Table A2.2.1 Monthly Rainfall Data at the Norzagaray Gauging Station (January)

1	1925	59.20
2	1926	29.10
3	1927	25.40
4	1928	77.80
5	1929	91.30
6	1930	71.00
7	1931	94.00
8	1932	5.40
9	1933	85.80
10	1934	13.70
11	1936	21.00
12	1937	18.10
13	1938	64.90
14	1939	26.20
15	1948	22.80
16	1949	14.90
17	1950	28.40
18	1951	11.70
19	1952	3.80
20	1953	1.30
21	1954	7.60
22	1955	21.60
23	1956	11.90
24	1957	85.30
25	1958	36.00
26	1959	31.00
27	1960	25.90
28	1961	5.60
29	1962	3.30
30	1963	0.0
31	1964	14.50
32	1965	9.20
33	1966	0.0
34	1967	51.60
35	1968	7.60
36	1969	18.30
37	1970	21.60
38	1971	3.90
39	1972	51.90
40	1973	7.70
41	1974	0.0
42	1975	35.20
43	1976	13.70
44	1977	50.40
45	1978	0.0
46	1979	0.0
47	1980	3.30
48	1981	2.00
49	1982	1.60
50	1983	1.40
51	1984	20.20
52	1985	0.0
53	1986	1.90
54	1987	14.00

SGM= 0.6957

Table A2.2.2 Monthly Rainfall Data at the Norzagaray Gauging Station (February)

1	1925	108.10
2	1926	5.60
3	1927	4.30
4	1928	55.90
5	1929	8.90
6	1930	0.0
7	1931	4.10
8	1932	11.70
9	1933	3.50
10	1934	33.60
11	1936	35.60
12	1937	15.00
13	1938	0.80
14	1939	2.80
15	1948	23.60
16	1949	0.0
17	1950	11.20
18	1951	48.30
19	1952	37.00
20	1953	21.30
21	1954	14.20
22	1955	0.50
23	1956	53.30
24	1957	1.10
25	1958	4.80
26	1959	1.30
27	1960	81.30
28	1961	1.30
29	1962	2.79
30	1963	7.62
31	1964	12.70
32	1965	0.0
33	1966	17.00
34	1967	3.30
35	1968	0.0
36	1969	0.0
37	1970	2.30
38	1971	4.10
39	1972	4.70
40	1974	10.00
41	1975	7.40
42	1976	4.10
43	1977	10.60
44	1978	0.0
45	1979	0.0
46	1980	0.0
47	1981	0.80
48	1982	11.20
49	1983	6.30
50	1984	2.50
51	1985	10.70
52	1986	3.60
53	1987	2.60

SGM= 0.6957

Table A2.2.3 Monthly Rainfall Data at the Norzagaray Gauging Station (March)

1	1925	100.90
2	1926	17.20
3	1927	57.80
4	1928	22.30
5	1929	0.0
6	1930	23.90
7	1931	42.10
8	1932	17.70
9	1933	3.30
10	1934	0.80
11	1936	5.10
12	1937	75.20
13	1938	84.10
14	1939	22.10
15	1948	1.80
16	1949	10.90
17	1950	64.30
18	1951	0.0
19	1952	0.0
20	1953	13.20
21	1954	42.90
22	1955	0.30
23	1956	16.20
24	1957	83.60
25	1958	125.40
26	1959	24.90
27	1960	13.90
28	1961	102.10
29	1962	22.90
30	1963	8.89
31	1964	17.30
32	1965	0.0
33	1966	0.0
34	1967	0.0
35	1968	5.60
36	1969	4.10
37	1970	23.90
38	1971	119.30
39	1972	56.20
40	1973	0.0
41	1974	0.0
42	1975	18.80
43	1976	26.40
44	1977	12.30
45	1978	6.60
46	1979	0.0
47	1980	34.70
48	1981	0.0
49	1982	2.60
50	1983	20.50
51	1985	13.40
52	1986	0.0
53	1987	7.60

SGM= 0.6957

Table A2.2.4 Monthly Rainfall Data at the Norzagaray Gauging Station (April)

1	1925	21.10
2	1926	148.60
3	1927	165.80
4	1928	78.00
5	1929	135.70
6	1930	44.70
7	1931	52.10
8	1932	5.60
9	1933	16.50
10	1934	69.60
11	1936	45.70
12	1937	0.60
13	1938	125.20
14	1939	50.30
15	1948	162.90
16	1949	31.50
17	1950	20.80
18	1951	54.60
19	1952	18.30
20	1953	100.80
21	1954	59.90
22	1955	15.20
23	1956	102.60
24	1957	109.50
25	1958	1.80
26	1959	15.70
27	1960	83.80
28	1961	93.70
29	1962	38.80
30	1963	0.0
31	1964	20.40
32	1965	91.50
33	1966	0.0
34	1967	56.20
35	1968	72.10
36	1969	26.30
37	1970	3.10
38	1971	2.30
39	1972	30.50
40	1973	0.0
41	1974	137.20
42	1975	58.90
43	1976	25.50
44	1977	0.80
45	1978	6.40
46	1979	95.00
47	1981	11.10
48	1982	8.70
49	1983	3.50
50	1985	157.60
51	1986	29.20
52	1987	115.40

SGM= 0.6957

Table A2.2.5 Monthly Rainfall Data at the Norzagaray Gauging Station (May)

1	1925	158.20
2	1926	207.30
3	1927	515.30
4	1928	294.90
5	1929	439.80
6	1930	665.90
7	1931	245.10
8	1932	234.80
9	1933	171.90
10	1934	626.50
11	1936	57.20
12	1937	339.40
13	1938	219.30
14	1939	359.00
15	1948	185.60
16	1949	21.60
17	1950	279.60
18	1951	198.10
19	1952	141.30
20	1953	276.80
21	1954	60.40
22	1955	139.40
23	1956	163.60
24	1957	30.70
25	1958	45.20
26	1959	163.10
27	1960	359.70
28	1961	128.80
29	1962	141.10
30	1963	1.26
31	1964	165.70
32	1965	264.20
33	1966	665.00
34	1967	246.00
35	1968	148.50
36	1969	107.00
37	1970	102.70
38	1971	486.30
39	1972	427.60
40	1973	121.90
41	1974	106.30
42	1975	84.20
43	1976	1834.30
44	1977	151.00
45	1978	363.70
46	1979	944.20
47	1980	115.40
48	1981	280.70
49	1982	7.40
50	1983	76.30
51	1985	40.70
52	1986	178.70
53	1987	86.00

SGM= 0.6957

Table A2.2.6 Monthly Rainfall Data at the Norzagaray Gauging Station (June)

1	1925	1030.10
2	1926	862.50
3	1927	549.40
4	1928	546.40
5	1929	417.70
6	1930	799.80
7	1931	426.50
8	1932	697.90
9	1933	422.90
10	1934	249.90
11	1936	346.20
12	1937	332.90
13	1938	347.00
14	1939	402.60
15	1948	299.20
16	1949	483.10
17	1950	431.40
18	1951	452.20
19	1952	600.90
20	1953	384.40
21	1954	242.30
22	1955	235.20
23	1956	143.00
24	1957	573.50
25	1958	489.50
26	1959	129.30
27	1960	405.60
28	1961	782.30
29	1962	272.10
30	1963	1197.10
31	1964	630.20
32	1965	435.70
33	1966	371.60
34	1967	773.00
35	1968	221.60
36	1969	159.90
37	1970	344.80
38	1971	562.90
39	1972	385.30
40	1973	246.70
41	1974	521.70
42	1975	341.10
43	1976	421.70
44	1977	164.50
45	1978	457.30
46	1979	406.70
47	1980	133.40
48	1981	771.70
49	1982	102.20
50	1983	43.50
51	1984	553.90
52	1985	1199.80
53	1986	219.70
54	1987	436.00

SGM= 0.6957

Table A2.2.7 Monthly Rainfall Data at the Norzagaray Gauging Station (July)

1	1925	776.70
2	1926	602.50
3	1927	892.80
4	1928	337.50
5	1929	947.90
6	1930	1140.50
7	1931	328.40
8	1932	947.40
9	1933	628.60
10	1934	791.00
11	1936	632.50
12	1937	1056.30
13	1938	394.70
14	1939	525.80
15	1948	563.40
16	1949	236.20
17	1950	731.00
18	1951	317.50
19	1952	309.40
20	1953	385.30
21	1954	254.20
22	1955	425.70
23	1956	408.70
24	1957	503.10
25	1958	597.40
26	1959	362.20
27	1960	204.20
28	1961	469.20
29	1962	1627.90
30	1963	303.60
31	1964	332.40
32	1965	658.20
33	1966	464.31
34	1967	489.10
35	1969	988.60
36	1970	484.00
37	1971	523.10
38	1972	2226.30
39	1973	428.10
40	1974	438.60
41	1975	161.20
42	1976	327.52
43	1977	338.20
44	1978	867.60
45	1979	515.30
46	1980	337.90
47	1981	176.80
48	1982	119.80
49	1983	126.90
50	1985	240.60
51	1986	813.30
52	1987	215.00

SGM= 0.6957

Table A2.2.8 Monthly Rainfall Data at the Norzagaray Gauging Station
(August)

1	1925	623.00
2	1926	697.80
3	1927	1075.80
4	1928	277.00
5	1929	484.60
6	1930	559.20
7	1931	1152.60
8	1932	285.80
9	1933	451.80
10	1934	493.60
11	1936	585.00
12	1937	884.50
13	1938	392.70
14	1939	669.40
15	1948	1127.80
16	1949	298.20
17	1950	413.80
18	1951	684.50
19	1952	800.10
20	1953	867.80
21	1954	538.50
22	1955	487.40
23	1956	611.40
24	1957	1146.30
25	1958	390.10
26	1959	1109.00
27	1960	1272.50
28	1961	623.30
29	1962	473.40
30	1963	290.40
31	1964	625.86
32	1965	329.40
33	1966	476.10
34	1967	763.30
35	1968	750.70
36	1969	596.50
37	1970	756.10
38	1971	257.50
39	1972	990.70
40	1973	518.60
41	1974	1386.90
42	1975	761.80
43	1976	187.70
44	1977	390.20
45	1978	322.10
46	1979	311.00
47	1980	107.80
48	1981	543.30
49	1982	136.90
50	1984	792.10
51	1985	343.50
52	1986	752.00
53	1987	462.00

SGM= 0.6957

Table A2.2.9 Monthly Rainfall Data at the Norzagaray Gauging Station (September)

1	1925	39.30
2	1926	382.20
3	1927	336.30
4	1928	752.70
5	1929	820.90
6	1930	396.30
7	1931	394.00
8	1932	452.80
9	1933	573.30
10	1934	968.20
11	1936	375.90
12	1937	521.20
13	1938	410.30
14	1939	407.40
15	1948	572.80
16	1949	276.10
17	1950	615.70
18	1951	286.80
19	1952	419.80
20	1953	462.00
21	1954	402.80
22	1955	392.90
23	1956	788.40
24	1957	557.00
25	1958	895.30
26	1959	412.50
27	1960	604.10
28	1961	714.30
29	1962	609.60
30	1963	446.30
31	1964	289.00
32	1965	408.40
33	1966	507.90
34	1967	374.40
35	1968	325.00
36	1969	414.00
37	1970	447.80
38	1971	157.70
39	1972	386.90
40	1973	283.20
41	1974	53.20
42	1975	336.10
43	1976	648.90
44	1977	190.10
45	1978	451.00
46	1979	210.70
47	1980	450.60
48	1981	395.10
49	1982	182.00
50	1983	55.40
51	1984	197.50
52	1985	446.40
53	1986	468.00
54	1987	223.00

SGM= 0.6957

Table A2.2.10 Monthly Rainfall Data at the Norzagaray Gauging Station (October)

1	1925	410.80
2	1926	472.20
3	1927	531.50
4	1928	88.70
5	1929	359.60
6	1930	148.60
7	1931	260.30
8	1932	366.10
9	1933	461.60
10	1934	428.50
11	1936	280.40
12	1937	376.50
13	1938	306.80
14	1939	228.90
15	1948	215.40
16	1949	228.60
17	1950	417.80
18	1951	182.90
19	1952	488.60
20	1953	477.50
21	1954	131.10
22	1955	229.40
23	1956	160.30
24	1957	294.60
25	1958	211.60
26	1959	192.00
27	1960	635.50
28	1961	341.60
29	1962	78.00
30	1963	54.60
31	1964	181.50
32	1965	88.70
33	1967	160.80
34	1968	222.40
35	1969	289.50
36	1970	354.00
37	1971	537.10
38	1972	132.20
39	1973	669.90
40	1974	603.30
41	1975	290.80
42	1976	188.70
43	1977	11.70
44	1978	340.70
45	1979	270.60
46	1980	177.20
47	1981	218.80
48	1982	69.60
49	1984	342.70
50	1985	651.10
51	1986	543.00

SGM= 0.6957

Table A2.2.11 Monthly Rainfall Data at the Norzagaray Gauging Station (November)

1	1925	189.40
2	1926	249.00
3	1927	72.60
4	1928	279.70
5	1929	207.10
6	1930	388.10
7	1931	322.60
8	1932	342.40
9	1933	189.50
10	1934	608.50
11	1936	59.20
12	1937	429.50
13	1938	336.90
14	1939	271.70
15	1948	254.20
16	1949	263.10
17	1950	108.20
18	1951	374.40
19	1952	44.20
20	1953	226.20
21	1954	387.10
22	1955	308.30
23	1956	260.40
24	1957	139.20
25	1958	42.70
26	1959	367.80
27	1960	84.80
28	1961	154.80
29	1962	285.50
30	1963	13.00
31	1964	329.90
32	1965	257.00
33	1967	289.00
34	1968	51.80
35	1969	77.10
36	1970	365.30
37	1971	442.90
38	1972	176.10
39	1973	276.70
40	1974	904.00
41	1975	113.40
42	1976	100.00
43	1977	105.90
44	1978	148.50
45	1979	91.80
46	1980	226.90
47	1981	369.60
48	1982	13.30
49	1984	163.10
50	1985	126.80
51	1986	363.00

SGM= 0.6957

Table A2.2.12 Monthly Rainfall Data at the Norzagaray Gauging Station (December)

1	1925	125.10
2	1926	69.80
3	1927	54.90
4	1928	90.10
5	1929	178.60
6	1930	295.90
7	1931	208.10
8	1932	158.80
9	1933	63.50
10	1934	107.80
11	1936	142.10
12	1937	231.10
13	1938	75.00
14	1939	358.70
15	1948	103.10
16	1949	135.80
17	1950	182.70
18	1951	96.30
19	1952	156.20
20	1953	258.60
21	1954	27.70
22	1955	41.40
23	1956	228.40
24	1957	2.30
25	1958	0.80
26	1959	47.00
27	1960	9.90
28	1961	8.70
29	1962	9.40
30	1963	70.10
31	1964	352.50
32	1965	82.50
33	1967	5.30
34	1968	1.60
35	1969	99.60
36	1970	111.40
37	1971	241.80
38	1972	50.00
39	1973	88.50
40	1974	208.80
41	1975	356.50
42	1976	80.50
43	1977	0.0
44	1978	37.90
45	1980	50.40
46	1981	124.10
47	1982	89.00
48	1984	0.50
49	1985	3.40
50	1986	61.00

SGM= 0.6957

Fig. A2.1 Probable Annual Rainfall at the Norzagaray Gauging Station

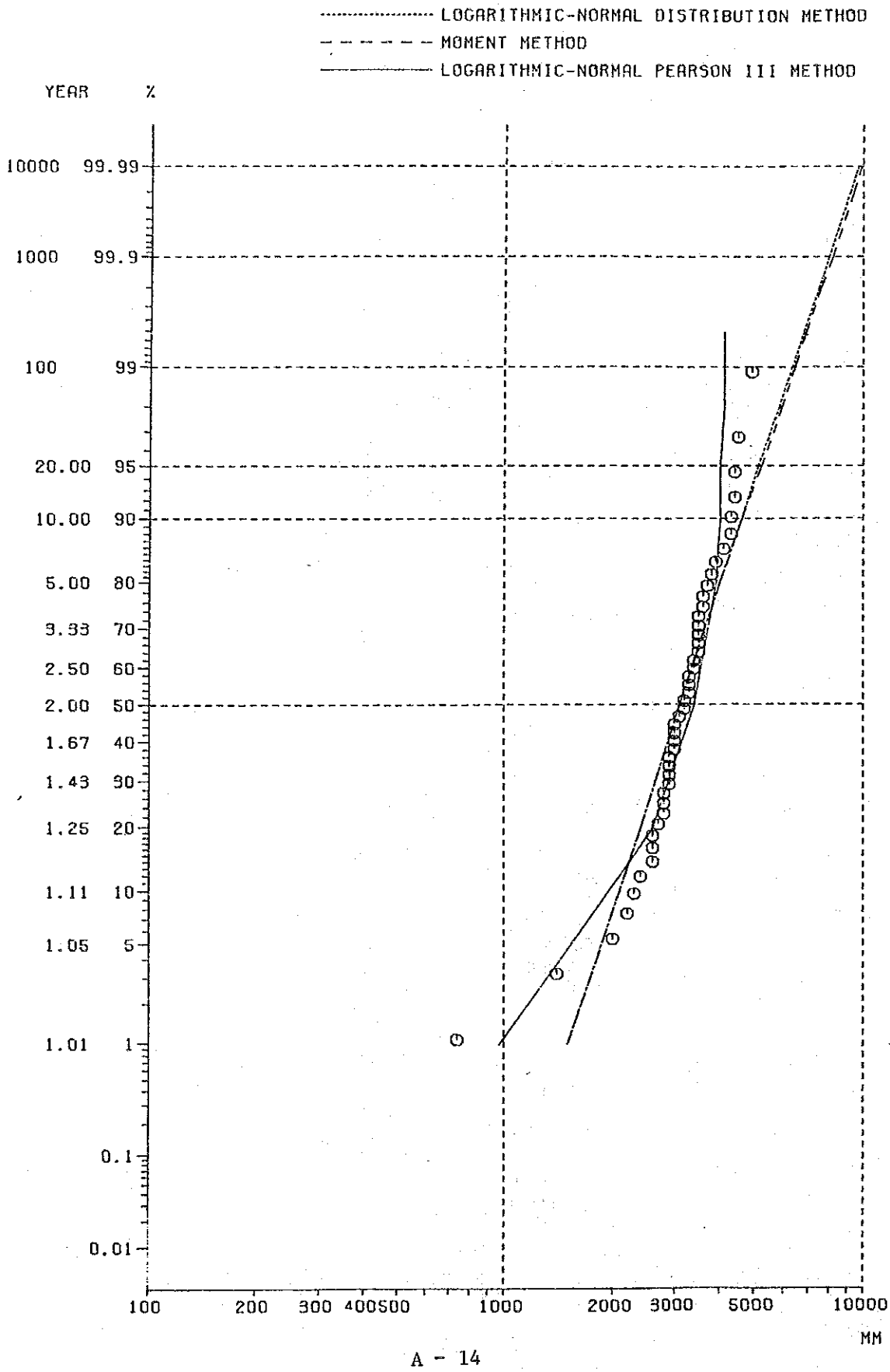


Fig. A2.2.1 Probable Monthly Rainfall at the Norzagaray Gauging Station (January)

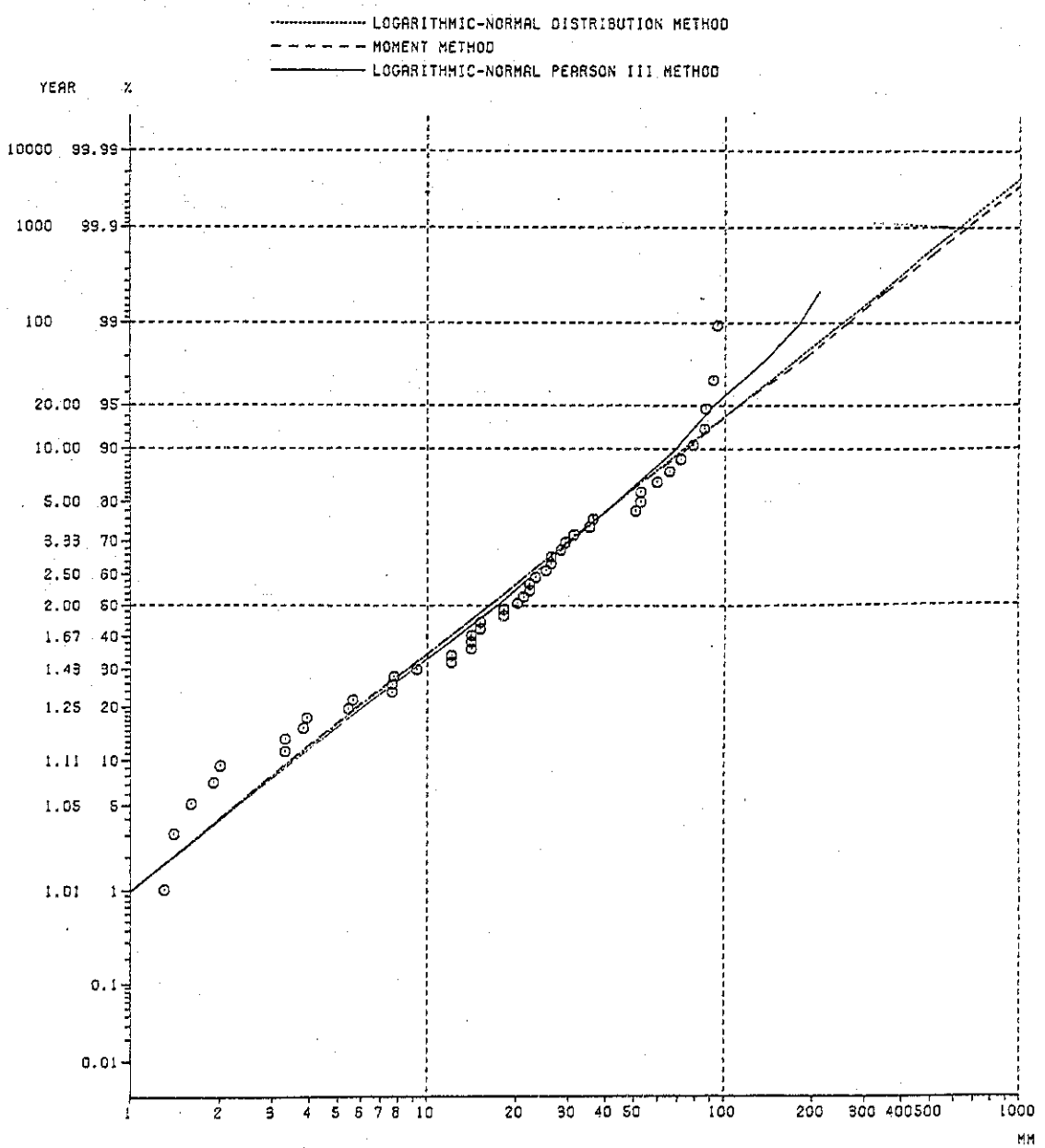


Fig. A2.2.2 Probable Monthly Rainfall at the Norzagaray Gauging Station (February)

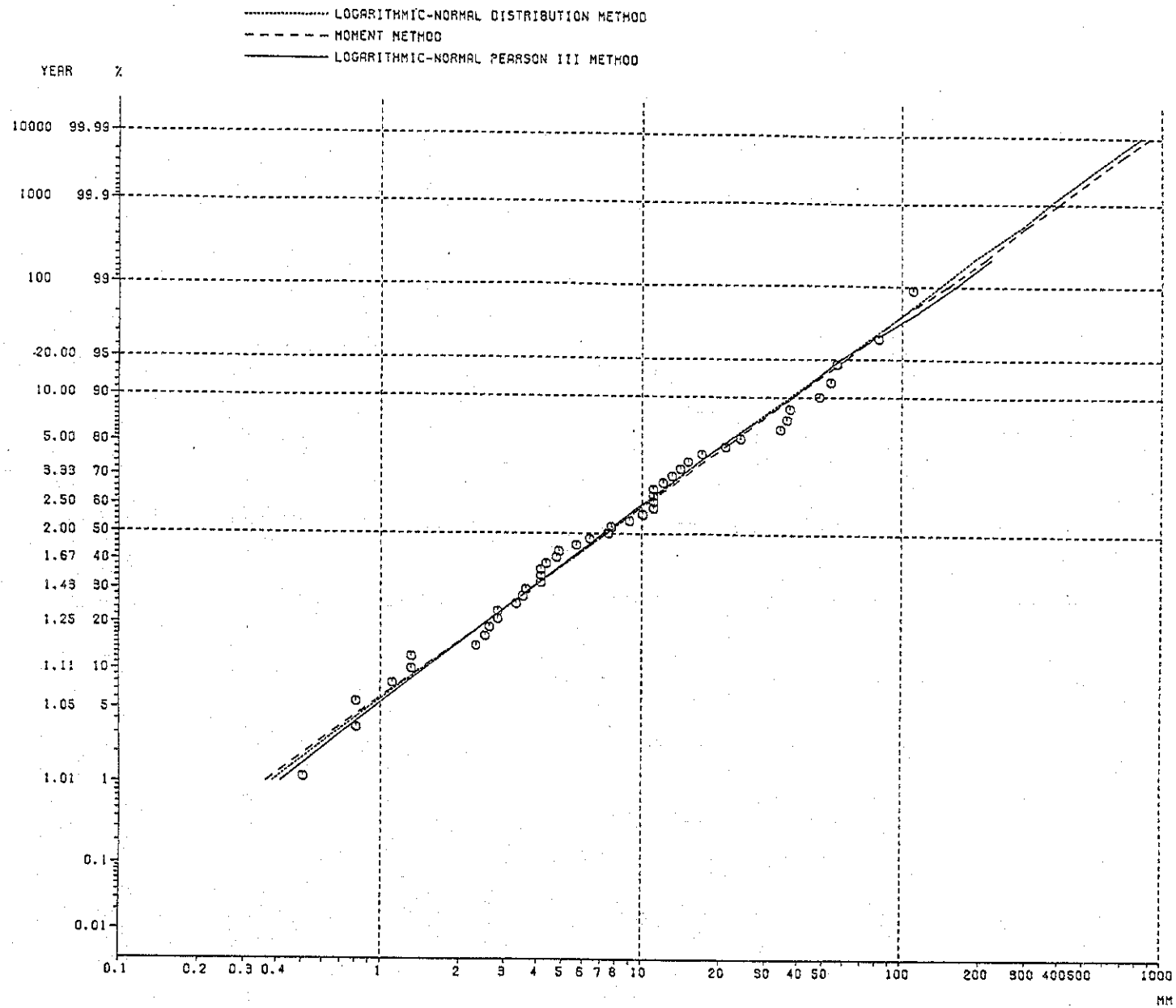


Fig. A2.2.3 Probable Monthly Rainfall at the Norzagaray Gauging Station (March)

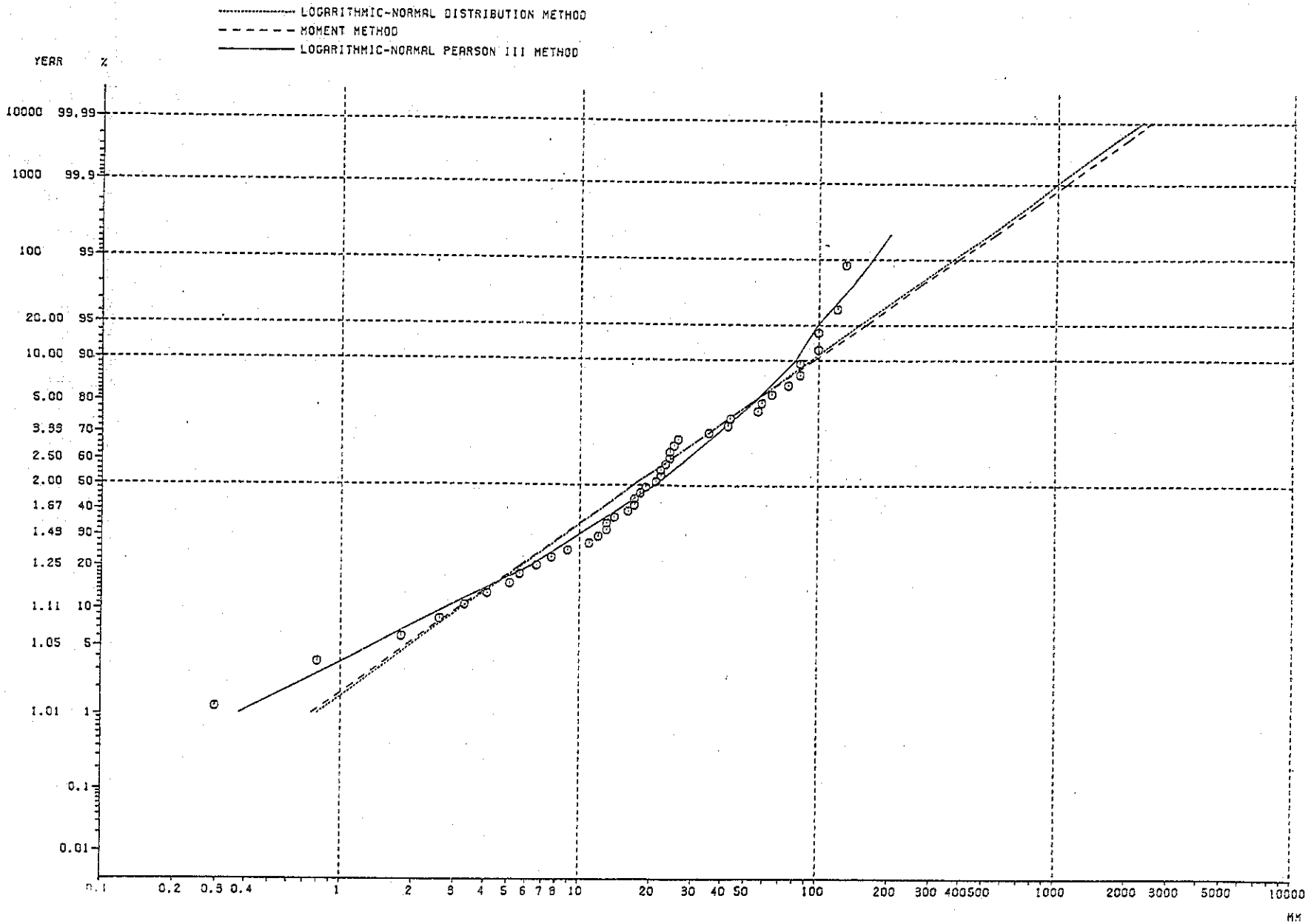


Fig. A2.2.4 Probable Monthly Rainfall at the Norzagaray Gauging Station (April)

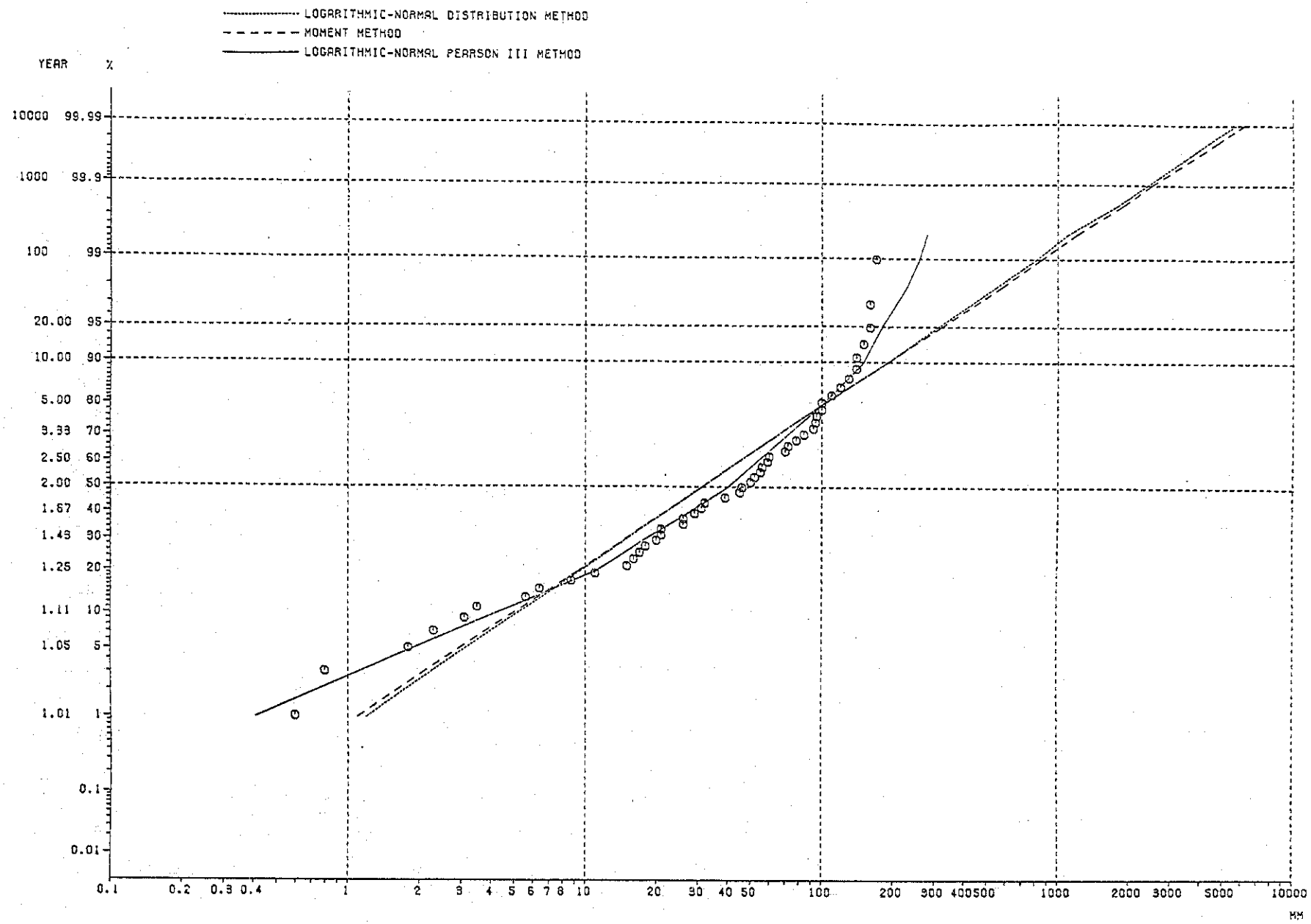


Fig. A.2.2.5 Probable Monthly Rainfall at the Norzagaray Gauging Station (May)

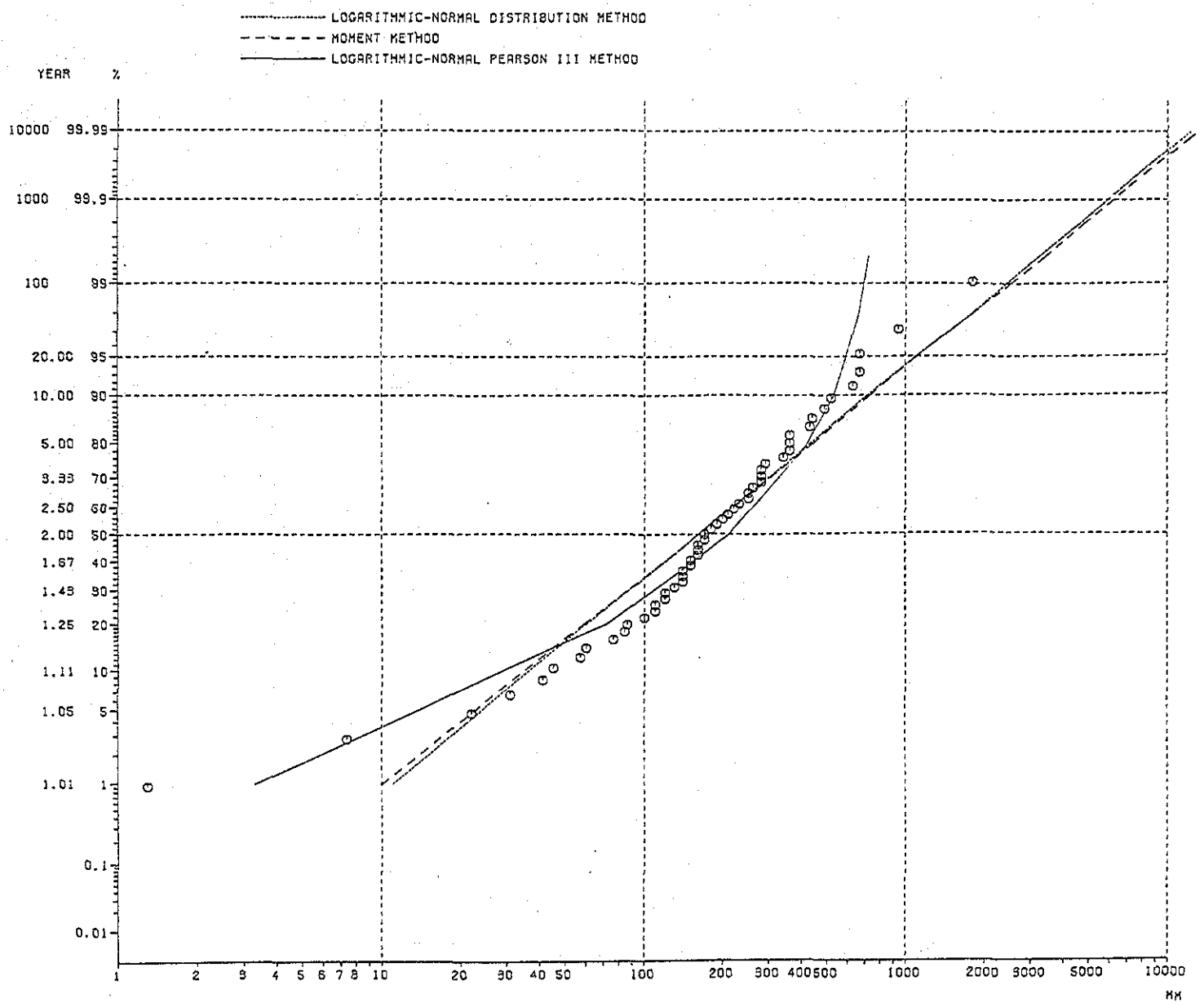


Fig. A2.2.6 Probable Monthly Rainfall at the Norzagaray Gauging Station (June)

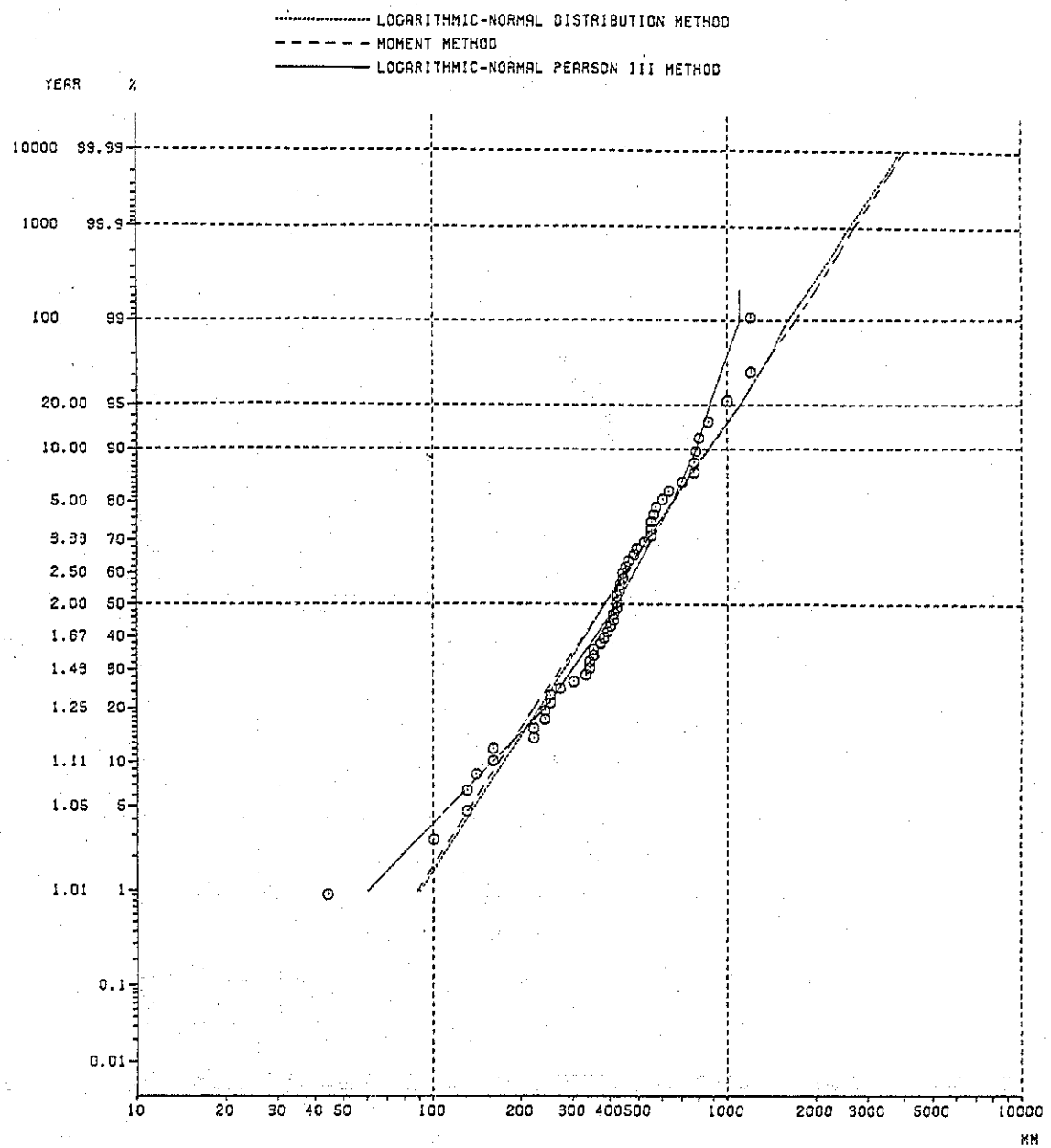


Fig. A.2.2.7 Probable Monthly Rainfall at the Norzagaray Gauging Station (July)

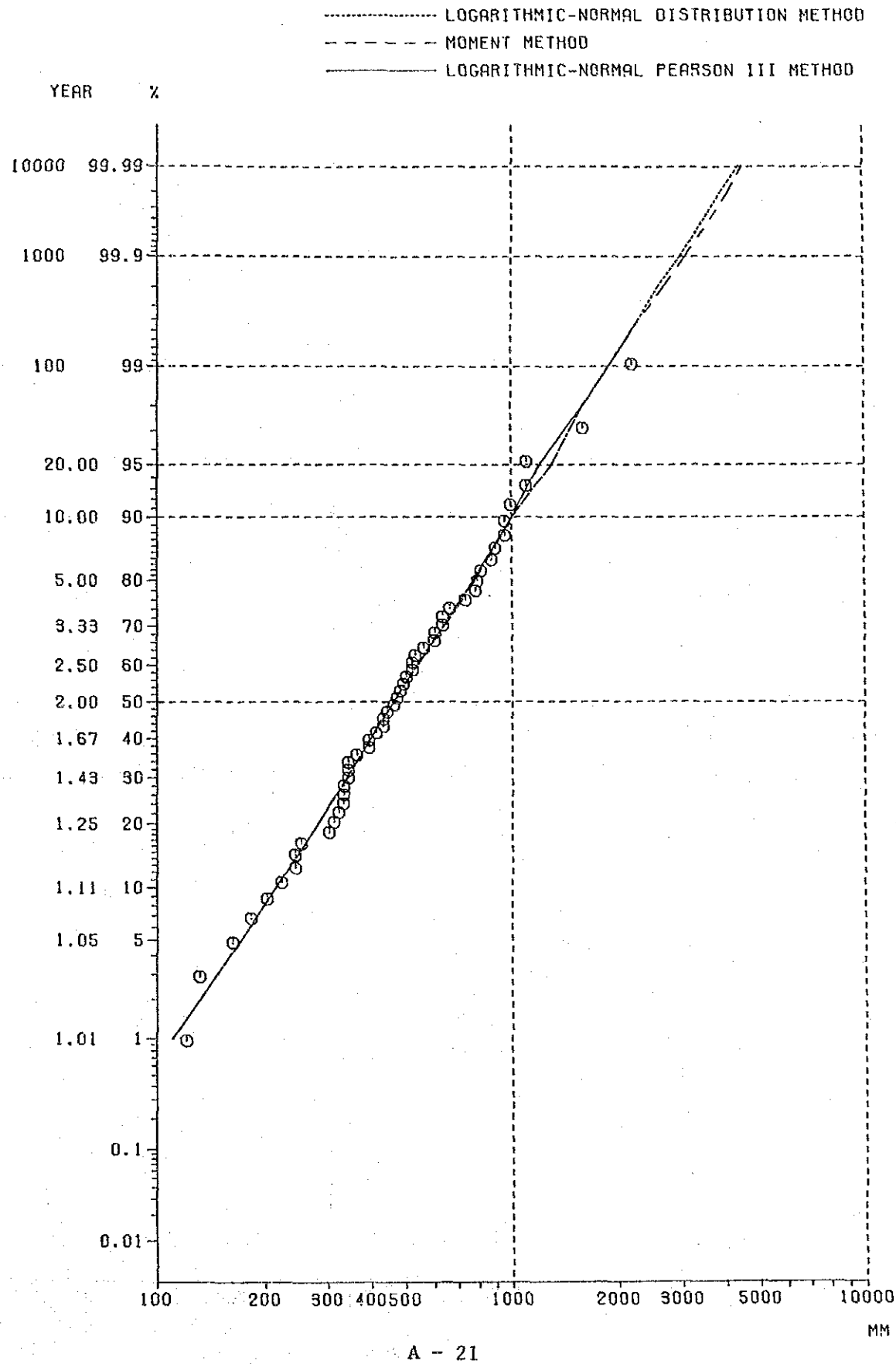


Fig. A2.2.8 Probable Monthly Rainfall at the Norzagaray Gauging Station (August)

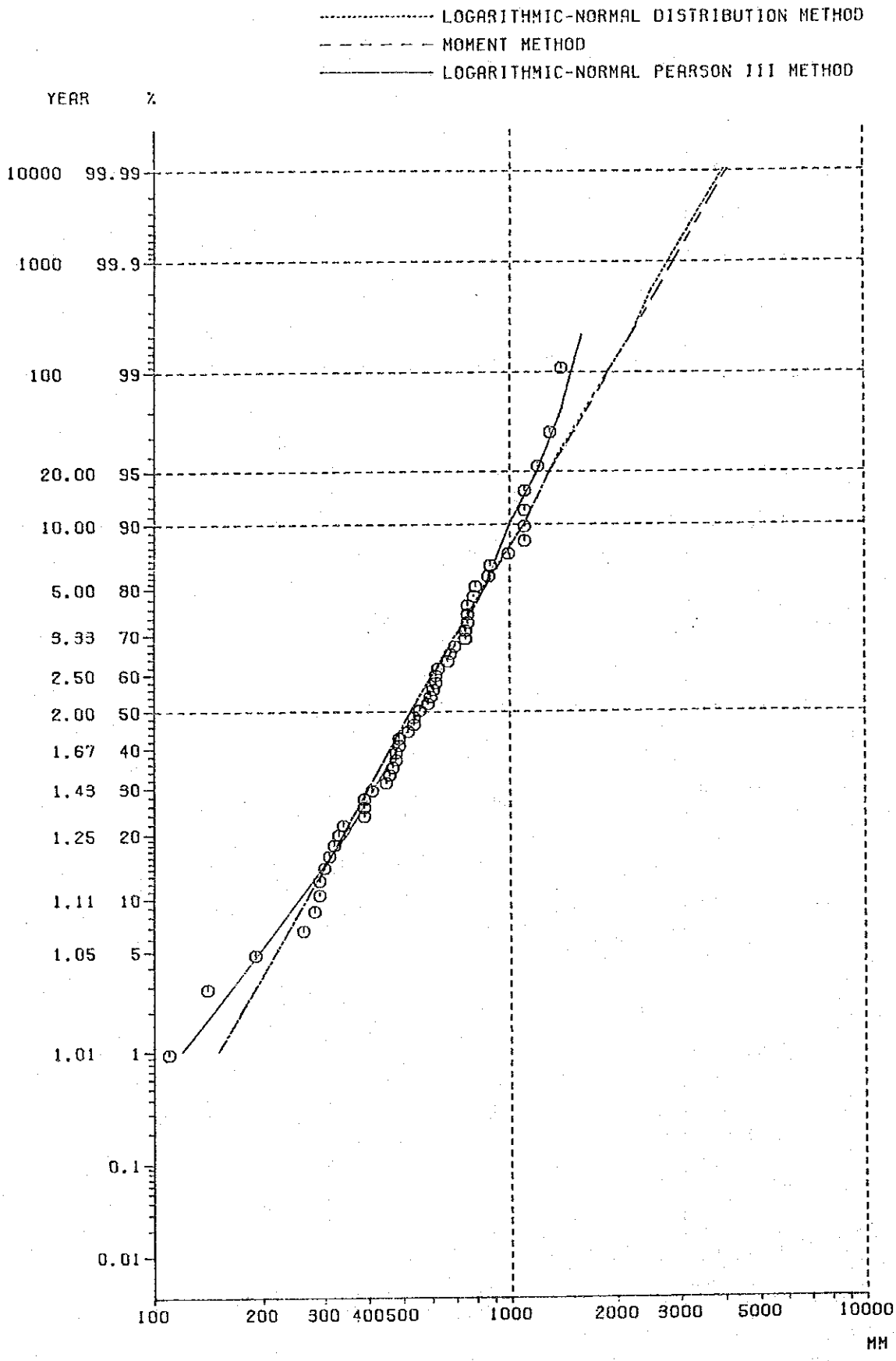


Fig. A2.2.9 Probable Monthly Rainfall at the Norzagaray Gauging Station (September)

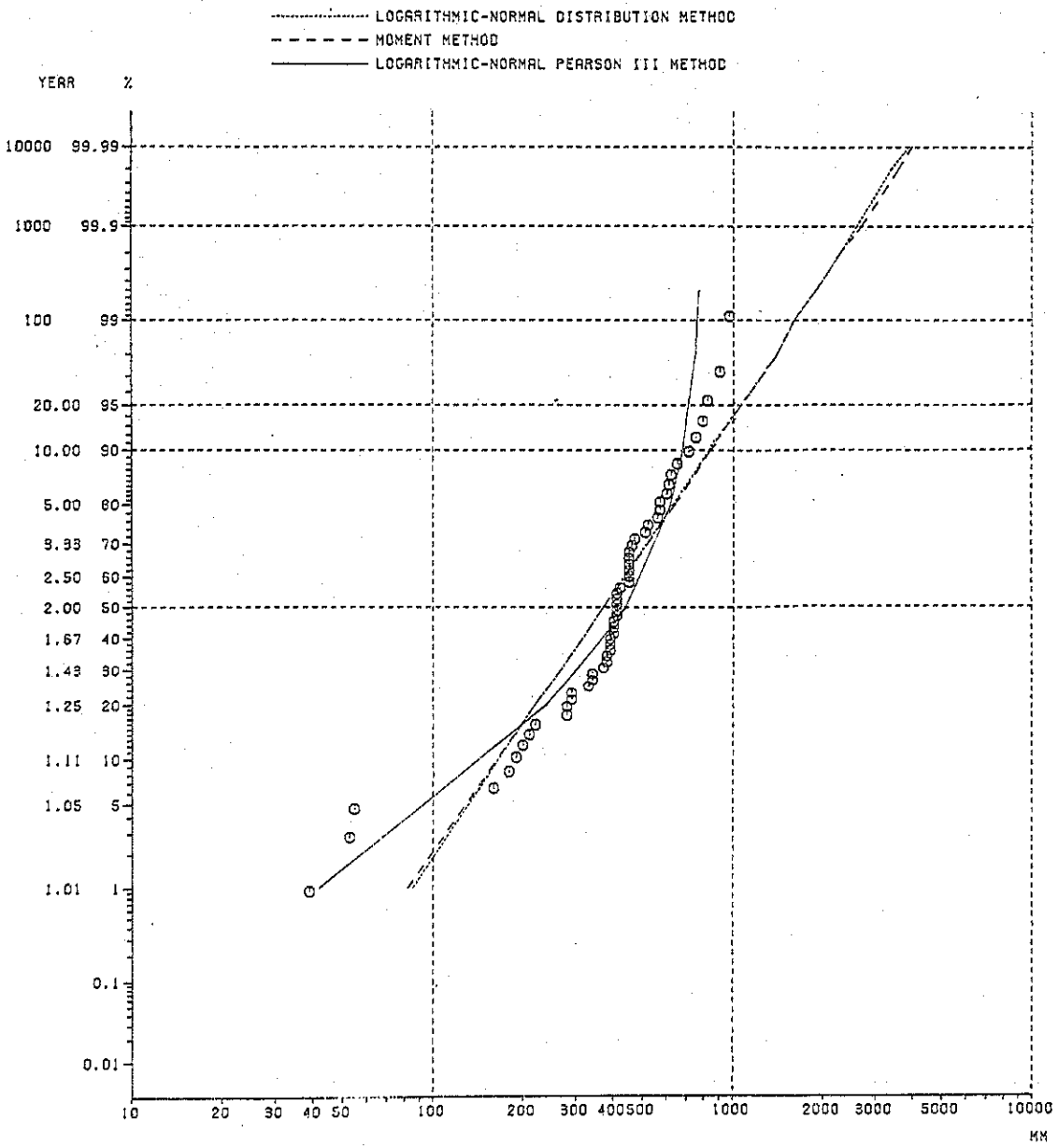


Fig. A2.2.10 Probable Monthly Rainfall at the Norzagaray Gauging Station (October)

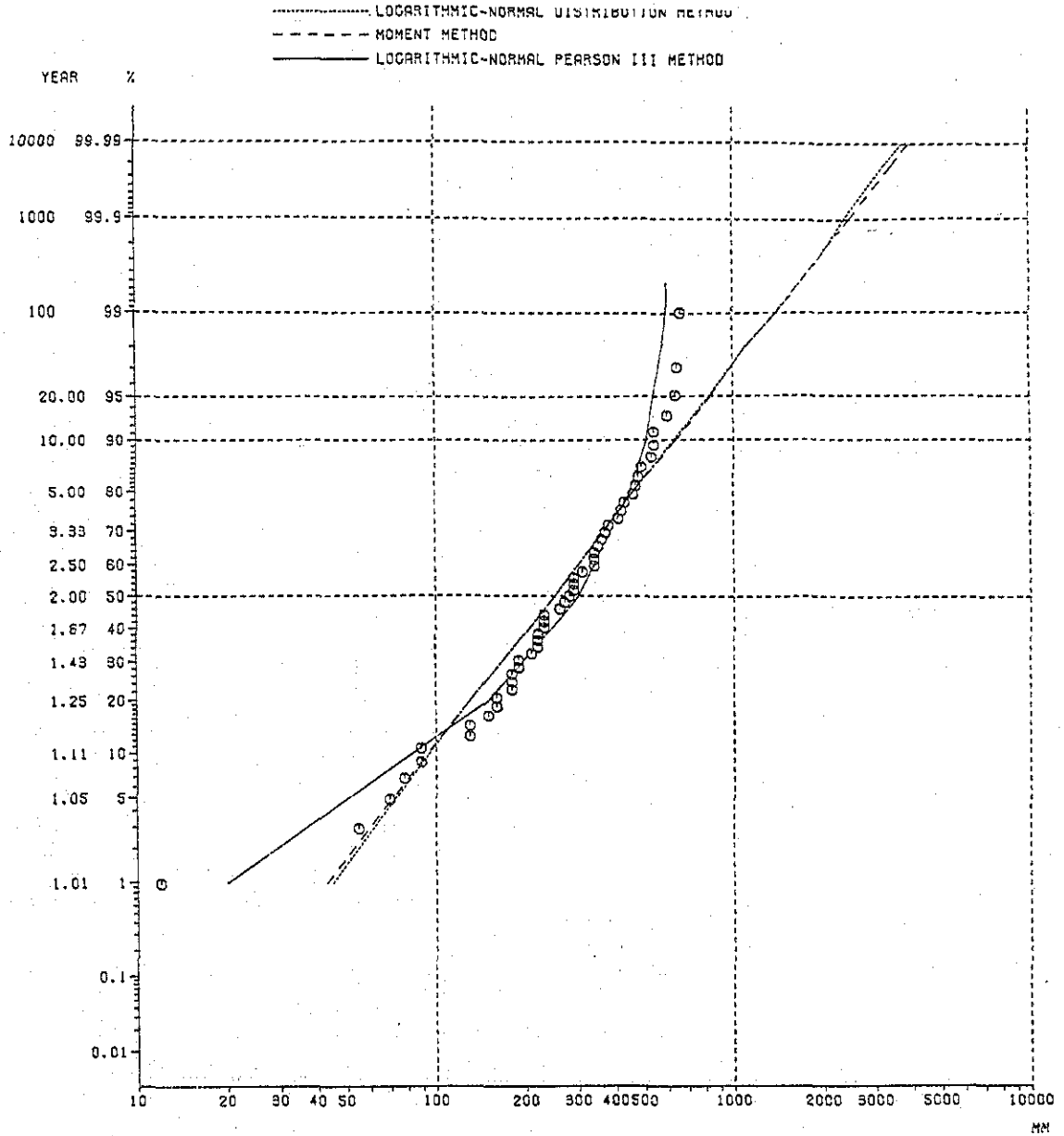


Fig. A2.2.11 Probable Monthly Rainfall at the Norzagaray Gauging Station (November)

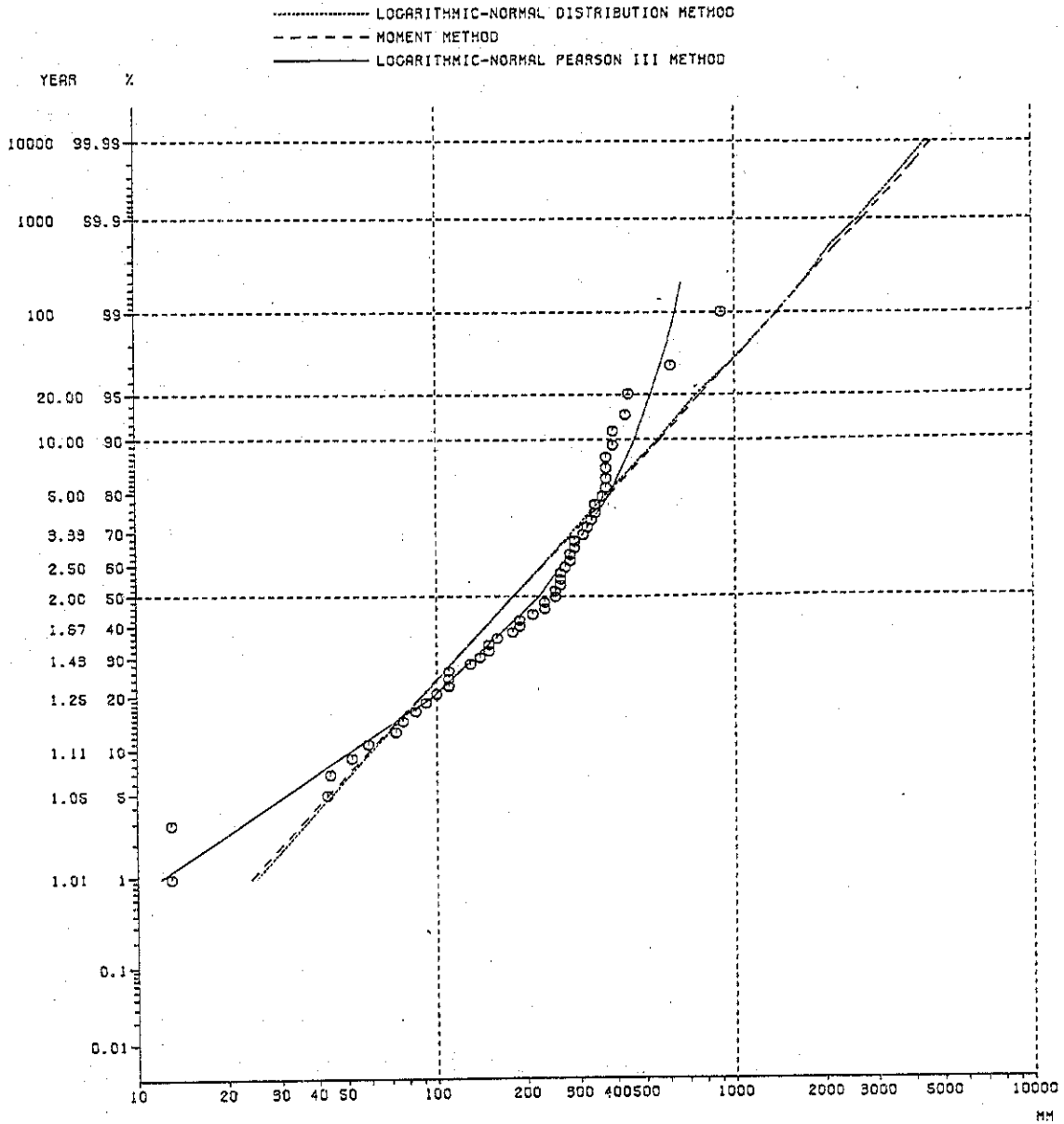


Fig. A2.2.12 Probable Monthly Rainfall at the Norzagaray Gauging Station (December)

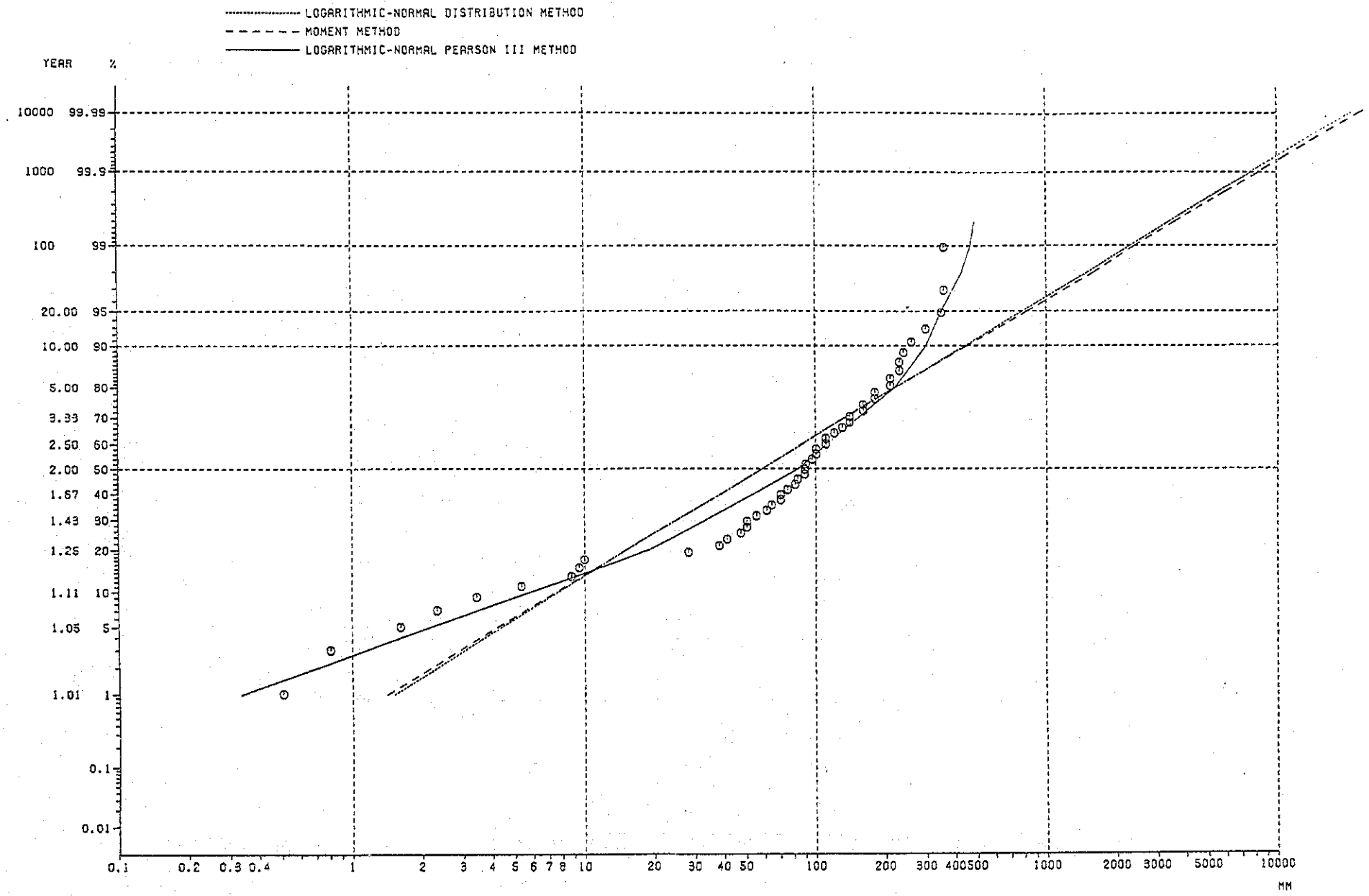


Fig. A 2.3.1 Probable Inflow to the Angat Dam
(Single Day for 1957 - 1982)

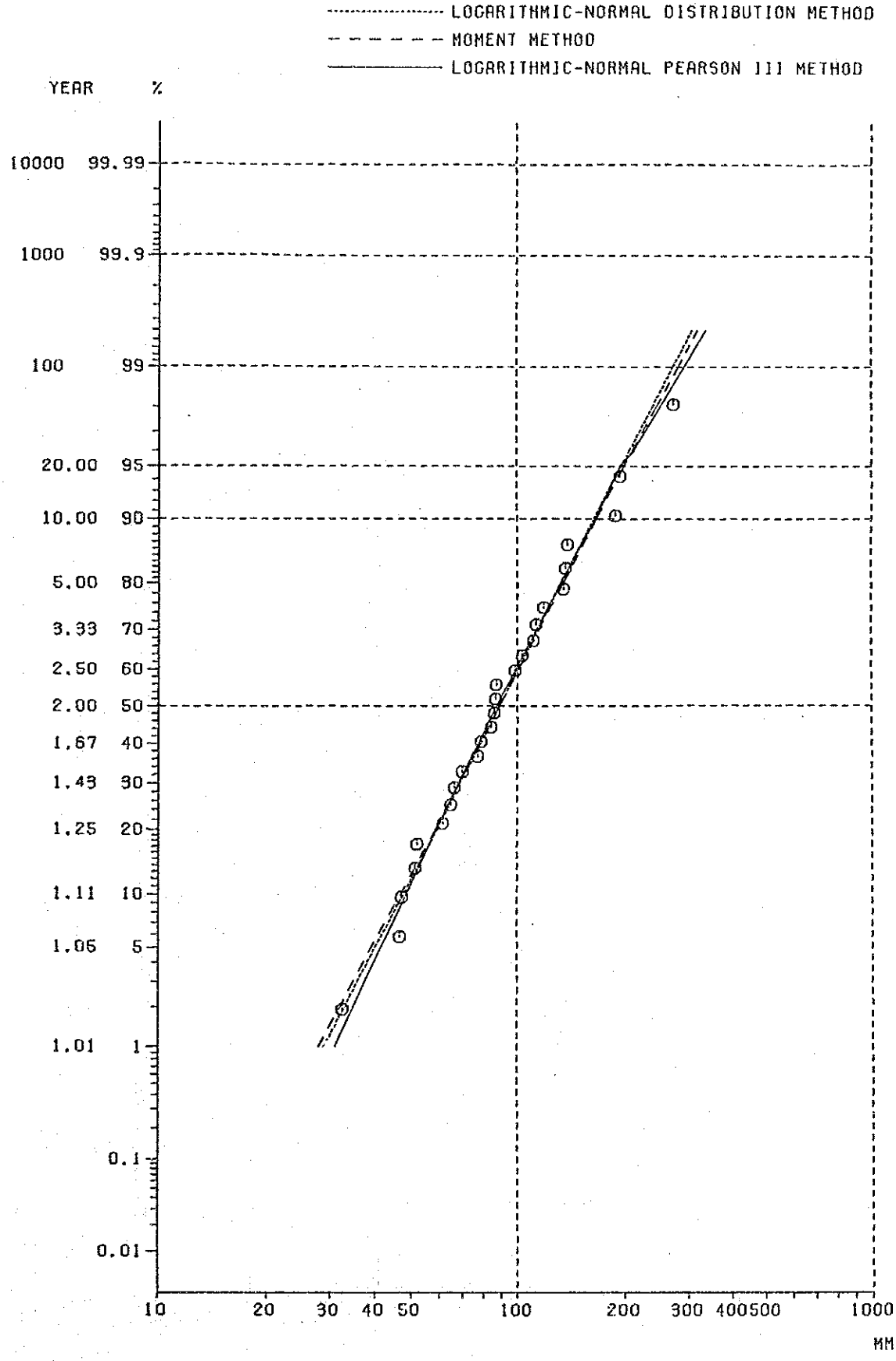


Fig. A 2.3.2 Probable Inflow to the Angat Dam
(Single Day for 1957 - 1987)

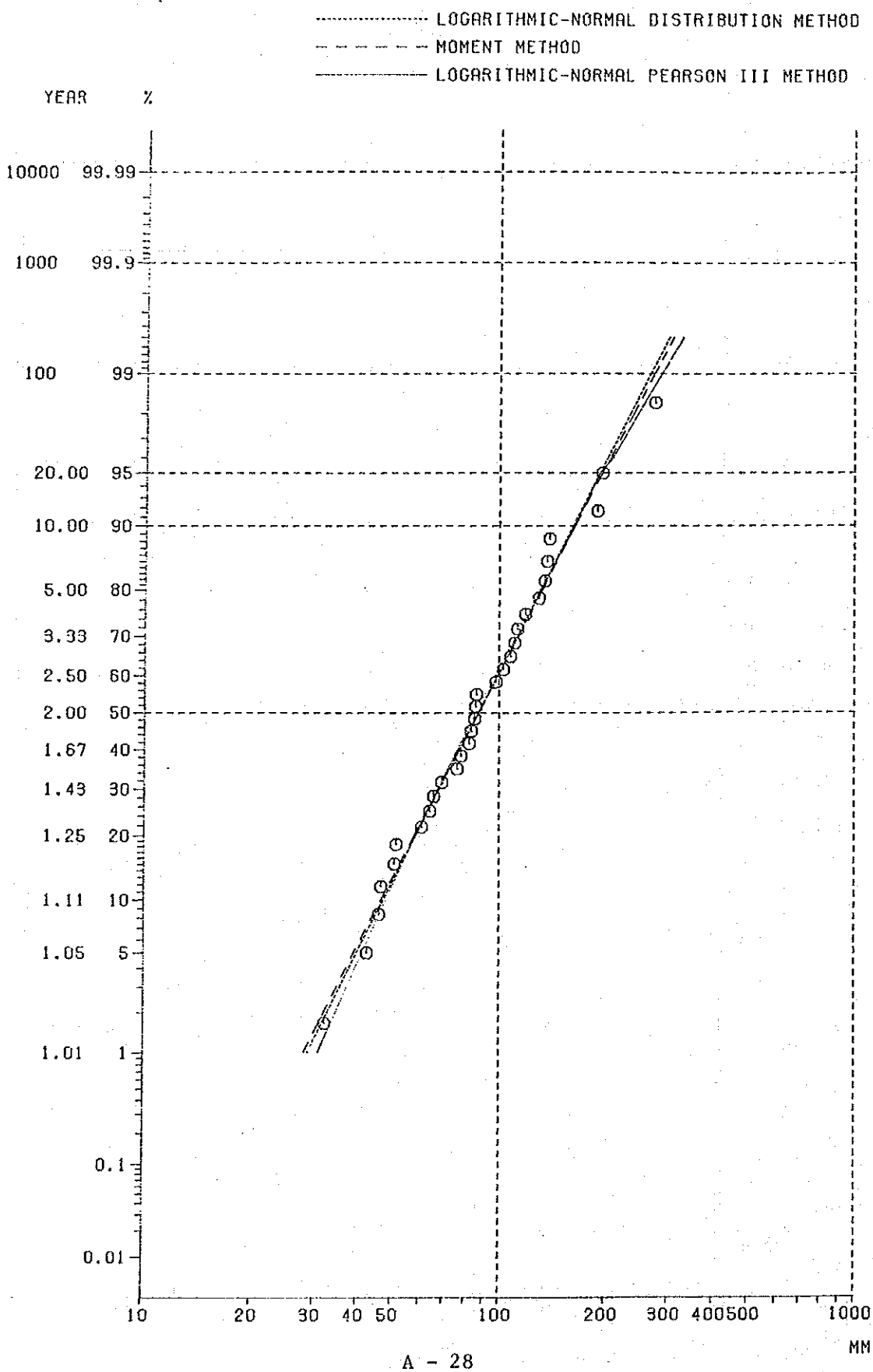


Fig. A 2.3.3 Probable Inflow to the Angat Dam
(Two Consecutive Days for 1957 - 1982)

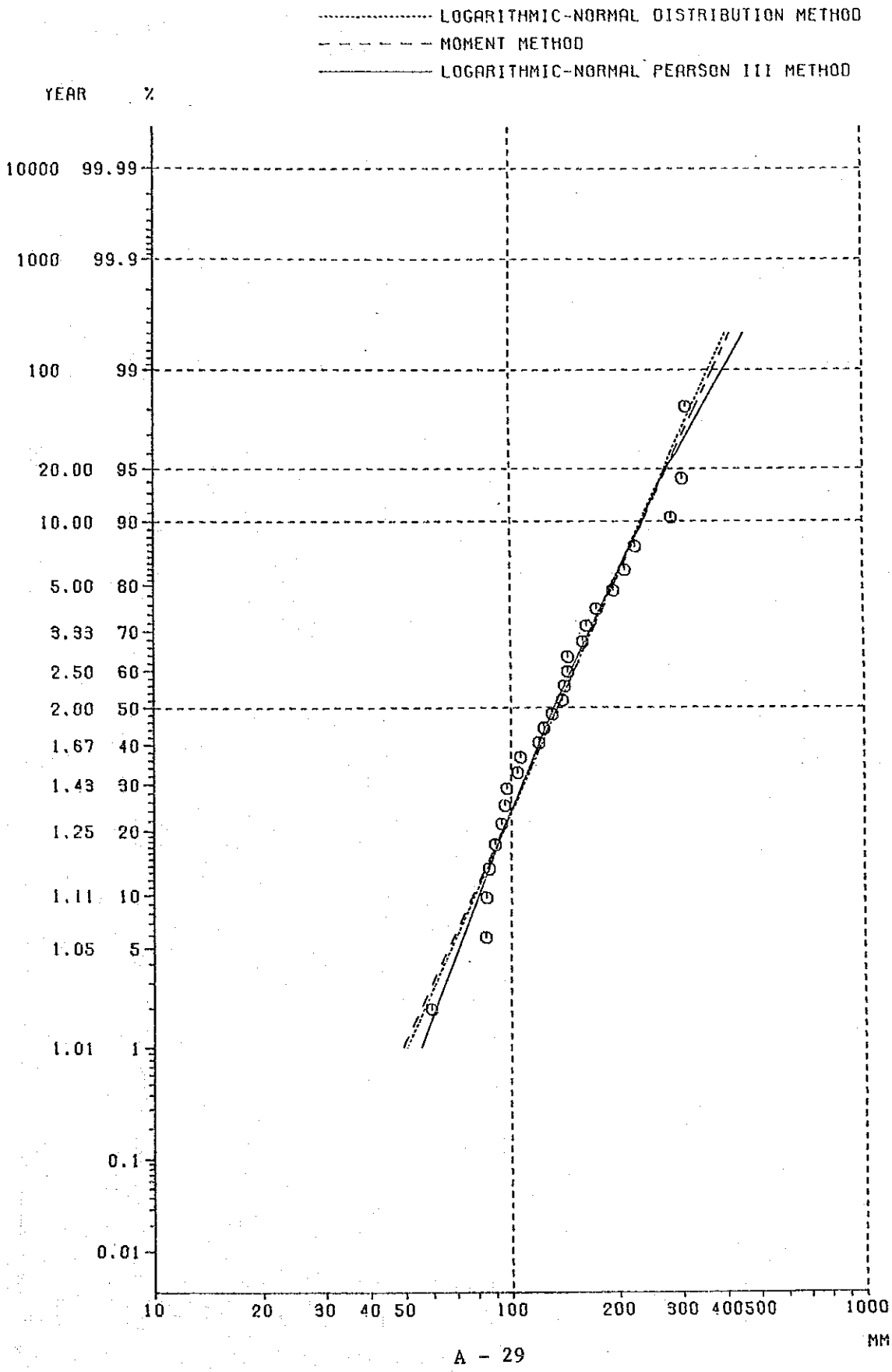


Fig. A 2.3.4 Probable Inflow to the Angat Dam
(Two Consecutive Days for 1957 - 1987)

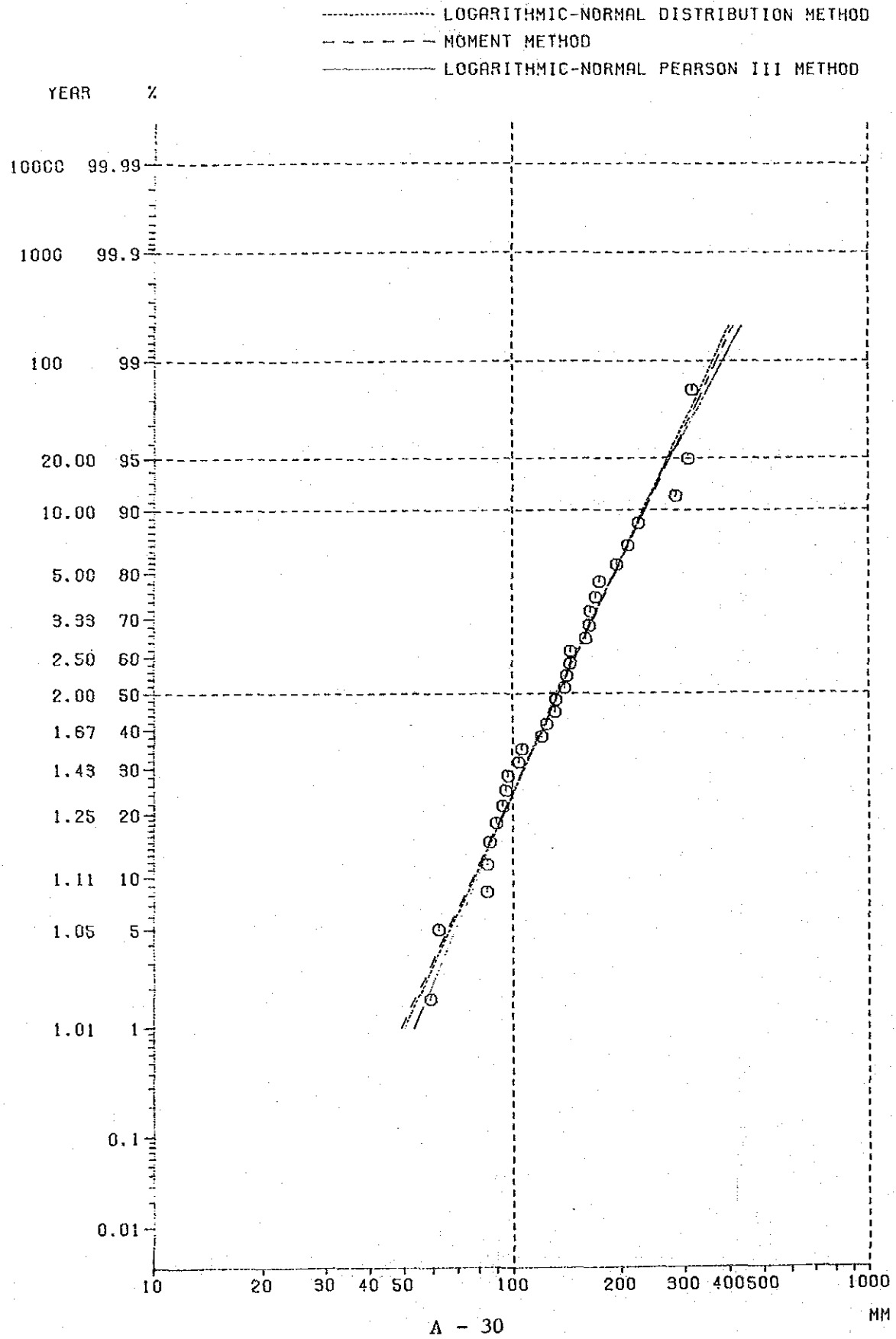


Fig. A 2.3.5 Probable Inflow to the Angat Dam
(Three Consecutive Days for 1957 - 1982)

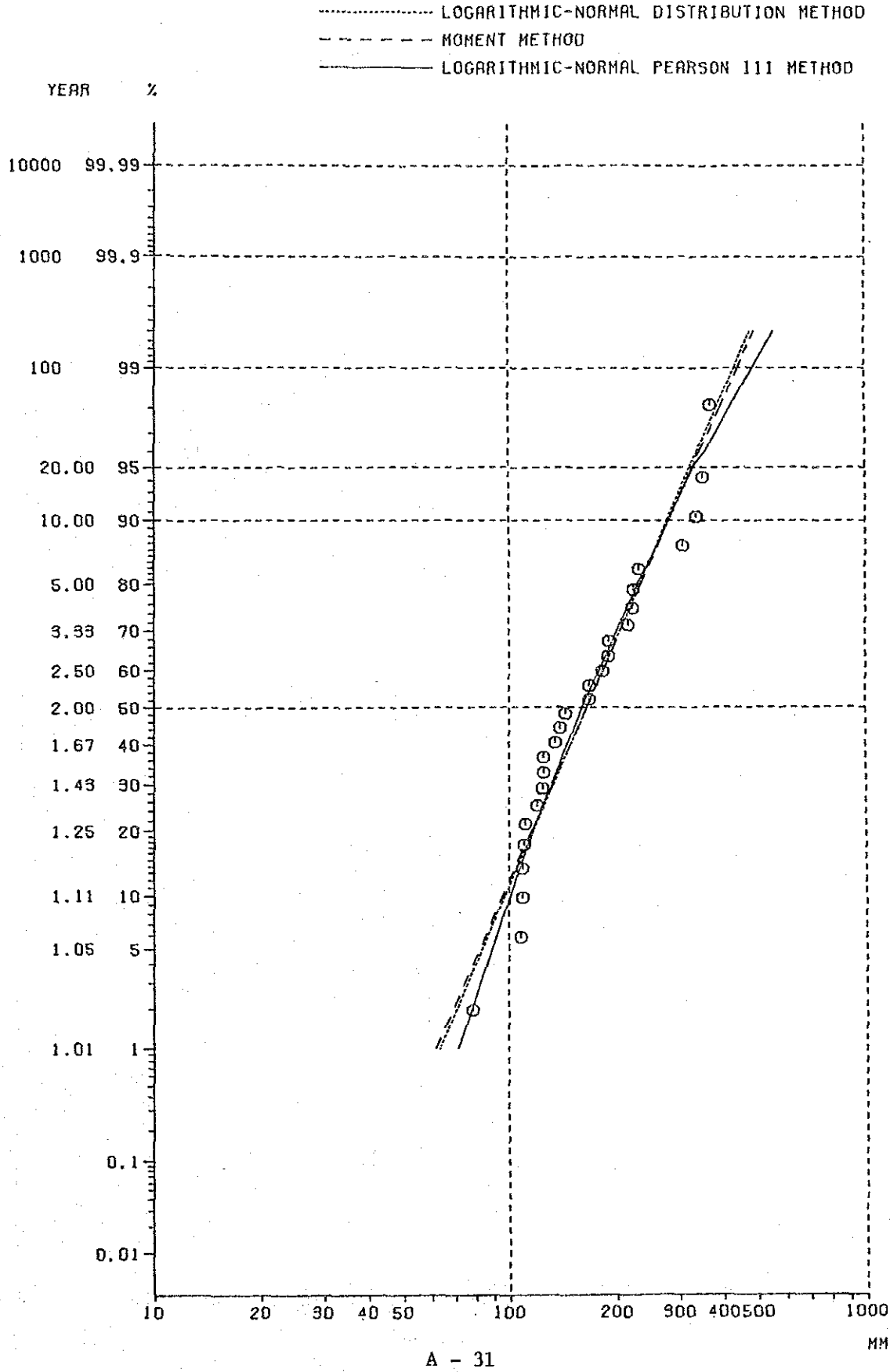


Fig. A 2.3.6 Probable Inflow to the Angat Dam
(Three Consecutive Days for 1957 - 1987)

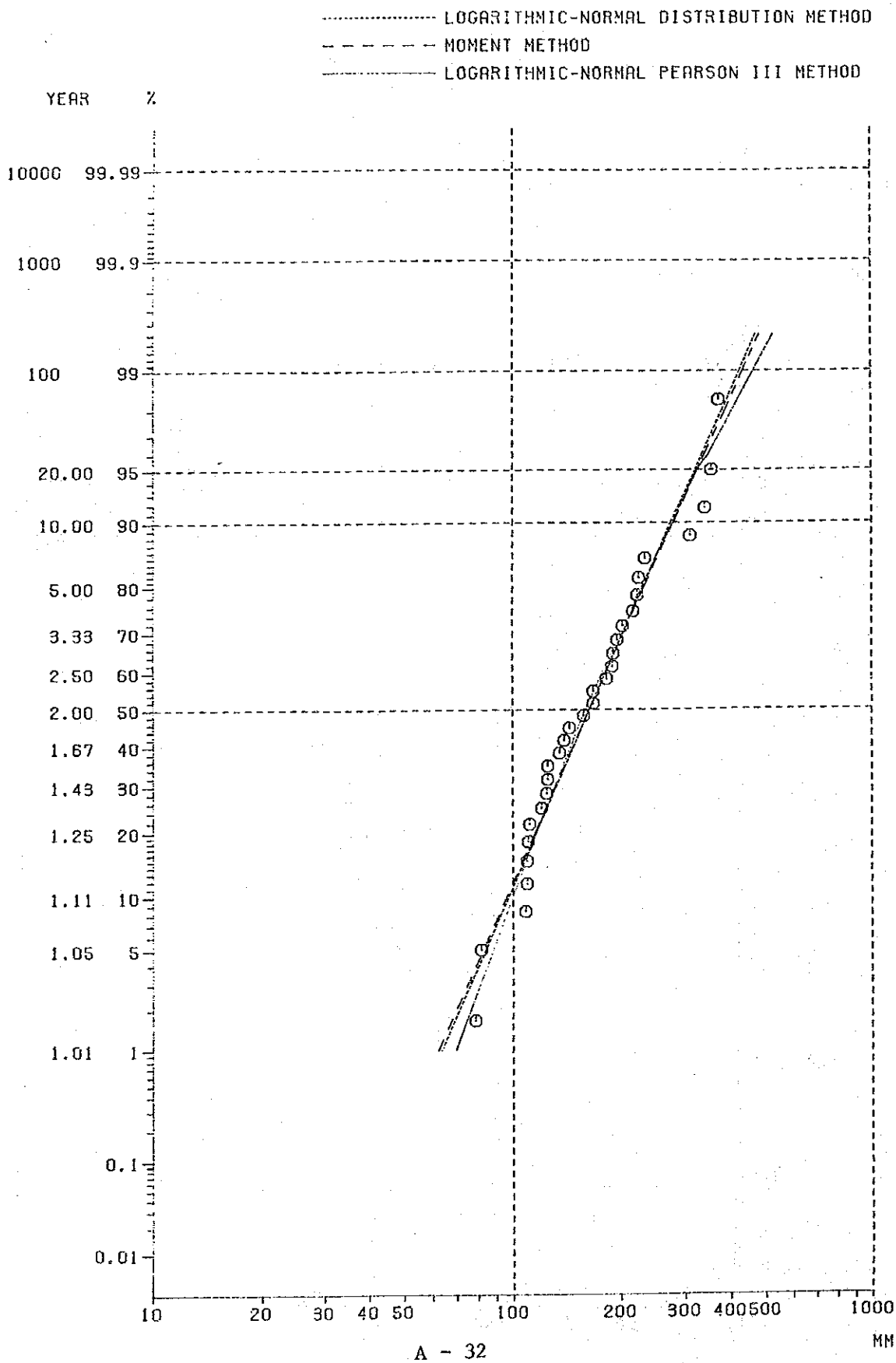


Fig. A 2.3.7 Probable Inflow to the Angat Dam
(Four Consecutive Days for 1957 - 1982)

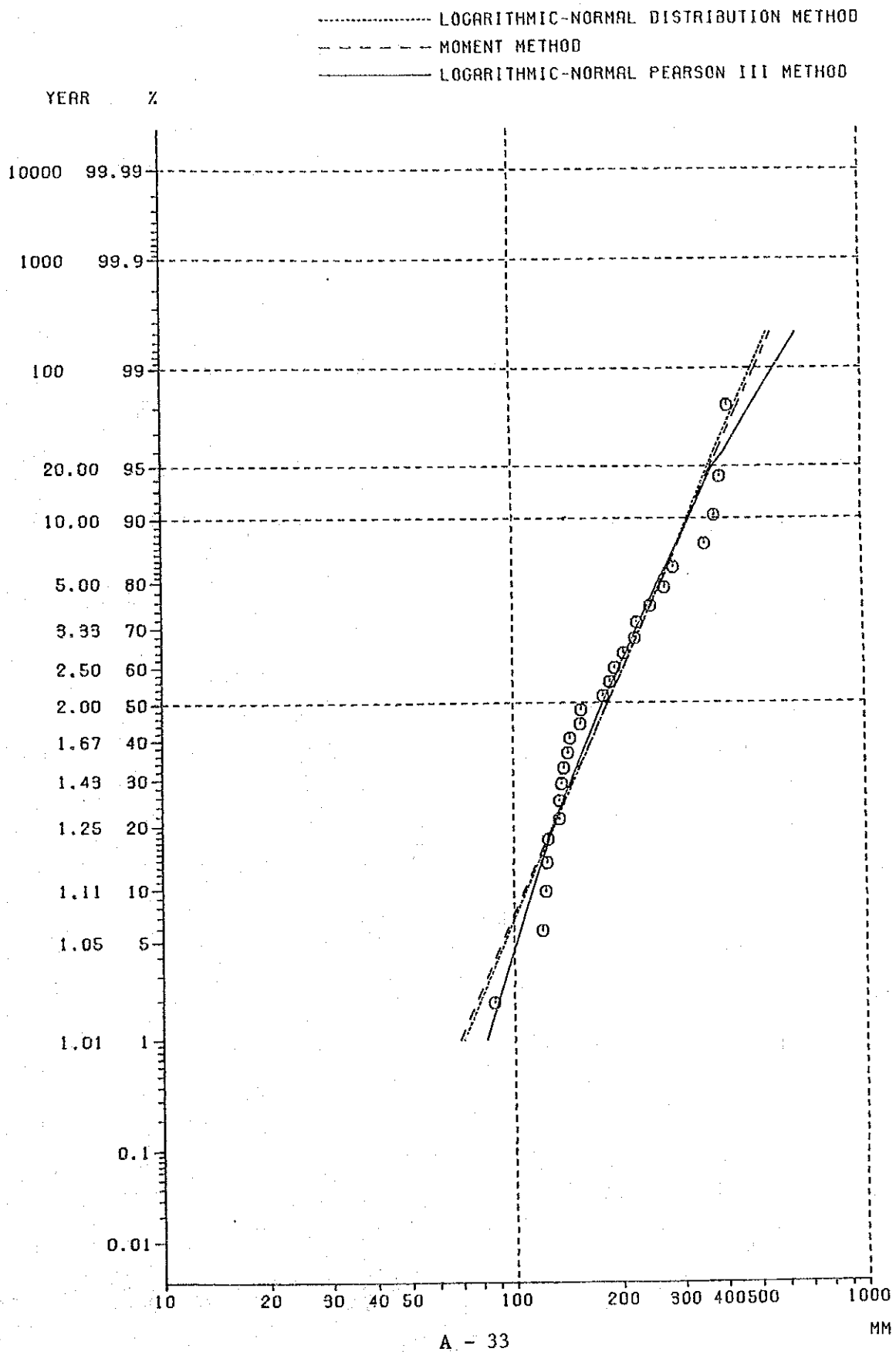


Fig. A 2.3.8 Probable Inflow to the Angat Dam
(Four Consecutive Days for 1957 - 1987)

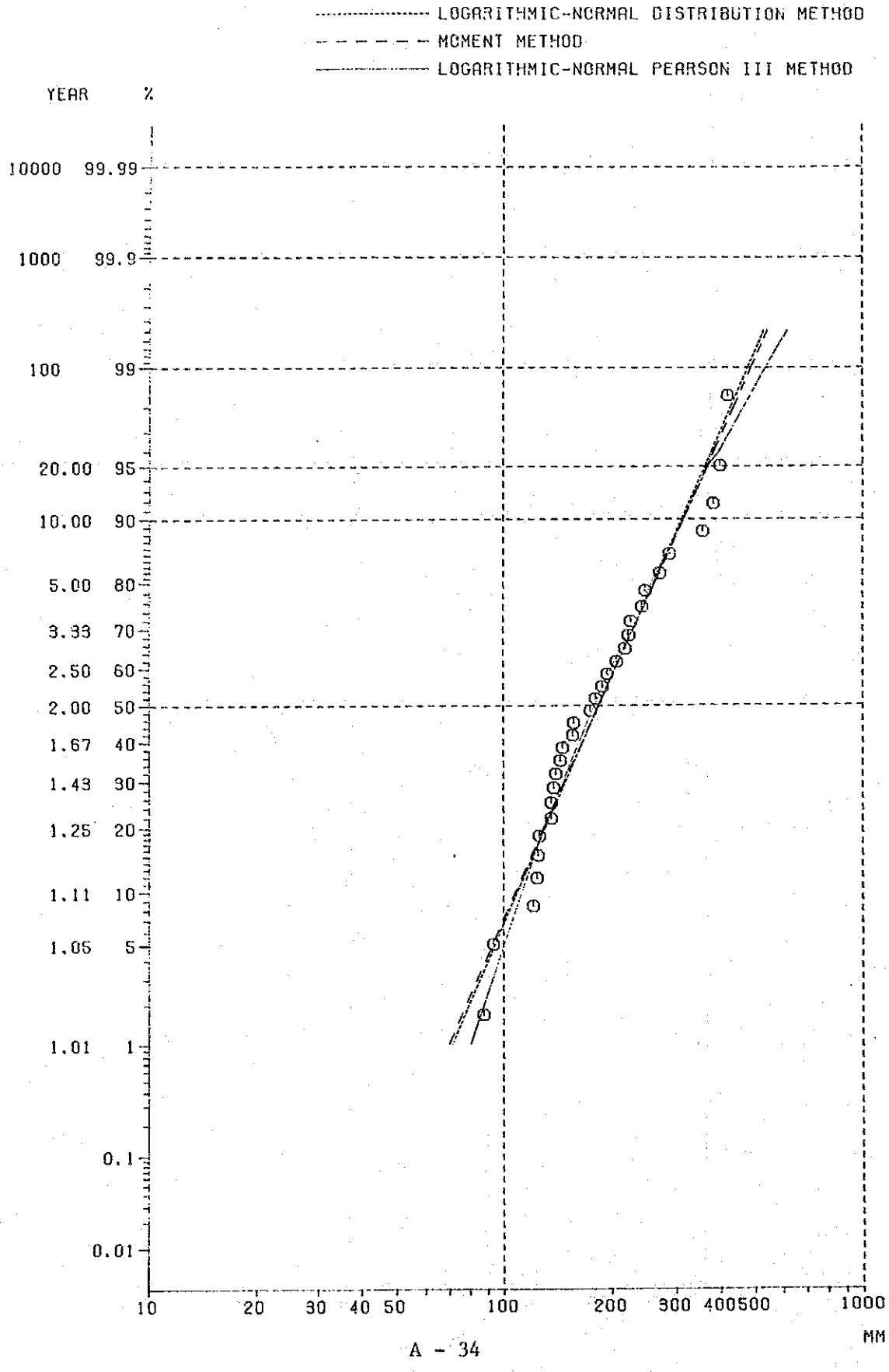


Fig. A 2.3.9 Probable Inflow to the Angat Dam
(Five Consecutive Days for 1957 - 1982)

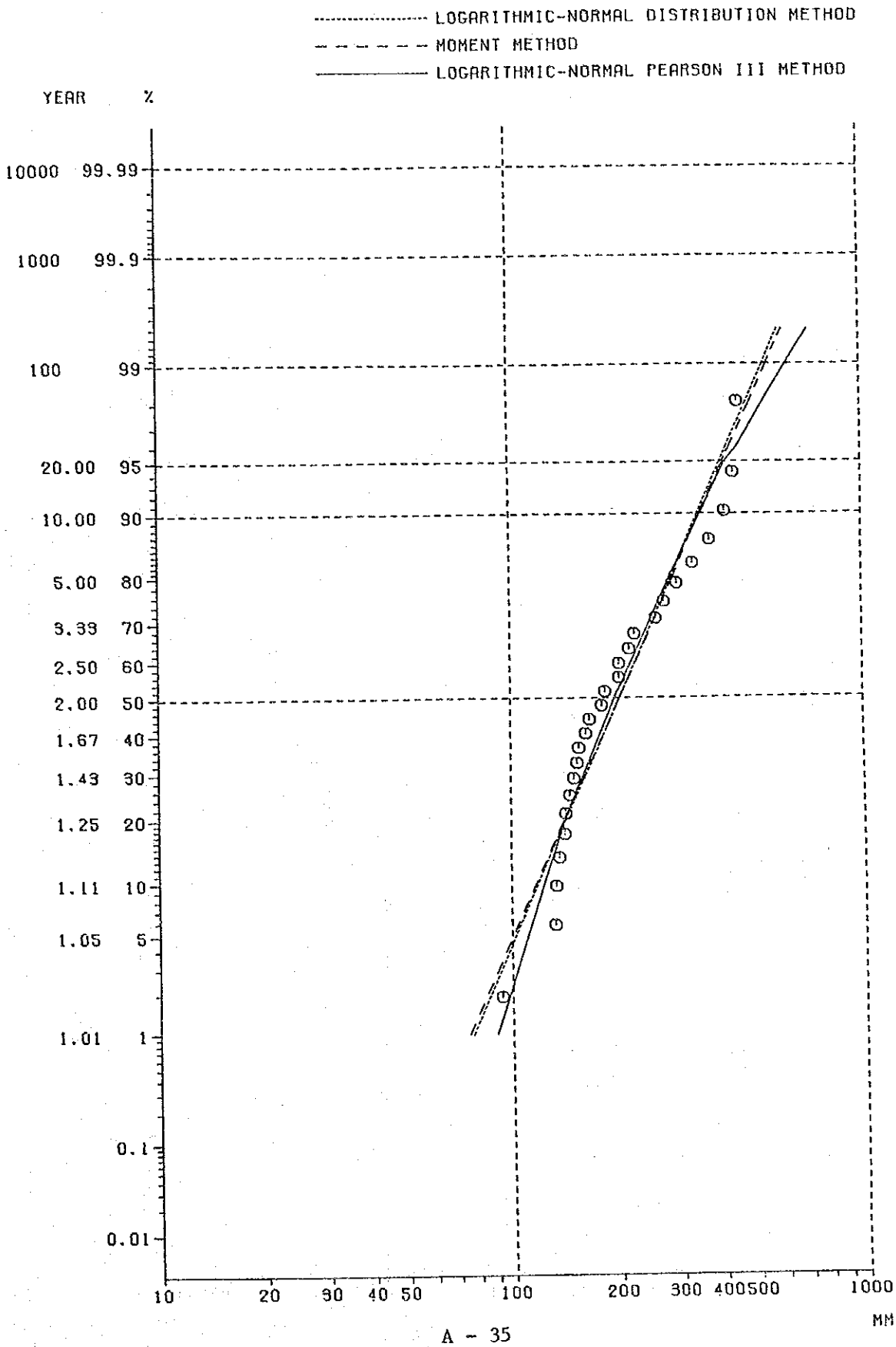


Fig. A 2.3.10 Probable Inflow to the Angat Dam
(Five Consecutive Days for 1957 - 1987)

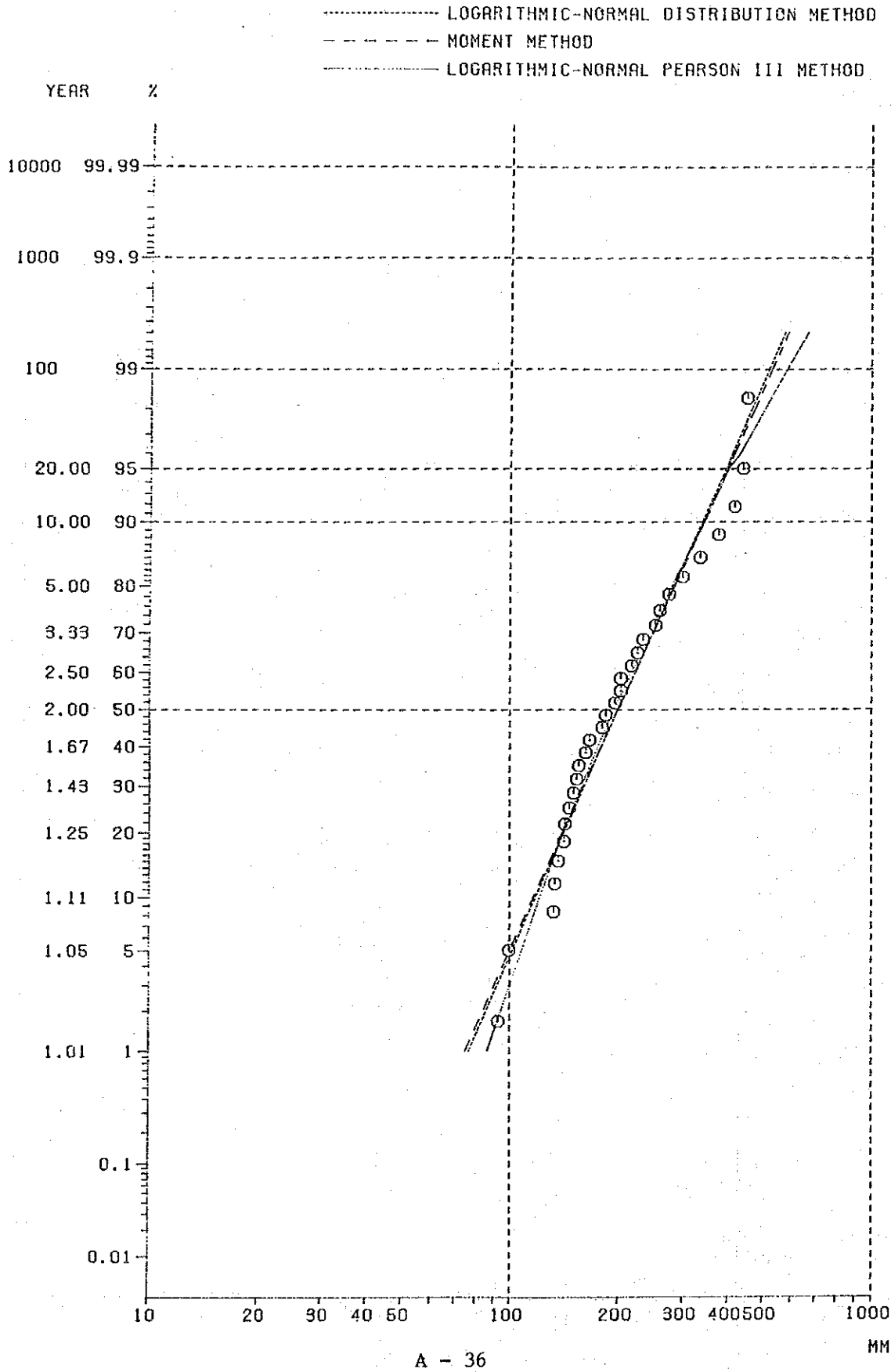


Table A4.1 Descriptive Logs of Boring Investigations Undertaken by NAPOCO

DESCRIPTIVE LOG
FOR
SPT #1

Log by: Juan C. Fernandez
Manalo Pandez

Norhting	
Easting	
Elevation	214.70
Actual Depth	2.93m
Depth of Water Table	
Dia. of Split Spoon	4.0 cm
Inside Length of Split Spoon	4.5 cm
Length of Run for Coring	1.05 cm
Length of Run for SPT	4.5 cm
Date Started	Sept. 17, 1987
Date Completed	Sept. 17, 1987
Drilled by	NPC

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 00.00 - 1.05m	S - 1	Light Brown, soft, plastic, wet, composition: 20% sand, 75% clay, 5% gravel-residual soil (sandy clay with little amount of gravel)
2. 1.05 - 1.50 m	SPT-1	Depth / No. of Blows: 0-15 cm: 5; 15-30 cm: 9; 30-45 cm: 4
3. 1.50 - 2.55 m	S - 2	Light gray, soft, plastic, with Hi-organic content; composition: clay-75%, sand-20%, gravel-5%, Residual Soil (sandy clay with gravel)
4. 2.55 - 2.93 m	SPT-2	Depth / No. of Blows: 0-15 cm: 13; 15-30 cm: 30; 30-43 cm: 60; Last 10.5 cm is composed of highly weathered andesite

DESCRIPTIVE LOG
FOR
SPT #2

Logged by: Juan C. Fernandez
Manalo Pandez

Northing	
Easting	
Elevation	227.10
Depth	9.83 m
Depth of Water Table	
Length of Run for Coring	1.05 m
Length of Run for SPT	45 cm
Date Started	Aug. 8, 1987
Date Completed	Aug. 10, 1987
Dia. of Core barrel	
Drilled by	NPC

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 0.00-1.05 m	S - 1	Light brown, soft, completely weathered, contain highly weathered sand and gravel - Residual Clay
2. 1.05-1.50 m	SPT #1	Depth / No. of Blows 0-15 cm / 1 15-30 cm / 1 30-45 cm / 1
3. 1.50-2.55 m	S - 2	Chocolate brown, soft, plastic, completely weathered contain sand particles - Residual Clay
4. 2.55-3.00 m	SPT #2	Depth / No. of Blows 0-15 cm / 3 15-30 cm / 3 30-45 cm / 3
5. 3.00-4.05 m	S - 3	Light brown, soft, completely weathered, contain sand, silt and gravel - Residual Clay

6.	4.05-4.50 m	SPT #3	Depth / No. of Blows 0-15 cm: 2 15-30 cm: 3 30-45 cm: 5
7.	4.50-5.55 m	S - 4	Chocolate brown, soft, plastic, completely weathered, contain sand and silt - Residual Clay
8.	5.55-6.00 m	SPT #4	Depth / No. of Blows 0-15 cm: 10 15-30 cm: 7 30-45 cm: 8
9.	6.00-7.05 m	S - 5	Light brown at the top and light gray at the bottom, soft, plastic, completely weathered, contain sand and gravel - Residual Soil
10.	7.05-7.50 m	SPT #5	Depth / No. of Blows 0-15 cm: 9 15-30 cm: 8 30-45 cm: 12
11.	7.50-8.55 m	S - 6	Light brown with light gray dots, soft, completely weathered, contain weathered sand and gravel - Residual soil
12.	8.55-9.00 m	SPT #6	Depth / No. of Blows 0-15 cm: 3 15-30 cm: 6 30-45 cm: 10
13.	9.00-9.70 m	S - 7	Chocolate brown, soft, completely weathered, plastic, contain sand & gravel - Residual soil
14.	9.70-9.83 m	SPT #7	Depth / No. of Blows 0-13 cm: 60

DESCRIPTIVE LOG
FOR
SPT #3

Logged by: Juan C. Fernandez
Manalo Pandez

Northing	
Easting	
Elevation	208.10
Actual Depth	5.05 m
Depth of Water Table	
Dia. of Split Spoon	
Inside Length of Split Spoon	45 cm
Length of Run for Coring	1.05 cm
Length of Run for SPT	45 cm
Date Started	Aug. 24, 1987
Date Completed	Aug. 24, 1987
Drilled by	NPC

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 0.00-1.05 m	S - 1	Light brown at the top to chocolate brown at the botton, completely weathered, plastic, contain sand and gravel - Residual Soil
2. 1.05-1.50 m	SPT #1	Depth: 0-15 cm — No. of Blows: 2; 15-30 cm — 3; 30-45 cm — 4
3. 1.50-2.55 m	S - 2	Light brown to chocolate brown, soft, plastic, contain sand and silt, completely weathered - Residual Soil
4. 2.55-3.00 m	SPT #2	Depth: 0-15 cm — No. of Blows: 3; 15-30 cm — 4; 30-45 cm — 6
5. 3.00-4.05 m	S - 3	Light brown, soft, plastic, completely weathered, contain sand - Residual Soil

6.	4.05-4.50 m	SPT #3	Depth / No. of Blows 0-15 cm: 5 15-30 cm: 5 30-45 cm: 7
7.	4.50-4.90 m	S - 4	Light brown, soft, plastic, completely weathered, contain sand and weathered pebble - Residual Soil
8.	4.90-5.05 m	SPT #4	Depth / No. of Blows 0-15 cm: 64

DESCRIPTIVE LOG
FOR
SPT #4

Logged by: Juan C. Fernandez
Manalo Pandez

Northing	
Easting	
Elevation	218.50
Actual Depth	2.18 m
Depth of Water Table	
Dia. of Split Spoon	
Inside Length of Split Spoon	45 cm
Length of Run for Coring	1.05 m
Length of Run for SPT	45 cm
Date Started	Aug. 23, 1987
Date Completed	Aug. 23, 1987
Drilled by	

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 0.00-1.05 m	S - 1	a) 0.00-0.10 m - Light brown, soft, plastic, completely, weathered - Residual Soil b) 0.10-1.05 m - Highly weathered, whitish brown, soft, polycritic andesite
2. 1.05-1.50 m	SPT #1	Depth / No. of Blows 0-15 cm: 7 15-30 cm: 7 30-45 cm: 17
3. 1.50-2.05 m	S - 2	Whitish brown, highly weathered (W-5), soft - Polyritic Andesite
4. 2.05-2.18 m	SPT #2	Depth / No. of Blows 0-13 cm: 64

DESCRIPTIVE LOG
FOR
SPT #5

Logged by: Juan C. Fernandez
Manalo Pandez

Northing	
Easting	
Elevation	212.30
Actual Depth	11.90 m
Depth of Water Table	
Dia. of Split Spoon	
Inside Length of Split Spoon	45cm
Length of Run for Coring	1.05cm
Length of Run for SPT	45cm
Date Started	Sept. 25, 1987
Date Completed	Sept. 28, 1987
Drilled by	

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 0.00 - 1.05 m	S - 1	Light brown, plastic, soft, composition: 85% clay, 10% sand and 5% gravel-clay with sand and gravel
2. 1.05 - 1.50	SPT #1	Depth / No. of Blows: 0-15 cm: 2; 15-30 cm: 2; 30-45 cm: 3
3. 1.50 - 2.55 m	S - 2	Light gray, soft, wet, composition - 60% sand, 37% clay and 3% gravel-clayey sand with gravel
4. 2.55 - 3.00 m	SPT #2	Depth / No. of Blows: 0-15 cm: 7; 15-30 cm: 7; 30-45 cm: 6
5. 3.00 - 4.05 m	S - 3	Light gray, soft, composition: 90% sand, 6% gravel and 4% clay-sand with gravel and clay

6. 4-05 - 4.50	SPT #3	Depth / No. of Blows 0-15 cm — 6 15-30 cm — 5 30-45 cm — 6
7. 4.50 - 5.55 m	S - 4	Light gray, soft, composition: 90% sand, 70% gravel, 3% clay-sand with gravel and clay
8. 5.55 - 6.00 m	SPT #4	Depth / No. of Blows 0-15 cm — 3 15-30 cm — 3 30-45 cm — 6
9. 6.00 - 7.05 m	S - 5	Light gray, very loose, composition - 80% gravel, 20% sand - sandy gravel
10. 7.05 - 7.50 m	SPT #5	Depth / No. of Blows 0-15 cm — 6 15-30 cm — 6 30-45 cm — 9
11. 7.50 - 8.55 m	S - 6	Chocolate brown, soft, wet, composition - 92% clay, 5% gravel, 30% sand - clay with gravel and sand
12. 8.55 - 9.00 m	SPT #6	Depth / No. of Blows 0-15 cm — 6 15-30 cm — 15 30-45 cm — 18
13. 9.00 - 10.05 m	S - 7	Light brown with white spot, soft, plastic, completely weathered - clay (residual clay)
14. 10-05 - 10.50 m	SPT #7	Depth / No. of Blows 0-15 cm — 7 15-30 cm — 35 30-45 cm — 35
15. 10.50 - 11.00 m	S - 8	Light brown to dark brown with white spot, soft, plastic, wet completely weathered-clay (residual clay)
16. 11.00 - 11.45 m	SPT #8	Depth / No. of Blows 0-15 cm — 13 15-30 cm — 18 30-45 cm — 27
17. 11.45 - 11.75	S - 9	Light brown with white spot, soft, plastic, completely weathered clay (residual clay)

18. 11.75 - 11.90 m SPT #9

Depth	No. of Blows
0-15 cm	65

DESCRIPTIVE LOG
FOR
SPT #6

Logged by: Juan C. Fernandez
Manalo Pandez

Northing	
Easting	
Elevation	223.50
Actual Depth	9.77 m
Depth of Water Table	
Dia. of Split Spoon	
Inside Length of Split Spoon	45 cm
Length of Run for Coring	1.05 cm
Length of Run for SPT	45 cm
Date Started	Sept. 30, 1987
Date Completed	Sept. 30, 1987
Drilled by	NPC

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 0.00 - 1.05 m	S - 1	Light brown, soft, plastic, contain sand and pebbles, talus
2. 1.05 - 1.50 m	SPT #1	Depth / No. of Blows: 0-15 cm: 1; 15-30 cm: 3; 30-45 cm: 3
3. 1.50 - 2.55 m	S - 2	Chocolate brown, soft, plastic, contain sand and silt - residual soil
4. 2.55 - 3.00 m	SPT #2	Depth / No. of Blows: 0-15 cm: 2; 15-30 cm: 3; 30-45 cm: 4
5. 3.00 - 4.05 m	S - 3	Light gray to brownish gray, soft, contain gravel and sand - residual soil
6. 4.05 - 4.50 m	SPT #3	Depth / No. of Blows: 0-15 cm: 3; 15-30 cm: 4; 30-45 cm: 8

7.	4.50 - 5.55 m	S - 4	Chocolate brown, soft, plastic, contain gravel and sand - residual soil
8.	5.55 - 6.00 m	SPT #4	Depth / No. of Blows 0-15 cm: 4 15-30 cm: 6 30-45 cm: 10
9.	6.00 - 7.05 m	S - 5	Dark gray, soft, contain sand, wet - mud
10.	7.05 - 7.50 m	SPT #5	Depth / No. of Blows 0-15 cm: 8 15-30 cm: 11 30-45 cm: 12
11.	7.50 - 8.55 m	S - 6	Chocolate brown, soft, highly weathered - residual clay
12.	8.55 - 9.00 m	SPT #6	Depth / No. of Blows 0-15 cm: 10 15-30 cm: 35 30-45 cm: 33
13.	9.00 - 9.64 m	S - 7	Light gray, moderately weathered - andesite
14.	9.64 - 9.77 m	SPT #7	Depth / No. of Blows 0.13 cm: 75

DESCRIPTIVE LOG
FOR
SPT #7

Logged by: Juan C. Fernandez
Manalo Pandez

Northing	
Easting	
Elevation	
Actual Depth	13.63 m
Depth of Water Table	85 cm
Dia. of Split Spoon	4.00 cm
Inside Length of Split Spoon	45 cm
Length of Run for Coring	1.05 cm
Length of Run for SPT	45 cm
Date Started	Aug. 5, 1987
Date Completed	Aug. 8, 1987
Drilled by	NPC

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 0.00 - 1.05 m	S - 1	Light gray to gray, hard, composition - 60% gravel, 35% sand, 5% clay sandy gravel with clay (Filling Materials)
2. 1.05 - 1.50 m	SPT #1	Depth / No. of Blows: 0-15 cm: 14; 15-30 cm: 9; 30-45 cm: 6
3. 1.50 - 2.55 m	S - 2	Light gray to light brown, soft, plastic, composition: 60% clay, 40% sand- sandy clay
4. 2.55 - 3.00 m	SPT #2	Depth / No. of Blows: 0-15 cm: 12; 15-30 cm: 12; 30-45 cm: 17
5. 3.00 - 4.05 m	S - 3	Dark brown, very soft, plastic, composition: clay - 60%, 35% sand, 5% gravel - sandy clay with gravel

6. 4.05 - 4.50 m — SPT #3

Depth	No. of Blows
0-15 cm	3
15-30 cm	2
30-45 cm	3

7. 4.50 - 5.55 m — S - 4

Light gray to light brown, very soft, plastic, composition: 70% clay, 25% sand, 5% gravel-sandy clay with gravel

8. 5.55 - 6.00 m — SPT #4

Depth	No. of Blows
0-15 cm	3
15-30 cm	3
30-45 cm	4

9. 6.00 - 7.05 m — S - 5

Light brown, very soft, highly plastic, composition: 70% clay, 30% sand-sandy clay

10. 7.05 - 7.50 m — SPT #5

Depth	No. of Blows
0-15 cm	7
15-30 cm	4
30-45 cm	4

11. 7.50 - 8.55 m — S - 6

Light gray, soft, plastic, 65% clay, 30% sand, 5% gravel sandy clay with gravel

12. 8.55 - 9.00 m — SPT #6

Depth	No. of Blows
0-15 cm	4
15-30 cm	3
30-45 cm	5

13. 9.00 - 10.05 m — S - 7

Light brown, soft, plastic, composition: 60% clay, 30% sand, 10% gravel-sandy clay with gravel

14. 10.05 - 10.50 m — SPT #7

Depth	No. of Blows
0-15 cm	4
15-30 cm	5
30-45 cm	4

15. 10.50 - 11.55 m — S - 8

Light brown, soft, plastic, composition: 60% clay, 38% sand, 2% gravel

16. 11.55 - 12.00 m — SPT #8

Depth	No. of Blows
0-15 cm	14
15-30 cm	10
30-45 cm	13

17. 12.00 - 13.05 m — S - 9 — Light brown, soft, plastic, composition: 60% clay, 30% sand, 10% gravel sandy clay with gravel

18. 13.05 - 13.50 m — SPT #9

Depth	No. of Blows
0-15 cm	19
15-30 cm	13
30-45 cm	40

19. 13.50 - 13.63 m — SPT #10

Depth	No. of Blows
0-13 cm	70 blows

DESCRIPTIVE LOG
FOR
SPT #8

Logged by: Juan C. Fernandez
Manalo Pandez

Northing	
Easting	
Elevation	
Actual Depth	9.00 m
Depth of Water Table	
Dia. of Split Spoon	4.0 cm
Inside Length of Split Spoon	45 cm
Length of Run for Coring	1.05 m
Length of Run for SPT	45 cm
Date Started	Aug. 11, 1987
Date Completed	Aug. 12, 1987
Drilled by	NPC

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 0.00 - 1.05 m	S - 1	Light brown, soft, plastic, composition: 60% clay, 38% sand, 2% gravel - sandy clay with gravel
2. 1.05 - 1.50 m	SPT #1	Depth / No. of Blows: 0-15 cm: 1; 15-30 cm: 2; 30-45 cm: 3
3. 1.50 - 2.55 m	S - 2	Light brown to chocolate brown, plastic, soft, composition: 60% clay, 38% sand, 2% gravel-sandy clay with gravel
4. 2.55 - 3.00 m	SPT #2	Depth / No. of Blows: 0-15 cm: 3; 15-30 cm: 4; 30-45 cm: 5
5. 3.00 - 4.05 m	S - 3	Chocolate brown, plastic, soft, composition: 70% clay, 28% sand, 2% gravel sandy clay with gravel

6.	4.05 - 4.50 m	SPT #3	Depth / No. of Blows 0-15 cm: 6 15-30 cm: 8 30-45 cm: 12
7.	4.50 - 5.55 m	S - 4	Dark brown, plastic, soft, composition: 90% clay, 10% sand-clay with sand grains
8.	5.55 - 6.00 m	SPT #4	Depth / No. of Blows 0-15 cm: 23 15-30 cm: 21 30-45 cm: 24
9.	6.00 - 7.05 m	S - 5	Dark brown to reddish brown, soft to very soft, highly plastic to plastic composition: 98% clay, 2% sand - clay with appreciable sand
10.	7.05 - 7.50 m	SPT #5	Depth / No. of Blows 0-15 cm: 31 15-30 cm: 32 30-45 cm: 44
11.	7.50 - 8.55 m	S - 6	Dark brown to reddish brown, soft to very soft, highly plastic to plastic, composition: 98% clay, 2% sand - clay with appreciable sand
12.	8.55 - 9.00	SPT #7	Depth / No. of Blows 0-15 cm: 25 15-30 cm: 45 30-45: 60

DESCRIPTIVE LOG
FOR
SPT #9

Logged by: Juan C. Fernandez
Manalo Pandez

Northing	
Easting	
Elevation	
Actual Depth	1.25 m
Depth of Water Table	
Dia. of Split Spoon	4.0 cm
Inside Length of Split Spoon	45 cm
Length of Run for Coring	1.05 m
Length of Run for SPT	45 cm
Date Started	Aug. 27, 1987
Date Completed	Aug. 27, 1987
Drilled by	NPC

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 0.00 - 1.05 m	S - 1	Dark brown, soft, plastic, rich in organic materials, composition: 75% clay, 10% sand, 5% gravel (pebble - 20 cm), clay with sand & gravel Light brown, soft, plastic, composition: 85% clay, 10% sand, 5% gravel - clay with sand and gravel
2. 1.05 - 1.50 m	SPT #1	Depth / No. of Blows 0-15 cm: 1 15-30 cm: 2 30-45 cm: 3
3. 1.50 - 2.55 m	S - 2	Light brown, soft, plastic, composition: 85% clay, 10% sand, 5% gravel - clay with sand and gravel
4. 2.55 - 3.00 m	SPT #2	Depth / No. of Blows 0-15 cm: 2 15-30 cm: 3 30-45 cm: 7

5.	3.00 - 3.12 m	S - 3	Chocolate brown, highly plastic, soft, composition: 98% clay, 8% sand, clay with sand
6.	0.00 - 1.05 m	S - 1	Upper 11.5 cm - Light brown, hard, clay, composition: clay 80%, sand 15%, gravel 5% residual clay (sandy clay with gravel Botton - dark brown with iron stain, hard, highly weathered, broken cores - andesite
7.	1.05 - 1.25 m	spt 31	Depth / No. of Blows 0-15 cm / 89 15-20 cm / 70

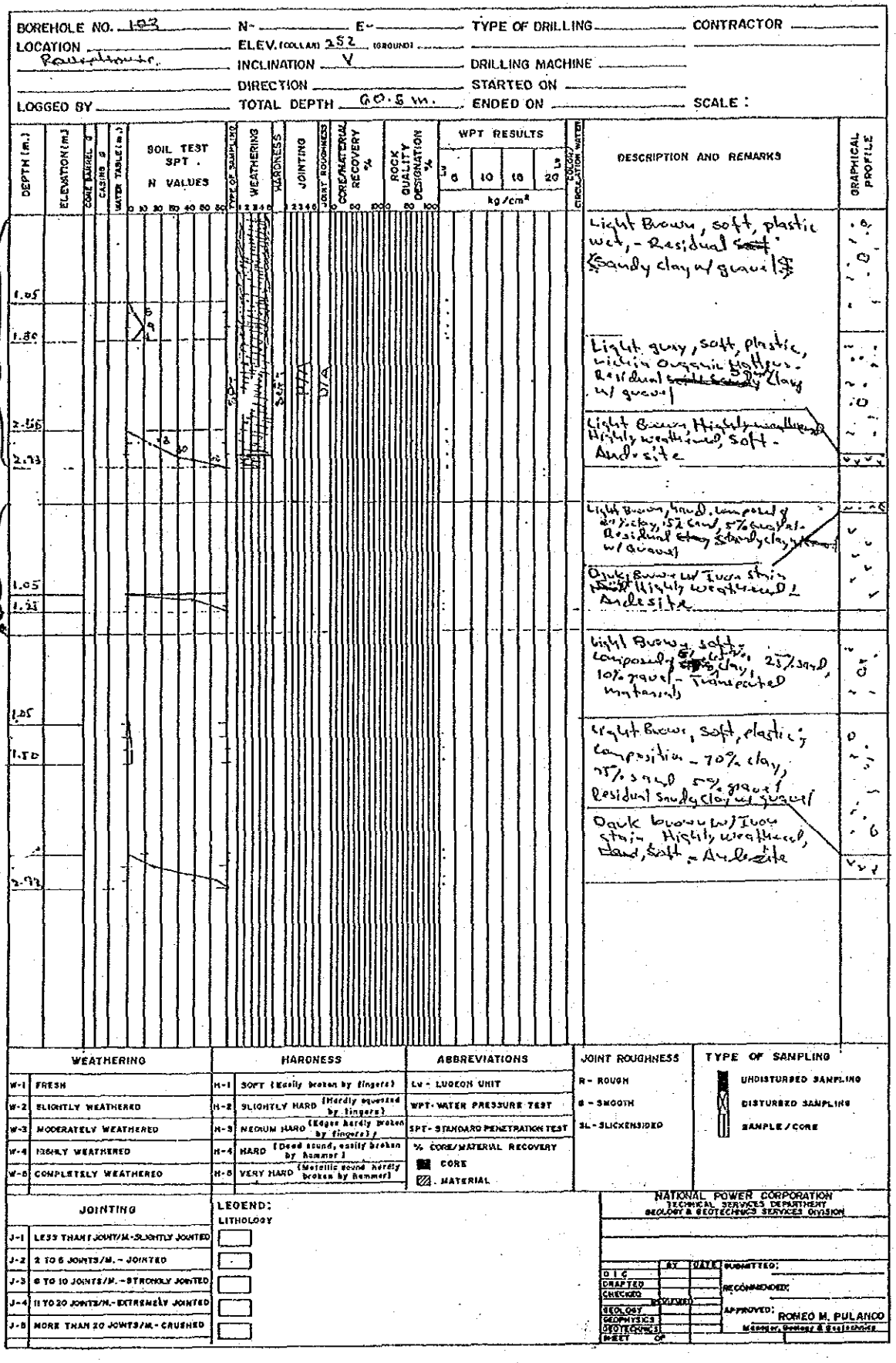
DESCRIPTIVE LOG
FOR
SPT #10

Logged by: Juan C. Fernandez
Manalo Pandez

Northing	
Easting	
Elevation	
Actual Depth	2.93 m
Depth of Water Table	
Dia. of Split Spoon	4.0 cm
Inside Length of Split Spoon	45 cm
Length of Run for Coring	1.05 m
Length of Run for SPT	45 cm
Date Started	Aug. 27, 1987
Date Completed	Aug. 27, 1987
Drilled by	NPC

DEPTH/ELEVATION	CORE NO.	REMARKS
1. 0.00 - 1.05 m	S - 1	Light brown, soft, composition: clay, 65%; sand, 25%; gravel, 10% Transported materials
2. 1.05 - 1.50 m	SPT #1	Depth / No. of Blows: 0-15 cm: 1; 15-30 cm: 2; 30-45 cm: 2
3. 1.50-2.55 m	S - 2	Light Brown, soft, plastic, composition: clay, 70%; sand, 25%; gravel, 5% Residual sandy clay with gravel
4. 2.55 - 2.93 m	SPT #2	Depth / No. of Blows: 0-15 cm: 15; 15-30 cm: 53; 30-38 cm: 60

Fig. A4.1 Graphical Logs of Boring
Investigations Undertaken by NAPOCOR


BOREHOLE NO. 193
N= E=
TYPE OF DRILLING
CONTRACTOR
LOCATION Powerhouse
ELEV. (COLLAR) 252 (GROUND)
INCLINATION V
DRILLING MACHINE
DIRECTION
STARTED ON
LOGGED BY
TOTAL DEPTH 60.5 m.
ENDED ON
SCALE :
DEPTH (m.)
ELEVATION (m.)
CORE BARREL
CASING
WATER TABLE (m.)
SOIL TEST SPT. N VALUES
TYPE OF SAMPLING
WEATHERING
HARDNESS
JOINTING
JOINT ROUGHNESS
CORE/MATERIAL RECOVERY %
ROCK QUALITY DESIGNATION %
WPT RESULTS
Lv
kg/cm²
CIRCULATION WATER
DESCRIPTION AND REMARKS
GRAPHICAL PROFILE
Light Brown, soft, plastic wet, - Residual Sandy clay w/ gravel
Light gray, soft, plastic, within Organic Matter - Residual Sandy Clay w/ gravel
Light Brown Highly weathered Highly weathered, soft - Andesite
Light Brown, sand. composed of clay, 15% sand, 5% gravel - Residual Sandy clay w/ Gravel
Dark Brown w/ Iron stain Highly weathered Andesite
Light Brown, soft, Composed of clay, 25% sand, 10% gravel - Transported material
Light Brown, soft, plastic; Composition - 70% clay, 25% sand 5% gravel Residual Sandy clay w/ gravel
Dark brown w/ Iron stain Highly weathered, Hard, Soft - Andesite
SPT #8
SPT #9
SPT #10
1.05
1.85
2.55
2.73
1.05
1.35
1.05
1.50
2.92
WEATHERING
W-1 FRESH
W-2 SLIGHTLY WEATHERED
W-3 MODERATELY WEATHERED
W-4 HIGHLY WEATHERED
W-5 COMPLETELY WEATHERED
HARDNESS
H-1 SOFT (Easily broken by fingers)
H-2 SLIGHTLY HARD (Hardly squeezed by fingers)
H-3 MEDIUM HARD (Edges hardly broken by fingers)
H-4 HARD (Dead sound, easily broken by hammer)
H-5 VERY HARD (Metallic sound hardly broken by hammer)
ABBREVIATIONS
Lv - LUGEON UNIT
WPT - WATER PRESSURE TEST
SPT - STANDARD PENETRATION TEST
% CORE/MATERIAL RECOVERY
CORE
MATERIAL
JOINT ROUGHNESS
R - ROUGH
S - SMOOTH
SL - SLICKENSIDED
TYPE OF SAMPLING
UNDISTURBED SAMPLING
DISTURBED SAMPLING
SAMPLE / CORE
JOINTING
J-1 LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
J-2 2 TO 5 JOINTS/M. - JOINTED
J-3 6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4 11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5 MORE THAN 20 JOINTS/M. - CRUSHED
LEGEND:
LITHOLOGY
NATIONAL POWER CORPORATION
TECHNICAL SERVICES DEPARTMENT
GEOLOGY & GEOTECHNICS SERVICES Division
BY
DATE
SUBMITTED:
RECOMMENDED:
APPROVED:
ROMEO M. PULANCO
Manager, Geology & Geotechnics
D I C
DRAFTED
CHECKED
REVIEWED
GEOLOGY
GEOPHYSICS
GEOTECHNICS
SHEET OF

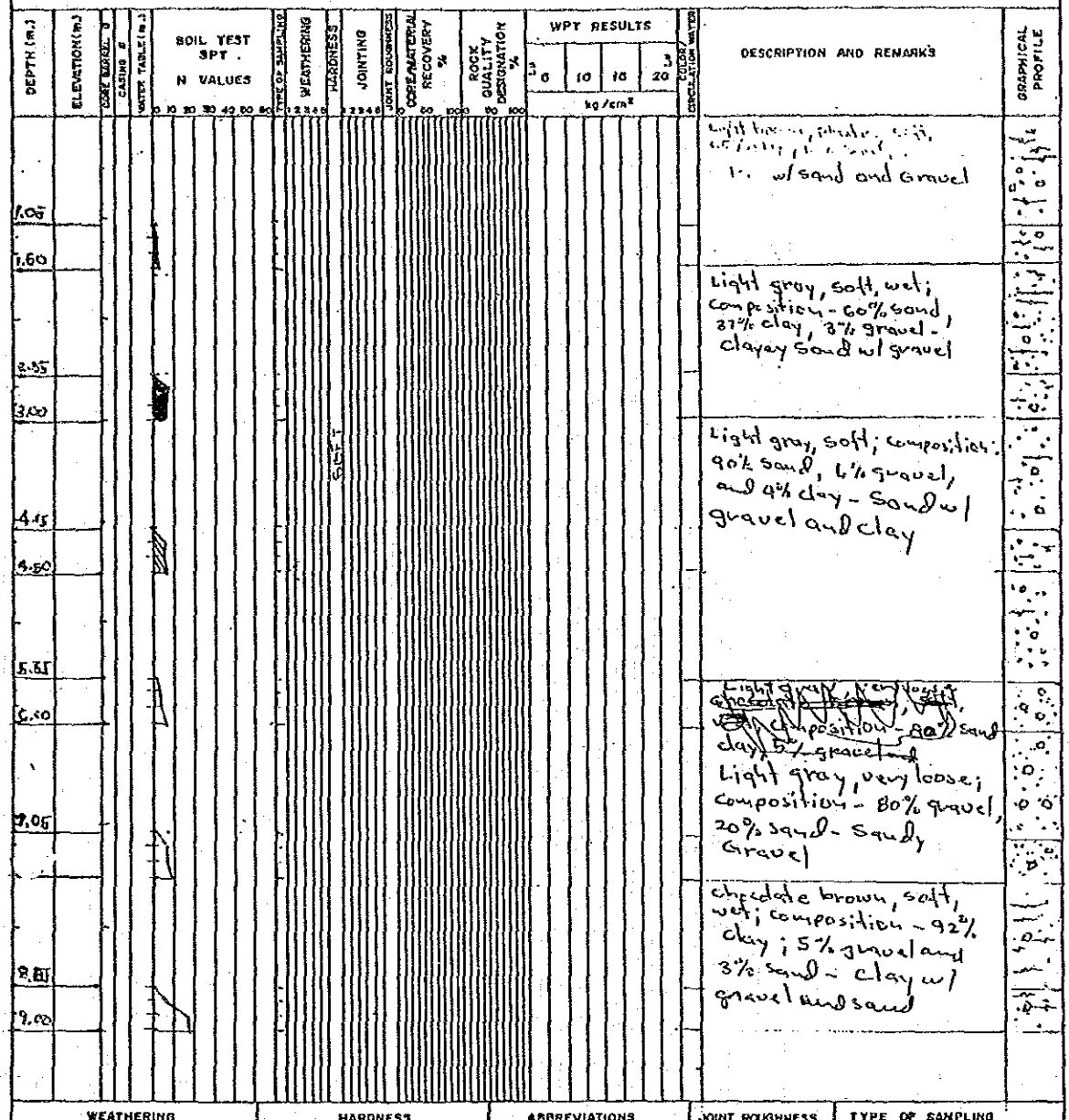
BOREHOLE NO. SPTH5 — N- _____ E- _____ TYPE OF DRILLING _____ CONTRACTOR _____

LOCATION _____ ELEV. (COLLAR) _____ (GROUND) _____

INCLINATION _____ DRILLING MACHINE _____

DIRECTION _____ STARTED ON _____

LOGGED BY JCT/MRP — TOTAL DEPTH _____ ENDED ON _____ SCALE :



WEATHERING	
W-1	FRESH
W-2	SLIGHTLY WEATHERED
W-3	MODERATELY WEATHERED
W-4	HIGHLY WEATHERED
W-5	COMPLETELY WEATHERED

HARDNESS	
H-1	SOFT (Easily broken by fingers)
H-2	SLIGHTLY HARD (Hardly squeezed by fingers)
H-3	MEDIUM HARD (Edges hardly broken by fingers)
H-4	HARD (Dead sound, easily broken by Hammer)
H-5	VERY HARD (Metallic sound hardly broken by Hammer)

ABBREVIATIONS	
Lu	LUGEON UNIT
WPT	WATER PRESSURE TEST
SPT	STANDARD PENETRATION TEST
%	CORE/MATERIAL RECOVERY
	CORE
	MATERIAL

JOINT ROUGHNESS	
R	ROUGH
S	SMOOTH
SL	SLICKENSIDED

TYPE OF SAMPLING	
	UNDISTURBED SAMPLING
	DISTURBED SAMPLING
	SAMPLE / CORE

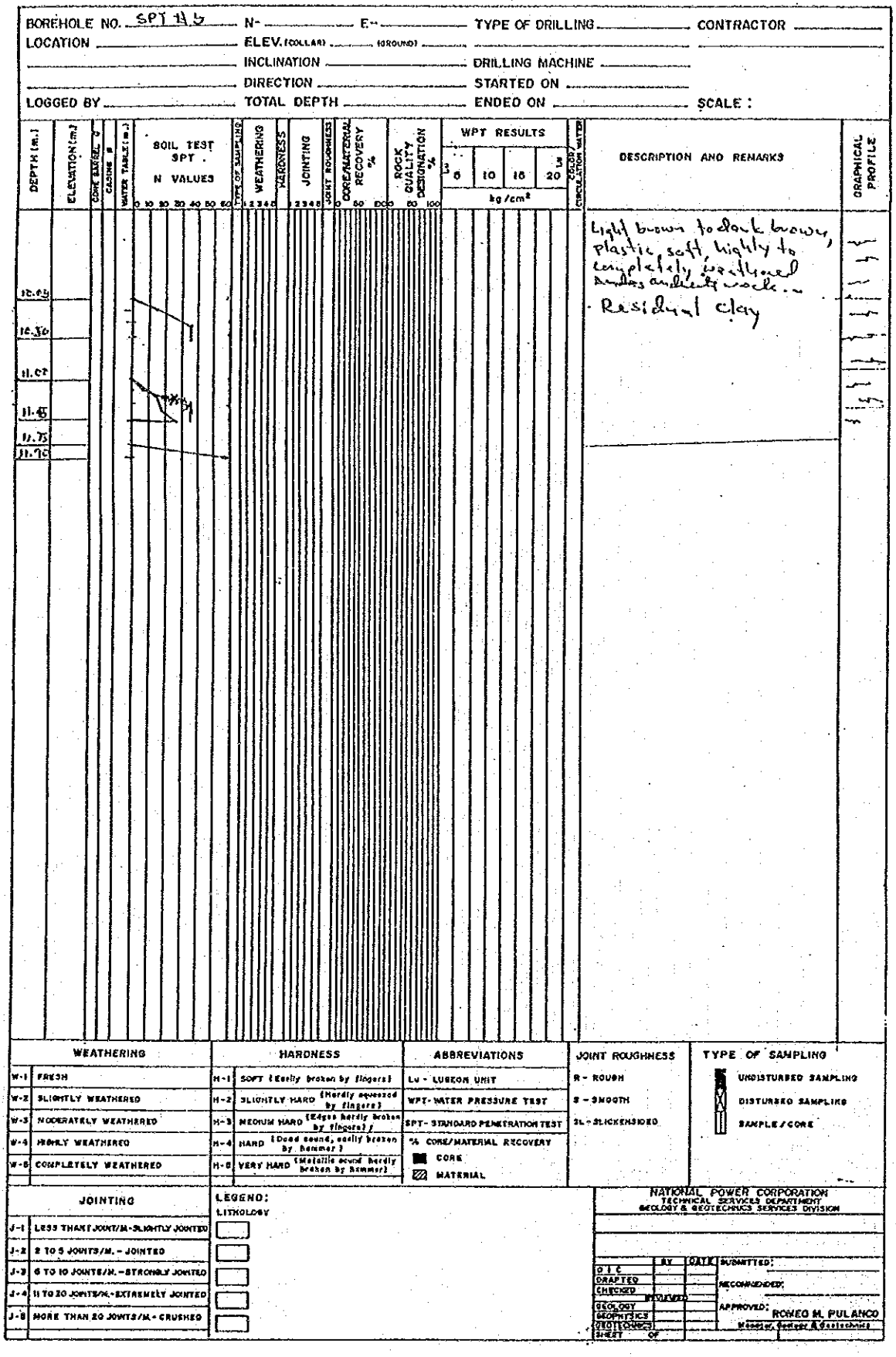
JOINTING	
J-1	LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
J-2	2 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 20 JOINTS/M. - CRUSHED

LEGEND:
LITHOLOGY

NATIONAL POWER CORPORATION
TECHNICAL SERVICES DEPARTMENT
GEOLOGY & GEOTECHNICS SERVICES DIVISION

	BY	DATE
D I C		
DRAFTED		
CHECKED		
REVIEWED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:
RECOMMENDED:
APPROVED: ROMEO M. PULANCO
Manager, Geology & Geotechnics


BOREHOLE NO. SPT #5
N-
E-
TYPE OF DRILLING
CONTRACTOR
LOCATION
ELEV. (COLLAR) (GROUND)
INCLINATION
DRILLING MACHINE
DIRECTION
STARTED ON
LOGGED BY
TOTAL DEPTH
ENDED ON
SCALE :
DEPTH (m.)
ELEVATION (m.)
CORE BARREL "
CASING #
WATER TABLE (m.)
SOIL TEST SPT . N VALUES
TYPE OF SAMPLING
WEATHERING
HARDNESS
JOINTING
JOINT ROUGHNESS
CORE/MATERIAL RECOVERY %
ROCK QUALITY DESIGNATION %
WPT RESULTS
kg/cm²
COLOR/CIRCULATION WATER
DESCRIPTION AND REMARKS
GRAPHICAL PROFILE
Light brown to dark brown, plastic, soft, highly to completely weathered andesitic ambient rock.
Residual clay
WEATHERING
W-1 FRESH
W-2 SLIGHTLY WEATHERED
W-3 MODERATELY WEATHERED
W-4 HIGHLY WEATHERED
W-5 COMPLETELY WEATHERED
HARDNESS
H-1 SOFT (Easily broken by fingers)
H-2 SLIGHTLY HARD (Hardly squeezed by fingers)
H-3 MEDIUM HARD (Edges hardly broken by fingers)
H-4 HARD (Dead sound, easily broken by hammer)
H-5 VERY HARD (Metallic sound hardly broken by hammer)
ABBREVIATIONS
Lu - LUSEON UNIT
WPT- WATER PRESSURE TEST
SPT- STANDARD PENETRATION TEST
% CORE/MATERIAL RECOVERY
CORE
MATERIAL
JOINT ROUGHNESS
R - ROUGH
S - SMOOTH
SL - SLICKENSIDED
TYPE OF SAMPLING
UNDISTURBED SAMPLING
DISTURBED SAMPLING
SAMPLE / CORE
JOINTING
J-1 LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
J-2 1 TO 5 JOINTS/M. - JOINTED
J-3 6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4 11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5 MORE THAN 20 JOINTS/M. - CRUSHED
LEGEND:
LITHOLOGY
NATIONAL POWER CORPORATION
TECHNICAL SERVICES DEPARTMENT
GEOLOGY & GEOTECHNICS SERVICES DIVISION
BY
DATE
SUBMITTED:
RECOMMENDED:
APPROVED:
ROMEO M. PULANCO
Manager, Geology & Geotechnics

BOREHOLE NO. SPT#6 N- E- TYPE OF DRILLING CONTRACTOR

LOCATION ELEV. (COLLAR) 354 (GROUND)

INCLINATION -7° DRILLING MACHINE

DIRECTION STARTED ON

LOGGED BY TOTAL DEPTH ENDED ON SCALE :

DEPTH (m.)	ELEVATION (m.)	CORE BARREL Ø	CASING Ø	WATER TABLE (m.)	SOIL TEST SPT N VALUES 0 10 20 30 40 50 60	TYPE OF SAMPLING	WEATHERING 1 2 3 4 5	HARDNESS 1 2 3 4 5	JOINTING 1 2 3 4 5	JOINT ROUGHNESS R S SL	CORE/MATERIAL RECOVERY % 0 20 50 80 100	ROCK QUALITY DESIGNATION % 0 50 100	WPT RESULTS Lu 5 10 15 20 kg/cm²	COLOR CIRCULATION WATER	DESCRIPTION AND REMARKS	GRAPHICAL PROFILE
1.05															Light brown, soft, plastic contain sand and gravel - Telus - (Clay w/ sand and gravel)	
1.50																
2.55															chocolate Brown, soft, plastic, contain sand and silt, clay w/ sand and silt	
3.00																
4.05															Light gray to brownish gray to chocolate, soft, plastic, contain sand and gravel	
4.35																
5.55															Chocolate Brown, soft Plastic, contain gravel and sand - Recidual Soil	
6.00																
7.05															Dark gray, soft, with contain sand - Mud w/ sand	
7.50																
8.55															Light gray to chocolate brown, soft, highly, weathered - Residual clay	
9.00																

WEATHERING	
W-1	FRESH
W-2	SLIGHTLY WEATHERED
W-3	MODERATELY WEATHERED
W-4	HIGHLY WEATHERED
W-5	COMPLETELY WEATHERED

HARDNESS	
H-1	SOFT (Easily broken by fingers)
H-2	SLIGHTLY HARD (Hardly squeezed by fingers)
H-3	MEDIUM HARD (Edges hardly broken by fingers)
H-4	HARD (Dead sound, hardly broken by hammer)
H-5	VERY HARD (Metallic sound hardly broken by hammer)

ABBREVIATIONS	
Lu	LUGEON UNIT
WPT	WATER PRESSURE TEST
SPT	STANDARD PENETRATION TEST
%	CORE/MATERIAL RECOVERY
	CORE
	MATERIAL

JOINT ROUGHNESS	
R	ROUGH
S	SMOOTH
SL	SLICKENSIDED

TYPE OF SAMPLING	
	UNDISTURBED SAMPLING
	DISTURBED SAMPLING
	SAMPLE / CORE

JOINTING	
J-1	LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
J-2	2 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 30 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 30 JOINTS/M. - CRUSHED

LEGEND:
LITHOLOGY

NATIONAL POWER CORPORATION
TECHNICAL SERVICES DEPARTMENT
GEOLOGY & GEOTECHNICS SERVICES DIVISION

	BY	DATE
DRAFTED		
CHECKED		
SURVEYED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:
RECOMMENDED:
APPROVED: ROMEO M. PULANCO
Manager, Geology & Geotechnics

BOREHOLE NO. CPH-107 N- E- TYPE OF DRILLING CONTRACTOR

LOCATION Powerhouse ELEV. (COLLAR) 2.54 (GROUND)

INCLINATION V DRILLING MACHINE

DIRECTION STARTED ON

LOGGED BY TOTAL DEPTH 60 M. ENDED ON SCALE :

DEPTH (m.)	ELEVATION (m.)	CORE BARREL Ø	CASING Ø	WATER TABLE (m.)	SOIL TEST SPT. N VALUES (0 10 20 30 40 50 60)	TYPE OF SAMPLING	WEATHERING (1 2 3 4 5)	HARDNESS (1 2 3 4 5)	JOINTING (1 2 3 4 5)	JOINT ROUGHNESS	CORE/MATERIAL RECOVERY % (0 60 100)	ROCK QUALITY DESIGNATION % (0 80 100)	WPT RESULTS Lu (0 10 16 20) kg/cm²	COLOR OF CIRCULATION WATER	DESCRIPTION AND REMARKS	GRAPHICAL PROFILE
9.44															Light gray, moderately weathered, hard - Andesite.	

WEATHERING	
W-1	FRESH
W-2	SLIGHTLY WEATHERED
W-3	MODERATELY WEATHERED
W-4	HIGHLY WEATHERED
W-5	COMPLETELY WEATHERED

HARDNESS	
H-1	SOFT (Easily broken by fingers)
H-2	SLIGHTLY HARD (Hardly squeezed by fingers)
H-3	MEDIUM HARD (Edges hardly broken by fingers)
H-4	HARD (Dead sound, easily broken by hammer)
H-5	VERY HARD (Metallic sound hardly broken by hammer)

ABBREVIATIONS	
Lu	LUGEON UNIT
WPT	WATER PRESSURE TEST
SPT	STANDARD PENETRATION TEST
%	CORE/MATERIAL RECOVERY
	CORE
	MATERIAL

JOINT ROUGHNESS	
R	ROUGH
S	SMOOTH
SL	SLICKENSIDED

TYPE OF SAMPLING

- UNDISTURBED SAMPLING
- DISTURBED SAMPLING
- SAMPLE / CORE

JOINTING	
J-1	LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
J-2	2 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 20 JOINTS/M. - CRUSHED

LEGEND:
LITHOLOGY

NATIONAL POWER CORPORATION
TECHNICAL SERVICES DEPARTMENT
GEOLOGY & GEOTECHNICS SERVICES DIVISION

	BY	DATE
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CHECKED		
REVIEWED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:

RECOMMENDED:

APPROVED: ROMEO M. PULANCO
Manager, Geology & Geotechnics

BOREHOLE NO. SPi-7 N- E- TYPE OF DRILLING CONTRACTOR

LOCATION ELEV. (COLLAR) (GROUND)

INCLINATION DRILLING MACHINE

DIRECTION STARTED ON

LOGGED BY TOTAL DEPTH ENDED ON SCALE :

DEPTH (m.)	ELEVATION (m.)	CORE BARREL: Ø / CASING #	WATER TABLE (m.)	SOIL TEST SPT. N VALUES (0 10 20 30 40 50 60)	TYPE OF SAMPLING	WEATHERING (1 2 3 4 Ø)	HARDNESS	JOINTING (1 2 3 4 5 6)	JOINT ROUGHNESS	CORE/MATERIAL RECOVERY % (0 60 100)	ROCK QUALITY DESIGNATION % (0 60 100)	WPT RESULTS Lu 5 10 15 20 Lu kg/cm²	CHEMICAL ANALYSIS / WATER	DESCRIPTION AND REMARKS	GRAPHICAL LOG
1.05														Light gray to brown, hard, composition: 60% gravel, 35% sand, 5% clay – Sandy Gravel w/ clay (Filling Material)	
1.50														Light gray to light brown, soft, plastic, composition 60% clay, 40% sand – Sandy Clay	
2.55															
3.00														Dark brown to light brown, soft to very soft, plastic, composition 60% clay, 35% sand, 5% gravel – Sandy clay with gravel	
4.05															
4.50														Light gray to light brown, very soft, plastic, composition: 70% clay, 25% sand, 5% gravel – Sandy clay w/ gravel	
5.55															
6.00														Light brown, very soft, highly plastic, composition – 70% clay, 30% sand. Sandy clay	
7.05															
7.														Light gray, soft, plastic, composition: 65% clay, 30% sand, 5% gravel Sandy clay w/ gravel	
8.35															
9.00															

WEATHERING

W-1	FRESH
W-2	SLIGHTLY WEATHERED
W-3	MODERATELY WEATHERED
W-4	HIGHLY WEATHERED
W-5	COMPLETELY WEATHERED

HARDNESS

H-1	SOFT (Easily broken by fingers)
H-2	SLIGHTLY HARD (Hardly squeezed by fingers)
H-3	MEDIUM HARD (Edges hardly broken by fingers)
H-4	HARD (Dead sound, easily broken by hammer)
H-5	VERY HARD (Metallic sound hardly broken by hammer)

ABBREVIATIONS

Lu - LUGEON UNIT
WPT- WATER PRESSURE TEST
SPT- STANDARD PENETRATION TEST
% CORE/MATERIAL RECOVERY
CORE
MATERIAL

R - ROUGH
S - SMOOTH
SL - SLICKENSIDED

UNDISTURBED SAMPLING
DISTURBED SAMPLING
SAMPLE / CORE

JOINTING

J-1	LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
J-2	2 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 20 JOINTS/M. - CRUSHED

LEGEND:
LITHOLOGY

NATIONAL POWER CORPORATION
TECHNICAL SERVICES DEPARTMENT
GEOLOGY & GEOTECHNICS SERVICES DIVISION

	BY	DATE
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DRAFTED		
CHECKED		
REVIEWED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:
RECOMMENDED:
APPROVED: ROMEO M. PULANCO
Manager, Geology & Geotechnics

BOREHOLE NO. SPT-7   N-   E-   TYPE OF DRILLING   CONTRACTOR

LOCATION Power House   ELEV. (COLLAR) 2.14 (GROUND)   INCLINATION V   DRILLING MACHINE

DIRECTION   STARTED ON

LOGGED BY   TOTAL DEPTH 50 m.   ENDED ON   SCALE :

DEPTH (m.)	ELEVATION (m.)	CORE BARREL ø	CASING ø	WATER TABLE (m.)	SOIL TEST SPT. N VALUES (0 10 20 30 40 50 60)	TYPE OF SAMPLING	WEATHERING (1 2 3 4 5)	HARDNESS	JOINTING (1 2 3 4 5)	JOINT ROUGHNESS	CORE/MATERIAL RECOVERY % (0 50 100)	ROCK QUALITY DESIGNATION % (50 75 100)	WPT RESULTS (3 6 10 16 20 kg/cm²)	COLOR/CIRCULATION WATER	DESCRIPTION AND REMARKS	GRAPHICAL PROFILE
10.05															Light brown, soft, plastic, composition: 60% clay, 30% sand, 10% gravel — Sandy clay w/ gravel	
10.50															10.50 - 11.55 Light brown, soft plastic composition 60% clay, 38% sand, 2% gravel, sandy w/ gravel	
11.55															Light brown, soft plastic composition: 60% clay, 30% Sand, 10% gravel, Sandy clay w/ gravel	
11.80																
13.15																
13.50																
12.63																

WEATHERING	
W-1	FRESH
W-2	SLIGHTLY WEATHERED
W-3	MODERATELY WEATHERED
W-4	HIGHLY WEATHERED
W-5	COMPLETELY WEATHERED

HARDNESS		
H-1	SOFT	(Easily broken by fingers)
H-2	SLIGHTLY HARD	(Hardly squeezed by fingers)
H-3	MEDIUM HARD	(Edges barely broken by fingers)
H-4	HARD	(Dead sound, easily broken by hammer)
H-5	VERY HARD	(Metallic sound hardly broken by hammer)

ABBREVIATIONS	
Lu	LUZON UNIT
WPT	WATER PRESSURE TEST
SPT	STANDARD PENETRATION TEST
%	CORE/MATERIAL RECOVERY
	CORE
	MATERIAL

JOINT ROUGHNESS	
R	ROUGH
S	SMOOTH
SL	SLICKENSIDED

TYPE OF SAMPLING

- UNDISTURBED SAMPLING
- DISTURBED SAMPLING
- SAMPLE / CORE

JOINTING	
J-1	LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
J-2	2 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 20 JOINTS/M. - CRUSHED

LEGEND:
LITHOLOGY

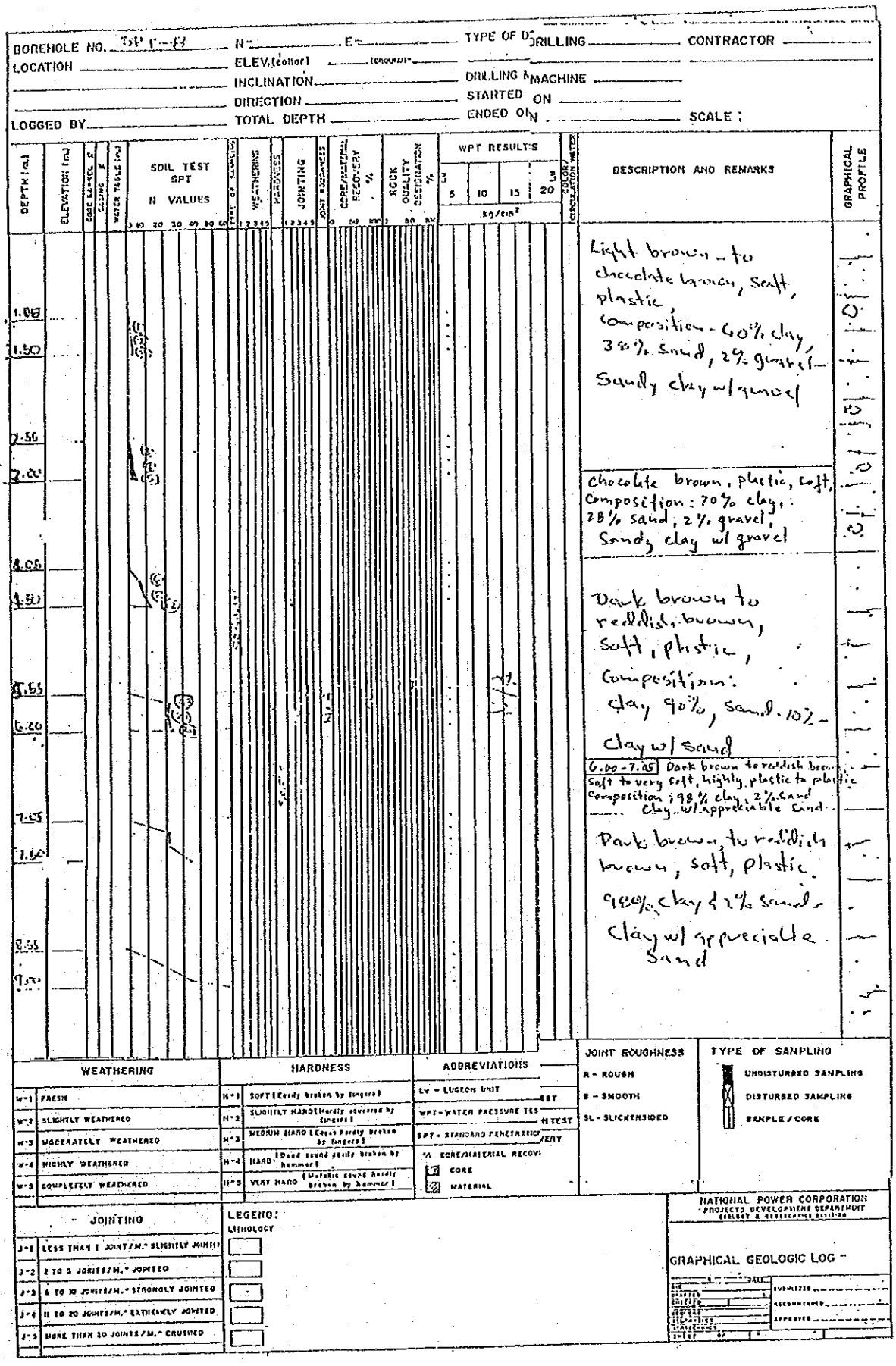
NATIONAL POWER CORPORATION
TECHNICAL SERVICES DEPARTMENT
GEOLOGY & GEOTECHNICS SERVICES DIVISION

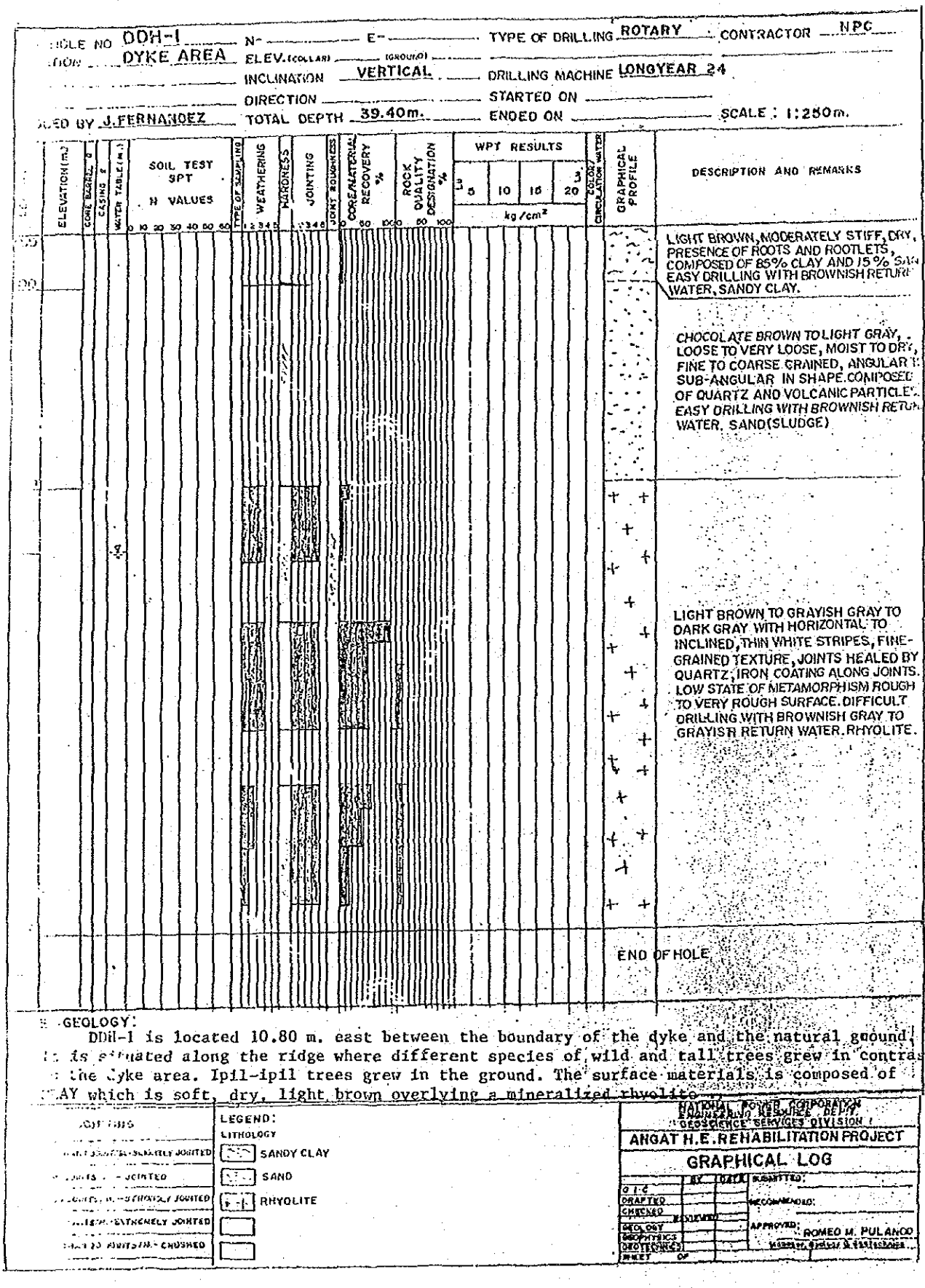
	BY	DATE
DRAFTED		
CHECKED		
REVIEWED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:

RECOMMENDED:

APPROVED: ROMEO M. PULANCO
Manager, Geology & Geotechnics


BOREHOLE NO. SPT-83
N=
E=
TYPE OF DRILLING
CONTRACTOR
LOCATION
ELEV.(collar)
INCLINATION
DRILLING MACHINE
DIRECTION
STARTED ON
LOGGED BY
TOTAL DEPTH
ENDED ON
SCALE :
DEPTH (m)
ELEVATION (m)
SOIL TEST SPT N VALUES
WEATHERING
HARDNESS
JOINTING
CORE/MATERIAL RECOVERY %
ROCK QUALITY DESIGNATION %
WPT RESULTS
DESCRIPTION AND REMARKS
GRAPHICAL PROFILE
1.00
1.50
2.50
3.00
4.00
4.50
5.50
6.20
7.45
7.60
8.50
9.00
Light brown to chocolate brown, soft, plastic, composition - 60% clay, 38% sand, 2% gravel - Sandy clay w/ gravel
Chocolate brown, plastic, soft, composition: 70% clay, 28% sand, 2% gravel, Sandy clay w/ gravel
Dark brown to reddish brown, soft, plastic, Composition: clay 90%, sand 10% - clay w/ sand
6.00 - 7.45 Dark brown to reddish brown soft to very soft, highly plastic to plastic composition; 98% clay, 2% sand ... clay w/ appreciable sand
Dark brown to reddish brown, soft, plastic. 98% clay & 2% sand - clay w/ appreciable sand
WEATHERING
W-1 FRESH
W-2 SLIGHTLY WEATHERED
W-3 MODERATELY WEATHERED
W-4 HIGHLY WEATHERED
W-5 COMPLETELY WEATHERED
HARDNESS
H-1 SOFT
H-2 SLIGHTLY HARD
H-3 MEDIUM HARD
H-4 HARD
H-5 VERY HARD
ABBREVIATIONS
Lv - LUGEON UNIT
WPT - WATER PRESSURE TEST
SPT - STANDARD PENETRATION TEST
% CORE/MATERIAL RECOVERY
CORE
MATERIAL
JOINT ROUGHNESS
R - ROUGH
S - SMOOTH
SL - SLICKENSIDED
TYPE OF SAMPLING
UNDISTURBED SAMPLING
DISTURBED SAMPLING
SAMPLE / CORE
JOINTING
J-1 LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
J-2 2 TO 5 JOINTS/M. - JOINTED
J-3 6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4 11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5 MORE THAN 20 JOINTS/M. - CRUSHED
LEGEND:
LITHOLOGY
NATIONAL POWER CORPORATION
PROJECTS DEVELOPMENT DEPARTMENT
GEOLOGY & GEOTECHNICS DIVISION
GRAPHICAL GEOLOGIC LOG



GEOLOGY:

DDH-1 is located 10.80 m. east between the boundary of the dyke and the natural ground, it is situated along the ridge where different species of wild and tall trees grew in contrast to the dyke area. Ipil-ipil trees grew in the ground. The surface materials is composed of CLAY which is soft, dry, light brown overlying a mineralized rhyolite.

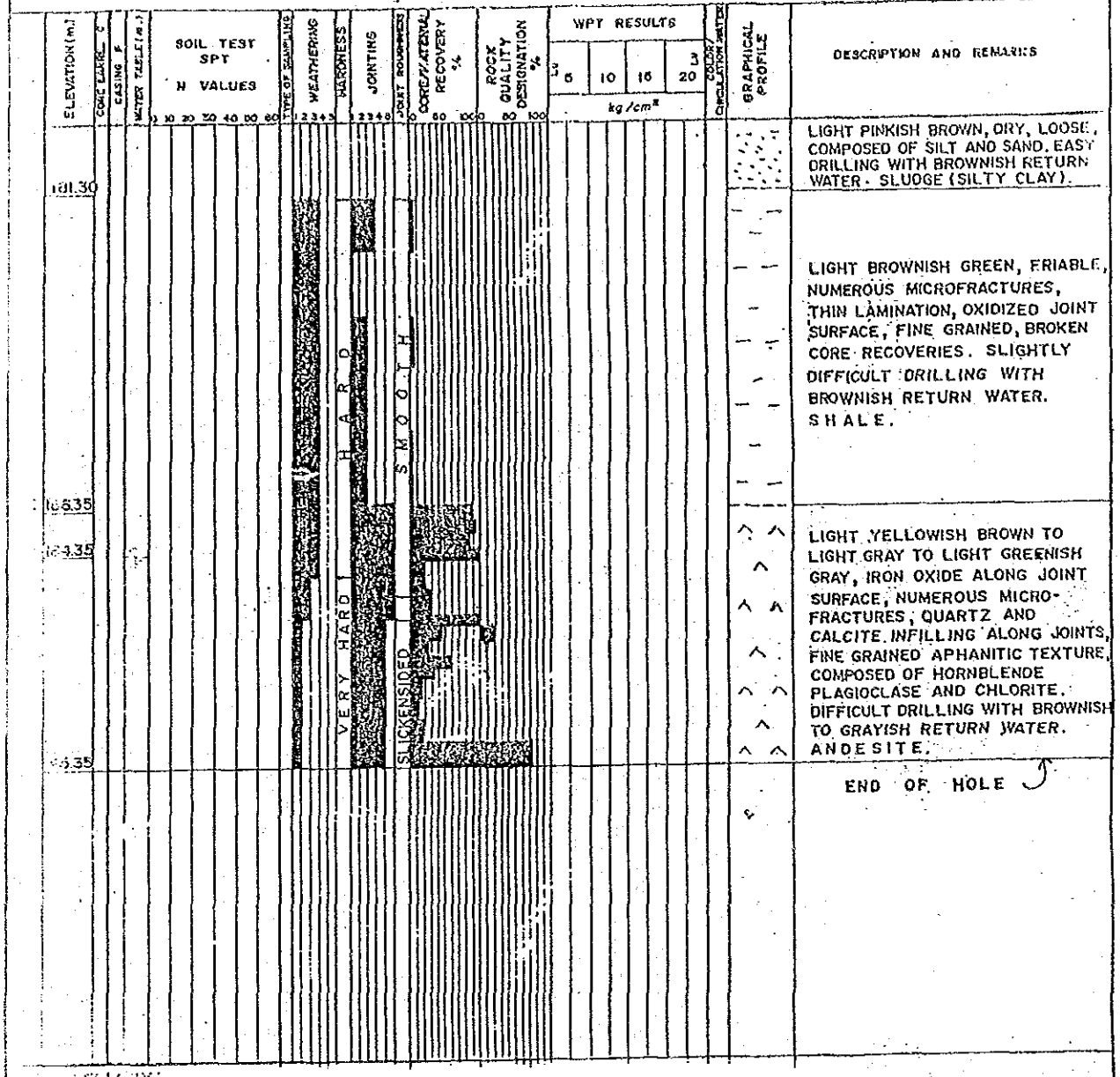
DRILL HOLE NO. DDH 2 N- ____ E- ____ TYPE OF DRILLING ROT CONTRACTOR NPC

LOCATION DYKE AREA E. ELEV. (COLLAR) 184.35 (GROUND) ____

INCLINATION VERTICAL DRILLING MACHINE ____

DIRECTION ____ STARTED ON APR. 24, 1988

LOGGED BY ____ TOTAL DEPTH 30.00 M. ENDED ON MAY 23, 1988 SCALE : 1 : 250



JOINTING	LEGEND: LITHOLOGY
LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED	- SLUDGE
1 - 3 JOINTS/M. - JOINTED	- SHALE
3 - 10 JOINTS/M. - STRONGLY JOINTED	- ANDESITE
10 - 20 JOINTS/M. - EXTREMELY JOINTED	
MORE THAN 20 JOINTS/M. - CRUSHED	

NATIONAL POWER CORPORATION
ENGINEERING RESOURCE DEPT.
GEOSCIENCE SERVICES DIVISION

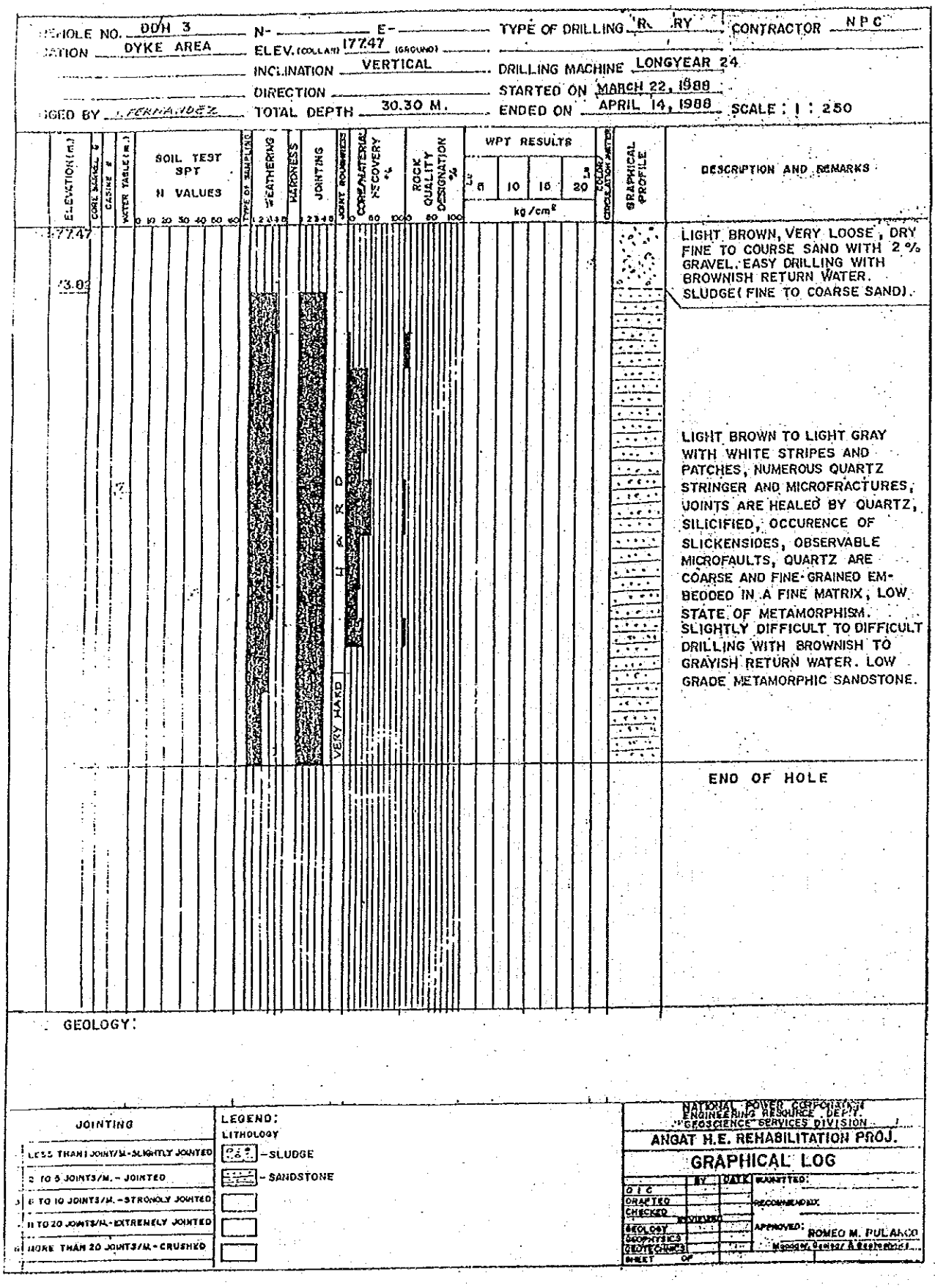
ANGAT H.E. REHABILITATION PROJ.

GRAPHICAL LOG

	BY	DATE
O I C		
DRAFTED		
CHECKED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		

SUBMITTED:
RECOMMENDED:
APPROVED: ROMEO M. PULANCO
Manager, Geology & Geophysics

SHEET ____ OF ____


BOREHOLE NO. DDH 3
LOCATION DYKE AREA
LOGGED BY J. FERNANDEZ
N- E-
ELEV. (COLLAR) 177.47 (GROUND)
INCLINATION VERTICAL
DIRECTION
TOTAL DEPTH 30.30 M.
TYPE OF DRILLING R. RY
CONTRACTOR NPC
DRILLING MACHINE LONGYEAR 24
STARTED ON MARCH 22, 1988
ENDED ON APRIL 14, 1988
SCALE : 1 : 250
ELEVATION (m.)
CORE BARREL #
CASING #
WATER TABLE (m.)
SOIL TEST SPT N VALUES
TYPE OF SAMPLING
WEATHERING
HARDNESS
JOINTING
JOINT ROUGHNESS
CORE MATERIAL RECOVERY %
ROCK QUALITY DESIGNATION %
WPT RESULTS
COLOR / CIRCULATION WATER
GRAPHICAL PROFILE
DESCRIPTION AND REMARKS
177.47
173.03
LIGHT BROWN, VERY LOOSE, DRY FINE TO COURSE SAND WITH 2% GRAVEL. EASY DRILLING WITH BROWNISH RETURN WATER. SLUDGE(FINE TO COARSE SAND).
LIGHT BROWN TO LIGHT GRAY WITH WHITE STRIPES AND PATCHES, NUMEROUS QUARTZ STRINGER AND MICROFRACTURES, JOINTS ARE HEALED BY QUARTZ, SILICIFIED, OCCURENCE OF SLICKENSIDES, OBSERVABLE MICROFAULTS, QUARTZ ARE COARSE AND FINE-GRAINED EMBEDDED IN A FINE MATRIX, LOW STATE OF METAMORPHISM. SLIGHTLY DIFFICULT TO DIFFICULT DRILLING WITH BROWNISH TO GRAYISH RETURN WATER. LOW GRADE METAMORPHIC SANDSTONE.
HARD
VERY HARD
END OF HOLE
GEOLOGY:
JOINTING
LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
2 TO 5 JOINTS/M. - JOINTED
6 TO 10 JOINTS/M. - STRONGLY JOINTED
11 TO 20 JOINTS/M. - EXTREMELY JOINTED
MORE THAN 20 JOINTS/M. - CRUSHED
LEGEND:
LITHOLOGY
- SLUDGE
- SANDSTONE
NATIONAL POWER CORPORATION
ENGINEERING RESOURCE DEPT.
"GEOSCIENCE" SERVICES DIVISION
ANGAT H.E. REHABILITATION PROJ.
GRAPHICAL LOG
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DRAFTED
CHECKED
REVIEWED
GEOLOGY
GEOPHYSICS
GEOTECHNICS
SHEET OF
BY
DATE
SUBMITTED:
RECOMMENDED:
APPROVED:
ROMEO M. PULARCO
Manager, Geosci. & Geotechnics

BOREHOLE NO. DDH 4 N- E- TYPE OF DRILLING ROTARY CONTRACTOR NPC

LOCATION DYKE AREA EL.EV. (COLLAR) 149.07M (DRILLING)

INCLINATION VERTICAL DRILLING MACHINE LONGYEAR 24

DIRECTION STARTED ON MAY 29, 1988

LOGGED BY TOTAL DEPTH 30.00 M. ENDED ON JUNE 26, 1988 SCALE : 1 : 250

DEPTH (m.)	ELEVATION (m.)	CORE BARREL Ø	CASING Ø	WATER TABLE (m.)	SOIL TEST SPT N VALUES (0 10 20 30 40 50 60)	TYPE OF SAMPLING	WEATHERING (1 2 3 4 0)	HARDNESS	JOINTING (1 2 3 4 0)	JOINT ROUGHNESS	CORE/MATERIAL RECOVERY % (0 50 100)	ROCK QUALITY DESIGNATION % (0 50 100)	WPT RESULTS (5 10 15 20 kg/cm²)	COLOR / CIRCULATION WATER	GRAPHICAL PROFILE	DESCRIPTION AND REMARKS
50	147.57															LIGHT CHOCOLATE BROWN, WET, PLASTIC, COMPOSED OF CLAY AND FRAGMENTS OF WEATHERED BOULDERS WITH MINOR AMOUNT OF SAND AND SILT. EASY DRILLING WITH BROWNISH RETURN WATER. RESIDUAL BOULDERY CLAY WITH SAND AND SILT.
								SLIGHTLY HARD	SMOOTH SLICKENSIDED							LIGHT BROWNISH GREEN TO LIGHT GRAY TO GRAYISH GREEN WITH WHITE STRIPES AND PATCHES, MINERALIZED, CHLORITIZED, JOINTS ARE FILLED WITH QUARTZ, FINE GRAINED, IN LOW STATE OF METAMORPHISM. EASY TO SLIGHTLY DIFFICULT DRILLING WITH BROWNISH TO GRAYISH RETURN WATER. SLIGHTLY METAMORPHOSED ANDESITE (METAVOLCANICS?)
30.00	119.07															END OF HOLE

SITE GEOLOGY:

JOINTING	
J-1	LESS THAN 1 JOINT/M - SLIGHTLY JOINTED
J-2	2 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 20 JOINTS/M. - CRUSHED

LEGEND:

LITHOLOGY

- RESIDUAL BOULDERY CLAY
- METAMORPHOSED ANDESITE

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ENGINEERING & RESOURCE DEPT.
GEOSCIENCE SERVICES DIVISION

ANGAT DAM REHABILITATION PROJECT

GRAPHICAL LOG

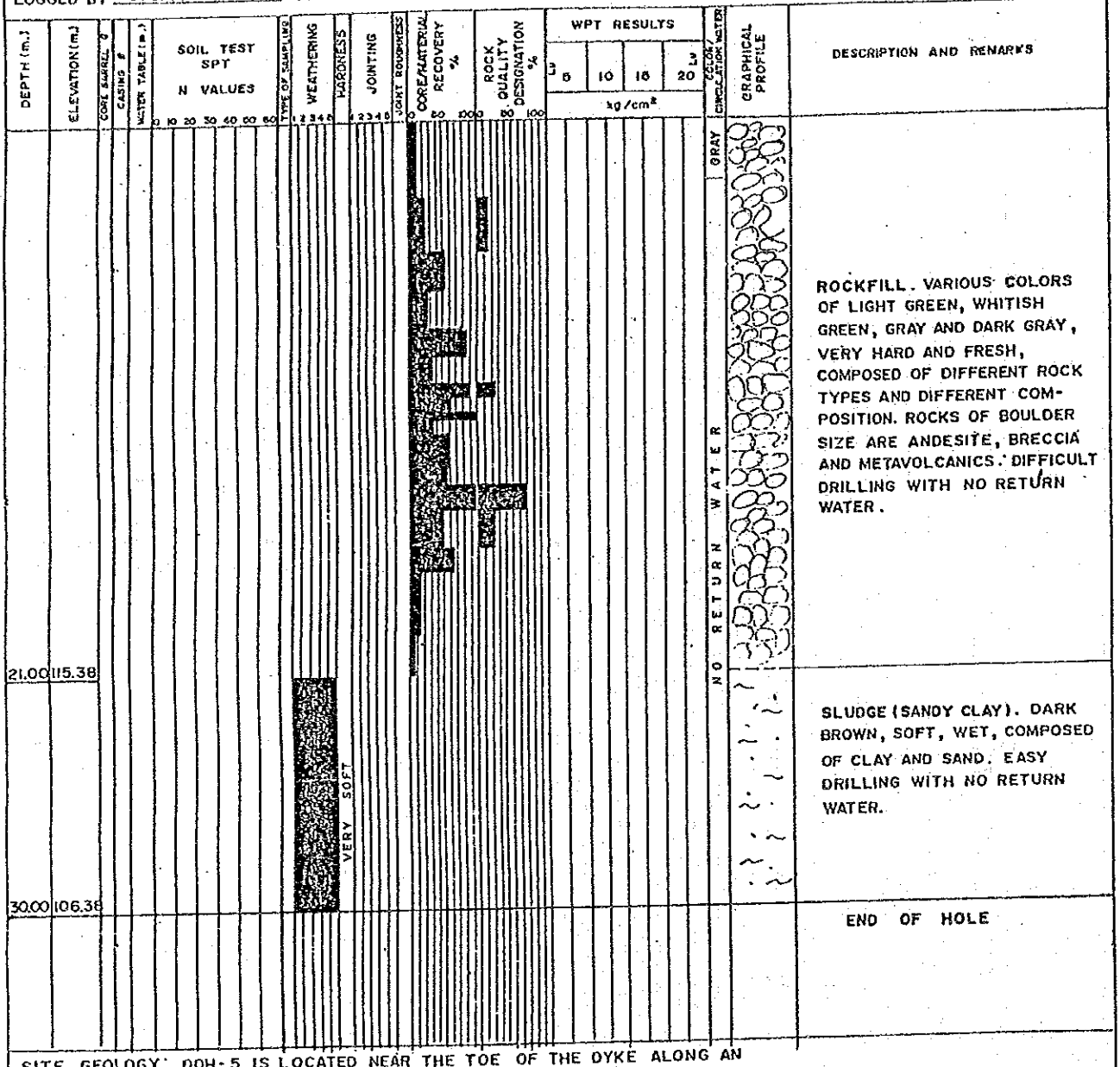
	BY	DATE SUBMITTED:
O I C		
DRAFTED		RECOMMENDED:
CHECKED		
REVIEWED		
GEOLOGY		APPROVED: ROMEO M. FLANCO
GEOPHYSICS		Manager, Geosci. & Res. Div.
GEOTECHNICS		
SHEET OF		

BOREHOLE NO. DDH-5 | N- | E- | TYPE OF DRILLING ROTARY | CONTRACTOR NPC

LOCATION DYKE AREA | ELEV. (COLLAR) 136.38 (GROUND) | INCLINATION VERTICAL | DRILLING MACHINE LONGYEAR 24

DIRECTION | STARTED ON

LOGGED BY J.C.F. | TOTAL DEPTH 30.00 M. | ENDED ON | SCALE : 1 : 200



ROCKFILL. VARIOUS COLORS OF LIGHT GREEN, WHITISH GREEN, GRAY AND DARK GRAY, VERY HARD AND FRESH, COMPOSED OF DIFFERENT ROCK TYPES AND DIFFERENT COMPOSITION. ROCKS OF BOULDER SIZE ARE ANDESITE, BRECCIA AND METAVOLCANICS. DIFFICULT DRILLING WITH NO RETURN WATER.

SLUDGE (SANDY CLAY). DARK BROWN, SOFT, WET, COMPOSED OF CLAY AND SAND. EASY DRILLING WITH NO RETURN WATER.

END OF HOLE

SITE GEOLOGY: DDH-5 IS LOCATED NEAR THE TOE OF THE DYKE ALONG AN ABANDONED ROAD AT ELEVATION 136.38. MATERIALS ARE ROCKFILL OF BOULDER SIZE.

JOINTING	
J-1	LESS THAN 1 JOINT/M - SLIGHTLY JOINTED
J-2	2 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 20 JOINTS/M - CRUSHED

LEGEND:
LITHOLOGY
ROCKFILL
SANDY CLAY

NATIONAL POWER CORPORATION
ENGINEERING RESOURCE DEPT.
GEOLOGY & GEOTECHNICS SERVICES DIVISION

ANGAT H.E. REHABILITATION PROJ.

GRAPHICAL LOG

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REVIEWED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:
RECOMMENDED:
APPROVED: ROMEO M. PULANCO
Manager, Geology & Geotechnics

BOREHOLE NO. DDH-6 — N- — E- — TYPE OF DRILLING ROTARY — CONTRACTOR NPC

LOCATION DYKE AREA — ELEV. (COLLAR) 134.68m (GROUND) —

INCLINATION VERTICAL — DRILLING MACHINE LONGYEAR 24

DIRECTION — STARTED ON AUG. 9, 1988

LOGGED BY JCF — TOTAL DEPTH 30.00m. — ENDED ON SEPT. 9, 1988 — SCALE : 1: 200m.

DEPTH (m.)	ELEVATION (m.)	CORE BARREL Ø	CASING #	WATER TABLE (m.)	SOIL TEST SPT N VALUES (0 10 20 30 40 50 60)	TYPE OF SAMPLING	WEATHERING (1 2 3 4 5)	HARDNESS	JOINTING (1 2 3 4 5)	JOINT ROUGHNESS	CORE MATERIAL RECOVERY % (0 20 40 60 80 100)	ROCK QUALITY DESIGNATION - % (0 20 40 60 80 100)	WPT RESULTS kg/cm² (5 10 15 20)	LOSS OF CIRCULATION WATER	GRAPHICAL PROFILE	DESCRIPTION AND REMARKS
0.00	134.68							VERY HARD								ROCKFILL MATERIALS, VIOLET GRAY TO GRAY GREENISH GRAY TO LIGHT GRAY, VERY HARD, FRE COMPOSED OF DIFFERENT ROCK TYPES METAVOLCANICS, BRECCIA AND PORPHYRITIC ANDESITE. DIFFICULT DRILLING WITH NO RETURN WATER.
15.80	115.88															
18.60	115.23							HARD		ROUGH						LOW GRADE METAMORPHOSED SANDSTONE WITH INTERCALATION OF METAMORPHOSED SILTSTONE AND SLATE LIGHT TO DARK GRAY WITH JOINTS AND MICROCAVITIES ARE FILLED WITH QUARTZ; MEDIU TO FINE-GRAINED. SLIGHTLY METAMORPHOSED CHLORITIZED. DIFFICULT DRILLING WITH NO RETU WATER
30.00	104.68															END OF HOLE

SITE GEOLOGY:

LOCATED AT THE TOE OF THE DYKE ALONG THE ABANDONED ROAD. ROCK FILL MATERIALS OF VARIOUS COMPOSITION AND THICKNESS OF MORE THAN 5 METERS OR WITH LOW GRADE METAMORPHOSED SANDSTONE WITH INTERCALATION OF METAMORPHOSED SILTSTONE AND SLATE

JOINTING	
J-1	LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
J-2	1 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 20 JOINTS/M. - CRUSHED

LEGEND:

LITHOLOGY

ROCKFILL MATERIALS

METAMORPHOSED SANDSTONE

NATIONAL POWER CORPORATION
ENGINEERING RESOURCE DEPT.
GEOLOGY & GEOTECHNICS SERVICES DIVISION

ANGAT REHABILITATION PROJECT

GRAPHICAL LOG-DDH-6

	BY	DATE
DRAWN		
CHECKED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		

SUBMITTED:

RECOMMENDED:

APPROVED: ROMEO M. [illegible]

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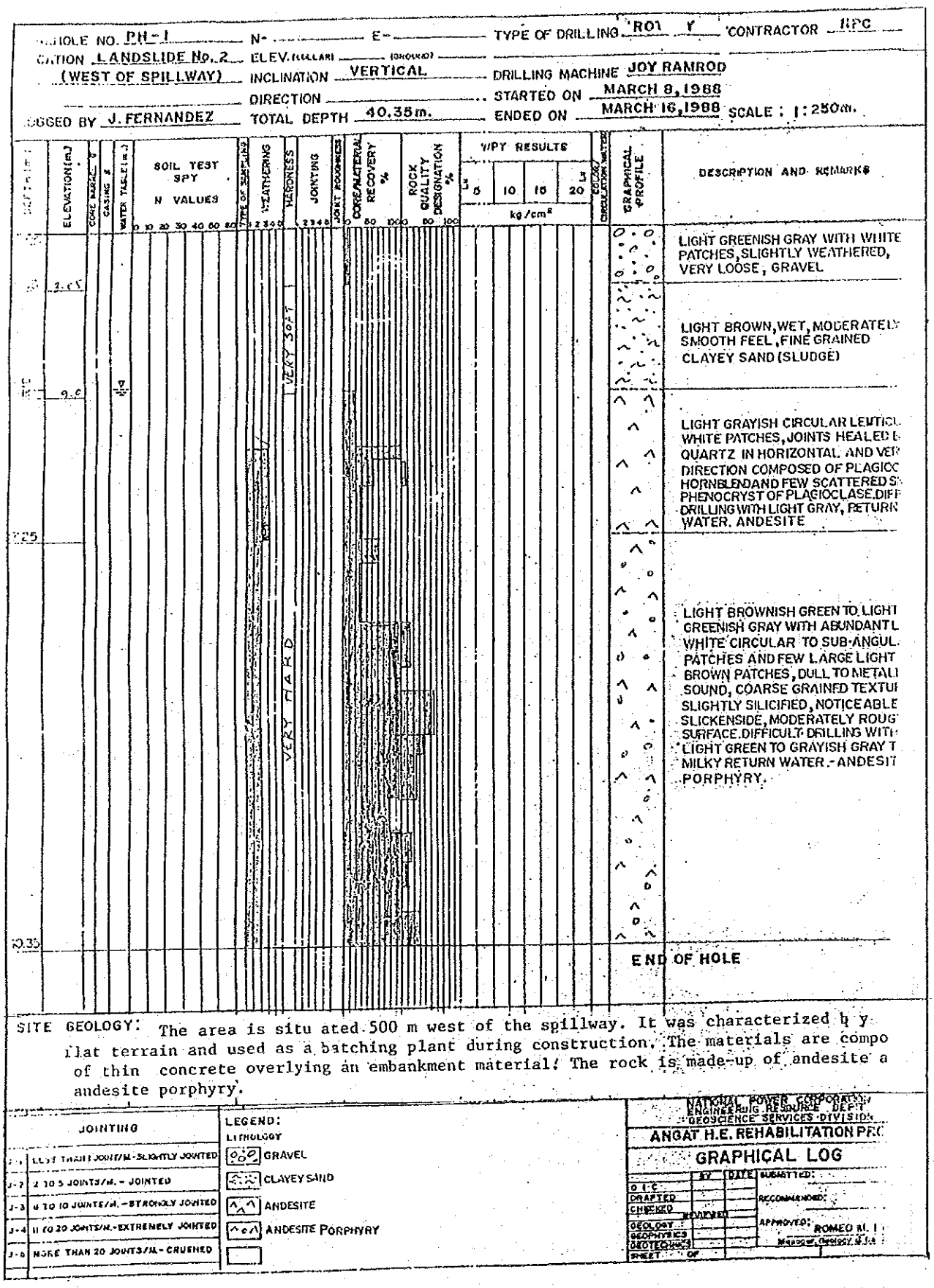

SITE GEOLOGY: The area is situ ated 500 m west of the spillway. It was characterized b y flat terrain and used as a batching plant during construction. The materials are compo of thin concrete overlying an embankment material. The rock is made-up of andesite a andesite porphyry.

JOINTING	
J-1	LESS THAN 1 JOINT/M - SLIGHTLY JOINTED
J-2	2 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 20 JOINTS/M - CRUSHED

LEGEND:
LITHOLOGY
- GRAVEL
- CLAYEY SAND
- ANDESITE
- ANDESITE PORPHYRY

NATIONAL POWER CORPORATION
ENGINEERING RESOURCE DEPT.
GEOSCIENCE SERVICES DIVISION
ANGAT H.E. REHABILITATION PRO
GRAPHICAL LOG

	BY	DATE
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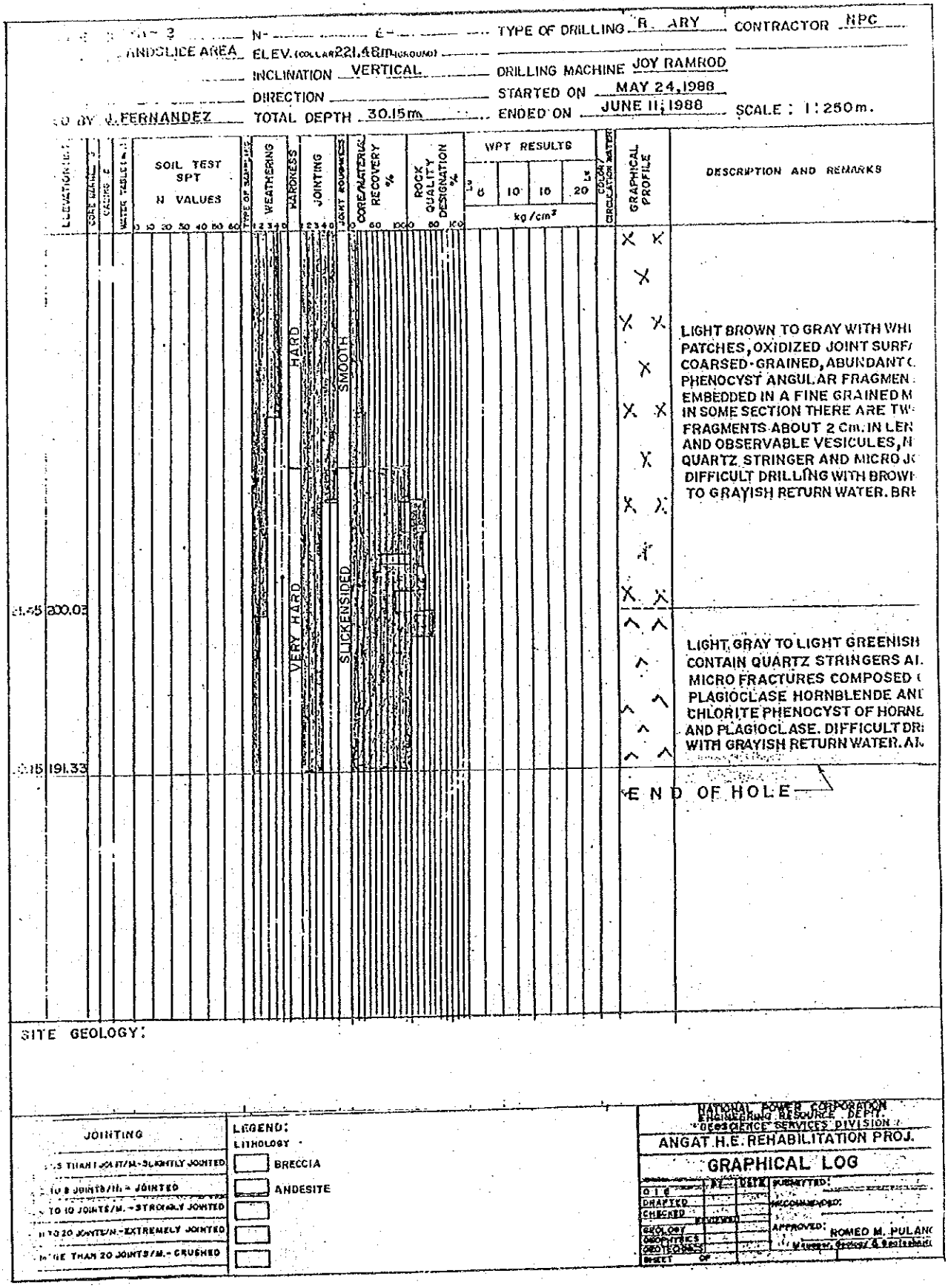
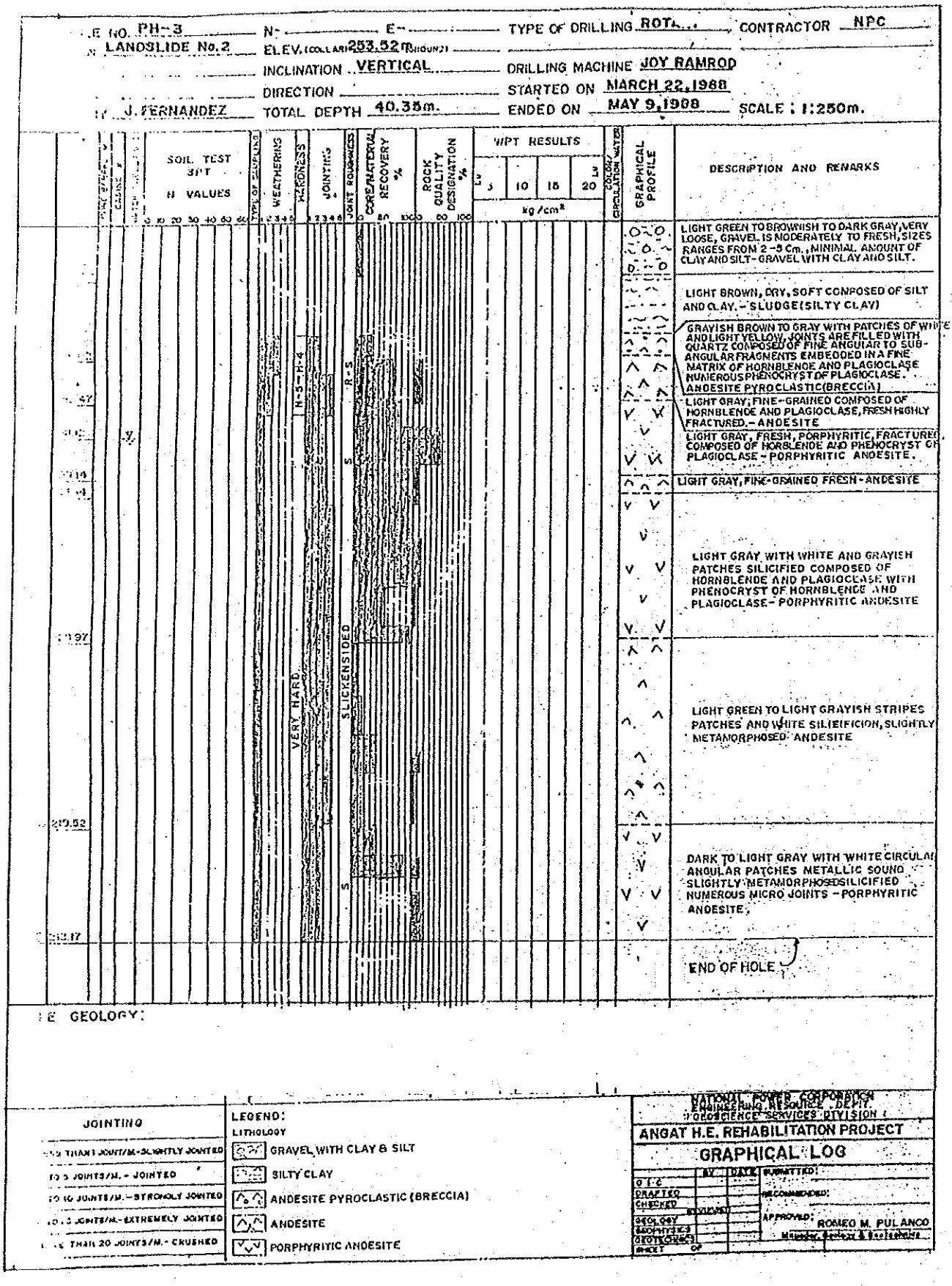
CHECKED		
REVIEWED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:
RECOMMENDED:
APPROVED: ROMEO M. I
Manager, Geology & Ge


TYPE OF DRILLING R. ARY
CONTRACTOR NPC
ANDOLICE AREA
ELEV. (COLLAR 221.48m (GROUND)
INCLINATION VERTICAL
DRILLING MACHINE JOY RAMROD
DIRECTION
STARTED ON MAY 24, 1988
BY J. FERNANDEZ
TOTAL DEPTH 30.15m
ENDED ON JUNE 11, 1988
SCALE : 1:250m.
ELEVATION (m.)
CORE RUNS
CASING
WATER TABLE (m.)
SOIL TEST SPT N VALUES
TYPE OF SAMPLE
WEATHERING
HARDNESS
JOINTING
JOINT ROUGHNESS
CORE MATERIAL RECOVERY %
ROCK QUALITY DESIGNATION %
WPT RESULTS
COLOR / CIRCULATION WATER
GRAPHICAL PROFILE
DESCRIPTION AND REMARKS
HARD
VERY HARD
SLICKENSIDED
SMOOTH
LIGHT BROWN TO GRAY WITH WHI
PATCHES, OXIDIZED JOINT SURF
COARSED-GRAINED, ABUNDANT C
PHENOCYST ANGULAR FRAGMEN
EMBEDDED IN A FINE GRAINED M
IN SOME SECTION THERE ARE TW
FRAGMENTS ABOUT 2 Cm. IN LEN
AND OBSERVABLE VESICULES, N
QUARTZ STRINGER AND MICRO J
DIFFICULT DRILLING WITH BROWI
TO GRAYISH RETURN WATER. BR
LIGHT GRAY TO LIGHT GREENISH
CONTAIN QUARTZ STRINGERS AI
MICRO FRACTURES COMPOSED
PLAGIOCLASE HORNBLENDE AN
CHLORITE PHENOCYST OF HORNE
AND PLAGIOCLASE. DIFFICULT DR
WITH GRAYISH RETURN WATER. AI
END OF HOLE
SITE GEOLOGY:
JOINTING
LEGEND:
LITHOLOGY
BRECCIA
ANDESITE
NATIONAL POWER CORPORATION
ENGINEERING RESOURCE DEPT.
GEOSCIENCE SERVICES DIVISION
ANGAT H.E. REHABILITATION PROJ.
GRAPHICAL LOG
ROMEO M. PULAN


HOLE NO. PH-3
N=
E=
TYPE OF DRILLING ROTA...
CONTRACTOR NPC
LANDSLIDE No.2
ELEV. (COLLAR) 253.52m (GROUND)
INCLINATION VERTICAL
DRILLING MACHINE JOY RAMROD
DIRECTION
STARTED ON MARCH 22, 1988
J. FERNANDEZ
TOTAL DEPTH 40.35m.
ENDED ON MAY 9, 1988
SCALE : 1:250m.
SOIL TEST SPT N VALUES
TYPE OF SAMPLING
WEATHERING
HARDNESS
JOINTING
JOINT ROUGHNESS
CORE/MATERIAL RECOVERY %
ROCK QUALITY DESIGNATION %
WPT RESULTS kg/cm²
COLOR CIRCULATION WATER
GRAPHICAL PROFILE
DESCRIPTION AND REMARKS
VERY HARD
N-S I-H-4
R-S
S
SLICKENSIDED
LIGHT GREEN TO BROWNISH TO DARK GRAY, VERY LOOSE, GRAVEL IS MODERATELY TO FRESH, SIZES RANGES FROM 2-5 Cm., MINIMAL AMOUNT OF CLAY AND SILT - GRAVEL WITH CLAY AND SILT.
LIGHT BROWN, DRY, SOFT COMPOSED OF SILT AND CLAY. - SLUDGE (SILTY CLAY)
GRAYISH BROWN TO GRAY WITH PATCHES OF WHITE AND LIGHT YELLOW, JOINTS ARE FILLED WITH QUARTZ COMPOSED OF FINE ANGULAR TO SUB-ANGULAR FRAGMENTS EMBEDDED IN A FINE MATRIX OF HORNBLENDE AND PLAGIOCLASE NUMEROUS PHENOCRYST OF PLAGIOCLASE. ANDESITE PYROCLASTIC (BRECCIA)
LIGHT GRAY; FINE-GRAINED COMPOSED OF HORNBLENDE AND PLAGIOCLASE, FRESH HIGHLY FRACTURED. - ANDESITE
LIGHT GRAY, FRESH, PORPHYRITIC, FRACTURED COMPOSED OF HORNBLENDE AND PHENOCRYST OF PLAGIOCLASE - PORPHYRITIC ANDESITE.
LIGHT GRAY, FINE-GRAINED FRESH - ANDESITE
LIGHT GRAY WITH WHITE AND GRAYISH PATCHES SILICIFIED COMPOSED OF HORNBLENDE AND PLAGIOCLASE WITH PHENOCRYST OF HORNBLENDE AND PLAGIOCLASE - PORPHYRITIC ANDESITE
LIGHT GREEN TO LIGHT GRAYISH STRIPES PATCHES AND WHITE SILIEIFICION, SLIGHTLY METAMORPHOSED ANDESITE
DARK TO LIGHT GRAY WITH WHITE CIRCULAR ANGULAR PATCHES METALLIC SOUND SLIGHTLY METAMORPHOSED SILICIFIED NUMEROUS MICRO JOINTS - PORPHYRITIC ANDESITE.
END OF HOLE
GEOLOGY:
JOINTING
LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
1 TO 5 JOINTS/M. - JOINTED
5 TO 10 JOINTS/M. - STRONGLY JOINTED
10 TO 20 JOINTS/M. - EXTREMELY JOINTED
MORE THAN 20 JOINTS/M. - CRUSHED
LEGEND:
LITHOLOGY
GRAVEL WITH CLAY & SILT
SILTY CLAY
ANDESITE PYROCLASTIC (BRECCIA)
ANDESITE
PORPHYRITIC ANDESITE
NATIONAL POWER CORPORATION
ENGINEERING RESOURCE DEPT.
GEOSCIENCE SERVICES DIVISION
ANGAT H.E. REHABILITATION PROJECT
GRAPHICAL LOG
BY
DATE
SUBMITTED:
RECOMMENDED:
APPROVED:
ROMEO M. PULANCO
Manager, Geology & Geotechnics

BOREHOLE NO. PH-4 N-) E- TYPE OF DRILLING ROTARY CONTRACTOR NPC

LOCATION LANDSLIDE AREA ELEV. (COLLAR) 225.81 (GROUND) ———

/ (SPILLWAY AREA) INCLINATION ——— DRILLING MACHINE JOY RAMROD

DIRECTION VERTICAL STARTED ON AUG. 10, 1988

LOGGED BY J. C. F. TOTAL DEPTH 20.50 m. ENDED ON AUG. 11, 1988 SCALE : 1 : 200

DEPTH (m.)	ELEVATION (m.)	DESCRIPTION AND REMARKS
0		SLUDGE (SANDY CLAY). LIGHT BROWN TO BROWN, SOFT, LOOSE, DRY TO WET, COMPOSED OF CLAY AND SAND. EASY DRILLING WITH BROWNISH RETURN WATER.
9.15	216.66	
12.50	213.31	BRECCIA. BROWNISH GRAY TO GRAY, MODERATELY WEATHERED TO FRESH, HARD TO VERY HARD, CONTAIN ANGULAR CLAST OF DIFFERENT COMPOSITION. ABUNDANT LARGE PLAGIOCLASE. DIFFICULT DRILLING WITH GRAYISH RETURN WATER.
20.50	205.31	END OF HOLE

SITE GEOLOGY:

JOINTING

J-1	LESS THAN 1 JOINT/M - SLIGHTLY JOINTED
J-2	2 TO 5 JOINTS/M. - JOINTED
J-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
J-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
J-5	MORE THAN 20 JOINTS/M. - CRUSHED

LEGEND:

LITHOLOGY

- SANDY CLAY
- BRECCIA

NATIONAL POWER CORPORATION
ENGINEERING RESOURCE DEPT.
GEOLOGY & GEOTECHNICS SERVICES DIVISION

ANGAT H.E. REHABILITATION PROJECT

GRAPHICAL LOG

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GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:

RECOMMENDED:

APPROVED: ROMEO M. PULANCO
Manager, Geology & Geotechnics

BOREHOLE NO. PH-5 | N- | E- | TYPE OF DRILLING ROTARY | CONTRACTOR NPC

LOCATION LANDSLIDE AREA No. 2 | ELEV. (COLLAR) 195.72m (GROUND) | INCLINATION VERTICAL | DRILLING MACHINE JOY RAMROD

DIRECTION | STARTED ON JUNE 22, 1988

LOGGED BY J. FERNANDEZ | TOTAL DEPTH 22.00m | ENDED ON JUNE 27, 1988 | SCALE : 1:250m.

DEPTH (m.)	ELEVATION (m.)	CORE BARREL Ø	CASING #	WATER TABLE (m.)	SOIL TEST SPT N VALUES (0 10 20 30 40 50 60)	TYPE OF SAMPLING	WEATHERING (1 2 3 4 5)	HARDNESS	JOINTING (1 2 3 4 5)	JOINT ROUGHNESS	CORE/MATERIAL RECOVERY % (0 40 60 80 100)	ROCK QUALITY DESIGNATION % (0 40 60 80 100)	VPT RESULTS kg/cm² (5 6 10 15 20 25)	COLOR/CIRCULATION WATER	GRAPHICAL PROFILE	DESCRIPTION AND REMARKS
.00	195.72													BROWN		LIGHT GRAY, BROWNISH GRAY, LIGHT BROWN TO CHOCOLATE BROWN, WET, LOOSE, FINE-GRAINED, SOFT. EASY DRILLING WITH BROWNISH RETURN WATER. SLUDGE (SAND)
1.20	191.52															BOULDER AND CONCRETE MATERIAL. TALUS.
2.00	173.72							VERY HARD	SL	SMOOTH				GRAY		LIGHT GRAY FINE-GRAINED MICRO-FRACTURE FILLED BY QUARTZ COMPOSED OF HORNBLENDE AND PLAGIOCLASE. SLIGHTLY-DIFFICULT DRILLING WITH GRAYISH RETURN WATER. ANDESITE.
																END OF HOLE

SITE GEOLOGY:

JOINTING	
-1	LESS THAN 1 JOINT/M. - SLIGHTLY JOINTED
-2	2 TO 5 JOINTS/M. - JOINTED
-3	6 TO 10 JOINTS/M. - STRONGLY JOINTED
-4	11 TO 20 JOINTS/M. - EXTREMELY JOINTED
-5	MORE THAN 20 JOINTS/M. - CRUSHED

LEGEND:

LITHOLOGY

- SAND
- TALUS
- ANDESITE

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ENGINEERING & RESOURCE DEPT.
GEOSCIENCE SERVICES DIVISION

ANGAT REHABILITATION PROJECT

GRAPHICAL LOG

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REVIEWED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:

RECOMMENDED:

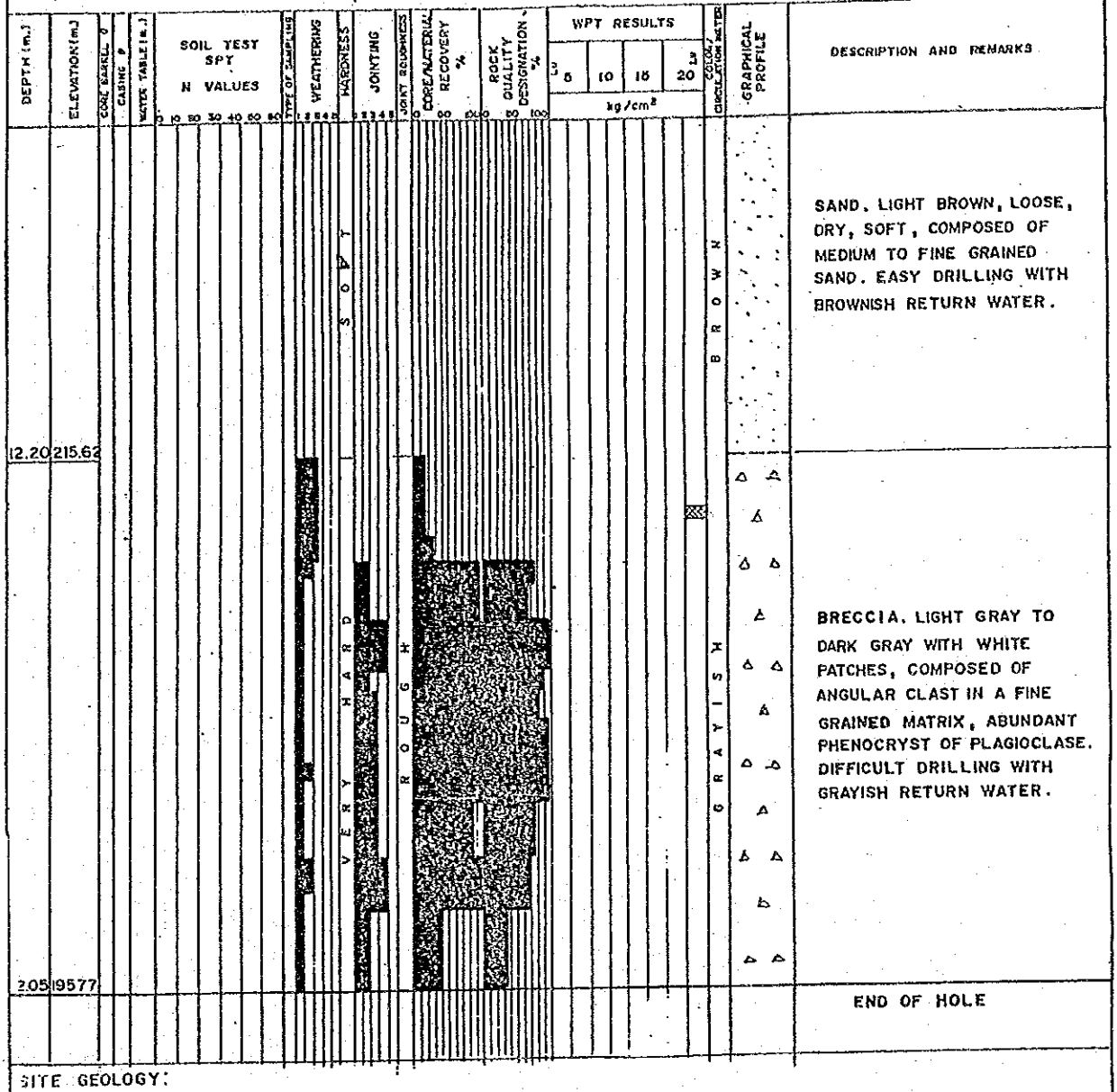
APPROVED: ROMEO M. PULANCO
Manager, Project & Geo-Sciences

BOREHOLE NO. PH - 6 | N - | E - | TYPE OF DRILLING RI RY | CONTRACTOR NPC

LOCATION LANDSLIDE AREA (SPILLWAY AREA) | ELEV. (COLLAR) 227.82 (GROUND) | INCLINATION | DRILLING MACHINE JOY RAMROD

DIRECTION VERTICAL | STARTED ON JULY 7, 1988

LOGGED BY J.C.F. | TOTAL DEPTH 32.05 M. | ENDED ON JULY 25, 1988 | SCALE : 1 : 200



SITE GEOLOGY:

JOINTING
LESS THAN 1 JOINT/M - SLIGHTLY JOINTED
2 TO 5 JOINTS/M. - JOINTED
6 TO 10 JOINTS/M. - STRONGLY JOINTED
11 TO 20 JOINTS/M. - EXTREMELY JOINTED
MORE THAN 20 JOINTS/M - CRUSHED

LEGEND:
LITHOLOGY
- SAND
- BRECCIA
-
-
- NO RETURN WATER

NATIONAL POWER CORPORATION
ENGINEERING RESOURCE DEPT.
GEOLOGY & GEOTECHNICS SERVICES DIVISION

ANGAT H.E. REHABILITATION PROJECT

GRAPHICAL LOG

	BY	DATE
DRAFTED		
CHECKED		
GEOLOGY		
GEOPHYSICS		
GEOTECHNICS		
SHEET OF		

SUBMITTED:
RECOMMENDED:
APPROVED: ROMEO M. PULANCO
Manager, Geology & Geotechnics

Table A5.1.1 Seepage through the Dyke (January 1987) (Rain Adjust: -0 mm)

JAN. 87	LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	214.28	19.26	13.82	31.55	1	****	****	****	****	****	****	****	****
02	214.29	19.26	13.82	31.55	0	1	****	****	****	****	****	****	****
03	214.24	19.26	13.82	31.55	0	0	1	****	****	****	****	****	****
04	214.18	19.26	13.82	31.55	0	0	0	1	****	****	****	****	****
05	214.10	19.26	13.82	31.55	0	0	0	0	1	****	****	****	****
06	214.10	19.26	13.82	31.55	0	0	0	0	0	1	****	****	****
07	213.99	19.26	13.82	31.55	0	0	0	0	0	0	****	****	****
08	214.53	19.26	13.82	31.55	7	0	0	0	0	0	****	****	****
09	214.73	19.26	13.82	31.55	3	7	0	0	0	0	****	****	****
10	214.70	19.26	13.82	31.55	10	3	7	0	0	0	****	****	****
11	214.63	19.26	13.82	31.55	0	10	3	7	0	0	1	****	****
12	214.52	19.26	13.82	31.55	0	0	10	3	7	0	0	****	****
13	214.43	19.26	13.82	31.55	0	0	0	10	3	7	0	****	****
14	214.29	19.26	11.77	31.55	0	0	0	0	10	3	7	****	****
15	214.18	19.26	11.77	31.55	0	0	0	0	0	10	10	****	****
16	214.05	19.26	11.77	31.55	0	0	0	0	0	0	20	****	****
17	213.89	19.26	11.77	31.55	0	0	0	0	0	0	20	****	****
18	213.80	19.26	11.77	31.55	0	0	0	0	0	0	20	****	****
19	213.68	19.26	11.77	31.55	0	0	0	0	0	0	13	****	****
20	213.58	19.26	11.77	31.55	0	0	0	0	0	0	10	****	****
21	213.44	19.26	11.77	31.55	0	0	0	0	0	0	0	21	****
22	213.34	19.26	11.77	31.55	0	0	0	0	0	0	0	20	****
23	213.21	19.26	11.77	31.55	0	0	0	0	0	0	0	20	****
24	213.03	19.26	11.77	31.55	0	0	0	0	0	0	0	20	****
25	212.94	19.26	11.77	31.55	0	0	0	0	0	0	0	20	****
26	212.95	19.26	11.77	31.55	0	0	0	0	0	0	0	20	****
27	213.03	19.26	11.77	31.55	0	0	0	0	0	0	0	20	****
28	213.01	19.26	11.77	31.55	0	0	0	0	0	0	0	20	****
29	212.97	19.26	11.77	31.55	0	0	0	0	0	0	0	13	****
30	212.89	19.26	11.77	31.55	0	0	0	0	0	0	0	10	****
31	212.80	19.26	11.77	31.55	0	0	0	0	0	0	0	0	****

Table A5.1.2 Seepage through the Dyke (February 1987) (Rain Adjust: -0 mm)

FEB. 87	LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	212.70	16.67	9.84	28.06	0	0	0	0	0	0	0	0	****
02	212.61	16.67	9.84	28.06	0	0	0	0	0	0	0	0	****
03	212.51	16.67	9.84	28.06	0	0	0	0	0	0	0	0	****
04	212.42	16.67	9.84	28.06	0	0	0	0	0	0	0	0	****
05	212.29	16.67	9.84	28.06	0	0	0	0	0	0	0	0	21
06	212.15	16.67	6.35	28.06	0	0	0	0	0	0	0	0	20
07	212.03	16.67	6.35	28.06	0	0	0	0	0	0	0	0	20
08	211.87	14.30	6.35	28.06	0	0	0	0	0	0	0	0	20
09	211.72	14.30	6.35	28.06	0	0	0	0	0	0	0	0	20
10	211.54	14.30	6.35	24.81	0	0	0	0	0	0	0	0	20
11	211.35	14.30	6.35	24.81	0	0	0	0	0	0	0	0	20
12	211.16	14.30	6.35	24.81	0	0	0	0	0	0	0	0	20
13	210.92	14.30	6.35	24.81	0	0	0	0	0	0	0	0	13
14	210.70	14.30	6.35	24.81	0	0	0	0	0	0	0	0	10
15	210.50	14.30	6.35	24.81	0	0	0	0	0	0	0	0	0
16	210.29	10.22	6.35	24.81	0	0	0	0	0	0	0	0	0
17	210.11	10.22	6.35	24.81	0	0	0	0	0	0	0	0	0
18	209.90	10.22	6.35	24.81	0	0	0	0	0	0	0	0	0
19	209.69	10.22	6.35	24.81	0	0	0	0	0	0	0	0	0
20	209.45	10.22	6.35	24.81	0	0	0	0	0	0	0	0	0
21	209.20	10.22	6.35	24.81	0	0	0	0	0	0	0	0	0
22	208.72	10.22	6.35	24.81	0	0	0	0	0	0	0	0	0
23	208.72	10.22	6.35	24.81	0	0	0	0	0	0	0	0	0
24	208.50	10.22	6.35	24.81	0	0	0	0	0	0	0	0	0
25	208.30	10.22	6.35	19.05	0	0	0	0	0	0	0	0	0
26	208.07	10.22	6.35	19.05	0	0	0	0	0	0	0	0	0
27	207.84	10.22	6.35	19.05	0	0	0	0	0	0	0	0	0
28	207.54	10.22	6.35	19.05	0	0	0	0	0	0	0	0	0

Table A5.1.3 Seepage through the Dyke (March 1987)

(Rain Adjust: -0 mm)

MAR. 87		LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	207.36	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
02	207.12	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
03	206.90	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
04	206.67	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
05	206.40	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
06	206.13	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
07	205.86	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
08	205.59	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
09	205.30	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
10	205.01	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
11	204.77	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
12	204.46	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
13	204.20	10.22	6.35	14.18	0	0	0	0	0	0	0	0	0
14	203.97	10.22	6.35	14.18	5	0	0	0	0	0	0	0	0
15	203.71	10.22	6.35	14.18	0	5	0	0	0	0	0	0	0
16	203.44	10.22	6.35	10.17	0	0	5	0	0	0	0	0	0
17	203.16	10.22	6.35	10.17	0	0	0	5	0	0	0	0	0
18	202.93	6.96	6.35	10.17	0	0	0	0	5	0	0	0	0
19	202.54	6.96	6.35	10.17	0	0	0	0	0	5	0	0	0
20	202.29	6.96	6.35	10.17	0	0	0	0	0	0	5	0	0
21	201.98	4.42	6.35	10.17	0	0	0	0	0	0	5	0	0
22	201.69	4.42	3.43	6.93	0	0	0	0	0	0	5	0	0
23	201.42	4.42	3.43	6.93	0	0	0	0	0	0	5	0	0
24	201.09	4.42	3.43	6.93	0	0	0	0	0	0	5	0	0
25	200.79	4.42	3.43	6.93	0	0	0	0	0	0	5	0	0
26	200.51	4.42	3.43	6.93	0	0	0	0	0	0	0	5	0
27	200.30	4.42	3.43	6.93	0	0	0	0	0	0	0	5	0
28	200.12	4.42	3.43	6.93	0	0	0	0	0	0	0	5	0
29	199.78	4.42	3.43	6.93	0	0	0	0	0	0	0	5	0
30	199.70	4.42	3.43	6.93	0	0	0	0	0	0	0	5	0
31	199.47	4.42	3.43	6.93	0	0	0	0	0	0	0	5	0

Table A5.1.4 Seepage through the Dyke (April 1987)

(Rain Adjust: -0 mm)

APR. 87	LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	199.31	4.42	3.43	6.93	1	0	0	0	0	0	0	5	0
02	199.14	4.42	3.43	6.93	0	1	0	0	0	0	0	5	0
03	198.96	2.54	3.43	6.93	0	0	1	0	0	0	0	5	0
04	198.74	2.54	3.43	6.93	42	0	0	1	0	0	0	0	5
05	198.53	2.54	3.43	6.93	0	42	0	0	1	0	0	0	5
06	198.33	2.54	3.43	6.93	0	0	42	0	0	1	0	0	5
07	198.17	2.54	3.43	4.41	0	0	0	42	0	0	1	0	5
08	198.00	2.54	3.43	4.41	0	0	0	0	42	0	1	0	5
09	197.84	2.54	3.43	4.41	0	0	0	0	0	42	1	0	5
10	197.70	2.54	3.43	4.41	0	0	0	0	0	0	43	0	5
11	197.54	2.54	3.43	4.41	0	0	0	0	0	0	43	0	5
12	197.38	2.54	3.43	4.41	0	0	0	0	0	0	42	1	5
13	197.22	2.54	3.43	4.41	41	0	0	0	0	0	42	1	5
14	197.05	2.54	3.43	4.41	0	41	0	0	0	0	42	1	5
15	196.88	2.54	3.43	4.41	0	0	41	0	0	0	0	43	5
16	196.70	2.54	3.43	4.41	0	0	0	41	0	0	0	43	5
17	196.55	2.54	3.43	4.41	0	0	0	0	41	0	0	43	5
18	196.37	2.54	3.43	4.41	0	0	0	0	0	41	0	43	5
19	196.25	2.54	3.43	4.41	0	0	0	0	0	0	41	43	0
20	195.94	2.54	3.43	4.41	23	0	0	0	0	0	41	43	0
21	195.75	2.54	3.43	4.41	0	23	0	0	0	0	41	43	0
22	195.55	2.54	3.43	4.41	0	0	23	0	0	0	41	42	1
23	195.37	2.54	3.43	2.54	0	0	0	23	0	0	41	42	1
24	195.18	1.25	3.43	2.54	0	0	0	0	23	0	0	83	1
25	194.98	1.25	3.43	2.54	0	0	0	0	0	23	0	41	43
26	194.80	1.25	3.43	2.54	0	0	0	0	0	0	23	41	43
27	194.62	1.25	3.43	2.54	0	0	0	0	0	0	23	41	43
28	194.45	1.25	3.43	2.54	0	0	0	0	0	0	23	41	43
29	194.27	1.25	3.43	2.54	0	0	0	0	0	0	23	41	43
30	194.07	1.25	3.43	2.54	0	0	0	0	0	0	23	41	43

Table A5.1.5 Seepage through the Dyke (May 1987) (Rain Adjust: -0 mm)

MAY 87	LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	193.88	1.25	3.43	2.54	0	0	0	0	0	0	0	64	43
02	193.78	1.25	3.43	2.54	0	0	0	0	0	0	0	64	43
03	193.52	1.25	3.43	2.54	0	0	0	0	0	0	0	64	43
04	193.34	1.25	3.43	2.54	0	0	0	0	0	0	0	23	84
05	193.17	1.25	3.43	2.54	0	0	0	0	0	0	0	23	84
06	192.98	1.25	3.43	2.54	0	0	0	0	0	0	0	23	84
07	192.82	0.47	3.43	1.25	0	0	0	0	0	0	0	23	83
08	192.68	0.47	3.43	1.25	0	0	0	0	0	0	0	23	83
09	192.53	0.47	3.43	1.25	0	0	0	0	0	0	0	23	83
10	192.36	0.47	1.19	1.25	0	0	0	0	0	0	0	23	41
11	192.20	0.47	1.19	1.25	0	0	0	0	0	0	0	0	64
12	192.03	0.47	0	1.25	0	0	0	0	0	0	0	0	64
13	191.88	0.47	0	1.25	0	0	0	0	0	0	0	0	64
14	191.73	0.47	0	1.25	0	0	0	0	0	0	0	0	64
15	191.59	0.47	0	1.25	3	0	0	0	0	0	0	0	64
16	191.47	0.47	0	1.25	0	3	0	0	0	0	0	0	64
17	191.35	0.47	0	1.25	0	0	3	0	0	0	0	0	64
18	191.17	0.47	0	1.25	33	0	0	3	0	0	0	0	64
19	191.01	0.47	0	1.25	0	33	0	0	3	0	0	0	23
20	190.82	0.47	0	1.25	0	0	33	0	0	3	0	0	23
21	190.64	0.47	0	1.25	0	0	0	33	0	0	3	0	23
22	190.47	0.47	0	1.25	0	0	0	0	33	0	3	0	23
23	190.33	0.47	0	1.25	0	0	0	0	0	33	3	0	23
24	190.15	0.47	0	1.25	0	0	0	0	0	0	36	0	23
25	189.99	0.47	0	1.25	0	0	0	0	0	0	36	0	23
26	189.81	0.47	0	1.25	0	0	0	0	0	0	33	3	0
27	189.63	0.47	0	1.25	1	0	0	0	0	0	33	3	0
28	189.53	0.47	0	0.47	0	1	0	0	0	0	33	3	0
29	189.41	0.47	0	0.47	31	0	1	0	0	0	0	36	0
30	189.28	0.47	0	0.47	18	31	0	1	0	0	0	36	0
31	189.13	0.47	0	0.47	0	18	31	0	1	0	0	36	0

Table A5.1.6 Seepage through the Dyke (June 1987) (Rain Adjust: -0 mm)

JUN. 87	L E A K A G E Q			R A I N F A L L D A T A								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	188.95	0.47	0	0.47	0	0	18	31	0	1	0	36	0
02	188.76	0.47	0	0.47	0	0	0	18	31	0	1	36	0
03	188.59	0.47	0	0.47	0	0	0	0	18	31	1	36	0
04	188.43	0.47	0	0.47	0	0	0	0	0	18	32	36	0
05	188.26	0.47	0	0.47	0	0	0	0	0	0	50	33	3
06	188.08	0.47	0	0.47	0	0	0	0	0	0	50	33	3
07	187.97	0.47	0	0.47	0	0	0	0	0	0	49	34	3
08	187.50	0.47	0	0.47	50	0	0	0	0	0	49	1	36
09	187.62	0.47	0	0.47	0	50	0	0	0	0	18	32	36
10	187.47	0.47	0	0.47	8	0	50	0	0	0	0	50	36
11	187.43	0.47	0	0.47	27	8	0	50	0	0	0	50	36
12	187.48	0.47	0	0.47	51	27	8	0	50	0	0	50	36
13	187.59	0.47	0	0.47	12	51	27	8	0	50	0	50	36
14	187.57	0.47	0	0.47	88	12	51	27	8	0	50	50	36
15	187.61	0.47	3.43	0.47	23	88	12	51	27	8	50	50	36
16	187.58	0.47	3.43	0.47	19	23	88	12	51	27	58	50	36
17	187.39	0.47	3.43	2.54	43	19	23	88	12	51	85	49	37
18	187.10	0.47	1.19	2.54	5	43	19	23	88	12	136	49	37
19	186.63	0.47	1.19	2.54	1	5	43	19	23	88	98	68	68
20	186.20	0.47	1.19	2.54	3	1	5	43	19	23	186	50	83
21	185.76	0.47	1.19	2.54	0	3	1	5	43	19	201	58	83
22	185.30	0.47	1.19	2.54	0	0	3	1	5	43	193	85	83
23	185.02	0.47	1.19	2.54	1	0	0	3	1	5	185	136	50
24	184.68	0.47	1.19	2.54	0	1	0	0	3	1	178	148	50
25	184.42	0.47	1.19	2.54	5	0	1	0	0	3	91	236	50
26	184.24	0.47	1.19	2.54	51	5	0	1	0	0	71	259	50
27	183.94	0.47	1.19	2.54	10	51	5	0	1	0	52	278	50
28	183.97	0.47	1.19	2.54	7	10	51	5	0	1	9	321	50
29	183.28	0.47	1.19	2.54	6	7	10	51	5	0	5	276	100
30	183.09	0.47	1.19	2.54	9	6	7	10	51	5	4	277	100

Table A5.1.7 Seepage through the Dyke (July 1987)

(Rain Adjust: -0 mm)

JUL. 87	LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	182.92	0.47	3.43	6.93	17	9	6	7	10	51	6	272	108
02	182.63	0.47	3.43	6.93	6	17	9	6	7	10	57	245	134
03	182.38	0.47	3.43	2.54	0	6	17	9	6	7	67	194	185
04	182.08	0.47	1.19	2.54	19	0	6	17	9	6	73	183	166
05	181.82	0.47	1.19	2.54	4	19	0	6	17	9	79	95	236
06	181.55	0.47	1.19	2.54	1	4	19	0	6	17	83	77	259
07	181.27	0.47	1.19	2.54	0	1	4	19	0	6	49	109	278
08	181.01	0.47	1.19	2.54	1	0	1	4	19	0	45	76	321
09	180.75	0.47	1.19	2.54	1	1	0	1	4	19	38	78	326
10	180.50	0.47	1.19	2.54	1	1	1	0	1	4	51	83	327
11	180.25	0.47	1.19	2.54	12	1	1	1	0	1	46	89	330
12	180.02	0.47	1.19	2.54	0	12	1	1	1	0	30	106	330
13	179.82	0.47	1.19	2.54	24	0	12	1	1	1	24	112	330
14	179.58	0.47	1.19	2.54	4	24	0	12	1	1	25	111	281
15	179.43	0.47	1.19	2.54	3	4	24	0	12	1	7	130	281
16	179.31	0.47	1.19	2.54	10	3	4	24	0	12	4	129	278
17	179.14	0.47	1.19	2.54	2	10	3	4	24	0	15	79	302
18	178.96	0.47	1.19	2.54	0	2	10	3	4	24	15	69	261
19	178.79	0.47	1.19	2.54	17	0	2	10	3	4	38	63	256
20	178.71	0.47	3.43	2.54	17	17	0	2	10	3	41	58	174
21	178.62	0.47	3.43	6.93	19	17	17	0	2	10	43	50	160
22	178.56	0.47	3.43	6.93	6	19	17	17	0	2	41	45	158
23	178.41	0.47	3.43	6.93	0	6	19	17	17	0	43	39	121
24	178.25	0.47	3.43	6.93	0	0	6	19	17	17	19	63	116
25	178.14	0.47	3.43	4.41	0	0	0	6	19	17	32	48	134
26	178.20	0.47	3.43	4.41	37	0	0	0	6	19	46	47	135
27	178.16	0.47	1.19	4.41	14	37	0	0	0	6	55	56	136
28	178.08	0.47	1.19	4.41	0	14	37	0	0	0	59	58	136
29	177.98	0.47	1.19	4.41	2	0	14	37	0	0	59	57	136
30	177.87	0.47	1.19	2.54	5	2	0	14	37	0	42	73	137
31	177.85	0.47	1.19	2.54	2	5	2	0	14	37	25	89	133

Table A5.1.8 Seepage through the Dyke (August 1987) (Rain Adjust: -0 mm)

AUG. 87		LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	177.76	0.47	1.19	2.54	8	2	5	2	0	14	43	96	94
02	177.65	0.47	1.19	2.54	7	8	2	5	2	0	51	102	84
03	177.54	0.47	1.19	2.54	0	7	8	2	5	2	51	78	101
04	177.42	0.47	1.19	2.54	0	0	7	8	2	5	53	74	99
05	177.31	0.47	1.19	2.54	1	0	0	7	8	2	58	71	93
06	177.23	0.47	1.19	2.54	26	1	0	0	7	8	23	98	86
07	177.20	0.47	1.19	2.54	7	26	1	0	0	7	17	110	82
08	177.33	0.47	6.35	14.18	44	7	26	1	0	0	24	110	82
09	177.48	0.47	9.84	14.18	39	44	7	26	1	0	22	95	80
10	177.50	0.47	6.35	14.18	2	39	44	7	26	1	17	83	93
11	177.42	1.25	6.35	14.18	29	2	39	44	7	26	16	66	111
12	177.40	1.25	6.35	14.18	0	29	2	39	44	7	34	68	117
13	178.72	2.54	6.35	14.18	32	0	29	2	39	44	34	75	116
14	179.12	1.25	6.35	10.17	13	32	0	29	2	39	78	75	115
15	179.35	1.25	6.35	10.17	3	13	32	0	29	2	117	75	114
16	179.53	1.25	3.43	10.17	10	3	13	32	0	29	118	39	139
17	179.91	1.25	6.35	10.17	4	10	3	13	32	0	121	51	153
18	181.13	1.25	6.35	14.18	43	4	10	3	13	32	114	58	129
19	182.32	2.54	6.35	19.05	66	43	4	10	3	13	102	100	127
20	182.86	2.54	6.35	10.17	0	66	43	4	10	3	76	134	129
21	183.18	2.54	6.35	10.17	14	0	66	43	4	10	77	134	121
22	183.45	2.54	6.35	10.17	37	14	0	66	43	4	58	155	127
23	183.64	2.54	6.35	10.17	24	37	14	0	66	43	62	148	134
24	183.75	2.54	6.35	10.17	0	24	37	14	0	66	73	180	117
25	183.80	2.54	6.35	10.17	0	0	24	37	14	0	126	193	100
26	183.81	2.54	6.35	10.17	14	0	0	24	37	14	123	195	82
27	183.80	1.25	3.43	6.93	0	14	0	0	24	37	127	179	102
28	183.85	1.25	3.43	6.93	11	0	14	0	0	24	160	176	109
29	183.91	1.25	3.43	4.41	2	11	0	14	0	0	141	175	153
30	184.00	1.25	3.43	4.41	11	2	11	0	14	0	75	202	192
31	184.10	1.25	3.43	4.41	0	11	2	11	0	14	75	200	157

Table A5.1.9 Seepage through the Dyke (September 1987) (Rain Adjust: -0 mm)

SEP. 87		LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	183.99	1.25	6.35	6.93	23	0	11	2	11	0	75	185	172
02	184.13	1.25	6.35	6.93	59	23	0	11	2	11	38	222	172
03	184.69	1.25	6.35	6.93	0	59	23	0	11	2	25	214	202
04	184.87	1.25	6.35	6.93	3	0	59	23	0	11	27	201	210
05	184.90	1.25	6.35	6.93	3	3	0	59	23	0	38	198	211
06	185.07	1.25	6.35	6.93	5	3	3	0	59	23	24	202	213
07	185.48	1.25	6.35	6.93	41	5	3	3	0	59	47	198	210
08	186.09	1.25	6.35	6.93	9	41	5	3	3	0	95	166	253
09	186.44	1.25	3.43	6.93	2	9	41	5	3	3	93	102	319
10	186.60	1.25	3.43	6.93	2	2	9	41	5	3	85	113	318
11	186.73	1.25	3.43	6.93	0	2	2	9	41	5	88	99	306
12	186.83	1.25	3.43	6.93	0	0	2	2	9	41	70	85	336
13	186.93	1.25	3.43	6.93	16	0	0	2	2	9	52	120	316
14	187.01	1.25	3.43	6.93	2	16	0	0	2	2	61	120	277
15	187.05	1.25	3.43	6.93	0	2	16	0	0	2	60	123	275
16	187.10	1.25	3.43	6.93	2	0	2	16	0	0	59	112	260
17	187.30	1.25	3.43	6.93	23	2	0	2	16	0	54	117	260
18	187.66	1.25	3.43	6.93	0	23	2	0	2	16	13	147	239
19	187.91	1.25	3.43	6.93	0	0	23	2	0	2	20	154	228
20	188.17	1.25	3.43	4.41	0	0	0	23	2	0	20	145	236
21	188.34	1.25	3.43	2.54	29	0	0	0	23	2	18	147	226
22	188.42	1.25	3.43	2.54	0	29	0	0	0	23	20	124	245
23	188.48	1.25	1.19	2.54	0	0	29	0	0	0	43	65	261
24	188.51	1.25	1.19	2.54	0	0	0	29	0	0	27	81	195
25	188.53	1.25	1.19	2.54	0	0	0	0	29	0	25	80	198
26	188.52	1.25	1.19	2.54	0	0	0	0	0	29	25	77	187
27	188.51	0.47	1.19	2.54	9	0	0	0	0	0	52	74	155
28	188.52	0.47	1.19	2.54	0	9	0	0	0	0	29	56	172
29	188.51	0.47	1.19	2.54	4	0	9	0	0	0	29	47	181
30	188.57	0.47	1.19	2.54	18	4	0	9	0	0	29	45	183

Table A5.1.10 Seepage through the Dyke (October 1987) (Rain Adjust: -0 mm)

OCT. 87		LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	188.75	0.47	1.19	2.54	21	18	4	0	9	0	29	43	171
02	188.86	0.47	1.19	2.54	0	21	18	4	0	9	0	72	171
03	188.87	0.47	1.19	2.54	0	0	21	18	4	0	9	72	160
04	188.86	0.47	1.19	2.54	0	0	0	21	18	4	9	56	174
05	189.03	0.47	1.19	2.54	19	0	0	0	21	18	13	54	165
06	189.13	0.47	1.19	2.54	20	19	0	0	0	21	31	54	165
07	189.12	0.47	1.19	2.54	1	20	19	0	0	0	52	52	144
08	189.14	0.47	1.19	2.54	5	1	20	19	0	0	43	38	108
09	189.41	0.47	1.19	2.54	0	5	1	20	19	0	43	38	108
10	189.73	0.47	1.19	2.54	1	0	5	1	20	19	39	42	105
11	189.82	0.47	1.19	2.54	0	1	0	5	1	20	40	60	102
12	189.79	0.47	1.19	2.54	7	0	1	0	5	1	39	52	126
13	189.74	0.47	1.19	2.54	0	7	0	1	0	5	40	52	85
14	189.61	0.47	1.19	2.54	1	0	7	0	1	0	45	52	76
15	189.58	0.47	1.19	2.54	6	1	0	7	0	1	45	52	74
16	189.50	0.47	1.19	2.54	0	6	1	0	7	0	27	71	72
17	189.72	0.47	1.19	2.54	0	0	6	1	0	7	7	91	72
18	189.71	0.47	1.19	2.54	0	0	0	6	1	0	13	83	81
19	189.68	0.47	1.19	2.54	0	0	0	0	6	1	8	88	65
20	189.65	0.47	1.19	2.54	0	0	0	0	0	6	9	84	67
21	189.71	0.47	1.19	2.54	0	0	0	0	0	0	14	67	85
22	189.71	0.47	1.19	2.54	3	0	0	0	0	0	14	46	104
23	189.66	0.47	1.19	1.25	0	3	0	0	0	0	7	53	81
24	189.57	0.47	1.19	1.25	3	0	3	0	0	0	7	53	81
25	189.48	0.47	1.19	1.25	0	3	0	3	0	0	6	54	81
26	189.39	0.47	1.19	1.25	0	0	3	0	3	0	0	41	100
27	189.41	0.47	1.19	1.25	2	0	0	3	0	3	0	21	91
28	189.41	0.47	1.19	1.25	3	2	0	0	3	0	3	20	92
29	189.53	0.47	1.19	1.25	6	3	2	0	0	3	3	15	97
30	190.02	0.47	1.19	2.54	2	6	3	2	0	0	6	15	97
31	190.60	0.47	1.19	2.54	7	2	6	3	2	0	6	14	98

Table A5.1.11 Seepage through the Dyke (November 1987) (Rain Adjust: -0 mm)

NOV. 87	LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	191.22	0.47	1.19	2.54	13	7	2	6	3	2	6	14	98
02	191.56	0.47	1.19	2.54	2	13	7	2	6	3	5	10	96
03	192.15	0.47	1.19	2.54	11	2	13	7	2	6	8	10	96
04	192.73	0.47	1.19	2.54	0	11	2	13	7	2	11	12	93
05	193.14	0.47	1.19	2.54	3	0	11	2	13	7	13	6	81
06	193.52	0.47	1.19	2.54	0	3	0	11	2	13	20	6	60
07	193.74	1.25	1.19	2.54	0	0	3	0	11	2	31	8	60
08	193.80	1.25	1.19	2.54	0	0	0	3	0	11	30	11	60
09	193.84	1.25	1.19	4.41	0	0	0	0	3	0	35	17	60
10	193.84	1.25	1.19	4.41	0	0	0	0	0	3	33	19	41
11	193.83	1.25	1.19	2.54	0	0	0	0	0	0	29	26	21
12	193.80	1.25	1.19	2.54	1	0	0	0	0	0	16	36	23
13	193.76	1.25	1.19	2.54	0	1	0	0	0	0	14	38	18
14	193.70	1.25	1.19	2.54	0	0	1	0	0	0	3	46	21
15	193.63	1.25	1.19	2.54	3	0	0	1	0	0	3	46	20
16	194.07	1.25	1.19	2.54	14	3	0	0	1	0	0	49	20
17	195.70	1.25	1.19	2.54	70	14	3	0	0	1	0	47	15
18	197.32	1.25	3.43	4.41	13	70	14	3	0	0	1	44	18
19	197.88	1.25	3.43	4.41	0	13	70	14	3	0	1	38	23
20	198.19	1.25	3.43	2.54	0	0	13	70	14	3	1	36	19
21	198.41	1.25	3.43	6.93	24	0	0	13	70	14	4	29	26
22	198.92	1.25	3.43	6.93	15	24	0	0	13	70	18	16	39
23	199.53	1.25	3.43	6.93	9	15	24	0	0	13	87	15	41
24	200.30	1.25	6.35	6.93	9	9	15	24	0	0	100	4	52
25	201.19	1.25	6.35	6.93	0	9	9	15	24	0	100	4	52
26	201.64	10.22	13.82	14.18	84	0	9	9	15	24	97	4	55
27	203.99	10.22	13.82	14.18	7	84	0	9	9	15	107	18	52
28	204.74	10.22	9.84	14.18	2	7	84	0	9	9	52	88	52
29	205.15	10.22	9.84	14.18	0	2	7	84	0	9	48	101	49
30	205.41	10.22	9.84	14.18	0	0	2	7	84	0	57	101	49

Table A5.1.12 Seepage through the Dyke (December 1987) (Rain Adjust: -0 mm)

DEC. 87		LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	205.58	10.22	9.84	14.18	0	0	0	2	7	84	57	101	49
02	205.71	10.22	9.84	14.18	0	0	0	0	2	7	117	125	47
03	205.73	10.22	9.84	14.18	0	0	0	0	0	2	109	139	45
04	205.76	10.22	9.84	14.18	0	0	0	0	0	0	102	148	39
05	205.97	10.22	9.84	14.18	39	0	0	0	0	0	93	157	37
06	206.44	10.22	9.84	14.18	2	39	0	0	0	0	93	154	33
07	206.65	10.22	9.84	14.18	0	2	39	0	0	0	9	224	34
08	206.82	10.22	9.84	14.18	0	0	2	39	0	0	2	161	102
09	206.86	14.30	9.84	19.05	0	0	0	2	39	0	0	150	104
10	207.15	14.30	9.84	19.05	59	0	0	0	2	39	0	150	104
11	208.20	14.30	9.84	19.05	0	59	0	0	0	2	39	150	101
12	208.45	14.30	9.84	19.05	0	0	59	0	0	0	41	126	125
13	208.60	14.30	9.84	19.05	0	0	0	59	0	0	41	111	140
14	208.66	14.30	9.84	19.05	0	0	0	0	59	0	41	102	149
15	208.79	14.30	9.84	19.05	0	0	0	0	0	59	41	93	158
16	209.00	14.30	9.84	19.05	0	0	0	0	0	0	61	132	158
17	209.06	14.30	9.84	24.08	0	0	0	0	0	0	59	50	242
18	209.38	14.30	9.84	24.08	66	0	0	0	0	0	59	43	248
19	210.86	14.30	9.84	24.08	1	66	0	0	0	0	59	41	250
20	211.45	14.30	13.82	24.08	0	1	66	0	0	0	59	41	250
21	211.73	14.30	13.82	24.08	0	0	1	66	0	0	0	100	247
22	212.01	14.30	13.82	24.08	3	0	0	1	66	0	0	100	233
23	212.30	14.30	13.82	24.08	1	3	0	0	1	66	0	100	163
24	212.98	14.30	13.82	24.08	40	1	3	0	0	1	66	100	150
25	214.53	19.26	13.82	24.08	1	40	1	3	0	0	67	100	150
26	214.89	19.26	13.82	31.55	1	1	40	1	3	0	67	61	189
27	215.03	19.26	13.82	31.55	1	1	1	40	1	3	67	59	167
28	215.05	19.26	13.82	31.55	0	1	1	1	40	1	70	59	152
29	214.92	19.26	13.82	31.55	0	0	1	1	1	40	5	125	143
30	214.72	19.26	13.82	31.55	1	0	0	1	1	1	44	126	134
31	214.45	19.26	13.82	31.55	1	1	0	0	1	1	45	67	193

Table A5.1.13 Seepage through the Dyke (January 1988) (Rain Adjust: -0 mm)

JAN. 88	L E A K A G E Q			R A I N F A L L D A T A								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	214.25	19.26	13.82	31.55	0	1	1	0	0	1	46	67	109
02	214.11	19.26	13.82	31.55	0	0	1	1	0	0	44	70	102
03	214.04	19.26	13.82	31.55	0	0	0	1	1	0	43	71	100
04	214.00	19.26	13.82	31.55	0	0	0	0	1	1	3	111	100
05	213.95	19.26	13.82	31.55	0	0	0	0	0	1	3	112	100
06	213.98	19.26	13.82	31.55	5	0	0	0	0	0	3	113	100
07	214.08	19.26	13.82	31.55	1	5	0	0	0	0	2	114	100
08	214.05	19.26	13.82	24.81	0	1	5	0	0	0	2	48	166
09	214.07	19.26	13.82	24.81	1	0	1	5	0	0	2	47	167
10	214.07	19.26	13.82	24.81	1	1	0	1	5	0	1	48	128
11	214.14	19.26	13.82	24.81	0	1	1	0	1	5	0	49	126
12	214.03	19.26	13.82	24.81	0	0	1	1	0	1	5	46	129
13	213.85	19.26	13.82	24.81	0	0	0	1	1	0	6	45	130
14	213.66	19.26	13.82	24.81	0	0	0	0	1	1	6	5	170
15	213.46	19.26	9.84	24.81	0	0	0	0	0	1	7	4	112
16	213.44	19.26	9.84	19.05	11	0	0	0	0	0	8	3	113
17	213.96	19.26	9.84	19.05	4	11	0	0	0	0	3	7	114
18	214.22	19.26	9.84	19.05	3	4	11	0	0	0	2	8	114
19	214.21	19.26	9.84	19.05	0	3	4	11	0	0	2	8	114
20	214.21	19.26	9.84	19.05	0	0	3	4	11	0	1	8	115
21	214.19	******	******	******	0	0	0	3	4	11	0	8	116
22	214.13	******	******	******	0	0	0	0	3	4	11	8	116
23	214.06	******	******	******	0	0	0	0	0	3	15	8	50
24	214.04	******	******	******	2	0	0	0	0	0	18	8	49
25	214.11	******	******	******	9	2	0	0	0	0	18	8	49
26	214.16	******	******	******	0	9	2	0	0	0	18	8	49
27	214.13	******	******	******	0	0	9	2	0	0	7	14	51
28	214.10	******	******	******	0	0	0	9	2	0	3	17	51
29	214.03	******	******	******	0	0	0	0	9	2	0	20	11
30	213.98	******	******	******	0	0	0	0	0	9	2	19	11
31	213.89	******	******	******	0	0	0	0	0	0	11	18	11

Table A5.1.14 Seepage through the Dyke (February 1988) (Rain Adjust: -0 mm)

FEB. 88	L E A K A G E Q			R A I N F A L L D A T A								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	213.75	19.26	9.84	31.55	0	0	0	0	0	0	11	18	10
02	213.58	19.26	9.84	31.55	0	0	0	0	0	0	11	18	10
03	213.40	19.26	9.84	31.55	0	0	0	0	0	0	11	18	10
04	213.29	19.26	9.84	31.55	0	0	0	0	0	0	9	20	9
05	213.16	19.26	9.84	31.55	0	0	0	0	0	0	0	29	8
06	212.96	19.26	9.84	31.55	0	0	0	0	0	0	0	18	19
07	212.82	19.26	9.84	31.55	0	0	0	0	0	0	0	14	23
08	212.67	19.26	9.84	31.55	0	0	0	0	0	0	0	11	26
09	212.49	19.26	9.84	24.81	0	0	0	0	0	0	0	11	26
10	212.32	19.26	9.84	24.81	0	0	0	0	0	0	0	11	26
11	212.14	19.26	9.84	24.81	0	0	0	0	0	0	0	11	21
12	211.98	19.26	9.84	24.81	0	0	0	0	0	0	0	11	20
13	211.83	19.26	9.84	24.81	0	0	0	0	0	0	0	11	20
14	211.64	19.26	9.84	24.81	1	0	0	0	0	0	0	9	21
15	211.61	19.26	9.84	24.81	3	1	0	0	0	0	0	0	29
16	211.66	19.26	9.84	24.81	0	3	1	0	0	0	0	0	29
17	211.92	19.26	9.84	24.81	9	0	3	1	0	0	0	0	29
18	212.17	19.26	9.84	24.81	2	9	0	3	1	0	0	0	29
19	212.50	19.26	9.84	24.81	0	2	9	0	3	1	0	0	29
20	212.61	19.26	9.84	24.81	2	0	2	9	0	3	1	0	29
21	212.62	19.26	9.84	24.81	1	2	0	2	9	0	4	0	18
22	212.63	19.26	9.84	24.81	0	1	2	0	2	9	4	0	14
23	212.55	19.26	9.84	24.81	0	0	1	2	0	2	13	0	11
24	212.49	19.26	9.84	24.81	0	0	0	1	2	0	15	0	11
25	212.41	19.26	9.84	24.81	0	0	0	0	1	2	14	1	11
26	212.38	19.26	9.84	24.81	0	0	0	0	0	1	13	4	11
27	212.34	19.26	9.84	24.81	0	0	0	0	0	0	14	4	11
28	212.25	19.26	9.84	24.81	0	0	0	0	0	0	5	13	11
29	212.10	19.26	9.84	24.81	0	0	0	0	0	0	3	15	9

Table A5.1.15 Seepage through the Dyke (March 1988) (Rain Adjust: -0 mm)

MAR. 88	LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	211.90	19.26	9.84	24.81	0	0	0	0	0	0	3	15	0
02	211.73	19.26	9.84	24.81	0	0	0	0	0	0	1	17	0
03	211.55	19.26	9.84	24.81	0	0	0	0	0	0	0	18	0
04	211.36	19.26	9.84	24.81	0	0	0	0	0	0	0	18	0
05	211.16	19.26	9.84	24.81	0	0	0	0	0	0	0	18	0
06	210.96	19.26	9.84	24.81	0	0	0	0	0	0	0	17	1
07	210.77	14.30	9.84	24.81	0	0	0	0	0	0	0	14	4
08	210.56	14.30	9.84	24.81	1	0	0	0	0	0	0	14	4
09	210.39	14.30	9.84	24.81	0	1	0	0	0	0	0	5	13
10	210.26	14.30	9.84	24.81	0	0	1	0	0	0	0	3	15
11	210.07	14.30	9.84	24.81	0	0	0	1	0	0	0	3	15
12	209.90	14.30	9.84	24.81	0	0	0	0	1	0	0	1	17
13	209.68	14.30	9.84	24.81	0	0	0	0	0	1	0	0	18
14	209.44	14.30	9.84	24.81	0	0	0	0	0	0	1	0	18
15	209.21	14.30	9.84	24.81	0	0	0	0	0	0	1	0	18
16	208.97	14.30	9.84	24.81	0	0	0	0	0	0	1	0	18
17	208.83	14.30	9.84	24.81	0	0	0	0	0	0	1	0	18
18	208.60	14.30	9.84	24.81	0	0	0	0	0	0	1	0	18
19	208.35	14.30	9.84	24.81	0	0	0	0	0	0	0	1	18
20	208.11	14.30	9.84	24.81	0	0	0	0	0	0	0	1	18
21	207.89	14.30	9.84	19.05	0	0	0	0	0	0	0	1	17
22	207.67	14.30	9.84	19.05	0	0	0	0	0	0	0	1	14
23	207.54	14.30	9.84	19.05	0	0	0	0	0	0	0	1	14
24	207.36	14.30	9.84	19.05	0	0	0	0	0	0	0	1	5
25	207.15	14.30	9.84	19.05	0	0	0	0	0	0	0	1	3
26	206.97	10.22	9.84	19.05	0	0	0	0	0	0	0	1	3
27	206.77	10.22	6.35	19.05	0	0	0	0	0	0	0	1	1
28	206.59	10.22	6.35	14.18	0	0	0	0	0	0	0	1	0
29	206.35	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1
30	206.14	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1
31	205.96	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1

Table A5.1.16 Seepage through the Dyke (April 1988)

(Rain Adjust: -0 mm)

APR. 88		LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	205.71	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1
02	205.49	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1
03	205.25	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1
04	205.09	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1
05	204.93	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1
06	204.72	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1
07	204.54	10.22	6.35	14.18	0	0	0	0	0	0	0	0	1
08	204.39	10.22	6.35	14.18	2	0	0	0	0	0	0	0	1
09	204.39	10.22	6.35	14.18	12	2	0	0	0	0	0	0	1
10	204.44	10.22	6.35	14.18	0	12	2	0	0	0	0	0	1
11	204.38	10.22	6.35	14.18	0	0	12	2	0	0	0	0	1
12	204.44	10.22	6.35	14.18	0	0	0	12	2	0	0	0	1
13	204.39	10.22	6.35	10.17	25	0	0	0	12	2	0	0	0
14	204.29	10.22	6.35	10.17	0	25	0	0	0	12	2	0	0
15	204.22	10.22	6.35	10.17	0	0	25	0	0	0	14	0	0
16	204.17	10.22	6.35	10.17	0	0	0	25	0	0	14	0	0
17	204.09	10.22	6.35	10.17	0	0	0	0	25	0	14	0	0
18	203.96	10.22	6.35	10.17	0	0	0	0	0	25	14	0	0
19	203.79	6.96	6.35	10.17	0	0	0	0	0	0	37	2	0
20	203.63	6.96	6.35	10.17	0	0	0	0	0	0	25	14	0
21	203.46	6.96	6.35	10.17	0	0	0	0	0	0	25	14	0
22	203.26	6.96	6.35	10.17	0	0	0	0	0	0	25	14	0
23	203.07	6.96	6.35	10.17	0	0	0	0	0	0	25	14	0
24	202.87	6.96	6.35	10.17	3	0	0	0	0	0	0	39	0
25	203.10	6.96	6.35	10.17	5	3	0	0	0	0	0	39	0
26	203.15	6.96	6.35	10.17	0	5	3	0	0	0	0	39	0
27	203.06	6.96	6.35	10.17	0	0	5	3	0	0	0	39	0
28	202.92	6.96	6.35	10.17	0	0	0	5	3	0	0	39	0
29	202.78	6.96	6.35	10.17	0	0	0	0	5	3	0	37	2
30	202.61	6.96	6.35	10.17	0	0	0	0	0	5	3	25	14

Table A5.1.17 Seepage through the Dyke (May 1988)

(Rain Adjust: -0 mm)

MAY 88		LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	202.44	6.96	6.35	10.17	0	0	0	0	0	0	8	25	14
02	202.24	6.96	6.35	10.17	0	0	0	0	0	0	8	25	14
03	202.07	6.96	6.35	6.93	0	0	0	0	0	0	8	25	14
04	201.89	6.96	6.35	6.93	0	0	0	0	0	0	8	0	39
05	201.71	6.96	6.35	6.93	20	0	0	0	0	0	5	3	39
06	201.51	6.96	6.35	6.93	0	20	0	0	0	0	0	8	39
07	201.30	6.96	6.35	6.93	0	0	20	0	0	0	0	8	39
08	201.09	6.96	6.35	6.93	0	0	0	20	0	0	0	8	39
09	200.88	6.96	3.43	6.93	6	0	0	0	20	0	0	8	39
10	200.67	6.96	3.43	6.93	0	6	0	0	0	20	0	8	39
11	200.43	6.96	3.43	6.93	0	0	6	0	0	0	20	8	39
12	200.22	6.96	3.43	6.93	0	0	0	6	0	0	20	8	39
13	200.02	6.96	3.43	6.93	0	0	0	0	6	0	20	8	39
14	199.89	6.96	3.43	6.93	0	0	0	0	0	6	20	8	37
15	199.75	6.96	3.43	6.93	0	0	0	0	0	0	26	5	28
16	199.59	4.42	3.43	6.93	0	0	0	0	0	0	6	20	33
17	199.51	4.42	3.43	6.93	0	0	0	0	0	0	6	20	33
18	199.37	2.54	3.43	6.93	0	0	0	0	0	0	6	20	33
19	199.26	2.54	3.43	6.93	0	0	0	0	0	0	6	20	8
20	199.15	2.54	3.43	6.93	6	0	0	0	0	0	0	26	8
21	199.10	2.54	3.43	6.93	1	6	0	0	0	0	0	26	8
22	199.05	2.54	3.43	6.93	32	1	6	0	0	0	0	26	8
23	199.01	2.54	3.43	6.93	1	32	1	6	0	0	0	26	8
24	198.91	2.54	3.43	6.93	2	1	32	1	6	0	0	26	8
25	198.81	2.54	1.19	6.93	0	2	1	32	1	6	0	26	8
26	198.79	2.54	1.19	6.93	0	0	2	1	32	1	6	6	28
27	198.76	2.54	1.19	6.93	10	0	0	2	1	32	7	6	28
28	198.73	4.42	6.35	10.17	8	10	0	0	2	1	39	6	28
29	198.76	4.42	6.35	10.17	30	8	10	0	0	2	40	6	28
30	198.97	4.42	6.35	10.17	63	30	8	10	0	0	42	0	31
31	199.26	4.42	9.84	10.17	37	63	30	8	10	0	36	6	26

Table A5.1.18 Seepage through the Dyke (June 1988) (Rain Adjust: -0 mm)

JUN. 88	LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	199.50	10.17	6.35	14.18	21	37	63	30	8	10	35	7	26
02	200.11	10.17	6.35	14.18	66	21	37	63	30	8	13	39	26
03	200.80	6.96	13.82	14.18	39	66	21	37	63	30	20	40	26
04	200.89	6.96	13.82	14.18	19	39	66	21	37	63	48	42	26
05	200.85	6.96	13.82	14.18	12	19	39	66	21	37	111	42	26
06	200.67	6.96	13.82	14.18	0	12	19	39	66	21	148	42	26
07	200.38	6.96	13.82	14.18	8	0	12	19	39	66	159	52	26
08	200.05	6.96	13.82	14.18	1	8	0	12	19	39	217	60	26
09	199.77	6.96	9.84	14.18	1	1	8	0	12	19	226	90	26
10	199.51	6.96	9.84	14.18	26	1	1	8	0	12	182	147	12
11	199.41	6.96	9.84	14.18	27	26	1	1	8	0	157	183	13
12	*******	6.96	9.84	14.18	****	27	26	1	1	8	136	172	45
13	*******	6.96	9.84	14.18	****	****	27	26	1	1	78	237	46
14	*******	6.96	9.84	14.18	****	****	****	27	26	1	40	274	42
15	*******	6.96	9.84	14.18	****	****	****	****	27	26	22	293	42
16	*******	4.42	6.35	9.17	****	****	****	****	****	27	36	305	42
17	*******	4.42	6.35	7.67	****	****	****	****	****	****	63	295	52
18	*******	4.42	6.35	7.17	****	****	****	****	****	****	****	295	60
19	*******	4.42	6.35	6.67	****	****	****	****	****	****	****	266	90
20	*******	4.42	6.35	6.17	****	****	****	****	****	****	****	204	153
21	*******	2.54	3.43	5.67	****	****	****	****	****	****	****	193	190
22	194.65	2.54	3.43	5.33	6	****	****	****	****	****	****	199	211
23	194.22	2.54	3.43	6.50	4	6	****	****	****	****	****	****	277
24	193.81	2.54	3.43	4.83	6	4	6	****	****	****	****	****	316
25	193.32	2.54	3.43	4.50	0	6	4	6	****	****	****	****	329
26	192.78	2.54	3.43	4.50	1	0	6	4	6	****	****	****	340
27	192.37	1.25	3.43	4.50	19	1	0	6	4	6	****	****	308
28	192.10	1.25	3.43	4.33	1	19	1	0	6	4	****	****	315
29	191.61	1.25	3.43	4.00	2	1	19	1	0	6	****	****	314
30	191.19	1.25	3.43	3.83	2	2	1	19	1	0	****	****	315

Table A5.1.19 Seepage through the Dyke (July 1988) (Rain Adjust: -0 mm)

JUL. 88	L E A K A G E Q			R A I N F A L L D A T A								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	191.01	1.25	3.43	3.50	8	2	2	1	19	1	****	****	341
02	190.89	1.25	3.43	3.33	39	8	2	2	1	19	17	****	358
03	190.69	1.25	3.43	3.17	0	39	8	2	2	1	30	****	****
04	190.53	1.25	1.19	3.00	1	0	39	8	2	2	27	****	****
05	190.38	1.25	1.19	3.33	0	1	0	39	8	2	23	****	****
06	190.18	1.25	1.19	5.17	4	0	1	0	39	8	25	****	****
07	190.00	1.25	1.19	4.00	0	4	0	1	0	39	32	****	****
08	189.73	1.25	1.19	8.00	5	0	4	0	1	0	52	****	****
09	189.61	1.25	1.19	6.17	12	5	0	4	0	1	51	****	****
10	189.38	1.25	1.19	6.00	15	12	5	0	4	0	50	****	****
11	189.24	1.25	1.19	6.00	2	15	12	5	0	4	48	****	****
12	189.30	1.25	1.19	5.50	39	2	15	12	5	0	44	49	****
13	189.22	1.25	1.19	9.83	19	39	2	15	12	5	5	82	****
14	189.00	1.25	1.19	21.83	12	19	39	2	15	12	10	78	****
15	188.74	1.25	1.19	******	5	12	19	39	2	15	21	73	****
16	188.53	1.25	1.19	******	2	5	12	19	39	2	36	73	****
17	188.26	1.25	6.35	******	41	2	5	12	19	39	34	76	****
18	188.59	1.25	6.35	******	43	41	2	5	12	19	73	57	****
19	188.56	1.25	6.35	******	0	43	41	2	5	12	87	61	****
20	188.29	1.25	6.35	******	1	0	43	41	2	5	87	71	****
21	188.14	1.25	3.43	******	1	1	0	43	41	2	77	84	****
22	187.99	1.25	3.43	******	2	1	1	0	43	41	77	78	****
23	187.96	1.25	6.35	******	36	2	1	1	0	43	79	78	****
24	187.88	2.54	9.84	******	0	36	2	1	1	0	103	97	****
25	187.89	2.54	9.84	******	26	0	36	2	1	1	91	108	****
26	187.89	2.54	9.84	******	13	26	0	36	2	1	87	113	****
27	187.80	2.54	9.84	******	0	13	26	0	36	2	86	111	93
28	187.74	2.54	6.35	******	16	0	13	26	0	36	47	152	87
29	188.10	2.54	6.35	******	28	16	0	13	26	0	40	190	88
30	188.24	2.54	6.35	******	2	28	16	0	13	26	40	178	94
31	188.14	2.54	6.35	******	0	2	28	16	0	13	65	164	109

Table A5.1.20 Seepage through the Dyke (August 1988) (Rain Adjust: -0 mm)

AUG. 88	LEAKAGE Q			RAINFALL DATA								
DD	R.W.L. m	SW-1 l/sec.	SW-2 l/sec.	SW-3 l/sec.	R00 mm	R01 mm	R02 mm	R03 mm	R04 mm	R05 mm	R10 mm	R20 mm	R35 mm
01	188.04	******	******	******	1	0	2	28	16	0	77	163	110
02	187.88	******	******	******	0	1	0	2	28	16	75	126	130
03	187.72	******	******	******	0	0	1	0	2	28	55	143	148
04	187.70	******	******	******	0	0	0	1	0	2	83	131	158
05	187.78	******	******	******	43	0	0	0	1	0	59	152	161
06	187.74	******	******	******	5	43	0	0	0	1	46	163	155
07	187.62	******	******	******	18	5	43	0	0	0	47	122	157
08	187.65	******	******	******	20	18	5	43	0	0	31	95	200
09	187.76	******	******	******	7	20	18	5	43	0	3	123	199
10	187.81	******	******	******	0	7	20	18	5	43	1	124	200
11	187.82	******	******	******	0	0	7	20	18	5	44	123	197
12	187.83	******	******	7.83	0	0	0	7	20	18	48	122	199
13	187.81	******	******	7.33	13	0	0	0	7	20	66	86	230
14	187.79	******	******	6.83	12	13	0	0	0	7	86	86	218
15	188.02	******	******	7.00	14	12	13	0	0	0	93	60	229
16	188.11	******	******	10.00	10	14	12	13	0	0	50	90	240
17	187.95	******	******	14.17	0	10	14	12	13	0	45	95	201
18	187.75	******	******	8.83	0	0	10	14	12	13	27	97	198
19	187.59	******	******	8.00	0	0	0	10	14	12	20	89	214
20	187.31	******	******	7.50	0	0	0	0	10	14	25	94	211
21	187.08	******	******	6.67	0	0	0	0	0	10	39	94	209
22	186.80	******	******	6.33	37	0	0	0	0	0	49	93	169
23	186.61	******	******	6.83	12	37	0	0	0	0	49	93	126
24	186.41	******	******	7.00	0	12	37	0	0	0	36	106	126
25	186.31	******	******	7.17	12	0	12	37	0	0	24	118	125
26	186.28	******	******	8.67	6	12	0	12	37	0	10	89	167
27	186.11	******	******	6.83	0	6	12	0	12	37	0	94	170
28	185.98	******	******	6.67	13	0	6	12	0	12	37	76	152
29	185.92	******	******	12.83	58	13	0	6	12	0	49	56	172
30	185.88	******	******	16.67	20	58	13	0	6	12	49	49	153
31	185.77	******	******	25.67	11	20	58	13	0	6	61	49	140