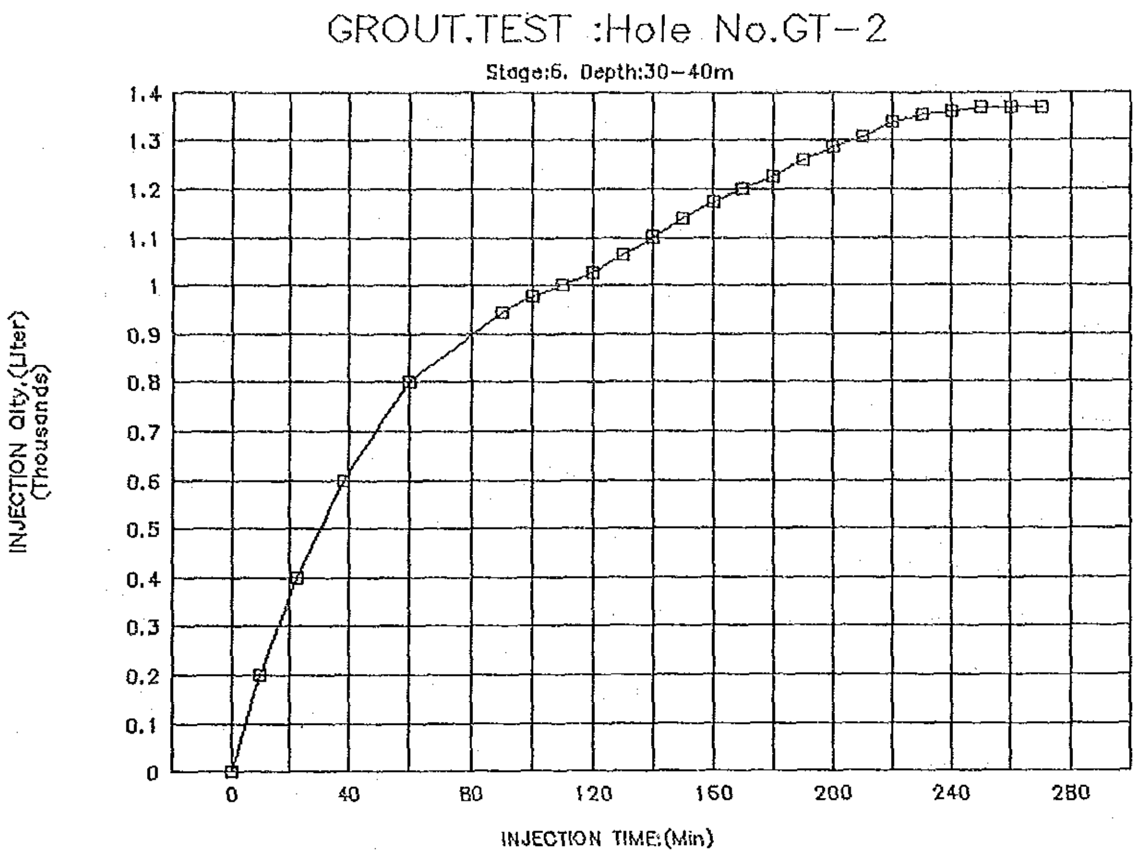

GROUT.TEST :Hole No.GT-1
Stage:7. Depth:40-50m
INJECTION Qty.(Liter)
700
600
500
400
300
200
100
0
0
20
40
60
80
INJECTION TIME:(Min)

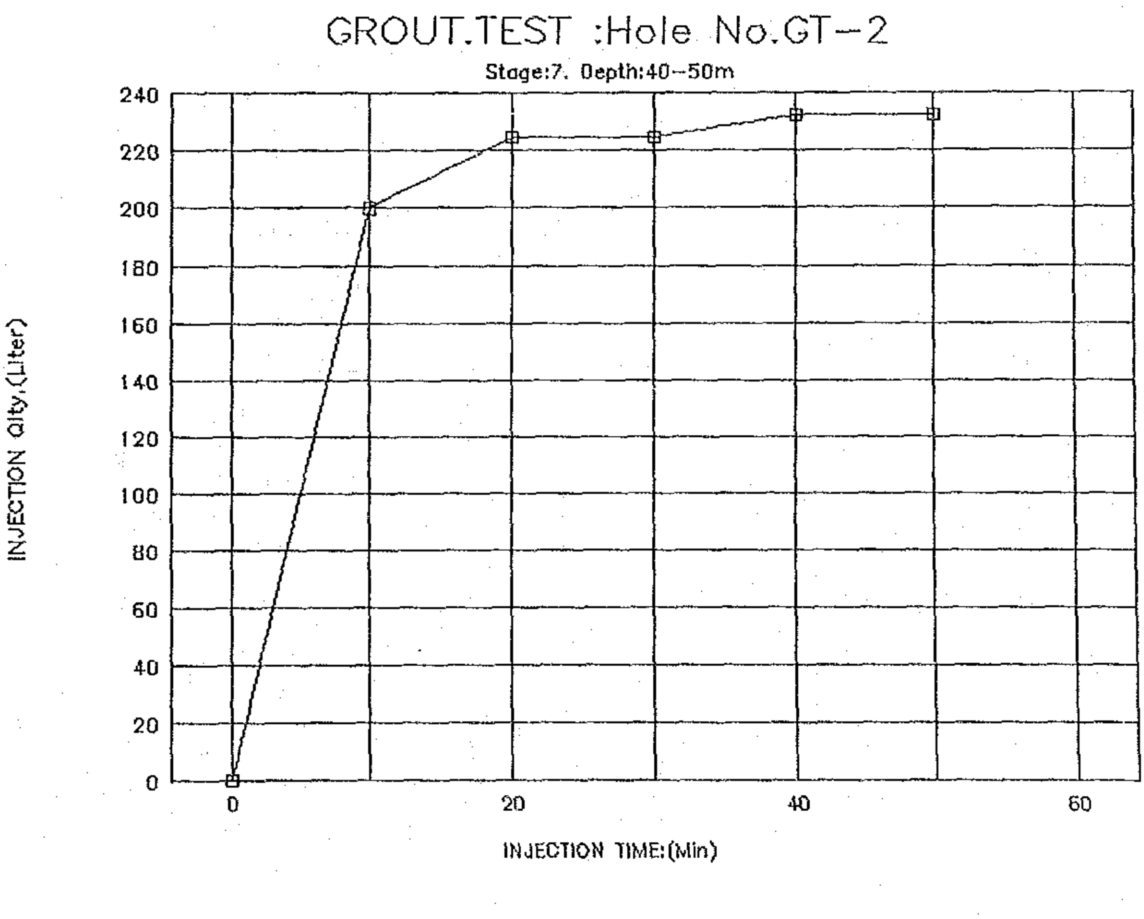

GROUT.TEST :Hole No.GT-2
Stage:2. Depth:5-10m
INJECTION Qty.(Liter) (Thousands)
INJECTION TIME:(Min)

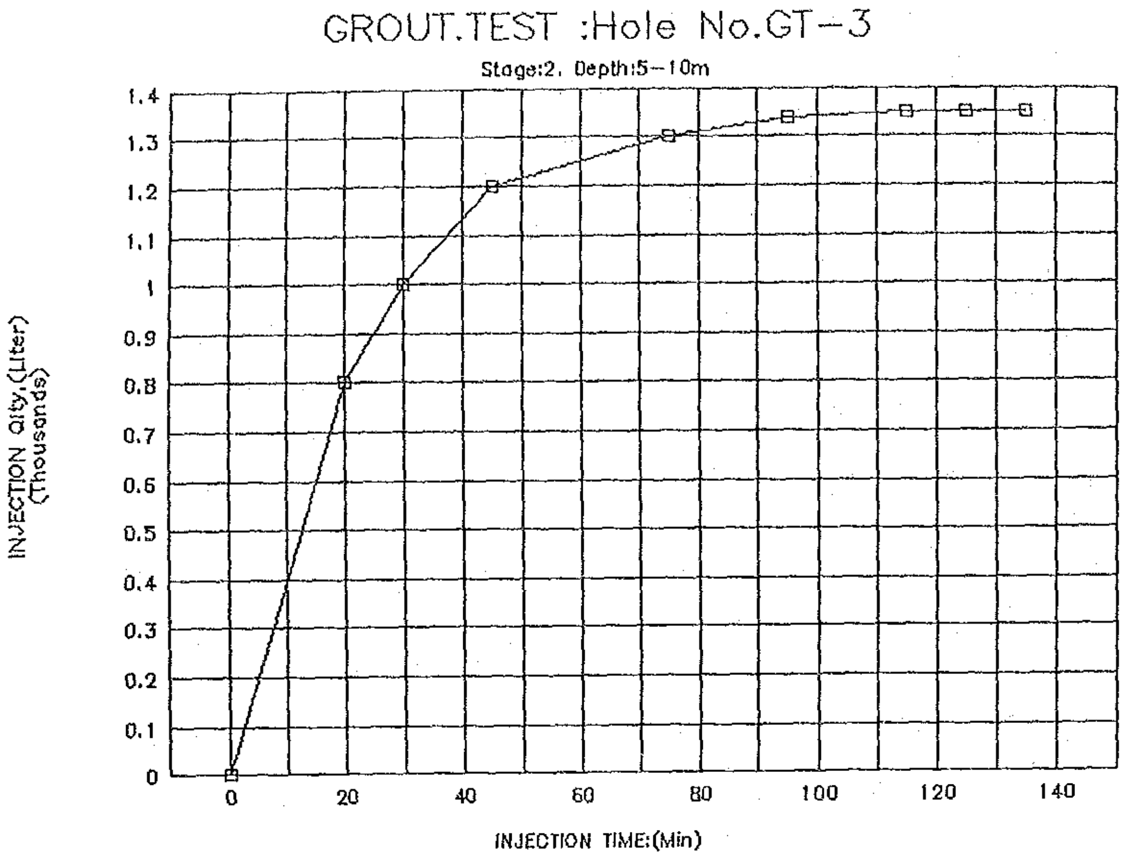

GROUT.TEST :Hole No.GT-2
Stage:3. Depth:10-15m
INJECTION Qty.(Liter) (Thousands)
INJECTION TIME:(Min)

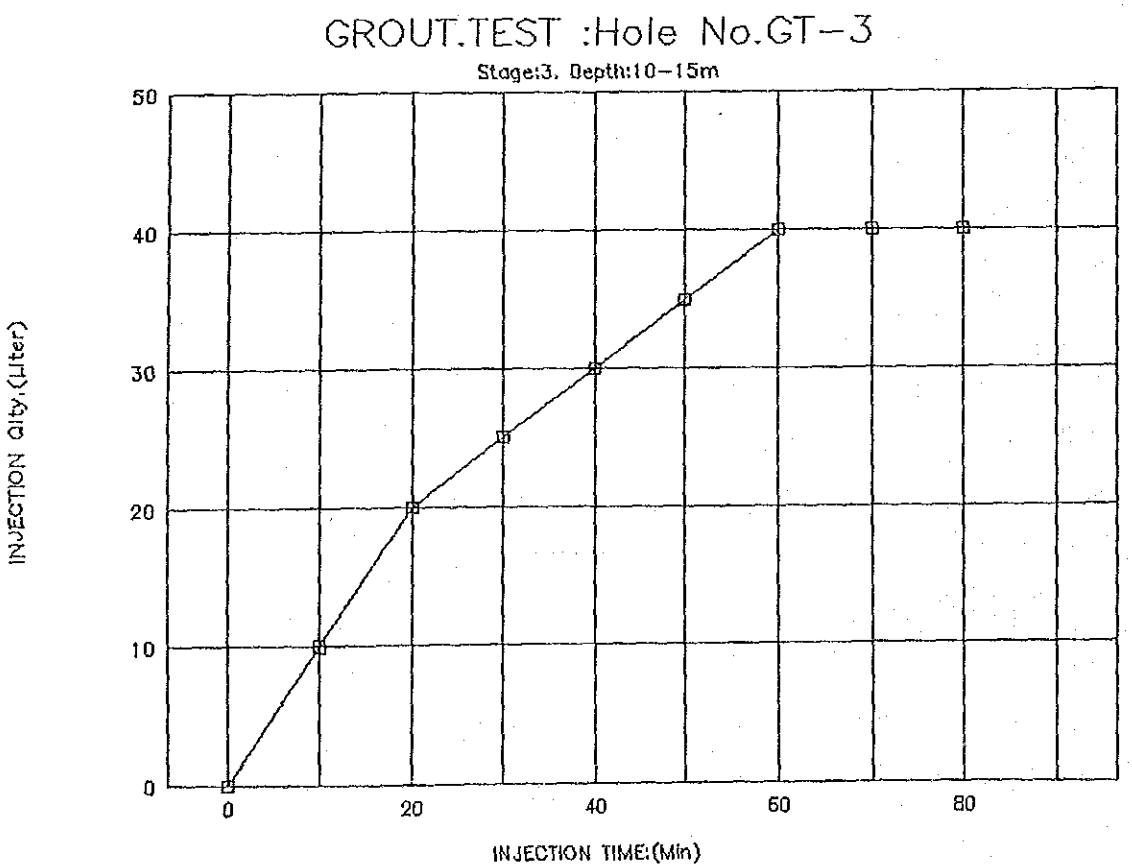

GROUT.TEST :Hole No.GT-2
Stage:4. Depth:15-20m
INJECTION Qty.(Liter)
INJECTION TIME:(Min)

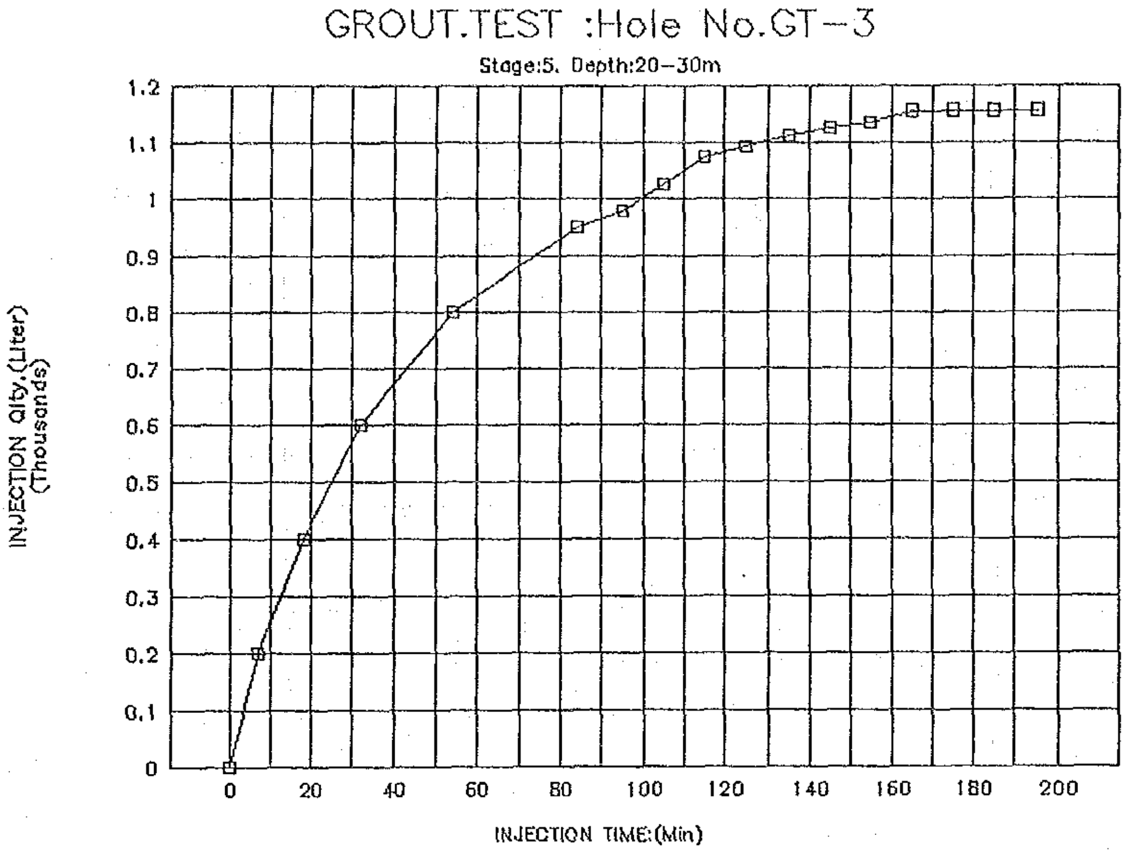

GROUT.TEST :Hole No.GT-2
Stage:5. Depth:20-30m
INJECTION Qty.(Liter)
INJECTION TIME:(Min)

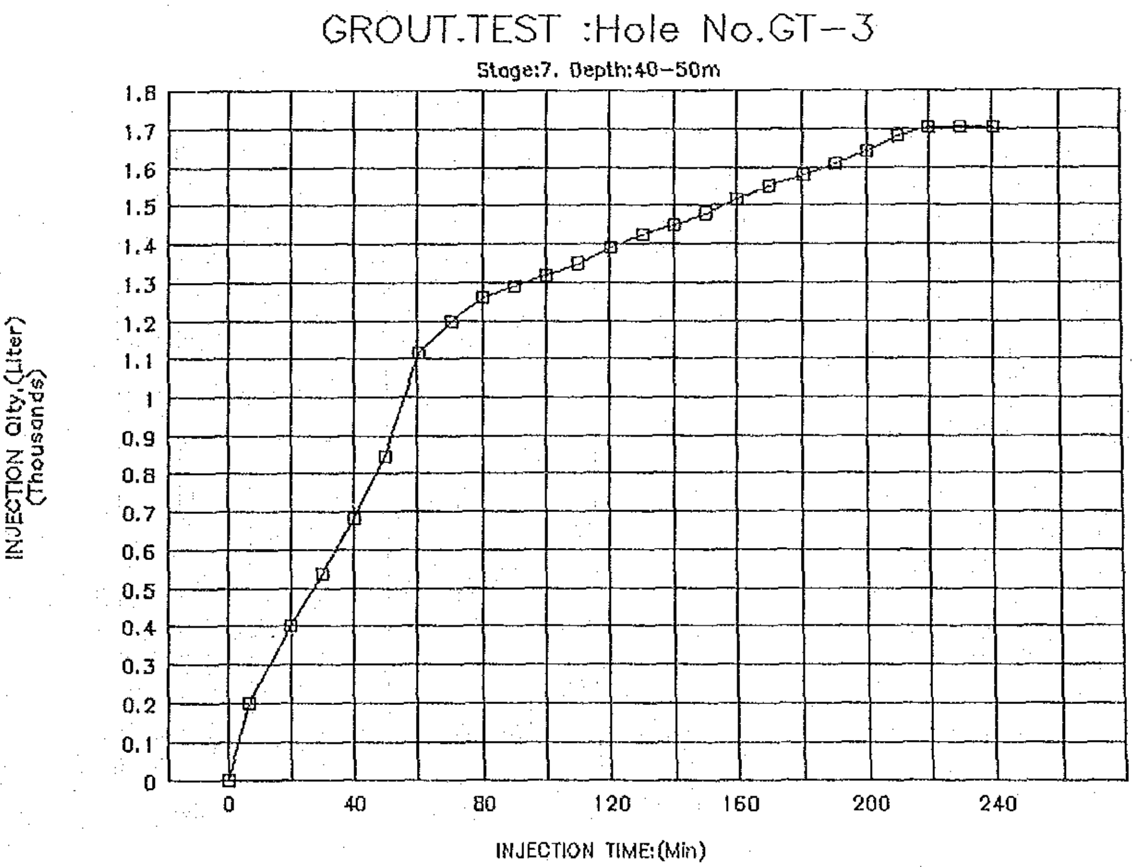

GROUT.TEST :Hole No.GT-2
Stage:6. Depth:30-40m
INJECTION Qlty.(Liter) (Thousands)
INJECTION TIME:(Min)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
40
80
120
160
200
240
280

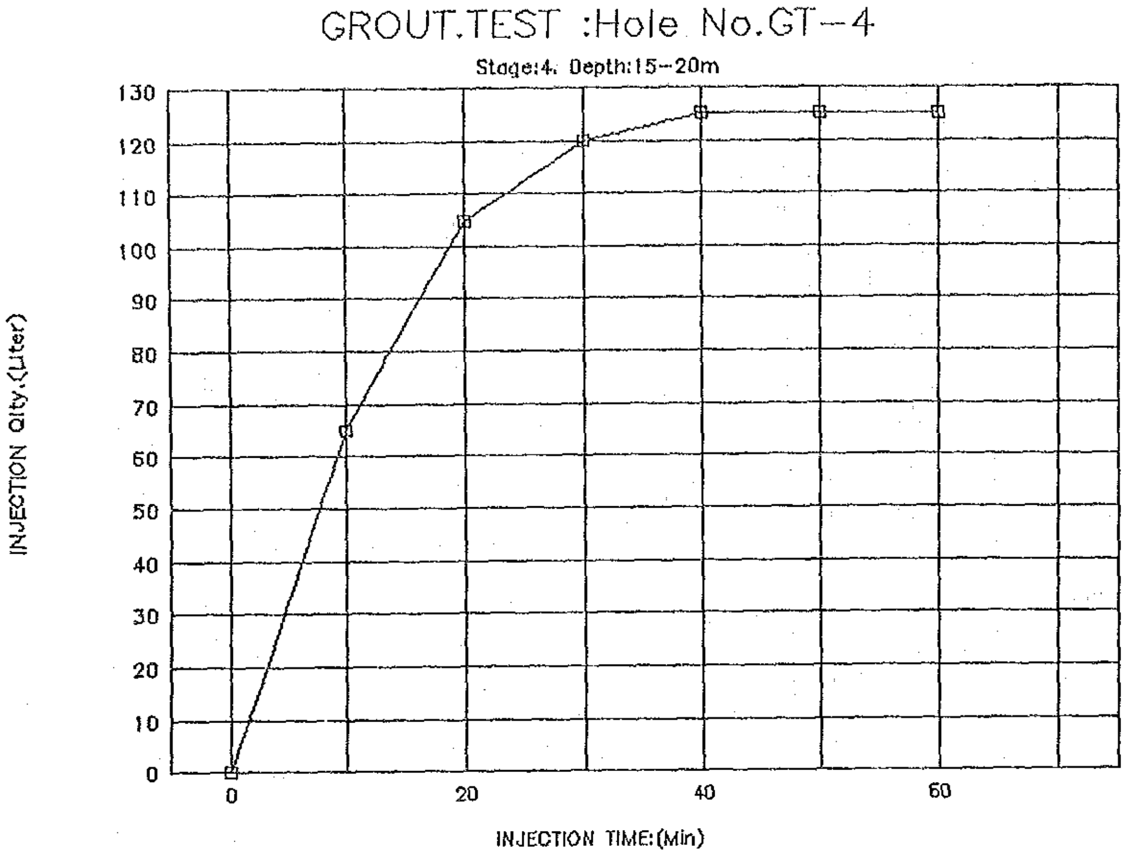

GROUT.TEST :Hole No.GT-2
Stage:7. Depth:40-50m
INJECTION Qlty.(Liter)
INJECTION TIME:(Min)
0
20
40
60
80
100
120
140
160
180
200
220
240

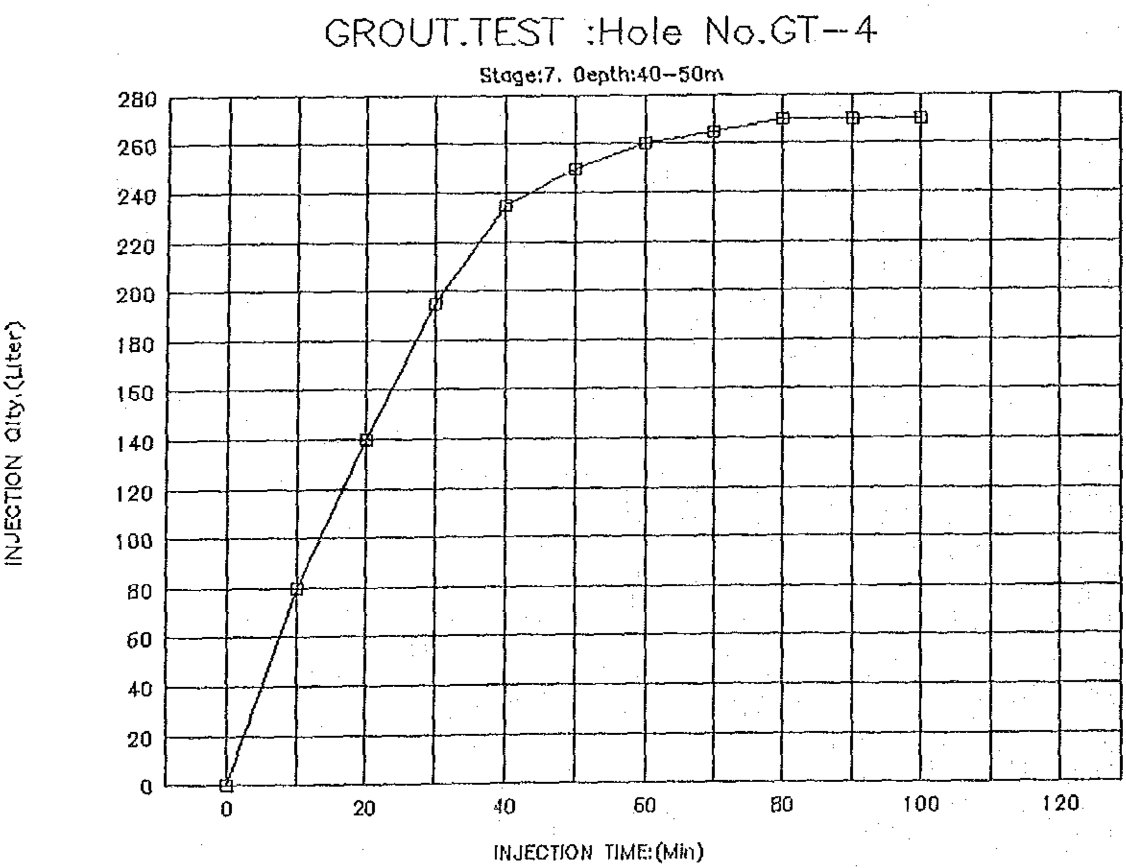

GROUT.TEST :Hole No.GT-3
Stage:2, Depth:5-10m
INJECTION Qlty.(Liter)
(Thousands)
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
20
40
60
80
100
120
140
INJECTION TIME:(Min)


GROUT.TEST :Hole No.GT-3
Stage:3, Depth:10-15m
INJECTION Qlty.(Liter)
50
40
30
20
10
0
0
20
40
60
80
INJECTION TIME:(Min)


GROUT.TEST :Hole No.GT-3
Stage:5. Depth:20-30m
INJECTION Qlty.(Liter) (Thousands)
INJECTION TIME:(Min)


GROUT.TEST :Hole No.GT-3
Stage:7. Depth:40-50m
INJECTION Qlty.(Liter) (Thousands)
INJECTION TIME:(Min)


GROUT.TEST :Hole No.GT-4
Stage:4. Depth:15-20m
INJECTION Qty.(Liter)
INJECTION TIME:(Min)
0
10
20
30
40
50
60
70
80
90
100
110
120
130
0
20
40
60


GROUT.TEST :Hole No.GT-4
Stage:7. Depth:40-50m
INJECTION Qty.(Liter)
INJECTION TIME:(Min)
0
20
40
60
80
100
120
140
160
180
200
220
240
260
280
0
20
40
60
80
100
120

PROBABLE FLOOD ANALYSIS

CONTENTS

C1. GENERAL

Probable flood discharges are assessed as shown in Chapter II, 2.4, (5) of the Design Report for Lot-II.

The above probable flood discharges are obtained through analyses given hereunder.

C2. EFFECTIVE RAINFALL

Effective rainfall is determined based on effective rainfall analyses with 27 hydrographies and corresponding basin rainfalls as shown in Fig. C-2, and following equations are deduced finally :

$$Re = 0.170 \times R \text{ (For } Rs < 250 \text{ mm)}$$
$$Re = 0.625 \times R \text{ (For } 250 \leq Rs < 700)$$

where, R : Rainfall (mm/hour)
Re : Effective Rainfall (mm/hour)
Rs : Accumulated Rainfall (mm)

Flood runoff ratio increases in accordance with total rainfall depth if rainfall intensity is at the same level, because larger parts of ground surface become saturated, and it is assumed that the basin will mostly be saturated in the case that the accumulated rainfall reaches 700 mm or more and that rainfall will mostly turn to runoff : that is, flood run-off ratio when total rainfall depth reaches 700 mm or more is assumed to be 0.950 as follows :

$$Re = 0.950 \times R \text{ (For 700 mm} \leq Rs)$$

C3. ANALYSIS

C3.1 Storage Function Method

In order to decide the design flood, flood simulations are carried out by means of the " Storage function method ". The storage function method presumes a rainfall storage defined as balance between rainfall and runoff volume, and computes discharges in time series by means of the equation of continuity of volume and storage function,
or,

$S = K \cdot Q^P$
$r \times A/3.6 - Q = dS/dT$

where,		
	S	: Storage ($m^3/s \cdot hour$)
	Q	: Discharge (m^3/s)
	K.p	: Constants
	r	: Effective rainfall (mm/hour)
	A	: Catchment area (km^2)

Discharge produced by given rainfall is calculated by these equations. K and p values mathematically represent a capacity of basin storage and speed of run-off, respectively.

The storage and discharge are represented in millimeter in the catchment area as follows :

$S = s \times A/3.6$
$Q = q \times A/3.6$

where, s : Storage depth (mm)
q : Discharge depth (mm/hr.)

Then, the equations of continuity of volume and storage function are represented as follows :

$s = k \times q^p$
$ds/dt = r - q$

where, $k : (3.6/A)^{1-p} \times K$

C3.2 Determination of Parameters, k, p

In order to determine two parameters (k,p), four extreme storms which have both hydrographies at water level gauging stations and corresponding basin rainfall are selected.

By means of Thiessen polygon, daily basin rainfall are calculated according to area-rainfall allocation. Hourly rainfall data at only two stations are available. But hourly rainfall pattern in the study area is the same, so long as heavy rainfall such as cyclone are concerned. Based on this information, hourly rainfall pattern at Vacoas during the corresponding storms are applied for basin rainfall of four cases.

Parameters of the model, k,p are determined so that a simulated flood hydrograph coincides with the actual one. Finally determined parameter sets for each flood is as follows ;

Case	k value	p value	Station	Catchment Area
A - 1	25.6	0.415	W03	29.7
A - 2	41.1	0.415	W04	17.6
A - 3	32.7	0.415	W05	8.3
B	24.5	0.415	W13	113.2

Note : See Fig.C - 1 for Stations W03, W04, W05 and W13.

K values of A - 2 and A - 3 are larger because station W04 and W05 are located in the Central Plateau and covered with sugar cane and slope of these catchment is quite gentle. On the other hand, W03 is located in the Plaines Whilhems river which is the most urbanized area. Station W13 is located in GRNW gorge and this catchment area include very steep slope area, making flood peak high, therefore k value is smallest among them. Actual and calculated flood hydrographs are shown in Fig. C - 3 and C - 4.

C3.3 Design Flood at Damsite

- Simulation modal

  Based on the calibration with actual hietgraph and hydrograph, 4 sets of parameters are determined as mentioned above. Proposed dam (TRO) is located at 2 km upstream of W13 station and the catchment of the damsite also includes steep slope area in the gorge along river channel, therefore the set of parameter of Case B is applied for design flood at TRO damsite.

- Design rainfall

  According to observed data, annual maximum of one-day, two-day, three-day duration occurred in a sequence of one storm. Therefore three-day series of probable one-day rainfall by return period are developed as follows,

  $P_{3rd} = P_{1\text{-}day}$
  $P_{2nd} = P_{2\text{-}day} \times 2 - P_{3rd}$
  $P_{1st} = P_{3\text{-}day} \times 3 - P_{2nd} - P_{3rd}$

where ; P_{nth} : one-day rainfall of n-th day

$P_{n\text{-}da}$: n-day probable point rainfall of given return period in GRNW :

- Basin rainfall

Three-day series of probable rainfall is point rainfall which may occur in GRNW. Therefore, this values should be modified based on the relation between area and basin rainfalls. Catchment area of proposed damsite TRO is 54.9 km^2, and area reduction factor of 0.85 is applied as shown in Fig.C - 5. This ratio is maximum value for the area.

- Hourly rainfall pattern

24-hour rainfall record at Vacoas whose amount exceed 180 mm for recent 21 years are selected to determine hourly rainfall pattern for design flood as shown in Fig.C - 6. Of them, rainfall pattern on 6, Feb. 1975 is considered to be severest on both total volume and intensity and 24-hour disbursement is finally determined as follows. As for three-day series of one-day rainfall, same hourly rainfall pattern is considered to repeat.

Hour	Percentage	Hour	Percentage
1	0.52	13	13.42
2	0.58	14	12.11
3	0.93	15	6.58
4	1.26	16	5.70
5	1.62	17	2.14
6	2.74	18	1.53
7	3.52	19	1.51
8	6.30	20	0.82
9	6.85	21	0.47
10	9.04	22	0.44
11	10.96	23	0.154
12	10.96	24	0.08

Based on the above result, design rainfalls by return period are estimated as follows,

(mm)

Return Year	1st day	2nd day	3rd day	Purpose
10	77	168	393	-
20	84	195	455	cofferdam design
100	116	257	596	
200	125	291	656	dam/spillway design
10,000 (P.M.P.)	171	536	993	free board of dam

Here, 10,000-year probable rainfall is applied as the probable maximum precipitation (P.M.P.) in view that it result in a magnitude bigger than that obtained by the cyclonic adjustment method.

The probable design floods by return period are analized based on the above design rainfall by return period. The analyses are made by means of the " Storage function method " as explained in Section C3.1.
Results of analyses are given in Table C - 1. Their hydrographs are seen in Fig. C - 7.
The results can be summarized as follows :

Probable Flood Peak Discharge

Return Year (Year)	Peak Discharge (m^3/s)	Specific Discharge ($m^3/s/km^2$)	Creager's C
10	440	8	17
20	520	9	19
100	1,040	18	37
200	1,200	22	46
10,000 (P.M.F.)	1,890	35	72

TABLES

TABLE C - 1 : FLOOD CALCULATION RESULTS (1/4)

Time (hour)	10-yr. Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)	20-yr. Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)	100-yr. Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	0.4	0.1	0.0	0.4	0.1	0.0	0.6	0.1	0.0
2	0.4	0.1	0.0	0.5	0.1	0.0	0.7	0.1	0.0
3	0.7	0.1	0.1	0.8	0.1	0.1	1.1	0.2	0.1
4	1.0	0.2	0.1	1.1	0.2	0.1	1.5	0.3	0.1
5	1.2	0.2	0.1	1.4	0.2	0.1	1.9	0.3	0.1
6	2.1	0.4	0.1	2.3	0.4	0.1	3.2	0.5	0.2
7	2.7	0.5	0.2	3.0	0.5	0.2	4.1	0.7	0.2
8	4.9	0.8	0.2	5.3	0.9	0.2	7.3	1.2	0.3
9	5.3	0.5	0.2	5.8	1.0	0.3	7.9	1.3	0.4
10	7.0	1.2	0.4	7.6	1.3	0.4	10.5	1.8	0.6
11	8.4	1.4	0.5	9.2	1.6	0.6	12.7	2.2	0.9
12	8.4	1.4	0.8	9.2	1.6	0.9	12.7	2.2	1.5
13	10.3	1.8	1.2	11.3	1.9	1.4	13.6	2.7	2.4
14	9.3	1.6	1.7	10.2	1.7	2.0	14.0	2.4	3.5
15	5.1	0.9	2.5	5.5	0.9	2.9	7.6	1.3	5.2
16	4.4	0.7	3.3	4.8	0.8	3.9	6.6	1.1	7.0
17	1.6	0.3	3.7	1.8	0.3	4.3	2.5	0.4	7.8
18	1.2	0.2	4.0	1.3	0.2	4.7	1.8	0.3	8.4
19	1.2	0.2	4.0	1.3	0.2	4.7	1.8	0.3	8.3
20	0.6	0.1	4.0	0.7	0.1	4.6	1.0	0.2	8.0
21	0.4	0.1	3.9	0.4	0.1	4.6	0.5	0.1	7.8
22	0.3	0.1	3.8	0.4	0.1	4.4	0.5	0.1	7.5
23	0.1	0.0	3.7	0.1	0.0	4.3	0.2	0.0	7.1
24	0.1	0.0	3.6	0.1	0.0	4.1	0.1	0.0	6.7
25	0.9	0.2	3.4	1.0	0.2	4.0	1.3	0.2	6.4
26	1.0	0.2	3.3	1.1	0.2	3.8	1.5	0.3	6.0
27	1.6	0.3	3.3	1.8	0.3	3.8	2.4	0.4	3.9
28	2.1	0.4	3.3	2.5	0.4	3.7	3.2	0.5	5.8
29	2.7	0.5	3.3	3.2	0.5	3.8	4.2	0.7	5.8
30	4.6	0.8	3.4	5.3	0.9	3.9	7.0	1.2	5.9
31	5.9	1.0	3.5	6.9	1.2	4.1	9.0	1.5	6.2
32	10.6	1.8	3.9	12.3	2.1	4.5	16.2	2.8	6.9
33	11.5	2.0	4.4	13.4	2.3	5.2	17.6	3.0	7.9
34	15.2	2.6	5.5	17.6	3.0	6.6	23.2	3.9	10.3
35	18.4	3.1	6.9	21.4	3.6	8.4	28.2	4.8	13.2
36	18.4	3.1	9.0	21.4	3.6	11.1	28.2	17.6	17.6
37	22.5	3.8	11.9	26.2	4.5	14.9	34.5	21.6	23.7
38	20.3	3.5	15.1	23.6	4.0	18.9	31.1	19.4	63.2
39	11.1	1.9	19.4	12.8	8.0	24.5	16.9	10.6	129.1
40	9.6	1.6	23.1	11.1	6.9	29.2	14.6	9.1	182.7
41	3.6	0.6	23.8	4.2	2.6	43.1	5.5	3.4	175.3
42	2.6	0.4	23.9	3.0	1.9	54.1	3.9	2.4	163.2
43	2.5	0.4	22.2	2.9	1.8	51.5	3.9	2.4	128.8
44	1.4	0.2	20.5	1.6	1.0	47.4	2.1	1.3	103.3
45	0.8	0.1	18.9	0.9	0.6	44.0	1.2	0.8	86.7
46	0.7	0.1	17.4	0.9	0.6	39.3	1.1	0.7	71.5
47	0.2	0.0	15.9	0.3	0.2	34.6	0.4	0.3	59.1
48	0.1	0.0	14.5	0.2	0.1	30.9	0.2	0.1	50.0
49	2.0	0.3	13.3	2.4	1.5	27.2	3.1	1.9	42.1
50	2.3	0.4	12.2	2.6	1.6	24.0	3.5	2.2	35.8

TABLE C - 1 : FLOOD CALCULATION RESULTS (2/4)

Time (hour)	10-yr. Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)	20-yr. Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)	100-yr. Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)
51	3.7	2.3	11.6	4.2	2.6	23.9	5.5	3.4	34.8
52	5.0	3.1	11.2	5.7	3.6	24.0	7.5	4.7	34.6
53	6.4	4.0	13.2	7.4	4.6	26.0	9.7	6.1	37.3
54	10.8	6.8	16.3	12.5	7.8	29.7	16.3	10.2	42.7
55	13.8	8.6	21.0	16.0	10.0	35.5	21.0	13.1	51.3
56	24.8	15.5	31.3	28.7	17.9	49.1	37.5	23.4	72.1
57	26.9	16.8	46.9	31.2	19.5	69.3	40.8	25.5	102.7
58	35.5	22.2	85.9	41.1	25.7	119.9	33.9	33.7	180.0
59	43.1	26.9	131.4	49.9	31.2	175.2	65.3	40.8	258.9
60	43.1	26.9	199.6	49.9	31.2	256.3	65.3	62.0	372.9
61	52.7	32.9	283.0	61.1	38.2	332.9	80.0	76.0	502.0
62	47.6	29.8	340.0	55.1	34.4	412.9	72.2	68.6	770.4
63	25.9	16.2	419.0	29.9	18.7	502.5	39.2	37.2	1041.1
64	22.4	14.0	436.8	25.9	24.6	515.0	34.0	32.3	1044.7
65	8.4	5.3	343.2	9.7	9.2	393.9	12.8	12.2	716.6
66	6.0	3.8	285.2	7.0	6.7	384.7	9.1	8.6	579.6
67	5.9	3.7	203.6	6.9	6.6	273.4	9.0	8.6	369.0
68	3.2	2.0	153.4	3.7	3.5	205.6	4.9	4.7	262.9
69	1.8	1.1	123.9	2.1	2.0	168.5	2.8	2.7	210.9
70	1.7	1.1	98.6	2.0	1.9	132.3	2.6	2.5	161.9
71	0.6	0.4	78.9	0.6	0.6	103.8	0.8	0.8	124.5
72	0.3	0.2	65.2	0.4	0.4	85.1	0.5	0.5	100.8
73	0.0	0.0	33.5	0.0	0.0	68.0	0.0	0.0	79.0
74	0.0	0.0	44.6	0.0	0.0	55.5	0.0	0.0	63.5
75	0.0	0.0	37.4	0.0	0.0	45.5	0.0	0.0	51.3
76	0.0	0.0	31.9	0.0	0.0	38.1	0.0	0.0	42.4
77	0.0	0.0	27.6	0.0	0.0	32.4	0.0	0.0	35.7
78	0.0	0.0	24.1	0.0	0.0	28.0	0.0	0.0	30.6
79	0.0	0.0	21.3	0.0	0.0	24.5	0.0	0.0	26.5
80	0.0	0.0	19.0	0.0	0.0	21.6	0.0	0.0	23.3
81	0.0	0.0	17.0	0.0	0.0	19.2	0.0	0.0	20.6
82	0.0	0.0	15.4	0.0	0.0	17.2	0.0	0.0	18.4
83	0.0	0.0	14.0	0.0	0.0	15.5	0.0	0.0	16.5
84	0.0	0.0	12.7	0.0	0.0	14.1	0.0	0.0	15.0
85	0.0	0.0	11.7	0.0	0.0	12.9	0.0	0.0	13.6
86	0.0	0.0	10.8	0.0	0.0	11.8	0.0	0.0	12.4
87	0.0	0.0	9.9	0.0	0.0	10.9	0.0	0.0	11.4
88	0.0	0.0	9.2	0.0	0.0	10.0	0.0	0.0	10.5
89	0.0	0.0	8.6	0.0	0.0	9.3	0.0	0.0	9.7
90	0.0	0.0	8.0	0.0	0.0	8.7	0.0	0.0	9.0
91	0.0	0.0	7.5	0.0	0.0	8.1	0.0	0.0	8.4
92	0.0	0.0	7.0	0.0	0.0	7.6	0.0	0.0	7.9
93	0.0	0.0	6.6	0.0	0.0	7.1	0.0	0.0	7.4
94	0.0	0.0	6.2	0.0	0.0	6.7	0.0	0.0	6.9
95	0.0	0.0	5.9	0.0	0.0	6.3	0.0	0.0	6.5
96	0.0	0.0	5.6	0.0	0.0	5.9	0.0	0.0	6.1

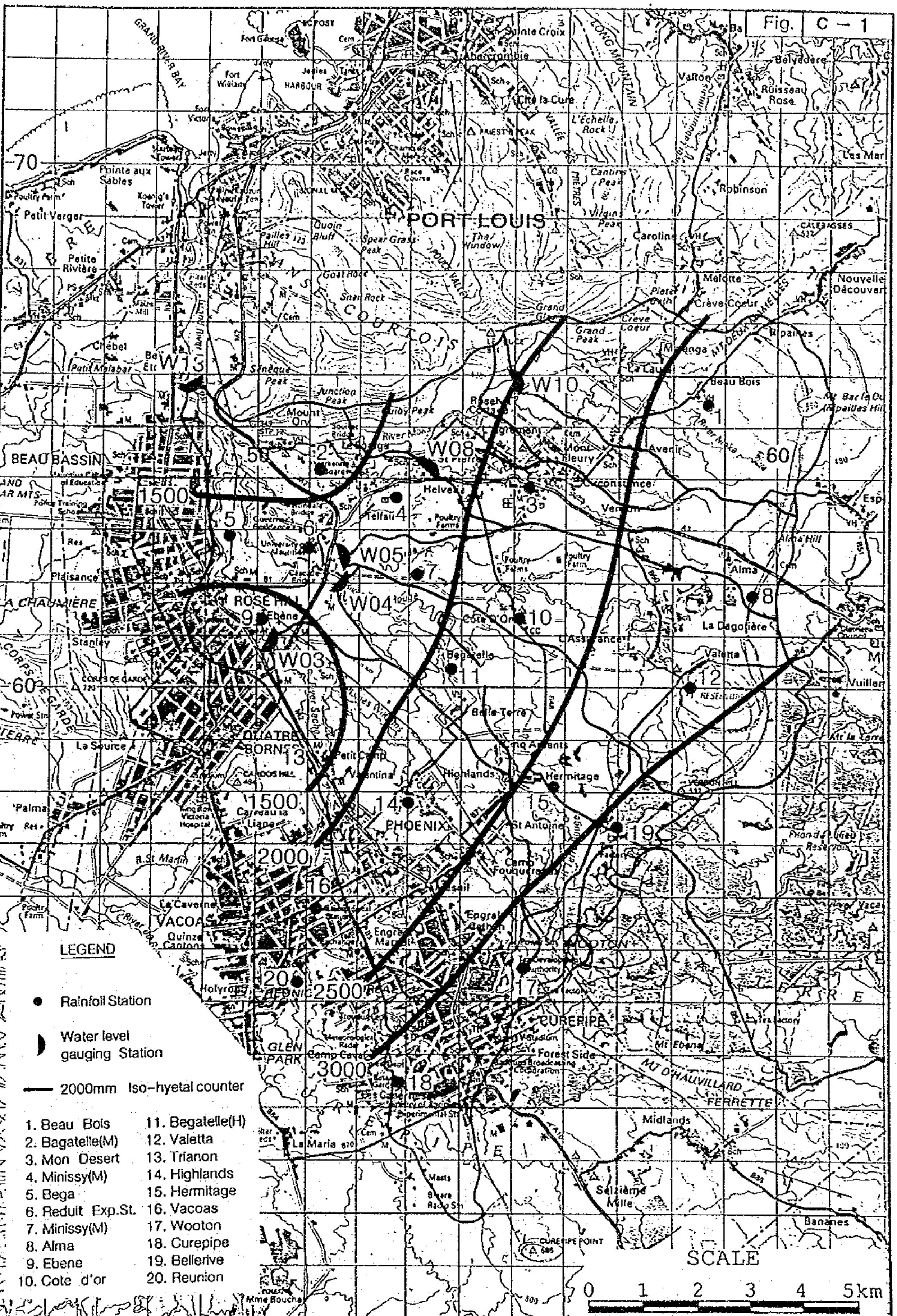
TABLE C - 1 : FLOOD CALCULATION RESULTS (3/4)

Time (hour)	200-yr. Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)	PMP Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)
0	0.0	0.0	0.0	0.0	0.0	0.0
1	0.7	0.1	0.0	0.9	0.2	0.0
2	0.7	0.1	0.0	1.0	0.2	0.0
3	1.2	0.2	0.1	1.6	0.3	0.1
4	1.6	0.3	0.1	2.2	0.4	0.1
5	2.0	0.3	0.1	2.8	0.5	0.2
6	3.4	0.6	0.2	4.7	0.8	0.2
7	4.4	0.7	0.2	6.0	1.0	0.2
8	7.9	1.3	0.3	10.8	1.8	0.4
9	8.6	1.5	0.4	11.7	2.0	0.6
10	11.3	1.9	0.7	15.5	2.6	1.0
11	13.7	2.3	1.0	18.7	3.2	1.7
12	13.7	2.3	1.7	18.7	3.2	2.9
13	16.8	2.9	2.8	22.9	3.9	4.9
14	15.1	2.6	4.1	20.7	3.5	7.3
15	8.2	1.4	6.0	11.3	1.9	10.9
16	7.1	1.2	8.0	9.7	1.6	14.5
17	2.7	0.5	8.9	3.7	0.6	15.9
18	1.9	0.3	9.6	2.6	0.4	16.8
19	1.9	0.3	9.4	2.6	0.4	16.1
20	1.0	0.2	9.1	1.4	0.2	15.2
21	0.6	0.1	8.8	0.8	0.1	14.4
22	0.6	0.1	8.4	0.8	0.1	13.5
23	0.2	0.0	7.9	0.2	0.0	12.5
24	0.1	0.0	7.5	0.1	0.0	11.6
25	1.5	0.3	7.1	2.8	0.5	10.8
26	1.7	0.3	6.7	3.1	0.5	10.0
27	2.7	0.5	6.5	5.0	0.9	9.8
28	3.7	0.6	6.4	6.8	1.2	9.6
29	4.7	0.8	6.4	8.7	1.5	9.9
30	8.0	1.4	6.6	14.7	2.5	10.5
31	10.2	1.7	6.9	18.9	3.2	11.4
32	18.3	3.1	7.8	33.8	21.1	13.6
33	19.9	3.4	9.1	36.7	22.9	17.0
34	26.3	4.5	12.0	48.5	30.3	62.9
35	31.9	19.9	15.5	58.7	36.7	135.0
36	31.9	19.9	20.9	58.7	36.7	250.2
37	39.1	24.4	66.0	71.9	44.9	389.1
38	35.2	22.0	125.0	64.9	40.6	477.0
39	19.1	11.9	206.4	35.3	22.1	594.7
40	16.6	10.4	256.6	30.6	19.1	608.9
41	6.2	3.9	227.0	11.5	7.2	455.5
42	4.5	2.8	201.2	8.2	5.1	372.6
43	4.4	2.8	152.7	8.1	5.1	255.3
44	2.4	1.5	119.7	4.4	4.2	188.0
45	1.4	0.9	98.8	2.5	2.4	150.9
46	1.3	0.8	80.3	2.4	2.3	124.6
47	0.4	0.3	65.6	0.8	0.8	100.4
48	0.2	0.1	55.1	0.4	0.4	84.2
49	3.4	2.1	45.9	5.2	4.9	68.0
50	3.8	2.4	38.7	5.8	5.5	55.5

TABLE C - 1 : FLOOD CALCULATION RESULTS (4/4)

Time (hour)	200-yr. Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)	PMP Rain (mm)	Rain Effect. Rain (mm)	Runoff (m3/s)
51	6.1	3.8	37.7	9.2	8.7	59.3
52	8.3	5.2	37.4	12.5	11.9	64.3
53	10.6	6.6	40.7	16.1	15.3	79.2
54	18.0	11.3	47.1	27.2	25.8	104.2
55	23.1	14.4	57.0	35.0	33.3	140.9
56	41.3	25.8	81.2	62.6	59.5	228.7
57	44.9	28.1	116.6	68.0	64.6	348.0
58	59.3	37.1	206.3	89.8	85.3	651.8
59	71.9	68.3	295.5	108.8	103.4	868.8
60	71.9	68.3	423.4	108.8	103.4	1184.3
61	88.0	83.6	787.7	133.3	126.6	1499.8
62	79.4	75.4	962.5	120.3	114.3	1564.3
63	43.2	41.0	1195.1	65.3	62.0	1886.0
64	37.4	35.5	1160.6	56.6	53.8	1758.1
65	14.0	13.3	779.0	21.3	20.2	1093.1
66	10.0	9.5	629.1	15.2	14.4	895.8
67	9.9	9.4	394.0	15.0	14.3	525.6
68	5.4	5.1	279.3	8.1	7.7	366.4
69	3.1	2.9	224.4	4.7	4.5	298.0
70	2.9	2.8	171.7	4.4	4.2	223.9
71	0.9	0.9	131.6	1.4	1.3	168.0
72	0.5	0.5	106.4	0.8	0.8	135.0
73	0.0	0.0	83.0	0.0	0.0	102.8
74	0.0	0.0	66.3	0.0	0.0	80.4
75	0.0	0.0	53.2	0.0	0.0	63.0
76	0.0	0.0	43.8	0.0	0.0	50.9
77	0.0	0.0	36.8	0.0	0.0	42.1
78	0.0	0.0	31.4	0.0	0.0	35.5
79	0.0	0.0	27.2	0.0	0.0	30.4
80	0.0	0.0	23.8	0.0	0.0	26.4
81	0.0	0.0	21.1	0.0	0.0	23.2
82	0.0	0.0	18.8	0.0	0.0	20.5
83	0.0	0.0	16.9	0.0	0.0	18.3
84	0.0	0.0	15.2	0.0	0.0	16.5
85	0.0	0.0	13.8	0.0	0.0	14.9
86	0.0	0.0	12.6	0.0	0.0	13.6
87	0.0	0.0	11.6	0.0	0.0	12.4
88	0.0	0.0	10.7	0.0	0.0	11.4
89	0.0	0.0	9.9	0.0	0.0	10.5
90	0.0	0.0	9.2	0.0	0.0	9.7
91	0.0	0.0	8.5	0.0	0.0	9.0
92	0.0	0.0	8.0	0.0	0.0	8.4
93	0.0	0.0	7.5	0.0	0.0	7.9
94	0.0	0.0	7.0	0.0	0.0	7.4
95	0.0	0.0	6.6	0.0	0.0	6.9
96	0.0	0.0	6.2	0.0	0.0	6.5

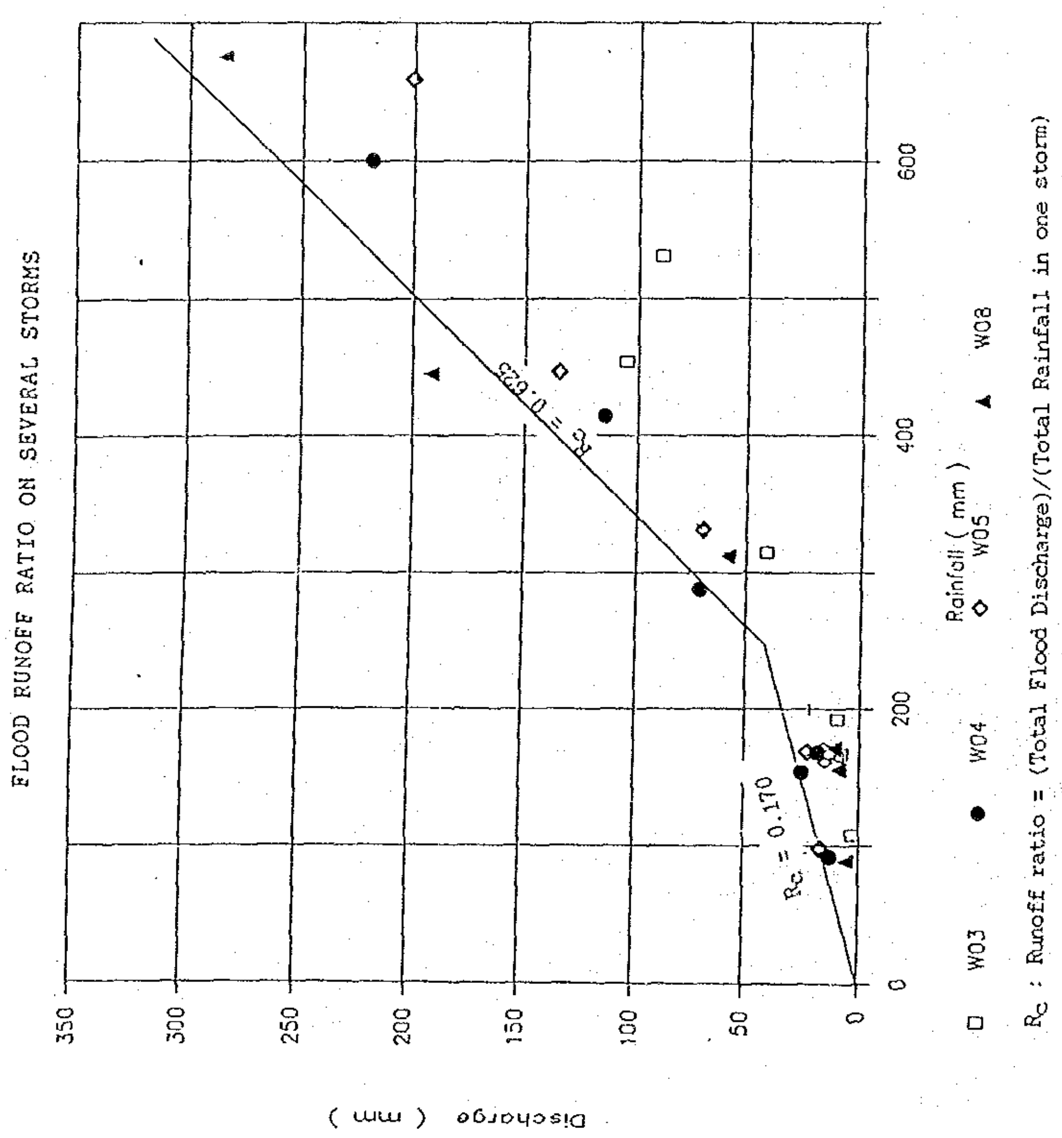
FIGURES



LOCATION MAP OF WATER LEVEL GAUGING STATION AND SELECTED RAINFALL STATION

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT

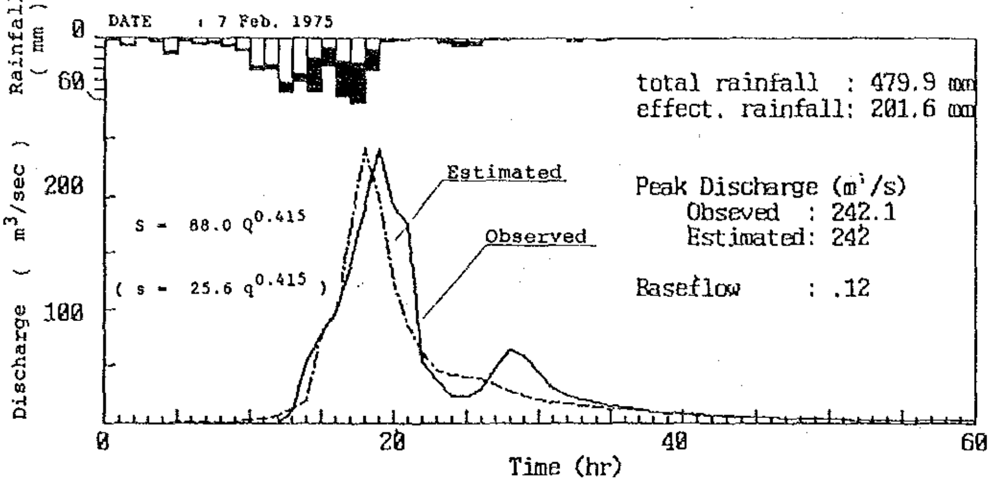
JAPAN INTERNATIONAL COOPERATION AGENCY



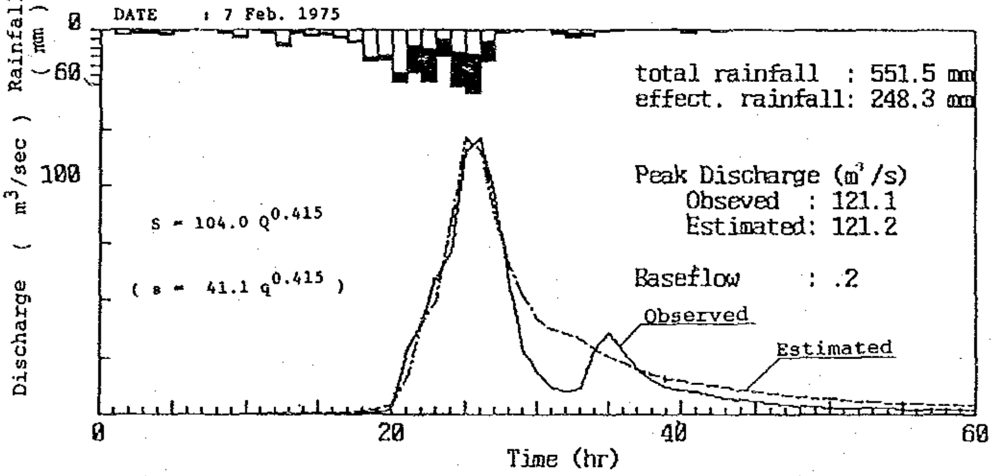
RUNOFF COEFFICIENT CURVE	GOVERNMENT OF MAURITIUS PORT LOUIS WATER SUPPLY PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. C – 3

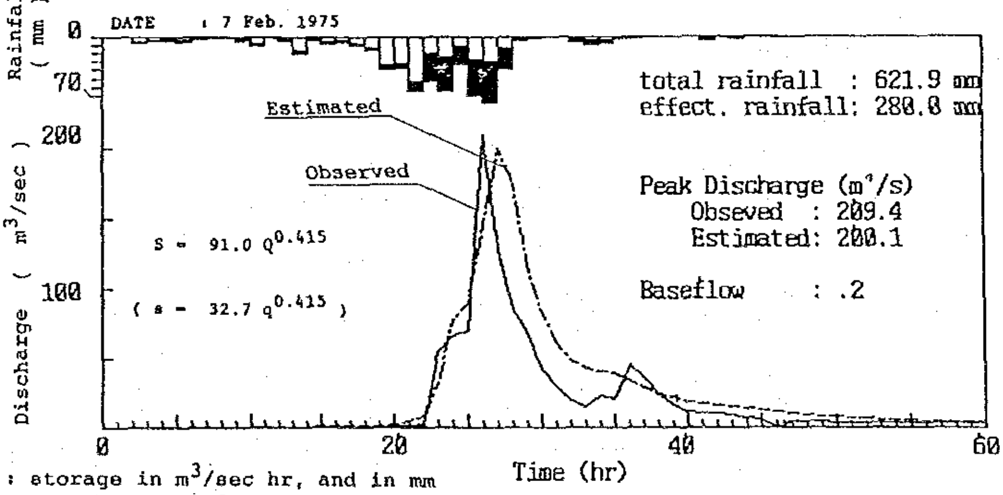
STATION : W03
RIVER : Plaines Wilhems
AREA : 29.7 km^2
DATE : 7 Feb. 1975



STATION : W04
RIVER : Terre Rouge
AREA : 17.6 km^2
DATE : 7 Feb. 1975



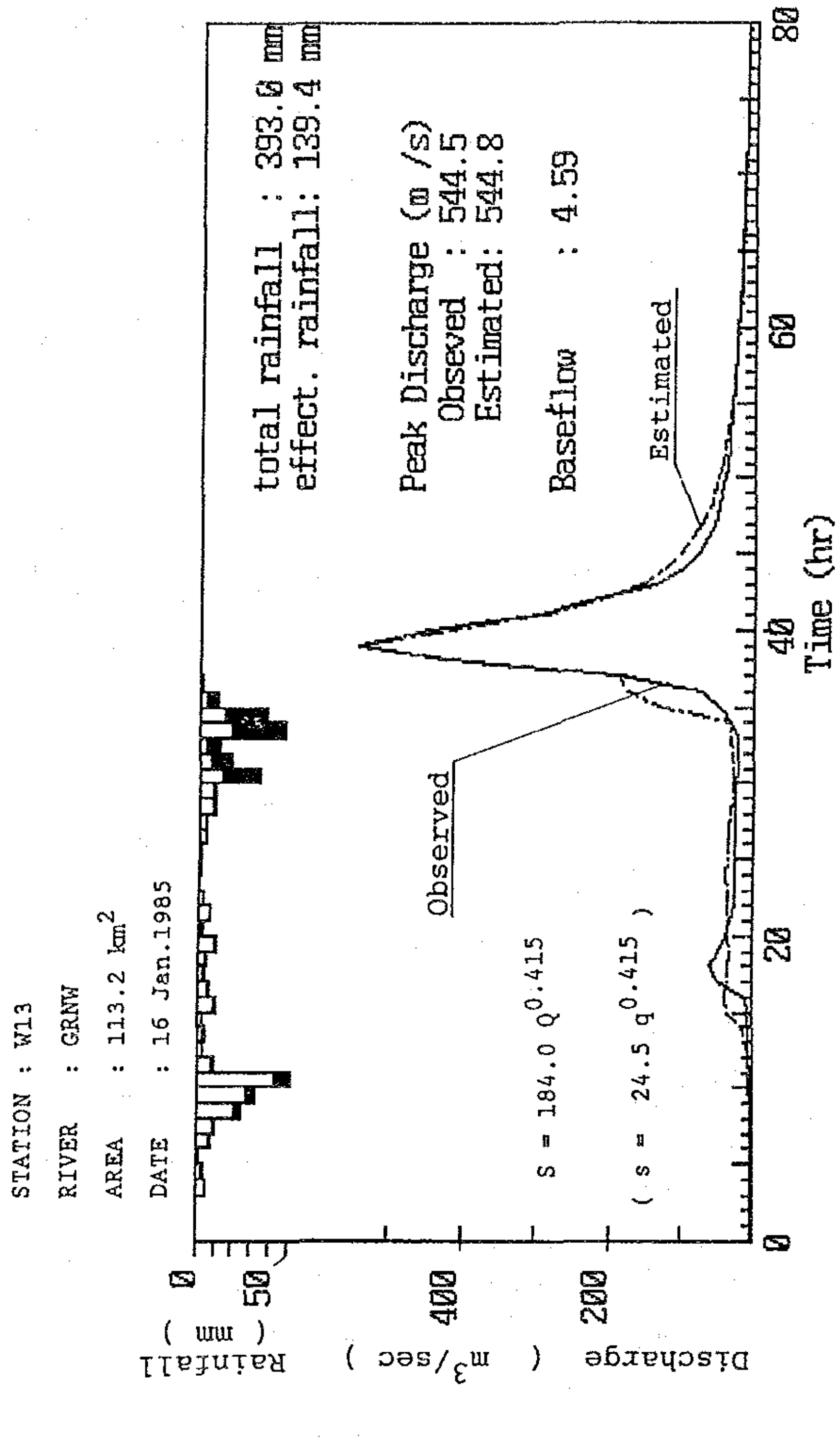
STATION : W05
RIVER : Cascade
AREA : 20.7 km^2
DATE : 7 Feb. 1975



S, s : storage in m^3/sec hr, and in mm
Q, q : discharge in m^3/sec, and in mm/hr

FLOOD SIMULATION (1/2)	GOVERNMENT OF MAURITIUS PORT LOUIS WATER SUPPLY PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. C – 4



S, s : storage in m^3/sec hr, and in mm

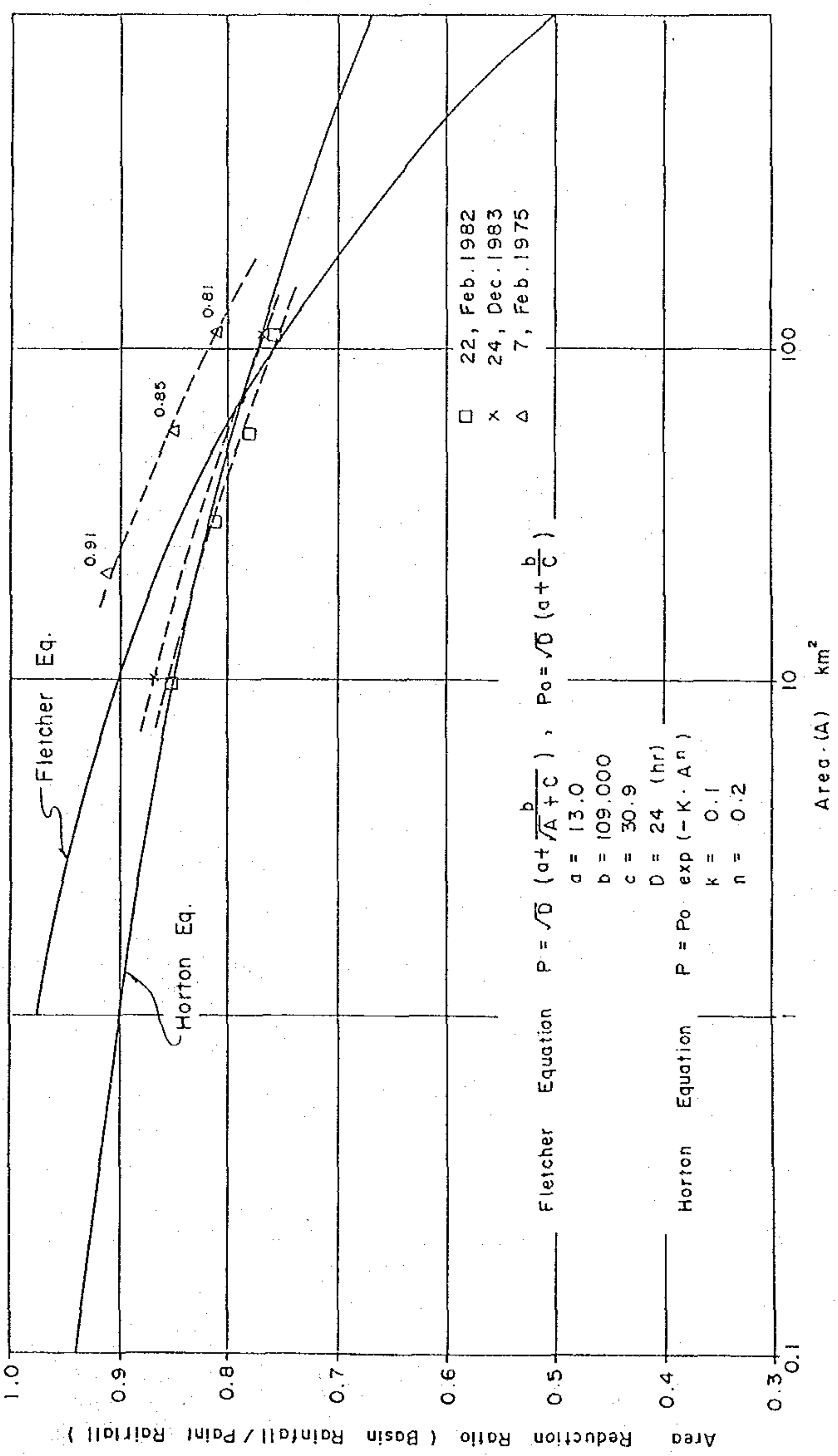
Q, q : discharge in m^3/sec, and in mm/hr

FLOOD SIMULATION (2/2)

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. C – 5

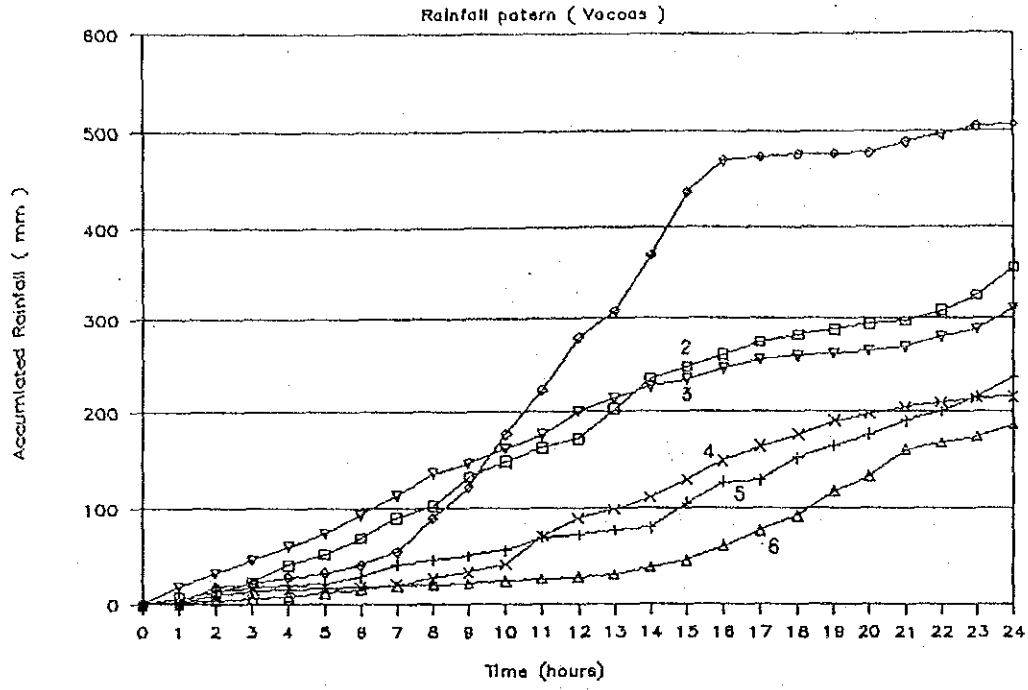


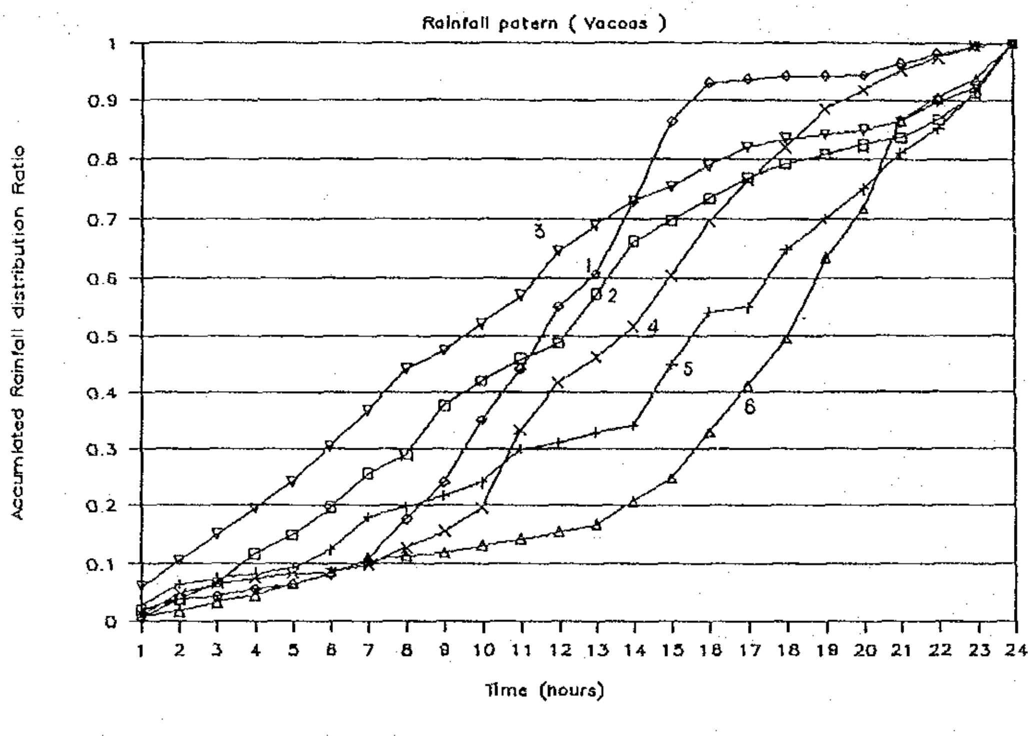
AREA REDUCTION CURVE

GOVERNMENT OF MAURITIUS
PORT LOUIS WATER SUPPLY PROJECT

JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. C – 6

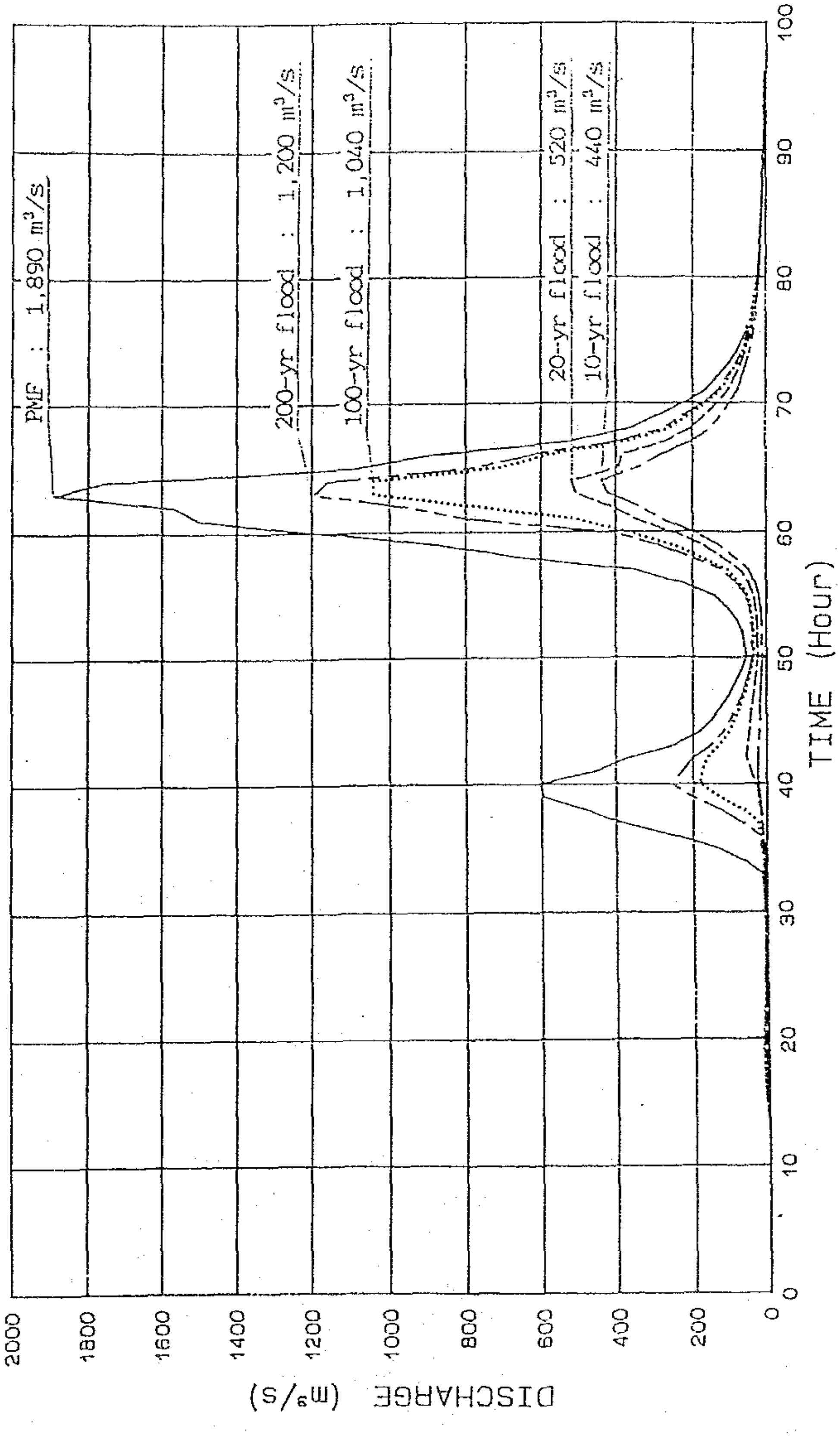




1. 6.February 1975
2. 14.January 1967
3. 24.December 1983
4. 7. February 1971
5. 4. February 1982
6. 20. January 1978

DURATION CURVE OF RAINFALL	GOVERNMENT OF MAURITIUS PORT LOUIS WATER SUPPLY PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY

Fig. C – 7



PROBABLE FLOOD HYDROGRAPH	GOVERNMENT OF MAURITIUS PORT LOUIS WATER SUPPLY PROJECT JAPAN INTERNATIONAL COOPERATION AGENCY