APPENDIX 0 METEOROLOGICAL DATA

(1) RECORDS OF DAILY RAIN FALL in 1975

Location : MAKENI
Unit : Millimeter

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Year
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	17.6	13.7	0.0	0.0	33.5
2	0.0	0.0	0.0	0.0	0.0	0.0	10.2	0.0	73.7	62.2	0.0	0.0	146.1
3	0.0	0.0	0.0	14.0	0.0	0.0	0.0	11.7	0.0	11.4	0.0	36.8	73.9
4	0.0	0.0	0.0	0.0	0.0	0.0	11.4	6.3	35.6	0.0	0.0	0.0	53.3
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	12.2	11.7	0.0	0.0	26.4
6	0.0	0.0	0.0	0.0	0.0	16.8	4.3	29.2	0.0	0.0	0.0	0.0	50.3
7	0.0	0.0	0.0	0.0	33.0	1.8	0.0	18.0	10.9	32.5	0.0	0.0	96.2
8	0.0	0.0	0.0	0.0	0.0	0.0	36.3	34.8	0.0	0.0	0.0	0.0	71.1
9	0.0	0.0	0.0	0.0	36.6	56.9	3.1	181.9	7.8	14.6	0.0	0.0	310.9
10	0.0	0.0	0.0	0.0	3.8	10.7	7.6	72.9	2.8	20.3	24.9	0.0	143.0
11	0.0	0.0	5.6	0.0	0.0	24.1	6.9	3.1	6.3	2.3	0.0	0.0	48.3
12	0.0	0.0	0.0	66.5	6.9	16.5	61.0	124.5	25.4	30.2	0.0	0.0	331.0
13	0.0	0.0	0.0	15.7	0.0	28.5	20.6	0.0	14.5	18.5	0.0	0.0	97.8
14	0.0	0.0	0.0	0.0	12.2	0.0	0.0	4.6	21.8	16.0	0.0	0.0	54.6
15	0.0	0.0	0.0	0.0	6.3	50.3	0.0	46.0	8.1	0.0	0.0	0.0	110.7
16	0.0	0.0	0.0	0.0	9.4	7.1	5.6	3.8	90.9	0.0	0.0	0.0	116.8
17	0.0	0.0	0.0	0.0	0.0	0.0	238.0	11.7	18.5	0.0	0.0	0.0	313.2
18	0.0	0.0	0.0	0.0	0.0	56.4	34.0	0.0	0.0	41.1	0.0	0.0	131.5
19	0.0	0.0	0.0	0.0	0.0	0.0	63.5	6.9	0.0	20.1	0.0	0.0	90.5
20	0.0	0.0	0.0	0.0	7.1	32.3	0.0	8.4	5.6	4.8	0.0	0.0	58.2
21	0.0	0.0	0.0	3.1	21.3	0.0	0.0	8.1	2.5	68.3	0.0	0.0	103.3
22	0.0	0.0	0.0	0.0	30.5	0.0	61.0	0.0	30.5	3.8	0.0	0.0	125.8
23	0.0	0.0	0.0	0.0	27.4	7.6	5.1	5.1	0.0	28.2	0.0	0.0	73.4
24	0.0	0.0	0.0	0.0	0.0	8.9	0.0	5.3	5.6	6.1	0.0	0.0	25.9
25	0.0	0.0	1.8	0.0	0.0	0.0	7.4	20.3	6.1	11.7	0.0	0.0	47.3
26	0.0	0.0	0.0	0.0	17.3	38.1	48.3	0.0	5.8	0.0	0.0	0.0	109.5
27	0.0	0.0	0.0	0.0	0.0	10.7	38.1	34.0	38.1	0.0	0.0	0.0	120.9
28	0.0	0.0	0.0	0.0	29.0	7.4	10.2	6.3	17.0	19.1	0.0	0.0	89.0
29	0.0	-	0.0	0.0	13.2	0.0	12.5	29.7	0.0	10.9	0.0	0.0	66.3
30	0.0	-	0.0	0.0	0.0	0.0	0.0	5.1	17.0	24.9	0.0	0.0	47.0
31	0.0	-	0.0	-	0.0	-	0.0	4.8	-	0.0	-	0.0	4.8
Total	0.0	0.0	7.4	99.3	254.0	374.1	730.1	687.8	483.7	472.4	24.9	36.8	3,170.5
No. of Rain Days	0	0	2	4	14	16	20	26	23	22	1	1	

Location : KABALA
Unit : Millimeter

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Year
1	0.0	0.0	0.0	0.0	0.0	17.0	0.8	24.8	1.3	35.8	0.0	0.0	79.7
2	0.0	0.0	6.4	0.0	15.1	1.3	0.3	9.8	16.2	67.5	0.0	0.0	116.6
3	0.0	0.0	2.0	0.0	8.0	2.3	0.8	14.3	25.1	6.9	0.0	0.0	59.4
4	0.0	0.0	0.0	0.0	6.8	67.3	16.0	5.7	3.5	56.9	0.0	0.0	156.2
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	16.2	5.1	0.0	0.0	26.4
6	0.0	0.0	0.0	0.0	8.7	15.7	16.8	3.6	TR	0.0	14.8	0.0	59.6
7	0.0	0.0	0.0	0.0	0.0	1.3	8.4	2.7	31.7	0.0	2.3	0.0	46.4
8	0.0	0.0	0.0	0.0	6.9	25.6	TR	2.3	0.8	20.3	0.0	0.0	55.9
9	0.0	TR	8.3	0.0	0.0	0.0	9.9	22.1	0.0	5.9	0.8	TR	46.7
10	0.0	0.0	2.3	0.0	21.3	6.1	26.9	2.4	0.0	1.3	2.8	0.0	63.1
11	0.0	0.0	16.0	0.0	0.0	0.0	TR	TR	0.0	14.4	0.0	0.0	30.4
12	0.0	0.0	0.0	0.0	5.9	29.0	13.0	0.0	2.5	TR	0.0	0.0	50.4
13	0.0	0.0	0.0	0.0	0.0	5.8	8.4	8.4	74.6	3.1	0.0	0.0	100.3
14	0.0	0.0	3.7	0.0	5.6	14.8	3.3	21.3	20.2	0.0	0.0	0.0	69.5
15	31.0	0.0	0.0	0.0	10.7	0.0	16.3	2.4	0.0	7.4	0.0	0.0	67.8
16	0.0	0.0	8.6	0.0	6.6	26.8	59.3	0.3	6.1	10.4	0.0	0.0	118.1
17	0.0	0.0	19.0	48.2	0.0	0.0	TR	0.8	1.0	0.0	0.0	0.0	69.0
18	0.0	0.0	17.8	TR	0.0	TR	43.0	3.8	3.8	9.0	0.0	0.0	77.4
19	0.0	0.0	0.0	5.0	0.0	0.0	27.6	5.4	22.9	15.5	0.0	TR	76.4
20	0.0	0.0	0.0	0.0	0.0	6.7	0.0	2.4	9.8	51.3	0.0	1.3	71.5
21	0.0	0.0	0.0	2.3	12.7	0.5	0.0	2.2	4.4	0.5	0.0	0.0	23.1
22	0.0	0.5	0.0	0.0	3.8	0.3	24.7	10.3	37.9	10.6	0.0	0.0	131.1
23	0.0	43.5	0.0	0.0	0.0	0.0	4.4	5.7	10.8	7.9	0.0	0.0	28.8
24	0.0	0.0	0.0	0.0	1.5	26.9	2.0	36.7	6.2	8.2	0.0	0.0	81.5
25	0.0	0.0	0.0	0.0	2.1	1.2	1.3	0.8	14.5	17.9	0.0	0.0	37.8
26	0.0	0.0	7.8	0.0	0.3	1.3	14.2	0.3	0.5	2.1	0.0	0.0	26.5
27	0.0	0.0	0.0	0.0	11.0	0.5	1.3	19.6	5.1	0.0	16.6	0.0	54.1
28	0.0	0.0	2.6	0.0	2.6	8.4	7.7	11.4	5.6	0.0	2.6	0.0	40.9
29	0.0	-	0.0	0.0	TR	2.1	1.4	5.4	0.0	0.0	TR	0.0	8.9
30	0.0	-	TR	0.0	24.3	0.5	37.7	29.2	11.4	14.8	0.0	0.0	117.9
31	0.0	-	0.0	-	1.5	-	4.9	21.3	-	2.0	-	0.0	29.7
Total	31.0	44.0	94.2	55.5	155.4	260.6	350.2	281.1	332.1	374.8	39.9	1.3	2,021.0
No. of Rain Days	1	2	11	3	19	22	25	29	25	23	6	1	

Source : METEOROLOGICAL DEPARTMENT
MINISTRY OF TRANSPORT AND COMMUNICATIONS

(2) RECORDS OF TEMPERATURE

VALUE OF MEAN MAXIMUM TEMPERATURE

Location : MAKENI
Unit : F°

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	93.3	95.7	96.0	95.7	92.4	89.0	85.8	85.1	86.9	89.1	88.8	88.9	90.56
1971	91.4	92.7	96.3	93.9	91.2	89.8	-	-	-	88.5	88.5	89.4	91.30
1972	89.9	93.9	94.8	93.7	90.7	88.4	-	-	-	89.7	89.4	90.5	91.22
1973	92.5	96.0	97.5	98.1	92.8	90.2	86.5	86.2	88.2	-	-	-	92.00
1974	91.3	94.1	95.4	95.4	92.1	89.8	85.7	84.6	85.4	88.0	89.6	90.4	90.15
1975	91.9	95.3	96.4	94.4	91.3	89.6	85.6	85.0	86.4	88.2	-	-	90.41
1976	92.2	95.0	95.3	94.5	91.5	88.7	87.6	-	-	-	-	-	92.11
1977	-	-	-	-	92.7	88.3	-	-	88.0	89.2	88.9	89.6	89.45
1978	88.5	93.4	-	-	-	91.2	84.2	87.4	-	-	-	89.8	89.08
1979	92.7	94.3	95.5	97.2	95.7	90.1	87.6	88.9	-	-	-	-	92.75
AVE.	91.52	94.48	95.90	95.36	92.26	89.5	86.14	86.20	86.98	88.78	89.04	89.76	90.46

VALUE OF MEAN MAXIMUM TEMPERATURE

Location : KABALA
Unit : F°

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	92.4	95.1	95.3	93.2	88.0	86.2	82.7	81.5	82.4	86.2	86.3	86.4	87.98
1971	90.1	92.9	95.6	89.9	87.6	85.0	81.3	79.7	82.8	85.4	86.5	87.2	87.00
1972	90.0	93.6	93.9	89.0	86.7	84.7	83.7	83.1	82.9	86.8	88.3	88.9	87.63
1973	92.5	97.7	91.5	94.8	89.0	86.5	83.7	83.7	84.7	86.8	88.9	88.5	89.03
1974	90.3	94.2	94.3	92.6	89.4	85.5	81.6	82.2	83.6	85.9	88.2	90.1	88.16
1975	90.2	95.5	95.8	92.4	88.2	86.0	81.7	81.9	85.9	87.3	89.9	89.9	88.73
1976	90.6	93.9	94.6	90.8	86.0	84.6	80.9	80.6	83.8	82.9	85.4	87.6	86.81
1977	91.4	94.6	95.5	92.5	89.1	84.9	82.6	81.8	83.5	86.0	88.9	89.4	88.35
1978	91.3	93.4	93.4	90.1	86.9	83.5	80.6	81.3	83.8	85.8	86.7	88.3	87.09
1979	93.9	94.1	94.0	92.3	89.1	84.9	82.8	83.3	-	-	-	-	89.30
AVE.	91.27	94.5	94.39	91.76	88.00	85.18	82.16	81.91	83.71	85.90	87.67	88.48	87.91

VALUES OF MEAN MINIMUM TEMPERATURE

Location : MAKENI
Unit : F°

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	69.5	70.2	71.4	72.3	73.0	72.5	71.7	69.1	-	-	-	-	71.21
1971	62.8	68.2	65.4	-	-	-	71.1	-	-	-	-	-	66.88
1972	-	69.0	69.6	72.1	73.2	71.5	-	-	-	-	-	63.3	69.78
1973	62.9	70.0	70.9	73.3	71.4	73.6	72.7	72.1	72.5	-	-	-	71.04
1974	62.4	68.4	70.5	71.9	71.5	71.4	71.8	72.2	69.1	71.4	70.4	69.3	70.03
1975	62.7	68.0	70.2	72.5	71.9	71.0	71.5	72.6	73.1	-	-	-	70.39
1976	68.8	72.9	72.4	71.1	71.1	70.3	-	-	-	-	-	-	71.10
1977	-	-	-	-	74.7	75.2	-	-	-	74.8	76.3	-	75.25
1978	-	72.9	-	-	73.6	72.3	71.6	70.5	-	-	-	68.4	71.55
1979	70.0	68.2	70.3	70.0	71.8	71.4	70.9	70.3	-	-	-	-	70.36
AVE.	65.85	69.74	70.08	71.88	72.46	72.13	71.61	71.13	71.56	73.10	73.35	67.00	70.82

VALUES OF MEAN MINIMUM TEMPERATURE

Location : KABALA
Unit : F°

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	63.6	66.9	70.0	71.3	70.8	69.8	69.1	68.7	68.3	68.1	66.8	60.4	67.82
1971	55.2	64.7	66.6	68.8	68.7	68.4	68.5	68.0	68.5	67.5	68.1	63.9	66.41
1972	61.6	66.5	68.1	69.5	70.4	68.9	69.6	69.3	68.9	68.7	68.6	62.9	67.75
1973	62.7	68.3	70.5	73.0	70.3	70.4	70.1	69.7	69.0	67.6	65.0	58.1	67.89
1974	60.4	66.8	70.7	71.0	69.6	69.2	68.7	69.2	68.5	68.5	65.7	60.6	67.41
1975	61.7	66.5	70.1	71.6	70.5	69.4	68.4	68.2	67.3	66.9	64.0	68.1	67.73
1976	59.5	65.1	68.0	69.4	68.7	68.5	69.3	68.9	69.1	69.3	63.5	59.9	66.60
1977	62.2	64.4	68.2	71.2	70.3	69.8	69.2	68.9	69.3	68.9	66.3	61.1	67.48
1978	65.5	70.0	69.6	71.6	71.1	69.4	68.7	69.4	69.3	68.7	66.7	63.1	68.59
1979	57.2	62.6	59.0	69.8	66.2	66.2	66.2	66.2	-	-	-	-	64.18
AVE.	60.96	66.18	68.08	70.72	69.66	69.00	68.78	68.65	68.69	68.24	66.08	62.01	67.25

Source : METEOROLOGICAL DEPARTMENT
MINISTRY OF TRANSPORT AND COMMUNICATIONS

(3) RECORDS OF RELATIVE HUMIDITY

VALUE OF MEAN MAXIMUM RELATIVE HUMIDITY

Location : MAKENI
Unit : Percent

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	90	84	81	87	87	85	91	92	85	-	89	86	87.00
1971	85	87	87	86	-	90	90	93	90	90	87	90	88.64
1972	-	85	73	83	86	89	-	-	-	81	-	84	83.00
1973	81	82	81	79	85	86	89	91	90	86	87	77	84.50
1974	74	92	78	75	84	89	92	92	90	87	87	87	85.58
1975	74	85	78	79	81	88	90	93	92	89	89	89	85.58
1976	83	78	-	79	88	91	89	-	-	-	-	-	84.67
1977	-	-	-	-	-	-	-	-	95	-	-	-	95.00
1978	-	-	-	-	84	82	95	93	-	-	-	85	87.80
1979	89	88	82	79	88	89	89	90	-	-	-	-	86.75
AVE.	82.3	85.1	80.0	80.9	85.4	87.4	90.6	92.0	90.3	86.6	87.8	85.4	86.15

VALUE OF MEAN MAXIMUM RELATIVE HUMIDITY

Location : KABALA
Unit : Percent

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	81	75	77	75	84	87	91	91	91	90	90	81	84.42
1971	65	78	69	81	83	88	89	93	92	90	90	86	83.67
1972	85	79	72	82	85	89	91	92	90	89	92	72	84.83
1973	51	73	63	76	85	89	91	92	91	89	88	72	80.00
1974	53	64	76	72	84	89	92	94	91	91	87	78	80.92
1975	48	74	71	79	83	87	90	92	93	88	88	81	81.17
1976	64	72	71	80	83	90	93	92	91	93	86	76	82.58
1977	82	70	64	73	83	88	92	92	93	92	90	81	83.33
1978	88	89	87	84	90	93	93	93	92	89	88	83	89.08
1979	83	94	65	69	86	89	93	92	-	-	-	-	83.88
AVE.	70.0	76.8	71.5	77.1	84.6	88.9	91.5	92.3	91.6	90.1	88.8	78.9	83.51

VALUES OF MEAN MINIMUM RELATIVE HUMIDITY

Location : MAKENI
Unit : Percent

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	57	50	55	56	60	68	-	78	-	-	69	66	62.11
1971	50	63	-	-	-	77	76	80	75	68	66	69	69.33
1972	-	-	36	44	63	75	-	-	-	62	-	52	55.33
1973	54	43	41	49	59	67	72	72	70	65	63	46	58.42
1974	44	39	44	44	54	63	71	78	-	68	63	63	57.36
1975	49	44	41	48	60	64	72	72	72	-	-	-	58.00
1976	-	-	67	55	73	76	-	-	67	-	-	-	67.60
1977	-	-	-	-	-	-	-	-	-	-	-	-	-
1978	-	-	-	-	65	-	-	-	-	-	-	56	60.50
1979	59	51	49	46	63	66	73	66	-	-	-	-	59.13
AVE.	52.2	48.3	47.6	48.9	62.1	69.5	72.8	74.3	71.0	65.8	65.3	58.7	61.38

VALUES OF MEAN MINIMUM RELATIVE HUMIDITY

Location : KABALA
Unit : Percent

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	27	28	33	42	59	65	73	74	71	65	61	41	53.25
1971	21	28	26	50	62	63	72	79	72	66	65	48	54.33
1972	40	33	32	50	63	69	71	72	67	65	55	35	54.33
1973	17	22	28	43	61	66	72	74	69	67	55	35	50.75
1974	19	22	34	44	56	67	75	75	70	65	49	29	50.42
1975	19	21	30	44	58	64	77	76	83	71	53	35	52.58
1976	27	27	33	49	64	68	71	74	69	73	52	37	53.67
1977	29	21	27	39	56	67	73	74	73	70	46	41	51.33
1978	47	46	59	44	67	73	76	77	70	65	51	37	59.33
1979	36	44	28	40	57	70	73	75	-	-	-	-	52.88
AVE.	28.2	29.2	33.0	44.5	60.3	67.2	73.3	75.0	71.6	67.4	54.1	37.5	53.69

Source : METEOROLOGICAL DEPARTMENT
MINISTRY OF TRANSPORT AND COMMUNICATIONS

(4) RECORDS OF MEAN SUNSHINE HOURS

Location : LUNGI
Unit : Hours/Day

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	8.2	8.2	8.5	7.0	5.8	6.8	3.8	2.4	4.7	6.1	6.5	6.7	6.23
1971	8.5	7.6	8.6	8.0	6.9	6.2	4.3	2.7	4.4	7.0	5.7	6.3	6.35
1972	7.5	9.0	8.0	6.8	5.9	5.7	4.5	3.4	5.3	6.3	5.0	6.3	6.14
1973	7.7	8.2	5.5	7.1	6.4	4.9	4.4	4.4	4.7	6.4	7.9	7.8	6.28
1974	7.8	7.3	6.7	6.5	8.3	5.9	3.2	2.3	4.0	6.4	8.3	6.9	6.13
1975	7.9	8.9	8.4	6.6	7.5	5.8	3.5	2.6	3.5	6.1	7.1	7.2	6.26
1976	8.3	8.7	7.7	8.0	6.3	5.7	3.4	3.3	5.1	3.9	6.6	8.1	6.26
1977	7.8	8.1	6.7	6.9	5.9	4.8	3.0	3.1	4.6	5.6	8.0	7.4	5.99
1978	7.8	7.8	8.1	7.0	6.0	4.6	3.5	2.6	4.5	5.5	6.5	7.0	5.91
1979	8.2	8.3	6.8	6.3	7.3	5.0	3.4	-	-	-	-	-	6.47
AVE.	7.97	8.21	7.50	7.02	6.63	5.54	3.70	2.98	4.53	5.92	6.84	7.08	6.16

(5) RECORDS OF EVAPORATION VALUES

Location : LUNGI
Unit : Centimeter

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	4.9	6.8	7.4	6.8	5.2	4.0	2.9	3.5	3.7	3.7	4.0	4.4	4.78
1971	5.3	6.9	8.3	5.7	5.9	3.9	4.0	2.9	2.9	3.2	3.3	3.7	4.67
1972	4.0	5.9	6.4	6.6	5.0	3.1	2.7	2.5	2.6	2.7	2.9	4.6	4.08
1973	5.1	5.1	6.3	5.7	3.8	2.7	2.5	2.1	2.3	3.0	3.4	4.5	3.88
1974	5.5	5.6	5.7	6.0	5.2	3.9	2.5	2.0	2.2	2.6	3.4	3.5	4.01
1975	5.6	4.5	5.4	4.7	4.1	2.8	2.3	2.2	2.1	2.5	2.8	2.7	3.48
1976	5.1	4.7	4.9	4.6	3.7	2.9	3.6	2.3	2.5	1.3	2.6	3.7	3.49
1977	3.6	4.5	4.7	5.3	4.1	3.0	2.0	1.8	2.2	2.4	3.3	3.3	3.35
1978	4.2	4.7	6.0	4.9	3.3	2.5	2.4	1.7	2.2	2.5	2.9	3.1	3.37
1979	3.6	4.4	5.8	5.8	4.2	2.5	2.0	-	-	-	-	-	4.04
AVE.	4.69	5.31	6.09	5.61	4.45	3.13	2.69	2.33	2.52	2.66	3.18	3.72	3.87

Location : KABALA
Unit : Hours/Day

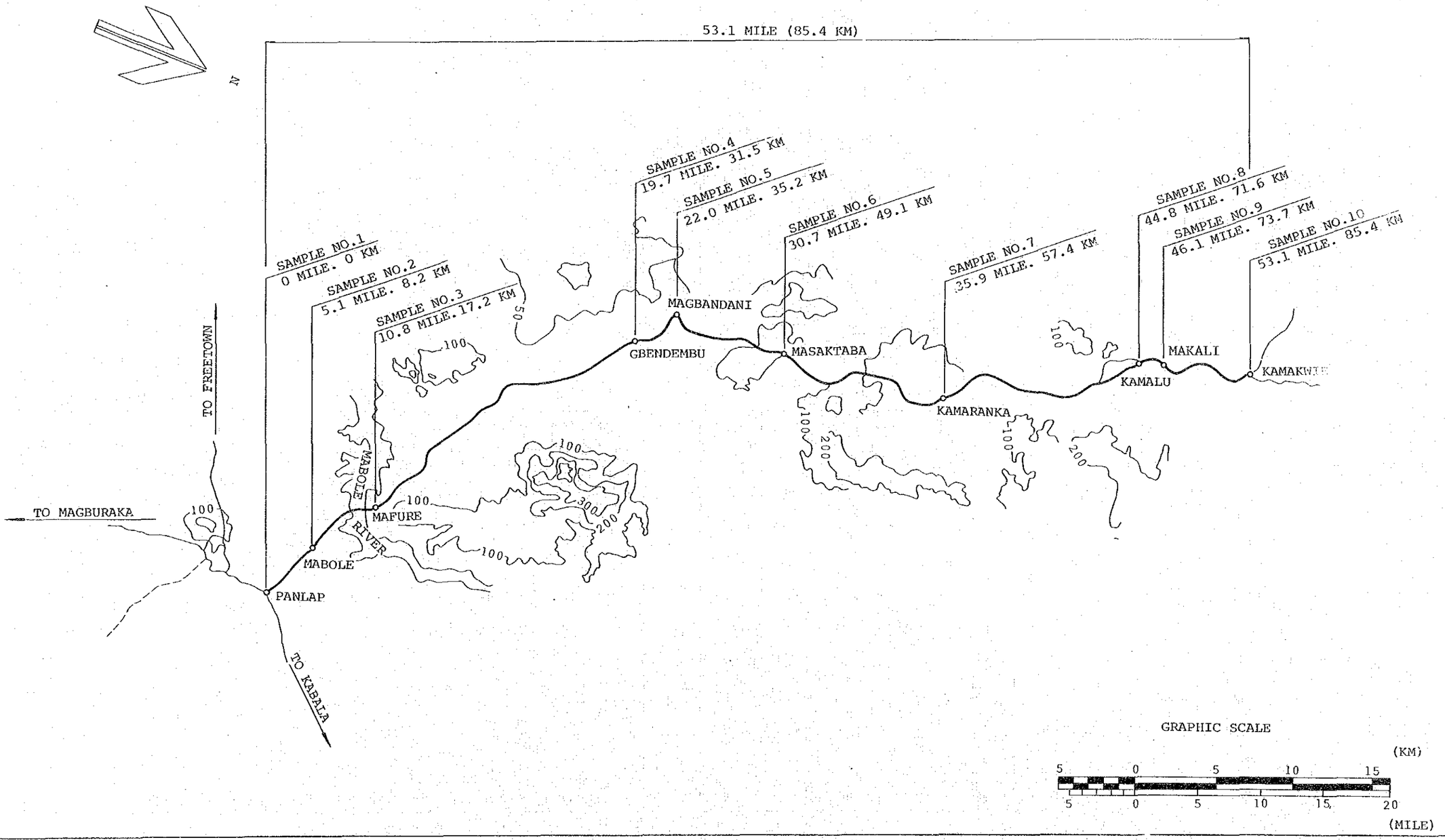
YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	7.8	8.7	8.4	6.8	5.9	6.5	4.0	3.0	4.5	6.2	6.4	7.0	6.27
1971	9.2	7.8	8.9	7.4	7.5	6.7	4.6	3.1	5.2	6.4	6.7	7.5	6.75
1972	7.4	8.7	7.8	7.3	5.8	5.2	5.7	4.4	5.4	6.5	6.2	6.6	6.42
1973	7.5	8.2	6.1	7.1	7.2	6.1	5.4	5.0	5.2	6.7	8.3	8.0	6.73
1974	8.0	8.0	8.0	7.2	8.0	5.3	3.7	3.2	4.9	6.7	7.9	7.8	6.56
1975	8.1	9.0	8.7	6.6	6.7	6.3	3.2	3.8	4.1	7.0	8.2	7.8	6.63
1976	8.5	8.6	8.3	7.9	6.1	6.2	4.2	4.2	5.5	4.0	6.5	8.0	6.50
1977	7.8	8.0	6.7	7.4	7.2	5.4	4.6	4.2	4.4	6.2	8.5	7.9	6.53
1978	7.7	7.5	8.6	7.5	6.0	5.3	3.7	4.0	5.0	6.2	6.5	7.5	6.29
1979	7.6	8.3	6.5	7.3	6.7	5.2	4.1	4.7	-	-	-	-	6.30
AVE.	7.96	8.28	7.80	7.25	6.71	5.82	4.32	3.96	4.91	6.21	7.24	7.57	6.50

Location : KABALA
Unit : Centimeter

YEAR	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	YEAR
1970	7.2	9.4	9.3	7.4	4.1	2.7	2.0	2.1	2.0	2.2	2.5	4.5	4.62
1971	7.1	8.1	10.8	5.3	4.4	3.4	2.6	2.2	2.4	2.1	2.9	3.5	4.57
1972	5.7	8.6	8.1	5.5	3.3	2.5	2.4	2.0	2.1	2.3	2.7	5.4	4.22
1973	9.7	10.1	10.8	7.9	3.5	2.9	2.5	2.1	2.0	2.4	2.9	5.8	5.22
1974	10.9	14.9	14.6	14.6	7.4	3.6	2.8	2.3	2.2	2.1	3.2	4.9	6.96
1975	9.0	8.6	9.6	6.7	4.0	2.7	1.8	1.8	1.6	1.9	3.2	5.0	4.66
1976	8.2	8.2	8.2	6.5	3.7	2.5	1.9	1.6	1.9	1.5	3.1	5.8	4.43
1977	6.9	9.3	10.4	8.2	5.0	3.1	2.3	2.0	1.4	1.6	2.8	4.2	4.77
1978	4.2	4.5	5.5	3.7	2.5	2.1	1.8	1.6	1.7	1.9	2.8	4.5	3.07
1979	5.3	5.7	8.4	7.7	3.6	2.2	1.8	1.6	-	-	-	-	4.54
AVE.	7.42	8.74	9.57	7.35	4.15	2.77	2.19	1.93	1.92	2.00	2.90	4.84	4.65

Source : METEOROLOGICAL DEPARTMENT
MINISTRY OF TRANSPORT AND COMMUNICATIONS

LOCATIONS OF SAMPLING FOR SOIL TESTS



RESULTS OF SOIL TEST

SAMPLE NO. 1
LOCATION PANLAP

(1) SPECIFIC GRAVITY TEST

DATE 29 October, 1979

Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		40.6	41.2		
Wt.(Pycnometer+water) W'a in g		90.4	90.9		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		106.7	107.5		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	66.1	67.2		
	Wt.Container in g				
	Wo in g	25.5	26.0		
Deflocculating agent and its amount					
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.77	2.76		
Coefficient for temperature correction K		0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.757	2.748		
Mean value		Specific gravity (15°C) = 20°C	2.75		

*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

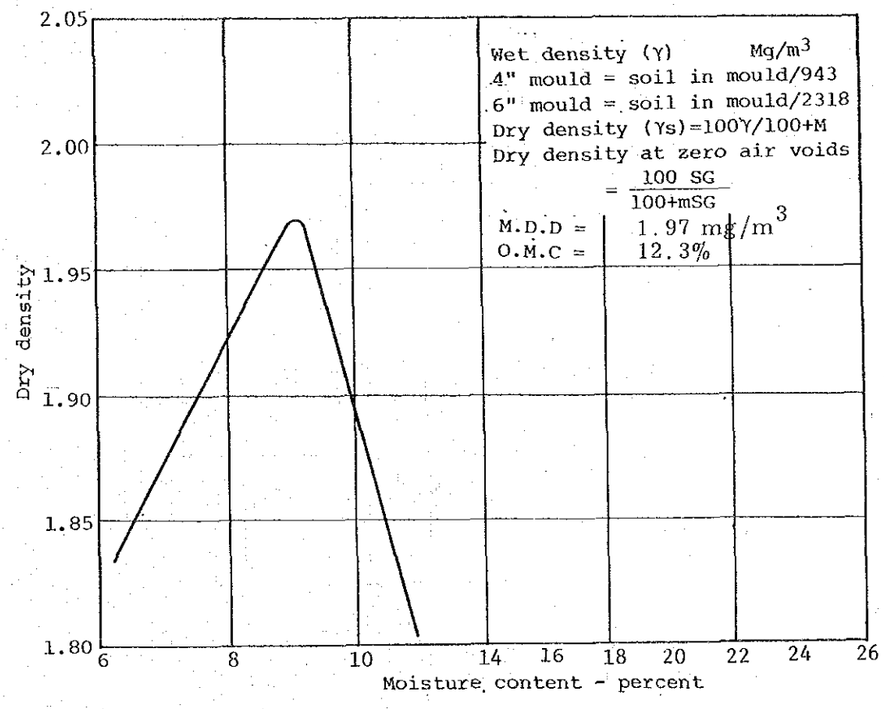
(2) OPTIMUM MOISTURE CONTENT

DATE: 26 Oct. 79

Test Number	1	2	3	4	5	6	7	8
WT.cylinder + wet soil grms.	9643	10108	10008	9886				
WT. cylinder grms.	4956	4989	5045	5027				
WT. wet soil grms	4687	5119	4963	4859				
Wet density (γ)	2.02	2.21	2.14	2.09				

Container Number (Top)	12	42	42	45				
WT.wet soil + cont. grms.	64.4	62.0	71.5	76.5				
WT.dried soil + cont. grms.	60.1	56.3	63.6	67.3				
WT.container grms.	8.0	8.0	7.9	7.9				
WT.moisture grms.	4.3	5.7	7.9	9.2				
WT.dried soil grms.	52.1	48.3	55.7	59.4				
Moisture content (m) %	8.24	11.80	14.18	15.49				

Container Number (Base)	40	16	29	17				
WT. wet soil + cont. grms.	66.3	67.5	75.5	71.7				
WT. dried soil + cont. grms.	62.1	60.8	66.8	63.3				
WT.container grms.	8.0	7.9	7.8	7.8				
WT.moisture grms.	4.2	6.7	8.7	8.4				
WT.dried soil grms.	54.1	52.9	58.9	55.4				
Moisture content(m) %	7.76	12.66	14.77	15.16				
Dry density (γs)	1.87	1.97	1.87	1.82				

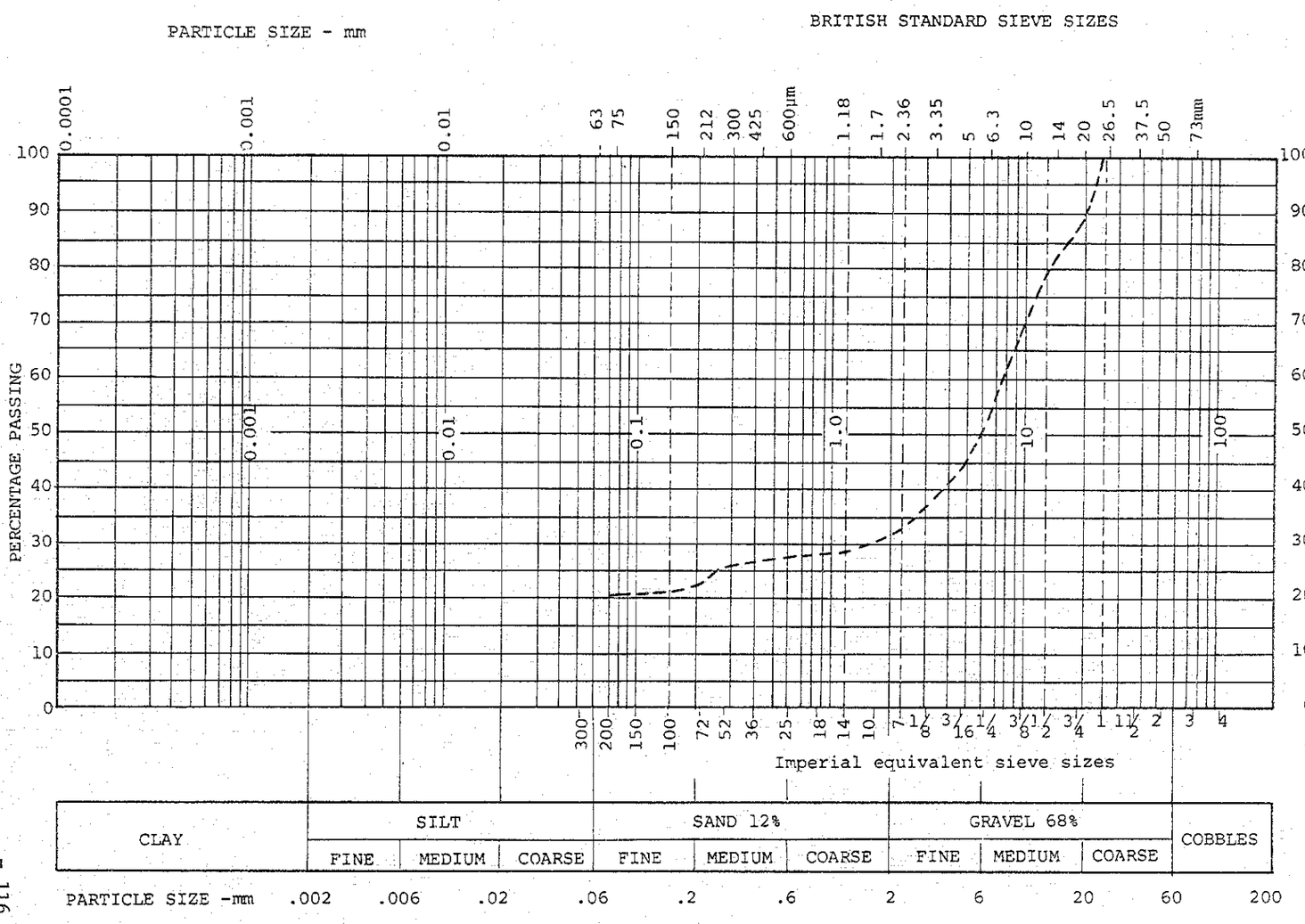


Source : JICA mission

Source : UCA Mission

(3) PARTICLE SIZE DISTRIBUTION

RESULTS OF SOIL TEST



DATE .....29.October 79.
DEPTH ..2 ft. - 5 ft....

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1						
20	3/4	407		10.4		89.6	
14	1/2	401		10.2		79.4	1500
10	3/8	417		10.7		68.7	1000
6.3	1/4	685		17.5		51.2	750
5	3/16	260		6.6		44.6	500
3.35	1/8		3.2				300
2.36	7	136			11.1	33.5	200
1.18	14	44			3.6	29.9	100
600 µm	25	20			1.6	28.3	75
425	36	21			1.7	26.6	60
300	52	13			1.1	25.5	50
212	72	19			1.6	23.9	45
150	100	20			1.6	22.3	40
75	200	18			1.5	20.8	28
63	/						25

WEIGHT OF DRY MATERIAL 3915 GMS

SAMPLE NO. 1
LOCATION PANLAP

SAMPLE NO.1
LOCATION PANLAP

RESULTS OF SOIL TEST

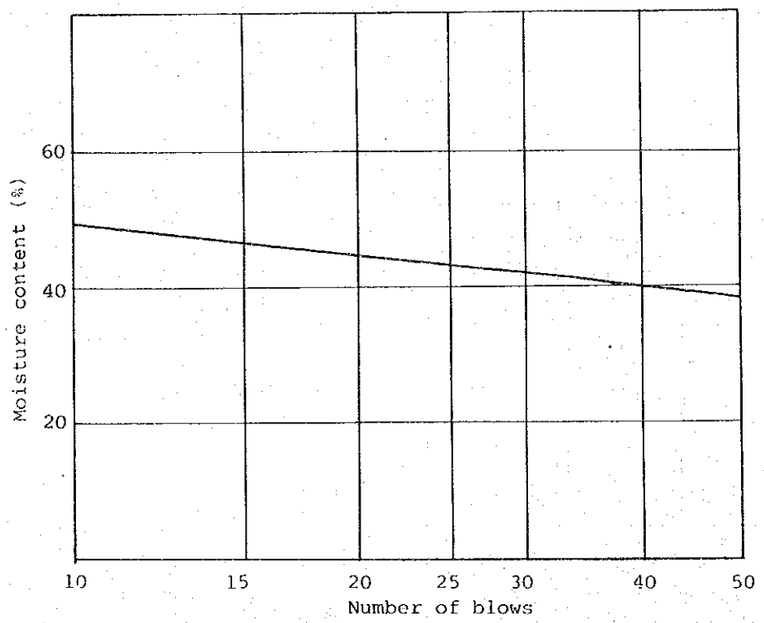
(4) CONSISTENCY

Date :29 October, 1979
Depth of sample : 2' - 5'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. ..2...
Soil equilibrated with water for .24... hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test) Container No.		43 27	36 7	24 26	16 11	11 30	- 8	- 12
Mass of wet soil + container	g	29.4	32.5	27.6	29.9	29.6	26.6	22.3
Mass of dry soil + container	g	23.9	25.1	21.6	23.0	22.5	23.5	19.5
Mass of container	g	7.8	7.8	7.7	8.0	7.7	13.4	10.2
Mass of moisture	g	5.5	7.4	6.0	6.9	7.1	3.1	2.8
Mass of dry soil	g	15.1	17.3	13.9	15.0	14.8	10.1	9.3
Moisture content	%	36.4	42.8	43.2	46.0	48.0	30.6	30.2

Type of test: Natural moisture content (N),Liquid limit (LL),Plastic limit(PL).

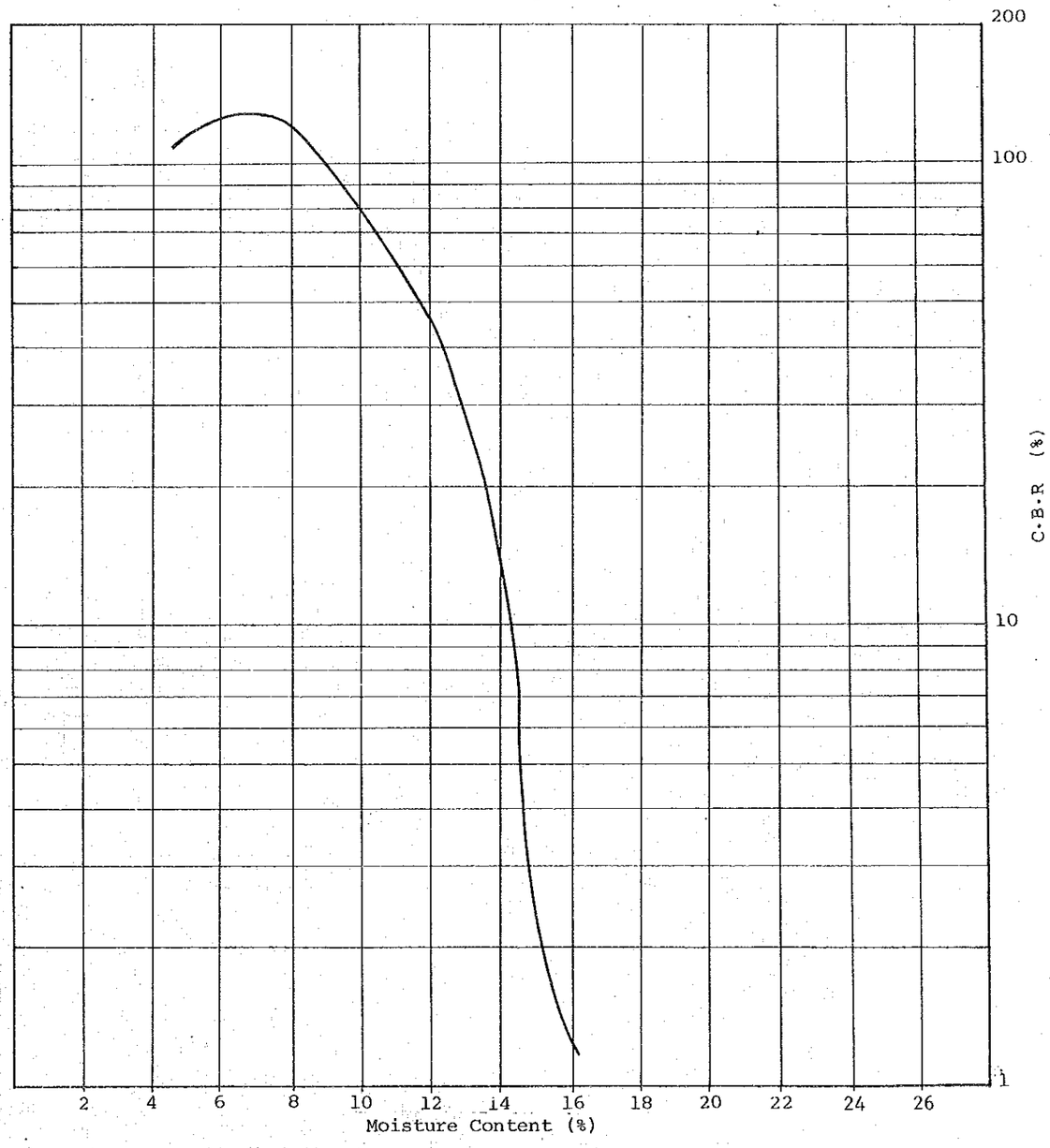


Results. Liquid limit (LL) : 43.0
Plastic limit (PL): 30.0
Plasticity index (PI) : 13%
Linear shrinkage : 7%

Source : JICA mission

(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

C.B.R. at
O.M.C = 43%
Optimum Moisture Content = 12.3 %



RESULTS OF SOIL TEST

SAMPLE NO. 2
LOCATION MABOLE
DATE: 27 Oct. 79

(1) SPECIFIC GRAVITY TEST

DATE 29 October, 1979

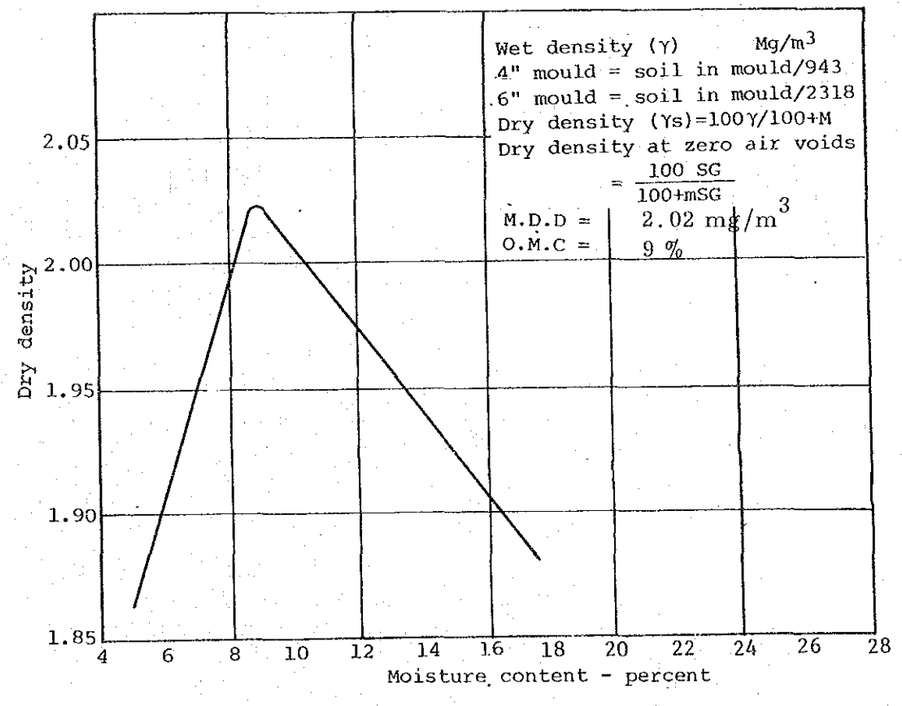
Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		42.9	42.3		
Wt.(Pycnometer+water) W'a in g		92.7	92.4		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		110.6	110.1		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	70.9	69.9		
	Wt.Container in g				
	Wo in g	28.0	27.6		
Deflocculating agent and its amount					
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.76	2.78		
Coefficient for temperature correction K		0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.748	2.768		
Mean value		Specific gravity (15°C) / 20°C = 2.76			

*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

(2) OPTIMUM MOISTURE CONTENT

Test Number		1	2	3	4	5	6	7	8
WT.cylinder + wet soil	grms.	9251	10140	10063	10031				
WT. cylinder	grms.	4849	5042	4925	4909				
WT. wet soil	grms	4602	5098	5138	5122				
Wet density (γ)		1.99	2.20	2.22	2.21				
Container Number (Top)		12	11	29	36				
WT.wet soil + cont.	grms.	59.4	60.6	74.8	77.9				
WT.dried soil + cont.	grms.	56.6	56.0	67.0	68.4				
WT.container	grms.	8.0	7.9	8.0	7.9				
WT.moisture	grms.	2.8	4.6	7.8	9.5				
WT.dried soil	grms.	53.8	51.4	59.0	60.5				
Moisture content (m)	%	5.20	8.95	13.18	15.70				
Container Number (Base)		39	15	45	42				
WT. wet soil + cont.	grms.	61.4	67.6	77.6	86.4				
WT. dried soil + cont.	grms.	58.3	62.5	69.3	75.6				
WT.container	grms.	8.0	8.0	7.9	7.9				
WT.moisture	grms.	3.1	5.1	8.3	10.8				
WT.dried soil	grms.	55.2	57.4	61.0	67.7				
Moisture content(m)	%	5.61	8.89	13.61	15.9				
Dry density (γs)		1.88	2.02	1.95	1.91				



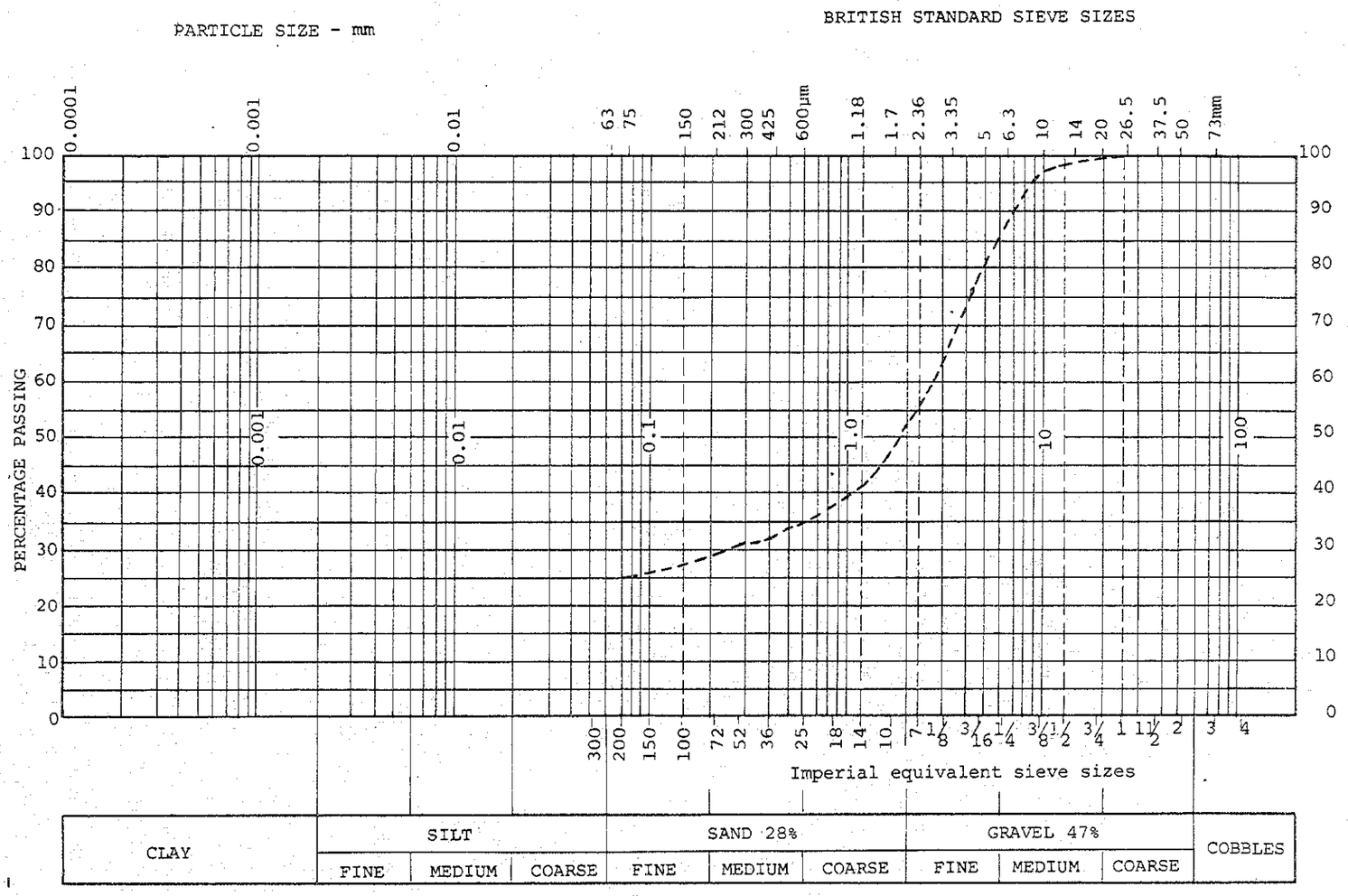
Source : JICA mission

Source : JICA Mission

- 119 -

(ε) PARTICLE SIZE DISTRIBUTION

RESULTS OF SOIL TEST



DATE 29 October '79

DEPTH 2 ft. - 5 ft.

SAMPLE NO. 2

LOCATION MAROLE

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1						
20	3/4	16		0.5		99.5	
14	1/2	20		0.6		98.9	1500
10	3/8	68		2.1		96.8	1000
6.3	1/4	321		9.8		87.0	750
5	3/16	294		9.0		78.0	500
3.35	1/8		6.01				300
2.36	7	185		22.9		55.1	200
1.18	14	78		14.3		40.8	100
600 µm	25	33		6.0		34.8	75
425	36	14		2.6		32.2	60
300	52	8		1.5		30.7	50
212	72	11		2.0		28.7	45
150	100	12		2.2		26.5	40
75	200	11		2.0		24.5	28
63	/						25

WEIGHT OF DRY MATERIAL 3281 GMS

SAMPLE NO. 2

LOCATION MABOLE

RESULTS OF SOIL TEST

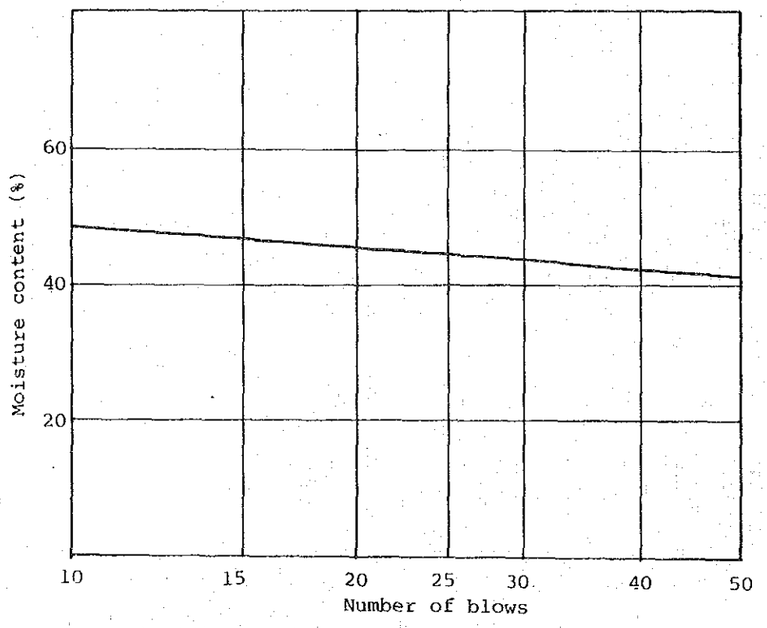
(4) CONSISTENCY

Date : 29 October, 1979
Depth of sample : 2' - 5'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. ..2....
Soil equilibrated with water for ..24.. hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test)		44	32	24	17	12	-	-
Container No.		18	20	13	26	31	35	18
Mass of wet soil + container	g	25.5	27.6	27.8	25.3	28.0	17.8	18.4
Mass of dry soil + container	g	20.3	21.7	21.6	19.7	21.6	15.6	16.1
Mass of container	g	8.0	8.0	7.9	7.8	8.2	7.9	8.1
Mass of moisture	g	5.2	5.9	6.2	5.6	6.4	2.2	2.3
Mass of dry soil	g	12.3	13.7	13.7	11.8	13.4	7.7	8.0
Moisture content	%	42.3	43.1	45.3	47	48	28.3	28.5

Type of test: Natural moisture content (N),Liquid limit (LL),Plastic limit(PL).

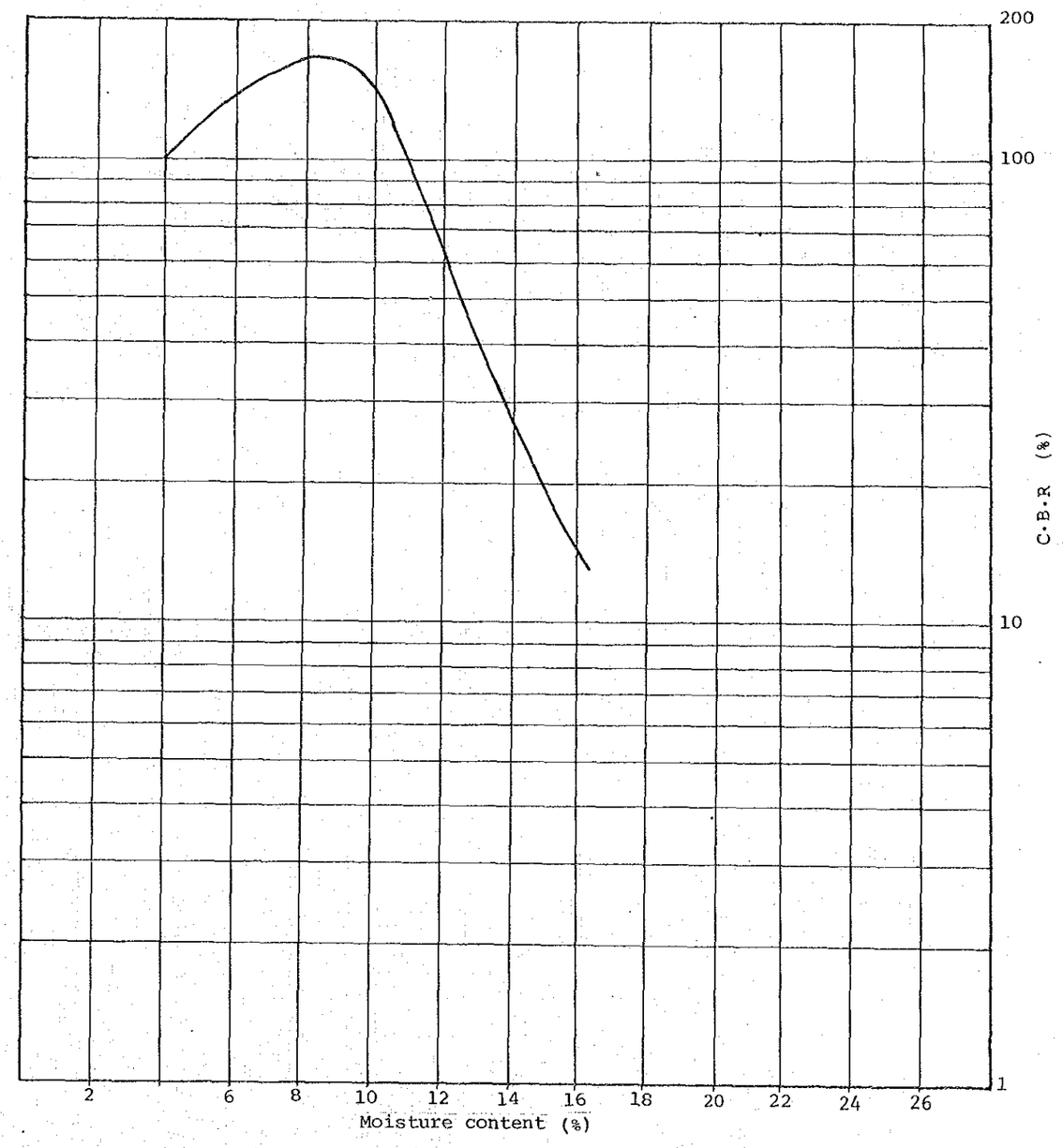


Results. Liquid limit (LL) : 45.0
Plastic limit (PL): 28.0
Plasticity index (PI) : 17 %
Linear shrinkage : 10 %

Source : JICA mission

(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

C.B.R. at
O.M.C. = 160%
Optimum Moisture Content = 9%



RESULTS OF SOIL TEST

SAMPLE NO. 3
LOCATION MAFURE
DATE: 17 Oct. 79

(1) SPECIFIC GRAVITY TEST

DATE 29 October, 1979

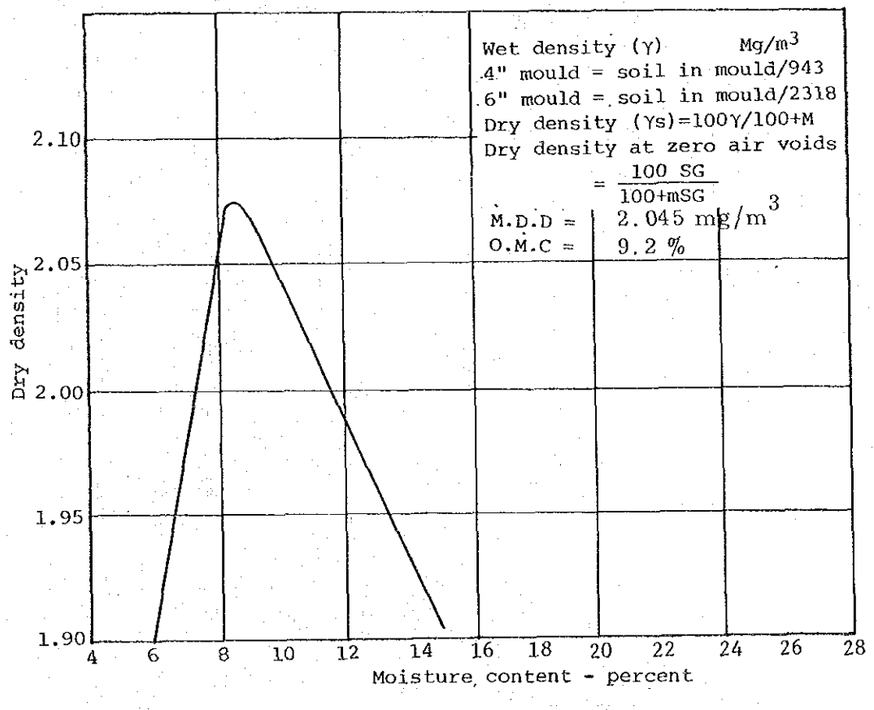
Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		38.5	39.0		
Wt.(Pycnometer+water) W'a in g		89.3	90.0		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		105.0	106.0		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	63.5	64.5		
	Wt.Container in g				
	Wo in g	25.0	25.5		
Deflocculating agent and its amount		-	-	-	-
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.68	2.68		
Coefficient for temperature correction K		0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.668	2.668		
Mean value		Specific gravity $(\frac{15°C}{20°C})$ = 2.66			

*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

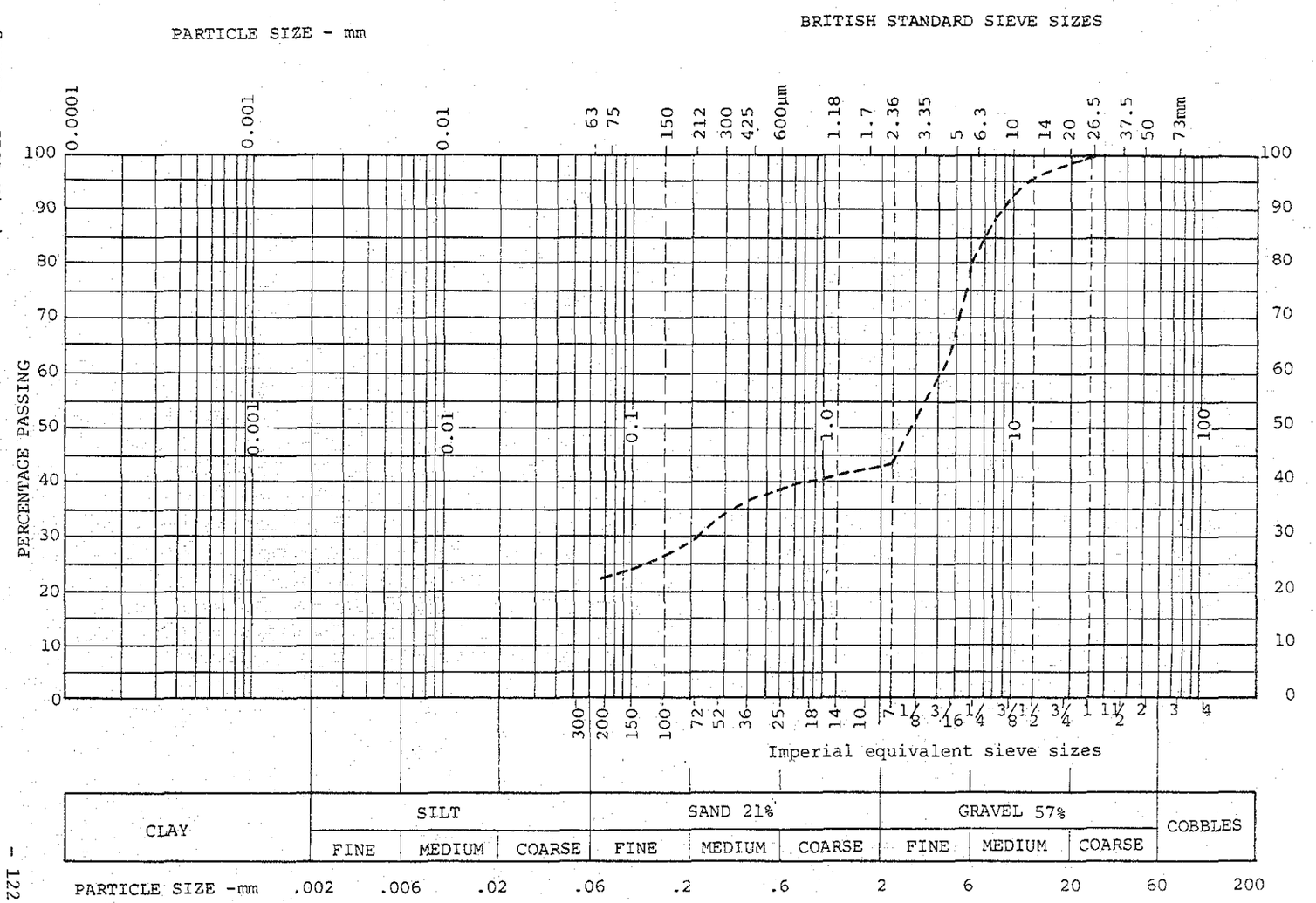
(2) OPTIMUM MOISTURE CONTENT

Test Number		1	2	3	4	5	6	7	8
WT.cylinder + wet soil	grms.	10026	10015	10220	9941				
WT. cylinder	grms.	5354	4908	5036	4861				
WT. wet soil	grms	4672	5107	5184	5080				
Wet density (γ)		2.02	2.20	2.24	2.19				
Container Number (Top)		39	16	45	41				
WT.wet soil + cont.	grms.	56.8	59.4	74.4	70.1				
WT.dried soil + cont.	grms.	54.1	55.8	67.8	61.6				
WT.container	grms.	8.0	7.9	7.9	7.9				
WT.moisture	grms.	2.7	3.6	6.6	8.5				
WT.dried soil	grms.	46.1	47.9	59.9	53.7				
Moisture content (m)	%	5.86	7.52	11.02	15.83				
Container Number (Base)		42	37	11	28				
WT. wet soil + cont.	grms.	72.9	65.5	81.1	93.1				
WT. dried soil + cont.	grms.	69.2	61.2	73.5	83.5				
WT.container	grms.	7.9	8.0	7.9	8.1				
WT.moisture	grms.	3.7	4.3	7.6	9.6				
WT.dried soil	grms.	61.3	53.2	65.6	75.4				
Moisture content(m)	%	6.04	8.08	11.59	12.73				
Dry density (γs)		1.90	2.04	2.01	1.92				



Source : JICA mission

RESULTS OF SOIL TEST



DATE 29 October '79

DEPTH 2 ft. - 5 ft.

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1						
20	3/4	60		1.7		98.3	
14	1/2	80		2.2		96.1	1500
10	3/8	158		4.4		91.7	1000
6.3	1/4	545		15.2		76.5	750
5	3/16	450		12.5		64.0	500
3.35	1/8		5.05				300
2.36	7	140			19.6	44.4	200
1.18	14	27			3.8	40.6	100
600 µm	25	12			1.7	38.9	75
425	36	15			2.1	36.8	60
300	52	18			2.5	34.3	50
212	72	30			4.2	30.1	45
150	100	27			3.8	26.3	40
75	200	23			3.2	23.1	28
63	/						25

WEIGHT OF DRY MATERIAL 3593 GMS

SAMPLE NO. 3

LOCATION MATURE

Source : JICA Mission

SAMPLE NO. 3

LOCATION MAFURE

RESULTS OF SOIL TEST

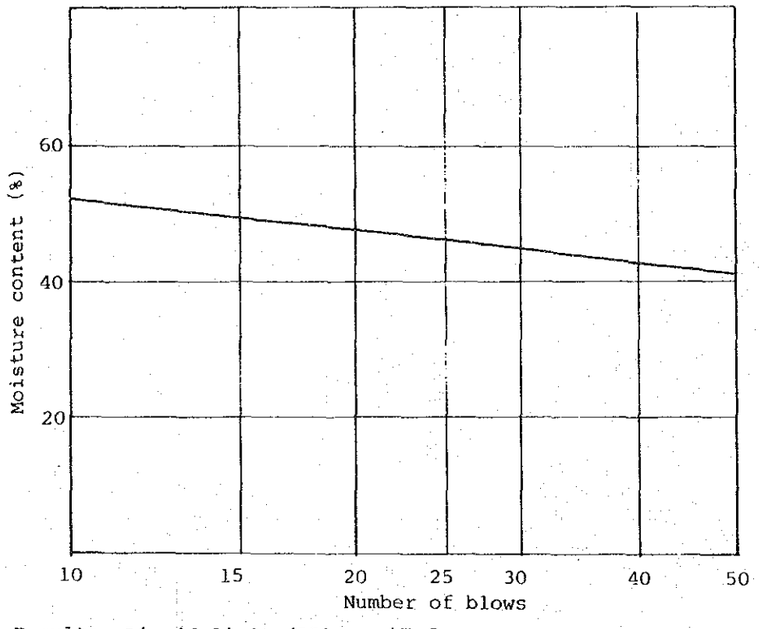
(4) CONSISTENCY

Date : 29 October, 1979
Depth of sample : 2' - 5'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. ...1...
Soil equilibrated with water for ..24.. hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test)		49	34	28	19	13		
Container No.		43	8	26	17	10	27	35
Mass of wet soil + container	g	33.1	26.3	27.8	23.2	29.8	19.0	23.0
Mass of dry soil + container	g	25.8	20.8	21.9	18.2	22.4	16.5	19.4
Mass of container	g	8.0	8.0	7.8	8.0	7.8	7.9	7.9
Mass of moisture	g	7.3	5.5	5.9	5.0	7.4	2.5	3.6
Mass of dry soil	g	17.8	12.8	13.1	10.2	14.6	8.6	11.5
Moisture content	%	41.0	43	45	49	51	29.1	31.3

Type of test: Natural moisture content (N),Liquid limit (LL),Plastic limit(PL).

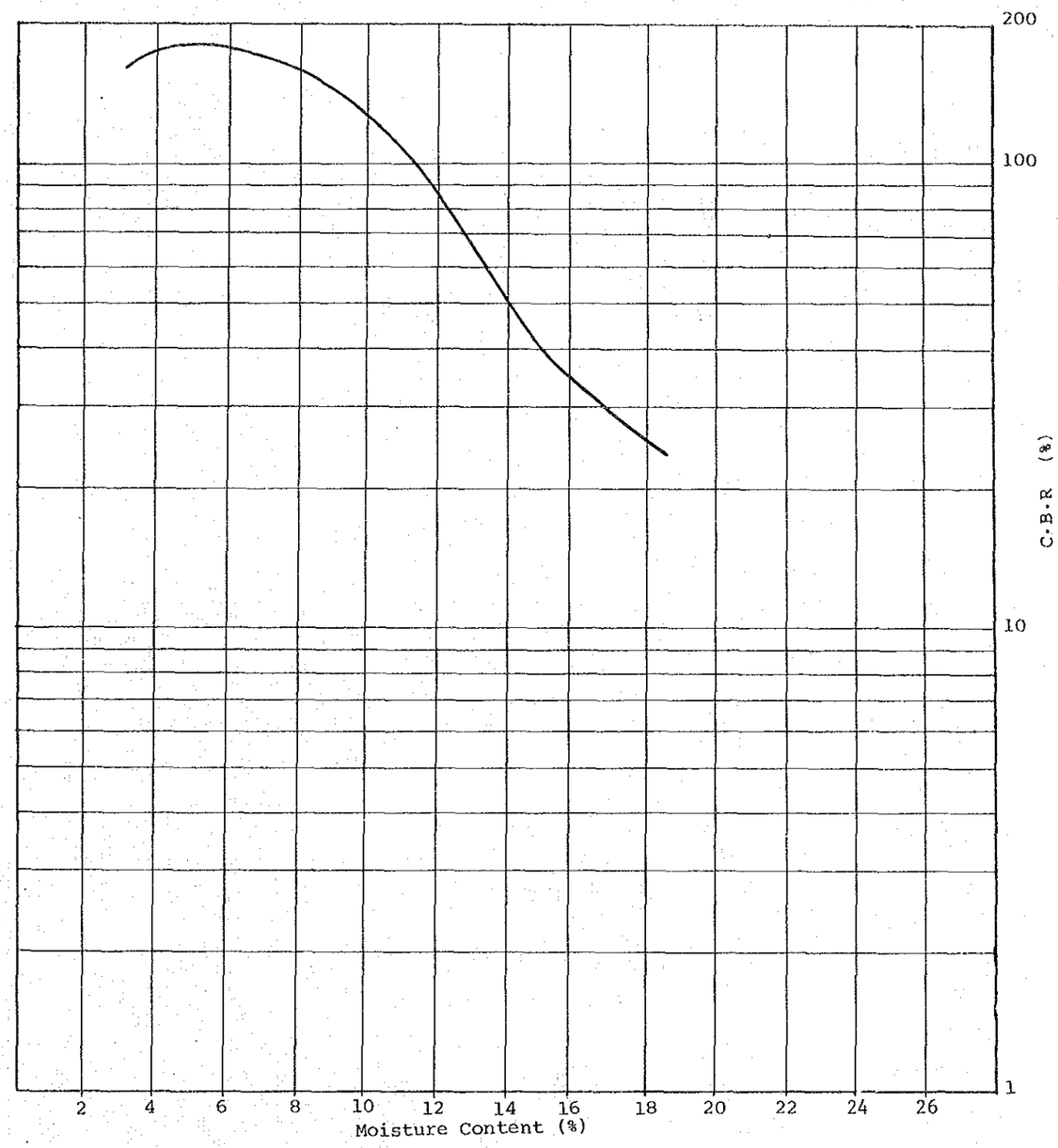


Results. Liquid limit (LL) : 47.0
Plastic limit (PL): 30.0
Plasticity index (PI) : 17 %
Linear shrinkage : 6 %

Source : JICA mission

(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

C.B.R. at
O.M.C. = 130%
Optimum Moisture Content = 9.2 %



RESULTS OF SOIL TEST

SAMPLE NO. 4
LOCATION GBENDEMBU

(1) SPECIFIC GRAVITY TEST

DATE 29 October, 1979

Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		42.9	31.1		
Wt.(Pycnometer+water) W'a in g		92.7	80.3		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		114.6	104.7		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	77.7	69.9		
	Wt.Container in g				
	Wo in g	34.8	38.8		
Deflocculating agent and its amount		-	-		
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.69	2.69		
Coefficient for temperature correction K		0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.678	2.678		
Mean value		Specific gravity $(\frac{15°C}{20°C})$ = 2.68			

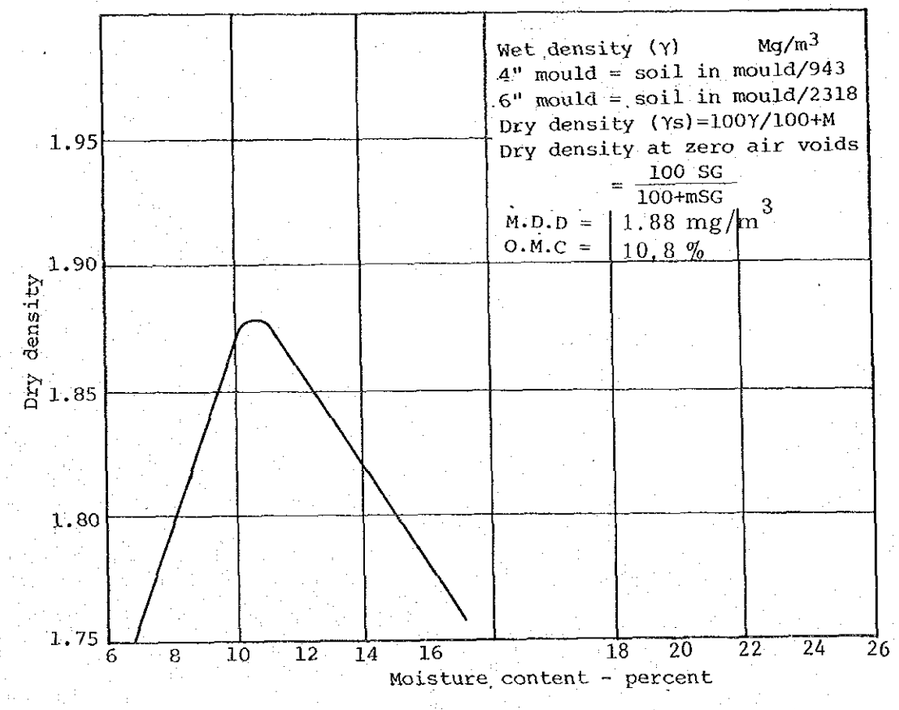
*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

(2) OPTIMUM MOISTURE CONTENT

DATE: 18 Oct. 79

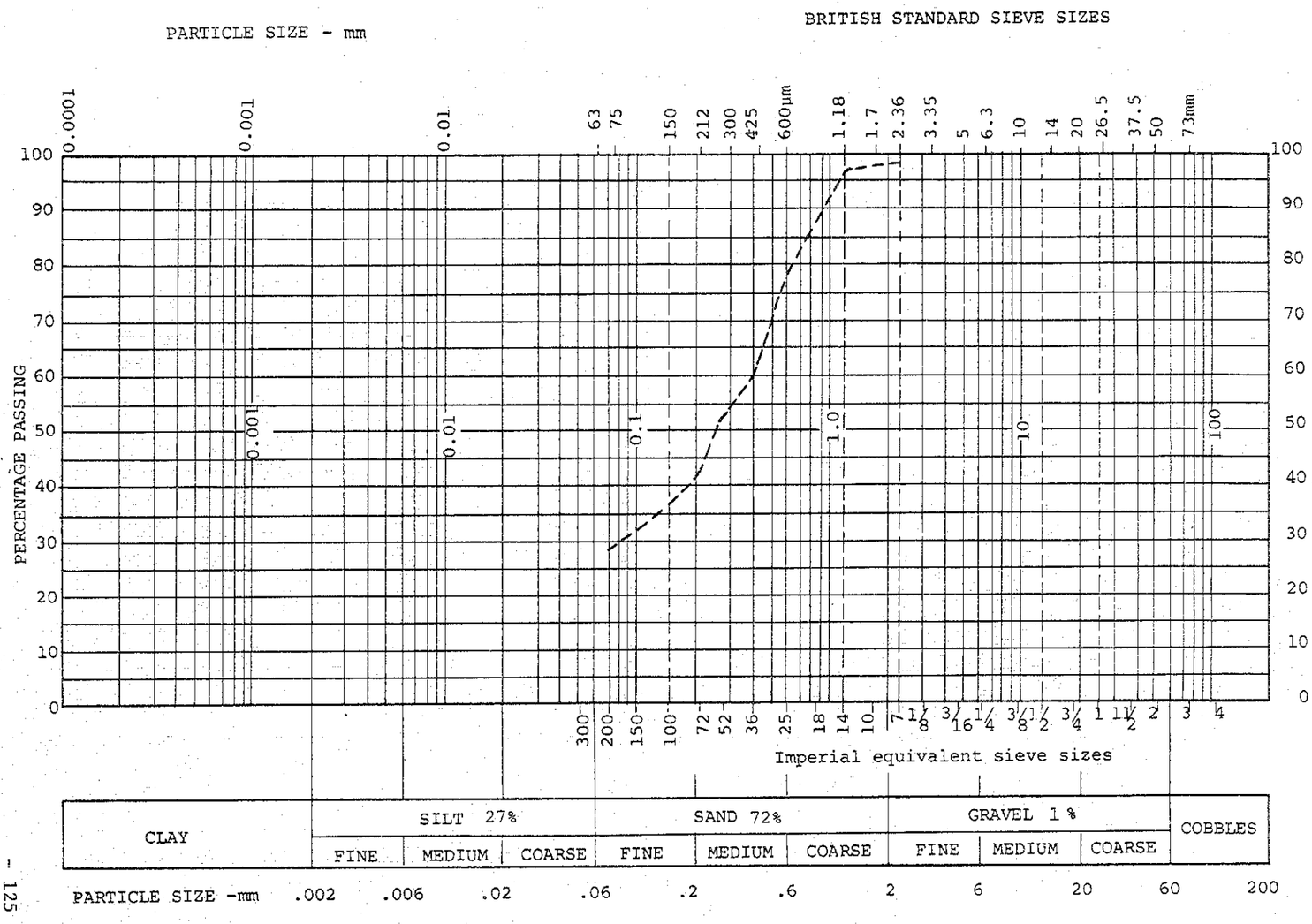
Test Number		1	2	3	4	5	6	7	8
WT.cylinder + wet soil	grms.	9562	9766	9867	9635				
WT. cylinder	grms.	5250	5010	5039	4851				
WT. wet soil	grms	4312	4756	4828	4784				
Wet density (γ)		1.86	2.05	2.08	2.06				
Container Number (Top)		29	28	17	12				
WT.wet soil + cont.	grms.	57.3	50.9	54.7	67.5				
WT.dried soil + cont.	grms.	54.2	46.7	50.0	59.2				
WT.container	grms.	7.9	8.1	7.8	8.0				
WT.moisture	grms.	3.1	4.2	4.7	8.3				
WT.dried soil	grms.	46.3	38.6	42.2	51.2				
Moisture content (m)	%	6.69	10.88	11.14	16.2				
Container Number (Base)		42	45	11	41				
WT. wet soil + cont.	grms.	65.6	55.8	59.8	66.7				
WT. dried soil + cont.	grms.	62.3	51.5	54.8	58.4				
WT.container	grms.	7.9	7.9	7.9	7.9				
WT.moisture	grms.	3.3	4.3	5.0	8.4				
WT.dried soil	grms.	54.4	43.6	47.5	50.5				
Moisture content(m)	%	6.06	9.86	10.52	16.63				
Dry density (γs)		1.75	1.86	1.88	1.77				



Source : JICA mission

(3) PARTICLE SIZE DISTRIBUTION

RESULTS OF SOIL TEST



DATE 29 October '79
DEPTH 2 ft. - 5 ft.

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1						
20	3/4						
14	1/2						1500
10	3/8						1000
6.3	1/4						750
5	3/16						500
3.35	1/8						300
2.36	7	2		0.6		99.4	200
1.18	14	10		2.8		96.6	100
600 µm	25	67		19.1		77.5	75
425	36	62		17.7		59.8	60
300	52	26		7.4		62.4	50
212	72	32		9.1		43.3	45
150	100	26		7.4		35.9	40
75	200	23		6.5		29.4	28
63	/						25

WEIGHT OF DRY MATERIAL 351 GMS

SAMPLE NO. 4
LOCATION GBENDEMBU

Source : JICA Mission

SAMPLE NO.4

LOCATION
GBENDEMBU

RESULTS OF SOIL TEST

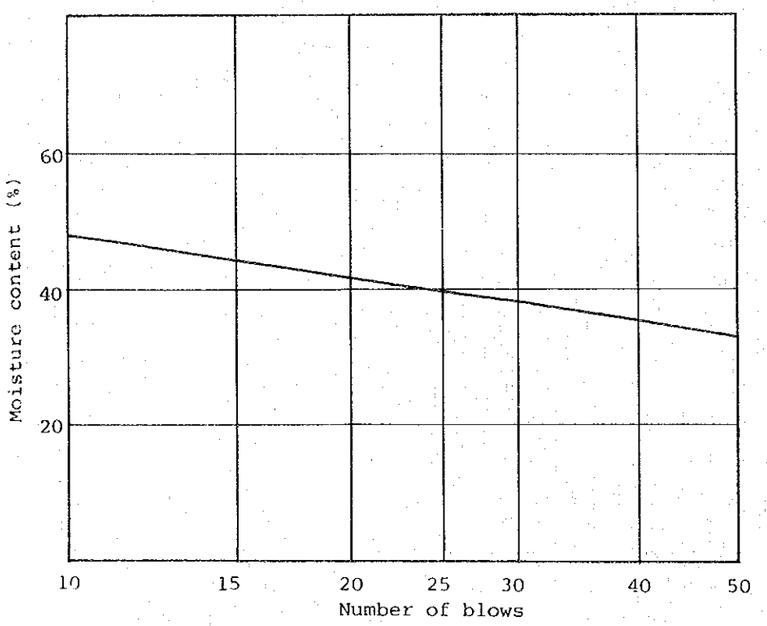
(4) CONSISTENCY

Date : 29 October, 1979
Depth of sample : 2' - 5'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. ..1....
Soil equilibrated with water for ..24... hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test)		44	31	22	16	11	-	-
Container No.		26	35	8	7	24	28	17
Mass of wet soil + container	g	26.7	33.5	28.6	29.7	30.8	22.9	22.5
Mass of dry soil + container	g	21.9	26.6	22.6	23.0	23.4	20.4	20.1
Mass of container	g	7.7	8.0	7.8	7.8	7.8	9.2	9.3
Mass of moisture	g	4.8	6.9	6.0	6.7	7.4	2.5	2.4
Mass of dry soil	g	14.2	18.6	14.8	15.2	15.6	11.2	10.8
Moisture content	%	33.7	37.0	40.5	44.1	47.4	22.4	22.2

Type of test: Natural moisture content (N),Liquid limit (LL),Plastic limit(PL).

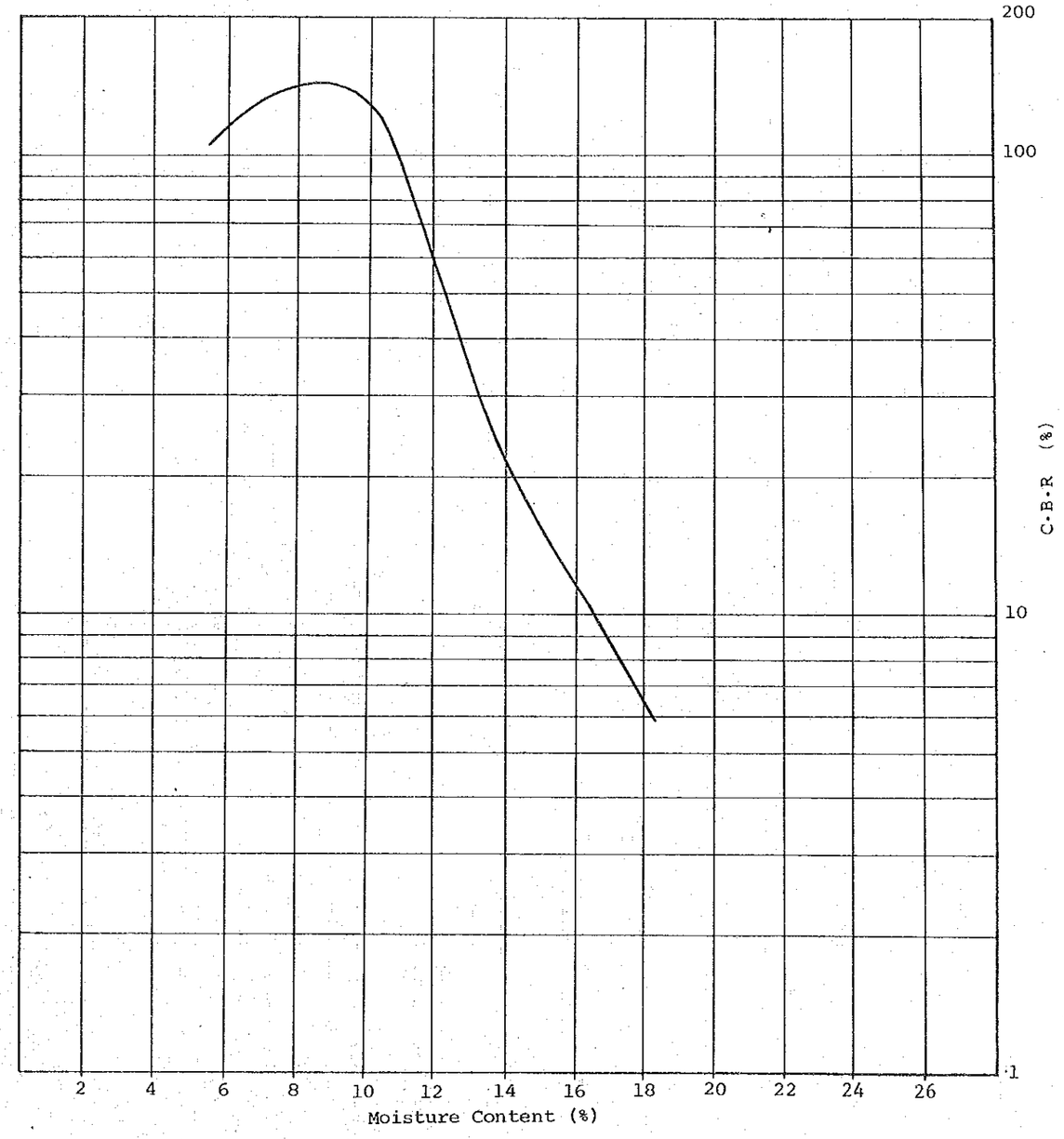


Results. Liquid limit (LL) : 40.0 %
Plastic limit (PL): 22.0
Plasticity index (PI) : 18 %
Linear shrinkage : 10 %

Source : JICA mission

(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

C.B.R. at
O.M.C. = 98 %
Optimum Moisture Content = 10.8 %



RESULTS OF SOIL TEST

SAMPLE NO. 5
LOCATION MAGBANDANI
DATE: 19 Oct. 79

(1) SPECIFIC GRAVITY TEST

DATE 29 October, 1979

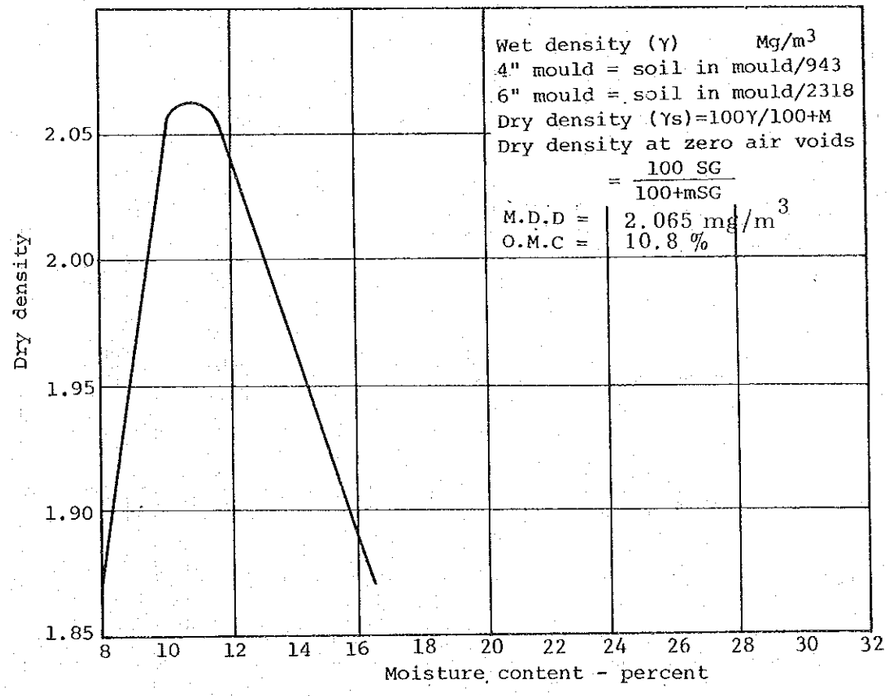
Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		45.0	45.5		
Wt.(Pycnometer+water) W'a in g		95.0	95.5		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		111.0	111.7		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	70.0	70.8		
	Wt.Container in g				
	Wo in g	25.0	25.3		
Deflocculating agent and its amount					
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.78	2.78		
Coefficient for temperature correction K		0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.768	2.768		
Mean value		Specific gravity $\frac{(15°C)}{20°C}$ = 2.77			

*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

(2) OPTIMUM MOISTURE CONTENT

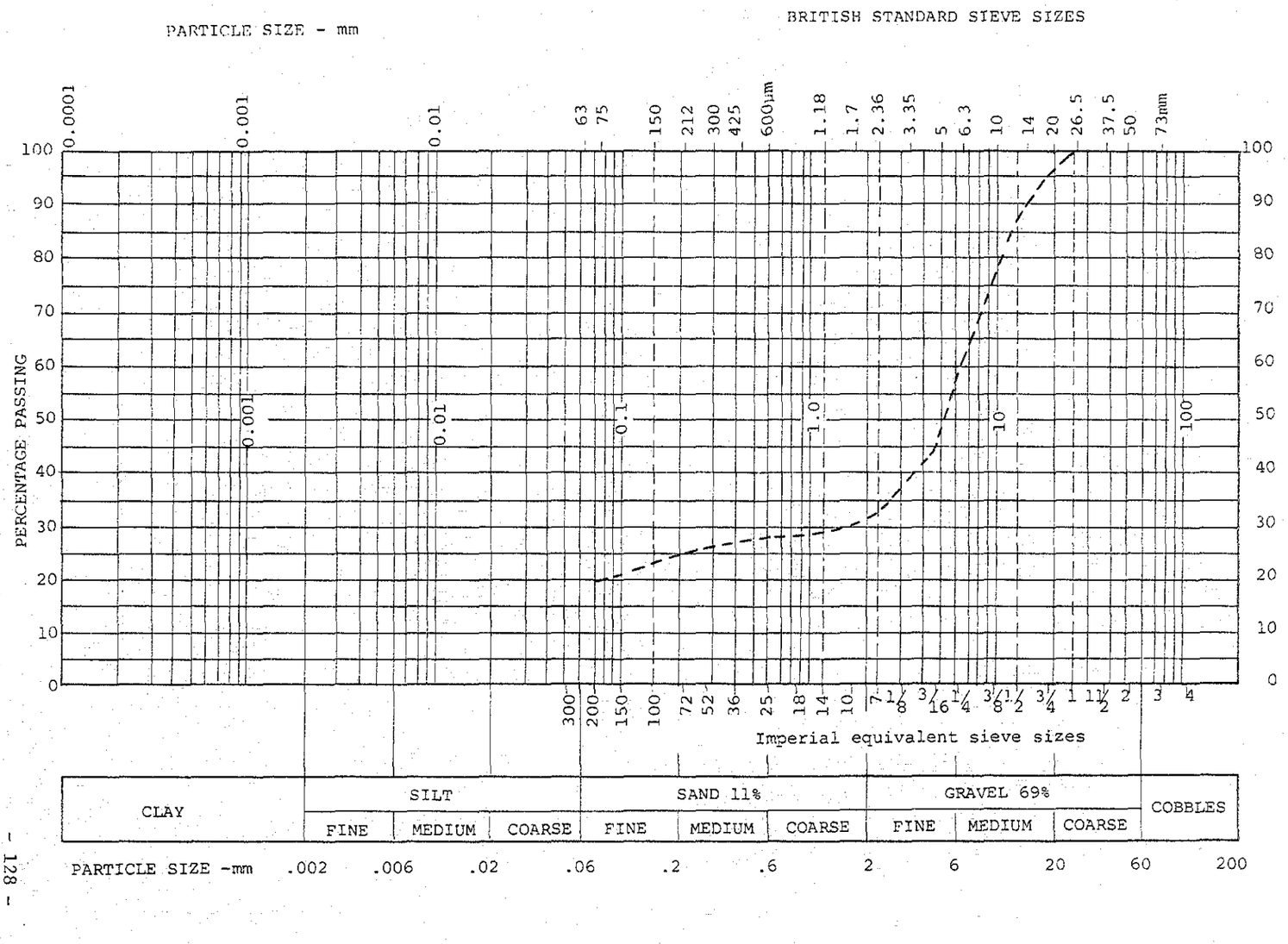
Test Number		1	2	3	4	5	6	7	8
WT.cylinder + wet soil	grms.	9724	10390	10368	10318				
WT. cylinder	grms.	4985	5095	5082	5104				
WT. wet soil	grms	4739	5295	5286	5214				
Wet density (γ)		2.04	2.28	2.28	2.25				
Container Number (Top)		21	17	15	34				
WT.wet soil + cont.	grms.	75.8	73.0	84.0	94.8				
WT.dried soil + cont.	grms.	70.8	66.9	75.7	84.0				
WT.container	grms.	7.9	7.8	8.0	7.9				
WT.moisture	grms.	5.0	6.1	8.3	10.8				
WT.dried soil	grms.	62.9	59.1	67.7	76.1				
Moisture content (m)	%	7.95	10.32	12.26	14.19				
Container Number (Base)		22	12	36	29				
WT. wet soil + cont.	grms.	69.9	74.5	89.3	98.5				
WT. dried soil + cont.	grms.	65.0	68.3	80.2	88.2				
WT.container	grms.	8.0	8.0	7.9	7.8				
WT.moisture	grms.	4.9	6.2	9.1	10.3				
WT.dried soil	grms.	57.0	60.3	72.3	80.4				
Moisture content(m)	%	8.59	10.28	12.58	12.81				
Dry density (γs)		1.89	2.07	2.03	1.98				



Source : JICA mission

(3) PARTICLE SIZE DISTRIBUTION RESULTS OF SOIL TEST

SAMPLE NO. 5
LOCATION MAGBANDANI



DATE 29 October '79
DEPTH 2 ft. - 5 ft.

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1						
20	3/4	165		5.1		94.9	
14	1/2	296		9.2		85.7	1500
10	3/8	332		10.3		75.4	1000
6.3	1/4	879		21.2		54.2	750
5	3/16	316		9.8		44.4	500
3.35	1/8		2.7				300
2.36	7	150			12.5	31.9	200
1.18	14	32			2.7	29.2	100
600 µm	25	12			1.0	28.2	75
425	36	13			1.1	27.1	60
300	52	8			0.7	26.4	50
212	72	14			1.2	25.2	45
150	100	20			1.7	23.5	40
75	200	40			3.3	20.2	28
63	/						25

WEIGHT OF DRY MATERIAL 3,233 GMS

Source : JICA Mission

SAMPLE NO. 5

LOCATION :
MAGBANDANI

RESULTS OF SOIL TEST

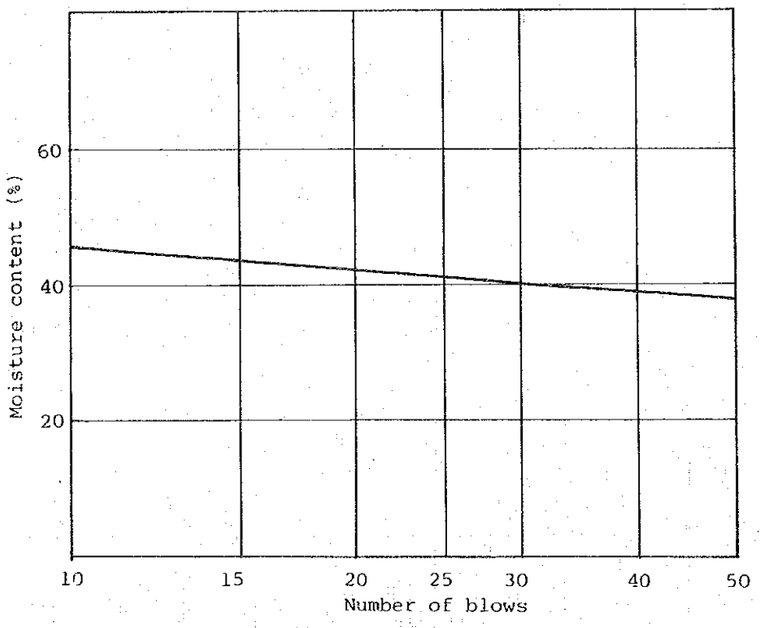
(4) CONSISTENCY

Date : 29 October, 1979
Depth of sample : 2' - 5'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. ..2...
Soil equilibrated with water for ..24.. hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test)		41	32	27	16	11	-	-
Container No.		27	44	8	25	23	9	14
Mass of wet soil + container	g	27.1	27.3	25.1	29.8	30.1	15.1	16.0
Mass of dry soil + container	g	21.8	21.8	20.1	23.2	23.3	13.6	14.3
Mass of container	g	7.9	8.0	8.0	7.9	8.0	8.0	8.0
Mass of moisture	g	5.3	5.5	5.0	6.6	6.8	1.5	1.7
Mass of dry soil	g	13.9	13.8	12.1	15.3	15.3	5.6	6.3
Moisture content	%	38.1	39.8	41.3	43.1	44.5	27.0	26.8

Type of test: Natural moisture content (N),Liquid limit (LL),Plastic limit(PL).

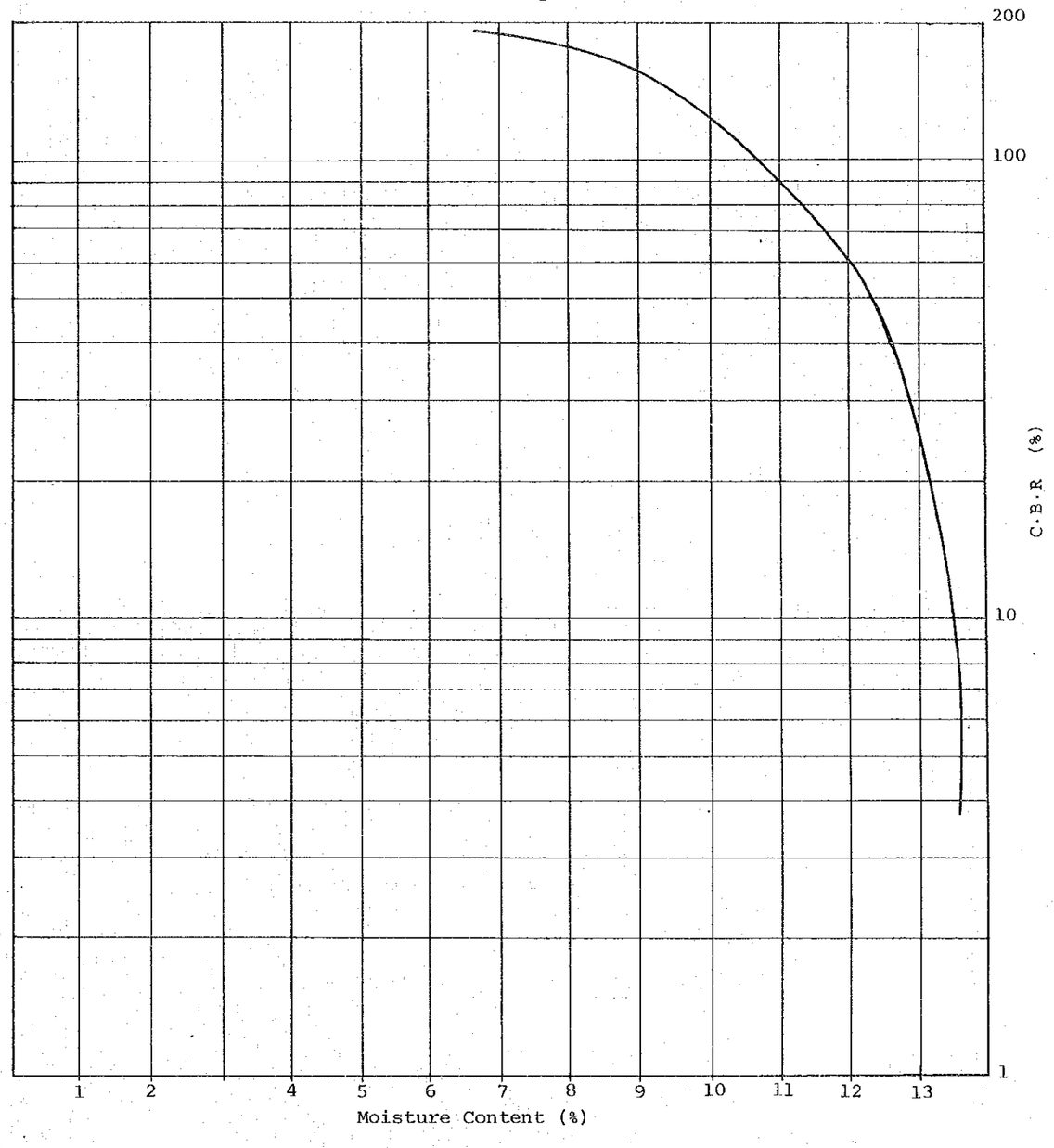


Results. Liquid limit (LL) : 41.0 %
Plastic limit (PL): 27.0
Plasticity index (PI) : 14.0 %
Linear shrinkage : 8 %

Source : JICA mission

(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

C.B.R. at
O.M.C. = 100%
Optimum Moisture Content 10.8%



RESULTS OF SOIL TEST

SAMPLE NO. 6
LOCATION MASAKTABA
DATE: 19 Oct. 1979

(1) SPECIFIC GRAVITY TEST

DATE 30 October, 1979

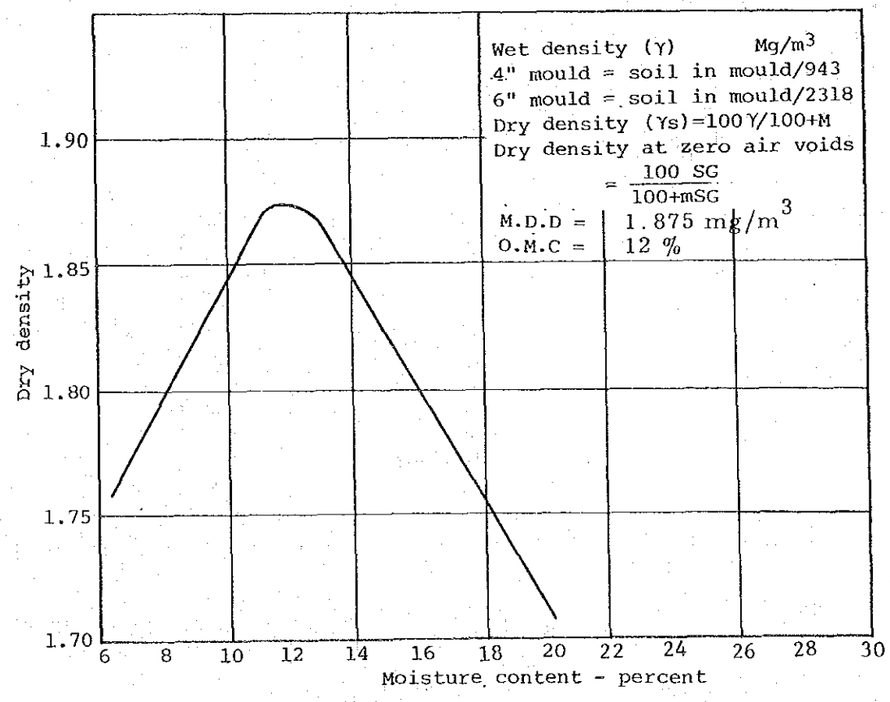
Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		40.6	41.0		
Wt.(Pycnometer+water) W'a in g		90.4	89.9		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		109.1	109.8		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	70.1	72.6		
	Wt.Container in g				
	Wo in g	29.5	31.6		
Deflocculating agent and its amount					
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.73	2.70		
Coefficient for temperature correction K		0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.718	2.688		
Mean value		Specific gravity $(15°C)_{20°C}$ = 2.69			

*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

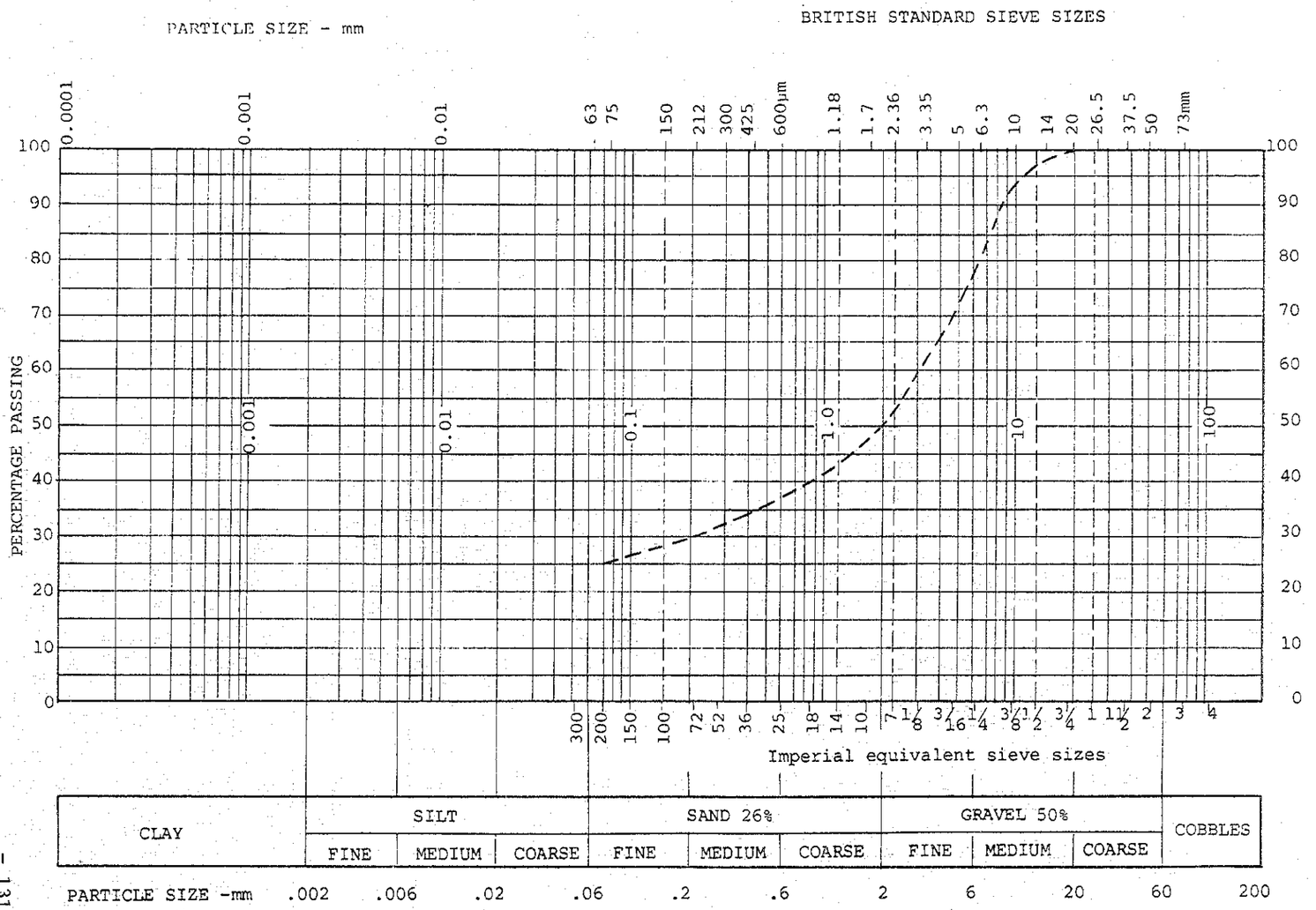
(2) OPTIMUM MOISTURE CONTENT

Test Number		1	2	3	4	5	6	7	8
WT.cylinder + wet soil	grms.	9284	9822	10215	9761	9618			
WT. cylinder	grms.	4858	5080	5392	4908	4852			
WT. wet soil	grms	4426	4742	4823	4853	4766			
Wet density (γ)		1.91	2.05	2.08	2.09	2.06			
Container Number (Top)		16	37	41	40	28			
WT.wet soil + cont.	grms.	57.9	68.0	57.3	75.9	79.5			
WT.dried soil + cont.	grms.	54.7	62.6	52.3	67.3	67.4			
WT.container	grms.	7.9	8.0	7.9	8.0	8.1			
WT.moisture	grms.	3.2	5.4	5.0	8.6	12.1			
WT.dried soil	grms.	46.8	54.6	44.4	59.3	59.3			
Moisture content (m)	%	6.83	9.89	11.26	14.50	20.41			
Container Number (Base)		22	17	34	21	38			
WT. wet soil + cont.	grms.	61.5	67.6	55.6	76.8	75.3			
WT. dried soil + cont.	grms.	57.8	61.8	50.8	67.4	64.1			
WT.container	grms.	8.0	7.8	7.9	7.9	7.9			
WT.moisture	grms.	3.7	5.8	4.8	9.4	11.2			
WT.dried soil	grms.	49.8	54.0	42.9	59.5	56.2			
Moisture content(m)	%	7.43	10.74	11.18	15.79	19.93			
Dry density (γs)		1.78	1.85	1.87	1.82	1.71			



Source : JICA mission

RESULTS OF SOIL TEST



Source : JICA Mission

DATE 29 October '79

DEPTH 2 ft. - 5 ft.

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1						
20	3/4	14		0.4		99.6	
14	1/2	67		2.1		97.5	1500
10	3/8	144		4.4		93.1	1000
6.3	1/4	457		14.1		79.0	750
5	3/16	323		9.9		69.1	500
3.35	1/8		5.06				300
2.36	7	111		17.3		51.8	200
1.18	14	55		8.6		43.2	100
600 µm	25	39		6.1		37.1	75
425	36	23		3.6		33.5	60
300	52	11		1.7		31.8	50
212	72	14		2.2		29.6	45
150	100	15		2.3		27.3	40
75	200	16		2.5		24.8	28
63	/						25

WEIGHT OF DRY MATERIAL 3247 GMS

SAMPLE NO. 6

LOCATION MASAKTABA

SAMPLE NO. 6

LOCATION :
MASAKTABA

RESULTS OF SOIL TEST

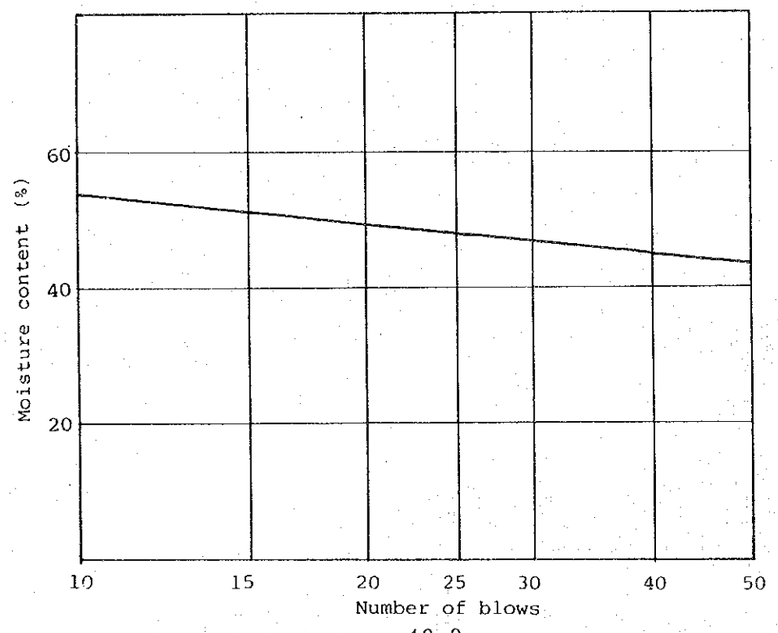
(4) CONSISTENCY

Date : 30 October, 1979
Depth of sample : 2' - 5'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. ..1.....
Soil equilibrated with water for ..24... hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test) Container No.		47 18	33 32	22 27	18 44	13 23	- 24	- 30
Mass of wet soil + container	g	36.3	32.3	30.2	32.2	27.0	19.8	20.0
Mass of dry soil + container	g	27.6	24.5	22.8	24.2	20.4	17.7	17.8
Mass of container	g	8.0	8.0	7.9	8.0	8.0	8.0	7.9
Mass of moisture	g	8.7	7.8	7.4	8.0	6.6	2.1	2.2
Mass of dry soil	g	19.6	16.5	14.9	16.2	12.4	9.7	9.9
Moisture content	%	44.4	47.3	48.9	49.4	53.2	21.6	22.2

Type of test: Natural moisture content (N),Liquid limit (LL),Plastic limit(PL).

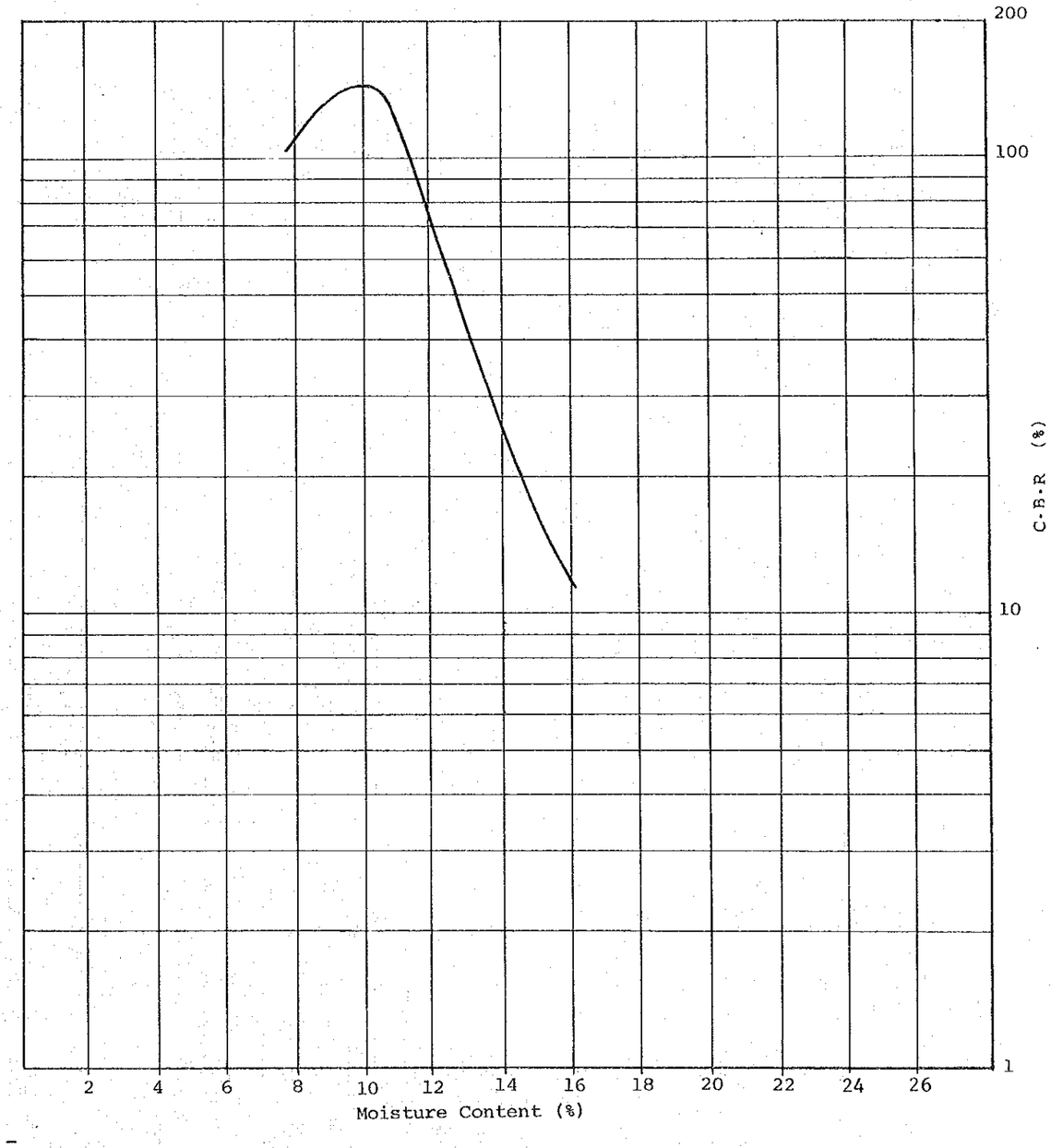


Results. Liquid limit (LL) : 48.0
Plastic limit (PL): 22.0
Plasticity index (PI) : 26.0 %
Linear shrinkage : 12 %

Source : JICA mission

(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

C.B.R. at
O.M.C. = 74 %
Optimum Moisture Content 12%



RESULTS OF SOIL TEST

SAMPLE NO. 7
LOCATION KAMARANKA
DATE: 20 Oct. 79

(1) SPECIFIC GRAVITY TEST

DATE 30 October, 1979

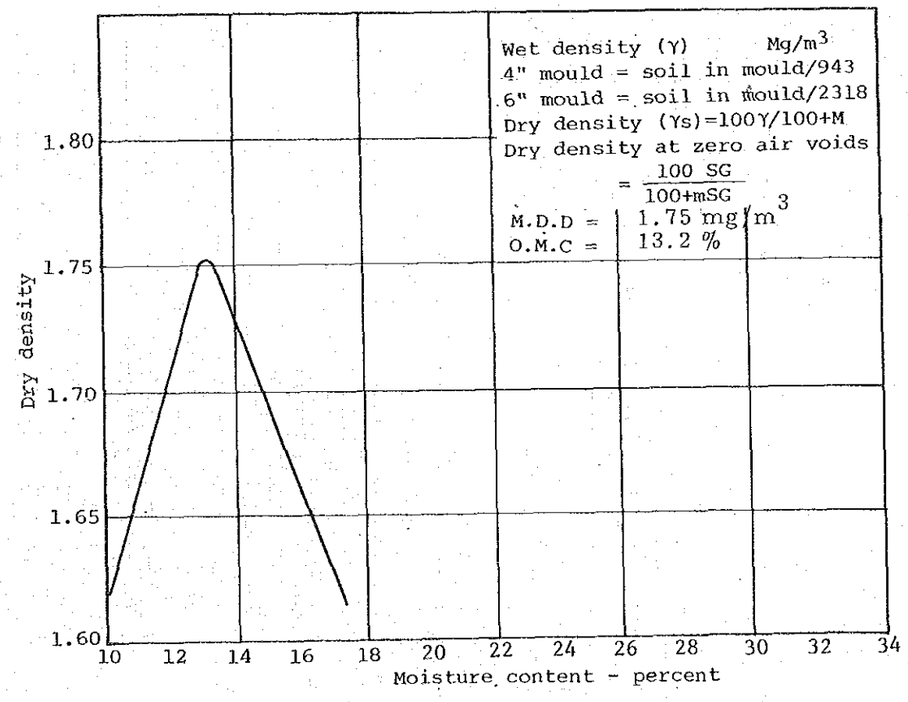
Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		42.9	42.3		
Wt.(Pycnometer+water) W'a in g		92.7	92.4		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		107.0	106.9		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	65.8	65.6		
	Wt.Container in g				
	Wo in g	22.9	23.3		
Deflocculating agent and its amount					
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.66	2.65		
Coefficient for temperature correction K		0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.648	2.638		
Mean value		Specific gravity $(15°C)_{20°C}$ = 2.64			

*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

(2) OPTIMUM MOISTURE CONTENT

Test Number	1	2	3	4	5	6	7	8
WT.cylinder + wet soil grms.	9175	9697	9518	9470				
WT. cylinder grms.	5054	5112	4965	5017				
WT. wet soil grms	4121	4585	4553	4453				
Wet density (γ)	1.78	1.98	1.96	1.92				
Container Number (Top)	19	38	28	11				
WT.wet soil + cont. grms.	56.7	49.8	63.9	50.8				
WT.dried soil + cont. grms.	52.2	45.2	56.8	44.7				
WT.container grms.	7.8	7.9	8.1	7.9				
WT.moisture grms.	4.5	4.6	7.1	6.1				
WT.dried soil grms.	44.4	37.3	48.7	36.8				
Moisture content (m) %	10.14	12.33	14.58	16.58				
Container Number (Base)	36	39	41	34				
WT. wet soil + cont. grms.	46.8	51.7	70.4	55.1				
WT. dried soil + cont. grms.	43.3	46.4	62.4	48.5				
WT.container grms.	7.9	8.0	7.9	7.9				
WT.moisture grms.	3.5	5.3	8.0	6.6				
WT.dried soil grms.	35.4	38.4	54.5	40.6				
Moisture content(m) %	9.88	13.80	14.68	16.26				
Dry density (γs)	1.62	1.75	1.71	1.65				



Source : JICA mission

RESULTS OF SOIL TEST

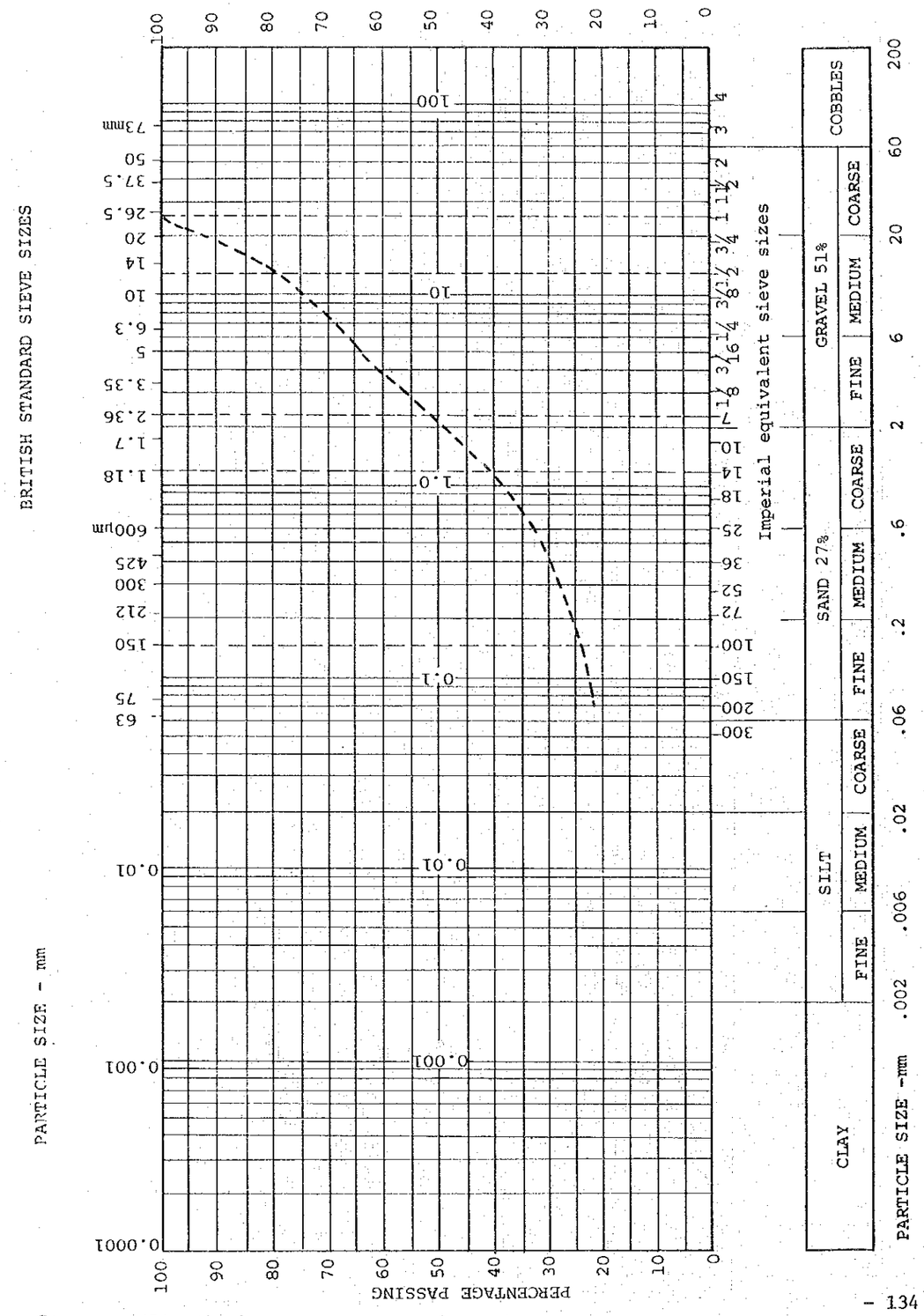
(3) PARTICLE SIZE DISTRIBUTION

SAMPLE NO. 7
LOCATION KAMARANKA

DATE .30 October '79
DEPTH 2 ft. - 5 ft.

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1			11.6		88.4	
20	3/4	380		9.2		79.2	1500
14	1/2	302		6.0		74.2	1000
10	3/8	162		6.8		67.4	750
6.3	1/4	222		3.8		63.6	500
5	3/16	125					300
3.35	1/8		4.75	12.4		51.2	200
2.36	7	85		10.5		40.7	100
1.18	14	72		7.6		33.1	75
600 µm	25	52		3.4		29.7	60
425	36	23		1.8		27.9	50
300	52	12		1.9		26.0	45
212	72	13		1.8		24.2	40
150	100	12		2.3		21.9	28
75	200	16					25
63	/						

WEIGHT OF DRY MATERIAL 3265 GMS



Source : JICA Mission

SAMPLE NO. 7

LOCATION : KAMARANKA

RESULTS OF SOIL TEST

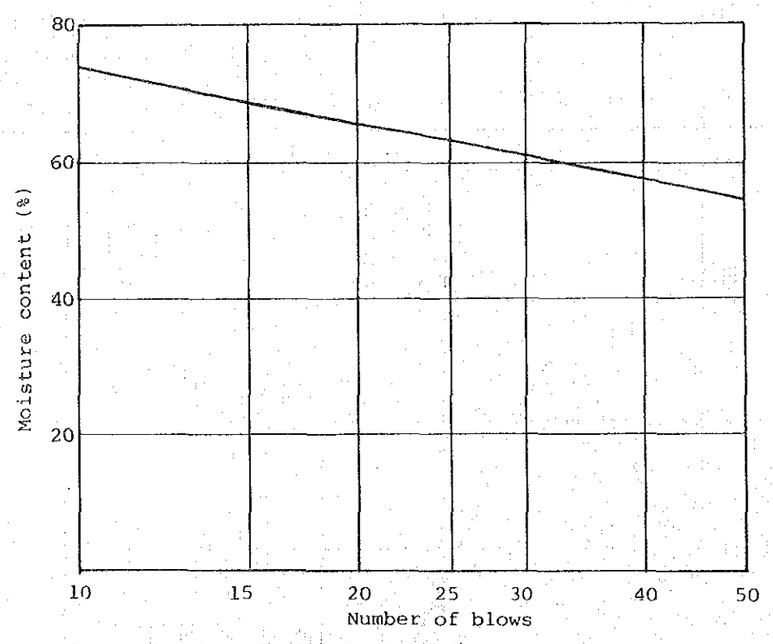
(4) CONSISTENCY

Date : 30 October, 1979
Depth of sample : 2' - 5'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. ..2...
Soil equilibrated with water for .24.... hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test)		47	37	21	18	11	-	-
Container No.		14	13	20	23	32	19	31
Mass of wet soil + container	g	28.4	23.7	25.5	29.5	25.8	20.4	22.4
Mass of dry soil + container	g	21.1	17.7	18.7	20.7	18.2	17.7	18.9
Mass of container	g	7.8	7.9	7.8	7.8	7.9	8.0	8.2
Mass of moisture	g	7.3	6.0	6.8	8.8	7.6	3.2	3.5
Mass of dry soil	g	13.3	9.8	10.9	12.4	10.3	9.7	10.7
Moisture content	%	54.9	61.2	62.3	68.2	73.8	33.0	32.6

Type of test: Natural moisture content (N),Liquid limit (LL),Plastic limit(PL).

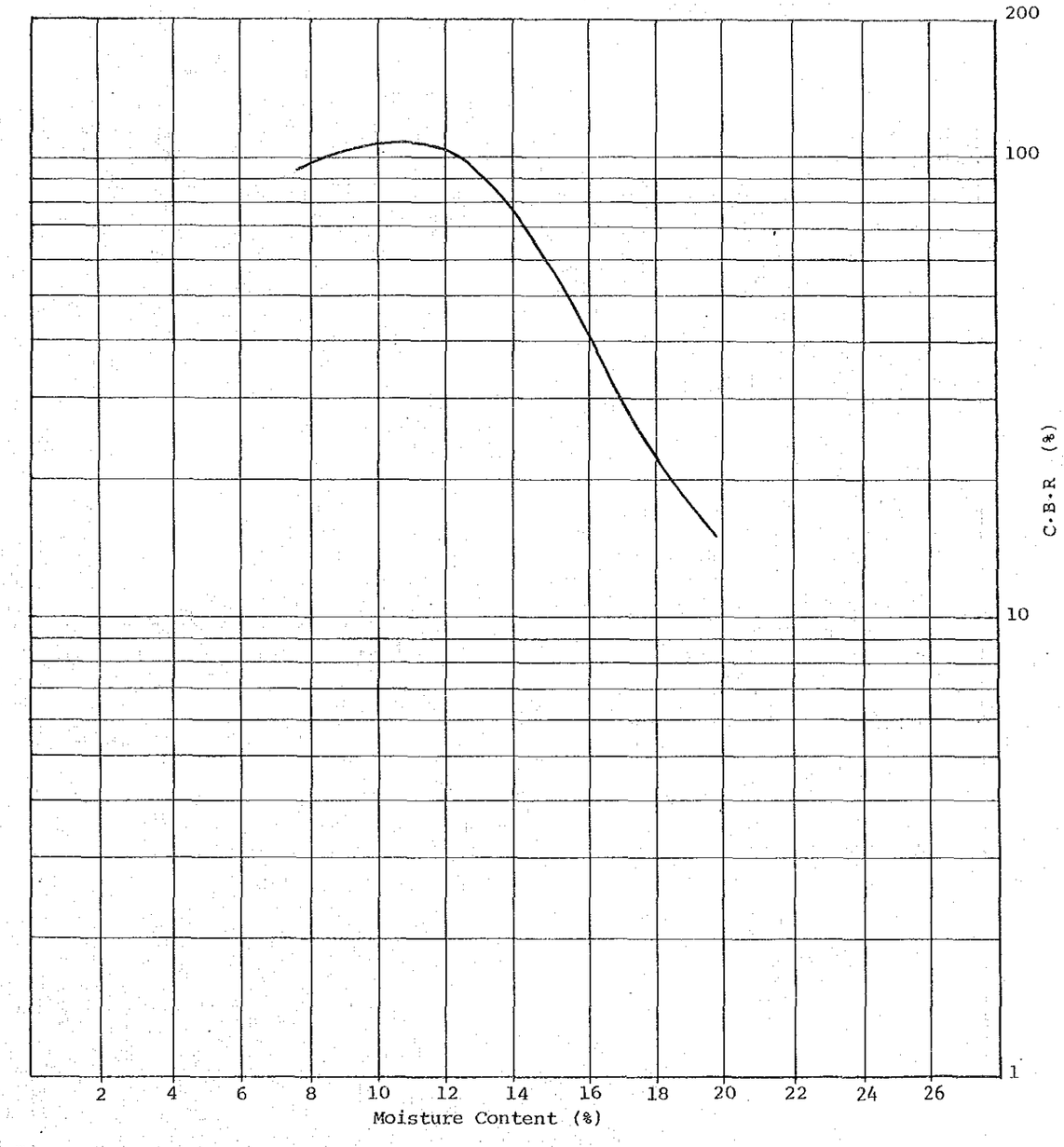


Results. Liquid limit (LL) : 63.0 %
Plastic limit (PL): 33.0 %
Plasticity index (PI) : 30.0 %
Linear shrinkage : 12 %

Source : JICA mission

(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

C.B.R. at
O.M.C. = 87 %
Optimum Moisture Content = 13.2 %



RESULTS OF SOIL TEST

SAMPLE NO. 8
LOCATION KAMALU

(1) SPECIFIC GRAVITY TEST

DATE 30 October, 1979

Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		40.6	41.2		
Wt.(Pycnometer+water) W'a in g		90.4	90.5		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		105.0	105.0		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	64.8	65.3		
	Wt.Container in g				
	Wo in g	24.2	24.1		
Deflocculating agent and its amount					
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.52	2.51		
Coefficient for temperature correction K		0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.508	2.499		
Mean value		Specific gravity $\frac{(15°C)}{20°C}$ = 2.50			

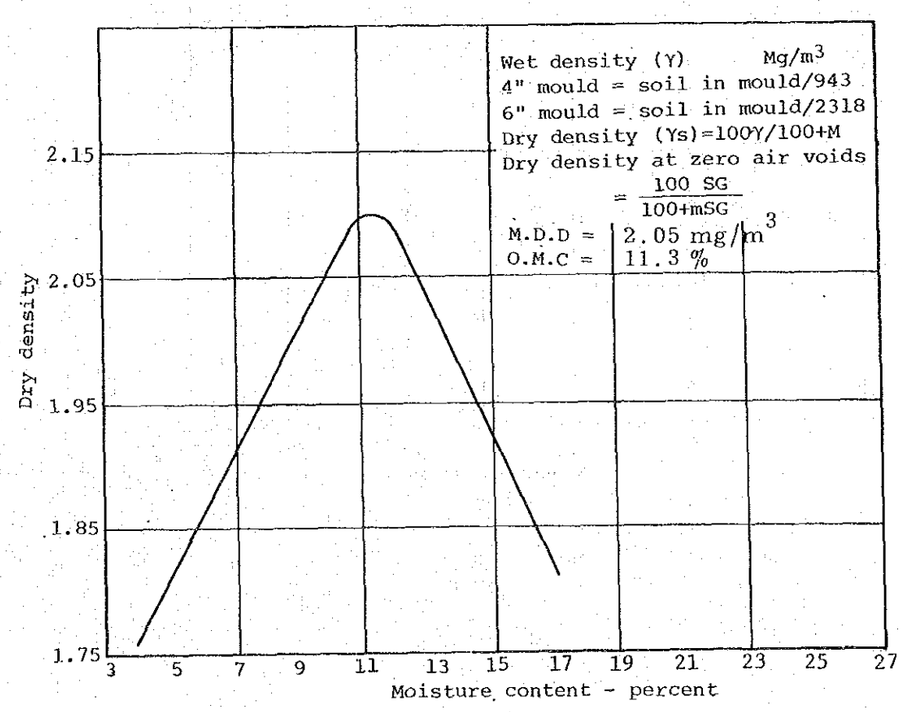
*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

(2) OPTIMUM MOISTURE CONTENT

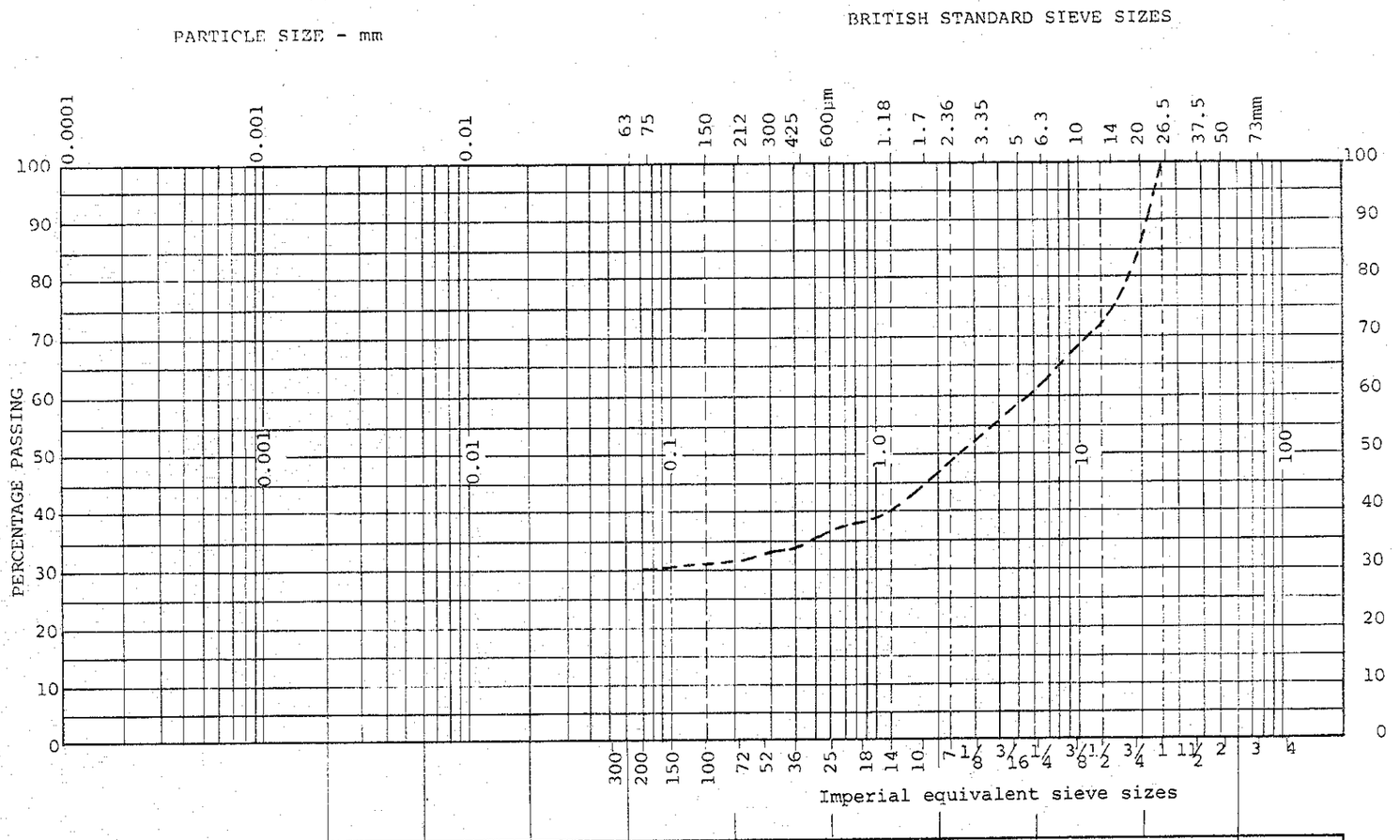
DATE: 16 Oct. 79

Test Number		1	2	3	4	5	6	7	8
WT.cylinder + wet soil	grms.	9175	10241	10189	10317	10206			
WT. cylinder	grms.	4918	5054	4856	5051	5047			
WT. wet soil	grms	4257	5187	5333	5266	5159			
Wet density (γ)		1.84	2.24	2.30	2.27	2.23			
Container Number (Top)		12	40	36	39	41			
WT.wet soil + cont.	grms.	72.3	55.0	89.3	51.7	70.4			
WT.dried soil + cont.	grms.	70.1	50.8	80.2	46.4	62.4			
WT.container	grms.	8.0	8.1	7.9	8.0	7.9			
WT.moisture	grms.	2.3	4.2	9.1	5.3	8.0			
WT.dried soil	grms.	62.1	42.7	72.3	38.4	54.5			
Moisture content (m)	%	3.7	9.8	12.6	13.8	14.68			
Container Number (Base)		42	44	31	14	43			
WT. wet soil + cont.	grms.	86.4	54.7	98.5	50.7	71.5			
WT. dried soil + cont.	grms.	83.5	50.6	88.2	45.8	63.6			
WT.container	grms.	7.9	7.9	7.8	8.1	7.9			
WT.moisture	grms.	3.1	4.1	10.3	4.9	7.9			
WT.dried soil	grms.	75.6	42.7	80.4	37.7	55.7			
Moisture content(m)	%	4.1	9.6	12.8	13.0	14.18			
Dry density (γs)		1.77	2.04	2.04	2.00	1.95			



Source : JICA mission

Source : JICA Mission



(1) PARTICLE SIZE DISTRIBUTION

RESULTS OF SOIL TEST

SAMPLE NO. 8
LOCATION : KAMALU

DATE .30 October '79....
DEPTH .2 ft. - 5 ft.....

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1						
20	3/4	638		19.2		80.8	
14	1/2	307		9.3		71.5	1500
10	3/8	152		4.6		66.9	1000
6.3	1/4	198		5.9		61.0	750
5	3/16	106		3.2		57.8	500
3.35	1/8		3.3				300
2.36	7	102		10.2	10.2	47.6	200
1.18	14	77		7.7	7.7	39.9	100
600 µm	25	44		4.4	4.4	35.5	75
425	36	19		1.9	1.9	33.6	60
300	52	9		0.9	0.9	32.7	50
212	72	11		1.1	1.1	31.6	45
150	100	9		0.9	0.9	30.7	40
75	200	11		1.1	1.1	29.6	28
63	/						25

WEIGHT OF DRY MATERIAL 3315 GMS

SAMPLE NO. 8

LOCATION :
KAMALU

RESULTS OF SOIL TEST

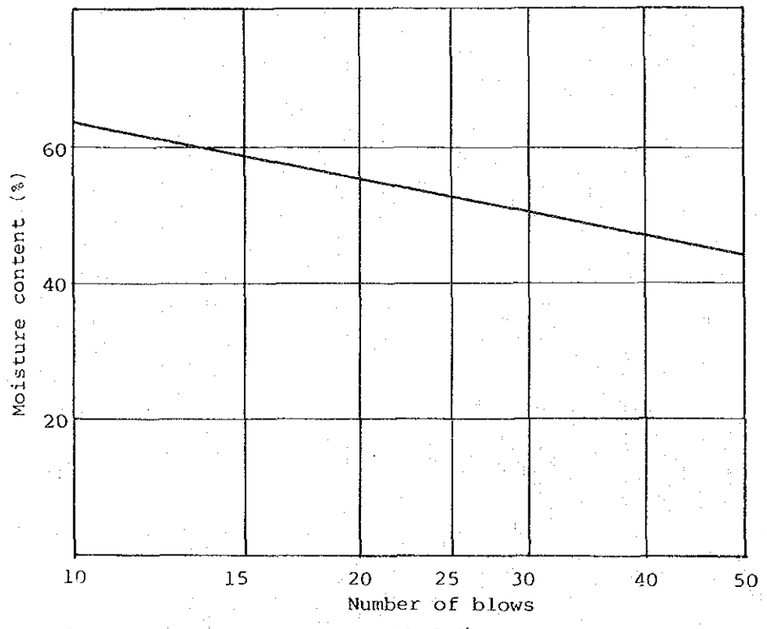
(4) CONSISTENCY

Date : 30 October, 1979
Depth of sample : 2' - 3'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. .....
Soil equilibrated with water for ..... 24 hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test)		41	35	24	18	14		
Container No.		24	10	33	18	32	8	31
Mass of wet soil + container	g	22.4	24.5	25.7	27.2	26.8	23.5	21.9
Mass of dry soil + container	g	17.8	19.0	19.4	20.2	19.9	19.8	18.7
Mass of container	g	7.9	7.9	7.8	7.8	8.0	7.8	8.0
Mass of moisture	g	4.6	5.5	6.3	7.0	6.9	3.7	3.2
Mass of dry soil	g	9.9	11.1	11.6	12.4	11.9	12.0	10.7
Moisture content	%	46.5	49.5	54.3	56.5	58.2	30.8	29.9

Type of test: Natural moisture content (N),Liquid limit (LL),Plastic limit(PL).

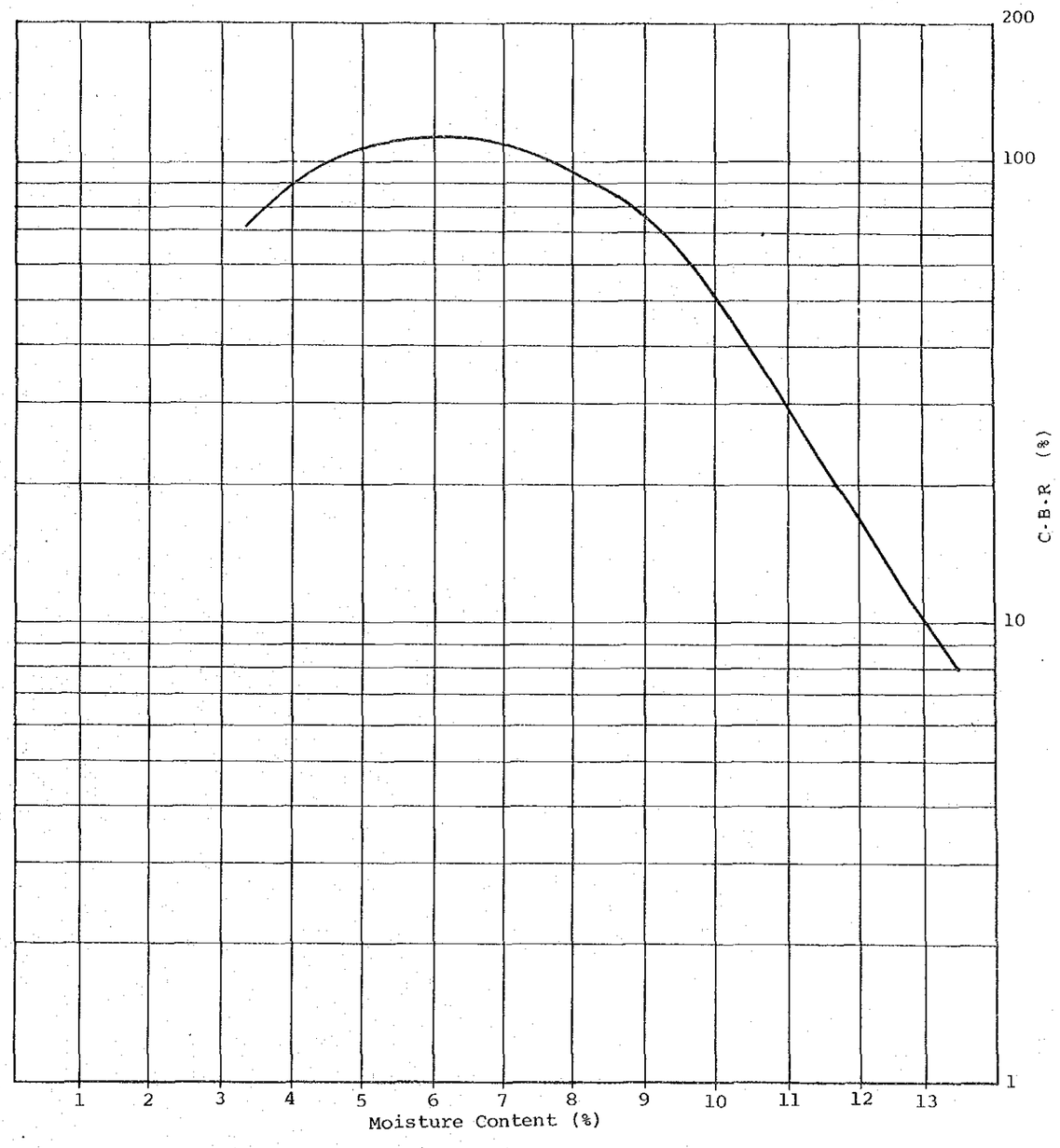


Results. Liquid limit (LL) : 53.0 %
Plastic limit (PL): 30.0 %
Plasticity index (PI) : 23.0 %
Linear shrinkage : 10.0 %

Source : JICA mission

(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

C.B.R. at
O.M.C. = 26 %
Optimum Moisture Content : 11.3 %



RESULTS OF SOIL TEST

SAMPLE NO. 9
LOCATION MAKALI
DATE: 17 Oct. 1979

(1) SPECIFIC GRAVITY TEST

DATE 30 October, 1979

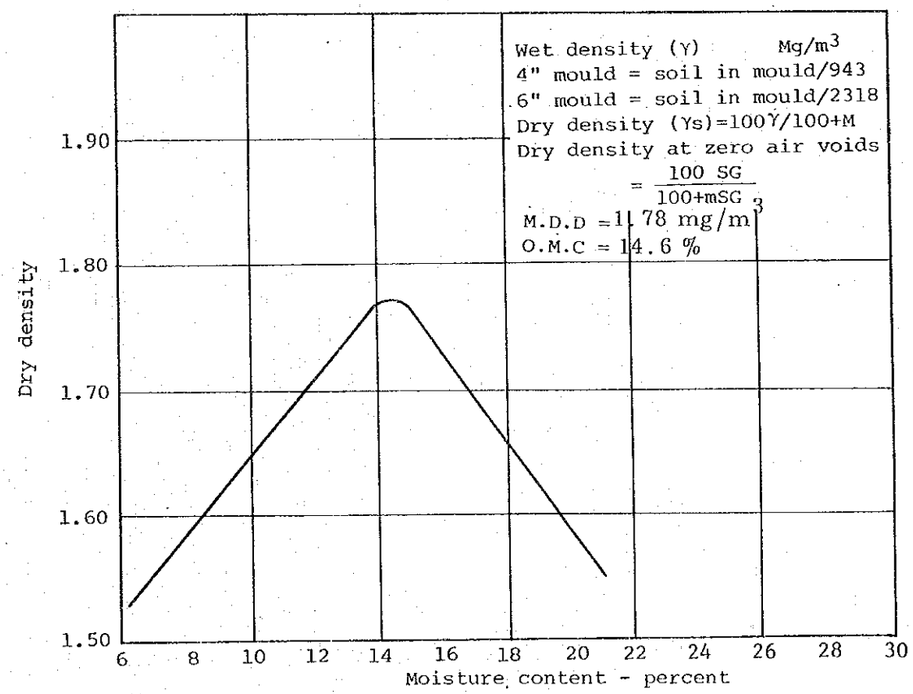
Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		38.5	39.0		
Wt.(Pycnometer+water) W'a in g		89.3	90.0		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		105.5	105.9		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	64.5	64.5		
	Wt.Container in g				
	Wo in g	26.0	25.5		
Deflocculating agent and its amount					
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.65	2.66		
Coefficient for temperature correction	K	0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.638	2.648		
Mean value		Specific gravity $\frac{(15°C)}{20°C}$ = 2.64			

*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

(2) OPTIMUM MOISTURE CONTENT

Test Number		1	2	3	4	5	6	7	8
WT.cylinder + wet soil	grms.	8818	9226	9680	9690	9342			
WT. cylinder	grms.	5008	5035	4971	5115	4940			
WT. wet soil	grms	3810	4191	4709	4575	4402			
Wet density (γ)		1.64	1.81	2.03	1.97	1.90			
Container Number (Top)		21	40	38	41	22			
WT.wet soil + cont.	grms.	56.2	55.0	42.2	45.1	43.8			
WT.dried soil + cont.	grms.	53.0	50.8	37.7	39.5	37.7			
WT.container	grms.	8.2	8.1	8.2	8.2	8.0			
WT.moisture	grms.	3.2	4.2	4.5	5.6	6.1			
WT.dried soil	grms.	44.8	42.7	29.5	31.3	29.7			
Moisture content (m)	%	7.1	9.8	15.3	17.9	20.5			
Container Number (Base)		19	42	29	39	34			
WT. wet soil + cont.	grms.	50.1	57.6	43.8	42.4	44.7			
WT. dried soil + cont.	grms.	47.7	53.0	39.6	37.5	38.4			
WT.container	grms.	8.2	8.1	8.2	8.2	8.1			
WT.moisture	grms.	2.4	4.6	4.2	4.9	6.3			
WT.dried soil	grms.	39.5	44.9	31.4	29.3	36.3			
Moisture content(m)	%	6.1	10.2	13.4	16.7	20.8			
Dry density (γs)		1.54	1.64	1.78	1.68	1.57			

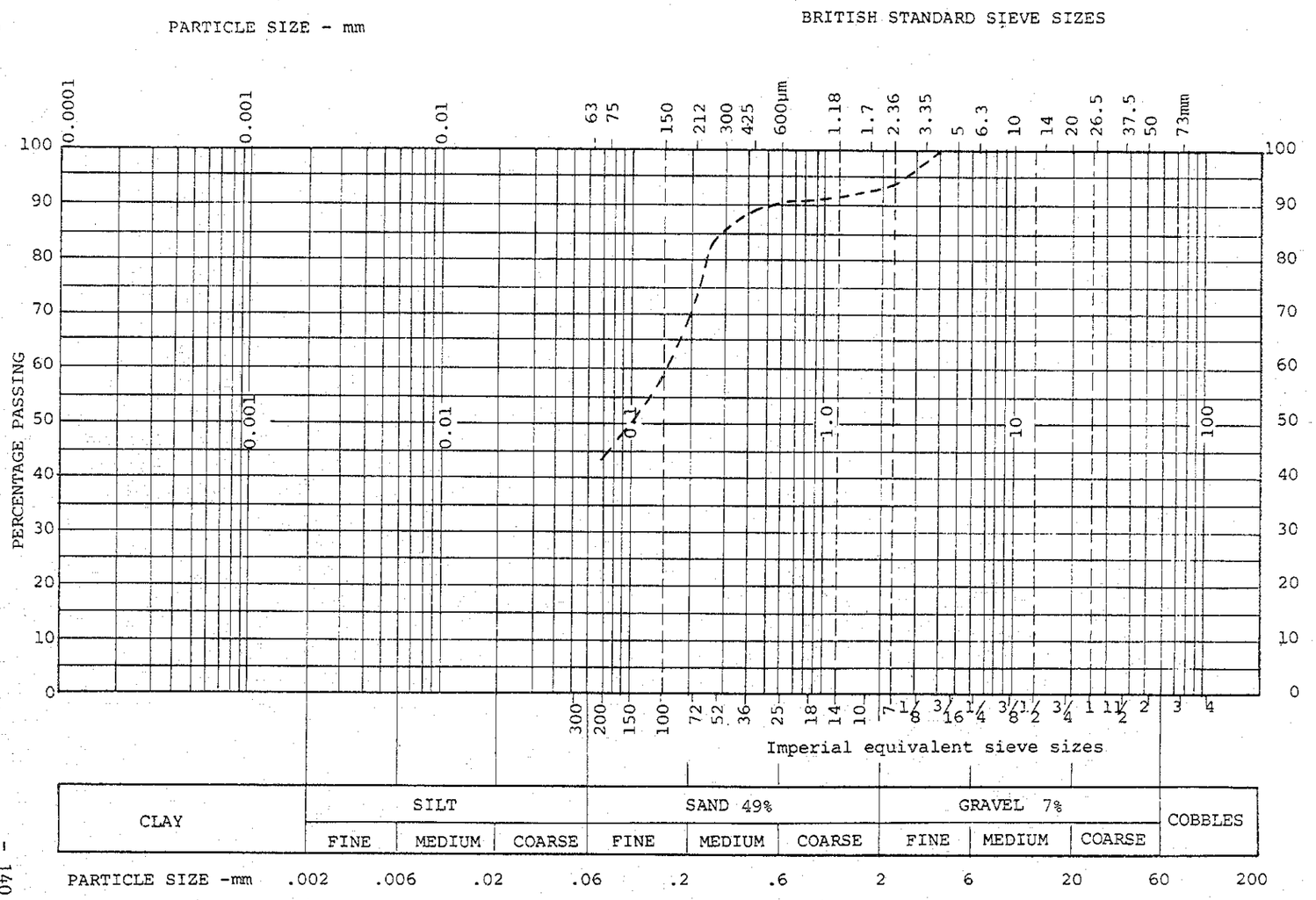


Source : JICA mission

Source : JICA Mission

(3) PARTICLE SIZE DISTRIBUTION

RESULTS OF SOIL TEST



DATE 30 October '79

DEPTH 2 ft. - 5 ft.

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1						
20	3/4						
14	1/2						1500
10	3/8						1000
6.3	1/4						750
5	3/16						500
3.35	1/8						300
2.36	7	20		5.94		94.06	200
1.18	14	5		1.48		92.58	100
600 µm	25	6		1.78		90.80	75
425	36	10		2.97		87.83	60
300	52	12		3.56		84.27	50
212	72	35		10.39		73.88	45
150	100	56		16.62		57.26	40
75	200	46		13.65		43.61	28
63	/						25

WEIGHT OF DRY MATERIAL 337 GMS

SAMPLE NO. 9

LOCATION: MAKALI

SAMPLE NO. 9

LOCATION : MAKALI

RESULTS OF SOIL TEST

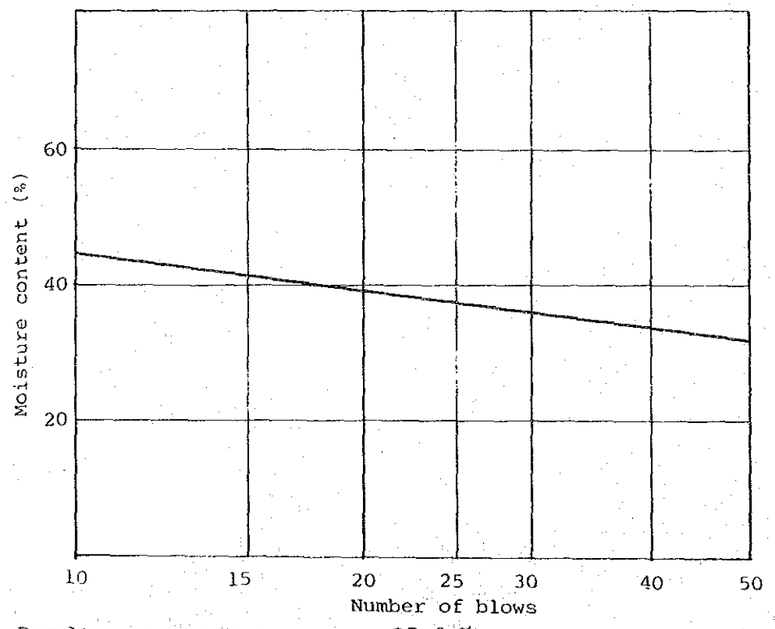
(4) CONSISTENCY

Date : 30 October, 1979
Depth of sample : 2' - 5'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. ..1....
Soil equilibrated with water for ..24.. hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test)		42	31	21	16	11	-	-
Container No.		30	27	12	36	28	23	7
Mass of wet soil + container	g	29.9	29.6	28.2	29.3	27.2	31.3	31.5
Mass of dry soil + container	g	24.3	24.0	22.4	22.9	21.3	29.3	29.5
Mass of container	g	7.7	7.8	7.8	7.5	8.0	18.9	19.0
Mass of moisture	g	5.6	5.6	5.8	6.4	5.9	2.0	2.0
Mass of dry soil	g	16.6	16.2	14.6	15.4	13.3	10.4	10.5
Moisture content	%	33.7	34.6	39.7	41.6	44.4	19.2	19.0

Type of test: Natural moisture content (N), Liquid limit (LL), Plastic limit(PL).

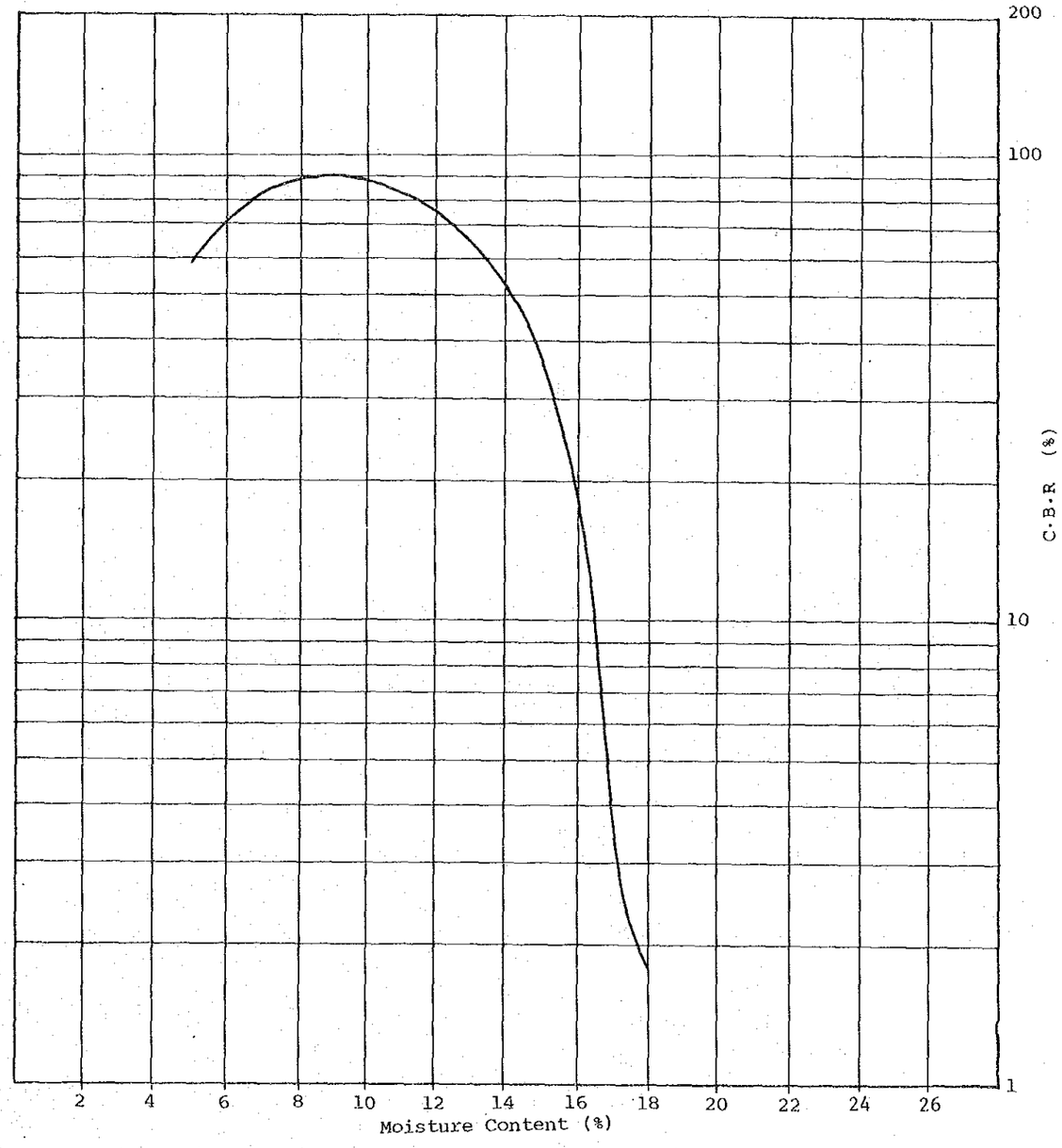


Results. Liquid limit (LL) : 37.0 %
Plastic limit (PL): 19.0 %
Plasticity index (PI) : 18.0 %
Linear shrinkage : 10.0 %

Source : JICA mission

(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

C.B.R. at
O.M.C. = 46 %
Optimum Moisture Content : 14.6 %



RESULTS OF SOIL TEST

SAMPLE NO. 10
LOCATION KAMAKWIE
DATE: 28 Oct. 79

(1) SPECIFIC GRAVITY TEST

DATE 30 October, 1979

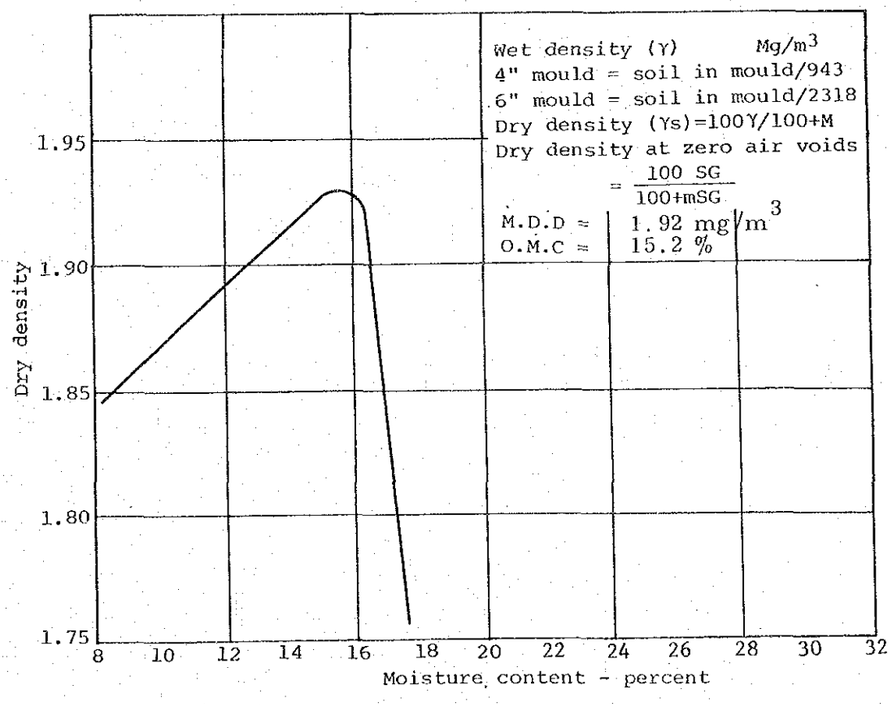
Determination No.		1	2	3	4
No. of Density Bottle					
Wt. of Density Bottle Wf in g		45.0	45.5		
Wt.(Pycnometer+water) W'a in g		95.0	95.5		
Temperature of calibration (corresponding with W'a) T' °C		25°	25°		
Wt. (Pycnometer+soil+water) Wb in g		110.4	110.8		
Temperature of Calibration (corresponding to Wb) T °C		25°	25°		
Weight of dry soil Wo	No. of Container				
	Wt.(Container + dry soil) in g	69.8	70.2		
	Wt.Container in g				
	Wo in g	24.8	24.7		
Deflocculating agent and its amount					
*Wt.(Pycnometer + water) calculated for T°C Wa in g					
Wo + (Wa - Wb) in g					
Deflocculant correction					
Wo + (Wa - Wb) corrected					
Specific Gravity at T°C	$G(T°C)=\frac{Wo}{Wo+(Wa-Wb)}$	2.64	2.63		
Coefficient for temperature correction K		0.9956	0.9956		
Specific Gravity at 15°C	$G(15°C)=K\times G(T°C)$	2.628	2.618		
Mean value		Specific gravity $\frac{(15°C)}{20°C}$ = 2.62			

*"Wa" is determined from ghe diagram peculiar to each pycnometer.

Remarks :

(2) OPTIMUM MOISTURE CONTENT

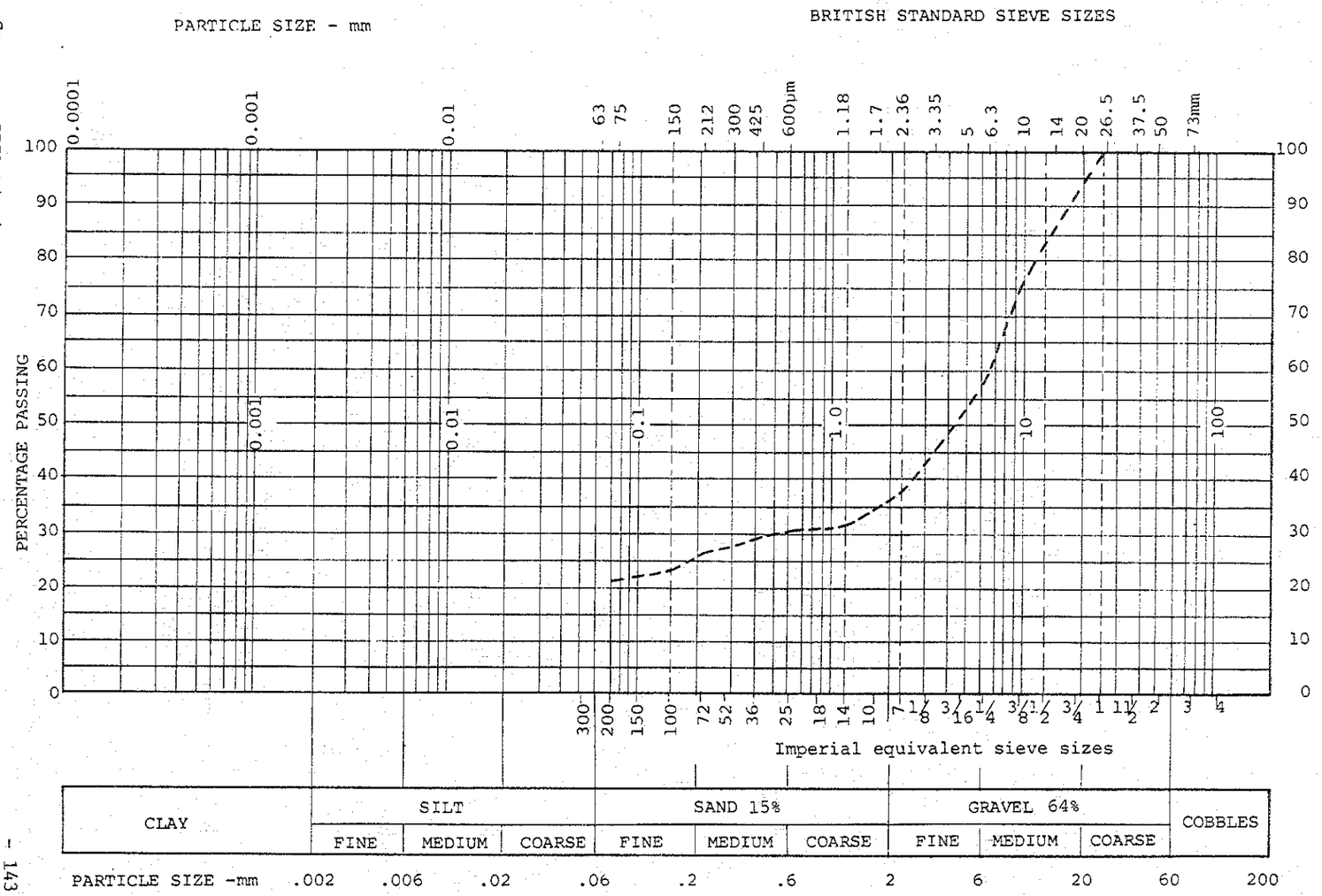
Test Number		1	2	3	4	5	6	7	8
WT.cylinder + wet soil	grms.	9696	9952	10150	10070	9959			
WT. cylinder	grms.	5052	5043	5114	4901	5120			
WT. wet soil	grms	4644	4909	5036	5169	4839			
Wet density (γ)		2.00	2.12	2.17	2.23	2.09			
Container Number (Top)		36	19	16	40	36			
WT.wet soil + cont.	grms.	139.0	145.8	147.7	137.5	136.3			
WT.dried soil + cont.	grms.	131.3	133.4	134.1	123.0	120.9			
WT.container	grms.	29.4	28.5	28.8	28.7	28.1			
WT.moisture	grms.	7.7	12.4	13.6	14.5	15.5			
WT.dried soil	grms.	101.9	104.9	105.3	94.3	91.7			
Moisture content (m)	%	7.6	11.8	12.9	15.3	16.9			
Container Number (Base)		22	39	19	38	34			
WT. wet soil + cont.	grms.	127.4	140.7	158.3	160.6	136.5			
WT. dried soil + cont.	grms.	119.1	128.5	142.1	141.3	120.4			
WT.container	grms.	29.0	28.9	28.2	28.3	28.2			
WT.moisture	grms.	8.3	12.2	16.2	19.3	16.1			
WT.dried soil	grms.	90.1	99.6	113.9	112.0	91.2			
Moisture content(m)	%	9.2	12.2	14.2	17.2	17.7			
Dry density (γs)		1.85	1.89	1.91	1.92	1.78			



Source : JICA mission

RESULTS OF SOIL TEST

SAMPLE NO. 10
LOCATION KAMAKWIE



DATE 30 October '79
DEPTH 2 ft. - 5 ft.

British Standard sieve sizes	approx. Imperial equiv.	Weight retained (g)	Weight adjustment factor	Percentage retained	Adjusted percentage retained	Percentage passing	Maximum sieve load(g)
75mm	3in						
63	2 1/2						
50	2						
37.5	1 1/2						
26.5	1						
20	3/4	236		7.8		92.2	
14	1/2	265		8.7		83.5	1500
10	3/8	271		8.9		74.6	1000
6.3	1/4	485		16.0		58.6	750
5	3/16	215		7.1		51.5	500
3.35	1/8		2.98				300
2.36	7	148			14.5	37.0	200
1.18	14	50			4.9	32.1	100
600 µm	25	16			1.6	30.5	75
425	36	12			1.2	29.3	60
300	52	10			1.0	28.3	50
212	72	21			2.1	26.2	45
150	100	23			2.3	23.9	40
75	200	20			2.0	21.9	28
63	/						25

WEIGHT OF DRY MATERIAL 3035 GMS

SAMPLE NO. 10

LOCATION : KAMAKWIE

RESULTS OF SOIL TEST

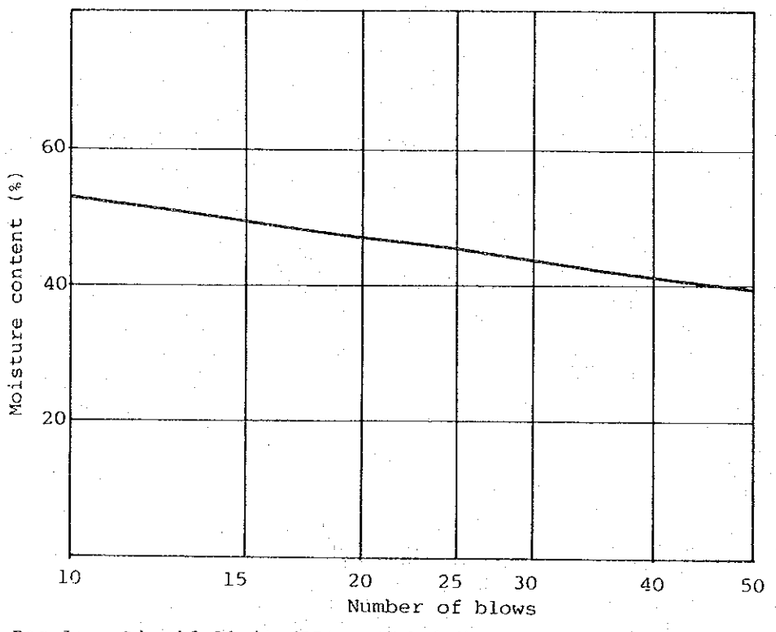
(4) CONSISTENCY

Date : 30 October, 1979
Depth of sample : 2' - 5'

Test details: Proportion of sample retained on 425 μm BS test sieve ....%
Soil condition: natural moisture content, air dried, unknown*
*Delete as appropriate.
Liquid limit machine No. ...4...
Soil equilibrated with water for ..24.. hr

Test No.		1	2	3	4	5	6	7
Type of test		LL	LL	LL	LL	LL	PL	PL
No.of blows (liquid limit test)		41	38	24	15	11	-	-
Container No.		23	18	24	31	25	11	15
Mass of wet soil + container	g	26.9	22.3	29.8	32.3	25.6	25.5	26.9
Mass of dry soil + container	g	21.4	18.0	22.8	24.2	19.5	23.0	24.2
Mass of container	g	7.8	7.8	7.8	7.8	7.8	13.5	13.9
Mass of moisture	g	5.5	4.3	7.0	8.1	6.1	2.5	2.7
Mass of dry soil	g	13.6	10.2	15.0	16.4	11.7	9.5	10.3
Moisture content	%	40.4	42.2	46.7	49.4	52.1	26.3	26.2

Type of test: Natural moisture content (N),Liquid limit (LL),Plastic limit(PL).

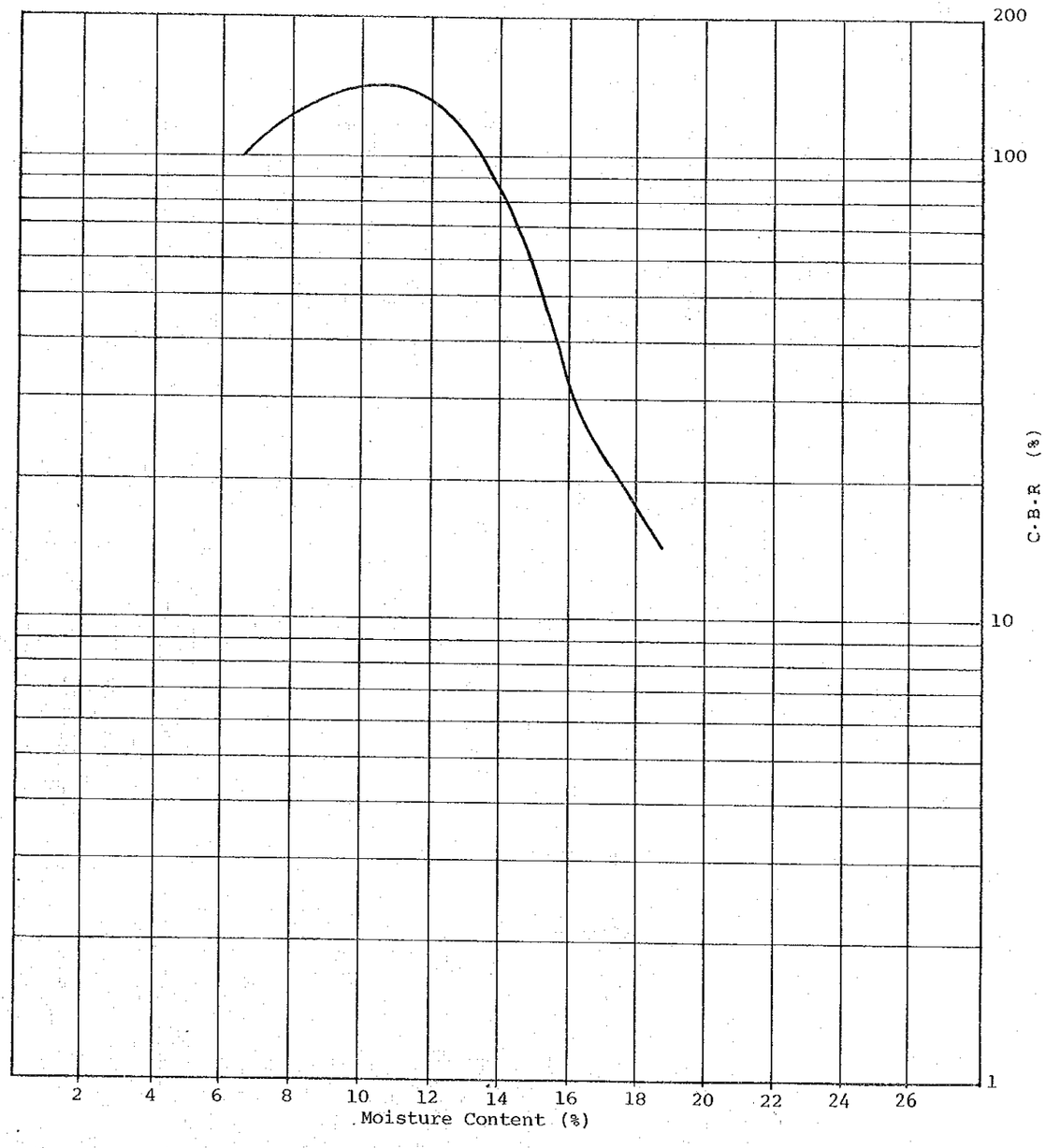


Results. Liquid limit (LL) : 45.0 %
Plastic limit (PL): 26.0 %
Plasticity index (PI) : 19.0 %
Linear shrinkage : 10 %

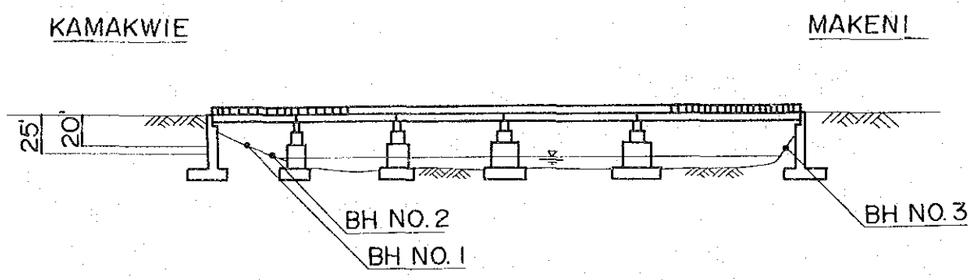
Source : JICA mission

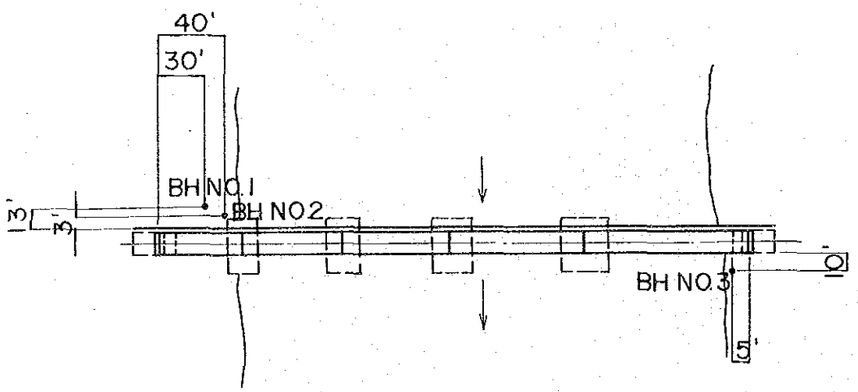
(5) COMPACTION
(RELATION BETWEEN O.M CAND C.B.R.)

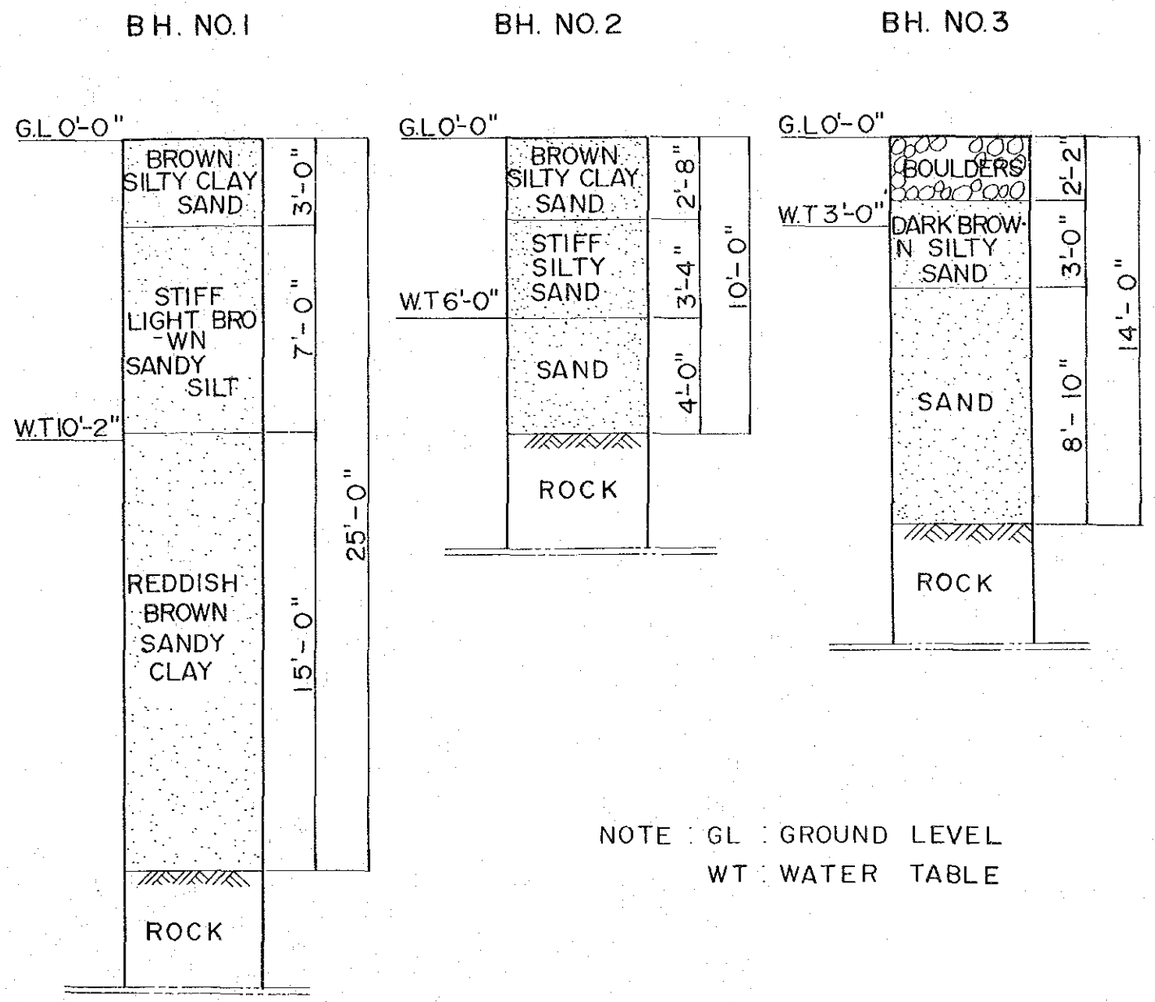
C.B.R. at
O.M.C. = 50 %
Optimum Moisture Content : 15.2 %



APPENDIX P–2 RESULTS OF AUGER BORING AT EXISTING MABOLE BRIDGE







NOTE : GL : GROUND LEVEL
WT : WATER TABLE