

Moisture Content

Determination of Moisture Content								
Project Name:	Pavement Investigation							
Location:	Mombasa County							
Client:	Nippon Koei Co. Ltd							
Code:	BS 1377-2:1990				Date:	31/1/2022		
Sample Origin	A7R-3TP1	A7R-3TP2	A7R-3TP3	A7R-3TP4	A7R-4TP1	A7R-4TP2	A7R-4TP3	A7R-5TP1
Depth (m)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Container No	DK	Y3	RH	10.0	NB	9LK	Y8	6X
Wt of container + wet material (g)	188.8	143.8	153.6	54.9	139.1	140.1	53.7	35.3
Wt of container + dry material (g)	183.8	138.8	150.4	50.9	131.0	134.1	51.0	33.7
Wt of container (g)	44.6	43.9	32.9	13.2	32.1	33.5	8.5	13.3
Wt of moisture (g)	5.0	5.0	3.2	4.0	8.1	6.0	2.7	1.6
Wt dry material (g)	139.2	94.9	117.5	37.7	98.9	100.6	42.5	20.4
Moisture content (%)	3.6	5.3	2.7	10.6	8.2	6.0	6.4	7.8
Technologist : <u>Stephen</u> Verified: <u>Lenana</u>								

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Sample Origin	A7R-5TP2	A7R-5TP3	M1TP1	M1TP2	M1TP3	M2TP1	M2TP2	M2TP3
Depth (m)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Container No	A7	AK	CL	A8	LK	3.0	B1	19.0
Wt of container + wet material (g)	65.2	136.4	128.9	78.2	261.4	54.3	58.9	281.7
Wt of container + dry material (g)	61.3	131.5	123.9	75.0	248.4	53.5	58.2	276.5
Wt of container (g)	11.8	42.3	35.8	11.9	45.7	13.3	10.5	41.8
Wt of moisture (g)	3.9	4.9	5.0	3.2	13.0	0.8	0.7	5.2
Wt dry material (g)	49.5	89.2	88.1	63.1	202.7	40.2	47.7	234.7
Moisture content (%)	7.9	5.5	5.7	5.1	6.4	2.0	1.5	2.2
Technologist : <u>Stephen</u> Verified: <u>Lenana</u>								

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Sample Origin	H1TP1	H1TP2	H1TP3	A8-1TP1	A8-1TP2	A8-1TP3	A8-1TP4	A8-2TP1
Depth (m)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.8
Container No	R9	R5	2.0	OK	RR	R10	O	20.0
Wt of container + wet material (g)	131.2	140.8	52.3	141.2	137.4	172.6	52.8	194.1
Wt of container + dry material (g)	122.9	134.9	51.3	131.9	129.4	161.0	50.8	183.8
Wt of container (g)	35.1	26.7	13.8	28.6	30.3	31.1	13.9	35.6
Wt of moisture (g)	8.3	5.9	1.0	9.3	8.0	11.6	2.0	10.3
Wt dry material (g)	87.8	108.2	37.5	103.3	99.1	129.9	36.9	148.2
Moisture content (%)	9.5	5.5	2.7	9.0	8.1	8.9	5.4	7.0

Technologist : Stephen
Verified: Lenana

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Sample Origin	A8-2TP2	A8-2TP3	A8-3TP1	A8-3TP2	A8-3TP3	A8-4TP1	A8-4TP2	A8-4TP3
Depth (m)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Container No	R3	ARM	R7	BEL	A3	22.0	OB	OM
Wt of container + wet material (g)	124.8	87.4	141.6	147.5	58.3	161.9	171.8	173.6
Wt of container + dry material (g)	120.0	81.6	138.6	142.7	57.5	155.6	159.9	170.1
Wt of container (g)	37.5	10.3	25.4	28.0	8.1	38.2	27.3	41.8
Wt of moisture (g)	4.8	5.8	3.0	4.8	0.8	6.3	11.9	3.5
Wt dry material (g)	82.5	71.3	113.2	114.7	49.4	117.4	132.6	128.3
Moisture content (%)	5.8	8.1	2.7	4.2	1.6	5.4	9.0	2.7

Technologist : Stephen
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Sample Origin	A7-1TP1	A7-1TP2	A7-1TP3	H6TP1	H6TP2	H6TP3	A7-2TP1	A7-2TP2
Depth (m)	1.0	1.0	1.0	1.0	0.5	1.0	1.0	1.0
Container No	SK	N5	OM	NH	6.0	A1	R1	DJ
Wt of container + wet material (g)	198.2	194.0	124.4	234.1	203.0	71.3	168.6	143.2
Wt of container + dry material (g)	191.9	177.9	116.6	229.4	195.0	69.5	162.1	134.8
Wt of container (g)	42.8	34.1	30.8	50.4	41.7	8.5	33.1	34.3
Wt of moisture (g)	6.3	16.1	7.8	4.7	8.0	1.8	6.5	8.4
Wt dry material (g)	149.1	143.8	85.8	179.0	153.3	61.0	129.0	100.5
Moisture content (%)	4.2	11.2	9.1	2.6	5.2	3.0	5.0	8.4

Technologist : Stephen
Verified: Lenana

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Sample Origin	A7-2TP3	A7-4TP1	A7-4TP2	A7-4TP3	L-5TP1			
Depth (m)	1.0	1.0	1.0	1.0	1.0			
Container No	TK	XX	R4	SK	N			
Wt of container + wet material (g)	234.2	237.5	167.5	51.3	173.0			
Wt of container + dry material (g)	226.3	227.2	161.5	51.1	166.6			
Wt of container (g)	36.4	38.5	26.9	13.7	33.6			
Wt of moisture (g)	7.9	10.3	6.0	0.2	6.4			
Wt dry material (g)	189.9	188.7	134.6	37.4	133.0			
Moisture content (%)	4.2	5.5	4.5	0.5	4.8			

Technologist : Stephen
Verified: Lenana

California Bearing Ratio

Undisturbed Samples

California Bearing Ratio

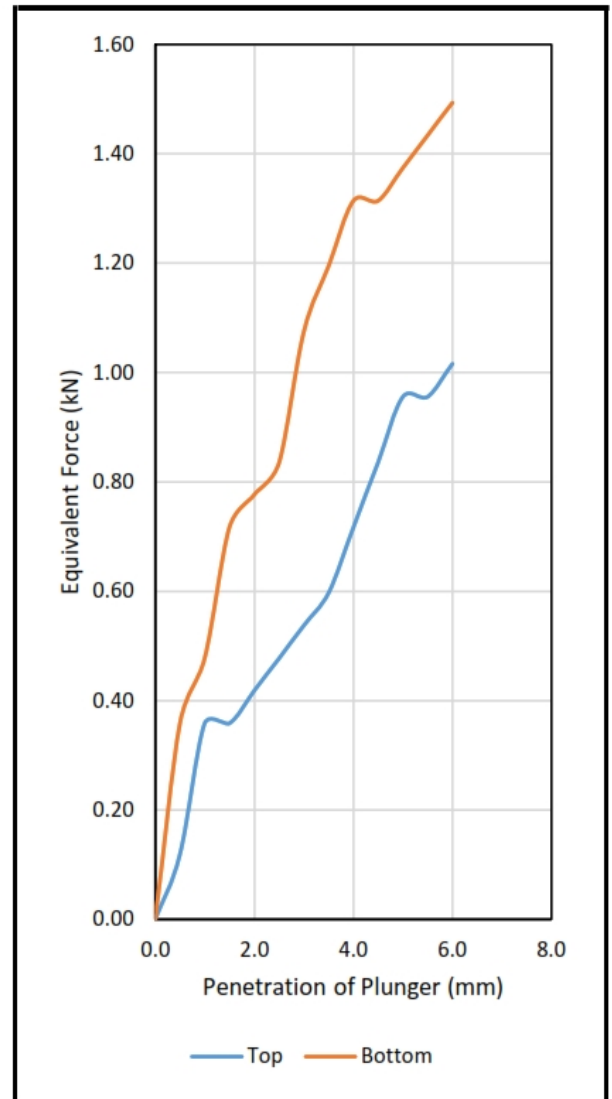
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7-1TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1832	kg/m ³	Initial Sample Moisture Content	4.2	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	2.80
Final Dial Reading (mm)	3.40
Difference (mm)	0.60
Percentage Swell	0.51

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.36	4.5	0.84	1.31
1.0	0.36	0.48	5.0	0.96	1.37
1.5	0.36	0.72	5.5	0.96	1.43
2.0	0.42	0.78	6.0	1.02	1.49
2.5	0.48	0.84	6.5	1.02	1.49
3.0	0.54	1.08	7.0		
3.5	0.60	1.19	7.5		
4.0	0.72	1.31	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.48	0.84	0.9556	1.3737
CBR Value (%)	3.6	6.3	4.7	6.8
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	6.8			



California Bearing Ratio

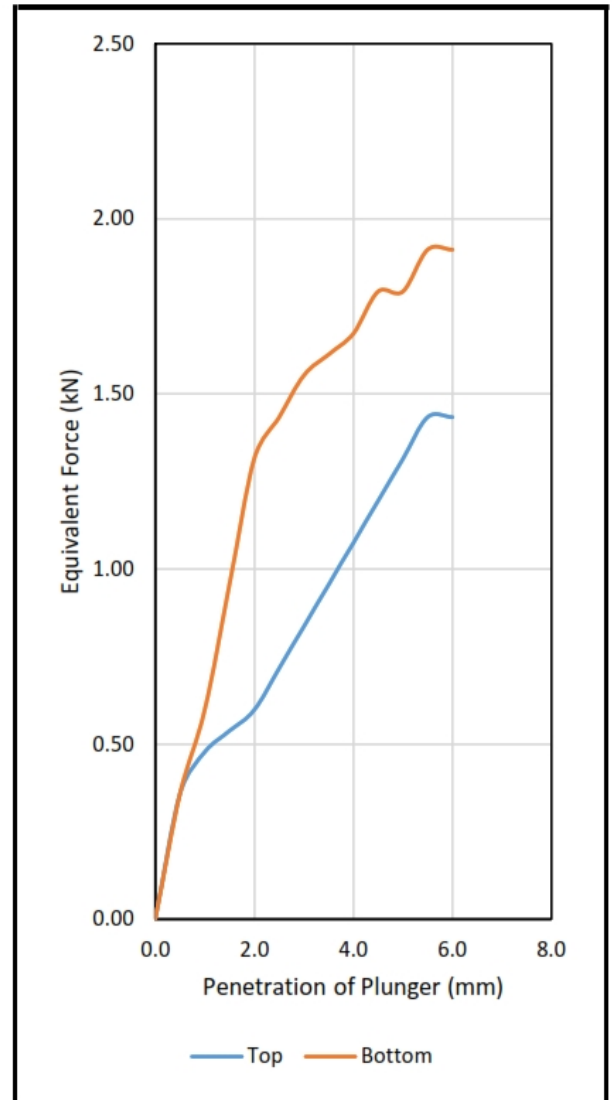
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7-1TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1770	kg/m ³	Initial Sample Moisture Content	11.2	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.80
Final Dial Reading (mm)	4.60
Difference (mm)	0.80
Percentage Swell	0.69

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.36	0.36	4.5	1.19	1.79
1.0	0.48	0.60	5.0	1.31	1.79
1.5	0.54	0.96	5.5	1.43	1.91
2.0	0.60	1.31	6.0	1.43	1.91
2.5	0.72	1.43	6.5		
3.0	0.84	1.55	7.0		
3.5	0.96	1.61	7.5		
4.0	1.08	1.67	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.72	1.43	1.314	1.7918
CBR Value (%)	5.4	10.9	6.5	8.9
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	10.9			



California Bearing Ratio

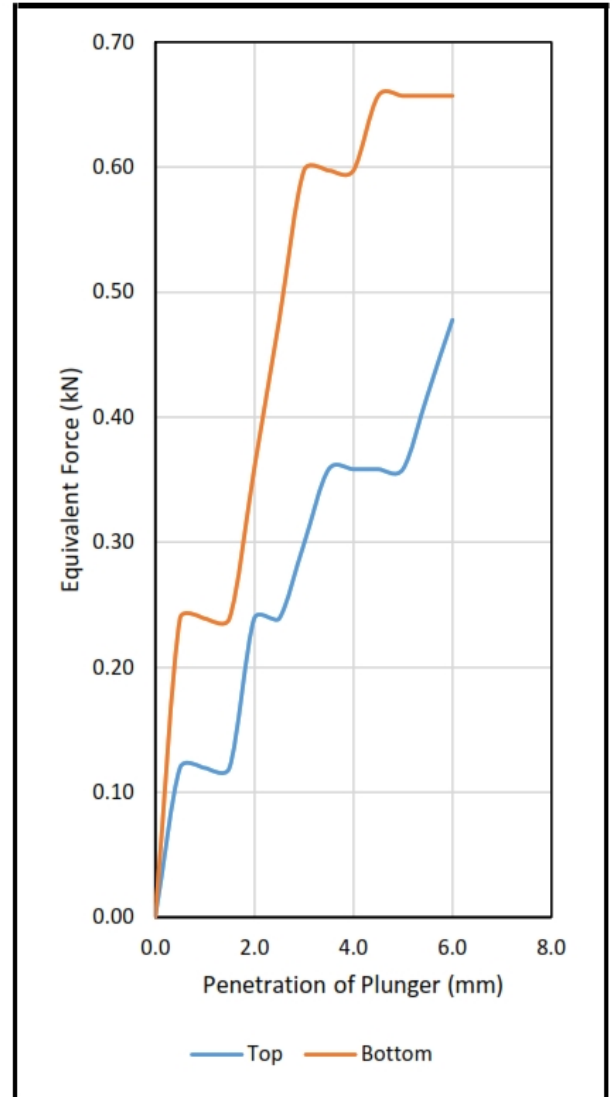
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7-2TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type		Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density		1911	kg/m ³	Initial Sample Moisture Content		5	%

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.60
Final Dial Reading (mm)	4.70
Difference (mm)	1.10
Percentage Swell	0.94

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.24	4.5	0.36	0.66
1.0	0.12	0.24	5.0	0.36	0.66
1.5	0.12	0.24	5.5	0.42	0.66
2.0	0.24	0.36	6.0	0.48	0.66
2.5	0.24	0.48	6.5	0.54	0.66
3.0	0.30	0.60	7.0		
3.5	0.36	0.60	7.5		
4.0	0.36	0.60	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.24	0.48	0.3584	0.657
CBR Value (%)	1.8	3.6	1.8	3.3
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	3.6			



California Bearing Ratio

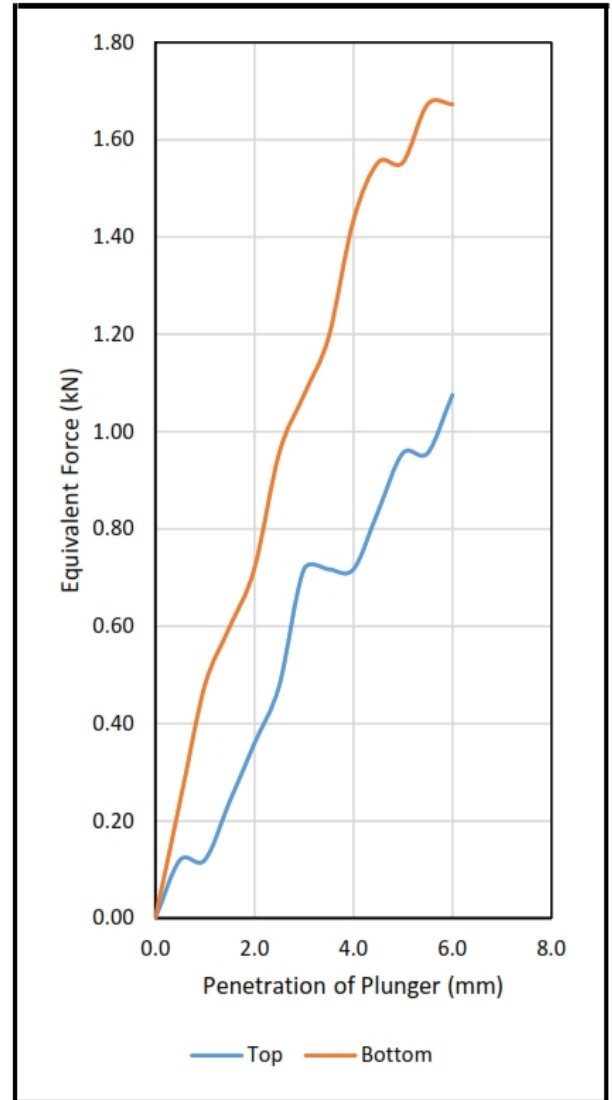
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7-2TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1868	kg/m ³	Initial Sample Moisture Content	8.4	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.60
Final Dial Reading (mm)	4.50
Difference (mm)	0.90
Percentage Swell	0.77

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.24	4.5	0.84	1.55
1.0	0.12	0.48	5.0	0.96	1.55
1.5	0.24	0.60	5.5	0.96	1.67
2.0	0.36	0.72	6.0	1.08	1.67
2.5	0.48	0.96	6.5		0.66
3.0	0.72	1.08	7.0		
3.5	0.72	1.19	7.5		
4.0	0.72	1.43	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.48	0.96	0.9556	1.5529
CBR Value (%)	3.6	7.2	4.7	7.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	7.7			



California Bearing Ratio

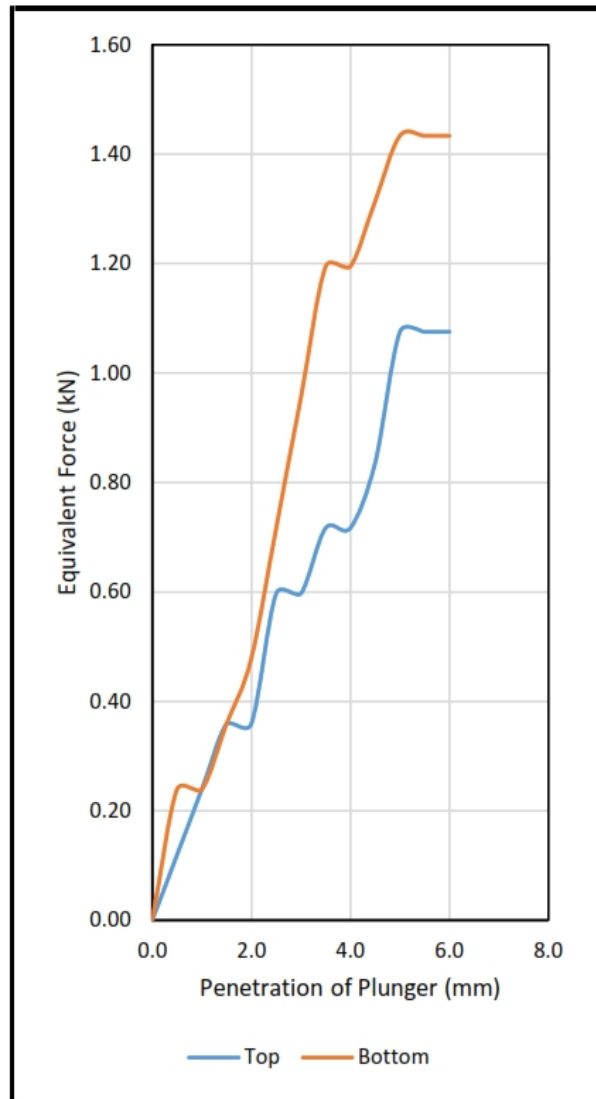
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7-2TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1883	kg/m ³	Initial Sample Moisture Content	4.2	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.60
Final Dial Reading (mm)	4.80
Difference (mm)	1.20
Percentage Swell	1.03

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.24	4.5	0.84	1.31
1.0	0.24	0.24	5.0	1.08	1.43
1.5	0.36	0.36	5.5	1.08	1.43
2.0	0.36	0.48	6.0	1.08	1.43
2.5	0.60	0.72	6.5		
3.0	0.60	0.96	7.0		
3.5	0.72	1.19	7.5		
4.0	0.72	1.19	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.60	0.72	1.0751	1.4335
CBR Value (%)	4.5	5.4	5.3	7.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	7.1			



California Bearing Ratio

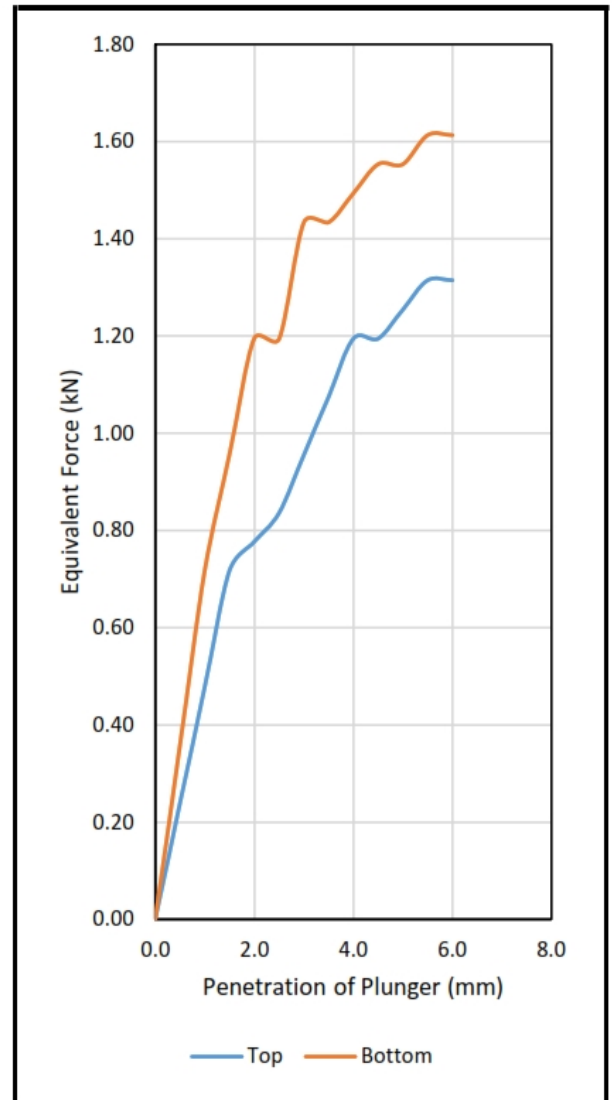
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7-4TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1835	kg/m ³	Initial Sample Moisture Content	0.5	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.60
Final Dial Reading (mm)	5.50
Difference (mm)	0.90
Percentage Swell	0.77

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.36	4.5	1.19	1.55
1.0	0.48	0.72	5.0	1.25	1.55
1.5	0.72	0.96	5.5	1.31	1.61
2.0	0.78	1.19	6.0	1.31	1.61
2.5	0.84	1.19	6.5		
3.0	0.96	1.43	7.0		
3.5	1.08	1.43	7.5		
4.0	1.19	1.49	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.84	1.19	1.2543	1.5529
CBR Value (%)	6.3	9.0	6.2	7.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	9.0			



California Bearing Ratio

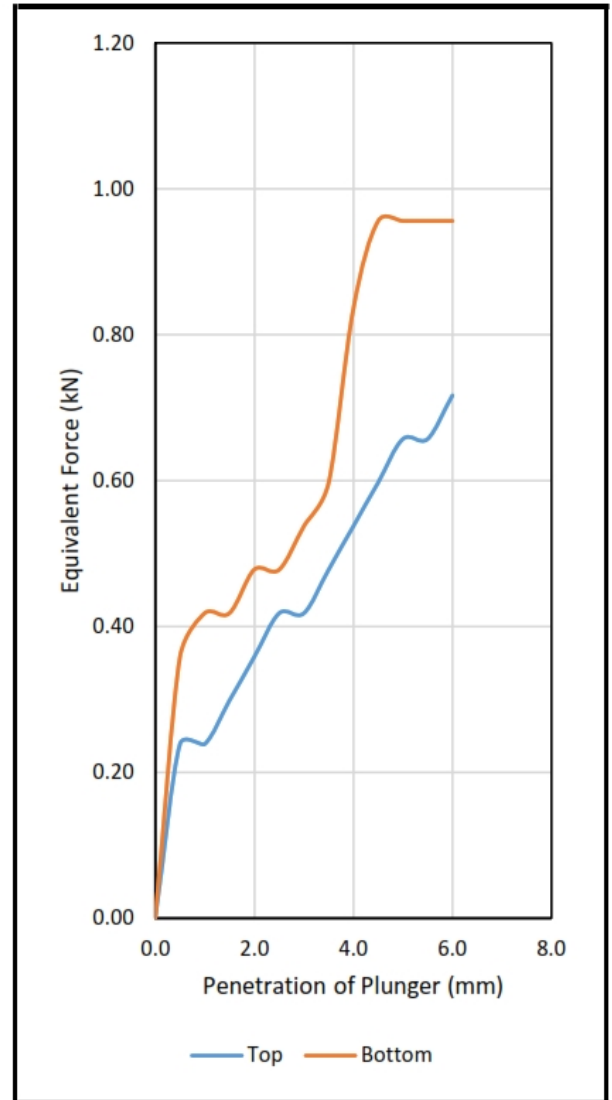
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-3TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1851	kg/m ³	Initial Sample Moisture Content	5.3	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.20
Final Dial Reading (mm)	4.80
Difference (mm)	0.60
Percentage Swell	0.51

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.36	4.5	0.60	0.96
1.0	0.24	0.42	5.0	0.66	0.96
1.5	0.30	0.42	5.5	0.66	0.96
2.0	0.36	0.48	6.0	0.72	0.96
2.5	0.42	0.48	6.5		
3.0	0.42	0.54	7.0		
3.5	0.48	0.60	7.5		
4.0	0.54	0.84	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.42	0.48	0.657	0.9556
CBR Value (%)	3.2	3.6	3.3	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	4.7			



California Bearing Ratio

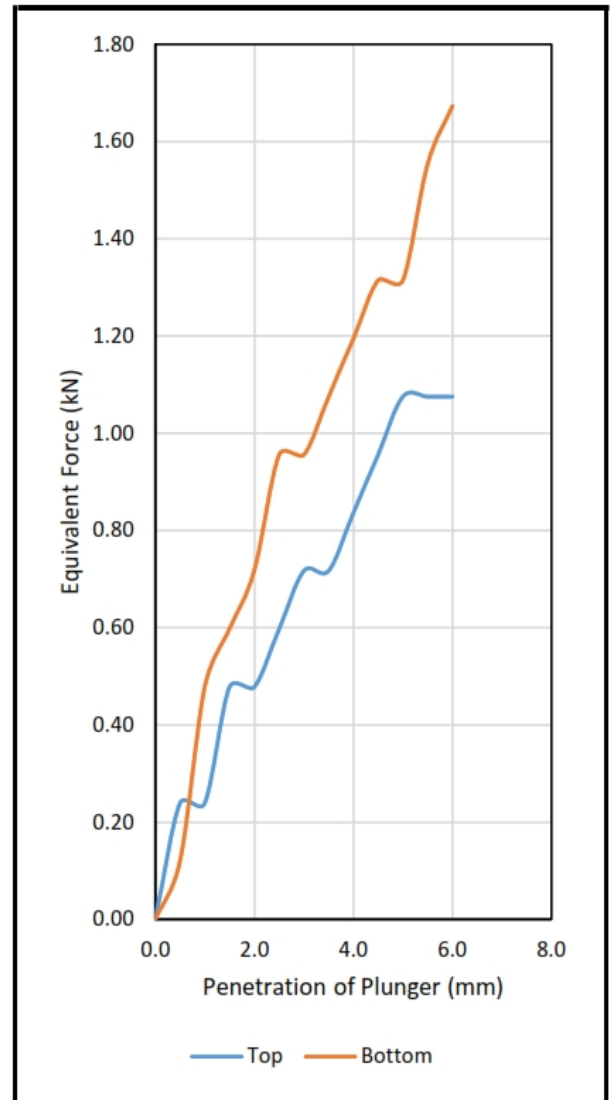
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-3TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1928	kg/m ³	Initial Sample Moisture Content	2.7	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.80
Final Dial Reading (mm)	4.40
Difference (mm)	0.60
Percentage Swell	0.51

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.12	4.5	0.96	1.31
1.0	0.24	0.48	5.0	1.08	1.31
1.5	0.48	0.60	5.5	1.08	1.55
2.0	0.48	0.72	6.0	1.08	1.67
2.5	0.60	0.96	6.5	1.08	1.67
3.0	0.72	0.96	7.0		
3.5	0.72	1.08	7.5		
4.0	0.84	1.19	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.60	0.96	1.0751	1.314
CBR Value (%)	4.5	7.2	5.3	6.5
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	7.2			



California Bearing Ratio

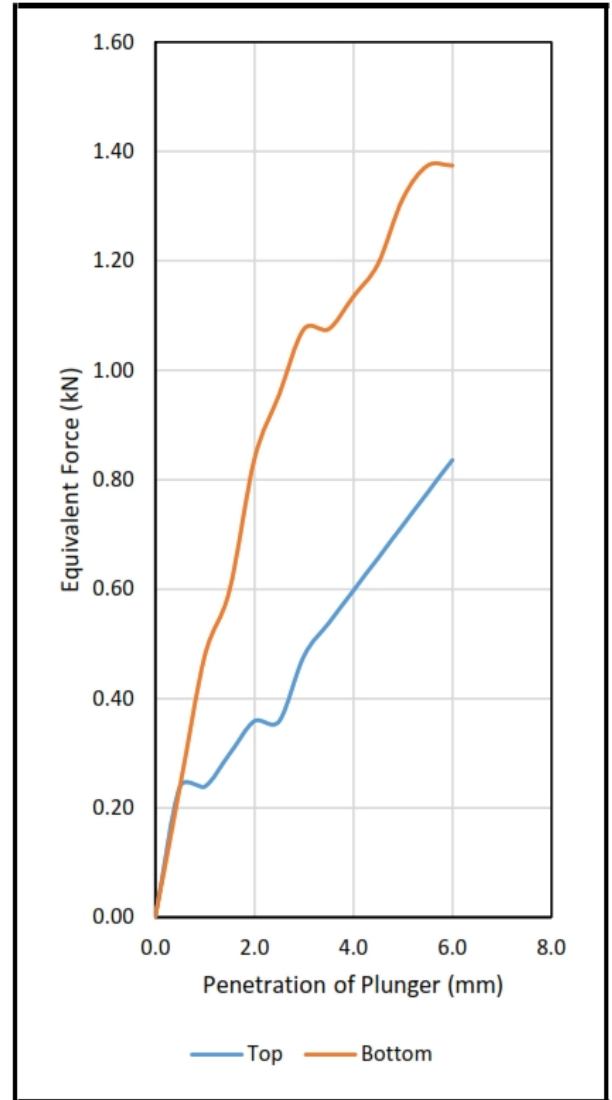
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-3TP4
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1860	kg/m ³	Initial Sample Moisture Content	10.6	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.50
Final Dial Reading (mm)	5.10
Difference (mm)	0.60
Percentage Swell	0.51

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.24	4.5	0.66	1.19
1.0	0.24	0.48	5.0	0.72	1.31
1.5	0.30	0.60	5.5	0.78	1.37
2.0	0.36	0.84	6.0	0.84	1.37
2.5	0.36	0.96	6.5	1.08	1.37
3.0	0.48	1.08	7.0		
3.5	0.54	1.08	7.5		
4.0	0.60	1.13	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.36	0.96	0.7167	1.314
CBR Value (%)	2.7	7.2	3.5	6.5
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	7.2			



California Bearing Ratio

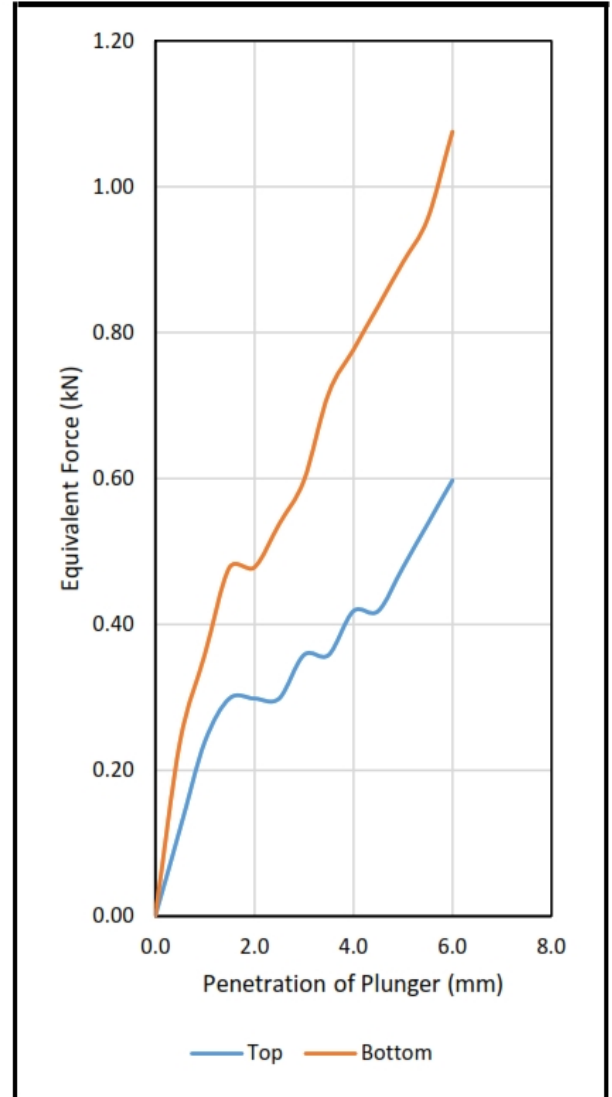
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-4TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1741	kg/m ³	Initial Sample Moisture Content	8.2	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.20
Final Dial Reading (mm)	5.30
Difference (mm)	1.10
Percentage Swell	0.94

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.24	4.5	0.42	0.84
1.0	0.24	0.36	5.0	0.48	0.90
1.5	0.30	0.48	5.5	0.54	0.96
2.0	0.30	0.48	6.0	0.60	1.08
2.5	0.30	0.54	6.5	0.60	1.08
3.0	0.36	0.60	7.0	0.60	1.08
3.5	0.36	0.72	7.5		
4.0	0.42	0.78	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.30	0.54	0.4778	0.8959
CBR Value (%)	2.3	4.1	2.4	4.4
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	4.4			



California Bearing Ratio

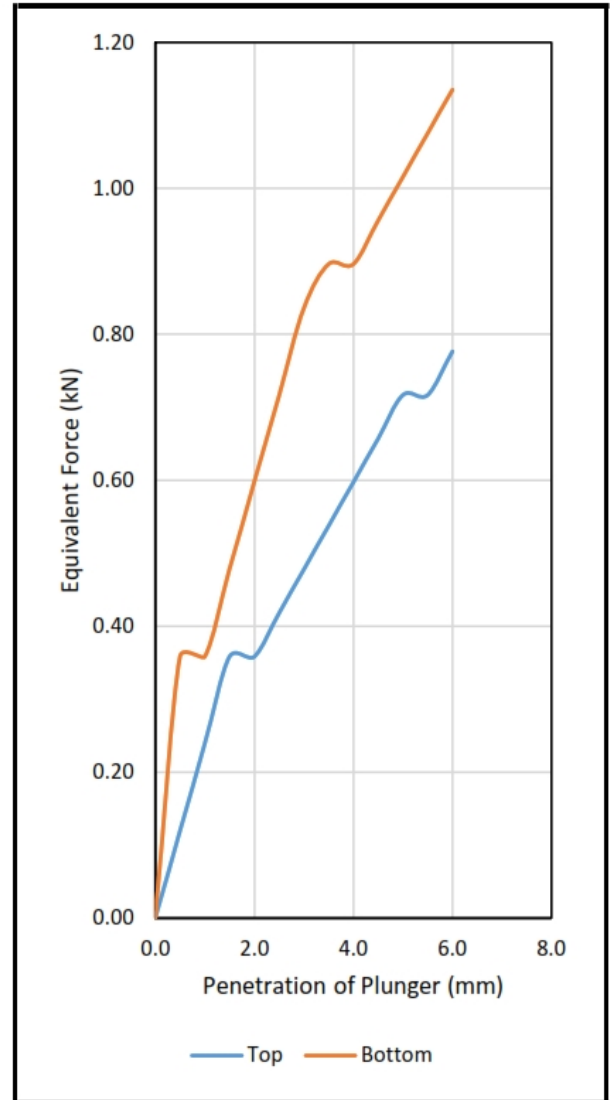
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-4TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1870	kg/m ³	Initial Sample Moisture Content	6	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	2.60
Final Dial Reading (mm)	3.50
Difference (mm)	0.90
Percentage Swell	0.77

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.36	4.5	0.66	0.96
1.0	0.24	0.36	5.0	0.72	1.02
1.5	0.36	0.48	5.5	0.72	1.08
2.0	0.36	0.60	6.0	0.78	1.13
2.5	0.42	0.72	6.5	0.84	1.19
3.0	0.48	0.84	7.0		
3.5	0.54	0.90	7.5		
4.0	0.60	0.90	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.42	0.72	0.7167	1.0154
CBR Value (%)	3.2	5.4	3.5	5.0
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.4			



California Bearing Ratio

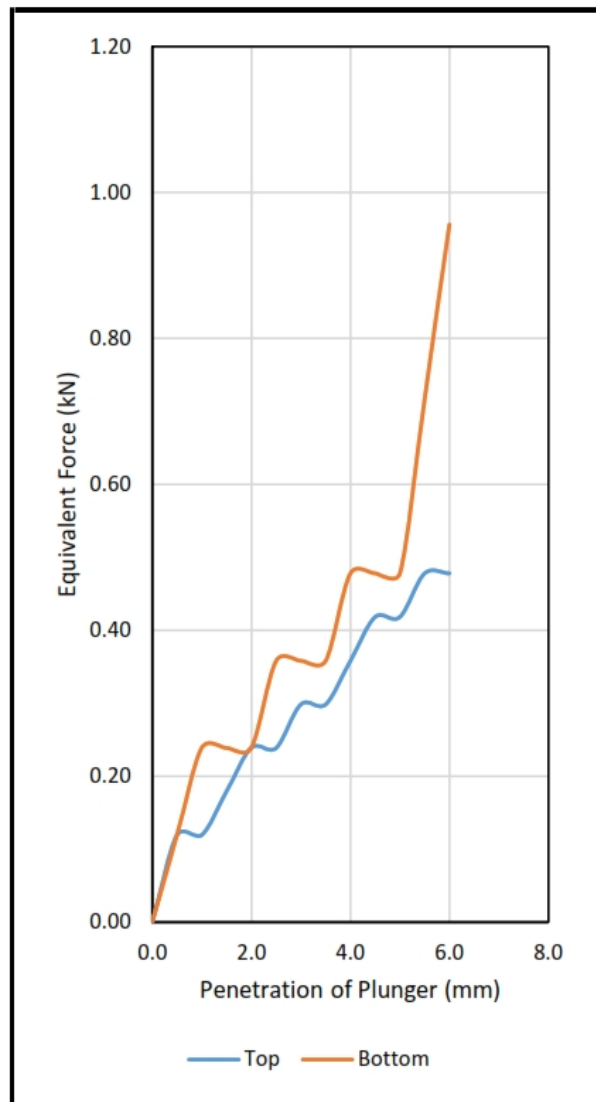
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-4TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1844	kg/m ³	Initial Sample Moisture Content	6.4	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.40
Final Dial Reading (mm)	5.50
Difference (mm)	1.10
Percentage Swell	0.94

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.12	4.5	0.42	0.48
1.0	0.12	0.24	5.0	0.42	0.48
1.5	0.18	0.24	5.5	0.48	0.72
2.0	0.24	0.24	6.0	0.48	0.96
2.5	0.24	0.36	6.5		
3.0	0.30	0.36	7.0		
3.5	0.30	0.36	7.5		
4.0	0.36	0.48	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.24	0.36	0.4181	0.4778
CBR Value (%)	1.8	2.7	2.1	2.4
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	2.7			



California Bearing Ratio

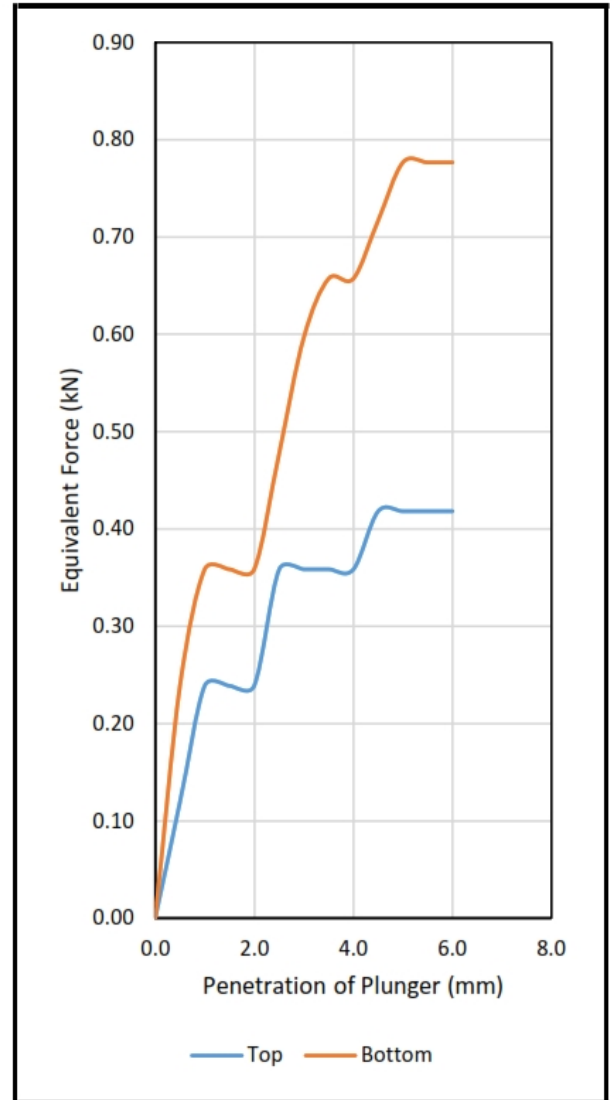
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-5TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1880	kg/m ³	Initial Sample Moisture Content	6	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	2.60
Final Dial Reading (mm)	3.50
Difference (mm)	0.90
Percentage Swell	0.77

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.24	4.5	0.42	0.72
1.0	0.24	0.36	5.0	0.42	0.78
1.5	0.24	0.36	5.5	0.42	0.78
2.0	0.24	0.36	6.0	0.42	0.78
2.5	0.36	0.48	6.5		
3.0	0.36	0.60	7.0		
3.5	0.36	0.66	7.5		
4.0	0.36	0.66	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.36	0.48	0.4181	0.7765
CBR Value (%)	2.7	3.6	2.1	3.8
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	3.8			



California Bearing Ratio

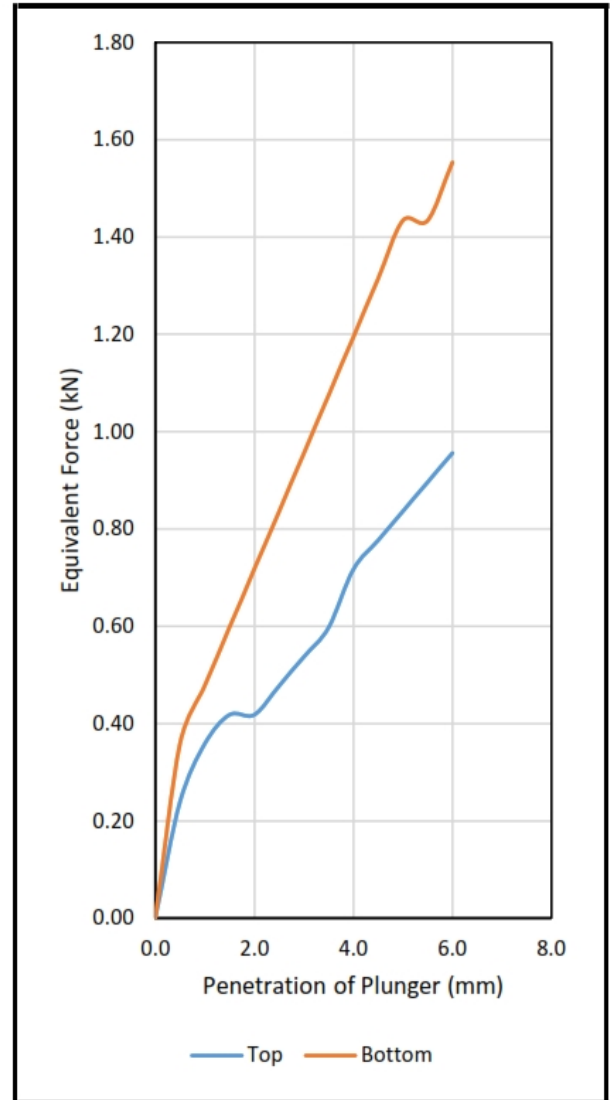
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-5TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1920	kg/m ³	Initial Sample Moisture Content	7.9	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.70
Final Dial Reading (mm)	5.60
Difference (mm)	0.90
Percentage Swell	0.77

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.36	4.5	0.78	1.31
1.0	0.36	0.48	5.0	0.84	1.43
1.5	0.42	0.60	5.5	0.90	1.43
2.0	0.42	0.72	6.0	0.96	1.55
2.5	0.48	0.84	6.5	0.96	1.55
3.0	0.54	0.96	7.0		
3.5	0.60	1.08	7.5		
4.0	0.72	1.19	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.48	0.84	0.8362	1.4335
CBR Value (%)	3.6	6.3	4.1	7.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	7.1			



California Bearing Ratio

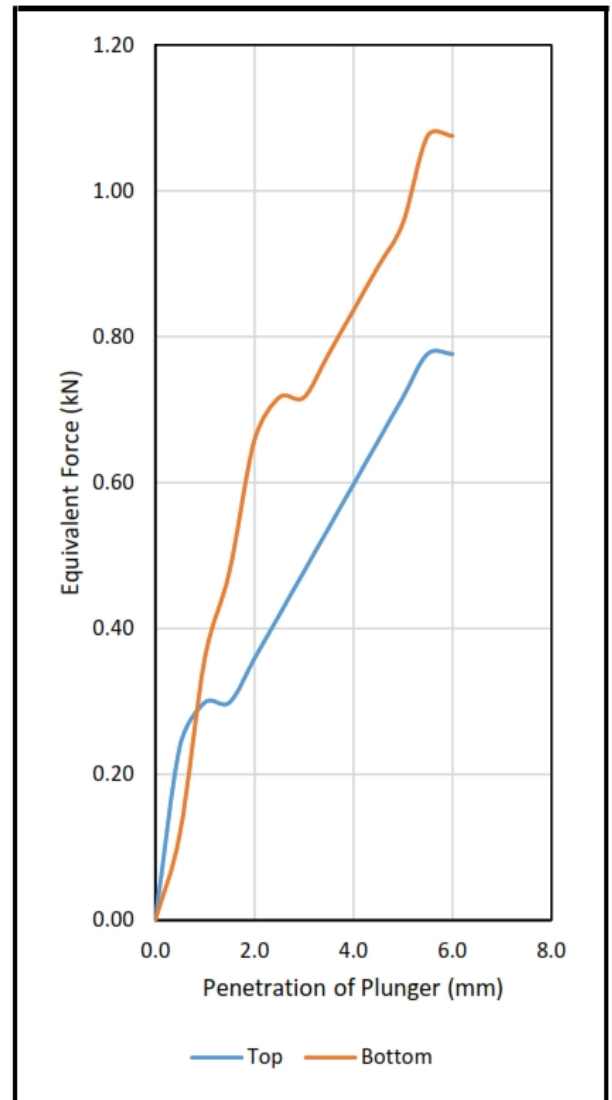
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-5TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1875	kg/m ³	Initial Sample Moisture Content	5.5	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.50
Final Dial Reading (mm)	4.20
Difference (mm)	0.70
Percentage Swell	0.60

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.12	4.5	0.66	0.90
1.0	0.30	0.36	5.0	0.72	0.96
1.5	0.30	0.48	5.5	0.78	1.08
2.0	0.36	0.66	6.0	0.78	1.08
2.5	0.42	0.72	6.5		
3.0	0.48	0.72	7.0		
3.5	0.54	0.78	7.5		
4.0	0.60	0.84	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.42	0.72	0.7167	0.9556
CBR Value (%)	3.2	5.4	3.5	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.4			



California Bearing Ratio

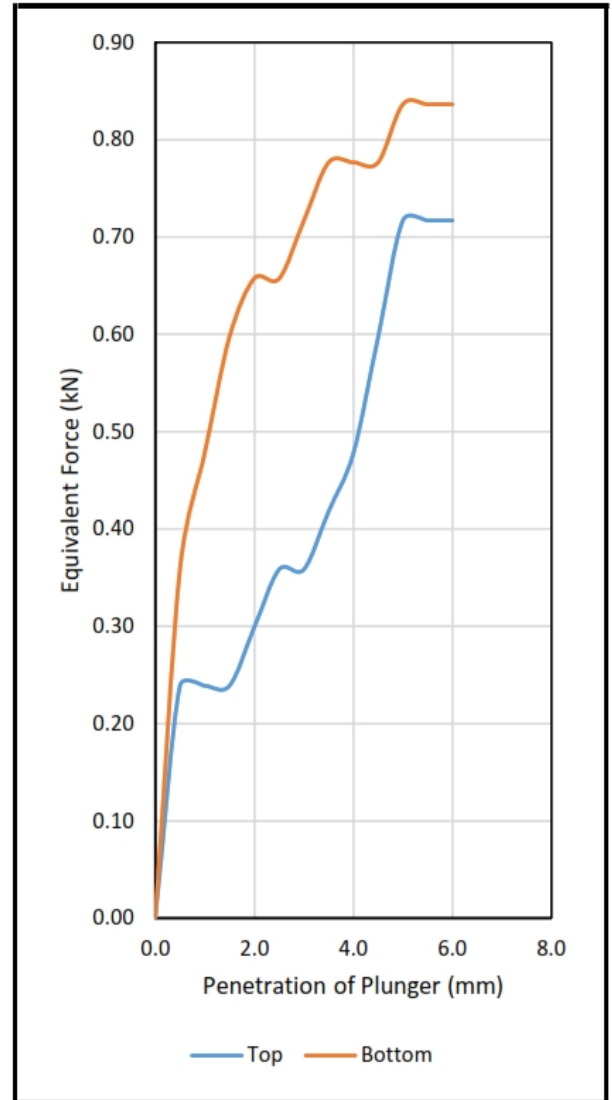
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-1TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1822	kg/m ³	Initial Sample Moisture Content	9	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	2.10
Final Dial Reading (mm)	3.10
Difference (mm)	1.00
Percentage Swell	0.86

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.36	4.5	0.60	0.78
1.0	0.24	0.48	5.0	0.72	0.84
1.5	0.24	0.60	5.5	0.72	0.84
2.0	0.30	0.66	6.0	0.72	0.84
2.5	0.36	0.66	6.5	0.72	0.84
3.0	0.36	0.72	7.0	0.72	0.84
3.5	0.42	0.78	7.5		
4.0	0.48	0.78	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.36	0.66	0.7167	0.8362
CBR Value (%)	2.7	5.0	3.5	4.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.0			



California Bearing Ratio

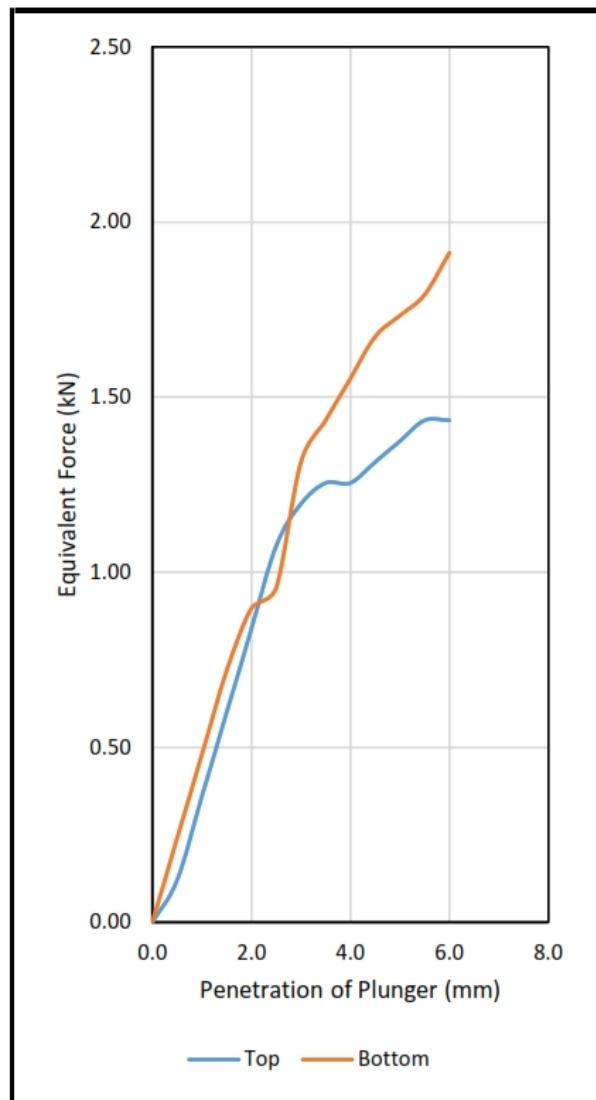
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-1TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1798	kg/m ³	Initial Sample Moisture Content		8.1	%

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.90
Final Dial Reading (mm)	4.80
Difference (mm)	0.90
Percentage Swell	0.77

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.24	4.5	1.31	1.67
1.0	0.36	0.48	5.0	1.37	1.73
1.5	0.60	0.72	5.5	1.43	1.79
2.0	0.84	0.90	6.0	1.43	1.91
2.5	1.08	0.96	6.5	1.49	1.91
3.0	1.19	1.31	7.0		
3.5	1.25	1.43	7.5		
4.0	1.25	1.55	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	1.08	0.96	1.3737	1.7321
CBR Value (%)	8.1	7.2	6.8	8.6
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	8.6			



California Bearing Ratio

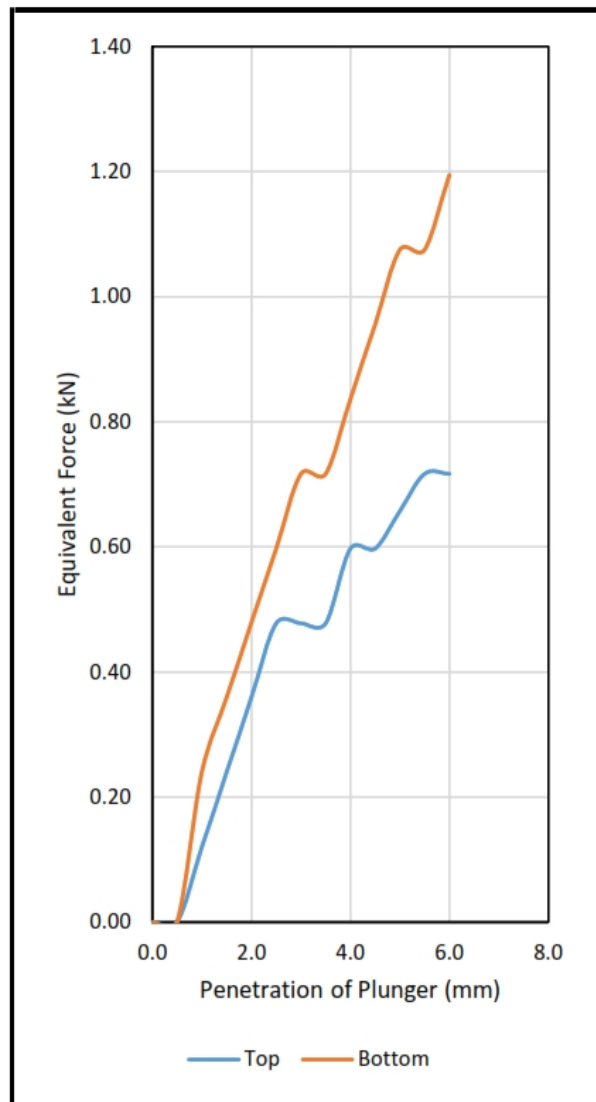
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-1TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1800	kg/m ³	Initial Sample Moisture Content	8.9	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.40
Final Dial Reading (mm)	4.25
Difference (mm)	0.85
Percentage Swell	0.73

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.00	0.00	4.5	0.60	0.96
1.0	0.12	0.24	5.0	0.66	1.08
1.5	0.24	0.36	5.5	0.72	1.08
2.0	0.36	0.48	6.0	0.72	1.19
2.5	0.48	0.60	6.5	0.78	1.19
3.0	0.48	0.72	7.0	1.08	1.31
3.5	0.48	0.72	7.5	1.19	1.37
4.0	0.60	0.84	8.0	1.19	1.43

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.48	0.60	0.657	1.0751
CBR Value (%)	3.6	4.5	3.3	5.3
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.3			



California Bearing Ratio

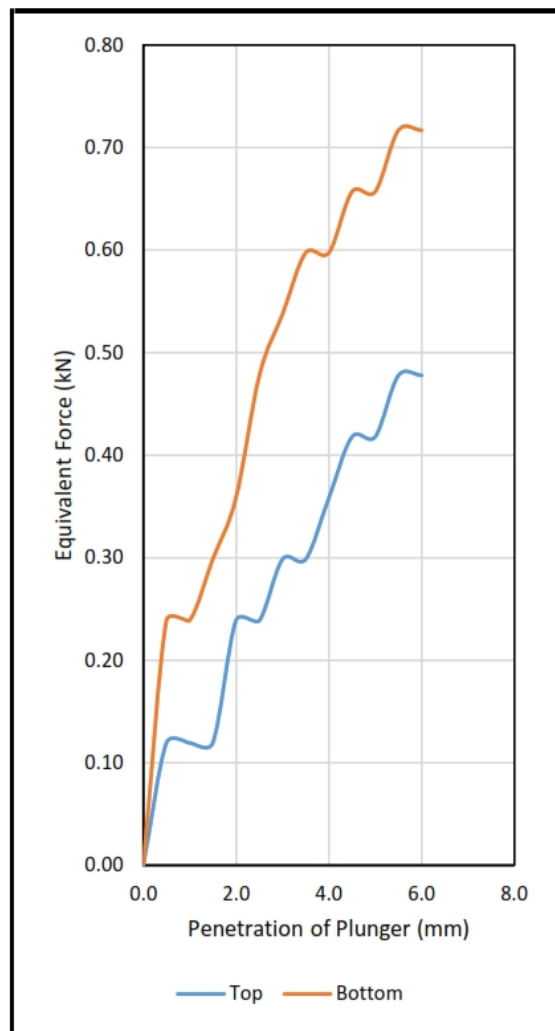
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-1TP4
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	2010	kg/m ³	Initial Sample Moisture Content	5.4	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.15
Final Dial Reading (mm)	4.10
Difference (mm)	0.95
Percentage Swell	0.81

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.24	4.5	0.42	0.66
1.0	0.12	0.24	5.0	0.42	0.66
1.5	0.12	0.30	5.5	0.48	0.72
2.0	0.24	0.36	6.0	0.48	0.72
2.5	0.24	0.48	6.5	0.48	1.19
3.0	0.30	0.54	7.0		1.31
3.5	0.30	0.60	7.5		1.37
4.0	0.36	0.60	8.0		1.43

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.24	0.48	0.4181	0.657
CBR Value (%)	1.8	3.6	2.1	3.3
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	3.6			



California Bearing Ratio

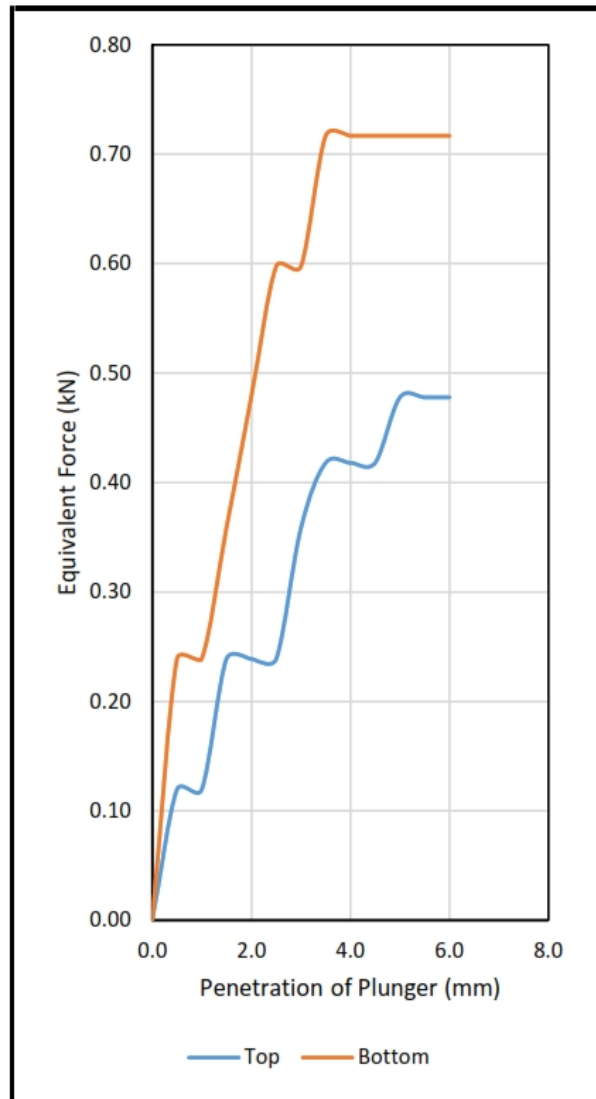
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-2TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1880	kg/m ³	Initial Sample Moisture Content	5.8	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.82
Final Dial Reading (mm)	4.32
Difference (mm)	0.50
Percentage Swell	0.43

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.24	4.5	0.42	0.72
1.0	0.12	0.24	5.0	0.48	0.72
1.5	0.24	0.36	5.5	0.48	0.72
2.0	0.24	0.48	6.0	0.48	0.72
2.5	0.24	0.60	6.5	0.48	0.72
3.0	0.36	0.60	7.0		
3.5	0.42	0.72	7.5		
4.0	0.42	0.72	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.24	0.60	0.4778	0.7167
CBR Value (%)	1.8	4.5	2.4	3.5
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	4.5			



California Bearing Ratio

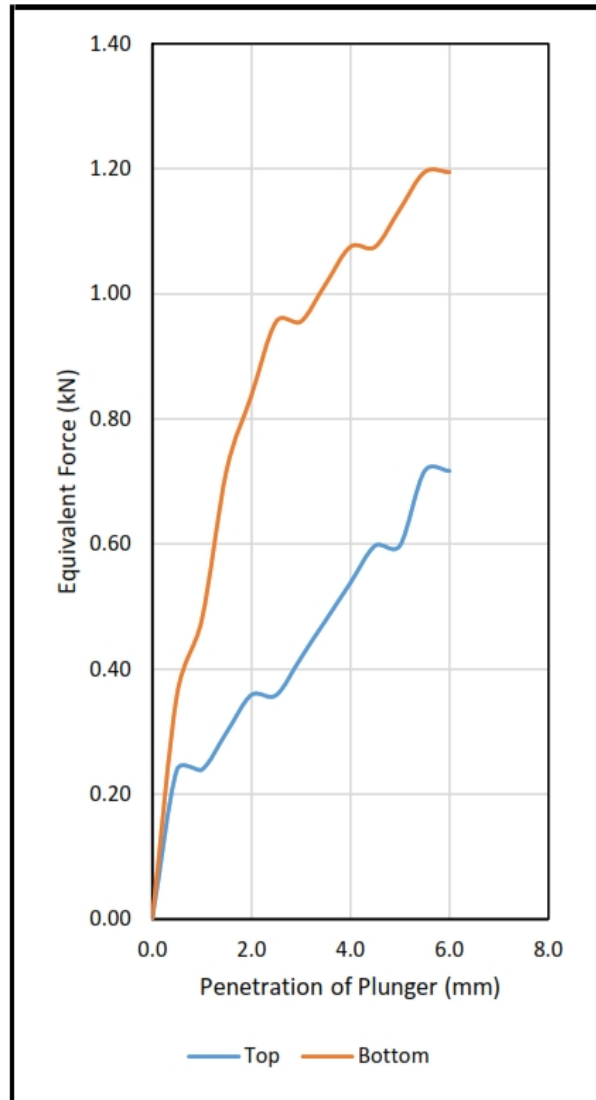
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-2TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1882	kg/m ³	Initial Sample Moisture Content	8.1	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.45
Final Dial Reading (mm)	5.50
Difference (mm)	1.05
Percentage Swell	0.90

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.36	4.5	0.60	1.08
1.0	0.24	0.48	5.0	0.60	1.13
1.5	0.30	0.72	5.5	0.72	1.19
2.0	0.36	0.84	6.0	0.72	1.19
2.5	0.36	0.96	6.5	0.84	1.25
3.0	0.42	0.96	7.0		
3.5	0.48	1.02	7.5		
4.0	0.54	1.08	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.36	0.96	0.5973	1.1348
CBR Value (%)	2.7	7.2	3.0	5.6
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	7.2			



California Bearing Ratio

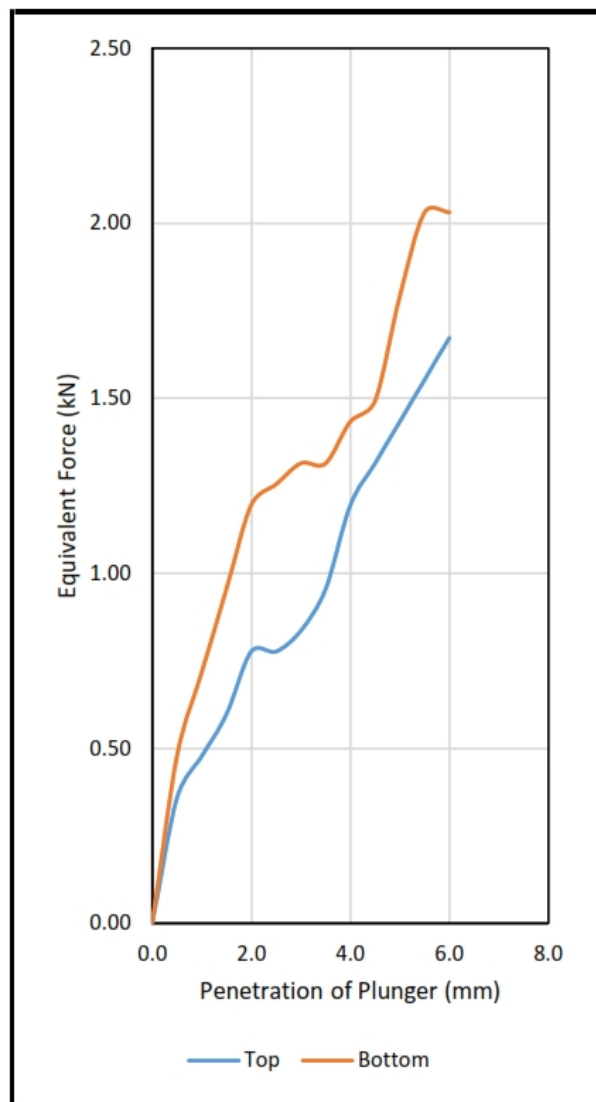
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-3TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	2006	kg/m ³	Initial Sample Moisture Content		2.7	%

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	2.50
Final Dial Reading (mm)	2.80
Difference (mm)	0.30
Percentage Swell	0.26

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.36	0.48	4.5	1.31	1.49
1.0	0.48	0.72	5.0	1.43	1.79
1.5	0.60	0.96	5.5	1.55	2.03
2.0	0.78	1.19	6.0	1.67	2.03
2.5	0.78	1.25	6.5	1.79	2.03
3.0	0.84	1.31	7.0		
3.5	0.96	1.31	7.5		
4.0	1.19	1.43	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.78	1.25	1.4335	1.7918
CBR Value (%)	5.9	9.5	7.1	8.9
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	9.5			



California Bearing Ratio

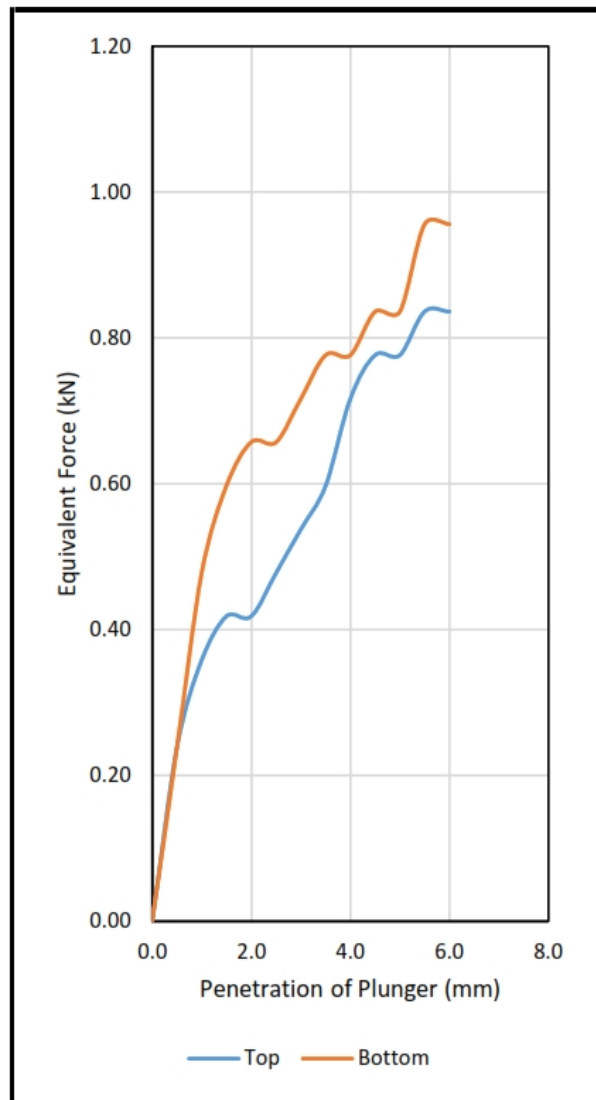
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-3TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1791	kg/m ³	Initial Sample Moisture Content		4.2	%

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.04
Final Dial Reading (mm)	4.00
Difference (mm)	0.96
Percentage Swell	0.82

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.24	4.5	0.78	0.84
1.0	0.36	0.48	5.0	0.78	0.84
1.5	0.42	0.60	5.5	0.84	0.96
2.0	0.42	0.66	6.0	0.84	0.96
2.5	0.48	0.66	6.5		
3.0	0.54	0.72	7.0		
3.5	0.60	0.78	7.5		
4.0	0.72	0.78	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.48	0.66	0.7765	0.8362
CBR Value (%)	3.6	5.0	3.8	4.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.0			



California Bearing Ratio

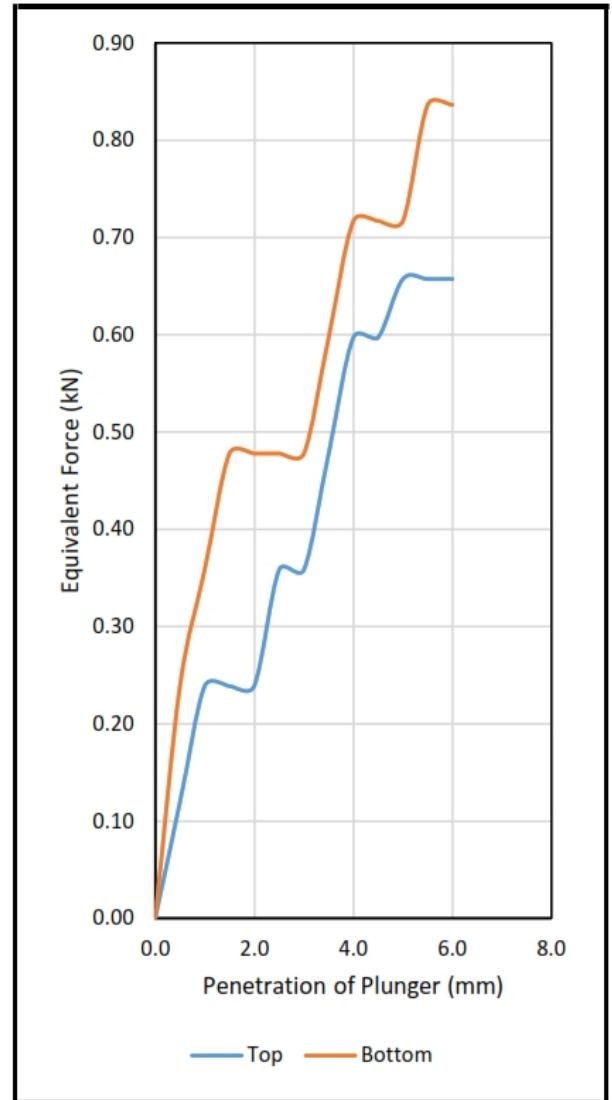
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-3TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1740	kg/m ³	Initial Sample Moisture Content	1.6	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.35
Final Dial Reading (mm)	4.30
Difference (mm)	0.95
Percentage Swell	0.81

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.12	0.24	4.5	0.60	0.72
1.0	0.24	0.36	5.0	0.66	0.72
1.5	0.24	0.48	5.5	0.66	0.84
2.0	0.24	0.48	6.0	0.66	0.84
2.5	0.36	0.48	6.5	0.66	0.84
3.0	0.36	0.48	7.0		
3.5	0.48	0.60	7.5		
4.0	0.60	0.72	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.36	0.48	0.657	0.7167
CBR Value (%)	2.7	3.6	3.3	3.5
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	3.6			



California Bearing Ratio

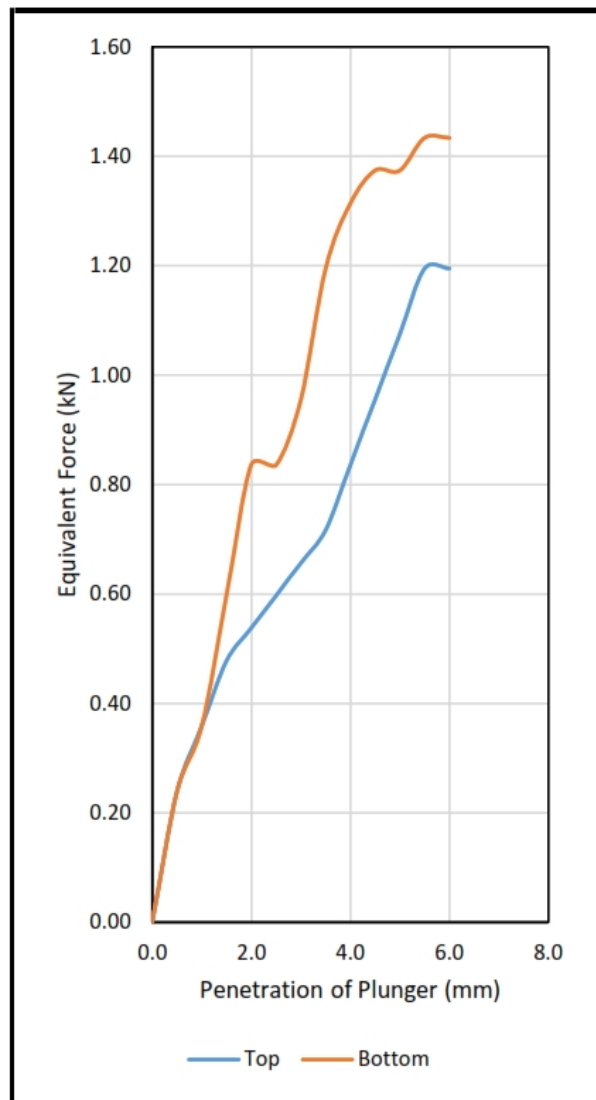
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-4TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1950	kg/m ³	Initial Sample Moisture Content		5.4	%

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	2.10
Final Dial Reading (mm)	3.00
Difference (mm)	0.90
Percentage Swell	0.77

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.24	4.5	0.96	1.37
1.0	0.36	0.36	5.0	1.08	1.37
1.5	0.48	0.60	5.5	1.19	1.43
2.0	0.54	0.84	6.0	1.19	1.43
2.5	0.60	0.84	6.5		
3.0	0.66	0.96	7.0		
3.5	0.72	1.19	7.5		
4.0	0.84	1.31	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.60	0.84	1.0751	1.3737
CBR Value (%)	4.5	6.3	5.3	6.8
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	6.8			



California Bearing Ratio

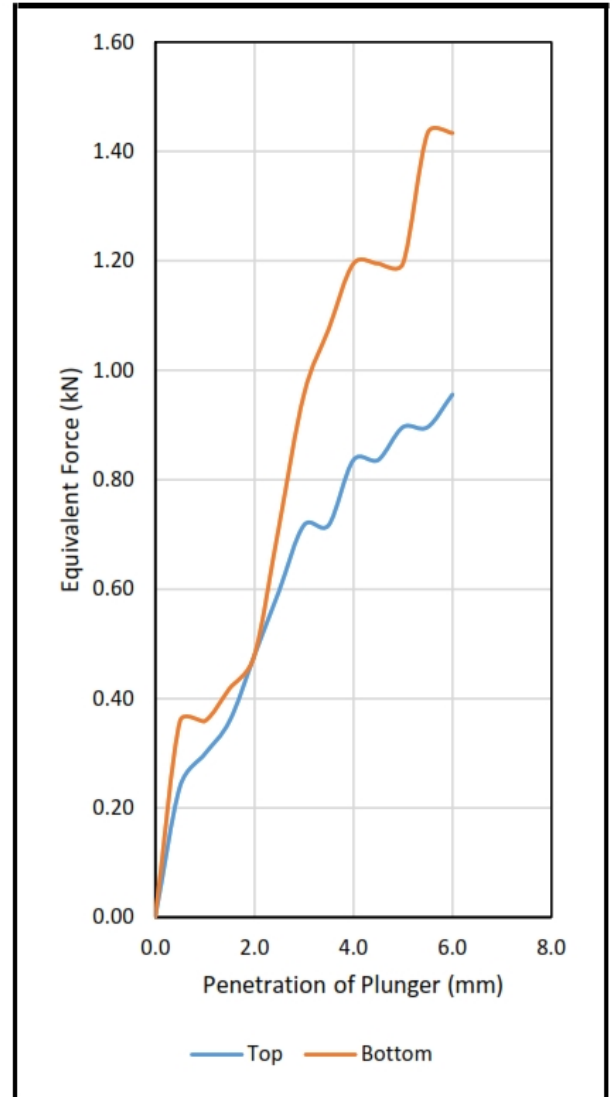
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-4TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1901	kg/m ³	Initial Sample Moisture Content	9	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.60
Final Dial Reading (mm)	3.92
Difference (mm)	0.32
Percentage Swell	0.27

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.36	4.5	0.84	1.19
1.0	0.30	0.36	5.0	0.90	1.19
1.5	0.36	0.42	5.5	0.90	1.43
2.0	0.48	0.48	6.0	0.96	1.43
2.5	0.60	0.72	6.5		
3.0	0.72	0.96	7.0		
3.5	0.72	1.08	7.5		
4.0	0.84	1.19	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.60	0.72	0.8959	1.1945
CBR Value (%)	4.5	5.4	4.4	5.9
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.9			



California Bearing Ratio

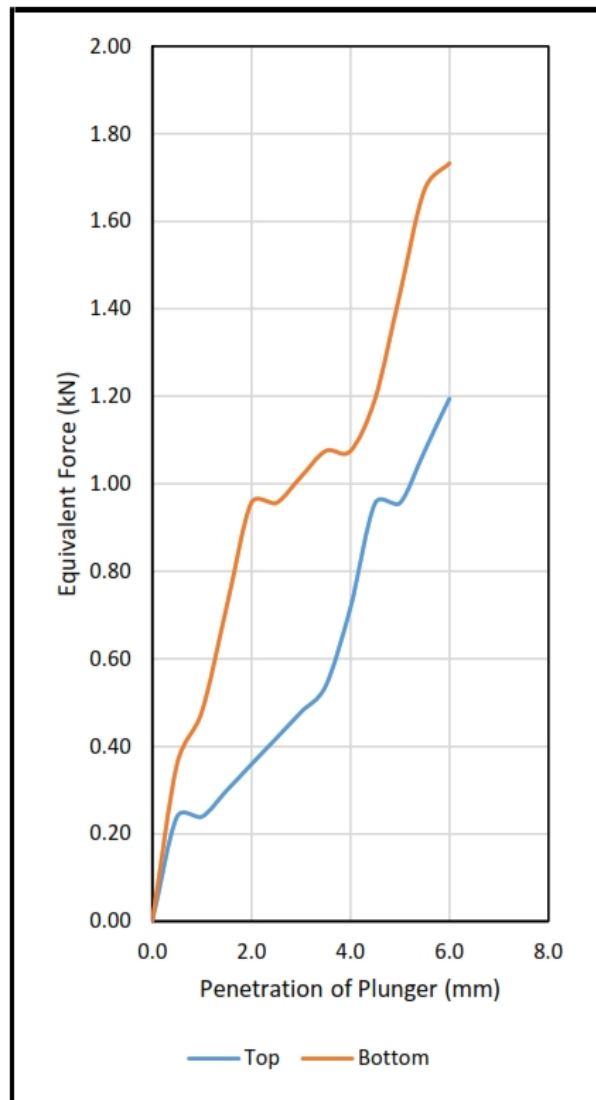
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-4TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1861	kg/m ³	Initial Sample Moisture Content		2.7	%

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	5.41
Final Dial Reading (mm)	6.00
Difference (mm)	0.59
Percentage Swell	0.51

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.36	4.5	0.96	1.19
1.0	0.24	0.48	5.0	0.96	1.43
1.5	0.30	0.72	5.5	1.08	1.67
2.0	0.36	0.96	6.0	1.19	1.73
2.5	0.42	0.96	6.5	1.31	1.79
3.0	0.48	1.02	7.0	1.31	1.79
3.5	0.54	1.08	7.5		
4.0	0.72	1.08	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.42	0.96	0.9556	1.4335
CBR Value (%)	3.2	7.2	4.7	7.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	7.2			



California Bearing Ratio

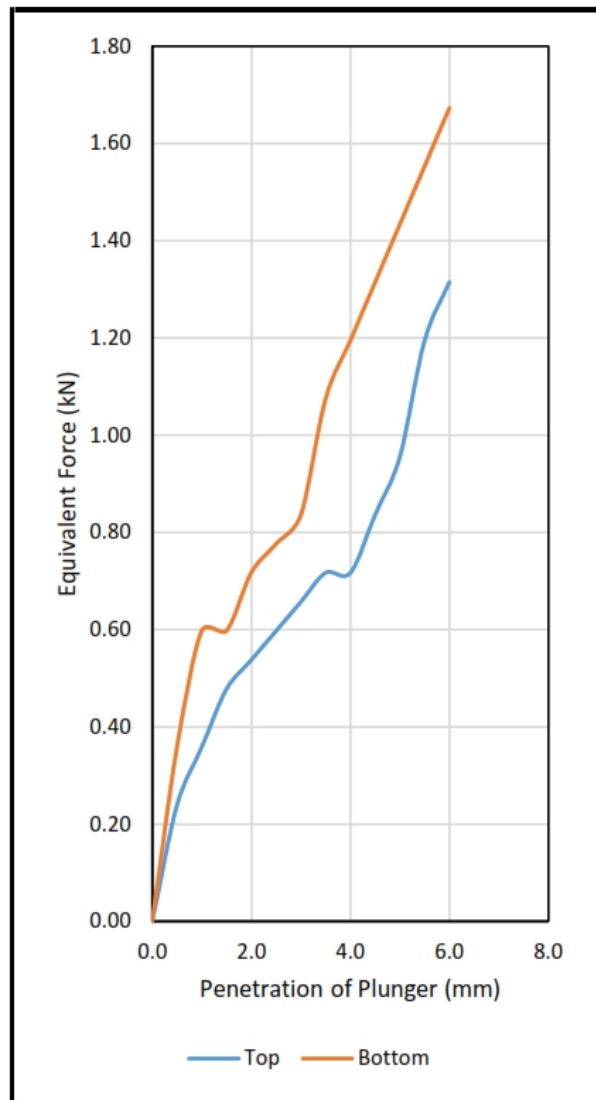
Project	Pavement Investigation	Technician	Stephen	Survey Point	H1TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1820	kg/m ³	Initial Sample Moisture Content	9.5	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.15
Final Dial Reading (mm)	4.00
Difference (mm)	0.85
Percentage Swell	0.73

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.36	4.5	0.84	1.31
1.0	0.36	0.60	5.0	0.96	1.43
1.5	0.48	0.60	5.5	1.19	1.55
2.0	0.54	0.72	6.0	1.31	1.67
2.5	0.60	0.78	6.5	1.31	1.79
3.0	0.66	0.84	7.0	1.31	1.79
3.5	0.72	1.08	7.5		
4.0	0.72	1.19	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.60	0.78	0.9556	1.4335
CBR Value (%)	4.5	5.9	4.7	7.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	7.1			



California Bearing Ratio

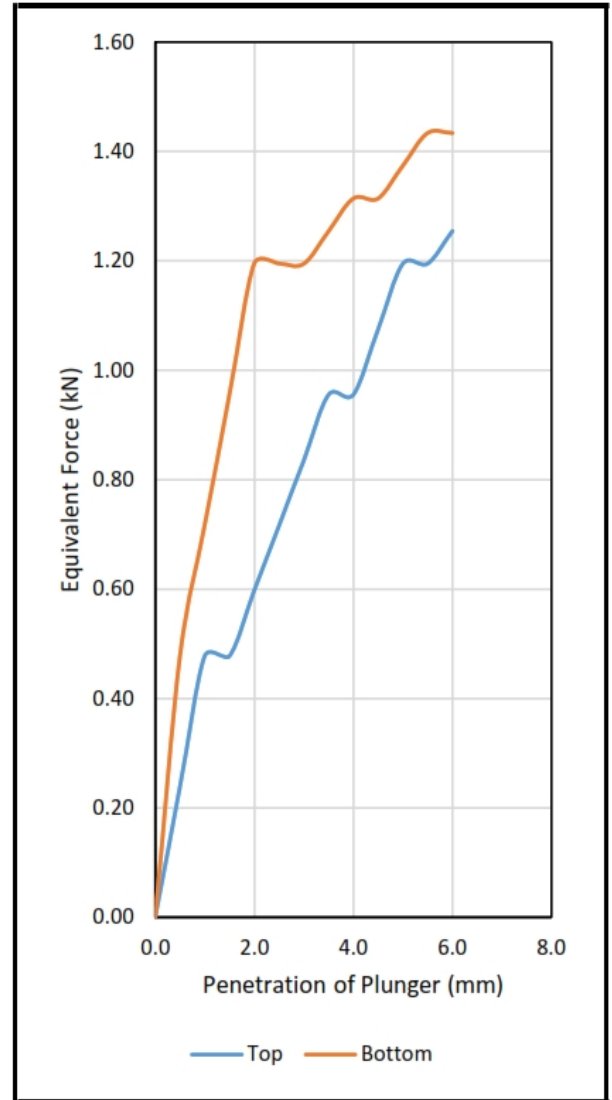
Project	Pavement Investigation	Technician	Stephen	Survey Point	M1TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type		Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density		2032	kg/m ³	Initial Sample Moisture Content		5.7	%

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.54
Final Dial Reading (mm)	5.50
Difference (mm)	0.96
Percentage Swell	0.82

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.48	4.5	1.08	1.31
1.0	0.48	0.72	5.0	1.19	1.37
1.5	0.48	0.96	5.5	1.19	1.43
2.0	0.60	1.19	6.0	1.25	1.43
2.5	0.72	1.19	6.5	1.31	1.43
3.0	0.84	1.19	7.0		
3.5	0.96	1.25	7.5		
4.0	0.96	1.31	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.72	1.19	1.1945	1.3737
CBR Value (%)	5.4	9.0	5.9	6.8
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	9.0			



California Bearing Ratio

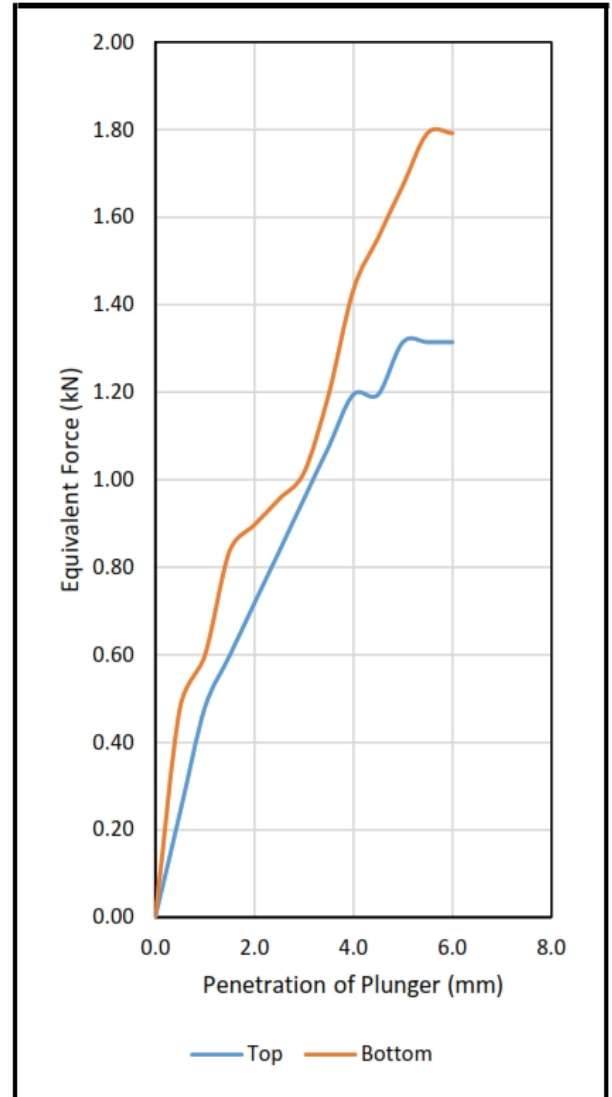
Project	Pavement Investigation	Technician	Stephen	Survey Point	M1TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1859	kg/m ³	Initial Sample Moisture Content	5.1	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.55
Final Dial Reading (mm)	5.40
Difference (mm)	0.85
Percentage Swell	0.73

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.24	0.48	4.5	1.19	1.55
1.0	0.48	0.60	5.0	1.31	1.67
1.5	0.60	0.84	5.5	1.31	1.79
2.0	0.72	0.90	6.0	1.31	1.79
2.5	0.84	0.96	6.5	1.31	1.79
3.0	0.96	1.02	7.0		
3.5	1.08	1.19	7.5		
4.0	1.19	1.43	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.84	0.96	1.314	1.6724
CBR Value (%)	6.3	7.2	6.5	8.3
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	8.3			



California Bearing Ratio

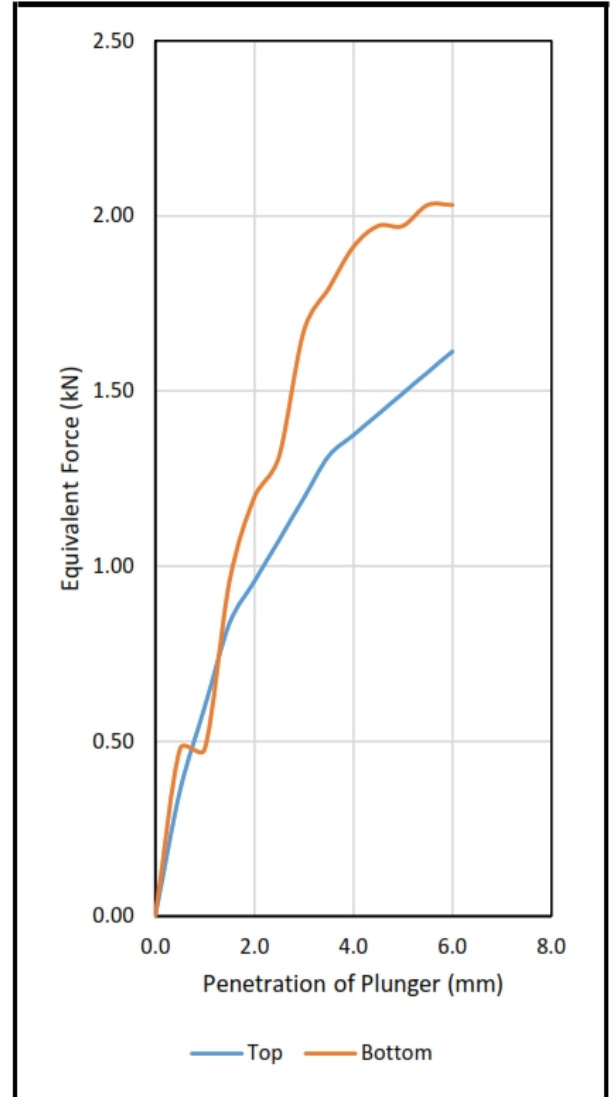
Project	Pavement Investigation	Technician	Stephen	Survey Point	M1TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	28/1/2022

Standard Code	BS 1377-4:90	Sample Type	Undisturbed	Soaking Period	4	Days
Initial Sample Bulk Density	1880	kg/m ³	Initial Sample Moisture Content	6.4	%	

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.10
Final Dial Reading (mm)	4.10
Difference (mm)	1.00
Percentage Swell	0.86

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.36	0.48	4.5	1.43	1.97
1.0	0.60	0.48	5.0	1.49	1.97
1.5	0.84	0.96	5.5	1.55	2.03
2.0	0.96	1.19	6.0	1.61	2.03
2.5	1.08	1.31	6.5	1.61	2.03
3.0	1.19	1.67	7.0		
3.5	1.31	1.79	7.5		
4.0	1.37	1.91	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	1.08	1.31	1.4932	1.971
CBR Value (%)	8.1	10.0	7.4	9.8
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	10.0			



Disturbed Samples

California Bearing Ratio

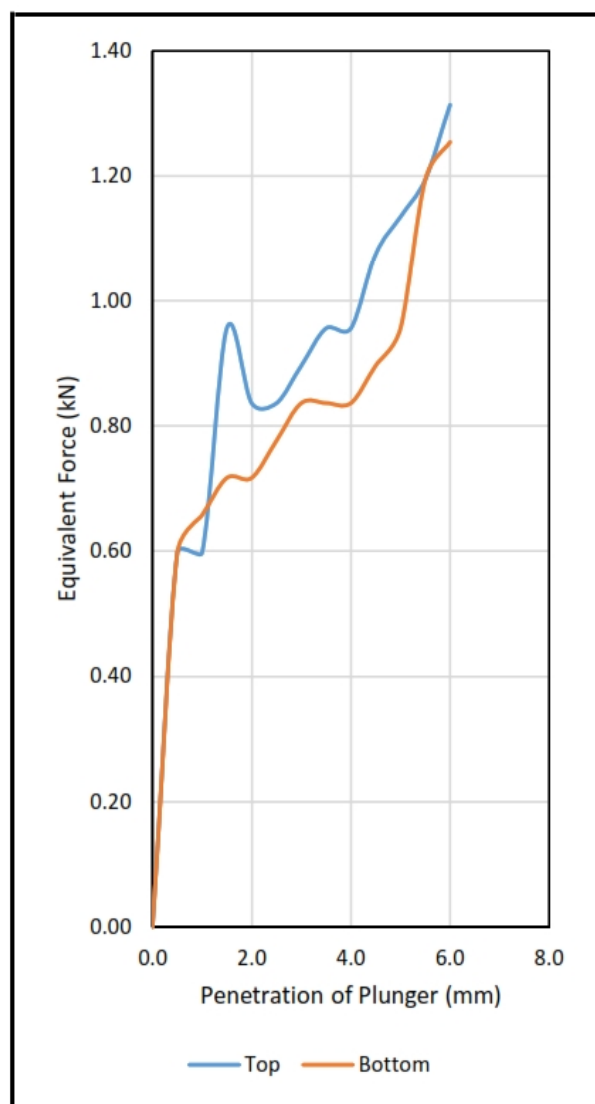
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7R-3 TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	96	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1853 kg/m ³	Target OMC	10 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
2.34 %	3 %	2.67 %		7.33 %		1780 kg/m ³
Mass of water to be added (ml) =		Mass of Soil (g) x	Diff. in MC			2.5 mm
		4810 x	0.0733	=	352.573 ml	5.0 mm
		(100 + present MC)				Swell
						6.3 %
						5.6 %
						0.64 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	2.66
Final Dial Reading (mm)	3.41
Difference (mm)	0.75
Percentage Swell	0.64

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.60	0.60	4.5	1.08	0.90
1.0	0.60	0.66	5.0	1.13	0.96
1.5	0.96	0.72	5.5	1.19	1.19
2.0	0.84	0.72	6.0	1.31	1.25
2.5	0.84	0.78	6.5	1.43	1.02
3.0	0.90	0.84	7.0		
3.5	0.96	0.84	7.5		
4.0	0.96	0.84	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.84	0.78	1.1348	0.9556
CBR Value (%)	6.3	5.9	5.6	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	6.3			



California Bearing Ratio

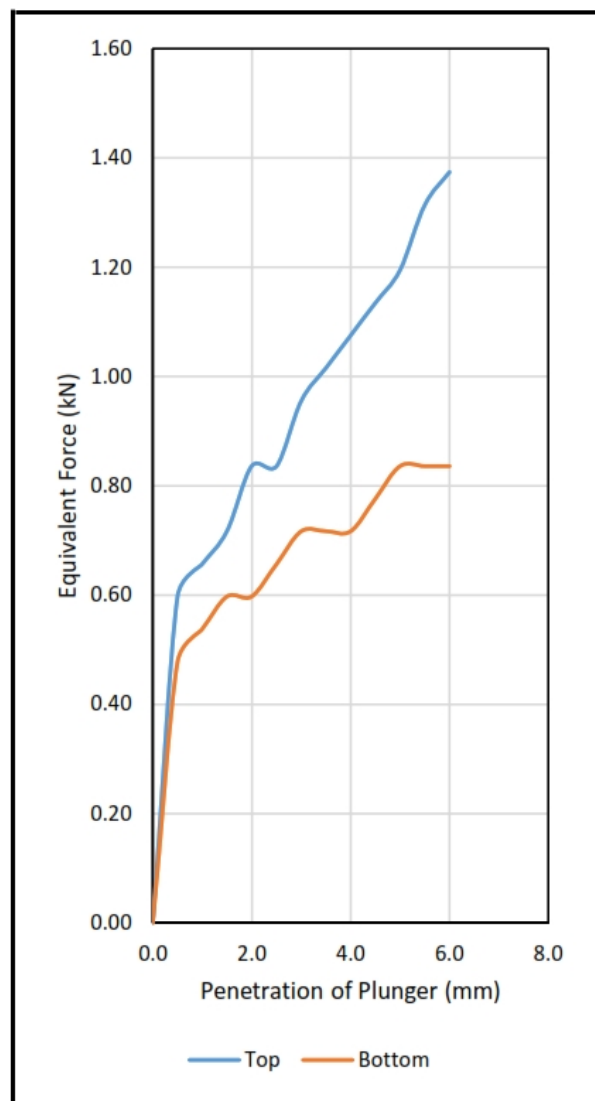
Project	Pavement Investigation	Technician	Stephen	Survey Point	A8-2 TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90				
Compaction Method:	Standard	Density in % of MDD:	95	Soaking Days:	4
Proving Ring No.:	1	Target MDD	1866 kg/m ³	Target OMC	11 %
Present MC Values		Mean Present MC		Difference in MC	MC
3.03 %	4 %	3.515 %	7.485 %	CBR at:	
Mass of water to be added (ml) =		Mass of Soil (g) x	Diff. in MC		
		4797 x	0.07485	= 359.05545 ml	
		(100 + present MC)			
				2.5 mm	6.3 %
				5.0 mm	5.9 %
				Swell	0.98 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	6.21
Final Dial Reading (mm)	7.35
Difference (mm)	1.14
Percentage Swell	0.98

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.60	0.48	4.5	1.13	0.78
1.0	0.66	0.54	5.0	1.19	0.84
1.5	0.72	0.60	5.5	1.31	0.84
2.0	0.84	0.60	6.0	1.37	0.84
2.5	0.84	0.66	6.5	1.43	0.84
3.0	0.96	0.72	7.0		
3.5	1.02	0.72	7.5		
4.0	1.08	0.72	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.84	0.66	1.1945	0.8362
CBR Value (%)	6.3	5.0	5.9	4.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	6.3			



California Bearing Ratio

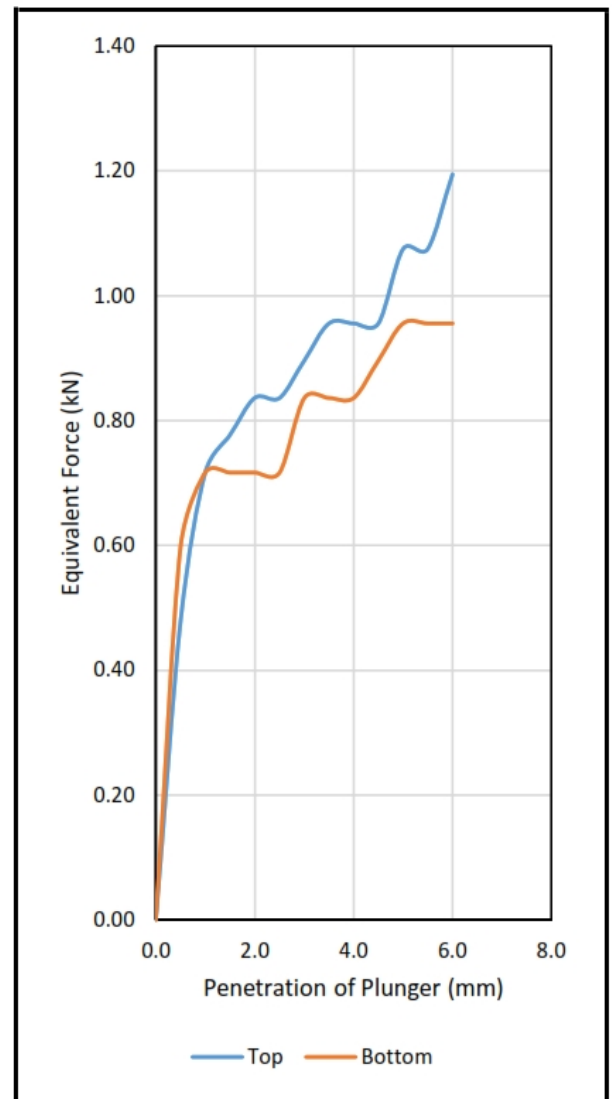
Project	Pavement Investigation	Technician	Stephen	Survey Point	M2 TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	96	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1854 kg/m ³	Target OMC	10 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
2 %	1.89 %	1.945 %		8.055 %		CBR at:
Mass of water to be added (ml)	=	Mass of Soil (g)	x	Diff. in MC	=	2.5 mm
		4720	x	0.08055	=	5.0 mm
		(100 + present MC)		380.196 ml		Swell
						6.3 %
						5.3 %
						0.57 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	6.31
Final Dial Reading (mm)	6.98
Difference (mm)	0.67
Percentage Swell	0.57

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.48	0.60	4.5	0.96	0.90
1.0	0.72	0.72	5.0	1.08	0.96
1.5	0.78	0.72	5.5	1.08	0.96
2.0	0.84	0.72	6.0	1.19	0.96
2.5	0.84	0.72	6.5	1.19	1.02
3.0	0.90	0.84	7.0		
3.5	0.96	0.84	7.5		
4.0	0.96	0.84	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.84	0.72	1.0751	0.9556
CBR Value (%)	6.3	5.4	5.3	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	6.3			



California Bearing Ratio

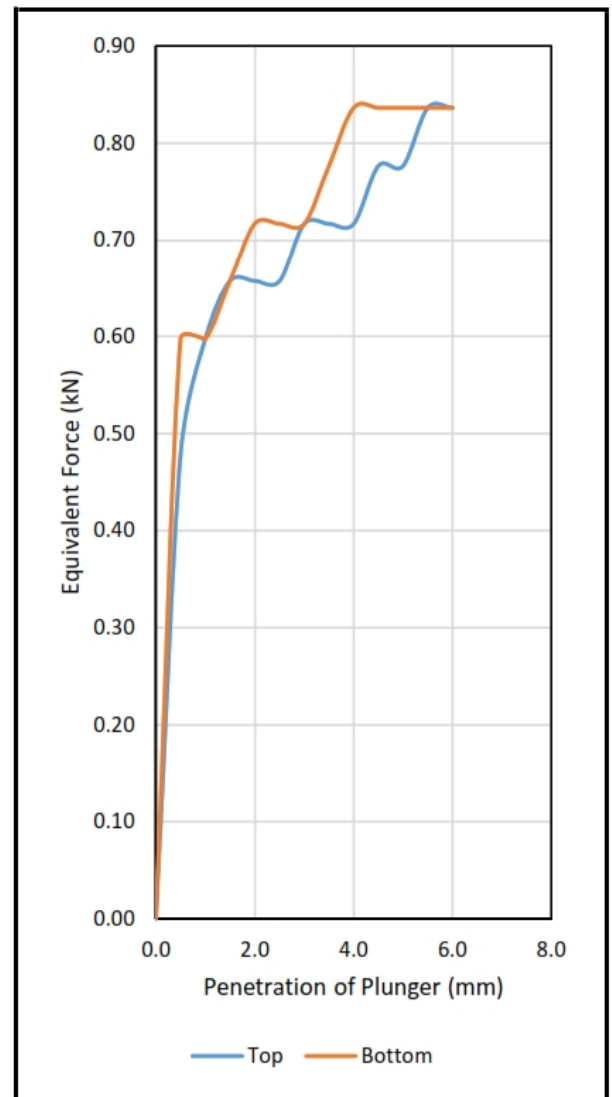
Project	Pavement Investigation	Technician	Stephen	Survey Point	M2 TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	95	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1914 kg/m ³	Target OMC	10 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
1.11 %	2 %	1.555 %		8.445 %		CBR at:
Mass of water to be added (ml)	=	Mass of Soil (g)	x	Diff. in MC		2.5 mm
		4876	x	0.08445	=	411.7782 ml
(100 + present MC)						5.0 mm
						Swell
						5.4 %
						4.1 %
						0.98 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	6.21
Final Dial Reading (mm)	7.35
Difference (mm)	1.14
Percentage Swell	0.98

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.48	0.60	4.5	0.78	0.84
1.0	0.60	0.60	5.0	0.78	0.84
1.5	0.66	0.66	5.5	0.84	0.84
2.0	0.66	0.72	6.0	0.84	0.84
2.5	0.66	0.72	6.5	0.84	0.90
3.0	0.72	0.72	7.0		
3.5	0.72	0.78	7.5		
4.0	0.72	0.84	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.66	0.72	0.7765	0.8362
CBR Value (%)	5.0	5.4	3.8	4.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.4			



California Bearing Ratio

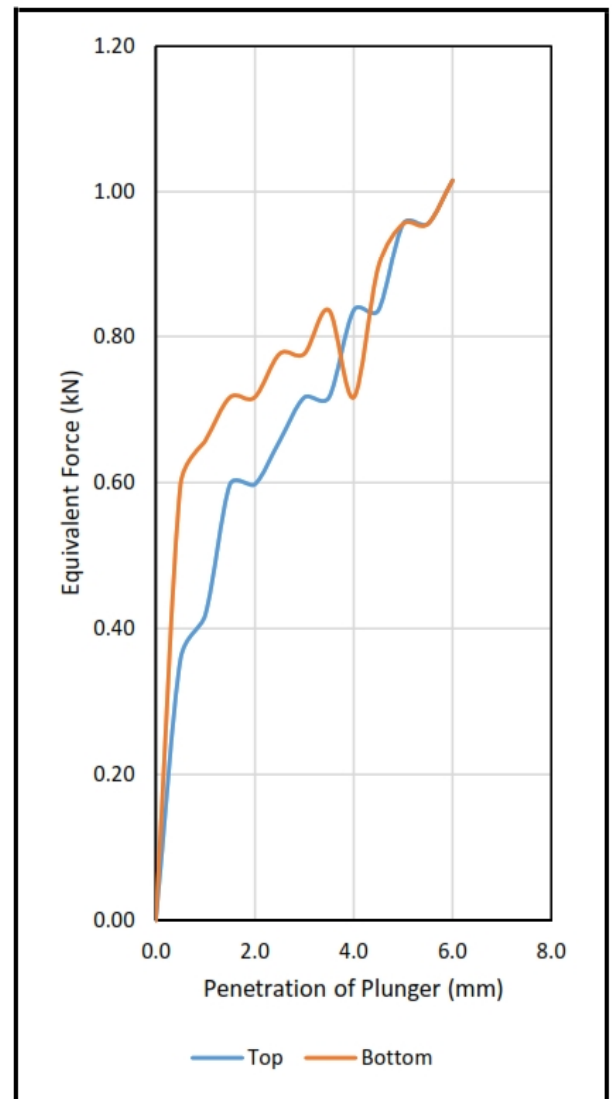
Project	Pavement Investigation	Technician	Stephen	Survey Point	M2 TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90									
Compaction Method:	Standard	Density in % of MDD:	96		Soaking Days:	4		ACTUAL		
Proving Ring No.: 1		Target MDD 1914 kg/m3			Target OMC 10 %			DD	1835 kg/m ³	
Present MC Values		Mean Present MC			Difference in MC			MC	9 %	
2 % 2 %		2 %			8 %			CBR at:		
Mass of water to be added (ml) =		Mass of Soil (g)		x	Diff. in MC		2.5 mm	5.9 %		
		4876		x	0.08 = 390.08 ml		5.0 mm	4.7 %		
		(100 + present MC)					Swell	0.55 %		

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	3.56
Final Dial Reading (mm)	4.20
Difference (mm)	0.64
Percentage Swell	0.55

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.36	0.60	4.5	0.84	0.90
1.0	0.42	0.66	5.0	0.96	0.96
1.5	0.60	0.72	5.5	0.96	0.96
2.0	0.60	0.72	6.0	1.02	1.02
2.5	0.66	0.78	6.5	0.96	1.02
3.0	0.72	0.78	7.0		
3.5	0.72	0.84	7.5		
4.0	0.84	0.72	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.66	0.78	0.9556	0.9556
CBR Value (%)	5.0	5.9	4.7	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.9			



California Bearing Ratio

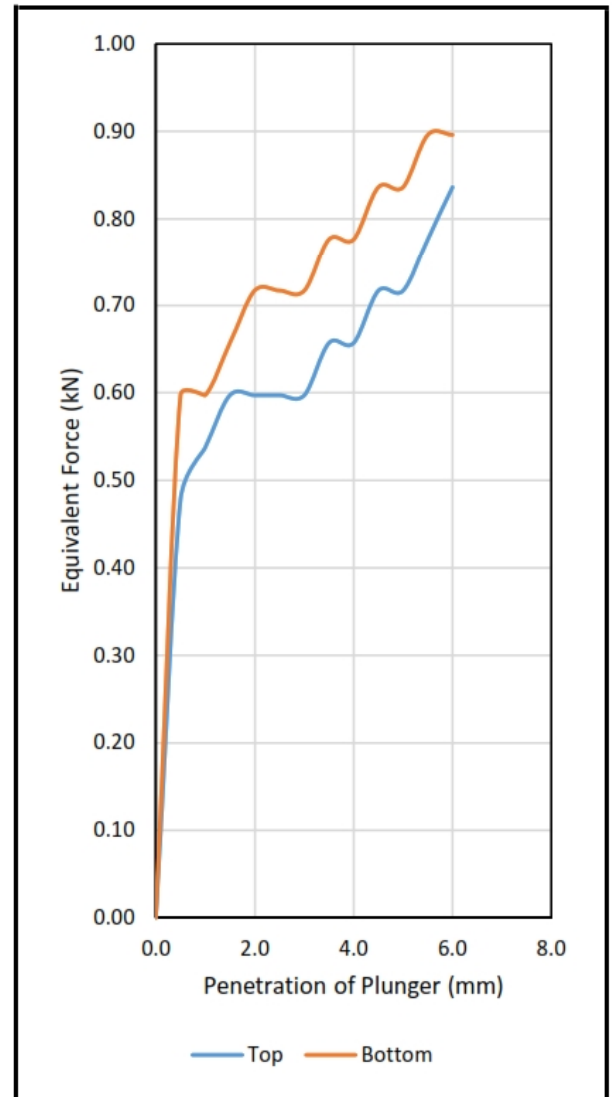
Project	Pavement Investigation	Technician	Stephen	Survey Point	H1 TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	96	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1890 kg/m ³	Target OMC	10 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
3.14 %	2 %	2.57 %		7.43 %		1810 kg/m ³
Mass of water to be added (ml) =		Mass of Soil (g)	x	Diff. in MC		2.5 mm
		4814	x	0.0743	=	5.4 %
		(100 + present MC)		357.6802 ml		5.0 mm
						Swell
						0.75 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	6.22
Final Dial Reading (mm)	7.10
Difference (mm)	0.88
Percentage Swell	0.75

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.48	0.60	4.5	0.72	0.84
1.0	0.54	0.60	5.0	0.72	0.84
1.5	0.60	0.66	5.5	0.78	0.90
2.0	0.60	0.72	6.0	0.84	0.90
2.5	0.60	0.72	6.5	0.84	0.90
3.0	0.60	0.72	7.0		
3.5	0.66	0.78	7.5		
4.0	0.66	0.78	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.60	0.72	0.7167	0.8362
CBR Value (%)	4.5	5.4	3.5	4.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.4			



California Bearing Ratio

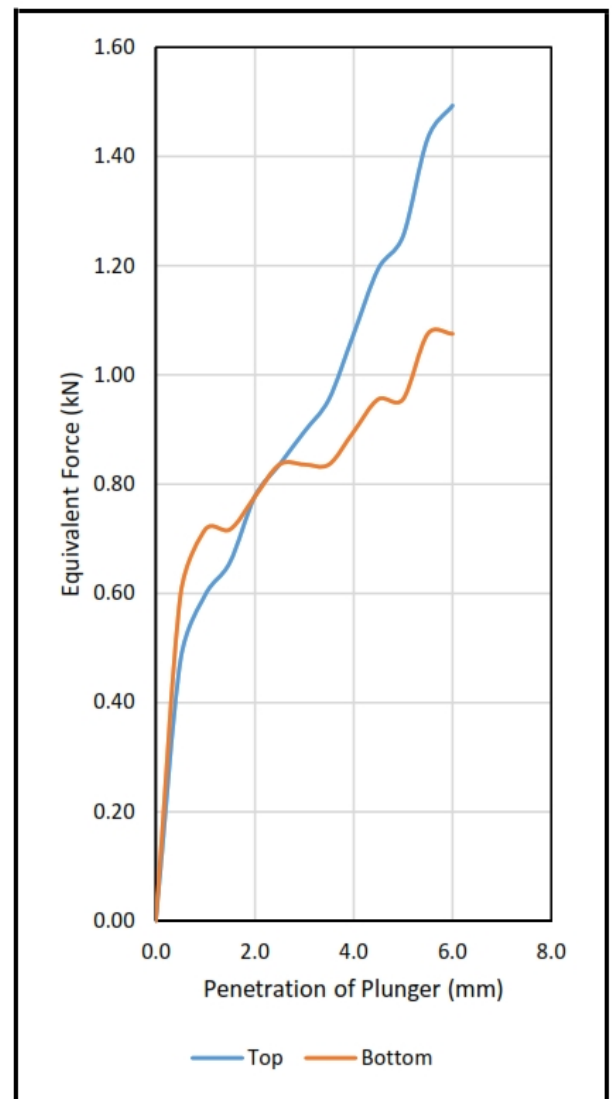
Project	Pavement Investigation	Technician	Stephen	Survey Point	H1 TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	96	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1878 kg/m ³	Target OMC	10 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
2.69 %	3.2 %	2.945 %		7.055 %		CBR at:
Mass of water to be added (ml) =		Mass of Soil (g) x 0.07055 =		341.594634 ml		2.5 mm
						5.0 mm
						Swell
		(100 + present MC)				6.3 %
						6.2 %
						0.84 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	6.00
Final Dial Reading (mm)	6.98
Difference (mm)	0.98
Percentage Swell	0.84

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.48	0.60	4.5	1.19	0.96
1.0	0.60	0.72	5.0	1.25	0.96
1.5	0.66	0.72	5.5	1.43	1.08
2.0	0.78	0.78	6.0	1.49	1.08
2.5	0.84	0.84	6.5	1.61	1.08
3.0	0.90	0.84	7.0		
3.5	0.96	0.84	7.5		
4.0	1.08	0.90	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.84	0.84	1.2543	0.9556
CBR Value (%)	6.3	6.3	6.2	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	6.3			



California Bearing Ratio

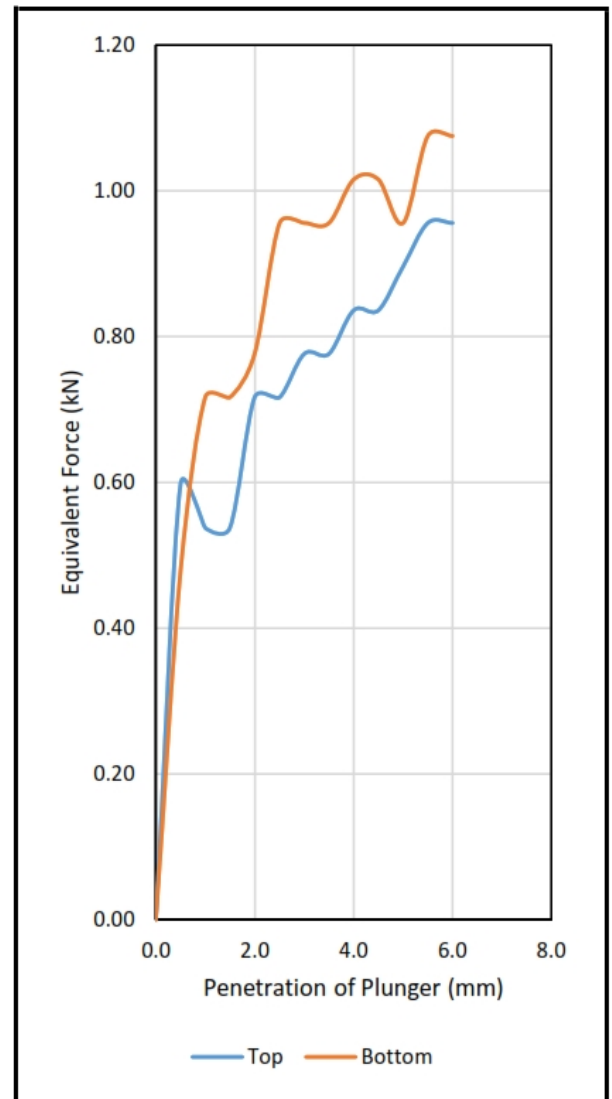
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7-1 TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	95	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1905 kg/m ³	Target OMC	11 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
4.17 %	4 %	4.085 %		6.915 %		CBR at:
Mass of water to be added (ml)	=	Mass of Soil (g)	x	Diff. in MC	=	2.5 mm
		4897	x	0.06915	=	5.0 mm
		(100 + present MC)		338.62755 ml		Swell
						7.2 %
						4.7 %
						0.75 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.22
Final Dial Reading (mm)	5.10
Difference (mm)	0.88
Percentage Swell	0.75

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.60	0.48	4.5	0.84	1.02
1.0	0.54	0.72	5.0	0.90	0.96
1.5	0.54	0.72	5.5	0.96	1.08
2.0	0.72	0.78	6.0	0.96	1.08
2.5	0.72	0.96	6.5	0.96	1.08
3.0	0.78	0.96	7.0		
3.5	0.78	0.96	7.5		
4.0	0.84	1.02	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.72	0.96	0.8959	0.9556
CBR Value (%)	5.4	7.2	4.4	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	7.2			



California Bearing Ratio

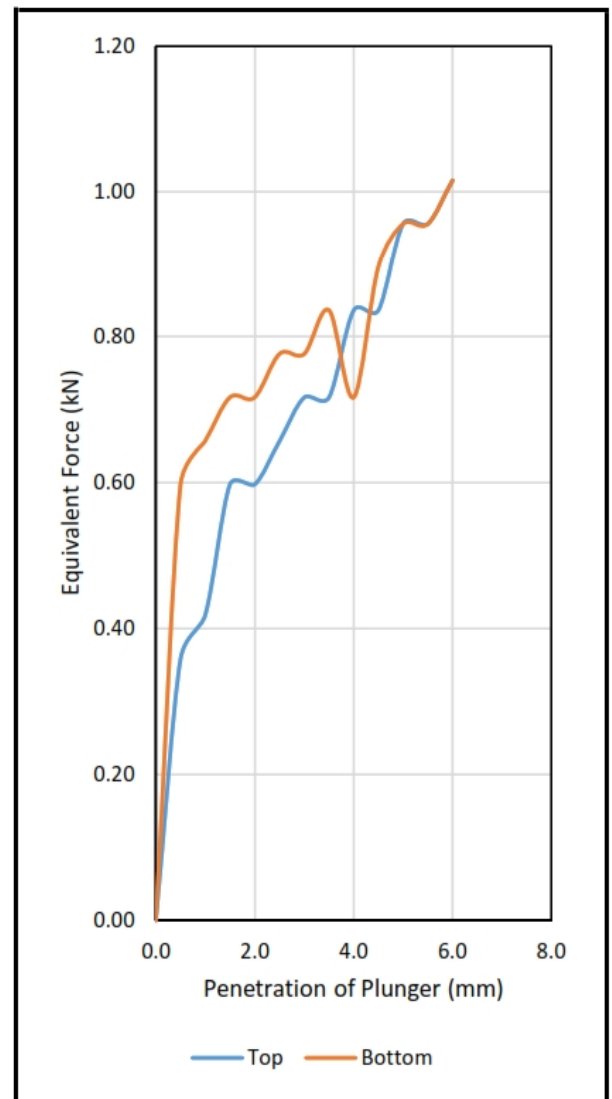
Project	Pavement Investigation	Technician	Stephen	Survey Point	H6 TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	95	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1918 kg/m ³	Target OMC	9 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
3.24 %	4 %	3.62 %		5.38 %		1820 kg/m ³
Mass of water to be added (ml) =		Mass of Soil (g)	x	Diff. in MC		2.5 mm
		4841	x	0.0538	=	5.0 mm
		(100 + present MC)				Swell
				260.4458 ml		5.9 %
						4.7 %
						0.64 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	2.65
Final Dial Reading (mm)	3.40
Difference (mm)	0.75
Percentage Swell	0.64

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.36	0.60	4.5	0.84	0.90
1.0	0.42	0.66	5.0	0.96	0.96
1.5	0.60	0.72	5.5	0.96	0.96
2.0	0.60	0.72	6.0	1.02	1.02
2.5	0.66	0.78	6.5	0.96	1.02
3.0	0.72	0.78	7.0		
3.5	0.72	0.84	7.5		
4.0	0.84	0.72	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.66	0.78	0.9556	0.9556
CBR Value (%)	5.0	5.9	4.7	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.9			



California Bearing Ratio

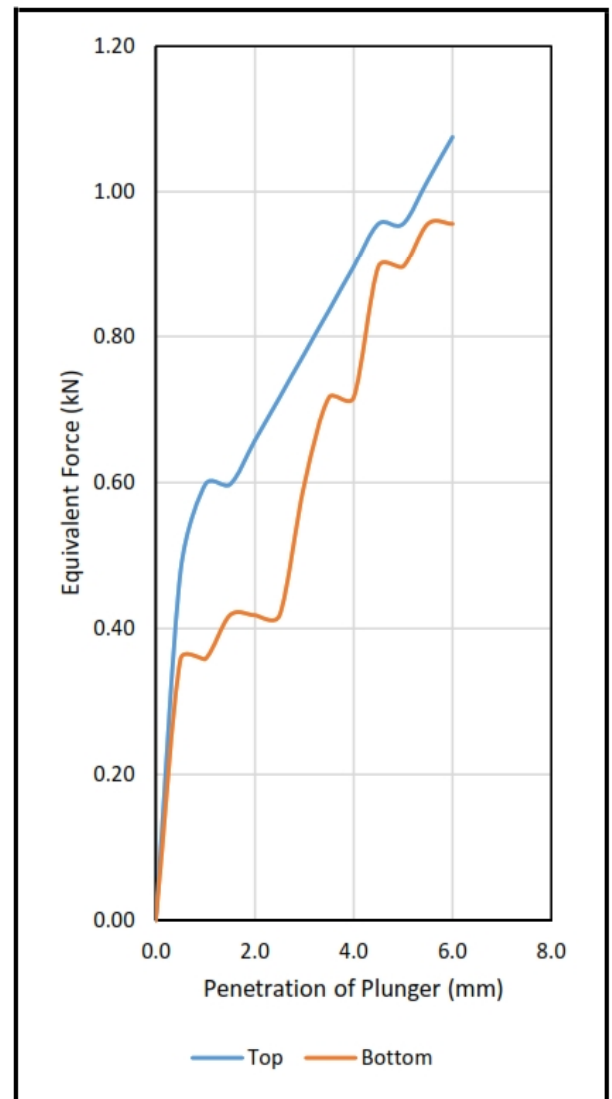
Project	Pavement Investigation	Technician	Stephen	Survey Point	H6 TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	95	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1870 kg/m ³	Target OMC	9 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
4.45 %	4.2 %	4.325 %		4.675 %		CBR at:
Mass of water to be added (ml)	=	Mass of Soil (g)	x	Diff. in MC		2.5 mm
		4720	x	0.04675	=	220.66 ml
(100 + present MC)						5.0 mm
						Swell
						5.4 %
						4.7 %
						0.58 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	7.20
Final Dial Reading (mm)	7.88
Difference (mm)	0.68
Percentage Swell	0.58

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.48	0.36	4.5	0.96	0.90
1.0	0.60	0.36	5.0	0.96	0.90
1.5	0.60	0.42	5.5	1.02	0.96
2.0	0.66	0.42	6.0	1.08	0.96
2.5	0.72	0.42	6.5	1.08	0.96
3.0	0.78	0.60	7.0		
3.5	0.84	0.72	7.5		
4.0	0.90	0.72	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.72	0.42	0.9556	0.8959
CBR Value (%)	5.4	3.2	4.7	4.4
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	5.4			



California Bearing Ratio

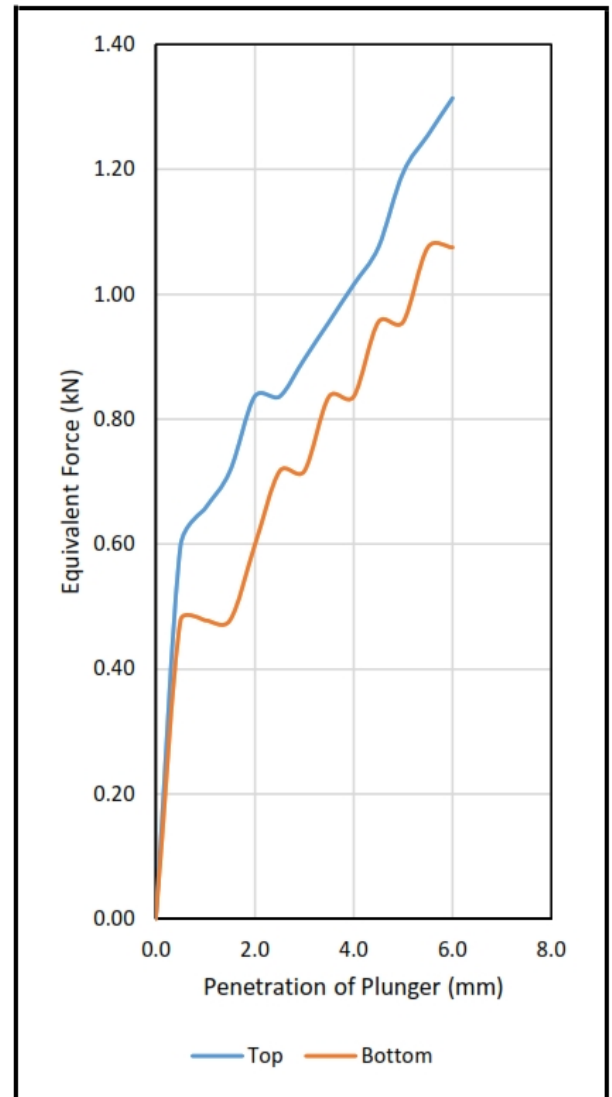
Project	Pavement Investigation	Technician	Stephen	Survey Point	H6 TP3
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	97	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1837 kg/m ³	Target OMC	9 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
1 %	1.5 %	1.25 %		7.75 %		1790 kg/m ³
Mass of water to be added (ml) =		Mass of Soil (g)	x	Diff. in MC		2.5 mm
		4637	x	0.0775	=	359.3675 ml
		(100 + present MC)				5.0 mm
						Swell
						6.3 %
						5.9 %
						0.46 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	6.66
Final Dial Reading (mm)	7.20
Difference (mm)	0.54
Percentage Swell	0.46

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.60	0.48	4.5	1.08	0.96
1.0	0.66	0.48	5.0	1.19	0.96
1.5	0.72	0.48	5.5	1.25	1.08
2.0	0.84	0.60	6.0	1.31	1.08
2.5	0.84	0.72	6.5	1.31	1.08
3.0	0.90	0.72	7.0		
3.5	0.96	0.84	7.5		
4.0	1.02	0.84	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.84	0.72	1.1945	0.9556
CBR Value (%)	6.3	5.4	5.9	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	6.3			



California Bearing Ratio

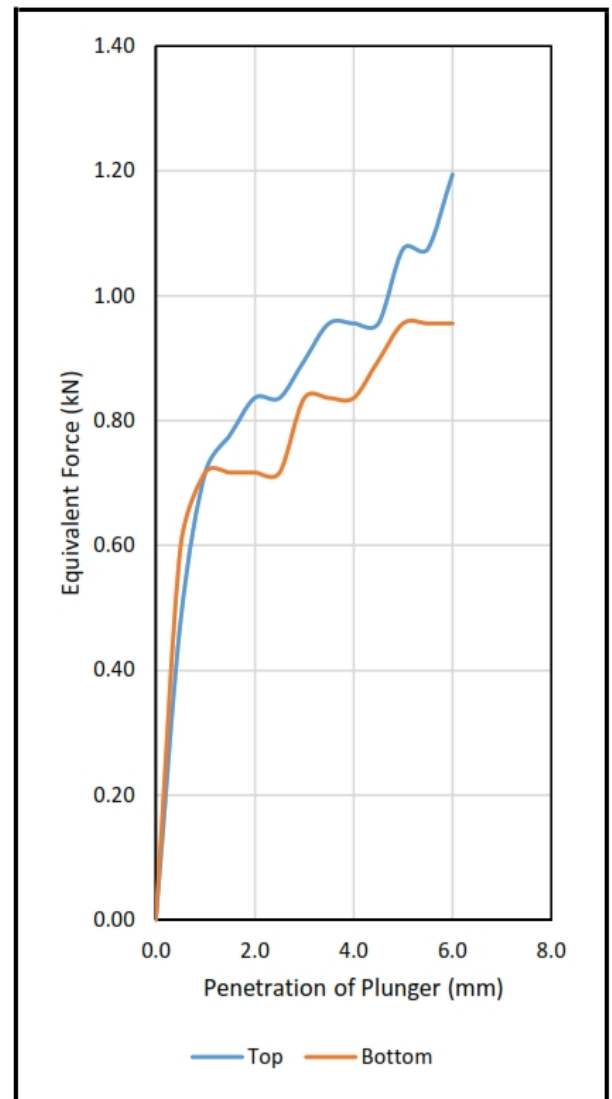
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7-4 TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	95	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1943 kg/m ³	Target OMC	11 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
4.99 %	5 %	4.995 %		6.005 %		10 %
Mass of water to be added (ml) =						CBR at:
Mass of Soil (g)		x	Diff. in MC			2.5 mm
4994		x	0.06005			5.0 mm
			=		299.8897 ml	Swell
		(100 + present MC)				6.3 %
						5.3 %
						0.47 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	4.60
Final Dial Reading (mm)	5.15
Difference (mm)	0.55
Percentage Swell	0.47

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.48	0.60	4.5	0.96	0.90
1.0	0.72	0.72	5.0	1.08	0.96
1.5	0.78	0.72	5.5	1.08	0.96
2.0	0.84	0.72	6.0	1.19	0.96
2.5	0.84	0.72	6.5	1.19	1.02
3.0	0.90	0.84	7.0		
3.5	0.96	0.84	7.5		
4.0	0.96	0.84	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.84	0.72	1.0751	0.9556
CBR Value (%)	6.3	5.4	5.3	4.7
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	6.3			



California Bearing Ratio

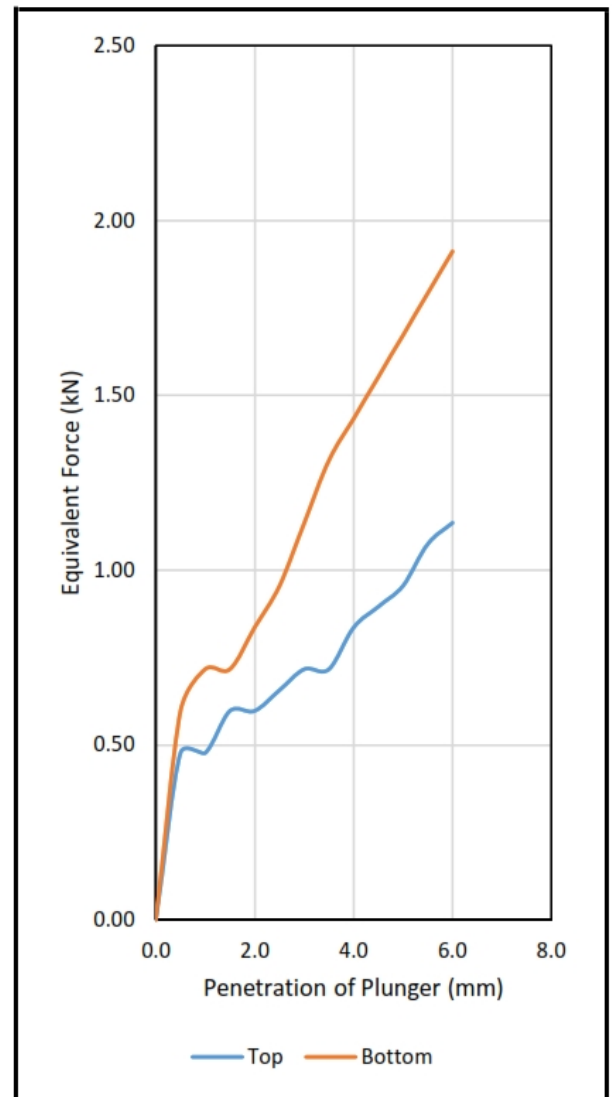
Project	Pavement Investigation	Technician	Stephen	Survey Point	A7-4 TP2
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90					
Compaction Method:	Standard	Density in % of MDD:	96	Soaking Days:	4	ACTUAL
Proving Ring No.:	1	Target MDD	1921 kg/m ³	Target OMC	13 %	DD
Present MC Values		Mean Present MC		Difference in MC		MC
1.89 %	4 %	2.945 %		10.055 %		CBR at:
Mass of water to be added (ml) =		Mass of Soil (g) x		Diff. in MC x		2.5 mm
						5.0 mm
						Swell
		4982		0.10055		7.2 %
				= 500.9401 ml		8.3 %
		(100 + present MC)				0.33 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	5.60
Final Dial Reading (mm)	5.98
Difference (mm)	0.38
Percentage Swell	0.33

TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.48	0.60	4.5	0.90	1.55
1.0	0.48	0.72	5.0	0.96	1.67
1.5	0.60	0.72	5.5	1.08	1.79
2.0	0.60	0.84	6.0	1.13	1.91
2.5	0.66	0.96	6.5	1.13	2.03
3.0	0.72	1.13	7.0		
3.5	0.72	1.31	7.5		
4.0	0.84	1.43	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	0.66	0.96	0.9556	1.6724
CBR Value (%)	5.0	7.2	4.7	8.3
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	8.3			



California Bearing Ratio

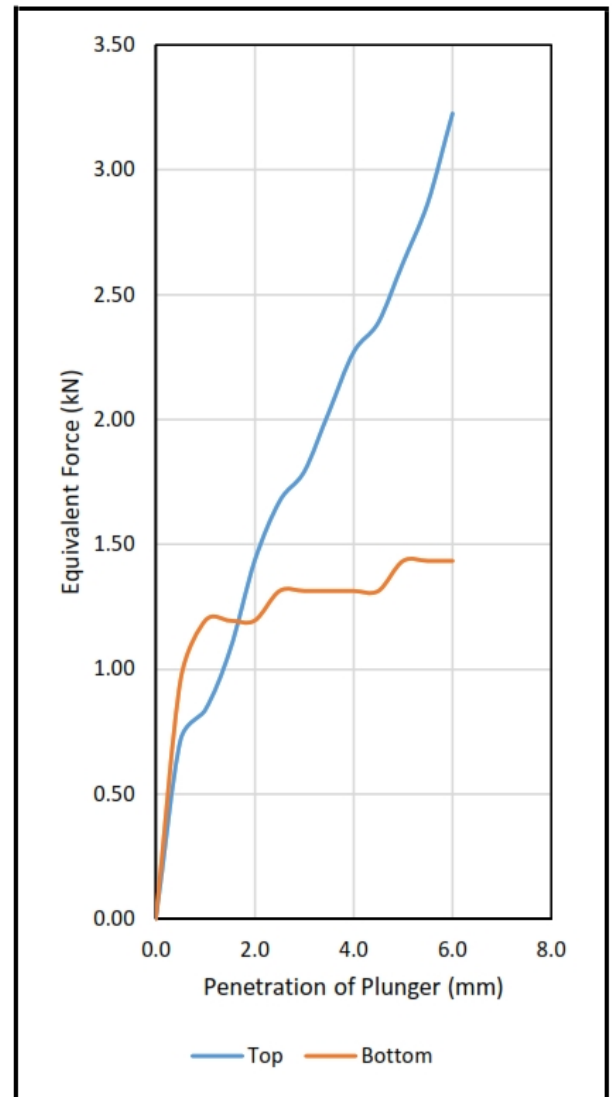
Project	Pavement Investigation	Technician	Stephen	Survey Point	L5 TP1
Client	Nippon Koei Co. Ltd	Checked	Lenana	Depth	1.00 m
Location	Mombasa County	Approved	Adede	Date	24/2/2022

Test Method	BS 1377-4:90				
Compaction Method:	Standard	Density in % of MDD:	96	Soaking Days:	4
Proving Ring No.:	1	Target MDD	1831 kg/m ³	Target OMC	11 %
Present MC Values		Mean Present MC		Difference in MC	MC
2.96 %	3 %	2.98 %	8.02 %	CBR at:	
Mass of water to be added (ml) =		Mass of Soil (g)	x	Diff. in MC	
		4707	x	0.0802	=
		(100 + present MC)		377.5014	ml
				2.5 mm	12.7 %
				5.0 mm	13.0 %
				Swell	0.57 %

SWELL	
Initial Height of Sample (mm)	116.60
Initial Dial Reading (mm)	6.50
Final Dial Reading (mm)	7.16
Difference (mm)	0.66
Percentage Swell	0.57

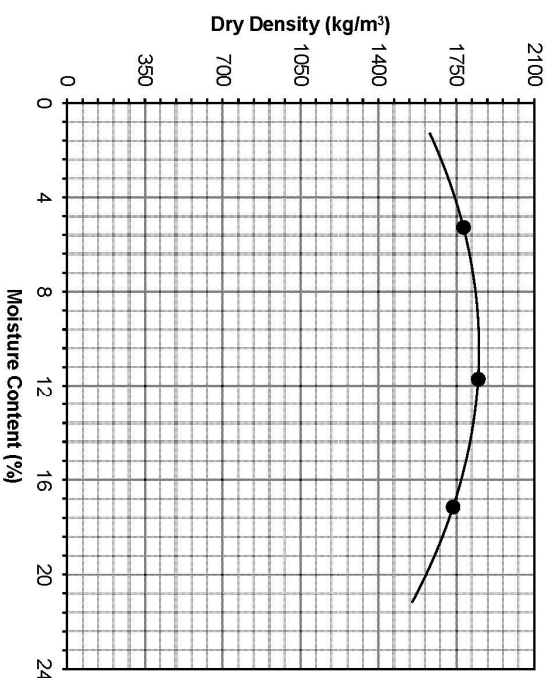
TESTING					
Penetration of Plunger (mm)	Force (kN)		Penetration of Plunger (mm)	Force (kN)	
	Top	Bot.		Top	Bot.
0.5	0.72	0.96	4.5	2.39	1.31
1.0	0.84	1.19	5.0	2.63	1.43
1.5	1.08	1.19	5.5	2.87	1.43
2.0	1.43	1.19	6.0	3.23	1.43
2.5	1.67	1.31	6.5	3.23	1.55
3.0	1.79	1.31	7.0		
3.5	2.03	1.31	7.5		
4.0	2.27	1.31	8.0		

CALCULATION OF CBR %				
Penetration	2.5 mm		5.0 mm	
	Top	Bot.	Top	Bot.
Equivalent kN	1.67	1.31	2.628	1.4335
CBR Value (%)	12.7	10.0	13.0	7.1
	$\times \frac{100}{13.2}$		$\times \frac{100}{20.2}$	
Reported CBR %	13.0			



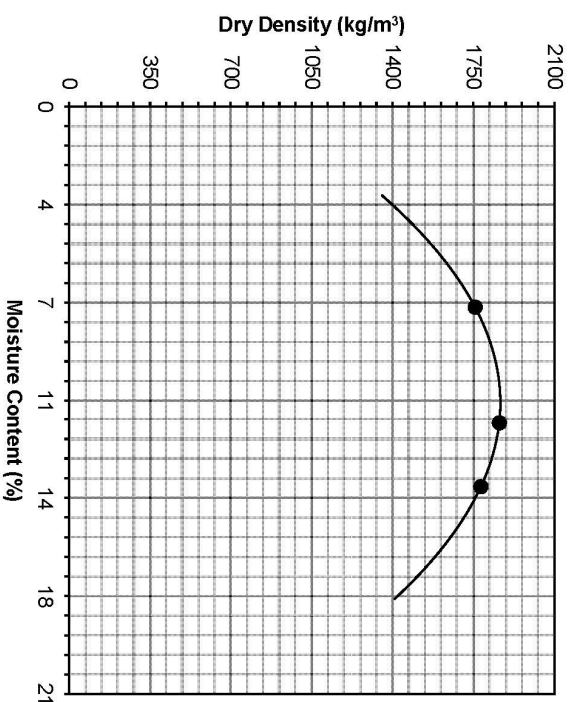
Standard Proctor Compaction (BS Light)

Pavement Investigation									
Project									
Client		Nippon Koel Co. Ltd							
Location		Mombasa County							
Delivered on		Sampling Point		ATR-3 TP1		Depth (m)		1.00 m	
Test Date		22/2/2022		Sample No.				Code	
								BS 1377.4: 1990	
Wt. of Mould (g)		2904		Volume of Mould (g)		1		Rammer Weight (kg)	
Test No		NMC		1		2		3	
Wt. of mould + wet material (g)				4698		4879		4848	
Wt. wet material (g)				1794		1975		1944	
Bulk density (kg/m ³)				1877		2066		2033	
Moisture content									
Container No		XX		R4		BEL		RR	
Wt. of container + wet material (g)		115.20		119.10		101.80		168.12	
Wt. of container (g)		36.50		27.30		28.40		31.40	
Wt. of container + dry material (g)		113.40		114.50		94.10		148.10	
Wt. dry material (g)		76.90		87.20		66.70		116.70	
Wt. of moisture (g)		1.80		4.60		7.70		20.02	
Moisture content (%)		2.34		5.28		11.72		17.16	
Dry density (kg/m ³)				1783		1849		1736	
Optimum Moisture Content (%).		10		Remarks					
Maximum Dry Density (kg/m ³).		1853							
Av. Bulk Density (kg/m ³).		1992							
Av. Bulk Unit Weight (KN/m ³)		19.5		Tested Stephen Checked Lenana Approved D. Adede Date 11/3/2022 ----- David Adede (Director)					



Standard Proctor Compaction (BS Light)

Project		Pavement Investigation			
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on		Sampling Point	A8-2 TP1		Depth (m)
Test Date	23/2/2022	Sample No.		Code	BS 1377-4: 1990
Wt. of Mould (g)	2904	Volume of Mould (g)	1	Rammer Weight (kg)	2.5
Test No	NMC	1	2	3	
Wt. of mould + wet material (g)	4705	4886	4840		
Wt. wet material (g)	1801	1982	1936		
Bulk density (kg/m³)	1884	2073	2025		
Moisture content					
Container No	RR	OK	NB	CL	
Wt. of container + wet material (g)	115.80	131.10	105.80	158.90	
Wt. of container (g)	37.60	27.90	32.10	34.50	
Wt. of container + dry material (g)	113.50	124.20	98.30	144.00	
Wt. dry material (g)	75.90	96.30	66.20	109.50	
Wt. of moisture (g)	2.30	6.90	7.50	14.90	
Moisture content (%)	3.03	7.17	11.33	13.61	
Dry density (kg/m³)	1758	1862	1783		
Optimum Moisture Content (%)	11	Remarks			
Maximum Dry Density (kg/m³)	1866				
Av. Bulk Density (kg/m³)	1994				
Av. Bulk Unit Weight (kN/m³)	19.6				
		Tested	Stephen	----- David Adele (Director)	
		Checked	Lenana		
		Approved	D. Adele		
		Date	11/3/2022		



Standard Proctor Compaction (BS Light)

Project		Pavement Investigation			
Client		Nippon Koei Co. Ltd			
Location		Mombasa County			
Delivered on		Sampling Point	M2 TP1	Depth (m)	1.00 m
Test Date	23/2/2022	Sample No.		Code	BS 1377.4: 1990

Wt. of Mould (g)	2904	Volume of Mould (g)	1	Rammer Weight (kg)	2.5
Test No	NMC	1	2	3	
Wt. of mould + wet material (g)		4761	4848	4818	
Wt. wet material (g)		1857	1944	1914	
Bulk density (kg/m³)		1942	2033	2002	

Moisture content					
Container No	15	20	OM	68	
Wt. of container + wet material (g)	136.90	103.90	158.20	164.60	
Wt. of container (g)	45.10	36.00	42.20	45.90	
Wt. of container + dry material (g)	135.20	99.20	148.20	151.20	
Wt. dry material (g)	90.10	63.20	106.00	105.30	
Wt. of moisture (g)	1.70	4.70	10.00	13.40	
Moisture content (%)	1.89	7.44	9.43	12.73	
Dry density (kg/m³)		1808	1858	1776	

Optimum Moisture Content (%)	10	Remarks	Tested	Stephen	David Adede (Director)
Maximum Dry Density (kg/m³).	1854		Checked	Lenana	
Av. Bulk Density (kg/m³).	1993		Approved	D. Adede	
Av. Bulk Unit Weight (KN/m³)	19.5		Date	11/3/2022	

Dry Density (kg/m³)

Moisture Content (%)

Tested	Stephen
Checked	Lenana
Approved	D. Adede
Date	11/3/2022

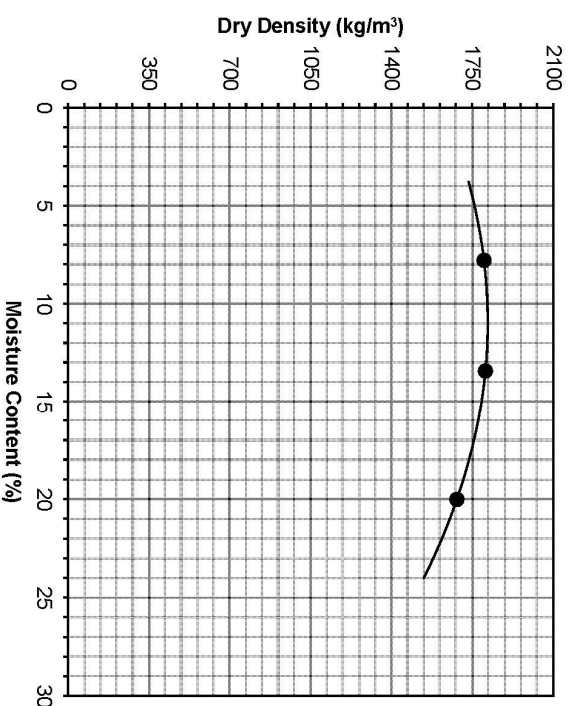
Standard Proctor Compaction (BS Light)

Project		Pavement Investigation			
Client		Nippon Koei Co. Ltd			
Location		Mombasa County			
Delivered on		Sampling Point	M2 TP2	Depth (m)	1.00 m
Test Date	23/2/2022	Sample No.		Code	BS 1377.4: 1990

Wt. of Mould (g)	2904	Volume of Mould (g)	1	Rammer Weight (kg)	2.5
Test No	NMC	1	2	3	
Wt. of mould + wet material (g)		4760	4864	4836	
Wt. wet material (g)		1856	1960	1932	
Bulk density (kg/m³)		1941	2050	2021	

Moisture content					
Container No	TK	19	R5	NB	
Wt. of container + wet material (g)	117.10	185.30	129.20	138.30	
Wt. of container (g)	36.20	42.70	27.10	32.20	
Wt. of container + dry material (g)	115.00	175.00	117.10	120.60	
Wt. dry material (g)	78.80	132.30	90.00	88.40	
Wt. of moisture (g)	2.10	10.30	12.10	17.70	
Moisture content (%)	2.66	7.79	13.44	20.02	
Dry density (kg/m³)		1801	1807	1684	

Optimum Moisture Content (%)	11	Remarks	Tested	Stephen	David Adede (Director)
Maximum Dry Density (kg/m³)	1817		Checked	Lenana	
Av. Bulk Density (kg/m³)	2004		Approved	D. Adede	
Av. Bulk Unit Weight (KN/m³)	19.7		Date	11/3/2022	



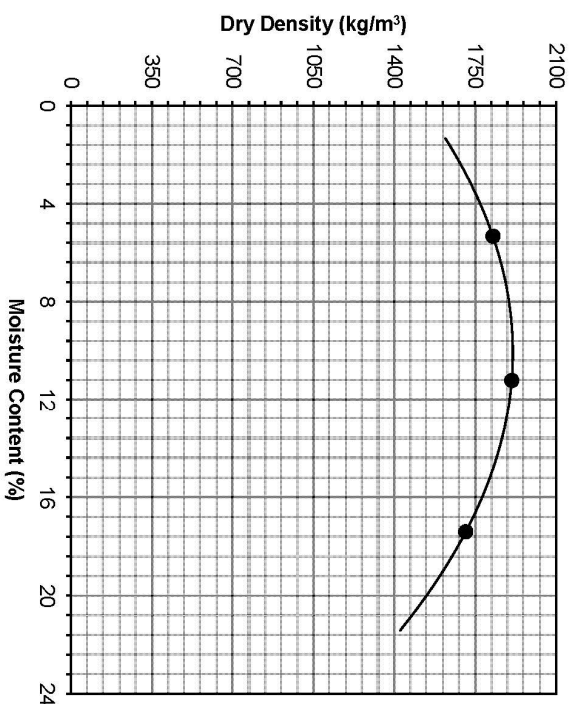
Standard Proctor Compaction (BS Light)

Project		Pavement Investigation			
Client		Nippon Koei Co. Ltd			
Location		Mombasa County			
Delivered on		Sampling Point	M2 TP3	Depth (m)	1.00 m
Test Date	22/2/2022	Sample No.		Code	BS 1377-4: 1990

Wt. of Mould (g)	3328	Volume of Mould (g)	1	Rammer Weight (kg)	2.5
Test No	NMC	1	2	3	
Wt. of mould + wet material (g)	5168	5358	5247		
Wt. wet material (g)	1840	2030	1919		
Bulk density (kg/m³)	1925	2123	2008		

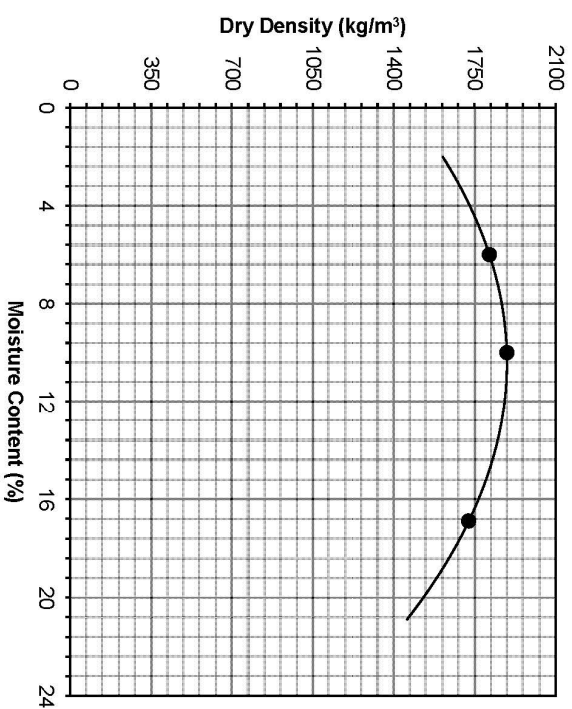
Moisture content					
Container No	TK	Y3	6	68	
Wt. of container + wet material (g)	182.10	115.50	143.00	181.20	
Wt. of container (g)	36.10	44.30	42.90	45.70	
Wt. of container + dry material (g)	180.50	111.90	132.90	161.10	
Wt. dry material (g)	144.40	67.60	90.00	115.40	
Wt. of moisture (g)	1.60	3.60	10.10	20.10	
Moisture content (%)	1.11	5.33	11.22	17.42	
Dry density (kg/m³)	1827	1909	1710		

Optimum Moisture Content (%)	10	Remarks		Tested	Stephen	David Adele (Director)
Maximum Dry Density (kg/m³)	1914			Checked	Lenana	
Av. Bulk Density (kg/m³)	2019			Approved	D. Adele	
Av. Bulk Unit Weight (kN/m³)	19.8			Date	11/3/2022	



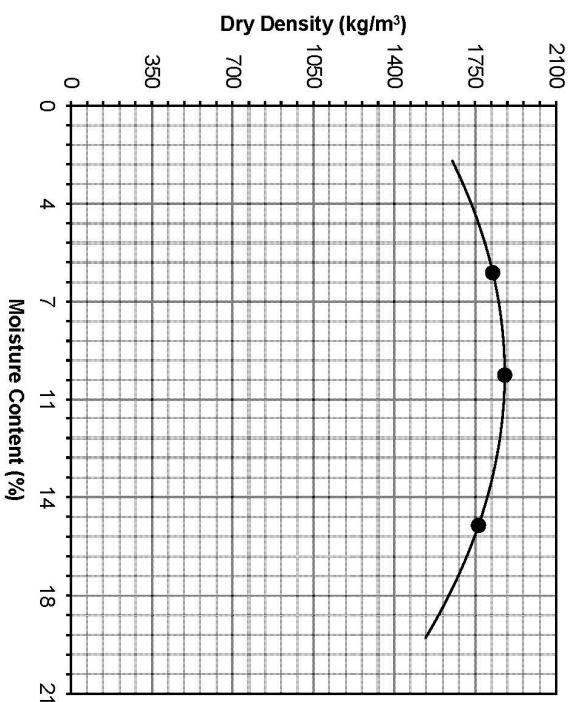
Standard Proctor Compaction (BS Light)

Pavement Investigation																																	
Project	Nippon Koei Co. Ltd																																
Client	Mombasa County																																
Location	H1 TP2																																
Delivered on	Sampling Point	Depth (m)	1.00 m																														
Test Date	Sample No.	Code	BS 1377.4: 1990																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Wt. of Mould (g)</td> <td>2904</td> <td>Volume of Mould (g)</td> <td>1</td> <td>Rammer Weight (kg)</td> <td>2.5</td> </tr> <tr> <td>Test No</td> <td>NMC</td> <td>1</td> <td>2</td> <td>3</td> <td></td> </tr> <tr> <td>Wt. of mould + wet material (g)</td> <td>4743</td> <td>4892</td> <td>4832</td> <td></td> <td></td> </tr> <tr> <td>Wt. wet material (g)</td> <td>1839</td> <td>1988</td> <td>1928</td> <td></td> <td></td> </tr> <tr> <td>Bulk density (kg/m³)</td> <td>1924</td> <td>2079</td> <td>2017</td> <td></td> <td></td> </tr> </table>				Wt. of Mould (g)	2904	Volume of Mould (g)	1	Rammer Weight (kg)	2.5	Test No	NMC	1	2	3		Wt. of mould + wet material (g)	4743	4892	4832			Wt. wet material (g)	1839	1988	1928			Bulk density (kg/m ³)	1924	2079	2017		
Wt. of Mould (g)	2904	Volume of Mould (g)	1	Rammer Weight (kg)	2.5																												
Test No	NMC	1	2	3																													
Wt. of mould + wet material (g)	4743	4892	4832																														
Wt. wet material (g)	1839	1988	1928																														
Bulk density (kg/m ³)	1924	2079	2017																														
Moisture content																																	
Container No	R5	22	XX	9LV																													
Wt. of container + wet material (g)	112.60	138.70	133.40	144.90																													
Wt. of container (g)	27.30	38.10	36.60	34.90																													
Wt. of container + dry material (g)	110.00	133.00	124.60	129.00																													
Wt. dry material (g)	82.70	94.90	88.00	94.10																													
Wt. of moisture (g)	2.60	5.70	8.80	15.90																													
Moisture content (%)	3.14	6.01	10.00	16.90																													
Dry density (kg/m ³)	1815	1890	1725																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Optimum Moisture Content (%).</td> <td>10</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">Remarks</td> </tr> <tr> <td>Maximum Dry Density (kg/m³).</td> <td>1890</td> </tr> <tr> <td>Av. Bulk Density (kg/m³).</td> <td>2007</td> </tr> <tr> <td>Av. Bulk Unit Weight (KN/m³)</td> <td>19.7</td> <td></td> </tr> </table>						Optimum Moisture Content (%).	10	Remarks	Maximum Dry Density (kg/m ³).	1890	Av. Bulk Density (kg/m ³).	2007	Av. Bulk Unit Weight (KN/m ³)	19.7																			
Optimum Moisture Content (%).	10	Remarks																															
Maximum Dry Density (kg/m ³).	1890																																
Av. Bulk Density (kg/m ³).	2007																																
Av. Bulk Unit Weight (KN/m ³)	19.7																																
Tested		Stephen	David Adele (Director)																														
Checked		Lenana																															
Approved		D. Adele																															
Date		11/3/2022																															



Standard Proctor Compaction (BS Light)

Pavement Investigation											
Project											
Client		Nippon Koei Co. Ltd									
Location		Mombasa County									
Delivered on		Sampling Point		H1 TP3		Depth (m)		1.00 m			
Test Date		23/2/2022		Sample No.		Code		BS 1377-4: 1990			
Wt. of Mould (g)		2904		Volume of Mould (g)		1		Rammer Weight (kg)		2.5	
Test No		NMC		1		2		3			
Wt. of mould + wet material (g)		4755		4873		4845					
Wt. wet material (g)		1851		1969		1941					
Bulk density (kg/m ³)		1936		2060		2030					
Moisture content											
Container No		RR		R7		OK		N			
Wt. of container + wet material (g)		84.80		141.60		162.00		188.50			
Wt. of container (g)		31.40		27.90		27.60		32.90			
Wt. of container + dry material (g)		83.40		135.20		150.20		168.20			
Wt. dry material (g)		52.00		107.30		122.60		135.30			
Wt. of moisture (g)		1.40		6.40		11.80		20.30			
Moisture content (%)		2.69		5.96		9.62		15.00			
Dry density (kg/m ³)		1827		1879		1765					
Optimum Moisture Content (%)											
Optimum Moisture Content (%)		10		Remarks							
Maximum Dry Density (kg/m ³).		1878									
Av. Bulk Density (kg/m ³).		2009									
Av. Bulk Unit Weight (kN/m ³)		19.7		Tested Stephen Checked Lenana Approved D. Adele Date 11/3/2022 ----- David Adele (Director)							



Standard Proctor Compaction (BS Light)

Project		Pavement Investigation			
Client	Nippon Koei Co. Ltd				
Location	Mombasa County				
Delivered on		Sampling Point	A7-1 TP3		Depth (m)
Test Date	22/2/2022	Sample No.		Code	BS 1377-4: 1990
Wt. of Mould (g)	2904	Volume of Mould (g)	1	Rammer Weight (kg)	2.5
Test No	NMC	1	2	3	
Wt. of mould + wet material (g)	4768	4933	4810		
Wt. wet material (g)	1864	2029	1906		
Bulk density (kg/m³)	1950	2122	1994		
Moisture content					
Container No	DK	NB	SK	R7	
Wt. of container + wet material (g)	167.20	114.20	141.40	140.20	
Wt. of container (g)	44.90	32.10	43.40	27.90	
Wt. of container + dry material (g)	162.30	107.90	130.00	125.10	
Wt. dry material (g)	117.40	75.80	86.60	97.20	
Wt. of moisture (g)	4.90	6.30	11.40	15.10	
Moisture content (%)	4.17	8.31	13.16	15.53	
Dry density (kg/m³)	1800	1875	1726		
Optimum Moisture Content (%)	11	Remarks			
Maximum Dry Density (kg/m³)	1905				
Av. Bulk Density (kg/m³)	2022				
Av. Bulk Unit Weight (kN/m³)	19.8				

Dry Density (kg/m³)

Moisture Content (%)

Tested	Stephen	----- David Adele (Director)
Checked	Lenana	
Approved	D. Adele	
Date	11/3/2022	