

Appendix D2 Dynamic Probing Results

Date of Test:	21-May-21
Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

Depth (m)	Blow Count
0.0	0
0.2	2
0.4	5
0.6	10
0.8	15
1.0	20
1.2	25
1.4	30
1.6	35
1.8	40
2.0	42
2.2	45
2.4	48
2.6	50
2.8	52
3.0	54
3.2	55
3.4	56

Figure 10 is a line graph titled "Estimated CBR (%) versus Depth (m)". The x-axis represents "Estimated CBR (%)" ranging from 0 to 60. The y-axis represents "Depth (m)" ranging from 0.0 to 3.5. Two data series are plotted: "Estimated CBR1" (solid black line with diamond markers) and "Estimated CBR2" (dashed red line with open circle markers). Both series show a general trend of increasing CBR with depth, with CBR1 generally higher than CBR2 in the upper 2.5 meters and CBR2 higher than CBR1 in the lower 0.5 meters.

Depth (m)	Estimated CBR1 (%)	Estimated CBR2 (%)
0.0	~1	~1
0.2	~1	~1
0.4	~1	~1
0.6	~1	~1
0.8	~1	~1
1.0	~1	~1
1.2	~1	~1
1.4	~1	~1
1.6	~1	~1
1.8	~1	~1
2.0	~1	~1
2.2	~1	~1
2.4	~1	~1
2.6	~1	~1
2.8	~1	~1
3.0	~1	~1
3.2	~1	~1
3.4	~1	~1

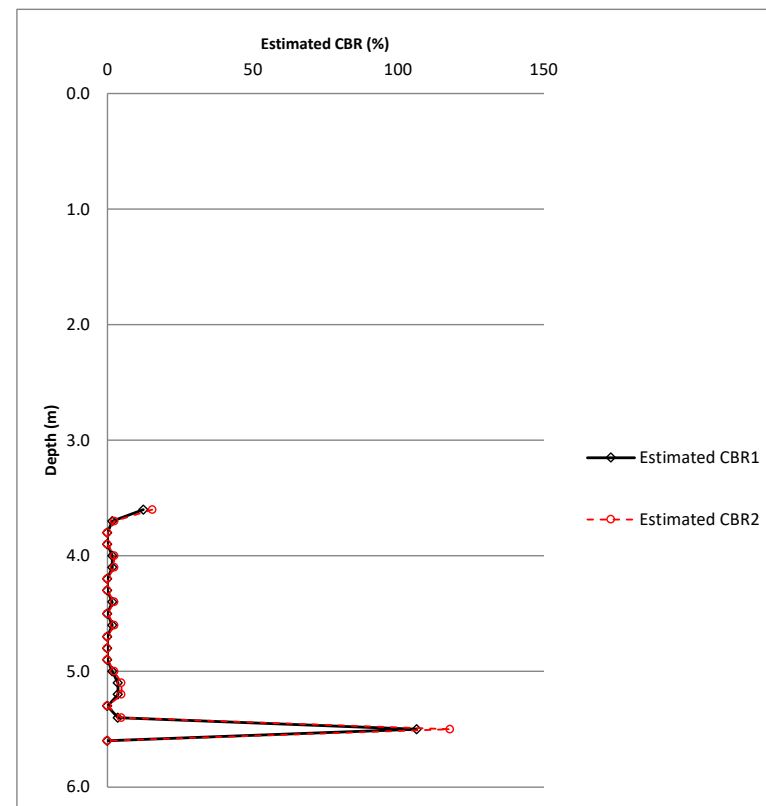
Reference:

- Webster S, Grau R and Williams T. 1992. Description and Application of Dual Mass Dynamic Cone Penetrometer. Dept of Army Waterways Equipment Station, Instruction rpt GL-92-3.
- Highways Agency, 2008. Design Manual for Roads and Bridges (DMRB), Data for Pavement Assessment. HD29/08.

Date of Test:	21-May-21
Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

Figure 1 is a scatter plot with a connecting line showing the blow count profile for the test pile. The vertical axis represents Depth in meters (m), ranging from 0.0 to 6.0. The horizontal axis represents the Blow Count, ranging from 0 to 60. The data points, marked with red 'x's, show a sharp increase in blow count between 3.5m and 4.0m depth, followed by a relatively constant blow count of approximately 50 between 4.0m and 5.5m depth. A dashed red line connects the data points.

Depth (m)	Blow Count
3.5	10
3.6	15
3.7	20
3.8	25
3.9	30
4.0	35
4.1	40
4.2	45
4.3	50
4.4	50
4.5	50
4.6	50
4.7	50
4.8	50
4.9	50
5.0	50
5.1	50
5.2	50
5.3	50
5.4	50
5.5	50
5.6	50
5.7	50
5.8	50
5.9	50
6.0	50



1. CBR calculated based on Webster et al, 1992.
2. CBR calculated based on DMRB, 2008.
3. CBR values less than 2.5% highlighted in red and bold. Soils unsuitable in pavements.

- Webster S, Grau R and Williams T. 1992. Description and Application of Dual Mass Dynamic Cone Penetrometer. Dept of Army Waterways Equipment Station, Instruction rpt GL-92-3.
- Highways Agency, 2008. Design Manual for Roads and Bridges (DMRB), Data for Pavement Assessment. HD29/08.

Project:	Cross Keys Lane, Hoyland	
Project No.	78794	
Test No.	DP103	

Date of Test:	21-May-21
Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

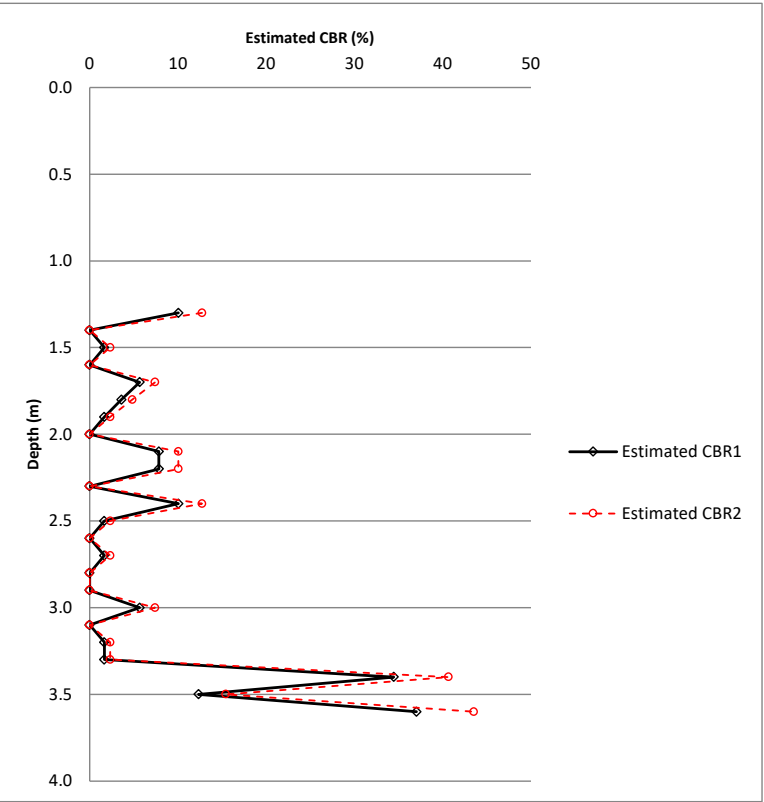
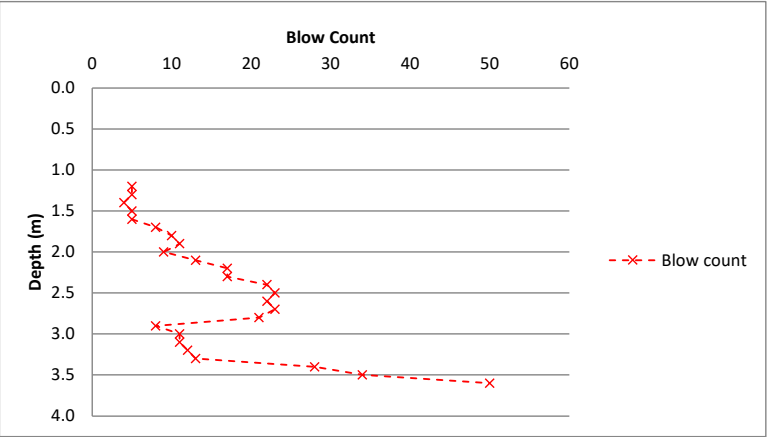
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Notes:

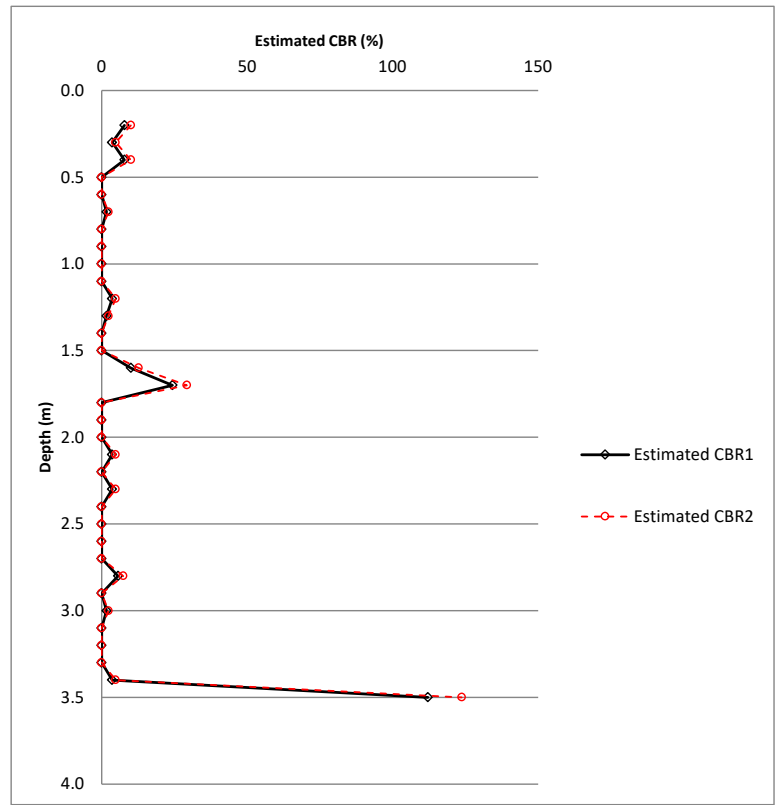
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Date of Test:	21-May-21
Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	



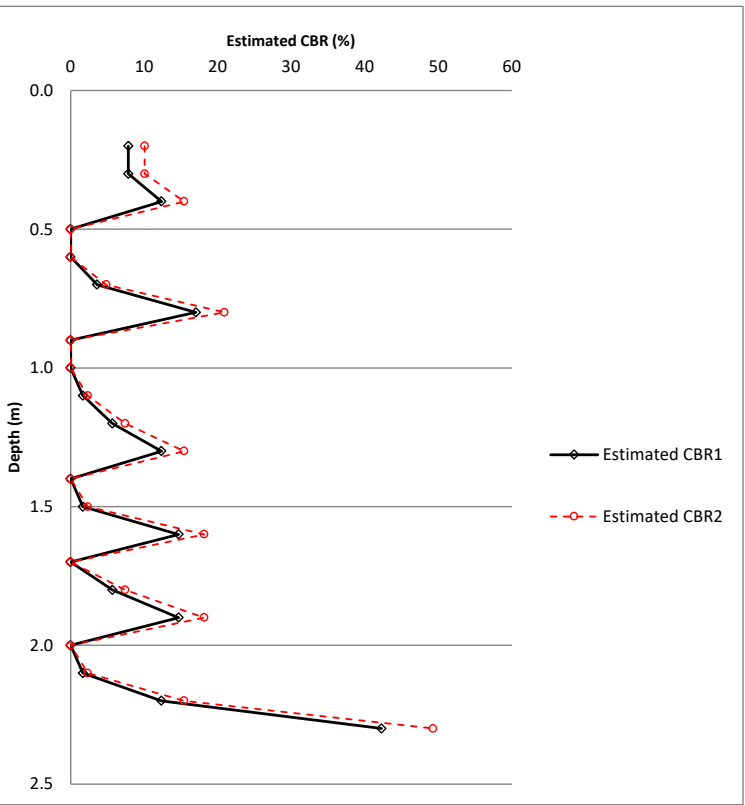
Blow count	Penetration (mm)	Penetration (m)	Penetration Index (DPI) mm/blow	log DPI	log CBR	Estimated CBR1 (%) ¹	log CBR	Estimated CBR2 (%) ²
3	100	0.1						
4	200	0.2	25.0	1.398	0.894	8	1.002	10
6	300	0.3	50.0	1.699	0.557	4	0.684	5
10	400	0.4	25.0	1.398	0.894	8	1.002	10
9	500	0.5	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
7	600	0.6	-50.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
8	700	0.7	100.0	2.000	0.220	2	0.366	2
8	800	0.8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
7	900	0.9	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
6	1000	1.0	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
3	1100	1.1	-33.3	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
5	1200	1.2	50.0	1.699	0.557	4	0.684	5
6	1300	1.3	100.0	2.000	0.220	2	0.366	2
5	1400	1.4	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
5	1500	1.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
10	1600	1.6	20.0	1.301	1.003	10	1.105	13
21	1700	1.7	9.1	0.959	1.386	24	1.467	29
16	1800	1.8	-20.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
5	1900	1.9	-9.1	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
5	2000	2.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
7	2100	2.1	50.0	1.699	0.557	4	0.684	5
6	2200	2.2	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
8	2300	2.3	50.0	1.699	0.557	4	0.684	5
7	2400	2.4	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
7	2500	2.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	2600	2.6	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
6	2700	2.7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	2800	2.8	33.3	1.523	0.754	6	0.870	7
7	2900	2.9	-50.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
8	3000	3.0	100.0	2.000	0.220	2	0.366	2
7	3100	3.1	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
6	3200	3.2	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
5	3300	3.3	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
7	3400	3.4	50.0	1.699	0.557	4	0.684	5
50	3500	3.5	2.3	0.367	2.049	112	2.093	124

Reference :

- Webster S, Grau R and Williams T. 1992. Description and Application of Dual Mass Dynamic Cone Penetrometer. Dept of Army Waterways Equipment Station, Instruction rpt GL-92-3.
- Highways Agency, 2008. Design Manual for Roads and Bridges (DMRB), Data for Pavement Assessment. HD29/08.

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Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

Depth (m)	Blow Count
0.1	0
0.2	2
0.3	5
0.4	8
0.5	10
0.6	12
0.7	15
0.8	18
0.9	20
1.0	22
1.1	25
1.2	28
1.3	30
1.4	32
1.5	35
1.6	38
1.7	40
1.8	42
1.9	45
2.0	48
2.1	50
2.2	52
2.3	55



1. CBR calculated based on Webster et al, 1992.
2. CBR calculated based on DMRB, 2008.
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B073416
New Nursery, University of York

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Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

Depth (m)	Blow Count
0.1	5
0.2	10
0.3	15
0.4	20
0.5	25
0.6	30
0.7	35
0.8	40
0.9	45
1.0	50
1.1	55
1.2	55
1.3	55
1.4	55
1.5	55
1.6	55
1.7	55
1.8	50
1.9	45
2.0	40

Estimated CBR (%)

Depth (m)

Estimated CBR1

Estimated CBR2

Depth (m)	Estimated CBR1 (%)	Estimated CBR2 (%)
0.0	0.0	0.0
0.1	0.0	0.0
0.2	0.0	0.0
0.3	0.0	0.0
0.4	0.0	0.0
0.5	0.0	0.0
0.6	0.0	0.0
0.7	0.0	0.0
0.8	0.0	0.0
0.9	0.0	0.0
1.0	0.0	0.0
1.1	0.0	0.0
1.2	0.0	0.0
1.3	0.0	0.0
1.4	0.0	0.0
1.5	0.0	0.0
1.6	0.0	0.0
1.7	0.0	0.0
1.8	0.0	0.0
1.9	0.0	0.0
2.0	0.0	0.0
2.1	0.0	0.0
2.2	0.0	0.0
2.3	0.0	0.0
2.4	0.0	0.0
2.5	0.0	0.0

Reference :

- Webster S, Grau R and Williams T. 1992. Description and Application of Dual Mass Dynamic Cone Penetrometer. Dept of Army Waterways Equipment Station, Instruction rpt GL-92-3.
- Highways Agency, 2008. Design Manual for Roads and Bridges (DMRB), Data for Pavement Assessment. HD29/08.

RESULTS OF DYNAMIC PROBE TESTING



Project:	Cross Keys Lane, Hoyland	
Project No.	78794	
Test No.	P102A	

Date of Test:	21-May-21
Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

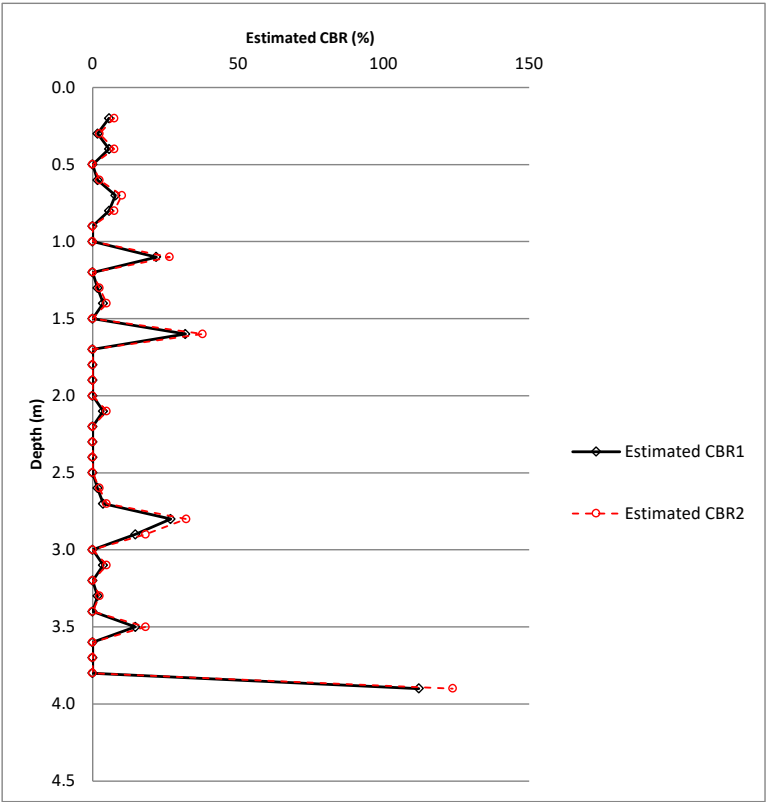
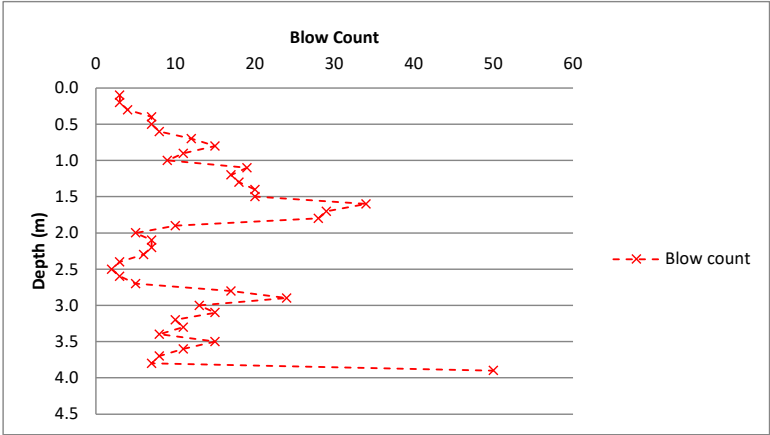
Blow count	Penetration (mm)	Penetration (m)	Penetration Index (DPI) mm/blow	log DPI	log CBR	Estimated CBR1 (%) ¹	log CBR	Estimated CBR2 (%) ²
3	100	0.1						
3	200	0.2	33.3	1.523	0.754	6	0.870	7
4	300	0.3	100.0	2.000	0.220	2	0.366	2
7	400	0.4	33.3	1.523	0.754	6	0.870	7
7	500	0.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
8	600	0.6	100.0	2.000	0.220	2	0.366	2
12	700	0.7	25.0	1.398	0.894	8	1.002	10
15	800	0.8	33.3	1.523	0.754	6	0.870	7
11	900	0.9	-25.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
9	1000	1.0	-50.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
19	1100	1.1	10.0	1.000	1.340	22	1.423	26
17	1200	1.2	-50.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
18	1300	1.3	100.0	2.000	0.220	2	0.366	2
20	1400	1.4	50.0	1.699	0.557	4	0.684	5
20	1500	1.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
34	1600	1.6	7.1	0.854	1.504	32	1.577	38
29	1700	1.7	-20.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
28	1800	1.8	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
10	1900	1.9	-5.6	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
5	2000	2.0	-20.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
7	2100	2.1	50.0	1.699	0.557	4	0.684	5
7	2200	2.2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	2300	2.3	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
3	2400	2.4	-33.3	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
2	2500	2.5	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
3	2600	2.6	100.0	2.000	0.220	2	0.366	2
5	2700	2.7	50.0	1.699	0.557	4	0.684	5
17	2800	2.8	8.3	0.921	1.429	27	1.507	32
24	2900	2.9	14.3	1.155	1.167	15	1.259	18
13	3000	3.0	-9.1	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
15	3100	3.1	50.0	1.699	0.557	4	0.684	5
10	3200	3.2	-20.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
11	3300	3.3	100.0	2.000	0.220	2	0.366	2
8	3400	3.4	-33.3	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
15	3500	3.5	14.3	1.155	1.167	15	1.259	18
11	3600	3.6	-25.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
8	3700	3.7	-33.3	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
7	3800	3.8	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
50	3900.0000	3.9	2.3	0.367	2.049	112	2.093	124

Notes:

1. CBR calculated based on Webster et al, 1992.
2. CBR calculated based on DMRB, 2008.
3. CBR values less than 2.5% highlighted in red and bold. Soils unsuitable in pavements.

Reference :

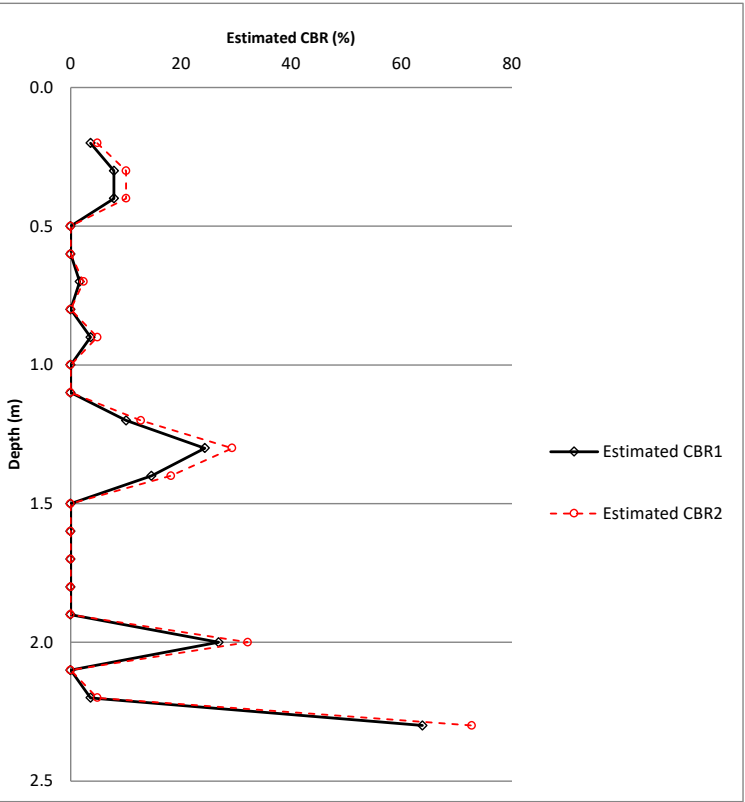
- Webster S, Grau R and Williams T. 1992. Description and Application of Dual Mass Dynamic Cone Penetrometer. Dept of Army Waterways Equipment Station, Instruction rpt GL-92-3.
- Highways Agency, 2008. Design Manual for Roads and Bridges (DMRB), Data for Pavement Assessment. HD29/08.



Date of Test:	21-May-21
Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

Figure 1 is a line graph showing the relationship between Blow Count (X-axis) and Depth (m) (Y-axis). The X-axis ranges from 0 to 60, and the Y-axis ranges from 0.0 to 2.5 m. The data points are connected by a dashed red line, and the legend indicates 'Blow count' with a red dashed line and 'x' markers.

Depth (m)	Blow Count
0.1	2
0.2	5
0.3	8
0.4	10
0.5	12
0.6	15
0.7	18
0.8	20
0.9	22
1.0	25
1.1	28
1.2	30
1.3	32
1.4	35
1.5	38
1.6	40
1.7	42
1.8	45
1.9	48
2.0	50
2.1	52
2.2	55
2.3	58
2.4	60

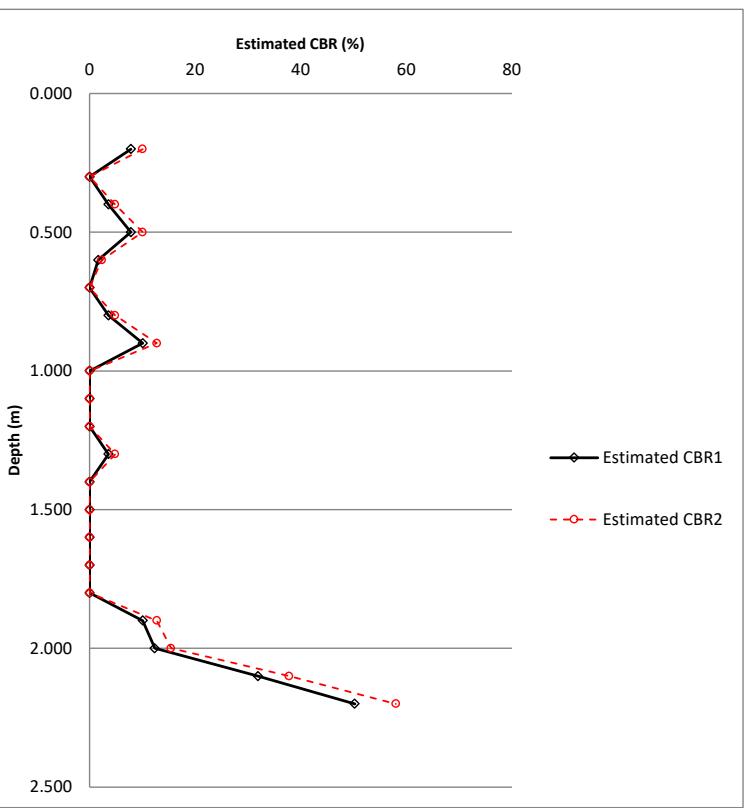


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Depth (m)	Blow Count
0.1	5
0.2	10
0.3	15
0.4	20
0.5	25
0.6	30
0.7	35
0.8	40
0.9	55
1.0	45
1.1	35
1.2	25
1.3	15
1.4	10
1.5	5
1.6	2
1.7	1
1.8	1
1.9	2
2.0	5
2.1	10
2.2	20



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RESULTS OF DYNAMIC PROBE TESTING

Project:	Cross Keys Lane, Hoyland	
Project No.	78794	
Test No.	P103A	



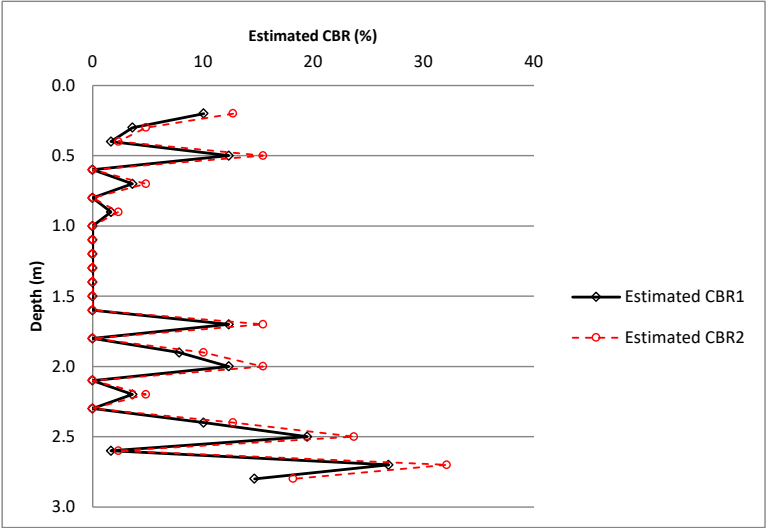
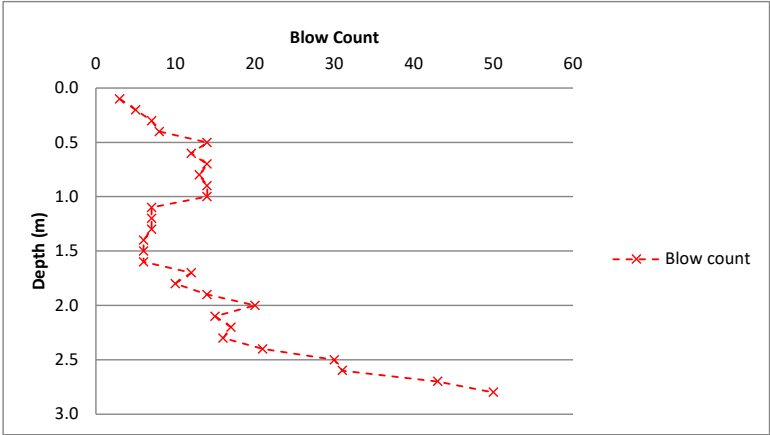
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Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

Blow count	Penetration (mm)	Penetration (m)	Penetration Index (DPI) mm/blow	log DPI	log CBR	Estimated CBR1 (%) ¹	log CBR	Estimated CBR2 (%) ²
3	100	0.1						
5	200	0.2	20.0	1.301	1.003	10	1.105	13
7	300	0.3	50.0	1.699	0.557	4	0.684	5
8	400	0.4	100.0	2.000	0.220	2	0.366	2
14	500	0.5	16.7	1.222	1.092	12	1.189	15
12	600	0.6	-50.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
14	700	0.7	50.0	1.699	0.557	4	0.684	5
13	800	0.8	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
14	900	0.9	100.0	2.000	0.220	2	0.366	2
14	1000	1.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
7	1100	1.1	-14.3	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
7	1200	1.2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
7	1300	1.3	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	1400	1.4	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
6	1500	1.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
6	1600	1.6	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
12	1700	1.7	16.7	1.222	1.092	12	1.189	15
10	1800	1.8	-50.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
14	1900	1.9	25.0	1.398	0.894	8	1.002	10
20	2000	2.0	16.7	1.222	1.092	12	1.189	15
15	2100	2.1	-20.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
17	2200	2.2	50.0	1.699	0.557	4	0.684	5
16	2300	2.3	-100.0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
21	2400	2.4	20.0	1.301	1.003	10	1.105	13
30	2500	2.5	11.1	1.046	1.289	19	1.375	24
31	2600	2.6	100.0	2.000	0.220	2	0.366	2
43	2700	2.7	8.3	0.921	1.429	27	1.507	32
50	2800	2.8	14.3	1.155	1.167	15	1.259	18

- Notes:
1. CBR calculated based on Webster et al, 1992.
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Date of Test:	18-May-21
Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

Depth (m)	Blow Count
1.0	5
1.1	5
1.2	5
1.3	5
1.4	5
1.5	5
1.6	5
1.7	5
1.8	5
1.9	5
2.0	35
2.1	35
2.2	35
2.3	35
2.4	35
2.5	35
2.6	35
2.7	35
2.8	35
2.9	35
3.0	30
3.1	30
3.2	30
3.3	30
3.4	30
3.5	30

Depth (m)	Estimated CBR1 (%)	Estimated CBR2 (%)
0.5	1.5	1.5
1.0	1.5	1.5
1.5	1.5	1.5
2.0	1.5	1.5
2.5	1.5	1.5
3.0	1.5	1.5
3.5	1.5	1.5

Reference :

- Webster S, Grau R and Williams T. 1992. Description and Application of Dual Mass Dynamic Cone Penetrometer. Dept of Army Waterways Equipment Station, Instruction rpt GL-92-3.
- Highways Agency, 2008. Design Manual for Roads and Bridges (DMRB), Data for Pavement Assessment. HD29/08.

Date of Test:	18-May-21
Operator:	Geocore
Soil type:	MADE GROUND
Soil condition:	

The graph displays the relationship between blow count and depth. The x-axis represents the blow count, ranging from 0 to 50. The y-axis represents the depth in meters, ranging from 0.0 to 2.5. The data points are connected by a red dashed line, showing a clear downward trend.

Depth (m)	Blow Count
1.2	12
1.3	11
1.4	10
1.5	9
1.6	8
1.7	7
1.8	6
1.9	5
2.0	4
2.1	3
2.2	2

Depth (m)	Estimated CBR1 (%)	Estimated CBR2 (%)
0.0	1.5	1.5
0.5	1.6	1.6
1.0	1.7	1.7
1.5	1.8	1.8
2.0	1.9	1.9
2.5	2.0	2.0

1. CBR calculated based on Webster et al, 1992.
2. CBR calculated based on DMRB, 2008.
3. CBR values less than 2.5% highlighted in red and bold. Soils unsuitable in pavements.

September 2019

Appendix D3 CBR Testing Report



LABORATORY REPORT



4043

Contract Number: PSL21/4175

Report Date: 21 May 2021

Client's Reference:

Client Name: Geocore Site Investigations Ltd
Tralee Close
Kirkleatham Business Park
Redcar
Cleveland
TS10 5SG

For the attention of: Nikki

Contract Title: Cross Keys Lane, Hoyland, Barnsley

Date Received: 20/5/2021

Date Commenced: 20/5/2021

Date Completed: 21/5/2021

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins
(Director)

R Berriman
(Quality Manager)

S Royle
(Laboratory Manager)

L Knight
(Assistant Laboratory Manager)

S Eyre
(Senior Technician)


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Page 1 of

VERTICAL DEFORMATION TESTS.

BS 1377 : Part 9 : 1990.

Date of Test: 20-May-21

Test Position: TP102

Depth (m): -300.00

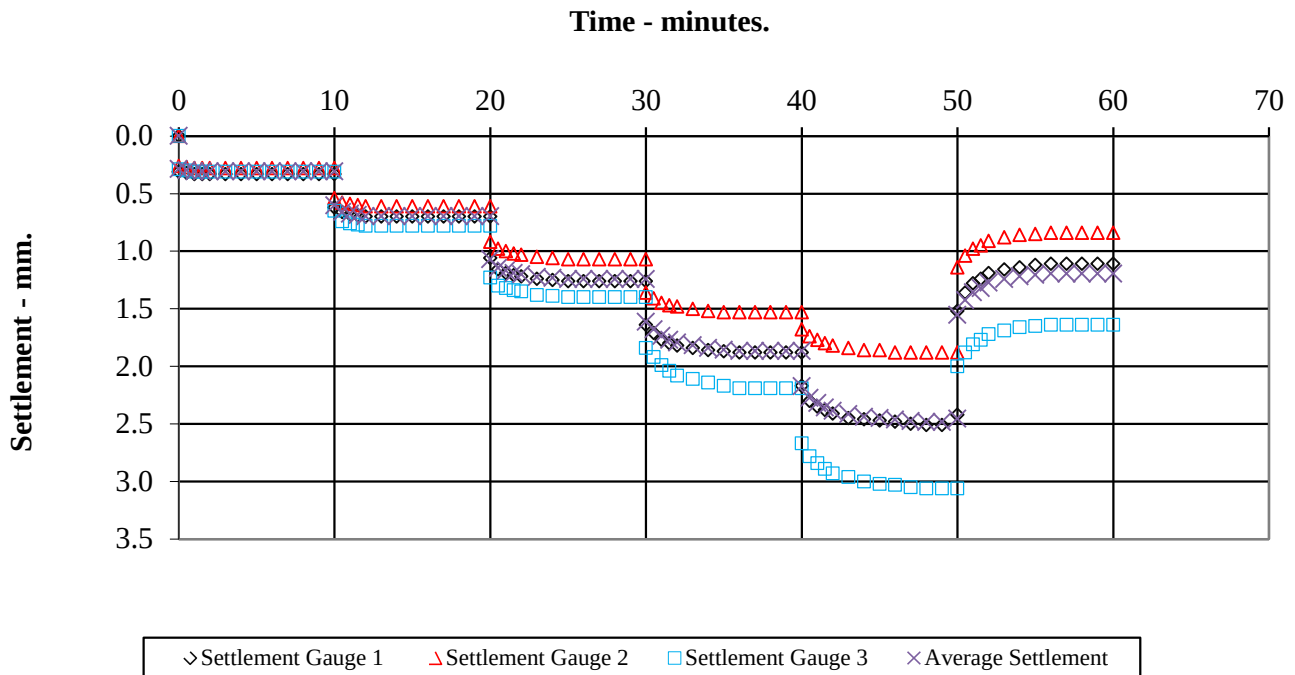
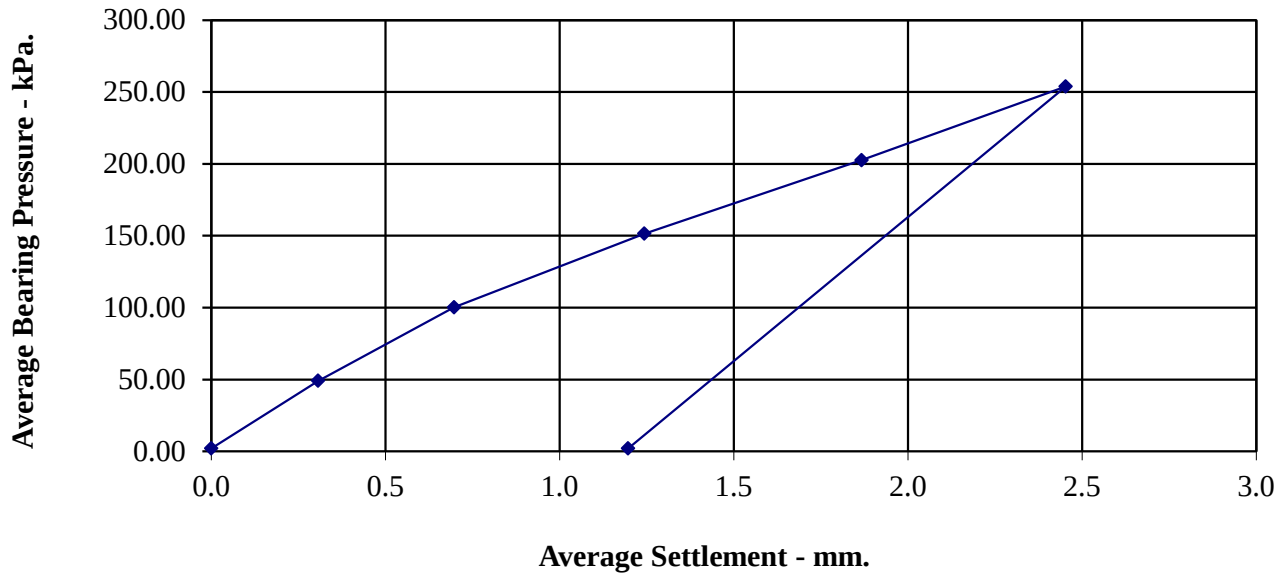
Plate Area (m²): 0.1625971

Type of Kentledge: Wheeled

Maximum Applied Pressure (kPa): 253.74

Maximum Deformation (mm): 2.45

Description: Brown sandy clayey gravel



Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4

Incorporating IAN 73/06

Date of Test	20-May-21	
Test Position	TP102	
Depth (m)	-300.00	
Description	Brown sandy clayey gravel	
Maximum Deflection	2.45	mm
Deflection required for CBR value	1.25	mm
Load at 1.25mm	152	kN/m ²
Plate diameter	455	mm
Conversion factor for plate diameter	0.629	
K ₇₆₂ (modulus of subgrade reaction) calculated using 1.25mm settlement	76.5	kN/m ² /mm
CBR Value	17.7	%



Cross Keys Lane, Hoyland, Barnsley

Contract No:

PSL21/4175

Client Ref:

VERTICAL DEFORMATION TESTS.

BS 1377 : Part 9 : 1990.

Date of Test: 20-May-21

Test Position: TP103

Depth (m): -310.00

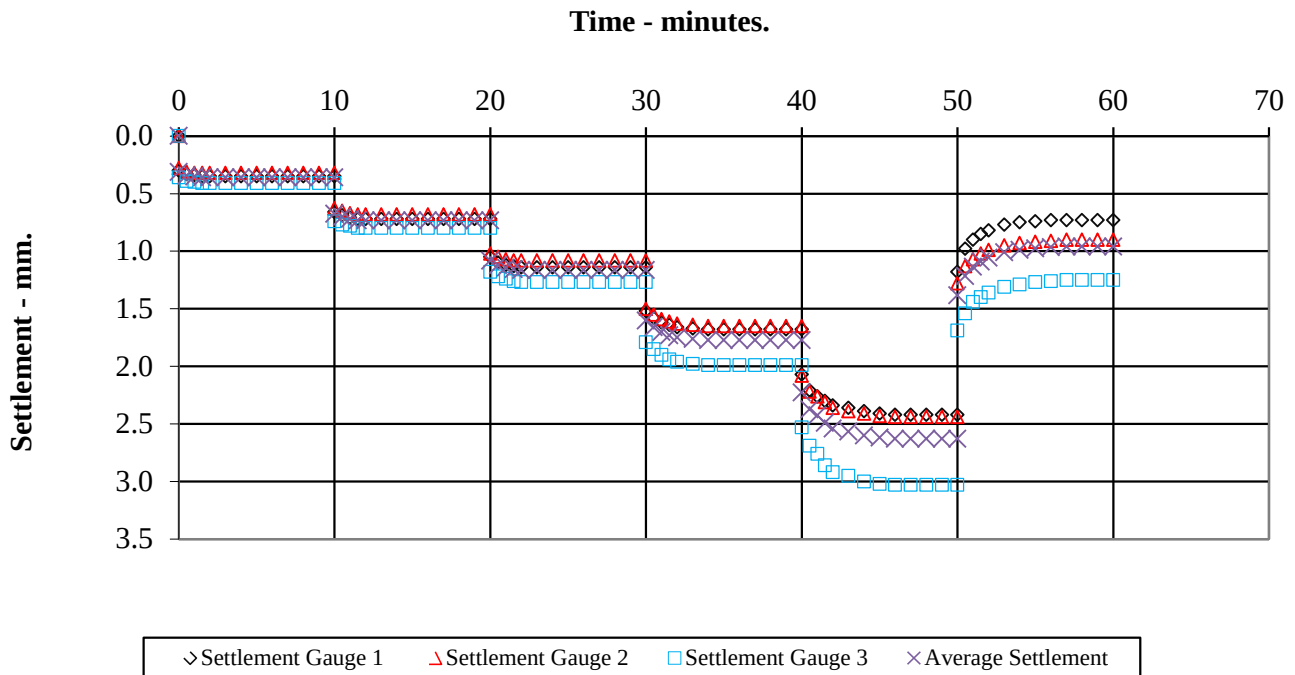
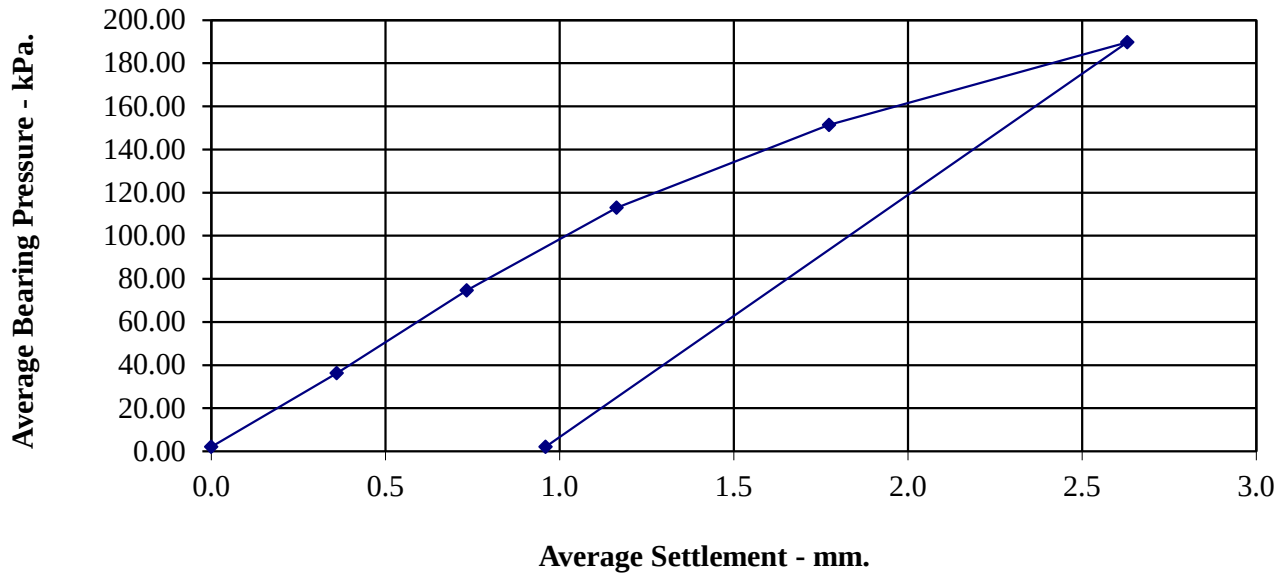
Plate Area (m²): 0.1625971

Type of Kentledge: Wheeled

Maximum Applied Pressure (kPa): 189.77

Maximum Deformation (mm): 2.63

Description: Grey MUDSTONE



Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4

Incorporating IAN 73/06

Date of Test 20-May-21

Test Position TP103

Depth (m) -310.00

Description Grey MUDSTONE

Maximum Deflection 2.63 mm

Deflection required for CBR value 1.25 mm

Load at 1.25mm 118 kN/m²

Plate diameter 455 mm

Conversion factor for plate diameter 0.629

K₇₆₂(modulus of subgrade reaction)
calculated using 1.25mm settlement 59.6 kN/m²/mm

CBR Value 11.5 %



Cross Keys Lane, Hoyland, Barnsley

Contract No:

PSL21/4175

Client Ref:

VERTICAL DEFORMATION TESTS.

BS 1377 : Part 9 : 1990.

Date of Test: 20-May-21

Test Position: TP106

Depth (m): -0.30

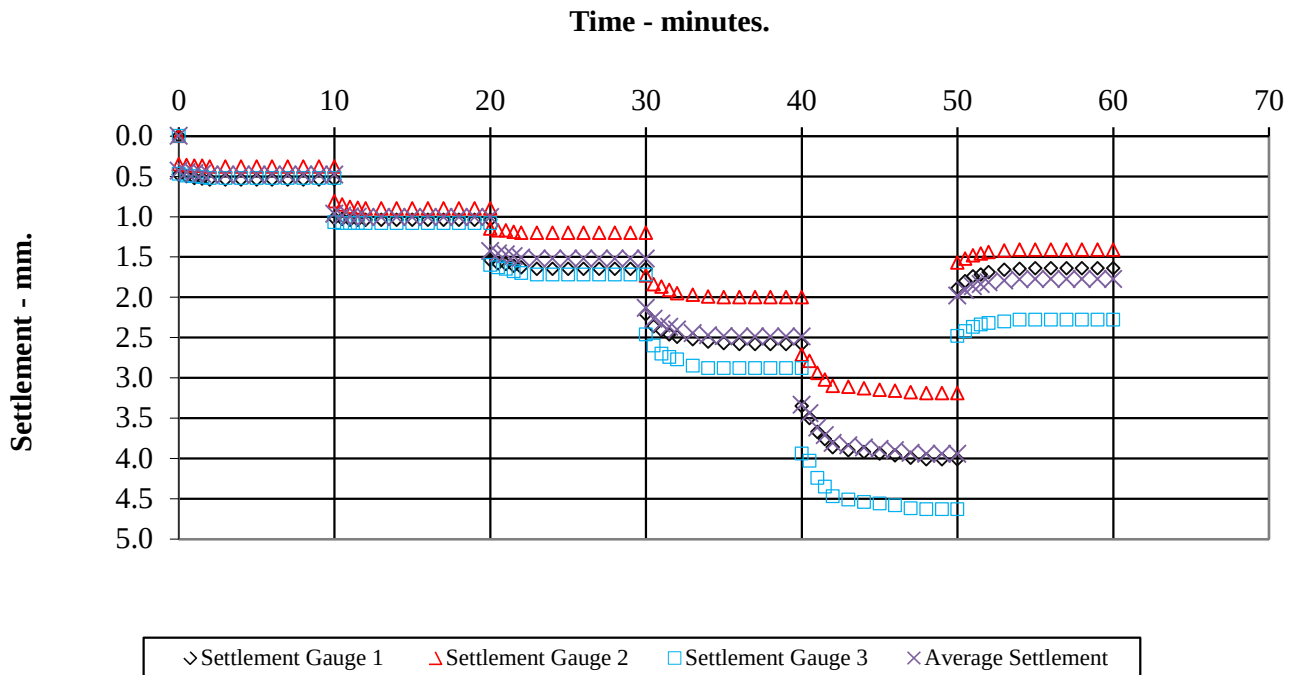
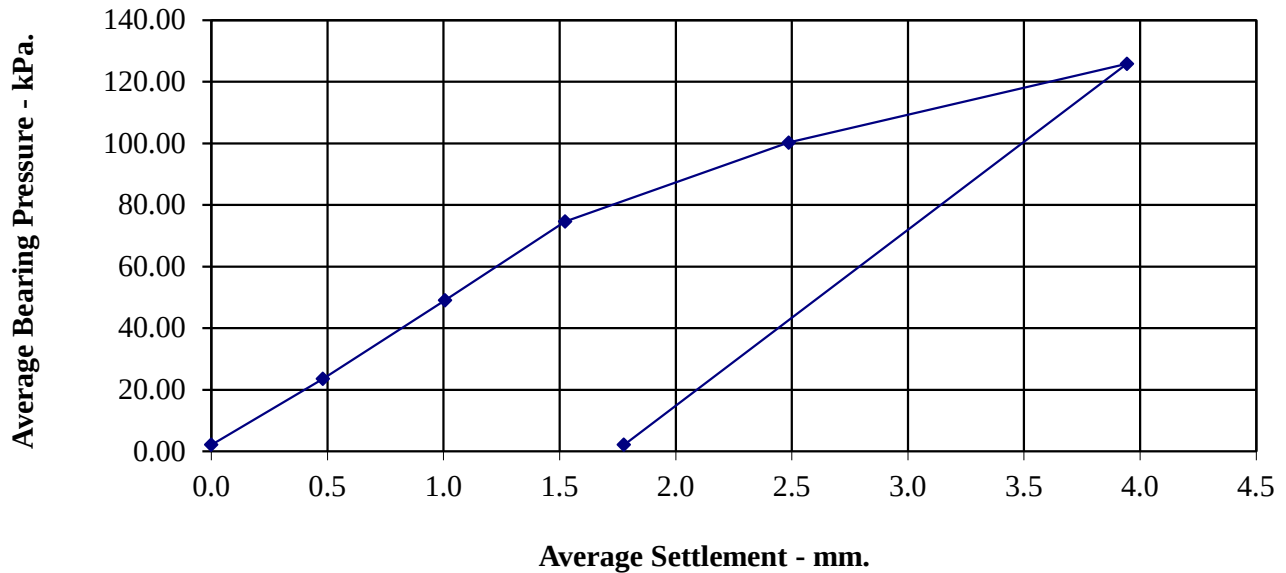
Plate Area (m²): 0.1625971

Type of Kentledge: Wheeled

Maximum Applied Pressure (kPa): 125.81

Maximum Deformation (mm): 3.94

Description: Brown sandy clayey gravel.



Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4

Incorporating IAN 73/06

Date of Test	20-May-21	
Test Position	TP106	
Depth (m)	-0.30	
Description	Brown sandy clayey gravel.	
Maximum Deflection	3.94	mm
Deflection required for CBR value	1.25	mm
Load at 1.25mm	61	kN/m ²
Plate diameter	455	mm
Conversion factor for plate diameter	0.629	
K ₇₆₂ (modulus of subgrade reaction) calculated using 1.25mm settlement	30.8	kN/m ² /mm
CBR Value	3.7	%



Cross Keys Lane, Hoyland, Barnsley

Contract No:

PSL21/4175

Client Ref:

VERTICAL DEFORMATION TESTS.

BS 1377 : Part 9 : 1990.

Date of Test: 20-May-21

Test Position: TP108

Depth (m): -0.40

Plate Area (m2): 0.1625971

Type of Kentledge: Wheeled

Maximum Applied Pressure (kPa):

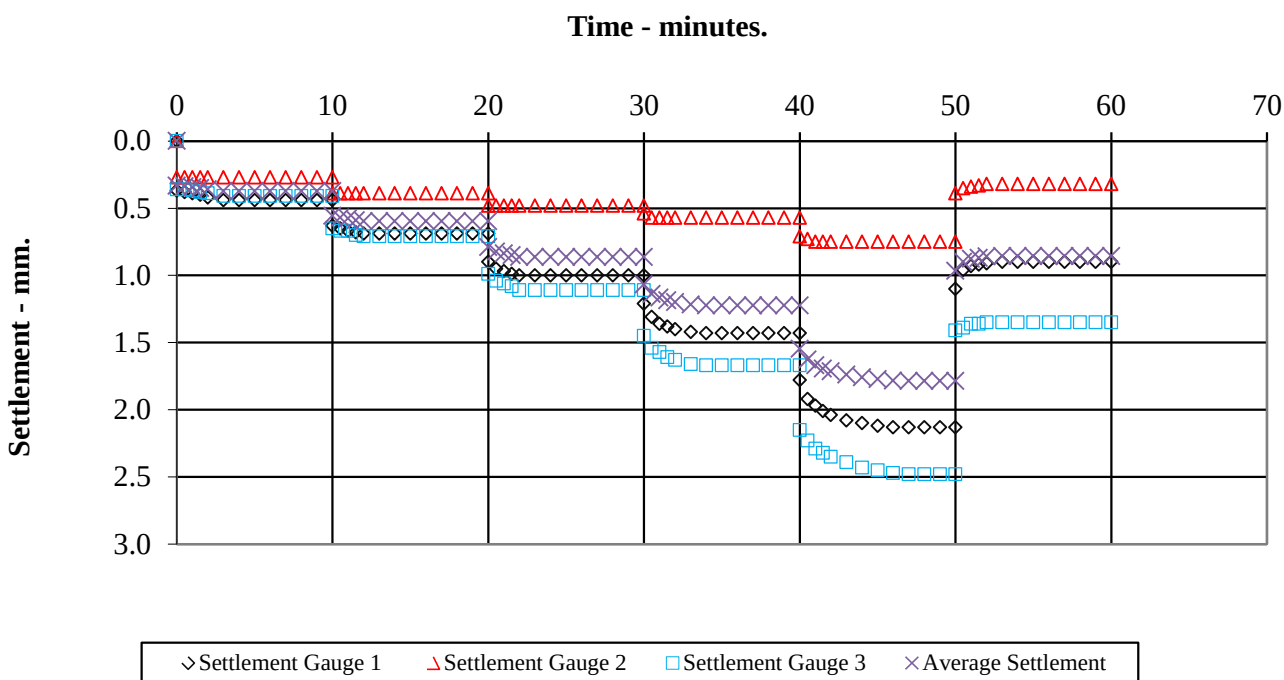
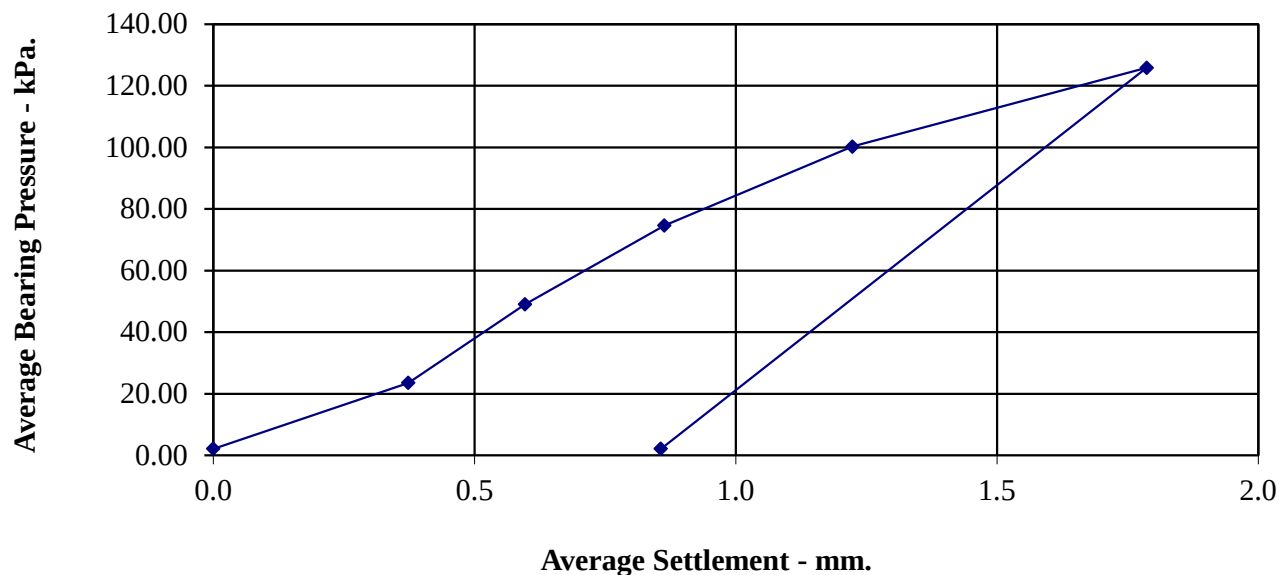
125.81

Maximum Deformation (mm):

1.79

Description:

Brown sandy clayey gravel



Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4

Incorporating IAN 73/06

Date of Test	20-May-21	
Test Position	TP108	
Depth (m)	-0.40	
Description	Brown sandy clayey gravel	
Maximum Deflection	1.79	mm
Deflection required for CBR value	1.25	mm
Load at 1.25mm	101	kN/m ²
Plate diameter	455	mm
Conversion factor for plate diameter	0.629	
K ₇₆₂ (modulus of subgrade reaction) calculated using 1.25mm settlement	51.1	kN/m ² /mm
CBR Value	8.8	%



Cross Keys Lane, Hoyland, Barnsley

Contract No:

PSL21/4175

Client Ref:

VERTICAL DEFORMATION TESTS.

BS 1377 : Part 9 : 1990.

Date of Test: 20-May-21

Test Position: TP109

Depth (m): -0.30

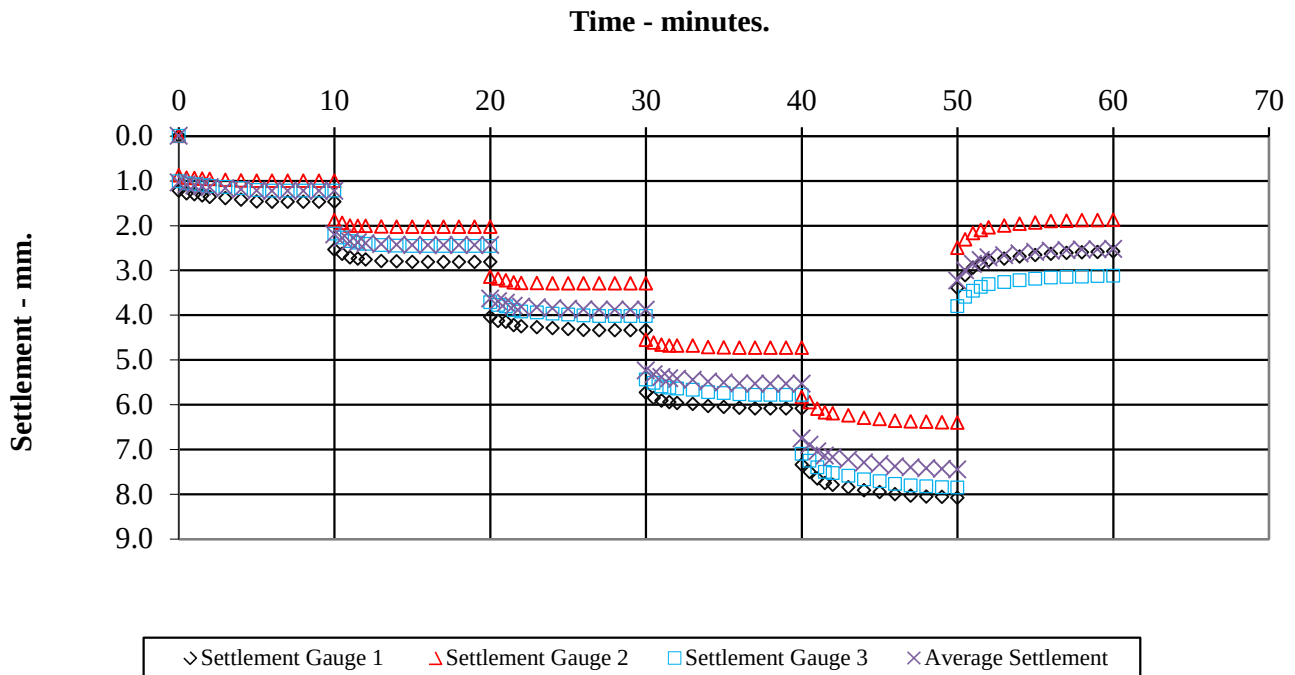
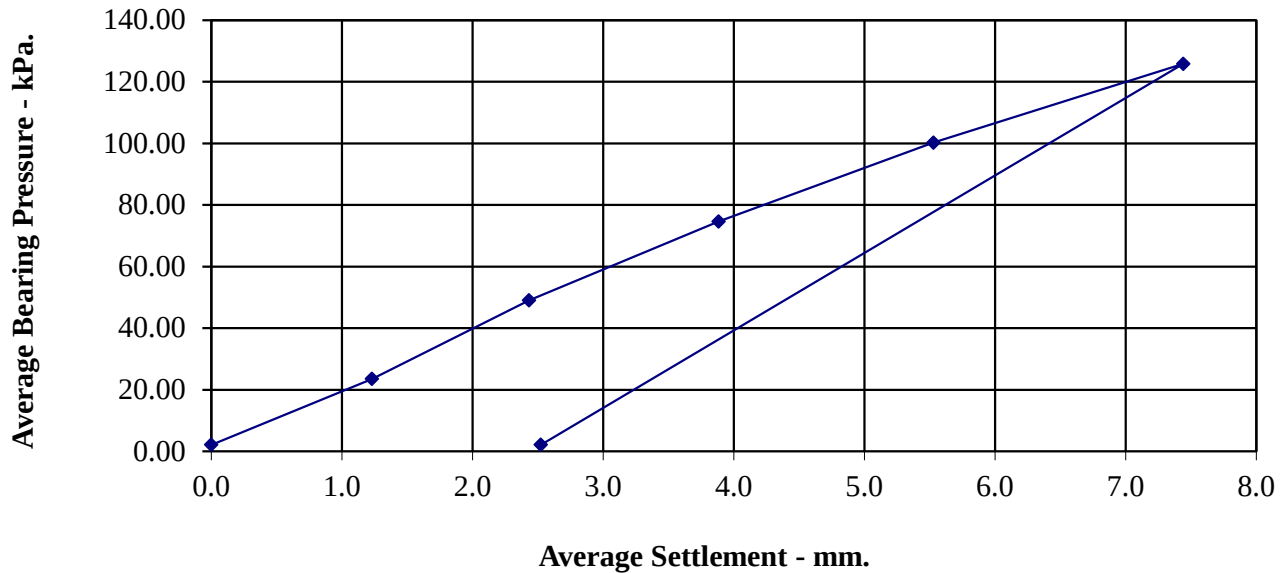
Plate Area (m²): 0.1625971

Type of Kentledge: Wheeled

Maximum Applied Pressure (kPa): 125.81

Maximum Deformation (mm): 7.44

Description: Brown sandy clayey gravel



Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4

Incorporating IAN 73/06

Date of Test	20-May-21	
Test Position	TP109	
Depth (m)	-0.30	
Description	Brown sandy clayey gravel	
Maximum Deflection	7.44	mm
Deflection required for CBR value	1.25	mm
Load at 1.25mm	24	kN/m ²
Plate diameter	455	mm
Conversion factor for plate diameter	0.629	
K ₇₆₂ (modulus of subgrade reaction) calculated using 1.25mm settlement	12.0	kN/m ² /mm
CBR Value	0.7	%



Cross Keys Lane, Hoyland, Barnsley

Contract No:

PSL21/4175

Client Ref:

VERTICAL DEFORMATION TESTS.

BS 1377 : Part 9 : 1990.

Date of Test: 20-May-21

Test Position: TP111

Depth (m): -0.50

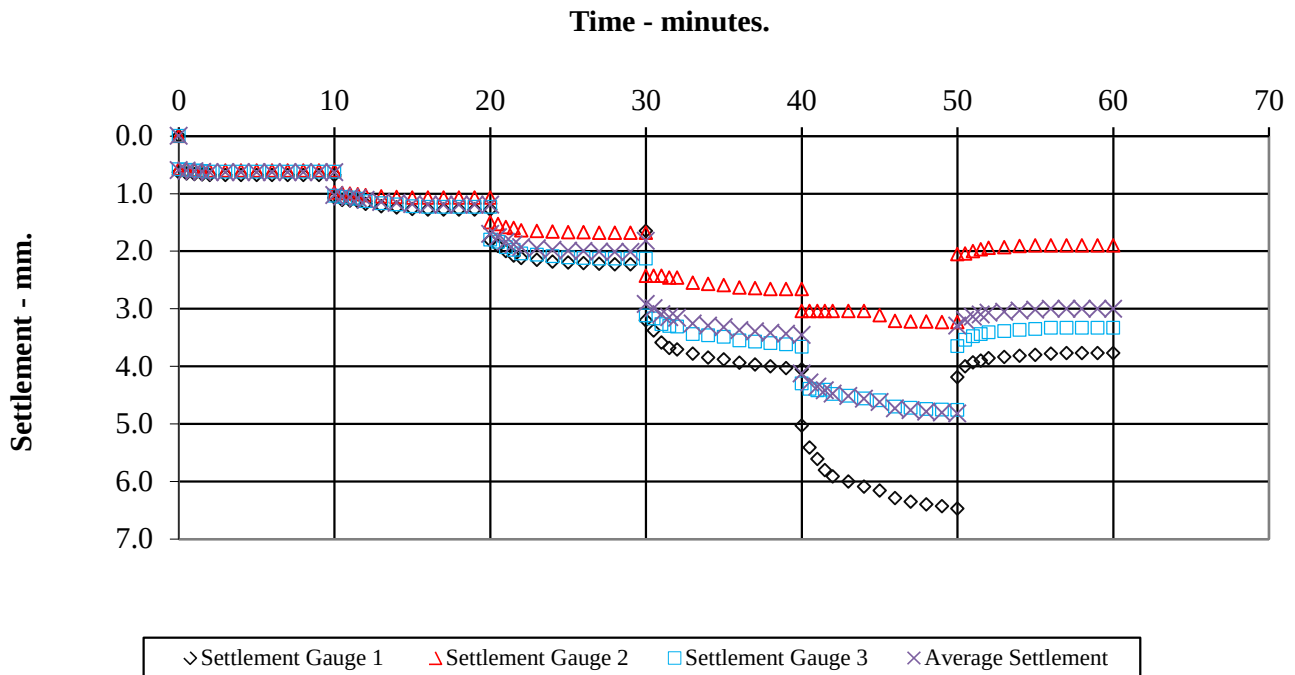
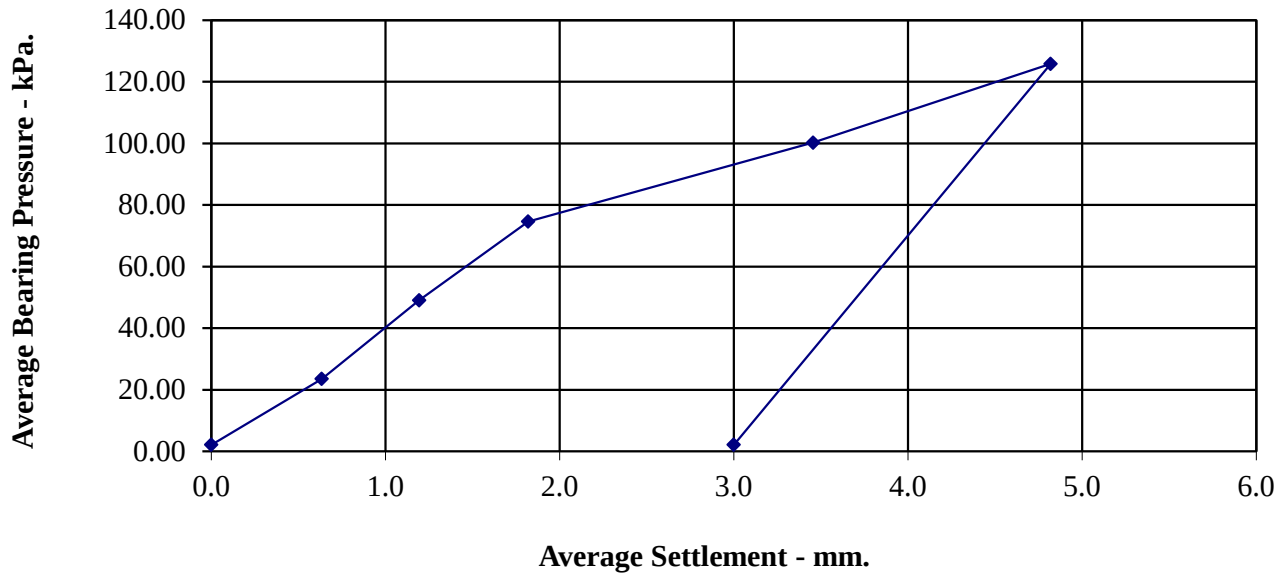
Plate Area (m²): 0.1625971

Type of Kentledge: Wheeled

Maximum Applied Pressure (kPa): 125.81

Maximum Deformation (mm): 4.82

Description: Brown sandy clayey gravel



Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4

Incorporating IAN 73/06

Date of Test	20-May-21	
Test Position	TP111	
Depth (m)	-0.50	
Description	Brown sandy clayey gravel	
Maximum Deflection	4.82	mm
Deflection required for CBR value	1.25	mm
Load at 1.25mm	51	kN/m ²
Plate diameter	455	mm
Conversion factor for plate diameter	0.629	
K ₇₆₂ (modulus of subgrade reaction) calculated using 1.25mm settlement	25.9	kN/m ² /mm
CBR Value	2.7	%



Cross Keys Lane, Hoyland, Barnsley

Contract No:

PSL21/4175

Client Ref: