4. EXISTING ROAD CONDITION SURVEY

- Summary of Existing Pavement Material Testing
- Existing Pavement Layer Thickness Check
- General Photo of Existing Road at 1km Interval

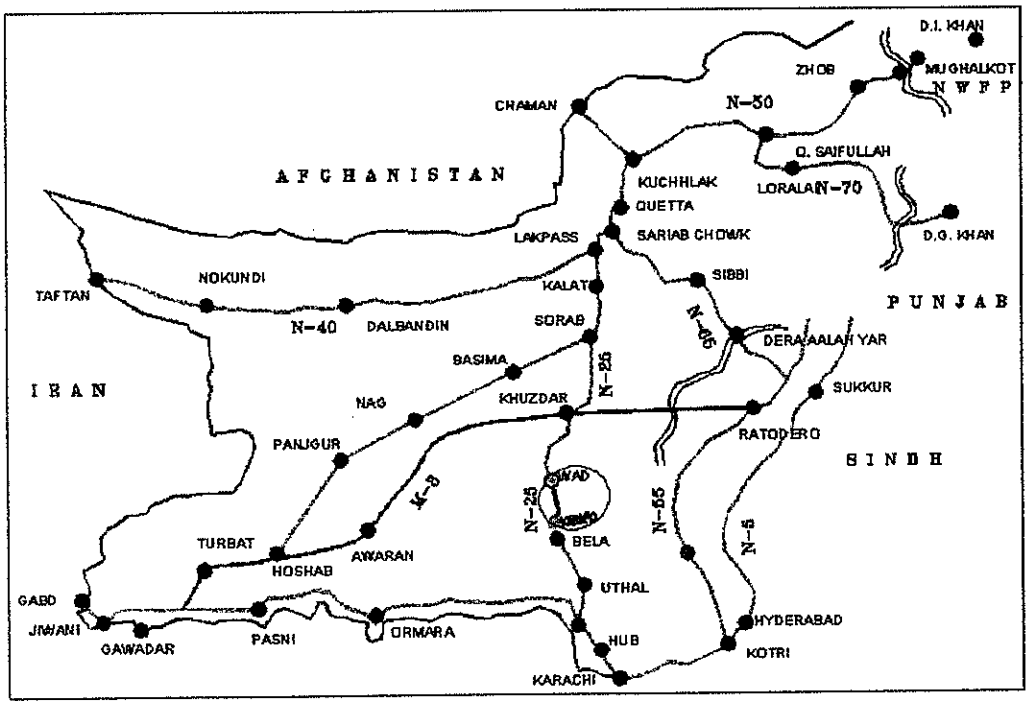
EXISTING ROAD CONDITION SURVEY

ON

THE BASIC DESIGN STUDY ON THE PROJECT

FOR

IMPROVEMENT OF KARARO – WAD SECTION OF NATIONAL HIGHWAY N-25 IN THE ISLAMIC REPUBLIC OF PAKISTAN



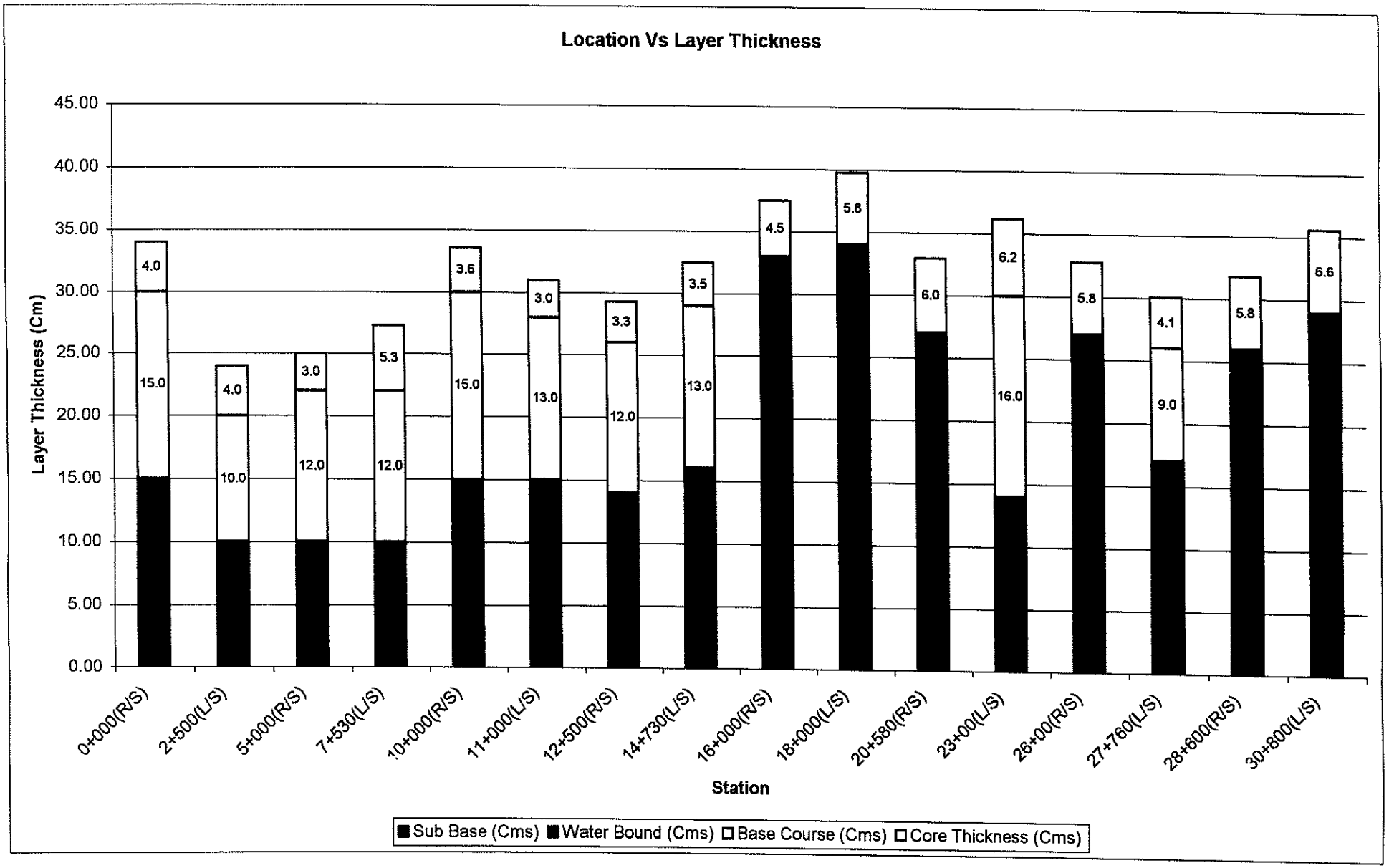
JANUARY 2005

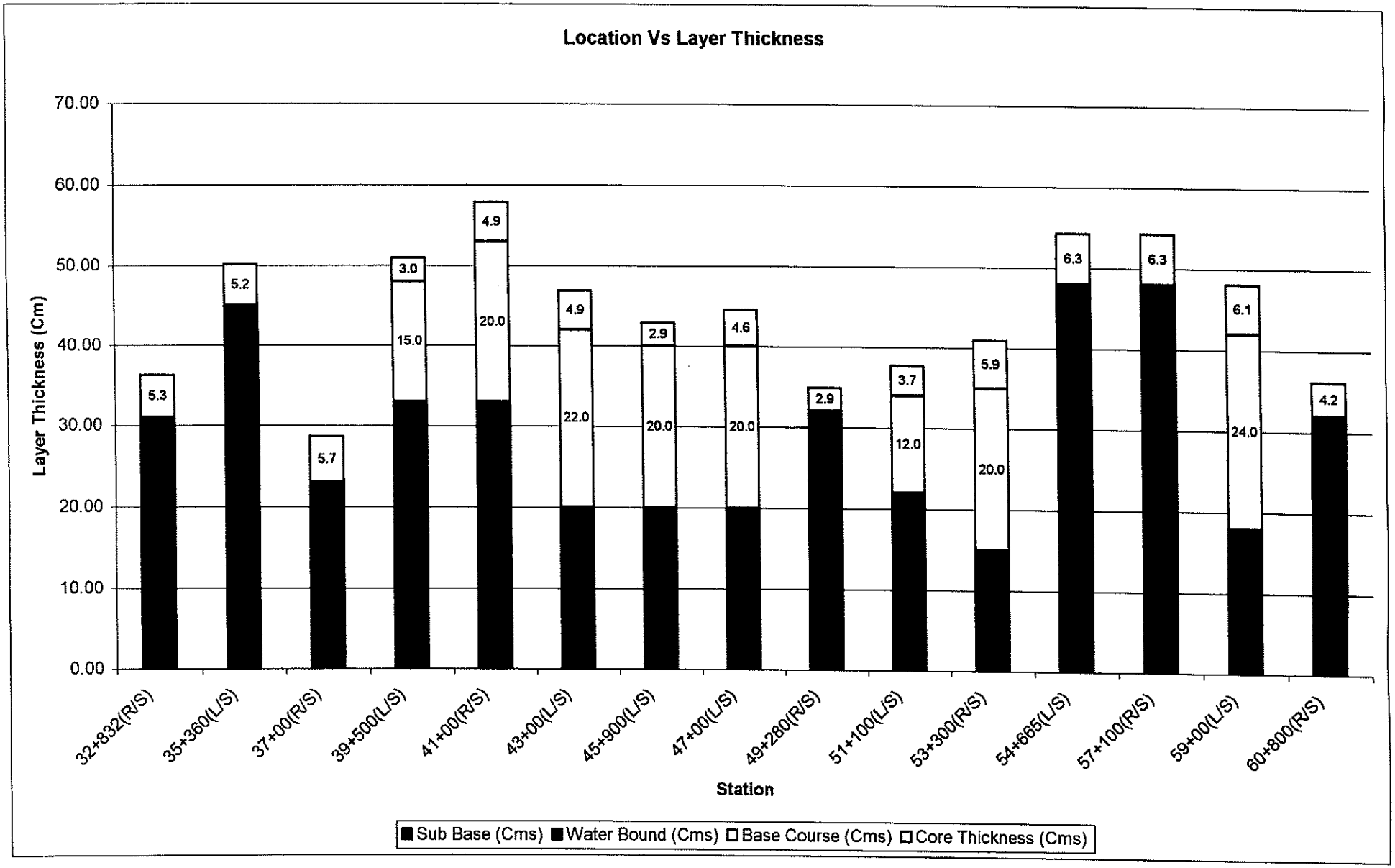
Summary of Material Testing (Cores and Pits)

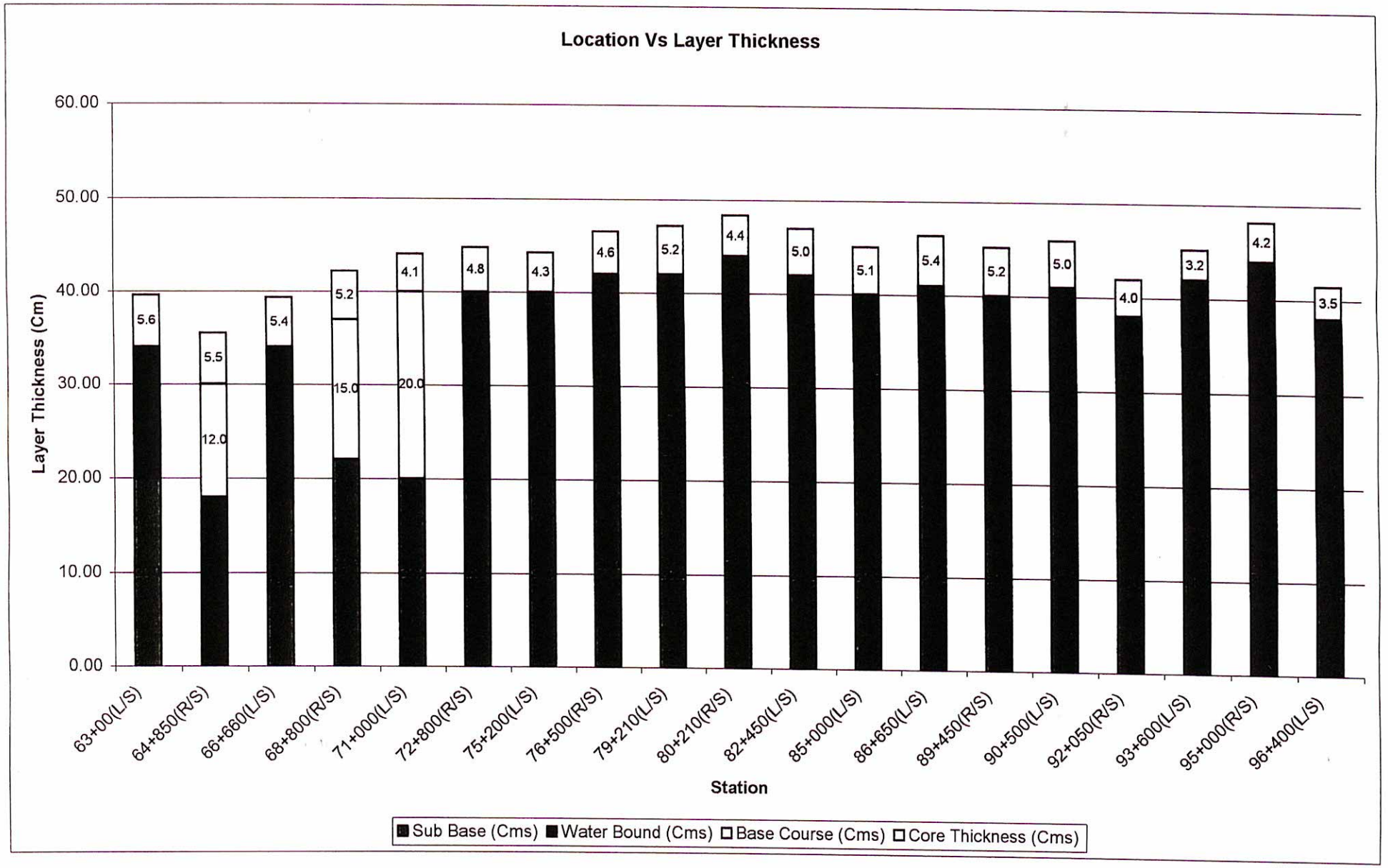
	Location		Pavement Components				[redacted]												Testing on Subgrade Material																	
											Particle Size (% Passing)								Insitudensity (Field Density Test) (gm/cc)	Sieve Analysis			Atterberg Limits			Specific Gravity			Classification (AASHTO)	Max. Dry Density (gm/cc)	Optimum Moisture Content: (%)	C.B.R. Value (%)	Compaction @ Sub grade (%)	
			Core Thickness (Cms)	Base Course (Cms)	Water Bound (Cms)	Sub Base (Cms)	Density of Core (gm/cc)	Asphalt Content (%) by Weight	Stability (Kg)	Flow (mm)	1"	3/4"	1/2"	3/8"	#4	#8	#50	#200		Passing # 4	Passing # 40	Passing # 200	Liquid Limit (%)	Plastic Limit (%)	Plastic Index	Bulk Specific Gravity (O.D)	Bulk Specific Gravity (S.S.D)	Apparent Specific Gravity							
1	R/S	0+000	4.0	15.0	-	15.0	2.267	3.94	615.0	20.0	100.0	98.4	-	68.5	46.4	31.3	10.8	6.2	2.23	57.00	26.00	13.00	NP	NP	-	2.678	2.695	2.742	A.1.a	2.32	8.4	56.7	96.1	
2	L/S	2+500	4.0	10.0	-	10.0	2.269	4.00	637.0	19.0	100.0	96.8	-	69.6	47.0	32.3	9.7	7.6	2.11	69.20	47.60	21.60	15.00	9.00	6.00	2.668	2.685	2.713	A.1.b	2.20	6.4	39.3	95.8	
3	R/S	5+000	3.0	12.0	-	10.0	2.240	4.21	531.0	22.0	100.0	98.6	-	71.8	49.6	35.2	11.8	7.3	2.20	89.00	66.00	9.00	NP	NP	-	2.661	2.674	2.696	A.3	2.27	5.6	47.9	97.0	
4	L/S	7+530	5.3	12.0	-	10.0	2.300	3.90	743.0	18.0	100.0	94.4	-	59.8	39.2	31.7	11.2	7.2	2.13	68.10	43.70	11.60	18.00	14.00	4.00	2.675	2.692	2.721	A.1.b	2.22	6.0	44.1	96.1	
5	R/S	10+000	3.6	15.0	-	15.0	2.257	4.12	594.0	23.0	100.0	97.3	-	58.7	41.2	30.9	10.6	6.6	2.20	61.50	40.40	10.20	19.00	15.00	4.00	2.652	2.667	2.693	A.1.b	2.27	5.8	43.2	96.9	
6	L/S	11+000	3.0	13.0	-	15.0	2.238	4.22	509.0	22.0	100.0	97.7	-	59.6	39.4	30.8	10.7	7.5	2.14	66.60	45.50	14.60	16.00	10.00	6.00	2.678	2.696	2.727	A.1.b	2.22	6.4	39.5	96.4	
7	R/S	12+500	3.3	12.0	-	14.0	2.254	4.10	552.0	20.0	100.0	98.2	-	71.6	52.3	33.7	13.8	9.2	2.16	77.40	26.50	11.20	NP	NP	-	2.684	2.699	2.726	A.1.a	2.24	6.6	49.1	96.5	
8	L/S	14+730	3.5	13.0	16.0	-	2.262	4.05	594.0	18.0	100.0	97.3	-	66.6	45.7	31.2	10.4	7.4	2.17	74.60	28.40	14.20	25.00	22.00	3.00	2.676	2.691	2.717	A.1.a	2.26	6.2	49.3	95.8	
9	R/S	16+000	4.5	-	20.0	13.0	2.277	3.93	679.0	17.0	100.0	96.3	-	62.4	41.2	32.6	12.8	8.5	2.12	68.60	48.90	23.30	32.00	27.00	5.00	2.670	2.685	2.710	A.1.b	2.20	5.6	39.1	96.2	
10	L/S	18+000	5.8	-	20.0	14.0	2.313	3.66	785.0	17.0	100.0	92.6	-	58.2	49.5	39.0	10.9	7.2	2.10	86.00	41.00	22.00	NP	NP	-	2.661	2.675	2.699	A.1.b	2.20	5.8	40.4	95.5	
11	R/S	20+580	6.0	-	13.0	14.0	2.317	3.72	934.0	16.0	100.0	93.4	-	58.6	39.2	30.8	12.2	8.7	2.06	71.40	41.50	25.90	31.00	25.00	6.00	2.620	2.639	2.670	A.2.4	2.14	7.4	36.7	96.4	
12	L/S	23+00	6.2	16.0	-	14.0	2.321	3.68	1061.0	17.0	100.0	93.2	-	58.4	39.2	30.7	12.4	8.5	2.09	72.60	41.10	25.30	33.00	26.00	7.00	2.618	2.637	2.668	A.2.4	2.16	7.6	36.6	96.8	
13	R/S	26+00	5.8	-	12.0	15.0	2.316	3.66	828.0	18.0	100.0	94.5	-	57.4	39.3	38.0	11.6	8.8	2.02	73.00	51.00	30.00	32.00	24.00	8.00	2.695	2.714	2.748	A.2.4	2.10	8.0	37.3	96.1	
14	L/S	27+760	4.1	9.0	-	17.0	2.269	3.96	637.0	22.0	100.0	97.3	-	67.5	44.2	32.1	11.9	8.4	1.96	82.50	62.20	31.40	34.00	26.00	8.00	2.612	2.625	2.652	A.2.4	2.05	9.4	35.9	95.7	
15	R/S	28+600	5.8	-	10.0	16.0	2.314	3.70	849.0	17.0	100.0	92.6	-	59.7	45.2	33.1	11.6	8.2	2.02	76.00	55.00	28.00	39.00	34.00	5.00	2.704	2.722	2.753	A.2.4	2.10	7.8	36.9	96.4	
16	L/S	30+800	6.6	-	14.0	15.0	2.322	3.67	733.0	17.0	100.0	92.6	-	62.3	43.1	29.8	10.4	9.2	2.04	80.60	51.80	32.50	32.00	26.00	6.00	2.664	2.677	2.699	A.2.4	2.12	8.0	37.4	96.2	
17	R/S	32+832	5.3	-	16.0	15.0	2.299	3.77	852.0	18.0	100.0	93.6	-	61.2	39.7	30.8	12.4	7.8	2.07	71.80	41.80	26.50	32.00	27.00	5.00	2.660	2.679	2.712	A.2.4	2.14	7.6	36.5	96.7	
18	L/S	35+360	5.2	-	30.0	15.0	2.296	3.88	841.0	19.0	100.0	94.1	-	65.6	43.4	30.2	11.9	7.5	2.08	71.20	40.00	25.40	31.00	24.00	7.00	2.655	2.669	2.694	A.2.4	2.16	6.4	36.6	96.3	
19	R/S	37+00	5.7	-	8.0	15.0	2.310	3.63	744.6	17.0	100.0	95.2	-	61.3	42.6	29.7	10.4	7.6	2.01	76.00	54.00	32.00	28.00	26.00	2.00	2.716	2.735	2.768	A.2.4	2.08	7.0	36.1	96.8	
20	L/S	39+500	3.0	15.0	13.0	20.0	2.244	4.21	731.5	23.0	100.0	98.1	-	66.5	47.3	36.0	12.4	8.6	2.16	63.20	42.20	11.30	NP	NP	-	2.645	2.662	2.692	A.1.b	2.24	6.2	46.7	96.3	
21	R/S	41+00	4.9	20.0	18.0	15.0	2.289	3.38	722.0	19.0	100.0	96.1	-	59.0	37.3	26.5	6.2	4.0	2.14	66.40	46.30	14.30	25.00	21.00	4.00	2.664	2.678	2.702	A.1.b	2.20	5.6	38.1	97.1	
22	L/S	43+00	4.9	22.0	-	20.0	2.292	3.79	743.0	19.0	100.0	94.6	-	71.3	49.8	33.7	10.2	8.8	2.08	72.40	40.70	25.60	33.00	28.00	5.00	2.666	2.681	2.707	A.2.4	2.15	5.8	36.8	96.6	
23	L/S	45+900	2.9	20.0	-	20.0	2.237	4.24	467.0	23.0	100.0	98.8	-	72.2	49.5	32.7	12.8	9.0	2.18	65.40	45.70	21.10	NP	NP	-	2.682	2.695	2.718	A.1.b	2.26	6.4	41.9	96.4	
24	L/S	47+00	4.6	20.0	-	20.0	2.282	3.88	619.0	18.0	100.0	97.3	-	62.4	48.6	31.2	10.6	9.2	2.13	67.20	48.50	17.60	13.00	10.00	3.00	2.650	2.666	2.693	A.1.b	2.20	5.8	39.7	96.8	
25	R/S	49+280	2.9	-	10.0	22.0	2.240	4.25	509.0	23.0	100.0	99.1	-	73.3	48.2	34.8	12.8	9.3	2.10	60.50	41.90	10.80	16.00	12.00	4.00	2.645	2.659	2.682	A.1.b	2.18	6.6	46.0	96.3	
26	L/S	51+100	3.7	12.0	-	22.0	2.263	4.05	615.0	22.0	100.0	97.4	-	69.2	52.6	34.8	12.2	7.4	2.16	63.80	41.80	10.30	14.00	9.00	5.00	2.661	2.676	2.701	A.1.b	2.22	6.4	44.8	97.1	
27	R/S	53+300	5.9	20.0	-	15.0	2.315	3.66	806.0	18.0	100.0	96.8	-	58.6	39.4	32.6	11.8	8.2	2.12	65.80	44.40	12.70	17.00	14.00	3.00	2.666	2.677	2.704	A.1.b	2.20	5.4	38.9	96.2	
28	L/S	54+665	6.3	-	30.0	18.0	2.318	3.68	870.0	17.0	100.0	98.2	-	64.4	48.6	32.3	10.8	6.9	2.17	72.00	29.00	15.00	NP	NP	-	2.670	2.685	2.710	A.1.a	2.26	6.0	50.2	96.2	
29	R/S	57+100	6.3	-	30.0	18.0	2.319	3.66	913.0	16.0	100.0	95.4	-	63.2	47.1	31.6	10.4	7.6	2.07	74.20	41.50	26.40	30.00	24.00	6.00	2.665	2.680	2.705	A.2.4	2.16	5.4	36.8	95.8	
30	L/S	59+00	6.1	24.0	18.0	-	2.316	3.73	870.0	16.0	100.0	96.5	-	68.2	44.7	32.2	10.9	8.6	2.14	67.40	44.60	13.70	14.00	12.00	2.00	2.672	2.689	2.719	A.1.b	2.20	6.4	37.1	97.3	
31	R/S	60+800	4.2	-	10.0	22.0	2.274	4.21	637.0	22.0	100.0	97.7	-	73.1	46.6	30.5	8.8	5.4	2.14	61.20	41.30	10.00	17.00	15.00	2.00	2.692	2.706	2.731	A.1.b	2.22	6.0	47.7	96.6	
32	L/S	63+00	5.6	-	14.0	20.0	2.307	3.70	785.0	18.0	100.0	94.7	-	63.2	44.5	32.6	12.2	8.6	2.14	68.50	41.60	11.60	NP	NP	-	2.680	2.696	2.723	A.1.b	2.21	5.8	38.6	96.8	
33	R/S	64+850	5.5	12.0	18.0	-	2.304	3.93	722.0	18.0	100.0	98.2	-	69.4	48.5	31.3	12.4	7.8	2.18	61.50	41.10	10.60	19.00	16.00	3.00	2.662	2.676	2.700	A.1.b	2.25	6.2	42.2	96.7	
34	L/S	66+660	5.4	-	16.0	18.0	2.300	3.77	743.0	17.0	100.0	94.0	-	63.4	45.7	32.2	12.4	8.6	2.09	82.40	53.30	33.20	36.00	28.00	8.00	2.640	2.655	2.680	A.2.4	2.16	5.8	36.6	96.7	
35	R/S	68+800	5.2	15.0	-	22.0	2.297	3.91	679.0	20.0	100.0	96.6	-	62.6	48.9	30.4	11.3	7.4	2.17	76.00	30.00	15.00	NP	NP	-	2.666	2.679	2.700	A.1.a	2.24	6.0	50.0	97.0	
36	L/S	71+000	4.1	20.0	-	20.0	2.269	4.10	658.0	21.0	100.0	97.4	-	66.2	48.4	32.2	10.4	6.5	2.17	78.40	29.00	12.60	NP	NP	-	2.672	2.687	2.713	A.1.a	2.26	6.2	48.7	95.8	
37	R/S	72+800	4.8	-	20.0	20.0	2.288	3.90	722.0	17.0	100.0	99.1	-	72.6	54.8	32.7	12.9	4.8	2.11	68.20	46.60	19.40	27.00	22.00	5.00	2.644	2.661	2.689	A.1.b	2.20	5.6	41.5	95.9	
38	L/S	75+200	4.3	-	20.0	20.0	2.275	4.04	679.0	19.0	100.0	97.5	-	70.3	52.6	32.8	10.6	6.4	2.17	73.30	28.80	10.20	NP	NP	-	2.662	2.674	2.696	A.1.a	2.24	5.8	58.1	96.8	
39	R/S	76+500	4.6	-	20.0	22.0	2.284	3.92	722.0	18.0	100.0	97.4	-	69.2	51.6	31.3	11.5	6.2	2.13	86.40	62.30	9.40	NP	NP	-	2.671	2.684	2.706	A.3	2.22	5.4	47.3	96.0	
40	L/S	79+210	5.2	-	22.0	20.0	2.301	3.84	764.0	18.0	100.0	96.7	-	68.2	46.4	34.3	11.4	5.4	2.17	66.60	43.90	10.20	24.00	22.00	2.00	2.674	2.688	2.713	A.1.b	2.26	5.6	50.7	96.1	
41	R/S	80+210	4.4	-	20.0	24.0	2.278	3.96	679.0	20.0	100.0	94.6	-	66.4	49.1	35.5	12.8	7.2	2.10	79.50	48.60	29.90	23.00	21.00	2.00	2.695	2.711	2.737	A.2.4	2.18	6.2	36.7	96.3	
42	L/S	82+450	5.0	-	22.0	20.0	2.292	3.90	743.0	19.0	100.0	94.7	-	69.2	48.4	34.4	12.0	4.6	2.14	62.20	40.30	10.10	28.00	24.00	4.00	2.673	2.691	2.722	A.1.b	2.23	5.8	43.1	96.1	
43	L/S	85+000	5.1	-	20.0	20.0	2.294	3.84	764.0	18.0	100.0	97.4	-	68.2	52.2	32.6	12.0	4.4	2.19	79.00	30.00	15.00	NP	NP	-	2.665	2.680	2.706	A.1.a	2.27	6.2	50.4	96.4	
44	L/S	86+650	5.4	-	21.0	20.0	2.301	3.68	806.0	16.0	100.0	96.6	-	68.2	46.7	33.3	11.8	4.6	2.17	70.00	44.30	12.60	NP	NP	-	2.667	2.685	2.714	A.1.b	2.24	6.4	39.1	96.8	
45	R/S	89+450	5.2	-	20.0	20.0	2.298	3.80	764.0	17.0	100.0	96.2	-	67.7	51.2	32.6	10.8	4.6	2.18	76.40	29.20	10.40	NP	NP	-	2.665	2.678	2.699	A.1.a	2.25	5.6	53.9	97.0	
46	L/S	90+500	5.0	-	20.0	21.0	2.294	3.83	700.0	19.0	100.0	99.1	-	72.4	46.6	31.3	10.8	6.4	2.15	70.40	43.60	12.30	20.00	14.00	6.00	2.644	2.658	2.681	A.1.b	2.23	5.4	52.3	96.6	
47	R/S	92+050	4.0	-	20.0	18.0	2.267	3.94	594.0	22.0	100.0	98.4	-	71.6	46.0	33.7	11.3	6.9	2.19	79.20	22.20	5.60	NP	NP	-	2.650	2.664	2.687	A.1.a	2.26	6.0	61.7	96.7	
48	L/S	93+600	3.2	-	22.0	20.0	2.247	4.23	552.0	22.0	100.0	99.0	-	73.4	47.6	33.3	11.2	7.5	2.15	63.40	41.90	10.20	22.00	20.00	2.00	2.661	2.686	2.713	A.1.b	2.22	5.8	44.4	96.7	
49	R/S	95+000	4.2	-	21.0	23.0	2.272	4.05	637.0	20.0	100.0	98.3	-	70.7	48.4	33.6	10.9	6.6	2.13	72.40	42.80	27.20	32.00	26.00	6.00	2.660	2.679	2.711	A.2.4	2.20	6.0	37.2	96.6	
50	L/S	96+400	3.5	-	20.0	18.0	2.255	4.10	531.0	23.0	100.0	97.4	-	74.2	52.6	36.3	11.8	7.2	2.16	74.60	26.40	6.90	NP	NP	-	2.659	2.671	2.692	A.1.a	2.25	6.0	57.2	96.1	

Mathematical Statistics

Average		4.72	15.57	18.35	17.66	2.29	3.90	708.85	19.10	100.00	96.47	-	66.15	46.35	32.58	11.36	7.28	2.13	71.62	42.12	17.37	25.06	20.39	4.67	2.66	2.68	2.71	-	2.21	6.32	43.46	96.43	
Standard Deviation		1.04	4.26	5.39	3.54	0.03	0.20	123.31	2.21	0.00	1.92	-	5.04	4.35	2.17	1.21	1.41	0.05	7.27	9.65	8.00	7.55	6.72	1.88	0.02	0.02	0.02	-	0.06	0.86	6.86	0.42			
Maximum		6.60	24.00	30.00	24.00	2.32	4.25	1061.00	23.00	100.00	99.10	-	74.19	54.80	38.96	13.80	9.30	2.23	89.00	66.00	33.20	39.00	34.00	8.00	2.72	2.74	2.77	-	2.32	9.40	61.70	97.30			
Minimum		2.90	9.00	8.00	10.00	2.24	3.38	467.00	16.00	100.00	92.58	-	57.40	37.35	26.52	6.23	4.05	1.96	57.00	22.20	5.60	13.00	9.00	2.00	2.61	2.63	2.65	-	2.05	5.40	35.90	95.50			


Location Vs Layer Thickness
Layer Thickness (Cm)
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
4.0
15.0
4.0
10.0
3.0
12.0
5.3
12.0
3.6
15.0
3.0
13.0
3.3
12.0
3.5
13.0
4.5
5.8
6.0
6.2
16.0
5.8
4.1
9.0
5.8
6.6
0+000(R/S)
2+500(L/S)
5+000(R/S)
7+530(L/S)
10+000(R/S)
11+000(L/S)
12+500(R/S)
14+730(L/S)
16+000(R/S)
18+000(L/S)
20+580(R/S)
23+00(L/S)
26+00(R/S)
27+760(L/S)
28+600(R/S)
30+800(L/S)
Station
Sub Base (Cms)
Water Bound (Cms)
Base Course (Cms)
Core Thickness (Cms)

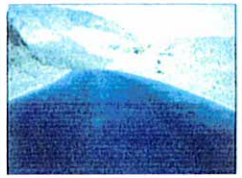

Location Vs Layer Thickness
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Layer Thickness (Cm)
5.3
5.2
5.7
3.0
15.0
4.9
20.0
4.9
22.0
2.9
20.0
4.6
20.0
2.9
3.7
12.0
5.9
20.0
6.3
6.3
6.1
24.0
4.2
32+832(R/S)
35+360(L/S)
37+00(R/S)
39+500(L/S)
41+00(R/S)
43+00(L/S)
45+900(L/S)
47+00(L/S)
49+280(R/S)
51+100(L/S)
53+300(R/S)
54+665(L/S)
57+100(R/S)
59+00(L/S)
60+800(R/S)
Station
Sub Base (Cms)
Water Bound (Cms)
Base Course (Cms)
Core Thickness (Cms)


Location Vs Layer Thickness
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Layer Thickness (Cm)
5.6
5.5
12.0
5.4
5.2
15.0
4.1
20.0
4.8
4.3
4.6
5.2
4.4
5.0
5.1
5.4
5.2
5.0
4.0
3.2
4.2
3.5
63+00(L/S)
64+850(R/S)
66+660(L/S)
68+800(R/S)
71+000(L/S)
72+800(R/S)
75+200(L/S)
76+500(R/S)
79+210(L/S)
80+210(R/S)
82+450(L/S)
85+000(L/S)
86+650(L/S)
89+450(R/S)
90+500(L/S)
92+050(R/S)
93+600(L/S)
95+000(R/S)
96+400(L/S)
Station
Sub Base (Cms)
Water Bound (Cms)
Base Course (Cms)
Core Thickness (Cms)

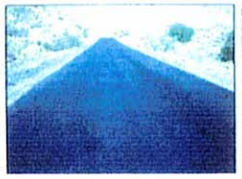
PICTURES OF ROAD


CHAINAGE 00+000

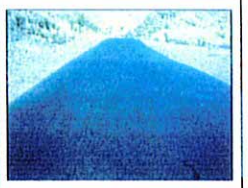

CHAINAGE 1+000




CHAINAGE 02+000


CHAINAGE 03+000

PICTURES OF ROAD




CHAINAGE 04+000

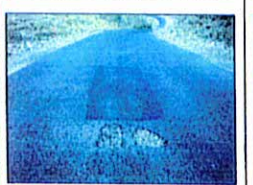
PICTURES OF ROAD


CHAINAGE 05+000


CHAINAGE 06+000

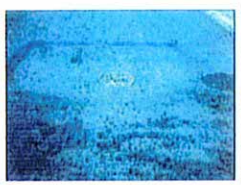
PICTURES OF ROAD


CHAINAGE 07+000




CHAINAGE 08+000

PICTURES OF ROAD




CHAINAGE 09+000


CHAINAGE 10+000


CHAINAGE 11+000

PICTURES OF ROAD


CHAINAGE 12+000


CHAINAGE 13+000


CHAINAGE 14+000


CHAINAGE 15+000


CHAINAGE 16+000

PICTURES OF ROAD


CHAINAGE 17+000


CHAINAGE 18+000

CHAINAGE 19+000

PICTURES OF ROAD

CHAINAGE 20+000

CHAINAGE 21+000

CHAINAGE 22+000

CHAINAGE 23+000

PICTURES OF ROAD


CHAINAGE 24+000


CHAINAGE 25+000

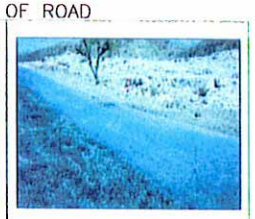



CHAINAGE 26+000


CHAINAGE 27+000

PICTURES OF ROAD

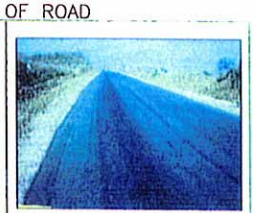

CHAINAGE 28+000



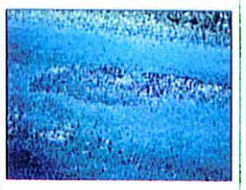

CHAINAGE 29+000


CHAINAGE 30+000


PICTURES OF ROAD



CHAINAGE 31+000


CHAINAGE 32+000




PICTURES OF ROAD


CHAINAGE 33+000



CHAINAGE 34+000

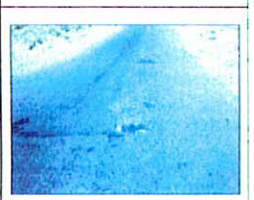


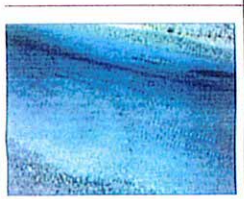

CHAINAGE 35+000

PICTURES OF ROAD



CHAINAGE 36+000



CHAINAGE 37+000

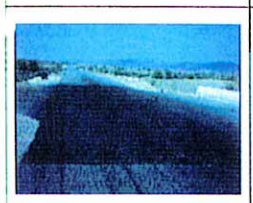


CHAINAGE 38+000

PICTURES OF ROAD



CHAINAGE 39+000


CHAINAGE 40+000

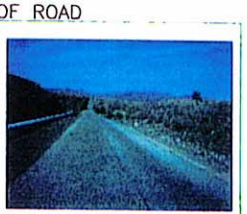

CHAINAGE 41+000


CHAINAGE 42+000


CHAINAGE 43+000

PICTURES OF ROAD


CHAINAGE 44+000


CHAINAGE 45+000


CHAINAGE 46+000


CHAINAGE 47+000

CHAINAGE 48+000

PICTURES OF ROAD

CHAINAGE 49+000

CHAINAGE 50+000

CHAINAGE 51+000

CHAINAGE 52+000

PICTURES OF ROAD


CHAINAGE 53+000


CHAINAGE 54+000


CHAINAGE 55+000


CHAINAGE 56+000


CHAINAGE 57+000

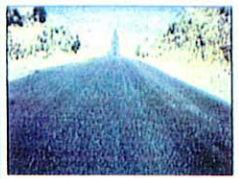
PICTURES OF ROAD


CHAINAGE 58+000


CHAINAGE 59+000


CHAINAGE 60+000


CHAINAGE 61+000


CHAINAGE 62+000


CHAINAGE 63+000

PICTURES OF ROAD


CHAINAGE 64+000


CHAINAGE 65+000


CHAINAGE 66+000


CHAINAGE 67+000


CHAINAGE 68+000

PITCURES OF ROAD


CHAINAGE 69+000


CHAINAGE 70+000


CHAINAGE 71+000


CHAINAGE 72+000


CHAINAGE 73+000

PITCURES OF ROAD


CHAINAGE 74+000


CHAINAGE 75+000


CHAINAGE 76+000


CHAINAGE 77+000


CHAINAGE 78+000


Km79+000


KM80+000


Km81+000


KM82+000


Km83+000


KM84+000

PITCURES OF ROAD


CHAINAGE 85+000


CHAINAGE 86+000


CHAINAGE 87+000


CHAINAGE 88+000

CHAINAGE 89+000

CHAINAGE 90+000

PITCURES OF ROAD

CHAINAGE 91+000

CHAINAGE 92+000

CHAINAGE 93+000

CHAINAGE 94+000

CHAINAGE 95+00

5. GEOTECHNICAL SURVEY

- Location of Mechanical Boring Investigation
- Result of Boring Investigation (Typical Example of Boring Log Table)

DRAFT REPORT
ON
GEOTECHNICAL INVESTIGATION
AT
VARIOUS BRIDGES FOR
IMPROVEMENT OF
KARARO-WAD SECTION (N-25)
NATIONAL HIGHWAY
BALUCHISTAN.

FEBRUARY *2005.*

BORE HOLES LOCATION CHART

S.No.	ST. No.	Chainage (Km)	NHA B.No.	BH No.	Depth (m)	Borehole Locations
01	ST – 6	01+964	222/1	01	19.0	7.0m from Abt: 01, 6.0m from Bridge
02	ST – 11	03+625	225/1	01 02 03	19.0 20.0 20.0	3.0m from Abt: 01, 3.0m from Bridge 5.0m from P-6 3.5m from Bridge 2.80m from Abt: 02, 3.0 from Bridge
03	ST – 21	7+810	230/1	01	24.0	5.0m before Abt: 01, 3.0m from Road
04	ST – 25	10+97	232/2	01	18.0	3.0m from Abt: 02, 3.0m from Bridge
05	ST – 26	11+190	232/3	01 02 03 04	22.0 22.0 20.0 23.0	2.0m from Abt: 01, 6.0m from Bridge 2.50m from Bridge Near P-2 4.10m from Bridge Near P-4 1.75m from Bridge, 5.0m from P-1
06	ST – 38	13+841	235/1	01 02 03	24.0 25.0 21.0	3.80m from Abt: 01, 4.0m from Abt: 01 to P-1 3.40m from P-3 4.0 from Abt: 02, 4.20m from Abt: 02 to P-5
07	ST – 43	14+878	236/1	01 02 03	18.0 22.0 17.0	6.30m from Bridge 2.0m form Centre of Bridge 3.90m from P-1, 1.20m from Bridge
08	ST – 54	17+384	239/1	01 02 03	20.0 20.0 22.0	3.0m from Abt: 01, 2.80m from Bridge Centre of P-3 - P-4, 1.0m from Bridge 5.9m from Abt: 02, 1.20m from Bridge
09	ST – 68	20+612	242/2	01	21.0	2.0m from Abt: 01, 4.0m from Bridge
10	ST – 69	20+732	242/3	01 02	19.0 20.0	3.5m from P-1 3.5m from P-3
11	ST – 78	25+788	247/1	01	23.0	Near Road Side 5.0m from Abt: 01, 2.0m from Road
12	ST – 137	41+002	262/6	01	21.0	In the Centre of Abt: 01 and Abt: 02 3.0m from Bridge
13	ST – 150	42+95	264/4	01	22.0	Near Abt: 02, 3.0m from Bridge
14	ST – 163	45+340	267/1	01	23.0	5.0m from Abt: 02, 2.0m from Road
15	ST – 171	46+978	268/4	01	23.0	5.0m from Abt: 01, 2.0m from Road
16	ST – 177	48+450	270/1	01 02 03 04	19.0 20.0 20.0 19.0	2.50m from Abt: 01, 2.50m from Bridge 1.0m from P-2, 3.0m from Bridge 1.0m from P-6, 3.20m from Bridge 3.0m from Abt: 02, 4.0m from Bridge
17	ST – 178	48+775	270/2	01	19.0	3.0m from Abt: 01
18	ST – 230	60+160	282/2 J – 220	01 02	22.0 14.0	2.0m from Abt: 02, 8.0m from Road 13.0m from Abt: 01, 3.30m from Road
19	ST – 253	64+438	None	01	25.0	22.0m from Abt: 01, 0.5m from Road
20	ST – 279	69+796	None	01 02	16.50 16.50	10.0m from Abt: 02, 12.0m from P-2, 8.0m from Bridge 5.0m from Abt: 01, 13.3m from P-1
21	ST – 280	69+930	None	01	13.0	2.30m from Abt: 01, 22.0m from Abt: 02, 19.0m from P-1
22	ST - 72	22+850	244/1	01 02	16.0 15.0	3.0m from Abt: 01, 3.0m from Bridge 3.0m from Abt: 02, 3.0m from Bridge

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-225/1 (CH: 014+964) Station 6 — SHEET # 1/1

BOREHOLE LOCATION: 6.0 m from Bridge, 7.0 m from Abt: 01 — TYPE OF BORING: Rotary — BORING NO.: 01

DIA OF CASING: 125mm (NB) — DIA OF BORING: 100mm — DATE COMMENCED: 04/02/2005

G.W.L: Not Encountered — DIA OF CORING: NX — DATE COMPLETED: 05/02/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Greyish white very dense							DS: 0.0-1.0 m
1			BOULDERS, COBBLES		CPT	1.00	R			DS of CPT
2			PEBBLES & GRAVELS		"	2.00	"			"
3			(cutting) with sand		"	3.00	"			"
4					"	4.00	"			"
5	5.00	–			SPT	5.00	48			DS of SPT
		SW	Greyish white v/d SAND with							
6	6.00	–	gravels & cutting pie. of cobbles		CPT	6.00	R			DS of CPT
			Greyish white very dense							
7			COBBLES, PEBBLES		"	7.00	"			"
8			and GRAVELS (cutting)		"	8.00	"			"
9			with sand		"	9.00	"			"
10	10.00	–			SPT	10.00	47			DS of SPT
			Grey. white v/d SAND with cut.							
11	11.00	–	of cobbles, pebbles & F/C gravels		CPT	11.00	R			DS of CPT
			Greyish white very dense							
12			GRAVELS with sand		"	12.00	"			"
13	13.00	–	occassional cuttings of cobbles		"	13.00	"			"
			Grey. white very dense SAND							
14	14.00	–	with cutting of cobbles & gravels		SPT	14.00	47			DS of SPT
		SW	Greyish white very dense							
15			gravelly SAND occassional		CPT	15.00	R			DS of CPT
16			cuttings of pebbles		"	16.00	"			"
17	17.00	–			"	17.00	"			"
			Greyish white very dense							
18			GRAVELS with sand		"	18.00	"			"
			occassional cuttings							
19	19.00	–	of cobbles and pebbles		"	19.00	"			"
			End of Borehole # 01							
			at the depth of 19.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-225/1 (CH: 03+625) Station 11 — SHEET # 1/1

BOREHOLE LOCATION: 5.0 m from P-1, 3.5 m from Bridge — TYPE OF BORING: Rotary — BORING NO.: 02

DIA OF CASING: 125mm (5.0-7.0) — DIA OF BORING: 100mm — DATE COMMENCED: 06/02/2005

G.W.L: 1.00 m — DIA OF CORING: NX — DATE COMPLETED: 07/02/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Br. grey sandy GRAVELS some							DS: 0.0-1.0 m
1	1.00	–	cobbles & pebbles (cut.) & silty clay		SPT	1.00	29			
			Brownish grey dense to							
2			very dense sandy silty		"	2.00	33			
3		CL	CLAY traces of fine gravels		"	3.00	32			
4					"	4.00	45			
5	5.00	–		X X X	"	5.00	R			
			Brownish grey dense to							
6			very dense gravelly		"	6.00	46			
7			SAND, occassional		"	7.00	48			
8		SW	cobbles & pebbles (cuttings)		"	8.00	46			
9					"	9.00	R			
10					"	10.00	"			
11					"	11.00	43			
12					"	12.00	48			
13		SW			"	13.00	46			
14					"	14.00	49			
15					"	15.00	48			
16			ditto - but very dense		"	16.00	R			
17					"	17.00	"			
18					"	18.00	"			
19					"	19.00	"			
20					"	20.00	"			*EOB (20.0 m)*

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-225/1 (CH: 03+625) Station 11 — SHEET # 1/1

BOREHOLE LOCATION: 2.0 m from Abt: 01, 2.0 m from Bridge — TYPE OF BORING: Rotary — BORING NO.: 01

DIA OF CASING: 125mm (8.0-8.0) — DIA OF BORING: 100mm — DATE COMMENCED: 06/01/2005

G.W.L: 1.00 m — DIA OF CORING: NX — DATE COMPLETED: 07/02/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey medium							DS: 0.0-1.0 m
1			dense to dense silty		SPT	1.00	28			
2			fine to coarse SAND		"	2.00	31			
		SW-SM	traces of clay occassional							
3			cobbles and pebbles	X X X	"	3.00	32			
4					"	4.00	31			
5	5.00	–		X X X	"	5.00	R			
			Brownish grey dense to very							
6			dense gravelly SAND		"	6.00	43			
7			occassional cobbles		"	7.00	47			
			and pebbles (cuttings)							
8					"	8.00	47			
9		SW			"	9.00	R			
10					"	10.00	48			
11					"	11.00	44			
12					"	12.00	49			
13					"	13.00	46			
14		SW			"	14.00	48			
15			ditto - but very dense		"	15.00	R			
16					"	16.00	"			
17					"	17.00	"			
18					"	18.00	"			
19	19.00	–			"	19.00	"			
			End of Borehole # 01 (Abt: 01)							
			at the depth of 19.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-225/1 (CH: 03+625) Station 11 — SHEET # 1/1

BOREHOLE LOCATION: 2.0 m from Abt: 02, 2.0 m from Bridge — TYPE OF BORING: Rotary — BORING NO.: 03

DIA OF CASING: 125mm (8.0-8.0) — DIA OF BORING: 100mm — DATE COMMENCED: 06/01/2005

G.W.L: 1.20 m — DIA OF CORING: NX — DATE COMPLETED: 07/02/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey dense to							DS: 0.0-1.0 m
1			very dense gravelly SAND		SPT	1.00	30			
		SW	with pebbles & cobbles							
2			(cuttings) traces of silty clay		"	2.00	33			
3				X X X	"	3.00	36			
4	4.00	–			"	4.00	39			
		SM	B/Grey dense to v/d silty coarse to							
5	5.00	–	fine SAND little coarse to fine gravels		"	5.00	R			
			Brownish grey dense to							
6			very dense gravelly		"	6.00	47			
7			SAND, occassional		"	7.00	49			
			cobbles & pebbles (cuttings)							
8					"	8.00	48			
9		SW			"	9.00	R			
10					"	10.00	"			
11					"	11.00	"			
12					"	12.00	48			
13					"	13.00	R			
14					"	14.00	49			
15					"	15.00	47			
16			ditto - but very dense		"	16.00	R			
17					"	17.00	"			
18					"	18.00	"			
19					"	19.00	"			
20	20.00	–			"	20.00	"			*EOB (20.0 m)*

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Karuro-Wad Section N-25

LOCATION: NHA # B 230/1 (CH: 7+810) Station 21 — SHEET # 1/2

COORDINATES: 3.0 m from Road, 5.0 m before Abt: 01 — TYPE OF BORING: Rotary — DIA OF CASING: 125mm (0.0-15.0) — DIA OF BORING: 100mm — BORING NO.: 01 — DATE COMMENCED: 08/01/2005

G.W.T.: Not Encountered — DIA OF CORING: — DATE COMPLETED: 09/01/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense fine to coarse SAND some fine gravels		SPT	1.00	14			DS: 0.0-1.0 m
2					"	2.00	15			
3		SP			"	3.00	16			
4					"	4.00	18			
5					"	5.00	16			
6					"	6.00	19			
7					"	7.00	22			
8					"	8.00	23			
9					"	9.00	25			
10					"	10.00	27			
11			ditto - but dense		"	11.00	30			
12					"	12.00	27			
13					"	13.00	30			
14	14.00	--			"	14.00	33			
15			Dark grey dense fine SAND traces of silty clay converting into loosely cemented		"	15.00	32			
16	16.00	--	sandy shale		"	16.00	33			
17		SW-SM	Brownish grey dense to very dense coarse to fine SAND traces of silty gravels		"	17.00	35			
18					"	18.00	38			
19					"	19.00	45			
20					"	20.00	R			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Karuro-Wad Section N-25

LOCATION: NHA # B-232/2 (CH: 10+970) Station 25 — SHEET # 1/1

BOREHOLE LOCATION: 3.0 m from Abt: 02, 3.0 m from Bridge — TYPE OF BORING: Rotary — DIA OF CASING: 125mm (0.0-11.0) — DIA OF BORING: 100mm — BORING NO.: 01 — DATE COMMENCED: 29/01/2005

G.W.T.: Not Encountered — DIA OF CORING: NX — DATE COMPLETED: 30/01/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/ ZEESHAN

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense fine to coarse SAND some fine gravels		SPT	1.00	16			DS: 0.0-1.0 m
2			traces of silty clay		"	2.00	25			
3		SW			"	3.00	24			
4					"	4.00	29			
5					"	5.00	28			
6			ditto - but dense to very dense		"	6.00	36			
7					"	7.00	41			
8					"	8.00	R			
9	9.00	--			"	9.00	"			
10		GW	Brownish grey dense to very dense coarse to fine GRAVELS and coarse to fine SAND, with cobbles, pebbles (cuttings)		"	10.00	"			
11					"	11.00	"			
12		GW			"	12.00	48			
13					"	13.00	45			
14					"	14.00	R			
15					"	15.00	"			
16					RUN	15.00-16.00				DS of Core:
17					"	16.00-17.00				DS of Core:
18	18.00	--			"	17.00-18.00				DS of Core:
			End of Borehole # 1 at the depth of 18.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan — BORING NO.: 01

PROJECT: Up-gradation & Improvement of National Highway B/W Karuro-Wad Section N-25

LOCATION: NHA # B 230/1 (CH: 7+810) Station 21 — Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21			Brownish grey dense to very dense coarse to fine SAND traces of silty gravels		SPT	21.00	R			
22					"	22.00	"			
23					"	23.00	"			
24	24.00	--			"	24.00	"			
			End of Borehole # 01 at the depth of 24.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Karuro-Wad Section N-25

LOCATION: NHA # B-232/3 (CH: 11+190) Station 26 — SHEET # 1/2

BOREHOLE LOCATION: 6.0 m from Bridge, 2.0 m from Abt: 01 — TYPE OF BORING: Rotary — DIA OF CASING: 125mm (0.0-13.0) — DIA OF BORING: 100mm — BORING NO.: 01 — DATE COMMENCED: 02/02/2005

G.W.T.: Not Encountered — DIA OF CORING: NX — DATE COMPLETED: 03/02/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense to dense fine to coarse SAND traces of fine gravels		SPT	1.00	18			DS: 0.0-1.0 m
2					"	2.00	24			
3		SW	ditto - but traces of clay		"	3.00	20			
4					"	4.00	22			
5					"	5.00	25			
6					"	6.00	30			
7					"	7.00	21			
8					"	8.00	24			
9					"	9.00	22			
10		SW			"	10.00	27			
11			ditto - but dense to very dense		"	11.00	33			
12					"	12.00	37			
13					"	13.00	44			
14	14.00	--			"	14.00	45			
15		SM	Brownish grey dense to very dense silty coarse to fine SAND traces of gravels		"	15.00	54			
16					"	16.00	44			
17					"	17.00	46			
18	18.00	--			"	18.00	R			
19			ditto - but with cobbles & pebbles		Run	18.00-19.00				DS of Core:
20					"	19.00-20.00				DS of Core:

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan
PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25
LOCATION: NHA # B-232/3 (CH: 11+190) Station 26

BORING NO.: 01
Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21			ditto -		Run	20.00-21.00				DS of Core:
22	22.00	--			"	21.00-22.00				DS of Core:
			End of Borehole # 01 *At The Depth of 22.00 m*							

Prepared by: Geol. M. Aslam Ishaq
Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan
PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25
LOCATION: NHA # B-232/3 (CH: 11+190) Station 26

BORING NO.: 02
Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21			ditto-but with cobbles & boulders		Run	20.00-21.00				DS of Core:
22	22.00	--			"	21.00-22.00				DS of Core:
			End of Borehole # 02 *At The Depth of 22.00 m*							

Prepared by: Geol. M. Aslam Ishaq
Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan
PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25
LOCATION: NHA # B-232/3 (CH: 11+190) Station 26 — SHEET # 1/2

BOREHOLE LOCATION: 2.50 m from Bridge Near P-2
TYPE OF BORING: Rotary
DIA OF CASING: 125mm (0.0-18.0)
DIA OF BORING: 100mm
DIA OF CORING: NX
BORING NO.: 02
DATE COMMENCED: 02/02/2005
DATE COMPLETED: 03/02/2005
G.W.T.: Not Encountered
SCALE: 1:100
SUPERVISOR: GEOL. M. ASHRAF/IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE Blows	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey dense gravelly fine to medium coarse SAND traces of clay		SPT	1.00	32			DS: 0.0-1.0 m
2		SW			"	2.00	31			
3			ditto - but medium dense		"	3.00	27			
4	4.00	--			"	4.00	27			
5		SP	Brownish grey medium dense to dense coarse to fine SAND traces of gravels and silty clay		"	5.00	28			
6			ditto - but dense to very dense		"	6.00	34			
7					"	7.00	38			
8					"	8.00	42			
9					"	9.00	45			
10					"	10.00	R			
11					"	11.00	49			
12		SP			"	12.00	49			Water Loss: 11.0-12.0
13					"	13.00	R			
14					"	14.00	47			
15					"	15.00	49			
16					"	16.00	R			
17					"	17.00	49			
18					"	18.00	R			
19					"	19.00	"			
19.50		--								
20			ditto-but with cobbles & boulders		Run	19.50-20.00				DS of Core:

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan
PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25
LOCATION: NHA # B-232/3 (CH: 11+190) Station 26 — SHEET # 1/1

BOREHOLE LOCATION: 4.10 m from Bridge Near P-1
TYPE OF BORING: Rotary
DIA OF CASING: 125mm (0.0-11.0)
DIA OF BORING: 100mm
DIA OF CORING: NX
BORING NO.: 03
DATE COMMENCED: 04/02/2005
DATE COMPLETED: 05/02/2005
G.W.T.: Not Encountered
SCALE: 1:100
SUPERVISOR: GEOL. M. ASHRAF/IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE Blows	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense gravelly fine to coarse SAND traces of clay		SPT	1.00	16			DS: 0.0-1.0 m
2		SP			"	2.00	22			
3					"	3.00	24			
4					"	4.00	25			
5					"	5.00	30			
6					"	6.00	22			
7					"	7.00	29			
8			ditto - but dense to very dense little gravels		"	8.00	32			
9					"	9.00	36			
10					"	10.00	31			
11		SW			"	11.00	40			
12					"	12.00	39			
13					"	13.00	45			
14					"	14.00	50			
15					"	15.00	48			
16		SW			"	16.00	R			
17					"	17.00	"			
18			ditto - with pebbles cobbles and boulders (cuttings)		"	18.00	"			
19					"	19.00	"			
20	20.00	--			"	20.00	"			EOB 120 m

Prepared by: Geol. M. Aslam Ishaq
Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-232/3 (CH: 11+190) Station 26

SHEET # 1/2

BOREHOLE LOCATION: 1.75 m from Bridge, 5.0 m from P-1

TYPE OF BORING: Rotary

DIA OF CASING: 125mm (0.0-9.0)

DIA OF BORING: 100mm

DIA OF CORING: NX

BORING NO.: 04

DATE COMMENCED: 02/02/2005

DATE COMPLETED: 03/02/2005

G.W.T.: Not Encountered

SCALE: 1:100

SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH m	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE blow	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense silty fine to coarse SAND little fine gravels		SPT	1.00	27			DS: 0.0-1.0 m
2					"	2.00	25			
3			ditto - but traces of clay		"	3.00	28			
4					"	4.00	26			
5		SM			"	5.00	28			
6			ditto - but dense		"	6.00	32			
7					"	7.00	36			
8					"	8.00	42			
9	9.00	--			"	9.00	49			
10		SW	Brownish grey dense to very dense gravelly coarse to fine SAND		"	10.00	47			
11					"	11.00	R			
12					"	12.00	43			
13					"	13.00	47			
14		SW			"	14.00	R			
15					"	15.00	48			
16					"	16.00	R			
17					"	17.00	"			
18					"	18.00	46			
19	19.00	--			"	19.00	R			
20			ditto - but with pebbles cobbles & boulders (cuttings)		Run	19.00-20.00				DS of Core:

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 235/1 (CH: 13+841) Station 38

SHEET # 1/2

BOREHOLE LOCATION: 3.0 m from Abt: 01, 4.0 m from Abt: 01 to P-1

TYPE OF BORING: Rotary

DIA OF CASING: 125mm (0.0-13.0)

DIA OF BORING: 100mm

DIA OF CORING:

BORING NO.: 01

DATE COMMENCED: 31/01/2005

DATE COMPLETED: 01/02/2005

G.W.T.: Not Encountered

SCALE: 1:100

SUPERVISOR: GEOL. M. ASHRAF/IMTIAZ

DEPTH m	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE blow	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense silty fine to coarse SAND some coarse to fine gravels traces of clay		SPT	1.00	15			DS: 0.0-1.0 m
2					"	2.00	16			
3		SW-SM			"	3.00	22			
4					"	4.00	18			
5					"	5.00	26			
6					"	6.00	24			
7	7.00	SW			"	7.00	19			
8			Brownish grey dense to very dense course to fine SAND, traces of gravels		"	8.00	30			
9					"	9.00	30			
10					"	10.00	35			
11					"	11.00	42			
12					"	12.00	46			
13					"	13.00	R			
14					"	14.00	"			
15					"	15.00	48			
16					"	16.00	R			
17					"	17.00	49			
18					"	18.00	R			
19					"	19.00	49			
20		SW			"	20.00	R			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 232/3 CH: 11+190) Station 26

BORING NO.: 04

Cont. Sheet # 2/2

DEPTH m	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE blow	C.R. %	R.Q.D. %	REMARKS
21			ditto -		Run	20.00-21.00				DS of Core:
22					"	21.00-22.00				DS of Core:
23					"	22.00-23.00				DS of Core:
			End of Borehole # 04 At The Depth of 23.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 235/1 (CH: 13+841) Station 38

BORING NO.: 01

Cont. Sheet # 2/2

DEPTH m	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE blow	C.R. %	R.Q.D. %	REMARKS
21			ditto - but very dense		SPT	21.00	R			
22					"	22.00	"			
23					"	23.00	"			
24	24.00	--			"	24.00	"			
			End of Borehole # 01 at the depth of 24.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway BAW Kararo-Wad Section N-25

LOCATION: NHA # B 23/51 (CH: 13+841) Station 38

SHEET # 1/2

BOREHOLE LOCATION: 3.40 m from P-J

TYPE OF BORING: Rotary

DIA OF CASING: 125mm (0.0-13.0)

DIA OF BORING: 100mm

DIA OF CORING:

BORING NO.: 02

DATE COMMENCED: 31/01/2005

DATE COMPLETED: 01/02/2005

G.W.L.: Not Encountered

SCALE: 1:100

SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium		SPT	1.00	13			DS: 0.0-1.0 m
2		SW	dense gravelly fine to		"	2.00	10			
3			medium course SAND		"	3.00	11			
4					"	4.00	16			
5					"	5.00	18			
6					"	6.00	17			
7	7.00	--			"	7.00	20			
8			Brownish grey medium		"	8.00	24			
9		SW	dense to very dense course		"	9.00	28			
10			to fine SAND traces of gravels		"	10.00	31			
11					"	11.00	38			
12					"	12.00	46			
13					"	13.00	49			
14					"	14.00	R			
15					"	15.00	"			
16					"	16.00	47			
17					"	17.00	R			
18					"	18.00	48			
19					"	19.00	R			
20		SW			"	20.00	48			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway BAW Kararo-Wad Section N-25

LOCATION: NHA # B 23/51 (CH: 13+841) Station 38

SHEET # 1/2

BOREHOLE LOCATION: 4.0 m from Abt: 02, 4.30 m Abt: 02 to P-5

TYPE OF BORING: Rotary

DIA OF CASING: 125mm (0.0-18.0)

DIA OF BORING: 100mm

DIA OF CORING: NX

BORING NO.: 03

DATE COMMENCED: 31/01/2005

DATE COMPLETED: 01/02/2005

G.W.L.: Not Encountered

SCALE: 1:100

SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium		SPT	1.00	14			DS: 0.0-1.0 m
2		SP	dense fine to course SAND		"	2.00	11			
3			little fine gravels traces of clay		"	3.00	16			
4					"	4.00	18			
5					"	5.00	23			
6			ditto - but traces of gravels		"	6.00	20			
7					"	7.00	27			
8		SW	ditto - but dense to very dense		"	8.00	31			
9					"	9.00	37			
10					"	10.00	45			
11					"	11.00	R			
12			ditto - but rock fragments		"	12.00	44			
13					"	13.00	R			
14					"	14.00	47			
15					"	15.00	R			
16					"	16.00	49			
17		SP			"	17.00	R			
18	18.00	--			"	18.00	"			
19			Greyish brown friable to		Run	18.00-19.00		55	35	
20			soft SANDSTONE		"	19.00-20.00		67	34	

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway BAW Kararo-Wad Section N-25

LOCATION: NHA # B 23/51 (CH: 13+841) Station 38

BORING NO.: 02

Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21			ditto - but very dense		SPT	21.00	R			
22					"	22.00	"			
23					"	23.00	"			
24					"	24.00	"			
25	25.00	--			"	25.00	"			
			End of Borehole # 02							
			at the depth of 25.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway BAW Kararo-Wad Section N-25

LOCATION: NHA # B 23/51 (CH: 13+841) Station 38

BORING NO.: 03

Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21	21.00		Greyish brown friable to		Run	20.00-21.00		70	32	
			soft SANDSTONE							
			End of Borehole # 03							
			at the depth of 21.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-236/1 (CH: 14+878) Station 43

SHEET # 1/1

BOREHOLE LOCATION: 6.30 m from Bridge

TYPE OF BORING: Rotary | DIA OF CASING: 125mm (0.0-12.0) | DIA OF BORING: 100mm

BORING NO.: 01

DATE COMMENCED: 29/01/2005

G.W.T.: Not Encountered | DIA OF CORING: NX

DATE COMPLETED: 30/01/2005

SCALE: 1:100

SUPERVISOR: GEOL. M. ASHRAF/ ZEESHAN

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey medium							
1			dense silty medium		SPT	1.00	14			DS: 0.0-1.0 m
2			coarse SAND little							
			fine gravels		"	2.00	19			
		SM								
3					"	3.00	22			
4	4.00	--			"	4.00	20			
			Grey medium dense							
5			fine to coarse SAND		"	5.00	25			
		SP	traces of silty gravels							
6					"	6.00	28			
7					"	7.00	26			
8					"	8.00	29			
9			ditto - but dense		"	9.00	35			
10					"	10.00	33			
11					"	11.00	34			
12			ditto - some pebbles & cobbles		"	12.00	37			
			(cuttings)							
13					"	13.00	42			
14					"	14.00	47			
	14.80	--								
15			Light to dark grey		"	15.00	R			
			hard BASALT		RUN	15.00-16.00		67	26	CW: 15.50-15.66
16					CPT	16.00	"			
					RUN	16.00-17.00		70	32	
17					CPT	17.00	"			
					RUN	17.00-18.00		60	20	CW: 17.50-17.60
18	18.00	--			CPT	18.00	"			
			End of Borehole # 01							
			at the depth of 18.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-236/1 (CH: 14+878) Station 43

BORING NO.: 02

Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Grey, medium dense to very							
21			dense fine to coarse SAND		SPT	21.00	R			
			little gravels, pebbles, cobbles							
22	22.00	SW	(cuttings) and silty clay		"	22.00	"			
			End of Borehole # 02							
			At The Depth of 22.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-236/1 (CH: 14+878) Station 43

SHEET # 1/2

BOREHOLE LOCATION: 2.0 m from Centre of Bridge

TYPE OF BORING: Rotary | DIA OF CASING: 125mm (0.0-12.0) | DIA OF BORING: 100mm

BORING NO.: 02

DATE COMMENCED: 29/01/2005

G.W.T.: Not Encountered | DIA OF CORING:

DATE COMPLETED: 30/01/2005

SCALE: 1:100

SUPERVISOR: GEOL. M. ASHRAF/ ZEESHAN

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Grey, medium dense							
1			fine to coarse SAND		SPT	1.00	16			DS: 0.0-1.0 m
			little silty fine gravels							
2					"	2.00	18			
		SP-SM								
3	3.00	--			"	3.00	21			
			Grey, medium dense							
4			fine to coarse SAND		"	4.00	20			
		SW	little fine gravels							
5			traces of silt		"	5.00	26			
6					"	6.00	25			
7					"	7.00	28			
8			ditto - but dense		"	8.00	33			
9					"	9.00	36			
10					"	10.00	40			
11					"	11.00	31			
12					"	22.00	39			
13					"	13.00	42			
14					"	14.00	50			
15			ditto - but very dense occassional		"	15.00	R			
		SW	pebbles & cobbles (cuttings)							
16					"	16.00	"			
17			ditto - but dense		"	17.00	46			
18					"	18.00	R			
19			ditto - but very dense occassional		"	19.00	"			
			pebbles, cobbles & boulders							
20			(cuttings)		"	20.00	"			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-236/1 (CH: 14+878) Station 43

SHEET # 1/1

BOREHOLE LOCATION: 1.20 m from Bridge 3.90 m from P-1

TYPE OF BORING: Rotary | DIA OF CASING: 125mm (0.0-12.0) | DIA OF BORING: 100mm

BORING NO.: 03

DATE COMMENCED: 29/01/2005

G.W.T.: Not Encountered | DIA OF CORING: NX

DATE COMPLETED: 29/01/2005

SCALE: 1:100

SUPERVISOR: GEOL. M. ASHRAF/ ZEESHAN

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Grey medium dense							
1			fine to coarse SAND		SPT	1.00	12			DS: 0.0-1.0 m
2		SW	traces of silty fine gravels		"	2.00	21			
3					"	3.00	22			
		SW								
4			ditto - but some gravels		"	4.00	24			
5					"	5.00	27			
6			ditto - but dense		"	6.00	31			
7					"	7.00	33			
		SW								
8			ditto - but traces of silty gravels		"	8.00	38			
9					"	9.00	39			
10					"	10.00	38			
11			ditto - traces of pebbles		"	11.00	41			
			& cobbles (cuttings)							
12					"	12.00	R			
13					"	13.00	43			
14	14.00	--			CPT	14.00	R			
			Light grey hard		RUN	14.00-15.00		60	25	CW: 14.50-14.65
15			BASALT		CPT	15.00	"			
					RUN	15.00-16.00		75	37	CW: 15.60-15.81
16					CPT	16.00	"			
					RUN	16.00-17.00		90	67	CW: 16.50-16.72
17	17.00	--			CPT	17.00	"			
			End of Borehole # 03							
			at the depth of 17.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 239/1 CH: 17+384) Station 54 — SHEET # 1/1

BOREHOLE LOCATION: 3.0 m from Abt: 01; 2.80 m from Bridge

TYPE OF BORING: Rotary — BORING NO.: 01

DIA OF CASING: 125mm (0.0-10.0)

DIA OF BORING: 100mm — DATE COMMENCED: 14/01/2005

G.W.L: Not Encountered — DIA OF CORING: NX — DATE COMPLETED: 15/01/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	'N' VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey loose							
1			fine to coarse SAND		SPT	1.00	7			DS: 0.0-1.0
		SP	traces of silty fine gravels							
2					"	2.00	9			
3			ditto - but medium dense		"	3.00	11			
4					"	4.00	12			
5					"	5.00	14			
6					"	6.00	17			
7					"	7.00	17			
8		SP			"	8.00	18			
9		SP			"	9.00	19			
10					"	10.00	22			
11					"	11.00	26			
12		SP			"	12.00	30			
13			ditto - but dense		"	13.00	33			
14					"	14.00	40			
15					"	15.00	46			
16			ditto - but very dense		"	16.00	R			
17		SP			"	17.00	"			
18					"	18.00	"			
19					"	19.00	"			
20	20.00	--			"	20.00	"			E.O.B (20.0)

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 239/1 CH: 17+384) Station 54 — SHEET # 1/2

BOREHOLE LOCATION: 1.20 m from Bridge; 8.9 m from Abt: 02

TYPE OF BORING: Rotary — BORING NO.: 03

DIA OF CASING: 125mm (0.0-9.0)

DIA OF BORING: 100mm — DATE COMMENCED: 15/01/2005

G.W.L: Not Encountered — DIA OF CORING: NX — DATE COMPLETED: 16/01/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	'N' VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey medium							
1			dense fine to coarse		SPT	1.00	13			DS: 0.0-1.0
		SP-SM	SAND some fine gravels							
2			traces of silt		"	2.00	17			
3	3.00	--			"	3.00	33			
4			Brownish grey dense		"	4.00	31			
5		SP	fine to coarse SAND		"	5.00	31			
6			little coarse to fine gravels		"	6.00	33			
7					"	7.00	34			
8					"	8.00	36			
9					"	9.00	39			
10					"	10.00	43			
11					"	11.00	47			
12					"	12.00	49			
13	13.00	--			"	13.00	R			
14		SM	Brownish grey very dense		"	14.00	"			
			silty coarse to fine SAND							
15			little fine gravels		"	15.00	"			
16					"	16.00	47			
17			ditto - but very dense		"	17.00	R			
18					"	18.00	"			
19	19.00	--			"	19.00	"			
20		SW-SM	Brownish grey very dense silty C/F		Run	19.00-20.00		5	Nil	
			SAND converting into sandstone							

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 239/1 CH: 17+384) Station 54 — SHEET # 1/1

BOREHOLE LOCATION: 1.0 m from Bridge Between P-3 P-4

TYPE OF BORING: Rotary — BORING NO.: 02

DIA OF CASING: 125mm (0.0-11.0)

DIA OF BORING: 100mm — DATE COMMENCED: 14/01/2005

G.W.L: Not Encountered — DIA OF CORING: NX — DATE COMPLETED: 18/01/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	'N' VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brown loose, coarse to							
1			fine GRAVELS with coarse		SPT	1.00	6			DS: 0.0-1.0
		GW	to fine sand, traces of silt							
2	2.00	--			"	2.00	9			
		SW	Brownish grey loose							
3			coarse to fine SAND		"	3.00	11			
			some fine gravels							
4			ditto - but medium dense		"	4.00	12			
5					"	5.00	14			
		SW								
6			ditto - but little fine gravels		"	6.00	16			
7					"	7.00	17			
8					"	8.00	20			
9					"	9.00	19			
10					"	10.00	22			
11	11.00	--			"	11.00	23			
		SW	Brownish grey medium							
12			dense coarse to fine SAND		"	12.00	25			
			traces of silty fine gravels							
13					"	13.00	28			
14	14.00	--			"	14.00	34			
		SW	Brownish grey very dense							
15			fine to coarse SAND		"	15.00	45			
			traces of fine gravels							
16					"	16.00	R			
		SP								
17					"	17.00	"			
18			ditto -		"	18.00	"			
19	19.00	--			"	19.00	"			
		SM	Dark grey very dense clayey							
20	20.00	--	cal. silty SAND conv. into Shale		"	20.00	"			E.O.B (20.0)

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 239/1 CH: 17+384) Station 54

BORING NO.: 03 — Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	'N' VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey very dense silty C/F		Run	20.00-21.00				
21	21.00	SP-SM	SAND converting into sandstone		CPT	21.00	R	15	Nil	
			Grey hard calcareous		Run	21.00-22.00				
22	22.00	--	SHALE		CPT	22.00	"	20	Nil	
			End of Borehole # 03							
			at the depth of 22.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 242/2 (CH: 20+612) Station 68

SHEET # 1/2

BOREHOLE LOCATION	4.0 m from Bridge 2.0 m from Xht: 01	TYPE OF BORING: Rotary	BORING NO.: 01
		DIA OF CASING: 125mm (0.0-10.0)	
		DIA OF BORING: 100mm	DATE COMMENCED: 11/02/2005
G.W.T.	Not Encountered	DIA OF CORING:	DATE COMPLETED: 11/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF/IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey medium							
1			dense to dense fine to		SPT	1.00	14			DS: 0.0-1.0 m
			coarse SAND some fine gravels							
2					"	2.00	16			
3					"	3.00	19			
4					"	4.00	20			
5		SW	ditto - but grey		"	5.00	30			
6					"	6.00	34			
7					"	7.00	37			
8					"	8.00	41			
9	9.00	--			"	9.00	37			
10		GW	Brownish grey dense		"	10.00	41			
11			to very dense coarse to		"	11.00	42			
12			fine GRAVELS and		"	12.00	49			
13			coarse to fine SAND		"	13.00	R			
14					"	14.00	"			
15					"	15.00	48			
16					"	16.00	46			
17	17.00	--			"	17.00	R			
18			Grey very dense gravelly		"	18.00	"			
19			fine to coarse SAND		"	19.00	"			
20					"	20.00	"			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 242/2 (CH: 20+612) Station 68

BORING NO.: 01

Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Grey very dense gravelly							
21	21.00	--	fine to coarse SAND		SPT	21.00	R			
			End of Borehole # 01							
			at the depth of 21.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-242/J (CH: 20+732) Station 69

SHEET # 1/1

BOREHOLE LOCATION	3.5 m from P-1 3.5 from P-3	TYPE OF BORING: Rotary	BORING NO.: 01
		DIA OF CASING: 125mm (0.0-10.0)	
		DIA OF BORING: 100mm	DATE COMMENCED: 08/02/2005
G.W.T.	Not Encountered	DIA OF CORING: NX	DATE COMPLETED: 09/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF/IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey silty fine to med.							DS: 0.0-1.0 m
1	1.00	--	coarse SAND with fine gravels		SPT	1.00	22			
			Brownish grey medium							
2			dense to dense fine		"	2.00	29			
			to coarse SAND some							
3			fine gravels		"	3.00	31			
		SW								
4					"	4.00	33			
5					"	5.00	35			
6					"	6.00	37			
7					"	7.00	36			
8					"	8.00	40			
9					"	9.00	38			
10					"	10.00	42			
11					"	11.00	44			
12			ditto - but very dense		"	12.00	R			
13					"	13.00	48			
		SW								
14					"	14.00	49			
15					"	15.00	R			
16					"	16.00	"			
17					"	17.00	"			
18					"	18.00	"			
19	19.00	--			"	19.00	"			
			End of Borehole # 01							
			at the depth of 19.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-242/J (CH: 20+732) Station 69

SHEET # 1/1

BOREHOLE LOCATION	3.5 m from P-3	TYPE OF BORING: Rotary	BORING NO.: 02
		DIA OF CASING: 125mm (0.0-10.0)	
		DIA OF BORING: 100mm	DATE COMMENCED: 08/02/2005
G.W.T.	Not Encountered	DIA OF CORING: NX	DATE COMPLETED: 09/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF/IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey silty fine to med.							DS: 0.0-1.0 m
1	1.00	--	coarse SAND with fine gravels		SPT	1.00	22			
			Brownish grey medium							
2			dense to dense fine		"	2.00	25			
		SW	to coarse SAND some							
3			fine gravels		"	3.00	32			
4					"	4.00	31			
5					"	5.00	35			
6	6.00	--			"	6.00	36			
			Grey dense fine to							
7			coarse SAND little		"	7.00	34			
			fine gravels							
8					"	8.00	37			
9					"	9.00	36			
10					"	10.00	39			
		SW								
11					"	11.00	42			
12					"	12.00	49			
13					"	13.00	R			
14					"	14.00	"			
15					"	15.00	47			
16			ditto - but very dense		"	16.00	R			
17					"	17.00	"			
18					"	18.00	"			
19					"	19.00	"			
20	20.00	--	*E.O.B (20.0)*		"	20.00	"			

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 247/1 (CH: 25+788) Station 78 — SHEET # 1/2

COORDINATES	Near Road Side 8.0 m from Abt: 01 2.0 m from Road	TYPE OF BORING: Rotary DIA OF CASING: 125mm (0.0-9.0) DIA OF BORING: 100mm	BORING NO.: 01 DATE COMMENCED: 14/02/2005
G.W.T.	Not Encountered	DIA OF CORING:	DATE COMPLETED: 15/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. IMTIAZ

DEPTH M	STRATUM DEPTH (M)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (M)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Brownish grey medium dense	: : : :						
1			fine to coarse SAND	X X X	SPT	1.00	20			DS: 0.0-1.0 m
			some fine gravels	: : : :						
2				: : : :	"	2.00	19			
		SW		: : : :						
3				: : : :	"	3.00	25			
				: : : :						
4				: : : :	"	4.00	30			
				: : : :						
5			ditto - but dense	: : : :	"	5.00	32			
				: : : :						
6				: : : :	"	6.00	33			
				: : : :						
7				: : : :	"	7.00	35			
				: : : :						
8				: : : :	"	8.00	38			
				: : : :						
9				: : : :	"	9.00	40			
				: : : :						
10			ditto - but grey	: : : :	"	10.00	39			
				: : : :						
11				: : : :	"	11.00	38			
				: : : :						
12				: : : :	"	12.00	33			Bed Level 9.00 m from Borehole
				: : : :						
13			ditto - but medium to fine gravels	: : : :	"	13.00	36			
				: : : :						
14				: : : :	"	14.00	40			
		SW		: : : :						
15				: : : :	"	15.00	45			
				: : : :						
16			ditto - but very dense	: : : :	"	16.00	R			
				: : : :						
17				: : : :	"	17.00	47			
				: : : :						
18				: : : :	"	18.00	49			
				: : : :						
19	19.00	--		: : : :	"	19.00	R			
20					"	20.00	"			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 262/6 (CH: 41+002) Station 137 — SHEET # 1/2

BOREHOLE LOCATION	In the Centre of Abt: 01 & 02 3.0 m from Bridge	TYPE OF BORING: Rotary DIA OF CASING: 125mm (0.0-12.0) DIA OF BORING: 100mm	BORING NO.: 01 DATE COMMENCED: 12/02/2005
G.W.L.	Not Encountered	DIA OF CORING:	DATE COMPLETED: 13/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH M	STRATUM DEPTH (M)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (M)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Greyish medium dense	: : : :						
1			coarse SAND traces of	: : X X	SPT	1.00	23			DS: 0.0- 1.0 m
			silty fine gravels	: : : :						
2				: : X X	"	2.00	25			
		SP		: : : :						
3				: : : :	"	3.00	25			
				: : : :						
4				: : : :	"	4.00	38			
			ditto - but dense	: : : :						
5				: : : :	"	5.00	30			
				: : : :						
6				: : : :	"	6.00	33			
				: : : :						
7				: : : :	"	7.00	35			
				: : : :						
8				: : : :	"	8.00	38			
				: : : :						
9				: : : :	"	9.00	41			
				: : : :						
10				X X X	"	10.00	40			
		SW		: : : :						
11				: : : :	"	11.00	42			
				: : : :						
12				X X X	"	12.00	45			
				: : : :						
13			ditto - but very dense	: : : :	"	13.00	48			
				: : : :						
14				: : : :	"	14.00	R			
				: : : :						
15				: : : :	"	15.00	"			
				: : : :						
16				: : : :	"	16.00	46			
				X X X						
17				: : : :	"	17.00	R			
				: : : :						
18				: : : :	"	18.00	"			
		SP		: : : :						
19				: : : :	"	19.00	"			
				: : : :						
20				: : : :	"	20.00	"			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) — BORING NO.: 01

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 247/1 (CH: 25+788) Station 78 — Cont. Sheet # 2/2

DEPTH M	STRATUM DEPTH (M)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (M)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
			Grey very dense sandy	X X X						
21			GRAVELS with cobbles	: : : :	SPT	21.00	R			
			pebbles, boulders traces of clay	: : : :						
22				: : : :	"	22.00	"			
				: : : :						
23	23.00	--		X X X	"	23.00	"			
			End of Borehole # 01							
			at the depth of 23.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan — BORING NO.: 01

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B 262/6 (CH: 41+002) Station 137 — Cont. Sheet # 2/2

DEPTH M	STRATUM DEPTH (M)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (M)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
				: : : :						
21	21.00	--	ditto -	: : : :	SPT	21.00	"			
			End of Borehole # 01							
			at the depth of 21.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Upgradation & Improvement of National Highway BW Kararo-Wad Section N-25

LOCATION: NHA # B 2626 (CH: 414+002) Station 137

SHEET # 1/2

BOREHOLE LOCATION	In the Centre of Abt: 01 & 02 3.0 m from Bridge	TYPE OF BORING: Rotary	BORING NO.: 01
		DIA OF CASING: 125mm (0.0-13.0)	
		DIA OF BORING: 100mm	DATE COMMENCED: 13/02/2005
G.W.T.	Not Encountered	DIA OF CORING:	DATE COMPLETED: 13/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Greyish medium dense coarse SAND traces of silty fine gravels		SPT	1.00	23			DS: 0.0-1.0 m
2		SP			"	2.00	25			
3					"	3.00	25			
4					"	4.00	28			
5			ditto - but dense		"	5.00	30			
6					"	6.00	33			
7					"	7.00	35			
8					"	8.00	38			
9					"	9.00	41			
10		SW			"	10.00	40			
11					"	11.00	42			
12					"	12.00	45			
13			ditto - but very dense		"	13.00	48			
14					"	14.00	R			
15					"	15.00	"			
16					"	16.00	46			
17					"	17.00	R			
18		SP			"	18.00	"			
19					"	19.00	"			
20					"	20.00	"			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

BORING NO.: 01

PROJECT: Upgradation & Improvement of National Highway BW Kararo-Wad Section N-25

LOCATION: NHA # B 2644 (CH: 424+95) Station 150

Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21			Pink hard silty clay converting into shale							
22	22.00	--			Run	21.0-22.0		80	72	21.30-21.60 Core Waved
			End of Borehole # 01 at the depth of 22.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Upgradation & Improvement of National Highway BW Kararo-Wad Section N-25

LOCATION: NHA # B 2644 (CH: 424+95) Station 150

SHEET # 1/2

BOREHOLE LOCATION	Near Abt: 02 3.0 m from Bridge	TYPE OF BORING: Rotary	BORING NO.: 01
		DIA OF CASING: 125mm (0.0-18.0)	
		DIA OF BORING: 100mm	DATE COMMENCED: 13/02/2005
G.W.T.	Not Encountered	DIA OF CORING:	DATE COMPLETED: 15/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1	1.00	--	Yellowish brown SAND with clayey silt traces of fine gravels		SPT	1.00	25			DS: 0.0-1.0 m
2	2.00	--	D/G m/d fine to coarse SAND with silty clay & some fine gravels		"	2.00	29			
3		SP	Grey medium dense coarse SAND and fine GRAVELS		"	3.00	27			
4	4.00				"	4.00	30			
5		GW	Grey dense fine to coarse fine GRAVELS and course to fine SAND		"	5.00	34			
6					"	6.00	35			
7	7.00				"	7.00	39			
8		SP	Grey dense to very dense fine to coarse SAND traces of silty fine gravels		"	8.00	36			
9					"	9.00	46			
10					"	10.00	R			
11					"	11.00	46			
12					"	12.00	43			
13	13.00	--			Run	13.0-14.0		80	67	13.25-13.75 Core Waved
14		CL	Pink hard silty CLAY traces of sand		SPT	14.00	R			
15										
16					Run	15.0-16.0		77	66	15.20-15.50 Core Waved
17					"	17.0-18.0		78	68	17.40-17.70 Core Waved
18	18.00	--			SPT	18.00	"			
19			Pink hard silty clay converting into shale							
20					Run	19.0-20.0		76	69	19.10-19.45 Core Waved

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Upgradation & Improvement of National Highway BW Kararo-Wad Section N-25

LOCATION: NHA # B 2671 (CH: 45+150) Station 163

SHEET # 1/2

BOREHOLE LOCATION	5.0 m from Abt: 02 2.0 m from Road	TYPE OF BORING: Rotary	BORING NO.: 01
		DIA OF CASING: 125mm (0.0-15.0)	
		DIA OF BORING: 100mm	DATE COMMENCED: 14/02/2005
G.W.T.	Not Encountered	DIA OF CORING:	DATE COMPLETED: 15/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF/ IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1	1.00		Brownish grey sandy fine GRAVELS with some silty clay		SPT	1.00	14			DS: 0.0-1.0 m
2			Grey medium dense fine to coarse SAND		"	2.00	17			
3			and GRAVELS traces of silty clay		"	3.00	18			
4					"	4.00	21			
5		SP			"	5.00	24			
6					"	6.00	27			
7			ditto - but dense		"	7.00	31			
8					"	8.00	33			
9					"	9.00	36			
10					"	10.00	38			
11					"	11.00	35			
12					"	12.00	39			
13					"	13.00	41			
14					"	14.00	43			
15					"	15.00	45			
16					"	16.00	47			
17					"	17.00	R			
18			ditto - but very dense some		"	18.00	47			
19		SW-SM	gravels traces of silty clay		"	19.00	R			
20					"	20.00	"			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # II 267/1 (CH: 45+350) Station 163

BORING NO.: 01

Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21			ditto -	X — — X	SPT	21.00	R			
22				X — — X	"	22.00	"			
23	23.00	—		X X X	"	23.00	"			
			End of Borehole # 01 at the depth of 23.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # II 268/4 (CH: 46+978) Station 171

BORING NO.: 01

Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21			Pink dense to very dense silty CLAY embedded with fine to coarse sand and traces of fine gravels	X — — X	SPT	21.00	R			
22				X — — X	"	22.00	"			
23	23.00	—		X X X	"	23.00	"			
			End of Borehole # 01 (thr: 01) at the depth of 23.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # II 268/4 (CH: 46+978) Station 171

SHEET # 1/2

BOREHOLE LOCATION	5.0 m from Abt: 01 2.0 m from Steel	TYPE OF BORING: Rotary	BORING NO.: 01
		DIA OF CASING: 125mm (0.0-10.0)	
		DIA OF BORING: 100mm	DATE COMMENCED: 14/02/2005
G.W.L.	Not Encountered	DIA OF CORING:	DATE COMPLETED: 15/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Grey medium dense fine to coarse SAND some coarse to fine gravels	: : : :	SPT	1.00	16			DS; 0.5-1.0 m
2				: : : :	"	2.00	22			
3		SW		: : : :	"	3.00	20			
4				: : : :	"	4.00	23			
5				: : : :	"	5.00	26			
6			ditto - but dense	: : : :	"	6.00	33			
7				: : : :	"	7.00	35			
8				: : : :	"	8.00	40			
9				: : : :	"	9.00	42			
10				: : : :	"	10.00	45			
11			ditto - but no gravels	: : : :	"	11.00	48			
12		SW-SM	ditto - but dense to very dense	: : : :	"	12.00	R			Bed Level 4.20 m
13				: : : :	"	13.00	"			
14				: : : :	"	14.00	43			
15				: : : :	"	15.00	45			
16	16.00	—		: : : :	"	16.00	R			
17		CH	Pink dense to very dense silty CLAY embedded with fine to coarse sand and traces of fine gravels	X X X : : : X — — X	"	17.00	48			
18				X — — X	"	18.00	49			
19			ditto - but dense	X — — X	"	19.00	R			
20				X — — X	"	20.00	"			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC)

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # II-270/1 (CH: 48+450) Station 177

SHEET # 1/1

BOREHOLE LOCATION	2.50 m from Abt: 01 2.50 m from Bridge	TYPE OF BORING: Rotary	BORING NO.: 01
		DIA OF CASING: 125mm (0.0-9.0)	
		DIA OF BORING: 100mm	DATE COMMENCED: 16/02/2005
G.W.L.	Not Encountered	DIA OF CORING: NX	DATE COMPLETED: 17/02/2005
SCALE:	1:100		SUPERVISOR: GEOL. SHTLAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense silty fine to coarse SAND with some fine gravels	: : : :	SPT	1.00	25			DS; 0.0-1.0 m
2	2.00	—		: : : :	"	2.00	40			
3			Brownish grey dense coarse to fine SAND and medium to fine GRAVELS with some cobbles traces of clay	: : : :	"	3.00	39			
4	4.00	SW —		: : : :	"	4.00	35			
5			Brownish grey dense silty fine to coarse SAND with some fine gravels	: : : :	"	5.00	36			
6				X X X	"	6.00	42			
7		SW		: : : :	"	7.00	42			
8	8.00	—		: : : :	"	8.00	38			
9			Red hard silty CLAY intermix with fine gravels & sand	X — — X	"	9.00	47			
10	10.00	CL —		X — — X	"	10.00	49			
11			Reddish grey hard to very hard sandy silty CLAY converting into sandy shale	: : : :	"	11.00	49			
12				X — — X	"	12.00	R			
13				X — — X	"	13.00	45			
14				X — — X	"	14.00	48			
15				: : : :	"	15.00	R			
16				X — — X	"	16.00	"			
17				X — — X	"	17.00	"			
18				X — — X	"	18.00	"			
19	19.00	—		: : : :	"	19.00	"			
			End of Borehole # 01 at the depth of 19.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC)

PROJECT: Up-gradation & Improvement of National Highway BAY Kararo-Wad Section N-25

LOCATION: NHA # B-270/1 (CH: 48+450) Station 177 — SHEET # 1/1

BOREHOLE LOCATION: 3.0 m from Bridge; 1.0 m from P-2

TYPE OF BORING: Rotary — BORING NO.: 02

DIA OF CASING: 125mm (0.0-2.0) — DATE COMMENCED: 16/02/2005

DIA OF BORING: 100mm — DATE COMPLETED: 17/02/2005

G.W.L: Not Encountered — DIA OF CORING: NX — SUPERVISOR: GEOL. IMTIAZ

SCALE: 1:100

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense silty fine to coarse SAND with some fine gravels		SPT	1.00	18			DS: 0.0-1.0 m
2	2.00	--			"	2.00	40			
3			Brownish dense to very dense coarse to fine SAND and fine GRAVELS traces clay		"	3.00	R			
4		SP			CPT	4.00	45			
5					"	5.00	46			
6	6.00	--			SPT	6.00	39			
7			Brownish grey dense fine to coarse SAND and		"	7.00	40			
8	8.00	SW --	medium to fine GRAVELS traces of clay		CPT	8.00	R			
9			Brownish grey very dense sandy GRAVELS with some		"	9.00	"			
10	10.00	--	cobbles, pebbles (cutting)		SPT	10.00	42			
11			Brownish grey dense silty fine to coarse SAND with		"	11.00	43			
12	12.00	--	some medium to fine gravels, traces of clay		"	12.00	35			
13			Red hard silty CLAY interbedded with fine		"	13.00	38			
14	14.00	CL --	gravels, lenses of fine sand		Run	14.0-15.0				
15	15.00	--	Grey hard BASALT		"	15.0-16.0				
16			Reddish grey hard sandy SHALE		SPT	16.00	R			
17					"	17.00	"			
18					"	18.00	"			
19					"	19.00	"			
20	20.00	--	*E.O.B. (20.00 m)*		"	20.00	"			

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC)

PROJECT: Up-gradation & Improvement of National Highway BAY Kararo-Wad Section N-25

LOCATION: NHA # B-270/1 (CH: 48+450) Station 177 — SHEET # 1/1

BOREHOLE LOCATION: 3.0 m from Abt: 02; 4.0 m from Bridge

TYPE OF BORING: Rotary — BORING NO.: 04

DIA OF CASING: 125mm (0.0-2.0) — DATE COMMENCED: 16/02/2005

DIA OF BORING: 100mm — DATE COMPLETED: 17/02/2005

G.W.L: Not Encountered — DIA OF CORING: NX — SUPERVISOR: GEOL. IMTIAZ

SCALE: 1:100

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense to dense silty fine to coarse SAND with some gravels		SPT	1.00	24			DS: 0.0-1.0 m
2					"	2.00	32			
3	3.00	--			CPT	3.00	34			
4			Brownish grey dense coarse to fine SAND and medium		"	4.00	47			
5		SP	to fine GRAVELS with some cobbles (cuttings) traces of clay		"	5.00	R			
6					"	6.00	47			
7	7.00	--			SPT	7.00	37			
8			Brownish grey dense fine to coarse SAND and		"	8.00	44			
9	9.00	SW --	medium to fine GRAVELS traces of clay		"	9.00	42			
10			Red hard silty CLAY intermixed with fine		"	10.00	40			
11	11.00	--	sandy gravels		"	11.00	44			
12			Reddish grey hard sandy SHALE		"	12.00	48			
13					"	13.00	R			
14					"	14.00	48			
15					"	15.00	R			
16					"	16.00	"			
17					"	17.00	"			
18					"	18.00	"			
19	19.00	--			"	19.00	"			
			End of Borehole # 04 at the depth of 19.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC)

PROJECT: Up-gradation & Improvement of National Highway BAY Kararo-Wad Section N-25

LOCATION: NHA # B-270/1 (CH: 48+450) Station 177 — SHEET # 1/1

BOREHOLE LOCATION: 3.2 m from Bridge; 1.0 m from P-6

TYPE OF BORING: Rotary — BORING NO.: 03

DIA OF CASING: 125mm (0.0-2.0) — DATE COMMENCED: 16/02/2005

DIA OF BORING: 100mm — DATE COMPLETED: 17/02/2005

G.W.L: Not Encountered — DIA OF CORING: NX — SUPERVISOR: GEOL. IMTIAZ

SCALE: 1:100

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey medium dense fine to coarse		SPT	1.00	21			DS: 0.0-1.0 m
2		SW	SAND and medium to fine GRAVELS traces of silty clay		"	2.00	25			
3	3.00	--			CPT	3.00	R			
4			Brownish grey dense sandy GRAVELS traces		"	4.00	37			
5	5.00	--	of clay cobbles (cutting)		"	5.00	41			
6			Brownish grey dease silty fine to coarse SAND		SPT	6.00	36			
7			with some medium to fine gravels traces of clay		"	7.00	39			
8					"	8.00	45			
9					"	9.00	43			
10	10.00	--			"	10.00	R			
11			Brownish grey very dense GRAVELS and		"	11.00	42			
12		GW	coarse to fine SAND some cobbles (cutting)		"	12.00	R			
13	13.00	--	traces of clay		"	13.00	39			
14			Red hard silty CLAY intermix with some fine		"	14.00	44			
15		CL	gravels traces of sand		"	15.00	48			
16	16.00	--			"	16.00	R			
17			Reddish grey hard sandy SHALE		"	17.00	"			
18					"	18.00	"			
19					"	19.00	"			
20	20.00	--	*E.O.B. (20.00 m)*		"	20.00	"			

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC)

PROJECT: Up-gradation & Improvement of National Highway BAY Kararo-Wad Section N-25

LOCATION: NHA # B-270/2 (CH: 48+775) Station 178 — SHEET # 1/1

BOREHOLE LOCATION: 3.0 m from Abt: 01

TYPE OF BORING: Rotary — BORING NO.: 01

DIA OF CASING: 125mm (0.0-9.0) — DATE COMMENCED: 17/02/2005

DIA OF BORING: 100mm — DATE COMPLETED: 18/02/2005

G.W.L: Not Encountered — DIA OF CORING: NX — SUPERVISOR: GEOL. M. ANDMAF

SCALE: 1:100

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Grey medium dense to dense fine to coarse		SPT	1.00	14			DS: 0.0-1.0 m
2			SAND with some fine gravels		"	2.00	18			
3					"	3.00	20			
4					"	4.00	29			
5		SW			"	5.00	34			
6	6.00	--			"	6.00	36			
7			Grey dense to very dense fine to coarse		"	7.00	42			
8			SAND little fine gravels		"	8.00	48			
9					"	9.00	R			
10		SW			"	10.00	"			
11					"	11.00	"			
12					"	12.00	48			
13					"	13.00	49			
14					"	14.00	45			
15					"	15.00	R			
16					"	16.00	"			
17					"	17.00	"			
18					"	18.00	"			
19	19.00	--			"	19.00				
			End of Borehole # 01 at the depth of 19.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway BAW Kararu-Wad Section N-25

LOCATION: NHA # B 282/2 (J-220) (CH: 60+160) Station 230

SHEET # 1/2

BOREHOLE LOCATION: 2.0 m from Abt: 02; 8.0 m from Road

TYPE OF BORING: Rotary

DIA OF CASING: 125mm (NX)

DIA OF BORING: 100mm

DIA OF CORING:

BORING NO.: 01

DATE COMMENCED: 10/02/2005

DATE COMPLETED: 21/02/2005

G.W.L: 1.85 m

SCALE: 1:100

SUPERVISOR: GEOL. IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey very dense		SPT	1.00	R			DS: 0.0-1.0 m
2		GW	sandy GRAVELS with cobbles		"	2.00	R			
3	3.00	--	pebbles (cuttings) traces of clay		"	3.00	38			
4			Brownish grey dense		"	4.00	46			
5			fine to coarse SAND little		"	5.00	R			
6		SW	fine to medium gravels		"	6.00	"			
7	7.00	--	traces of silty clay		"	7.00	"			
8	8.00	--	Off-white chalky LIMESTONE		"	8.00	45			
9			Light grey dense to		"	9.00	49			
10			very dense clayey silty		"	10.00	48			
11			fine SAND at places		"	11.00	R			
12			medium to fine gravels		"	12.00	"			
13					"	13.00	45			
14			ditto - at places cobbles & pebbles		"	14.00	47			
15					"	15.00	45			
16			ditto - no gravels, cobbles		"	16.00	49			
17			and pebbles		"	17.00	47			
18					"	18.00	R			
19					"	19.00	"			
20					"	20.00	"			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway BAW Kararu-Wad Section N-25

LOCATION: NHA # B 282/2 (J-220) (CH: 60+160) Station 230

SHEET # 1/2

BOREHOLE LOCATION: 12.0 m from Abt: 01; 2.30 m from Road

TYPE OF BORING: Rotary

DIA OF CASING: 125mm (8.0-7.0)

DIA OF BORING: 100mm

DIA OF CORING:

BORING NO.: 02

DATE COMMENCED: 21/02/2005

DATE COMPLETED: 23/02/2005

G.W.L: 2.0 m

SCALE: 1:100

SUPERVISOR: GEOL. IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brownish grey sandy			1.00				DS: 0.0-1.0 m
2			GRAVELS, traces of clay			2.00				DS: 1.0-2.0 m
3		GW				3.00				DS: 2.0-3.0 m
4	4.00					4.00				DS: 3.0-4.0 m
5			Light grey hard BASALT			5.00				DS: 4.0-5.0 m
6						6.00				DS: 5.0-6.0 m
7	7.00				SPT	7.00	R			DS: 6.0-7.0 m
8			Off-white hard to very hard		"	8.00	41			
9			silty CLAY some sand		"	9.00	49			
10			at places boulders		CPT	10.00	R			
11		CL	cobbles, pebbles (cuttings)		SPT	11.00	"			
12					CPT	12.00	"			
13					SPT	13.00	"			
14	14.00				"	14.00	"			
			End of Borehole # 02 at the depth of 14.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway BAW Kararu-Wad Section N-25

LOCATION: NHA # B 282/2 (J-220) (CH: 60+160) Station 230

BORING NO.: 01

Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21			ditto -		SPT	21.00	R			
22	22.00	--			"	22.00	"			
			End of Borehole # 01 at the depth of 22.00 m							

Prepared by: Geol. M. Aslam Ishaq

Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway BAW Kararu-Wad Section N-25

LOCATION: NHA # None (CH: 64+338) Station 253

SHEET # 1/2

BOREHOLE LOCATION: 23.0 m from Abt: 01; 0.5 m from Road

TYPE OF BORING: Rotary

DIA OF CASING: 125mm (0.0-18.0)

DIA OF BORING: 100mm

DIA OF CORING: NX

BORING NO.: 01

DATE COMMENCED: 21/02/2005

DATE COMPLETED: 23/02/2005

G.W.L: Not Encountered

SCALE: 1:100

SUPERVISOR: GEOL. M. ASHRAF

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1	1.00		Brown clayey silty fine		SPT	1.00				DS: 0.0-1.0 m
2			SAND traces of gravels		"	2.00				DS: 1.0-2.0 m
3			Grey fine GRAVELS		"	3.00				DS: 2.0-3.0 m
4			and fine to coarse SAND		"	4.00				DS: 3.0-4.0 m
5		GP	traces of silty clay		"	5.00	16			DS: 4.0-5.0 m
6			ditto - but medium dense		"	6.00	17			
7					"	7.00	20			
8					"	8.00	27			
9			ditto - but dense		"	9.00	38			
10					"	10.00	48			
11					"	11.00	49			
12			ditto - but very dense		"	12.00	R			
13		GP			"	13.00	"			
14					"	14.00	"			
15					"	15.00	"			
16					"	16.00	"			
17					"	17.00	"			
18					"	18.00	"			
19					"	19.00	"			
20					"	20.00	"			

Continue

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # None (CH: 64+138) Station 253

BORING NO.: 01

Cont. Sheet # 2/2

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
21			ditto -		SPT	21.00	R			
22					"	22.00	"			
23					"	23.00	"			
24					"	24.00	"			
25	25.00	--			"	25.00	"			
			End of Borehole # 01 at the depth of 25.00 m							

Prepared by: Geol. M. Aslam Ishaq
Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # None (CH: 69+796) Station 279

SHEET # 1/1

BOREHOLE LOCATION	5.0 m from Abt: 01 13.0 m from P-1	TYPE OF BORING: Rotary DIA OF CASING: 125mm (0.0-3.0) DIA OF BORING: 100mm	BORING NO.: 02 DATE COMMENCED: 21/02/2005
G.W.T.	Not Encountered	DIA OF CORING: NX	DATE COMPLETED: 11/03/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brown medium dense		SPT	1.00	21			DS: 0.0-1.0 m
2	2.00	SP	SAND & fine GRAVELS traces of silty clay		"	2.00	27			
3			Grey medium dense to		"	3.00	27			
4			dense SAND traces		"	4.00	34			
5	5.50	SP	of silty gravels		"	5.00	R			
6			Grey fractured and		CPT	6.50	"			DS of Run: 5.50-6.50
7			weathered BASALT		"	7.50	"			DS of Run: 6.50-7.50
8	8.50	--			SPT	8.50	45			DS of Run: 7.50-8.50
9			Whitish grey friable		"	9.50	48			
10			fractured soft BASALT		"	10.50	46			
11					"	11.50	43			
12					"	12.50	R			
13	13.50	--			CPT	13.50	"			
14			Grey fractured and		"	14.50	"			DS of Run: 13.50-14.50
15			weathered BASALT		"	15.50	"			DS of Run: 14.50-15.50
16	16.50	--			"	16.50	"			DS of Run: 15.50-16.50
			End of Borehole # 02 at the depth of 16.50 m							

Prepared by: Geol. M. Aslam Ishaq
Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # None (CH: 69+796) Station 279

SHEET # 1/1

BOREHOLE LOCATION	10.0 m from Abt: 01 13.0 m from P-2 8.0 m from Bridge	TYPE OF BORING: Rotary DIA OF CASING: 125mm (0.0-4.0) DIA OF BORING: 100mm	BORING NO.: 01 DATE COMMENCED: 19/02/2005
G.W.T.	Not Encountered	DIA OF CORING: NX	DATE COMPLETED: 20/03/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1	1.00	--	Brownish sandy fine GRAVELS with silty clay		SPT	1.00	20			DS: 0.0-1.0 m
2	2.00	--	Brown medium dense sandy fine GRAVELS traces of silty clay		"	2.00	24			
3			Grey medium dense		"	3.00	26			
4		SP	SAND traces of silty clay and fine gravels		"	4.00	31			
5	5.50				"	5.00	R			
6			Grey fractured fissured		CPT	6.50	"			DS of Run: 5.50-6.50
7			and weathered BASALT		"	7.50	"			DS of Run: 6.50-7.50
8					SPT	8.50	47			DS of Run: 7.50-8.50
9			ditto - but white grey dense		"	9.50	45			
10					"	10.50	46			
11					"	11.50	49			
12					"	12.50	R			
13			ditto - but very dense		CPT	13.50	"			
14					"	14.50	"			DS of Run: 13.50-14.50
15					"	15.50	"			DS of Run: 14.50-15.50
16	16.50	--			"	16.50	"			DS of Run: 15.50-16.50
			End of Borehole # 01 at the depth of 16.50 m							

Prepared by: Geol. M. Aslam Ishaq
Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # None (CH: 69+930) Station 280

SHEET # 1/1

BOREHOLE LOCATION	21.3 m from Abt: 01 22.0 from Abt: 02 19.0 m from P-1	TYPE OF BORING: Rotary DIA OF CASING: 125mm (0.0-5.0) DIA OF BORING: 100mm	BORING NO.: 01 DATE COMMENCED: 19/02/2005
G.W.T.	Not Encountered	DIA OF CORING: NX	DATE COMPLETED: 20/03/2005
SCALE:	1:100		SUPERVISOR: GEOL. M. ASHRAF

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE 30 cm	C.R. %	R.Q.D. %	REMARKS
1			Brown medium dense		SPT	1.00	20			DS: 0.0-1.0 m
2	2.00	SM	silty coarse to fine SAND & GRAVELS		"	2.00	22			
3	3.00	--	Greyish brown medium dense SAND with brown silty clay		"	3.00	28			
4	4.50	--	Pink medium dense sandy silty CLAY occassional gravels		CPT	4.50	R			
5			Cutting pieces of BOULDERS		"	5.50	"			
6	6.50	--	COBBLES & PEBBLES with gravels and sand		SPT	6.50	47			
7			Brownish grey dense		"	7.50	49			
8	8.00	--	sandy fine GRAVELS							
9	9.00	--	Cutting pieces of COBBLES PEBBLES with sandy gravels		CPT	9.00	R			
10	10.00	--	Grey weathered BASALT fragments		"	10.00	"			
11			Grey BASALT				"			
12							"			
13	13.00	--			"	13.00	"			
			End of Borehole # 01 at the depth of 13.00 m							

Prepared by: Geol. M. Aslam Ishaq
Checked by: Geotech Engr. Al-Kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-244/1 (CH: 22+850) Station 72 — SHEET # 1/1

BOREHOLE LOCATION: 3.0 m from Bridge, 3.0 m from Abt: 01 — TYPE OF BORING: Rotary — BORING NO.: 01

DIA OF CASING: 125mm (10.0) — DIA OF BORING: 100mm — DIA OF CORING: NX

G.W.L: 2.00 — DATE COMMENCED: 16/01/2005 — DATE COMPLETED: 17/01/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE per 30 cm	C.R. %	R.Q.D. %	REMARKS
1	1.00	--	Grey fine GRAVELS with silty fine to coarse sand		SPT	1.00	12			DS: 0.0-1.0
2		SW	Grey medium dense fine to coarse SAND little fine gravels		"	2.00	13			
3					"	3.00	15			
4		SW	ditto - traces of gravels		"	4.00	16			
5					"	5.00	17			
6					"	6.00	20			
7					"	7.00	21			
8					"	8.00	24			
9					"	9.00	27			
10			ditto - but dense		"	10.00	46			
11	10.00	SW-SM			"	11.00	49			
12		--	Grey very dense fine to coarse SAND traces of silty gravels occassional pebbles and cobbles cuttings		"	12.00	R			
13					"	13.00	"			
14					"	14.00	"			
15					"	15.00	"			
16	16.00	SW-SM			"	16.00	"			
			End of Borehole # 01 at the depth of 16.00 m							

Prepared by: Geol. M. Aslam Ishaq
Checked by: Geotech Engr. Al-kazim Mansoor

M/s SOILMAT ENGINEERS — BORING LOG

CLIENT: M/s Construction Project Consultants Inc. (CPC) Tokyo/ Japan

PROJECT: Up-gradation & Improvement of National Highway B/W Kararo-Wad Section N-25

LOCATION: NHA # B-244/1 (CH: 22+850) Station 72 — SHEET # 1/1

BOREHOLE LOCATION: 3.0 m from Bridge, 3.0 m from Abt: 02 — TYPE OF BORING: Rotary — BORING NO.: 02

DIA OF CASING: 125mm (0.0-9.0) — DIA OF BORING: 100mm — DIA OF CORING: NX

G.W.L: 2.00 — DATE COMMENCED: 16/01/2005 — DATE COMPLETED: 17/01/2005

SCALE: 1:100 — SUPERVISOR: GEOL. M. ASHRAF/IMTIAZ

DEPTH (m)	STRATUM DEPTH (m)	USC SYSTEM	SOIL DESCRIPTION	SOIL SYMBOLS	TYPE OF SAMPLE	DEPTH (m)	"N" VALUE per 30 cm	C.R. %	R.Q.D. %	REMARKS
1	1.00	--	Grey fine GRAVELS with fine to coarse sand		SPT	1.00	9			DS: 0.0-1.0
2		SP	Grey loose fine to coarse SAND traces of fine gravels and silt		"	2.00	10			
3	3.00	--			"	3.00	11			
4		SP-SM	Grey medium dense fine to coarse SAND traces of silt		"	4.00	12			
5					"	5.00	16			
6		SW-SM			"	6.00	16			
7					"	7.00	17			
8					"	8.00	26			
9		SW	ditto - but dense, some gravels		"	9.00	40			
10	10.00	SW-SM			"	10.00	48			
11		--	Grey very dense silty fine to coarse SAND occassional gravels pebbles and cobbles (cuttings)		"	11.00	R			
12					"	12.00	"			
13					"	13.00	"			
14					"	14.00	"			
15	15.00	--			"	15.00	"			
			End of Borehole # 02 at the depth of 15.00 m							

Prepared by: Geol. M. Aslam Ishaq
Checked by: Geotech Engr. Al-kazim Mansoor