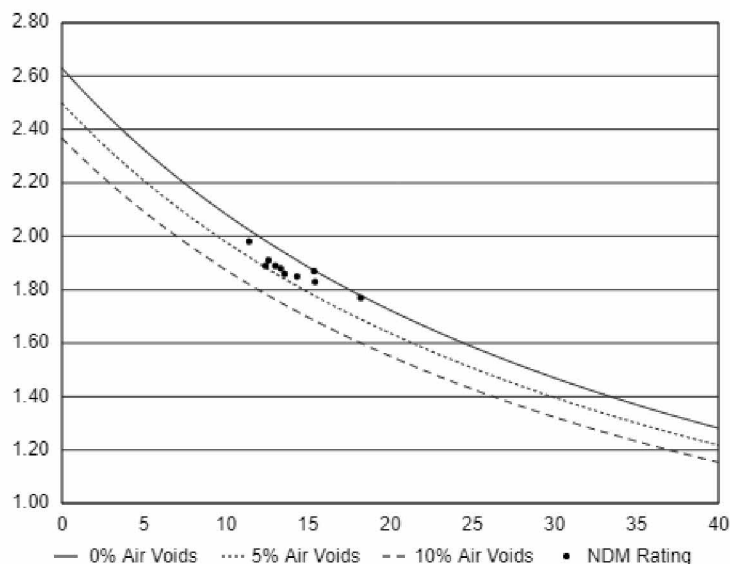


**TEST REPORT:** Estimation of In-Situ Dry Density, Relative Compaction And Air Voids  
In-House Procedure STP NDM-S Method D Direct Transmission

**REPORT NUMBER:** C1055642 / 168579.1.1.1

AIR VOID LINE PLOT



**Remarks:**  
Test results reported relate only to the items tested.  
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For and on behalf of CTS  
Vincent Faulkner - Operations Supervisor

[Redacted Signature]

Approved Signatory  
Report date 15-Feb-22



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TEST REPORT: Estimation of In-Situ Dry Density, Relative Compaction And Air Voids  
In-House Procedure STP NDM-S Method D Direct Transmission

REPORT NUMBER: C1055642 / 168918.13.1.1

CLIENT REF: 1055642 CLIENT: Collins Earthworks Limited

DATE COMPLETED: 27/01/2022 ADDRESS: Whiteley Road, Ripley, Derbyshire, DE5 3QL

TESTED BY: Thomas Cook SITE: Havant, Portsmouth

GAUGE MODEL No: T3440 SUPPLIER: Site Won

GAUGE SERIAL No: 15409 MATERIAL: Clay/ballast

CORRECTION FACTORS: Bulk  $\gamma = 1.020$  LOCATION: Sub Formation Layer  
Moisture  $b = 1.087$

SPECIFIC GRAVITY: 2.63 Mg/m<sup>3</sup> MAX DRY DENSITY: 1.87 Mg/m<sup>3</sup>

## TEST RESULTS

| Test No.             | Gauge Bulk Density (Mg/m <sup>3</sup> ) | Gauge Moisture Density (Mg/m <sup>3</sup> ) | Corrected Bulk Density (Mg/m <sup>3</sup> ) | Corrected Moisture Content (%) | Mean Dry Density (Mg/m <sup>3</sup> ) | Mean Moisture Content (%) | Mean Air Voids (%) | Mean Relative Compaction (%) |
|----------------------|-----------------------------------------|---------------------------------------------|---------------------------------------------|--------------------------------|---------------------------------------|---------------------------|--------------------|------------------------------|
| B6 - Formation Layer | 2.123                                   | 0.222                                       | 2.17                                        | 12                             | 1.91                                  | 13                        | 2.5                | 102                          |
|                      | 2.112                                   | 0.235                                       | 2.15                                        | 14                             |                                       |                           |                    |                              |
| B7 - Formation       | 2.102                                   | 0.231                                       | 2.14                                        | 13                             | 1.90                                  | 13                        | 2.8                | 102                          |
|                      | 2.116                                   | 0.225                                       | 2.16                                        | 13                             |                                       |                           |                    |                              |
| B8 - Formation       | 2.113                                   | 0.232                                       | 2.16                                        | 13                             | 1.90                                  | 13                        | 2.9                | 102                          |
|                      | 2.100                                   | 0.225                                       | 2.14                                        | 13                             |                                       |                           |                    |                              |
| B9 - Formation       | 2.100                                   | 0.226                                       | 2.14                                        | 13                             | 1.87                                  | 13                        | 3.9                | 100                          |
|                      | 2.055                                   | 0.234                                       | 2.10                                        | 14                             |                                       |                           |                    |                              |
| B10 - Formation      | 2.094                                   | 0.231                                       | 2.14                                        | 13                             | 1.89                                  | 14                        | 2.6                | 101                          |
|                      | 2.111                                   | 0.239                                       | 2.15                                        | 14                             |                                       |                           |                    |                              |
| C10 - Formation      | 2.099                                   | 0.252                                       | 2.14                                        | 15                             | 1.88                                  | 14                        | 1.5                | 101                          |
|                      | 2.121                                   | 0.242                                       | 2.16                                        | 14                             |                                       |                           |                    |                              |
| D10 - Formation      | 2.089                                   | 0.249                                       | 2.13                                        | 15                             | 1.88                                  | 14                        | 1.9                | 101                          |
|                      | 2.121                                   | 0.239                                       | 2.16                                        | 14                             |                                       |                           |                    |                              |
| D9 - Formation       | 2.102                                   | 0.226                                       | 2.14                                        | 13                             | 1.89                                  | 13                        | 2.5                | 101                          |
|                      | 2.112                                   | 0.242                                       | 2.15                                        | 14                             |                                       |                           |                    |                              |
| C9 - Formation       | 2.041                                   | 0.222                                       | 2.08                                        | 13                             | 1.86                                  | 13                        | 4.7                | 99                           |
|                      | 2.084                                   | 0.232                                       | 2.13                                        | 14                             |                                       |                           |                    |                              |
| C8 - Formation       | 2.099                                   | 0.235                                       | 2.14                                        | 14                             | 1.90                                  | 13                        | 2.9                | 102                          |
|                      | 2.112                                   | 0.223                                       | 2.15                                        | 13                             |                                       |                           |                    |                              |
| D8 - Formation       | 2.121                                   | 0.242                                       | 2.16                                        | 14                             | 1.90                                  | 14                        | 1.6                | 102                          |
|                      | 2.119                                   | 0.238                                       | 2.16                                        | 14                             |                                       |                           |                    |                              |
| C7 - Formation       | 2.098                                   | 0.214                                       | 2.14                                        | 12                             | 1.91                                  | 12                        | 3.9                | 102                          |
|                      | 2.111                                   | 0.216                                       | 2.15                                        | 12                             |                                       |                           |                    |                              |

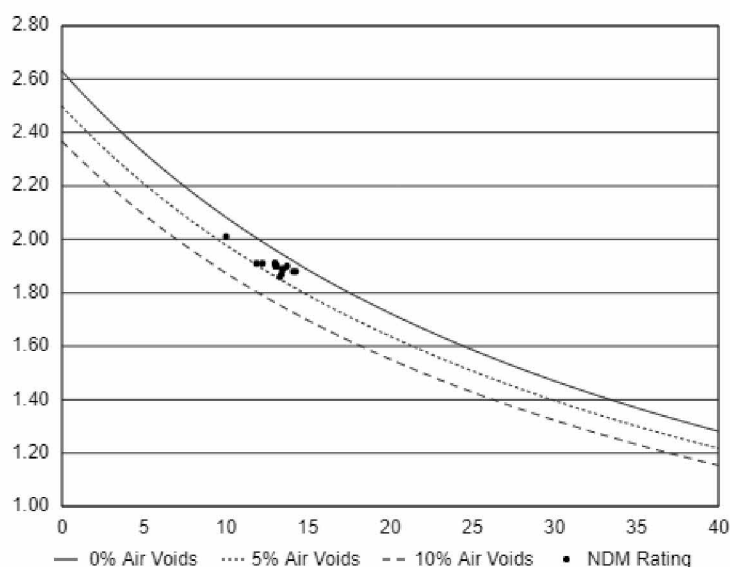
Remarks:  
Test results reported relate only to the items tested.  
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**TEST REPORT:** Estimation of In-Situ Dry Density, Relative Compaction And Air Voids  
In-House Procedure STP NDM-S Method D Direct Transmission

**REPORT NUMBER:** C1055642 / 168918.13.1.1

| Test No.       | Gauge Bulk Density (Mg/m <sup>3</sup> ) | Gauge Moisture Density (Mg/m <sup>3</sup> ) | Corrected Bulk Density (Mg/m <sup>3</sup> ) | Corrected Moisture Content (%) | Mean Dry Density (Mg/m <sup>3</sup> ) | Mean Moisture Content (%) | Mean Air Voids (%) | Mean Relative Compaction (%) |
|----------------|-----------------------------------------|---------------------------------------------|---------------------------------------------|--------------------------------|---------------------------------------|---------------------------|--------------------|------------------------------|
| D7 - Formation | 2.101                                   | 0.233                                       | 2.14                                        | 13                             | 1.91                                  | 13                        | 2.8                | 102                          |
|                | 2.121                                   | 0.222                                       | 2.16                                        | 13                             |                                       |                           |                    |                              |
| C6 - Formation | 2.099                                   | 0.211                                       | 2.14                                        | 12                             | 1.91                                  | 12                        | 4.7                | 102                          |
|                | 2.089                                   | 0.206                                       | 2.13                                        | 12                             |                                       |                           |                    |                              |
| D6 - Formation | 2.145                                   | 0.175                                       | 2.19                                        | 9.5                            | 2.01                                  | 10                        | 3.5                | 107                          |
|                | 2.189                                   | 0.195                                       | 2.23                                        | 10                             |                                       |                           |                    |                              |

**AIR VOID LINE PLOT**



**Remarks:**  
Test results reported relate only to the items tested.  
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For and on behalf of CTS  
Vincent Faulkner - Operations Supervisor



Approved Signatory  
Report date 15-Feb-22



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**TEST REPORT:** Estimation of In-Situ Dry Density, Relative Compaction And Air Voids  
In-House Procedure STP NDM-S Method D Direct Transmission

**REPORT NUMBER:** C1055642 / 169623.4.1.1

**CLIENT REF:** 1055642 **CLIENT:** Collins Earthworks Limited

**DATE COMPLETED:** 01/02/2022 **ADDRESS:** Whiteley Road, Ripley, Derbyshire, DE5 3QL

**TESTED BY:** Thomas Cook **SITE:** Havant, Portsmouth

**GAUGE MODEL No:** T3440 **SUPPLIER:** Site Won

**GAUGE SERIAL No:** 15409 **MATERIAL:** Clay/ballast

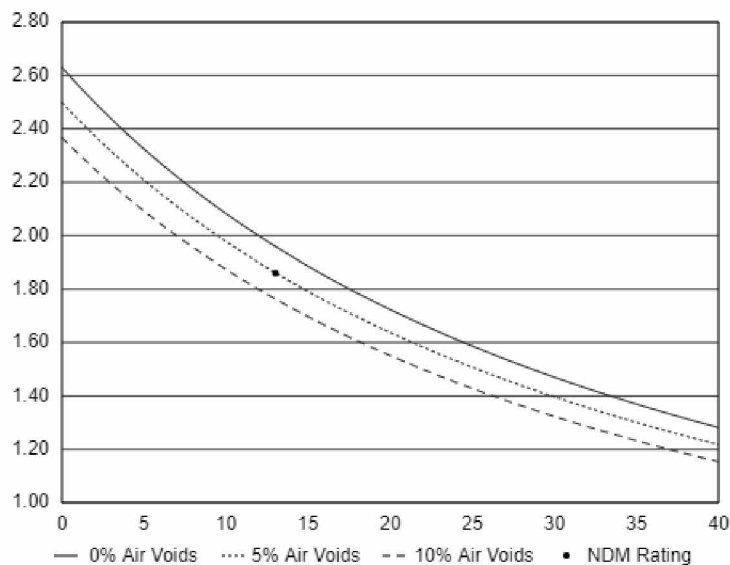
**CORRECTION FACTORS:** Bulk  $\gamma = 1.020$  **LOCATION:** Formation Layer  
Moisture  $b = 1.087$

**SPECIFIC GRAVITY:** 2.63 Mg/m<sup>3</sup> **MAX DRY DENSITY:** 1.87 Mg/m<sup>3</sup>

## TEST RESULTS

| Test No.              | Gauge Bulk Density (Mg/m <sup>3</sup> ) | Gauge Moisture Density (Mg/m <sup>3</sup> ) | Corrected Bulk Density (Mg/m <sup>3</sup> ) | Corrected Moisture Content (%) | Mean Dry Density (Mg/m <sup>3</sup> ) | Mean Moisture Content (%) | Mean Air Voids (%) | Mean Relative Compaction (%) |
|-----------------------|-----------------------------------------|---------------------------------------------|---------------------------------------------|--------------------------------|---------------------------------------|---------------------------|--------------------|------------------------------|
| H10 - Formation Layer | 2.068                                   | 0.215                                       | 2.11                                        | 12                             | 1.86                                  | 13                        | 4.9                | 100                          |
|                       | 2.059                                   | 0.231                                       | 2.10                                        | 14                             |                                       |                           |                    |                              |

AIR VOID LINE PLOT



**Remarks:**  
Test results reported relate only to the items tested.  
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For and on behalf of CTS  
Vincent Faulkner - Operations Supervisor

Approved Signatory  
Report date 15-Feb-22



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**TEST REPORT:**
**Estimation of In-Situ Dry Density, Relative Compaction And Air Voids**

In-House Procedure STP NDM-S Method D Direct Transmission

REPORT NUMBER:

C1055642 / 170606.2.1.1

CLIENT REF:

1055642

CLIENT:

Collins Earthworks Limited

DATE COMPLETED:

08/02/2022

ADDRESS:

Whiteley Road, Ripley, Derbyshire, DE5 3QL

TESTED BY:

Thomas Cook

SITE:

Havant, Portsmouth

GAUGE MODEL No:

T3440

SUPPLIER:

Site Won

GAUGE SERIAL No:

15409

MATERIAL:

Clay/soil

CORRECTION FACTORS:

 Bulk  $\gamma=1.020$ 

 Moisture  $b=1.087$ 

LOCATION:

Sub Formation Layers

SPECIFIC GRAVITY:

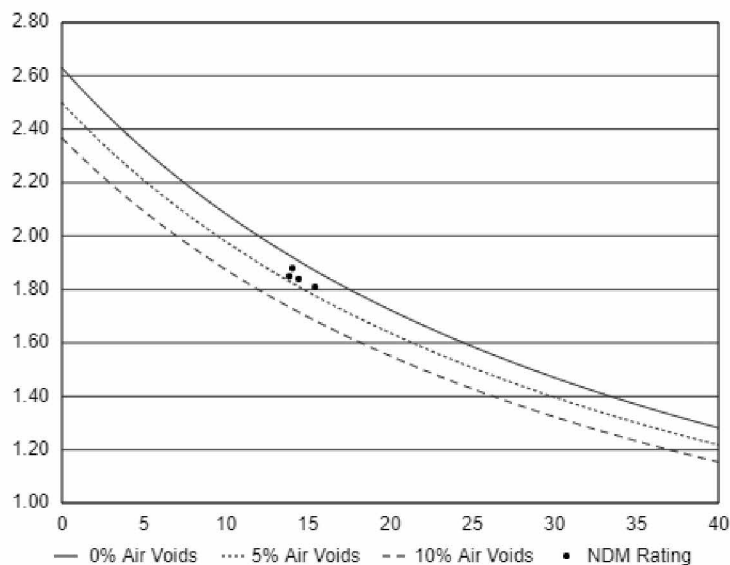
 2.63 Mg/m<sup>3</sup>

MAX DRY DENSITY:

 1.87 Mg/m<sup>3</sup>
**TEST RESULTS**

| Test No.             | Gauge Bulk Density (Mg/m <sup>3</sup> ) | Gauge Moisture Density (Mg/m <sup>3</sup> ) | Corrected Bulk Density (Mg/m <sup>3</sup> ) | Corrected Moisture Content (%) | Mean Dry Density (Mg/m <sup>3</sup> ) | Mean Moisture Content (%) | Mean Air Voids (%) | Mean Relative Compaction (%) |
|----------------------|-----------------------------------------|---------------------------------------------|---------------------------------------------|--------------------------------|---------------------------------------|---------------------------|--------------------|------------------------------|
| G4 - Formation Layer | 2.111                                   | 0.235                                       | 2.15                                        | 14                             | 1.88                                  | 14                        | 1.9                | 101                          |
|                      | 2.102                                   | 0.252                                       | 2.14                                        | 15                             |                                       |                           |                    |                              |
| F4 - Formation Layer | 2.042                                   | 0.224                                       | 2.08                                        | 13                             | 1.85                                  | 14                        | 3.8                | 99                           |
|                      | 2.098                                   | 0.249                                       | 2.14                                        | 14                             |                                       |                           |                    |                              |
| G5 - Formation Layer | 2.042                                   | 0.247                                       | 2.08                                        | 15                             | 1.81                                  | 15                        | 3.0                | 97                           |
|                      | 2.064                                   | 0.268                                       | 2.11                                        | 16                             |                                       |                           |                    |                              |
| F5 - Formation Layer | 2.046                                   | 0.232                                       | 2.09                                        | 14                             | 1.84                                  | 14                        | 3.4                | 99                           |
|                      | 2.087                                   | 0.257                                       | 2.13                                        | 15                             |                                       |                           |                    |                              |

AIR VOID LINE PLOT


**Remarks:**

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

Report date 15-Feb-22



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|                |                                                                |           |                                            |
|----------------|----------------------------------------------------------------|-----------|--------------------------------------------|
| TEST REPORT:   | DETERMINATION OF IN-SITU DENSITY                               |           |                                            |
|                | BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement |           |                                            |
| REPORT NUMBER: | C1055642 / 166048.1.1.1                                        |           |                                            |
| SAMPLE NO:     | Collins                                                        | CLIENT:   | Collins Earthworks Limited                 |
| CLIENT REF:    | Collins                                                        | ADDRESS:  | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| DATE TESTED:   | 20/01/2022                                                     | SITE:     | Havant, Portsmouth                         |
| TESTED BY:     | Mitchell Butler                                                | MATERIAL: | Clay/ballast                               |
| DEVIATIONS:    | None                                                           |           |                                            |

## RESULTS

### LOCATION DETAILS

|                 |                                 |                                 |                                 |                                 |                                 |
|-----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Laboratory Ref: | 260421                          | 260465                          | 260467                          | 260483                          | 260510                          |
| Client Ref:     | Collins                         | Collins                         | Collins                         | Collins                         | Collins                         |
| Test location:  | G11 - Formation SRD Correlation | G12 - Formation SRD Correlation | F12 - Formation SRD Correlation | F11 - Formation SRD Correlation | E11 - Formation SRD Correlation |

|                     |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|
| Weather Conditions: | Sunny | Sunny | Sunny | Sunny | Sunny |
|---------------------|-------|-------|-------|-------|-------|

### TEST DETAILS

|                                    |      |      |      |      |      |
|------------------------------------|------|------|------|------|------|
| Bulk Density: (Mg/m <sup>3</sup> ) | 2.13 | 2.12 | 2.11 | 2.12 | 2.11 |
| Moisture Content: (%)              | 12   | 14   | 14   | 12   | 14   |
| Dry Density: (Mg/m <sup>3</sup> )  | 1.90 | 1.86 | 1.85 | 1.89 | 1.84 |

### COMPLIANCE DETAILS

|                                           |       |      |      |       |      |
|-------------------------------------------|-------|------|------|-------|------|
| Compliance Limit (%)                      | 95    | 95   | 95   | 95    | 95   |
| Maximum Dry Density: (Mg/m <sup>3</sup> ) | 1.87  | 1.87 | 1.87 | 1.87  | 1.87 |
| Percentage Compaction: (%)                | 101.4 | 99.6 | 99.0 | 101.0 | 98.6 |
| Particle Density (Mg/m <sup>3</sup> )     | 2.53  | 2.53 | 2.53 | 2.53  | 2.53 |
| Volume of Air Voids (%)                   | 1.5   | 0.9  | 1.1  | 2.7   | 0.6  |

## Remarks:

Test results reported relate only to the items tested.  
 This report shall not be reproduced except in full without approval of the Laboratory.  
 Amended report. This test report supersedes test report version 1 -

**TEST REPORT:****DETERMINATION OF IN-SITU DENSITY**

BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement

REPORT NUMBER:

C1055642 / 166048.1.1.1

## LOCATION DETAILS

Laboratory Ref:

260534

Client Ref:

Collins

Test location:

E12 - Formation SRD Correlation

Weather Conditions:

Sunny

## TEST DETAILS

Bulk Density: (Mg/m<sup>3</sup>)

2.07

Moisture Content: (%)

17

Dry Density: (Mg/m<sup>3</sup>)

1.78

## COMPLIANCE DETAILS

Compliance Limit (%)

95

Maximum Dry Density: (Mg/m<sup>3</sup>)

1.87

Percentage Compaction: (%)

95.1

**Particle Density (Mg/m<sup>3</sup>)**

2.53

**Volume of Air Voids (%)**

0.2

## Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

Amended report. This test report supersedes test report version 1 -

For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

Report date 14-Feb-22



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|                |                                                                |           |                                            |
|----------------|----------------------------------------------------------------|-----------|--------------------------------------------|
| TEST REPORT:   | DETERMINATION OF IN-SITU DENSITY                               |           |                                            |
|                | BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement |           |                                            |
| REPORT NUMBER: | C1055642 / 166048.1.1.2                                        |           |                                            |
| SAMPLE NO:     | Collins                                                        | CLIENT:   | Collins Earthworks Limited                 |
| CLIENT REF:    | Collins                                                        | ADDRESS:  | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| DATE TESTED:   | 20/01/2022                                                     | SITE:     | Havant, Portsmouth                         |
| TESTED BY:     | Mitchell Butler                                                | MATERIAL: | Clay/ballast                               |
| DEVIATIONS:    | None                                                           |           |                                            |

## RESULTS

### LOCATION DETAILS

|                 |                                 |                                 |                                 |                                 |                                 |
|-----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Laboratory Ref: | 260421                          | 260465                          | 260467                          | 260483                          | 260510                          |
| Client Ref:     | Collins                         | Collins                         | Collins                         | Collins                         | Collins                         |
| Test location:  | G11 - Formation SRD Correlation | G12 - Formation SRD Correlation | F12 - Formation SRD Correlation | F11 - Formation SRD Correlation | E11 - Formation SRD Correlation |

|                     |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|
| Weather Conditions: | Sunny | Sunny | Sunny | Sunny | Sunny |
|---------------------|-------|-------|-------|-------|-------|

### TEST DETAILS

|                                    |      |      |      |      |      |
|------------------------------------|------|------|------|------|------|
| Bulk Density: (Mg/m <sup>3</sup> ) | 2.13 | 2.12 | 2.11 | 2.12 | 2.11 |
| Moisture Content: (%)              | 12   | 14   | 14   | 12   | 14   |
| Dry Density: (Mg/m <sup>3</sup> )  | 1.90 | 1.86 | 1.85 | 1.89 | 1.84 |

### COMPLIANCE DETAILS

|                                           |       |      |      |       |      |
|-------------------------------------------|-------|------|------|-------|------|
| Compliance Limit (%)                      | 95    | 95   | 95   | 95    | 95   |
| Maximum Dry Density: (Mg/m <sup>3</sup> ) | 1.87  | 1.87 | 1.87 | 1.87  | 1.87 |
| Percentage Compaction: (%)                | 101.4 | 99.6 | 99.0 | 101.0 | 98.6 |
| Particle Density (Mg/m <sup>3</sup> )     | 2.53  | 2.53 | 2.53 | 2.53  | 2.53 |
| Volume of Air Voids (%)                   | 1.5   | 0.9  | 1.1  | 2.7   | 0.6  |

## Remarks:

Test results reported relate only to the items tested.  
This report shall not be reproduced except in full without approval of the Laboratory.

**TEST REPORT:****DETERMINATION OF IN-SITU DENSITY**

BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement

REPORT NUMBER:

C1055642 / 166048.1.1.2

## LOCATION DETAILS

Laboratory Ref:

260534

Client Ref:

Collins

Test location:

E12 - Formation SRD Correlation

Weather Conditions:

Sunny

## TEST DETAILS

Bulk Density: (Mg/m<sup>3</sup>)

2.07

Moisture Content: (%)

17

Dry Density: (Mg/m<sup>3</sup>)

1.78

## COMPLIANCE DETAILS

Compliance Limit (%)

95

Maximum Dry Density: (Mg/m<sup>3</sup>)

1.87

Percentage Compaction: (%)

95.1

**Particle Density (Mg/m<sup>3</sup>)**

2.53

**Volume of Air Voids (%)**

0.2

## Remarks:

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

Report date 14-Feb-22



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|                |                                                                |           |                                            |
|----------------|----------------------------------------------------------------|-----------|--------------------------------------------|
| TEST REPORT:   | DETERMINATION OF IN-SITU DENSITY                               |           |                                            |
|                | BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement |           |                                            |
| REPORT NUMBER: | C1055642 / 166048.1.1.3                                        |           |                                            |
| SAMPLE NO:     | Collins                                                        | CLIENT:   | Collins Earthworks Limited                 |
| CLIENT REF:    | Collins                                                        | ADDRESS:  | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| DATE TESTED:   | 20/01/2022                                                     | SITE:     | Havant, Portsmouth                         |
| TESTED BY:     | Mitchell Butler                                                | MATERIAL: | Clay/ballast                               |
| DEVIATIONS:    | None                                                           |           |                                            |

## RESULTS

### LOCATION DETAILS

|                 |                                 |                                 |                                 |                                 |                                 |
|-----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Laboratory Ref: | 260421                          | 260465                          | 260467                          | 260483                          | 260510                          |
| Client Ref:     | Collins                         | Collins                         | Collins                         | Collins                         | Collins                         |
| Test location:  | G11 - Formation SRD Correlation | G12 - Formation SRD Correlation | F12 - Formation SRD Correlation | F11 - Formation SRD Correlation | E11 - Formation SRD Correlation |

|                     |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|
| Weather Conditions: | Sunny | Sunny | Sunny | Sunny | Sunny |
|---------------------|-------|-------|-------|-------|-------|

### TEST DETAILS

|                                    |      |      |      |      |      |
|------------------------------------|------|------|------|------|------|
| Bulk Density: (Mg/m <sup>3</sup> ) | 2.13 | 2.12 | 2.11 | 2.12 | 2.11 |
| Moisture Content: (%)              | 12   | 14   | 14   | 12   | 14   |
| Dry Density: (Mg/m <sup>3</sup> )  | 1.90 | 1.86 | 1.85 | 1.89 | 1.84 |

### COMPLIANCE DETAILS

|                                           |       |      |      |       |      |
|-------------------------------------------|-------|------|------|-------|------|
| Compliance Limit (%)                      | 95    | 95   | 95   | 95    | 95   |
| Maximum Dry Density: (Mg/m <sup>3</sup> ) | 1.87  | 1.87 | 1.87 | 1.87  | 1.87 |
| Percentage Compaction: (%)                | 101.4 | 99.6 | 99.0 | 101.0 | 98.6 |
| Particle Density (Mg/m <sup>3</sup> )     | 2.53  | 2.53 | 2.53 | 2.53  | 2.53 |
| Volume of Air Voids (%)                   | 1.5   | 0.9  | 1.1  | 2.7   | 0.6  |

## Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

**TEST REPORT:****DETERMINATION OF IN-SITU DENSITY**

BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement

REPORT NUMBER:

C1055642 / 166048.1.1.3

## LOCATION DETAILS

Laboratory Ref:

260534

Client Ref:

Collins

Test location:

E12 - Formation SRD Correlation

Weather Conditions:

Sunny

## TEST DETAILS

Bulk Density: (Mg/m<sup>3</sup>)

2.07

Moisture Content: (%)

17

Dry Density: (Mg/m<sup>3</sup>)

1.78

## COMPLIANCE DETAILS

Compliance Limit (%)

95

Maximum Dry Density: (Mg/m<sup>3</sup>)

1.87

Percentage Compaction: (%)

95.1

**Particle Density (Mg/m<sup>3</sup>)**

2.53

**Volume of Air Voids (%)**

0.2

## Remarks:

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

Report date 14-Feb-22



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|                |                                                                |           |                                            |
|----------------|----------------------------------------------------------------|-----------|--------------------------------------------|
| TEST REPORT:   | DETERMINATION OF IN-SITU DENSITY                               |           |                                            |
|                | BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement |           |                                            |
| REPORT NUMBER: | C1055642 / 166048.1.1.4                                        |           |                                            |
| SAMPLE NO:     | Collins                                                        | CLIENT:   | Collins Earthworks Limited                 |
| CLIENT REF:    | Collins                                                        | ADDRESS:  | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| DATE TESTED:   | 20/01/2022                                                     | SITE:     | Havant, Portsmouth                         |
| TESTED BY:     | Mitchell Butler                                                | MATERIAL: | Clay/ballast                               |
| DEVIATIONS:    | None                                                           |           |                                            |

## RESULTS

### LOCATION DETAILS

|                 |                                 |                                 |                                 |                                 |                                 |
|-----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Laboratory Ref: | 260421                          | 260465                          | 260467                          | 260483                          | 260510                          |
| Client Ref:     | Collins                         | Collins                         | Collins                         | Collins                         | Collins                         |
| Test location:  | G11 - Formation SRD Correlation | G12 - Formation SRD Correlation | F12 - Formation SRD Correlation | F11 - Formation SRD Correlation | E11 - Formation SRD Correlation |

|                     |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|
| Weather Conditions: | Sunny | Sunny | Sunny | Sunny | Sunny |
|---------------------|-------|-------|-------|-------|-------|

### TEST DETAILS

|                                    |      |      |      |      |      |
|------------------------------------|------|------|------|------|------|
| Bulk Density: (Mg/m <sup>3</sup> ) | 2.13 | 2.12 | 2.11 | 2.12 | 2.11 |
| Moisture Content: (%)              | 12   | 14   | 14   | 12   | 14   |
| Dry Density: (Mg/m <sup>3</sup> )  | 1.90 | 1.86 | 1.85 | 1.89 | 1.84 |

### COMPLIANCE DETAILS

|                                           |       |      |      |       |      |
|-------------------------------------------|-------|------|------|-------|------|
| Compliance Limit (%)                      | 95    | 95   | 95   | 95    | 95   |
| Maximum Dry Density: (Mg/m <sup>3</sup> ) | 1.87  | 1.87 | 1.87 | 1.87  | 1.87 |
| Percentage Compaction: (%)                | 101.4 | 99.6 | 99.0 | 101.0 | 98.6 |
| Particle Density (Mg/m <sup>3</sup> )     | 2.53  | 2.53 | 2.53 | 2.53  | 2.53 |
| Volume of Air Voids (%)                   | 1.5   | 0.9  | 1.1  | 2.7   | 0.6  |

## Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

**TEST REPORT:****DETERMINATION OF IN-SITU DENSITY**

BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement

REPORT NUMBER:

C1055642 / 166048.1.1.4

## LOCATION DETAILS

Laboratory Ref:

260534

Client Ref:

Collins

Test location:

E12 - Formation SRD Correlation

Weather Conditions:

Sunny

## TEST DETAILS

Bulk Density: (Mg/m<sup>3</sup>)

2.07

Moisture Content: (%)

17

Dry Density: (Mg/m<sup>3</sup>)

1.78

## COMPLIANCE DETAILS

Compliance Limit (%)

95

Maximum Dry Density: (Mg/m<sup>3</sup>)

1.87

Percentage Compaction: (%)

95.1

**Particle Density (Mg/m<sup>3</sup>)**

2.53

**Volume of Air Voids (%)**

0.2

## Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

Report date 14-Feb-22



0927

TEST REPORT: DETERMINATION OF IN-SITU DENSITY  
BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement

REPORT NUMBER: C1055642 / 166048.1.1.5

SAMPLE NO: Collins CLIENT: Collins Earthworks Limited

CLIENT REF: Collins ADDRESS: Whiteley Road, Ripley, Derbyshire, DE5 3QL

DATE TESTED: 20/01/2022 SITE: Havant, Portsmouth

TESTED BY: Mitchell Butler MATERIAL: Clay/ballast

DEVIATIONS: None

## RESULTS

### LOCATION DETAILS

|                 |                                 |                                 |                                 |                                 |                                 |
|-----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Laboratory Ref: | 260421                          | 260465                          | 260467                          | 260483                          | 260510                          |
| Client Ref:     | Collins                         | Collins                         | Collins                         | Collins                         | Collins                         |
| Test location:  | G11 - Formation SRD Correlation | G12 - Formation SRD Correlation | F12 - Formation SRD Correlation | F11 - Formation SRD Correlation | E11 - Formation SRD Correlation |

|                     |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|
| Weather Conditions: | Sunny | Sunny | Sunny | Sunny | Sunny |
|---------------------|-------|-------|-------|-------|-------|

### TEST DETAILS

|                                    |      |      |      |      |      |
|------------------------------------|------|------|------|------|------|
| Bulk Density: (Mg/m <sup>3</sup> ) | 2.13 | 2.12 | 2.11 | 2.12 | 2.11 |
| Moisture Content: (%)              | 12   | 14   | 14   | 12   | 14   |
| Dry Density: (Mg/m <sup>3</sup> )  | 1.90 | 1.86 | 1.85 | 1.89 | 1.84 |

### COMPLIANCE DETAILS

|                                           |       |      |      |       |      |
|-------------------------------------------|-------|------|------|-------|------|
| Compliance Limit (%)                      | 95    | 95   | 95   | 95    | 95   |
| Maximum Dry Density: (Mg/m <sup>3</sup> ) | 1.87  | 1.87 | 1.87 | 1.87  | 1.87 |
| Percentage Compaction: (%)                | 101.4 | 99.6 | 99.0 | 101.0 | 98.6 |
| Particle Density (Mg/m <sup>3</sup> )     | 2.53  | 2.53 | 2.53 | 2.53  | 2.53 |
| Volume of Air Voids (%)                   | 1.5   | 0.9  | 1.1  | 2.7   | 0.6  |

## Remarks:

Test results reported relate only to the items tested.  
This report shall not be reproduced except in full without approval of the Laboratory.

**TEST REPORT:****DETERMINATION OF IN-SITU DENSITY**

BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement

REPORT NUMBER:

C1055642 / 166048.1.1.5

## LOCATION DETAILS

Laboratory Ref:

260534

Client Ref:

Collins

Test location:

E12 - Formation SRD Correlation

Weather Conditions:

Sunny

## TEST DETAILS

Bulk Density: (Mg/m<sup>3</sup>)

2.07

Moisture Content: (%)

17

Dry Density: (Mg/m<sup>3</sup>)

1.78

## COMPLIANCE DETAILS

Compliance Limit (%)

95

Maximum Dry Density: (Mg/m<sup>3</sup>)

1.87

Percentage Compaction: (%)

95.1

**Particle Density (Mg/m<sup>3</sup>)**

2.53

**Volume of Air Voids (%)**

0.2

## Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

For and on behalf of CTS

Vincent Faulkner - Operations Supervisor

Approved Signatory

Report date 14-Feb-22



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|                |                                                                |           |                                            |
|----------------|----------------------------------------------------------------|-----------|--------------------------------------------|
| TEST REPORT:   | DETERMINATION OF IN-SITU DENSITY                               |           |                                            |
|                | BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement |           |                                            |
| REPORT NUMBER: | C1055642 / 166048.1.1.6                                        |           |                                            |
| SAMPLE NO:     | Collins                                                        | CLIENT:   | Collins Earthworks Limited                 |
| CLIENT REF:    | Collins                                                        | ADDRESS:  | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| DATE TESTED:   | 20/01/2022                                                     | SITE:     | Havant, Portsmouth                         |
| TESTED BY:     | Mitchell Butler                                                | MATERIAL: | Clay/ballast                               |
| DEVIATIONS:    | None                                                           |           |                                            |

## RESULTS

### LOCATION DETAILS

|                 |                                 |                                 |                                 |                                 |                                 |
|-----------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Laboratory Ref: | 260421                          | 260465                          | 260467                          | 260483                          | 260510                          |
| Client Ref:     | Collins                         | Collins                         | Collins                         | Collins                         | Collins                         |
| Test location:  | G11 - Formation SRD Correlation | G12 - Formation SRD Correlation | F12 - Formation SRD Correlation | F11 - Formation SRD Correlation | E11 - Formation SRD Correlation |

|                     |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|
| Weather Conditions: | Sunny | Sunny | Sunny | Sunny | Sunny |
|---------------------|-------|-------|-------|-------|-------|

### TEST DETAILS

|                                    |      |      |      |      |      |
|------------------------------------|------|------|------|------|------|
| Bulk Density: (Mg/m <sup>3</sup> ) | 2.13 | 2.12 | 2.11 | 2.12 | 2.11 |
| Moisture Content: (%)              | 12   | 14   | 14   | 12   | 14   |
| Dry Density: (Mg/m <sup>3</sup> )  | 1.90 | 1.86 | 1.85 | 1.89 | 1.84 |

### COMPLIANCE DETAILS

|                                           |       |      |      |       |      |
|-------------------------------------------|-------|------|------|-------|------|
| Compliance Limit (%)                      | 95    | 95   | 95   | 95    | 95   |
| Maximum Dry Density: (Mg/m <sup>3</sup> ) | 1.87  | 1.87 | 1.87 | 1.87  | 1.87 |
| Percentage Compaction: (%)                | 101.4 | 99.6 | 99.0 | 101.0 | 98.6 |
| Particle Density (Mg/m <sup>3</sup> )     | 2.53  | 2.53 | 2.53 | 2.53  | 2.53 |
| Volume of Air Voids (%)                   | 1.5   | 0.9  | 1.1  | 2.7   | 0.6  |

## Remarks:

Test results reported relate only to the items tested.  
This report shall not be reproduced except in full without approval of the Laboratory.

**TEST REPORT:****DETERMINATION OF IN-SITU DENSITY**

BS 1377:Part 9:1990 clause 2.2 Large Cylinder Sand Replacement

REPORT NUMBER:

C1055642 / 166048.1.1.6

## LOCATION DETAILS

Laboratory Ref:

260534

Client Ref:

Collins

Test location:

E12 - Formation SRD Correlation

Weather Conditions:

Sunny

## TEST DETAILS

Bulk Density: (Mg/m<sup>3</sup>)

2.07

Moisture Content: (%)

17

Dry Density: (Mg/m<sup>3</sup>)

1.78

## COMPLIANCE DETAILS

Compliance Limit (%)

95

Maximum Dry Density: (Mg/m<sup>3</sup>)

1.87

Percentage Compaction: (%)

95.1

**Particle Density (Mg/m<sup>3</sup>)**

2.53

**Volume of Air Voids (%)**

0.2

## Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

Report date 14-Feb-22



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## APPENDIX H

Hand Shear Vane, Mexe Cone and Dynamic Cone Penetrometer  
Tests

**TEST REPORT: DETERMINATION OF SHEAR STRENGTH**

Hand Shear Vane Method

REPORT NUMBER: C1055642 / 165623.3.1.1

CLIENT REF: 1055642

CLIENT: Collins Earthworks Limited

DATE TESTED: 18/01/2022

ADDRESS: Whiteley Road, Ripley, Derbyshire, DE5 3QL

TESTED BY: Mitchell Butler

SITE: Havant, Portsmouth

LOCATION: B4 - Layer 1 Finished Formation

SUPPLIER: Site Won

SERIAL NUMBER: HSV10

MATERIAL: Soil/ballast

CORRECTION FACTOR: 1.4

**TEST RESULTS**

| Test No | Location                        | Reading 1 (kpa) | Reading 2 (kpa) | Reading 3 (kpa) | Reading 4 (kpa) | Reading 5 (kpa) | Reading 6 (kpa) | Average Shear Strength (kpa) | Comment                    |
|---------|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------|----------------------------|
| 1       | B4 - Layer 1 Finished Formation | 0               | 0               | 0               | 0               | 0               | 0               | 0                            | Could not penetrate ground |

**Remarks:**

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

Could not penetrate ground

Amended report. This test report supersedes test report version 1 - Change of location

For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

Report date 25-Jan-22

|                       |                                        |                           |                                            |
|-----------------------|----------------------------------------|---------------------------|--------------------------------------------|
| <b>TEST REPORT:</b>   | <b>DETERMINATION OF SHEAR STRENGTH</b> |                           |                                            |
|                       | Hand Shear Vane Method                 |                           |                                            |
| <b>REPORT NUMBER:</b> | C1055642 / 165623.3.1.2                |                           |                                            |
| <b>CLIENT REF:</b>    | 1055642                                | <b>CLIENT:</b>            | Collins Earthworks Limited                 |
| <b>DATE TESTED:</b>   | 18/01/2022                             | <b>ADDRESS:</b>           | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| <b>TESTED BY:</b>     | Mitchell Butler                        | <b>SITE:</b>              | Havant, Portsmouth                         |
| <b>LOCATION:</b>      | C4                                     | <b>SUPPLIER:</b>          | Site Won                                   |
| <b>SERIAL NUMBER:</b> | HSV10                                  | <b>MATERIAL:</b>          | Soil/ballast                               |
|                       |                                        | <b>CORRECTION FACTOR:</b> | 1.4                                        |

## TEST RESULTS

| Test No | Location | Reading 1 (kpa) | Reading 2 (kpa) | Reading 3 (kpa) | Reading 4 (kpa) | Reading 5 (kpa) | Reading 6 (kpa) | Average Shear Strength (kpa) | Comment                    |
|---------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------------------|----------------------------|
| 1       | C4       | 0               | 0               | 0               | 0               | 0               | 0               | 0                            | Could not penetrate ground |

Remarks:  
 Test results reported relate only to the items tested.  
 This report shall not be reproduced except in full without approval of the Laboratory.  
 Could not penetrate ground

For and on behalf of CTS  
 Vincent Faulkner - Operations Supervisor



Approved Signatory  
 19-Jan-22

TEST REPORT: SOILS : MEXI PROBE SURVEY

REPORT NUMBER: C1055642 / 165071.3.1.1

CLIENT REF: 1055642

CLIENT:

Collins Earthworks Limited

DATE TESTED: 13/01/2022

ADDRESS:

Whiteley Road, Ripley, Derbyshire, DE5 3QL

TESTED BY: Mitchell Butler

SITE:

Havant, Portsmouth

LOCATION: G12 to F10

SUPPLIER:

Site Won

MATERIAL: Crushed stone/clay

## TEST RESULTS

| Location Details | Depth CBR Values are recorded from Original Ground Level |       |       |       |       |       |                                            |
|------------------|----------------------------------------------------------|-------|-------|-------|-------|-------|--------------------------------------------|
| Layer & grid ref | 100mm                                                    | 200mm | 300mm | 400mm | 500mm | 600mm | Comment                                    |
| G12 Test 1       | 7.5                                                      | 0     |       |       |       |       |                                            |
| G12 Test 2       | 6                                                        | 5     |       |       |       |       | Unable to penetrate ground on 3rd location |
| E12 Test 1       | 3                                                        | 0     |       |       |       |       |                                            |
| E12 Test 2       | 4                                                        | 3.5   |       |       |       |       | Unable to penetrate ground on 3rd location |
| F12 Test 1       | 5.5                                                      | 0     |       |       |       |       |                                            |
| F12 Test 2       | 5                                                        | 4.5   |       |       |       |       | Unable to penetrate ground on 3rd location |
| G11 Test 1       | 9.5                                                      | 0     |       |       |       |       | Unable to penetrate ground on 2nd location |
| F11 Test 1       | 9                                                        | 0     |       |       |       |       |                                            |
| F11 Test 2       | 8                                                        | 0     |       |       |       |       | Unable to penetrate ground on 3rd location |

## Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

Instructed to carried out 3 of each grid square

**TEST REPORT:**
**SOILS : MEXI PROBE SURVEY**
**REPORT NUMBER:**
**C1055642 / 165071.3.1.1**

|               |     |    |   |  |  |  |                                                           |
|---------------|-----|----|---|--|--|--|-----------------------------------------------------------|
| G10<br>Test 1 | 2.5 | 0  |   |  |  |  |                                                           |
| G10<br>Test 2 | 8.5 | 0  |   |  |  |  | Unable<br>to<br>penetrate<br>ground<br>on 3rd<br>location |
| F10<br>Test 1 | 6   | 11 | 7 |  |  |  | Unable<br>to<br>penetrate<br>ground<br>on 2nd<br>location |

**Remarks:**

Test results reported relate only to the items tested.  
This report shall not be reproduced except in full without approval of the Laboratory.  
Instructed to carried out 3 of each grid square

For and on behalf of CTS  
Vincent Faulkner - Operations Supervisor



Approved Signatory  
14-Jan-22

**TEST REPORT: SOILS : MEXI PROBE SURVEY**

REPORT NUMBER: C1055642 / 165623.4.1.1

CLIENT REF: 1055642

CLIENT: Collins Earthworks Limited

DATE TESTED: 18/01/2022

ADDRESS: Whiteley Road, Ripley, Derbyshire, DE5 3QL

TESTED BY: Mitchell Butler

SITE: Havant, Portsmouth

LOCATION: B4 - Layer 1 Finished Formation

SUPPLIER: Site Won

MATERIAL: Soil/ballast

**TEST RESULTS**

| Location Details                | Depth CBR Values are recorded from Original Ground Level |       |       |       |       |       | Comment                    |
|---------------------------------|----------------------------------------------------------|-------|-------|-------|-------|-------|----------------------------|
|                                 | 100mm                                                    | 200mm | 300mm | 400mm | 500mm | 600mm |                            |
| B4 - Layer 1 Finished Formation |                                                          |       |       |       |       |       | Could not penetrate ground |
| C4 - Formation                  |                                                          |       |       |       |       |       | Could not penetrate ground |

**Remarks:**

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

Could not penetrate ground

Amended report. This test report supersedes test report version 2 - Change of location

For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

Report date 25-Jan-22

**TEST REPORT:** **Estimation of California Bearing Ratio By DCP Method**  
In accordance with in-house procedure STP S9 (60° Cone)

**REPORT NUMBER:** C1055642 / 166190.2.1.1

**CLIENT REF:** 1055642 **CLIENT:** Collins Earthworks Limited

**DATE COMPLETED:** 20/01/2022 **ADDRESS:** Whiteley Road, Ripley, Derbyshire, DE5 3QL

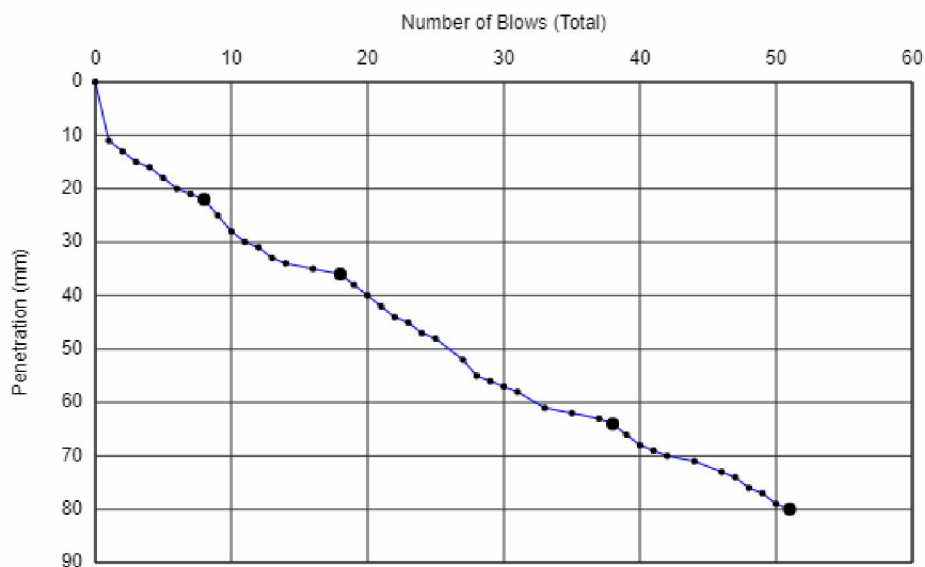
**TESTED BY:** Thomas Cook **SITE:** Havant, Portsmouth

**LAYERS REMOVED:** No layers removed **LOCATION:** C13

**MATERIAL:** Ballast

## TEST RESULTS

| Gradient Ref | Depth from (mm) | Depth to (mm) | No. of blows (per layer) | Blow rate (mm/blow) | Estimated C.B.R. Value (%) |
|--------------|-----------------|---------------|--------------------------|---------------------|----------------------------|
| 1            | 9               | 22            | 8                        | 1.6                 | >100                       |
| 2            | 22              | 36            | 10                       | 1.4                 | >100                       |
| 3            | 36              | 64            | 20                       | 1.4                 | >100                       |
| 4            | 64              | 80            | 13                       | 1.2                 | >100                       |



**Remarks:**  
Depth of layer(s) removed before test: 0mm  
Layer Type: No layers removed Test results reported relate only to the items tested.  
This report shall not be reproduced except in full without approval of the Laboratory.

For and on behalf of CTS  
Vincent Faulkner - Operations Supervisor



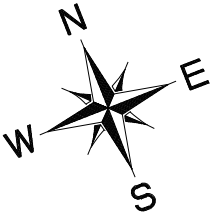
Approved Signatory  
21-Jan-22



0927

# APPENDIX I

CBR Plate Load Tests



Key  
SF - Subformation Layer  
FL - Formation Layer  
L1 - Layer 1  
L2 - Layer 2  
RT- Retest

**Bold Text** indicates test value falls below that specified (5%)

- Key
- Black grid lines spaced at 25m x 25m. Use grid squares!! (not intersections)
  - Pink numbers representing the predicted number of layers in each grid square TBC
  - Building Footprint:

|     |          |                 |    |       |
|-----|----------|-----------------|----|-------|
| P01 | 16-09-21 | Original Issue  | SH | PG    |
| Rev | Date     | Revision detail | By | Chk'd |

Client: TSL PROJECTS

Project: Havant

Title: Testing Grid & Regime

Status: APPROVAL Suitability: S4

Drawing no: C200810-CEL-XX-XX-DR-X-CTG444-XX Internal Ref: CTG444 Rev P01

Rev: P01 Date: 16-09-2021 Scale: N/A

Drawn: SH Checked: PG Approved: PG

Collins Earthworks Ltd  
Whiteley Road  
Ripley  
Derbyshire  
DE5 3QL

|                                      |                                                                                                                                         |               |                                            |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.1                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 07/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | E4 07.12.21                                                                                                                             | MATERIAL:     | Crushed rock with stones, fines and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                         |

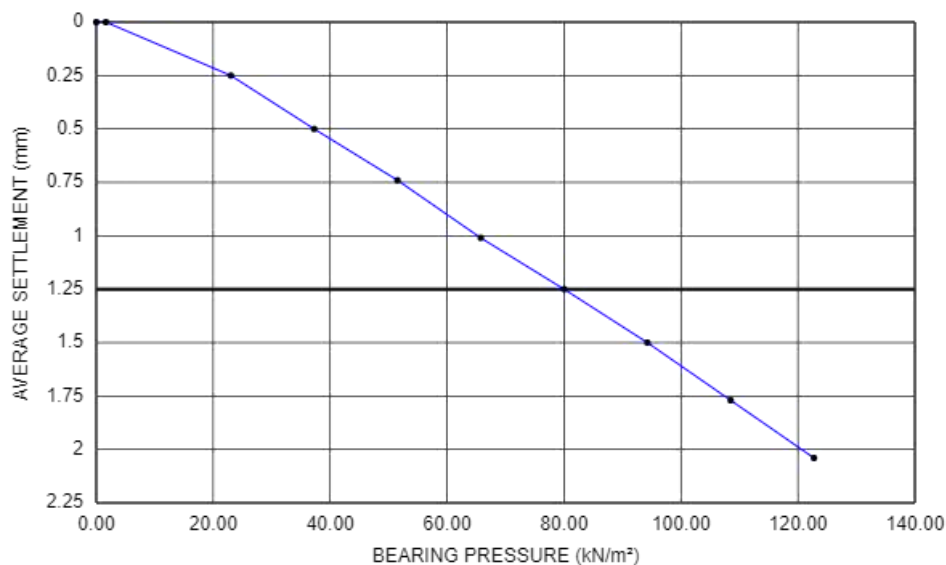
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 123 kN/m<sup>2</sup>  
 Max settlement: 2.04 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 80 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 40 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 5.8%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 5.8 %

#### Remarks:

Test results reported relate only to the items tested.  
 This report shall not be reproduced except in full without approval of the Laboratory.

## TEST REPORT:

## Determination of Equivalent CBR Value

In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

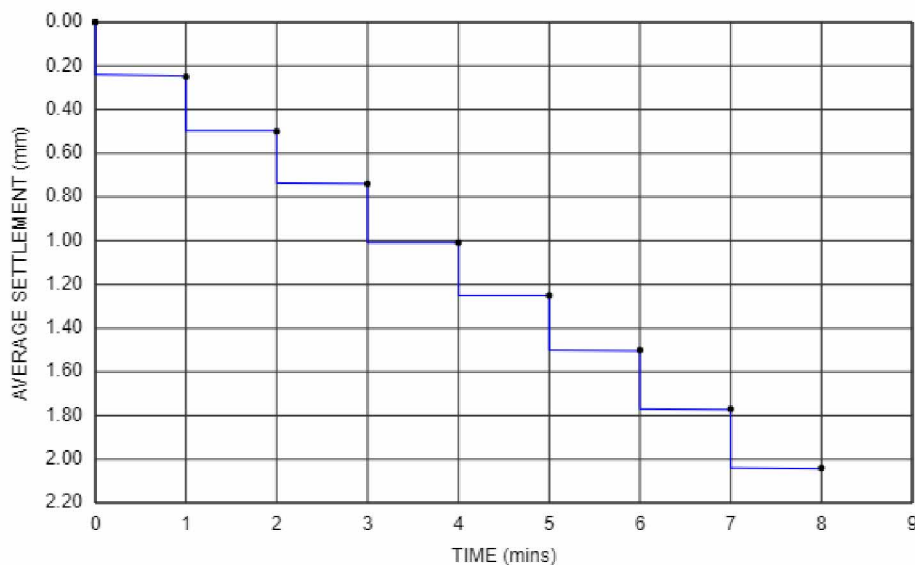
## REPORT NUMBER:

C1055642 / 161585.1.1.1

## TEST RESULTS

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 3.7                   | 23.0                     | -0.21         | -0.21 | -0.32 | 0.21             | 0.21 | 0.32 | 0.25               |
| 6.0                   | 37.3                     | -0.44         | -0.50 | -0.55 | 0.44             | 0.50 | 0.55 | 0.50               |
| 8.2                   | 51.5                     | -0.68         | -0.76 | -0.78 | 0.68             | 0.76 | 0.78 | 0.74               |
| 10.5                  | 65.8                     | -0.90         | -1.03 | -1.10 | 0.90             | 1.03 | 1.10 | 1.01               |
| 12.8                  | 80.0                     | -1.17         | -1.20 | -1.38 | 1.17             | 1.20 | 1.38 | 1.25               |
| 15.1                  | 94.3                     | -1.39         | -1.42 | -1.70 | 1.39             | 1.42 | 1.70 | 1.50               |
| 17.3                  | 108.5                    | -1.65         | -1.66 | -2.01 | 1.65             | 1.66 | 2.01 | 1.77               |
| 19.6                  | 122.7                    | -1.86         | -1.95 | -2.32 | 1.86             | 1.95 | 2.32 | 2.04               |

SETTLEMENT RELATIONSHIP vs TIME



## Remarks:

Test results reported relate only to the items tested.

This report shall not be reproduced except in full without approval of the Laboratory.

For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

07-Dec-21



0927

|                                      |                                                                                                                                         |               |                                             |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                             |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                             |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.2                                                                                                                 |               |                                             |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                  |
| DATE COMPLETED:                      | 07/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL  |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                          |
| LOCATION:                            | E5. 07.12.21                                                                                                                            | MATERIAL:     | Crushed rock with stones, fines, and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                    |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                     |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                          |

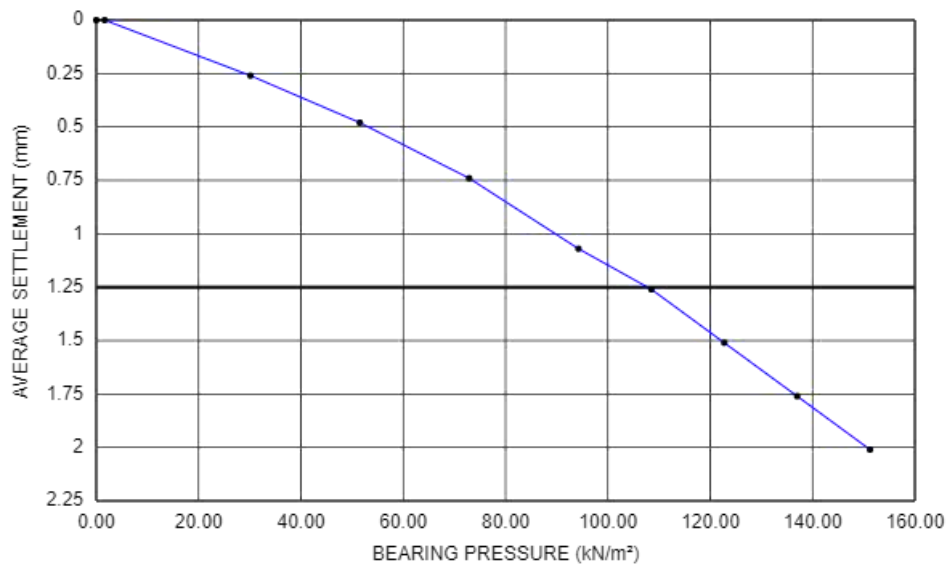
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 151 kN/m<sup>2</sup>  
 Max settlement: 2.01 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 108 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 54 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 9.7%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 9.7 %

#### Remarks:

Test results reported relate only to the items tested.  
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**TEST REPORT:**
**Determination of Equivalent CBR Value**

In-house Test Procedure STP S8 &amp; Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

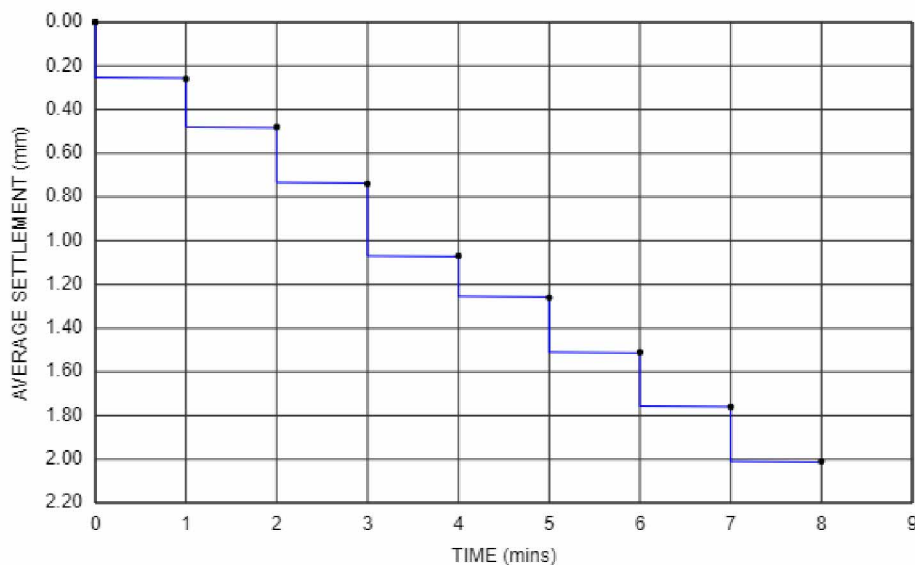
**REPORT NUMBER:**

C1055642 / 161585.1.1.2

**TEST RESULTS**

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 4.8                   | 30.1                     | -0.24         | -0.19 | -0.34 | 0.24             | 0.19 | 0.34 | 0.26               |
| 8.2                   | 51.5                     | -0.46         | -0.36 | -0.63 | 0.46             | 0.36 | 0.63 | 0.48               |
| 11.6                  | 72.9                     | -0.72         | -0.55 | -0.94 | 0.72             | 0.55 | 0.94 | 0.74               |
| 15.1                  | 94.3                     | -1.09         | -0.87 | -1.26 | 1.09             | 0.87 | 1.26 | 1.07               |
| 17.3                  | 108.5                    | -1.23         | -1.04 | -1.50 | 1.23             | 1.04 | 1.50 | 1.26               |
| 19.6                  | 122.7                    | -1.48         | -1.20 | -1.86 | 1.48             | 1.20 | 1.86 | 1.51               |
| 21.9                  | 137.0                    | -1.71         | -1.43 | -2.14 | 1.71             | 1.43 | 2.14 | 1.76               |
| 24.2                  | 151.2                    | -1.97         | -1.75 | -2.32 | 1.97             | 1.75 | 2.32 | 2.01               |

SETTLEMENT RELATIONSHIP vs TIME


**Remarks:**

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

07-Dec-21



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|                                      |                                                                                                                                         |               |                                            |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.3                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 07/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | E6. 07.12.21                                                                                                                            | MATERIAL:     | Crushed rock with stones, fines and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                         |

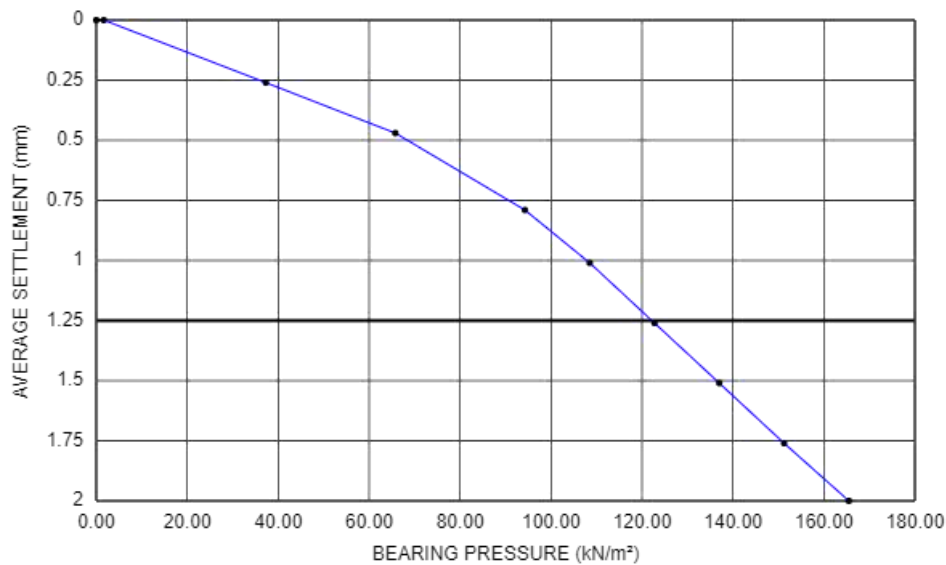
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 165 kN/m<sup>2</sup>  
 Max settlement: 2.00 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 122 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 61 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 12.0%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 12.0 %

#### Remarks:

Test results reported relate only to the items tested.  
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## TEST REPORT:

## Determination of Equivalent CBR Value

In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

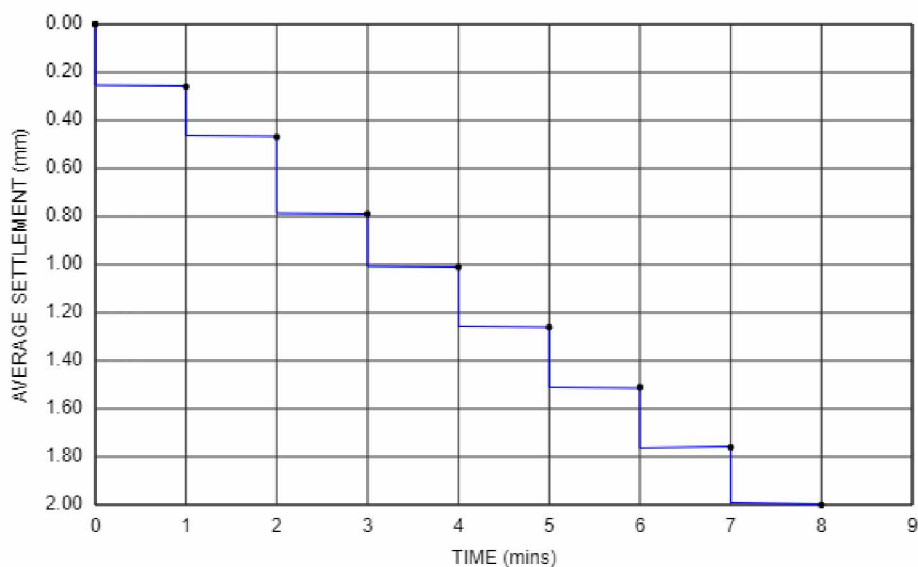
## REPORT NUMBER:

C1055642 / 161585.1.1.3

## TEST RESULTS

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 6.0                   | 37.3                     | -0.14         | -0.42 | -0.21 | 0.14             | 0.42 | 0.21 | 0.26               |
| 10.5                  | 65.8                     | -0.25         | -0.70 | -0.45 | 0.25             | 0.70 | 0.45 | 0.47               |
| 15.1                  | 94.3                     | -0.40         | -1.11 | -0.86 | 0.40             | 1.11 | 0.86 | 0.79               |
| 17.3                  | 108.5                    | -0.60         | -1.40 | -1.03 | 0.60             | 1.40 | 1.03 | 1.01               |
| 19.6                  | 122.7                    | -0.69         | -1.87 | -1.22 | 0.69             | 1.87 | 1.22 | 1.26               |
| 21.9                  | 137.0                    | -0.97         | -2.07 | -1.50 | 0.97             | 2.07 | 1.50 | 1.51               |
| 24.2                  | 151.2                    | -1.24         | -2.25 | -1.78 | 1.24             | 2.25 | 1.78 | 1.76               |
| 26.4                  | 165.5                    | -1.50         | -2.54 | -1.95 | 1.50             | 2.54 | 1.95 | 2.00               |

SETTLEMENT RELATIONSHIP vs TIME



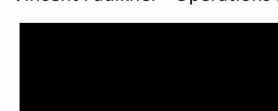
## Remarks:

Test results reported relate only to the items tested.

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Vincent Faulkner - Operations Supervisor



Approved Signatory

07-Dec-21



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|                                      |                                                                                                                                         |               |                                            |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.4                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 07/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | E7. 07.12.21                                                                                                                            | MATERIAL:     | Crushed rock with stones, fines and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: |                                                                                                                                         | SUPPLIER:     | On site                                    |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | Site won                                   |
| SAMPLING PLAN:                       | CTS procedure                                                                                                                           | SAMPLE TAKEN: | No                                         |

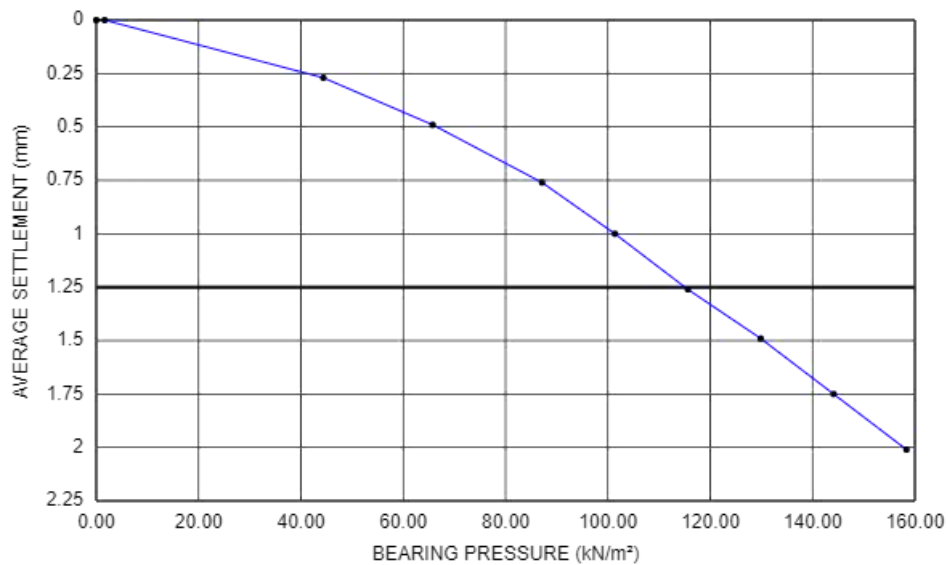
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 158 kN/m<sup>2</sup>  
 Max settlement: 2.01 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 115 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 57 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 10.8%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 10.8 %

#### Remarks:

Test results reported relate only to the items tested.  
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## TEST REPORT:

## Determination of Equivalent CBR Value

In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

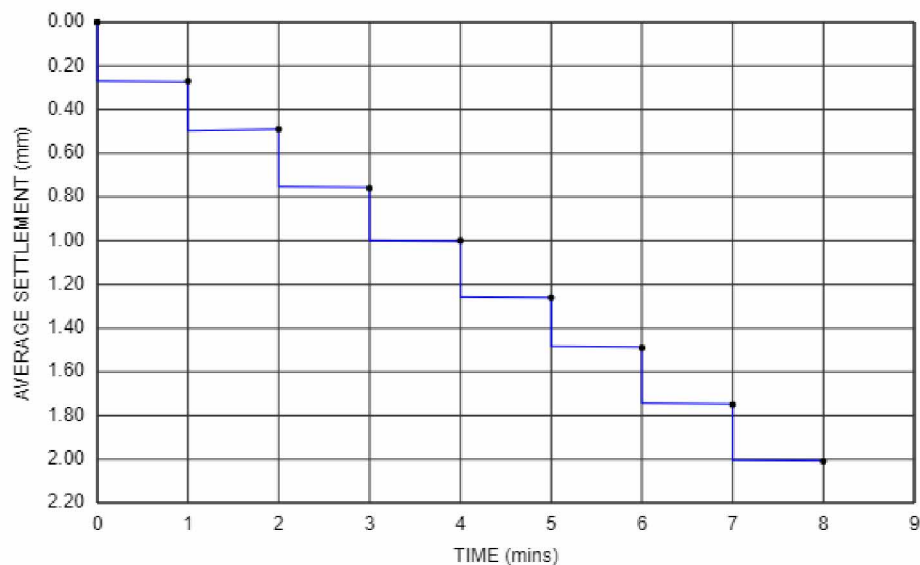
## REPORT NUMBER:

C1055642 / 161585.1.1.4

## TEST RESULTS

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 7.1                   | 44.4                     | -0.33         | -0.26 | -0.23 | 0.33             | 0.26 | 0.23 | 0.27               |
| 10.5                  | 65.8                     | -0.56         | -0.43 | -0.48 | 0.56             | 0.43 | 0.48 | 0.49               |
| 13.9                  | 87.1                     | -0.81         | -0.70 | -0.76 | 0.81             | 0.70 | 0.76 | 0.76               |
| 16.2                  | 101.4                    | -1.19         | -0.92 | -0.90 | 1.19             | 0.92 | 0.90 | 1.00               |
| 18.5                  | 115.6                    | -1.36         | -1.19 | -1.23 | 1.36             | 1.19 | 1.23 | 1.26               |
| 20.7                  | 129.9                    | -1.56         | -1.36 | -1.54 | 1.56             | 1.36 | 1.54 | 1.49               |
| 23.0                  | 144.1                    | -1.81         | -1.54 | -1.89 | 1.81             | 1.54 | 1.89 | 1.75               |
| 25.3                  | 158.4                    | -2.01         | -1.85 | -2.16 | 2.01             | 1.85 | 2.16 | 2.01               |

SETTLEMENT RELATIONSHIP vs TIME



## Remarks:

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

07-Dec-21



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|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.5                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 07/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | E8. 07.12.21                                                                                                                            | MATERIAL:     | Crushed rock with stones, fines and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                         |

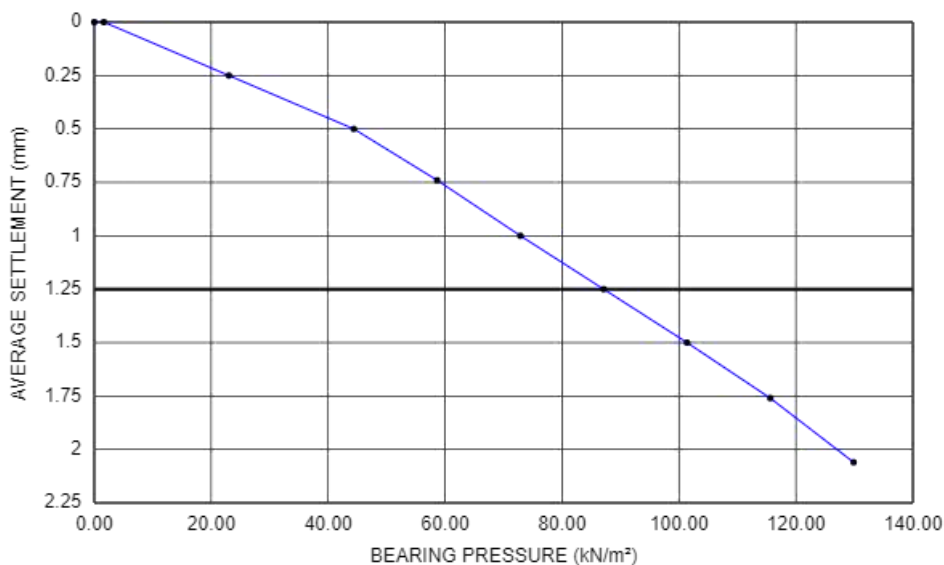
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 130 kN/m<sup>2</sup>  
 Max settlement: 2.06 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 87 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 43 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 6.6%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.6 %

#### Remarks:

Test results reported relate only to the items tested.

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**TEST REPORT:**
**Determination of Equivalent CBR Value**

In-house Test Procedure STP S8 &amp; Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

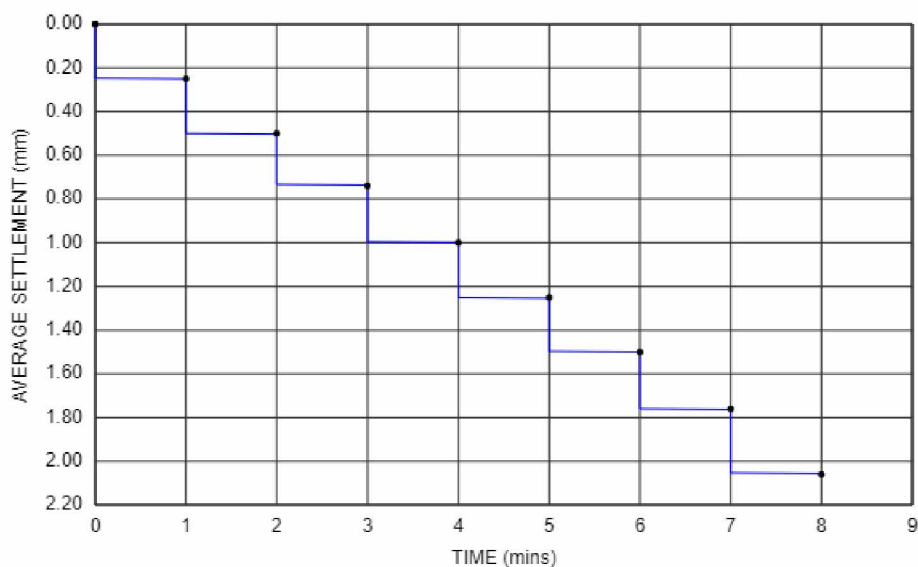
**REPORT NUMBER:**

C1055642 / 161585.1.1.5

**TEST RESULTS**

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 3.7                   | 23.0                     | -0.23         | -0.23 | -0.29 | 0.23             | 0.23 | 0.29 | 0.25               |
| 7.1                   | 44.4                     | -0.53         | -0.44 | -0.54 | 0.53             | 0.44 | 0.54 | 0.50               |
| 9.4                   | 58.6                     | -0.73         | -0.68 | -0.80 | 0.73             | 0.68 | 0.80 | 0.74               |
| 11.6                  | 72.9                     | -0.97         | -0.89 | -1.14 | 0.97             | 0.89 | 1.14 | 1.00               |
| 13.9                  | 87.1                     | -1.20         | -1.19 | -1.37 | 1.20             | 1.19 | 1.37 | 1.25               |
| 16.2                  | 101.4                    | -1.46         | -1.38 | -1.66 | 1.46             | 1.38 | 1.66 | 1.50               |
| 18.5                  | 115.6                    | -1.69         | -1.67 | -1.93 | 1.69             | 1.67 | 1.93 | 1.76               |
| 20.7                  | 129.9                    | -1.84         | -1.99 | -2.34 | 1.84             | 1.99 | 2.34 | 2.06               |

SETTLEMENT RELATIONSHIP vs TIME


**Remarks:**

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

10-Dec-21



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|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.6                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 07/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | E9. 07.12.21                                                                                                                            | MATERIAL:     | Crushed rock with stones, fines and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                         |

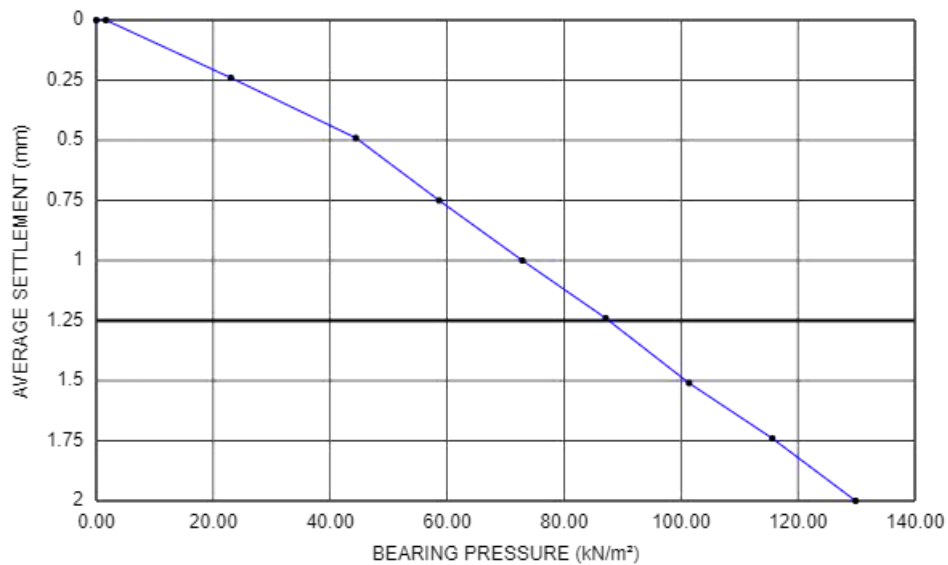
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 130 kN/m<sup>2</sup>  
 Max settlement: 2.00 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 88 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 44 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 6.8%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.8 %

#### Remarks:

Test results reported relate only to the items tested.  
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**TEST REPORT:**
**Determination of Equivalent CBR Value**

In-house Test Procedure STP S8 &amp; Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

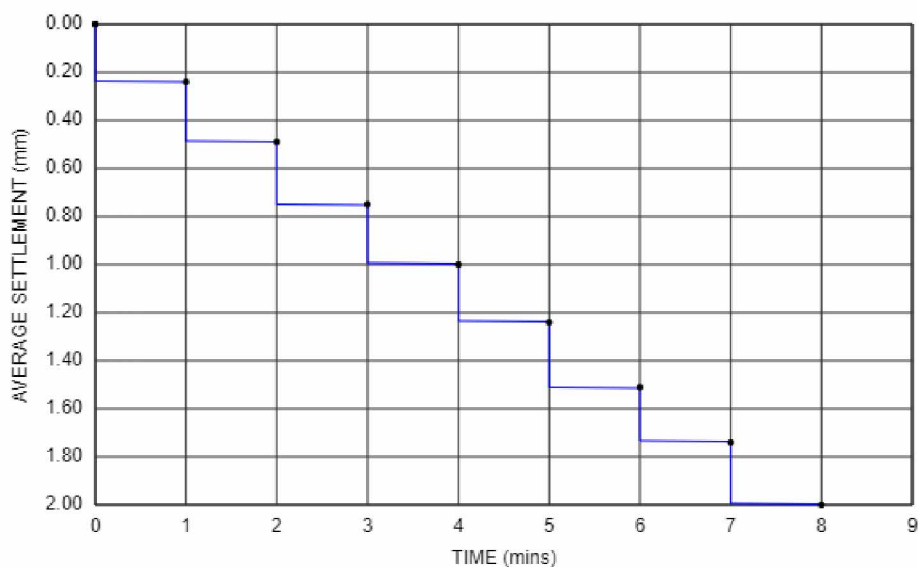
**REPORT NUMBER:**

C1055642 / 161585.1.1.6

**TEST RESULTS**

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 3.7                   | 23.0                     | -0.32         | -0.21 | -0.19 | 0.32             | 0.21 | 0.19 | 0.24               |
| 7.1                   | 44.4                     | -0.58         | -0.50 | -0.39 | 0.58             | 0.50 | 0.39 | 0.49               |
| 9.4                   | 58.6                     | -0.85         | -0.75 | -0.66 | 0.85             | 0.75 | 0.66 | 0.75               |
| 11.6                  | 72.9                     | -1.12         | -0.98 | -0.89 | 1.12             | 0.98 | 0.89 | 1.00               |
| 13.9                  | 87.1                     | -1.37         | -1.24 | -1.10 | 1.37             | 1.24 | 1.10 | 1.24               |
| 16.2                  | 101.4                    | -1.73         | -1.45 | -1.36 | 1.73             | 1.45 | 1.36 | 1.51               |
| 18.5                  | 115.6                    | -1.99         | -1.68 | -1.54 | 1.99             | 1.68 | 1.54 | 1.74               |
| 20.7                  | 129.9                    | -2.28         | -1.93 | -1.78 | 2.28             | 1.93 | 1.78 | 2.00               |

SETTLEMENT RELATIONSHIP vs TIME


**Remarks:**

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

10-Dec-21



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|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.7                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 08/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | D4. 07.12.21                                                                                                                            | MATERIAL:     | Crushed rock with stones, fines and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                         |

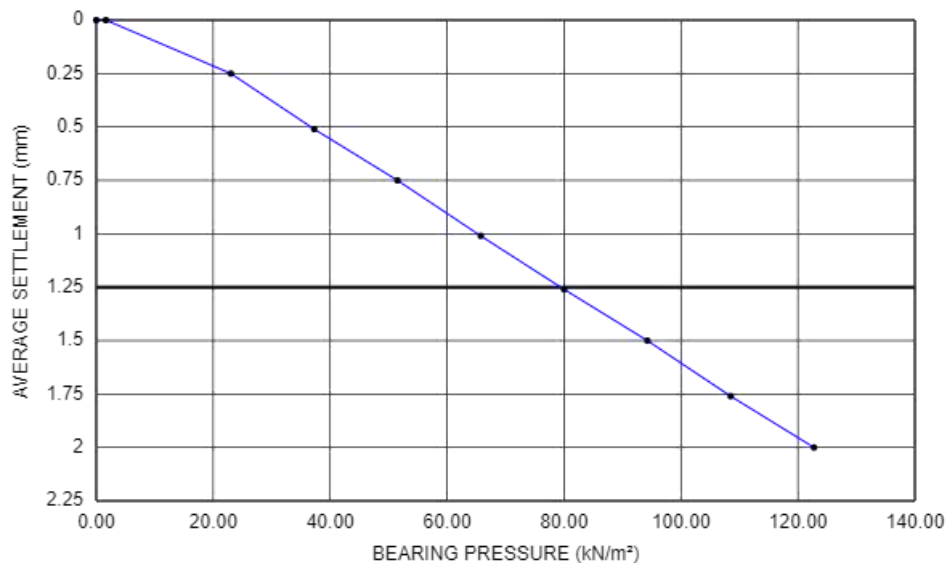
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 123 kN/m<sup>2</sup>  
 Max settlement: 2.00 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 79 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 40 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 5.7%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 5.7 %

#### Remarks:

Test results reported relate only to the items tested.  
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**TEST REPORT:**
**Determination of Equivalent CBR Value**

In-house Test Procedure STP S8 &amp; Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

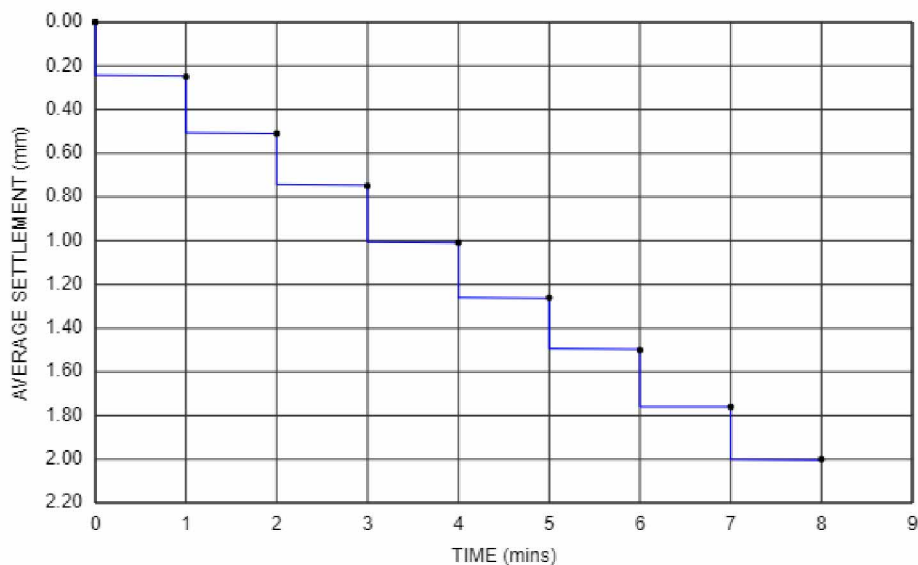
**REPORT NUMBER:**

C1055642 / 161585.1.1.7

**TEST RESULTS**

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 3.7                   | 23.0                     | -0.30         | -0.19 | -0.25 | 0.30             | 0.19 | 0.25 | 0.25               |
| 6.0                   | 37.3                     | -0.60         | -0.41 | -0.52 | 0.60             | 0.41 | 0.52 | 0.51               |
| 8.2                   | 51.5                     | -0.79         | -0.68 | -0.77 | 0.79             | 0.68 | 0.77 | 0.75               |
| 10.5                  | 65.8                     | -1.10         | -0.93 | -1.00 | 1.10             | 0.93 | 1.00 | 1.01               |
| 12.8                  | 80.0                     | -1.36         | -1.20 | -1.23 | 1.36             | 1.20 | 1.23 | 1.26               |
| 15.1                  | 94.3                     | -1.63         | -1.46 | -1.40 | 1.63             | 1.46 | 1.40 | 1.50               |
| 17.3                  | 108.5                    | -1.88         | -1.68 | -1.72 | 1.88             | 1.68 | 1.72 | 1.76               |
| 19.6                  | 122.7                    | -2.20         | -1.86 | -1.95 | 2.20             | 1.86 | 1.95 | 2.00               |

SETTLEMENT RELATIONSHIP vs TIME


**Remarks:**

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

10-Dec-21



0927

|                                      |                                                                                                                                         |               |                                            |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.8                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 08/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | C4. 07.12.21                                                                                                                            | MATERIAL:     | Crushed rock with stones, fines and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | Yes                                        |

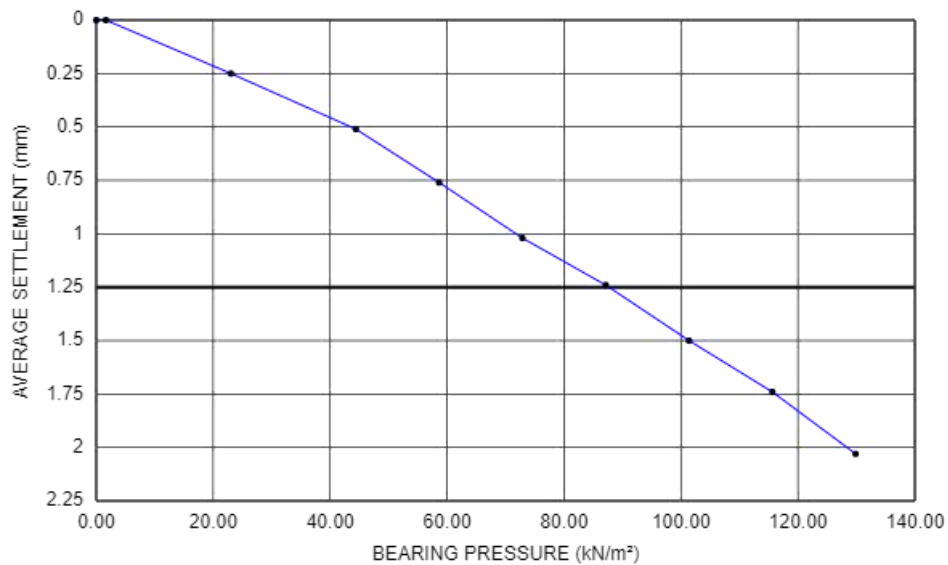
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 130 kN/m<sup>2</sup>  
 Max settlement: 2.03 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 88 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 44 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 6.8%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.8 %

#### Remarks:

Test results reported relate only to the items tested.  
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## TEST REPORT:

## Determination of Equivalent CBR Value

In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

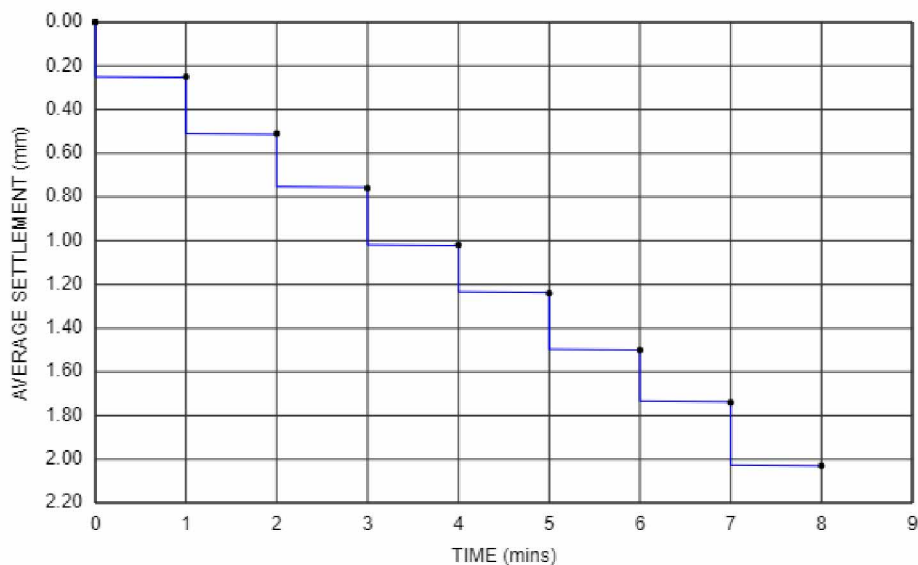
## REPORT NUMBER:

C1055642 / 161585.1.1.8

## TEST RESULTS

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 3.7                   | 23.0                     | -0.20         | -0.29 | -0.27 | 0.20             | 0.29 | 0.27 | 0.25               |
| 7.1                   | 44.4                     | -0.41         | -0.55 | -0.58 | 0.41             | 0.55 | 0.58 | 0.51               |
| 9.4                   | 58.6                     | -0.69         | -0.78 | -0.80 | 0.69             | 0.78 | 0.80 | 0.76               |
| 11.6                  | 72.9                     | -0.91         | -1.01 | -1.15 | 0.91             | 1.01 | 1.15 | 1.02               |
| 13.9                  | 87.1                     | -1.17         | -1.21 | -1.33 | 1.17             | 1.21 | 1.33 | 1.24               |
| 16.2                  | 101.4                    | -1.39         | -1.49 | -1.62 | 1.39             | 1.49 | 1.62 | 1.50               |
| 18.5                  | 115.6                    | -1.65         | -1.71 | -1.85 | 1.65             | 1.71 | 1.85 | 1.74               |
| 20.7                  | 129.9                    | -1.90         | -2.00 | -2.19 | 1.90             | 2.00 | 2.19 | 2.03               |

SETTLEMENT RELATIONSHIP vs TIME



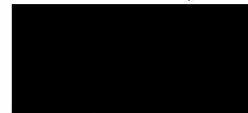
## Remarks:

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

10-Dec-21



0927

|                                      |                                                                                                                                         |               |                                            |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.9                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 08/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | D8. 07.12.21                                                                                                                            | MATERIAL:     | Crushed rock with stones, fines and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                         |

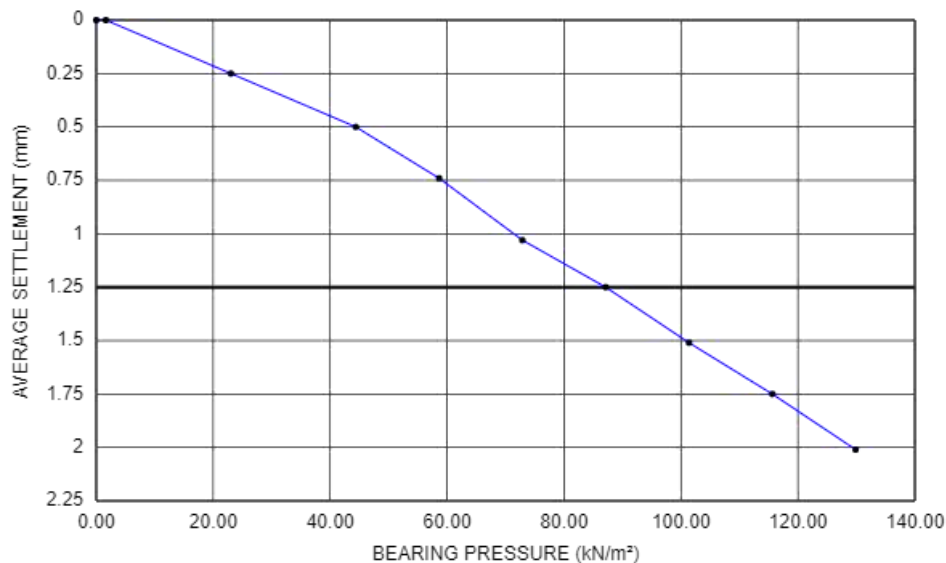
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 130 kN/m<sup>2</sup>  
 Max settlement: 2.01 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 87 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 44 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 6.7%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 6.7 %

#### Remarks:

Test results reported relate only to the items tested.  
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## TEST REPORT:

## Determination of Equivalent CBR Value

In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

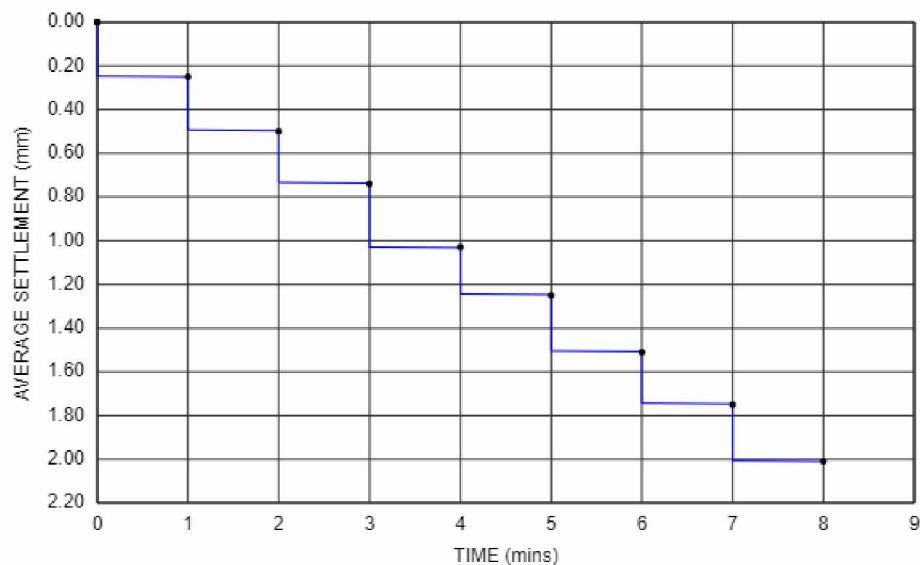
## REPORT NUMBER:

C1055642 / 161585.1.1.9

## TEST RESULTS

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 3.7                   | 23.0                     | -0.18         | -0.30 | -0.27 | 0.18             | 0.30 | 0.27 | 0.25               |
| 7.1                   | 44.4                     | -0.43         | -0.54 | -0.52 | 0.43             | 0.54 | 0.52 | 0.50               |
| 9.4                   | 58.6                     | -0.70         | -0.73 | -0.78 | 0.70             | 0.73 | 0.78 | 0.74               |
| 11.6                  | 72.9                     | -1.03         | -0.98 | -1.09 | 1.03             | 0.98 | 1.09 | 1.03               |
| 13.9                  | 87.1                     | -1.26         | -1.18 | -1.30 | 1.26             | 1.18 | 1.30 | 1.25               |
| 16.2                  | 101.4                    | -1.56         | -1.35 | -1.61 | 1.56             | 1.35 | 1.61 | 1.51               |
| 18.5                  | 115.6                    | -1.72         | -1.58 | -1.94 | 1.72             | 1.58 | 1.94 | 1.75               |
| 20.7                  | 129.9                    | -1.97         | -1.88 | -2.18 | 1.97             | 1.88 | 2.18 | 2.01               |

SETTLEMENT RELATIONSHIP vs TIME



## Remarks:

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

10-Dec-21



0927

|                                      |                                                                                                                                         |               |                                            |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161585.1.1.10                                                                                                                |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 08/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Nnamdi Obasi                                                                                                                            | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | C8. 07.12.21 - Layer 1, Finished Formation                                                                                              | MATERIAL:     | Crushed rock with stones, fines and bricks |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                         |

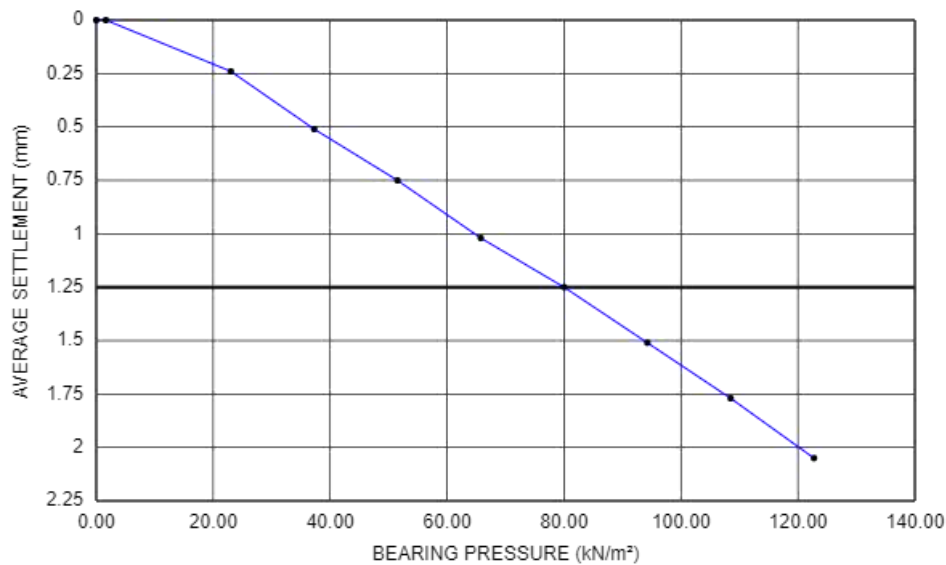
#### Equipment Details

Type of Kentledge: 14 Ton Excavator  
 Plate Diameter: 451 mm  
 Plate Area: 0.159751 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 123 kN/m<sup>2</sup>  
 Max settlement: 2.05 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 80 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 40 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 5.8%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 5.8 %

#### Remarks:

Test results reported relate only to the items tested.  
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 Amended report. This test report supersedes test report version 1 - Change of location

## TEST REPORT:

## Determination of Equivalent CBR Value

In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

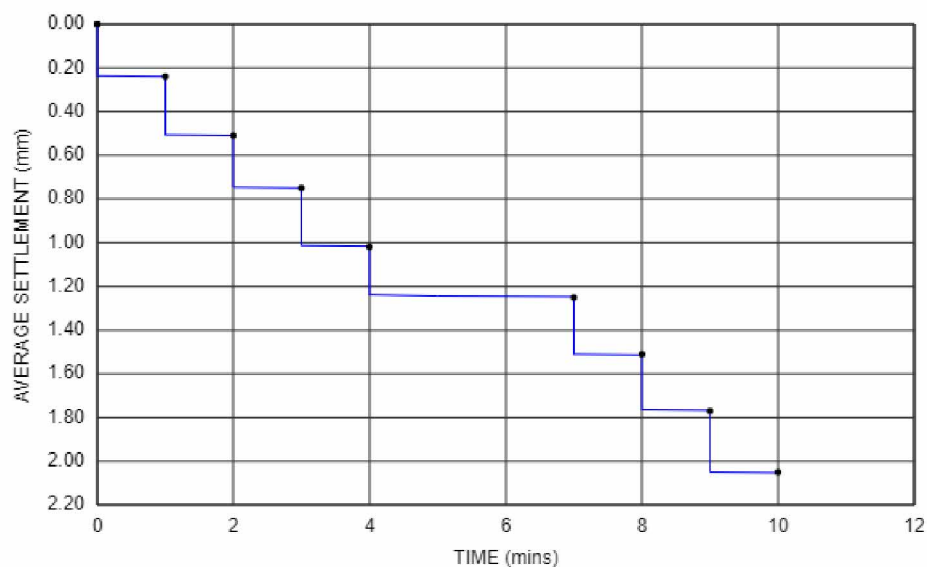
## REPORT NUMBER:

C1055642 / 161585.1.1.10

## TEST RESULTS

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 1.6                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 3.7                   | 23.0                     | -0.23         | -0.20 | -0.29 | 0.23             | 0.20 | 0.29 | 0.24               |
| 6.0                   | 37.3                     | -0.44         | -0.52 | -0.57 | 0.44             | 0.52 | 0.57 | 0.51               |
| 8.2                   | 51.5                     | -0.69         | -0.74 | -0.82 | 0.69             | 0.74 | 0.82 | 0.75               |
| 10.5                  | 65.8                     | -0.93         | -0.97 | -1.15 | 0.93             | 0.97 | 1.15 | 1.02               |
| 12.8                  | 80.0                     | -1.20         | -1.25 | -1.29 | 1.20             | 1.25 | 1.29 | 1.25               |
| 15.1                  | 94.3                     | -1.44         | -1.48 | -1.62 | 1.44             | 1.48 | 1.62 | 1.51               |
| 17.3                  | 108.5                    | -1.70         | -1.65 | -1.95 | 1.70             | 1.65 | 1.95 | 1.77               |
| 19.6                  | 122.7                    | -1.95         | -1.91 | -2.30 | 1.95             | 1.91 | 2.30 | 2.05               |

SETTLEMENT RELATIONSHIP vs TIME



## Remarks:

Test results reported relate only to the items tested.  
This report shall not be reproduced except in full without approval of the Laboratory.  
Amended report. This test report supersedes test report version 1 - Change of location

For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

Report date 25-Jan-22



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|                                      |                                                                                                                                         |               |                                            |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161933.1.1.1                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 09/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Thomas Cook                                                                                                                             | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | C5                                                                                                                                      | MATERIAL:     | Soil with crushed rock                     |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                         |

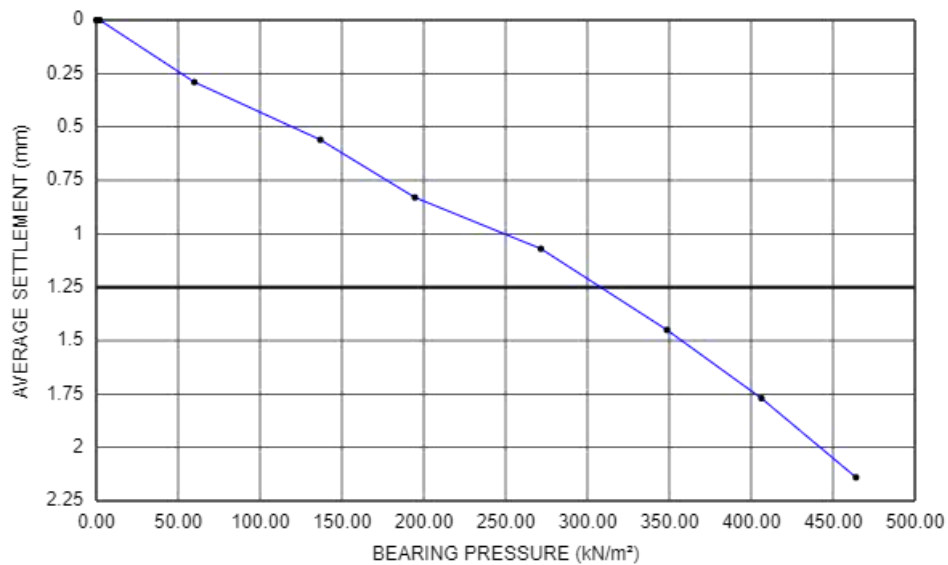
#### Equipment Details

Type of Kentledge: 18 Ton Excavator  
 Plate Diameter: 450 mm  
 Plate Area: 0.159043 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 464 kN/m<sup>2</sup>  
 Max settlement: 2.14 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 308 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 154 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 59.3%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 59.3 %

#### Remarks:

Test results reported relate only to the items tested.  
 This report shall not be reproduced except in full without approval of the Laboratory.

## TEST REPORT:

## Determination of Equivalent CBR Value

In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

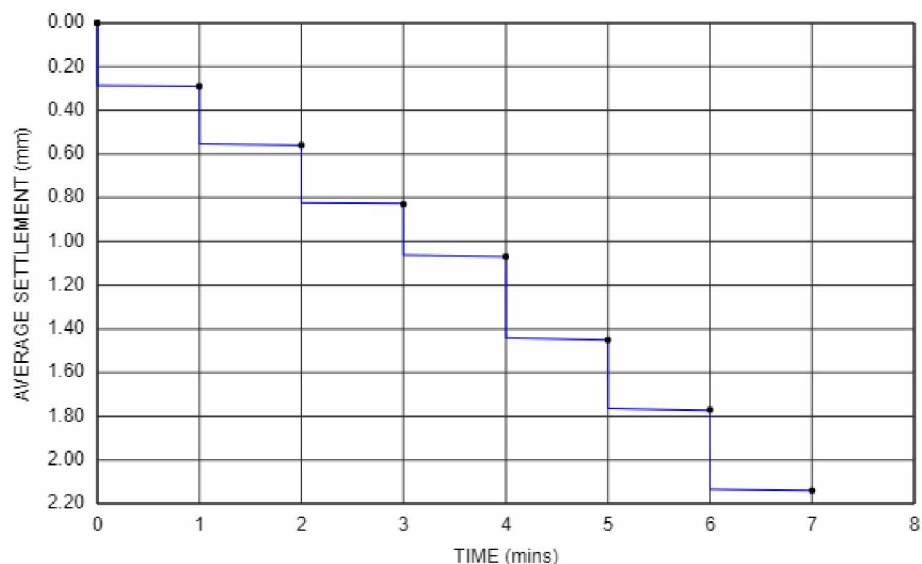
## REPORT NUMBER:

C1055642 / 161933.1.1.1

## TEST RESULTS

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 2.1                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 9.5                   | 59.9                     | -0.22         | -0.27 | -0.38 | 0.22             | 0.27 | 0.38 | 0.29               |
| 21.8                  | 136.9                    | -0.52         | -0.54 | -0.62 | 0.52             | 0.54 | 0.62 | 0.56               |
| 30.9                  | 194.6                    | -0.76         | -0.81 | -0.91 | 0.76             | 0.81 | 0.91 | 0.83               |
| 43.2                  | 271.6                    | -1.05         | -1.10 | -1.06 | 1.05             | 1.10 | 1.06 | 1.07               |
| 55.4                  | 348.6                    | -1.40         | -1.42 | -1.53 | 1.40             | 1.42 | 1.53 | 1.45               |
| 64.6                  | 406.3                    | -1.70         | -1.82 | -1.80 | 1.70             | 1.82 | 1.80 | 1.77               |
| 73.8                  | 464.0                    | -2.02         | -2.19 | -2.21 | 2.02             | 2.19 | 2.21 | 2.14               |

SETTLEMENT RELATIONSHIP vs TIME



## Remarks:

Test results reported relate only to the items tested.

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For and on behalf of CTS

Vincent Faulkner - Operations Supervisor



Approved Signatory

09-Dec-21



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|                                      |                                                                                                                                         |               |                                            |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------|
| TEST REPORT:                         | Determination of Equivalent CBR Value                                                                                                   |               |                                            |
|                                      | In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25) |               |                                            |
| REPORT NUMBER:                       | C1055642 / 161933.1.1.2                                                                                                                 |               |                                            |
| CLIENT REF:                          | 1055642                                                                                                                                 | CLIENT:       | Collins Earthworks Limited                 |
| DATE COMPLETED:                      | 09/12/2021                                                                                                                              | ADDRESS:      | Whiteley Road, Ripley, Derbyshire, DE5 3QL |
| TESTED BY:                           | Thomas Cook                                                                                                                             | SITE:         | Havant, Portsmouth                         |
| LOCATION:                            | B7 - Layer 1, Finished Formation                                                                                                        | MATERIAL:     | Soil with crushed rock                     |
| DISTANCE FROM EDGE OF PLATE TO WALL: | N/A                                                                                                                                     | SUPPLIER:     | Site Won                                   |
| TEST METHOD:                         | Incremental Plate Loading                                                                                                               | SOURCE:       | In-Situ                                    |
| SAMPLING PLAN:                       | Client Specification                                                                                                                    | SAMPLE TAKEN: | No                                         |

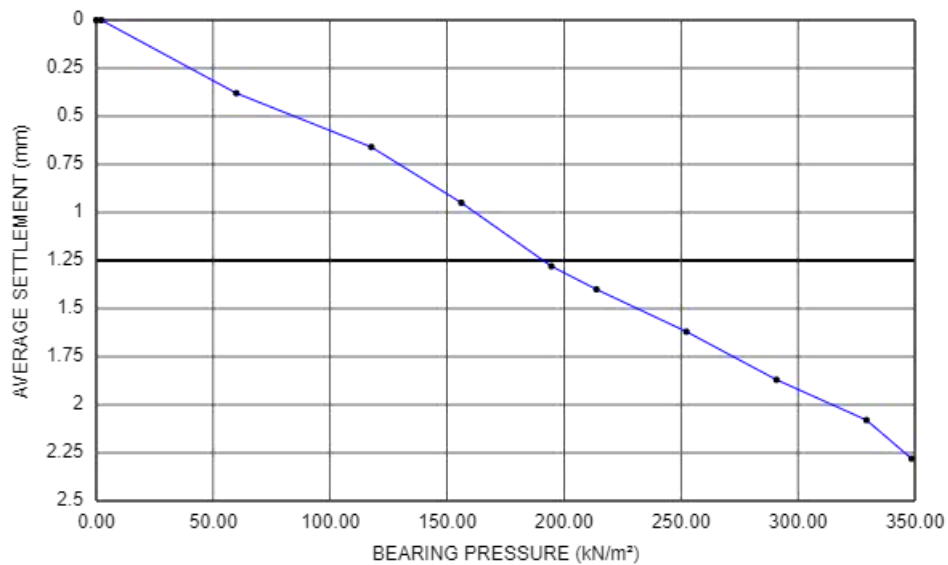
#### Equipment Details

Type of Kentledge: 18 Ton Excavator  
 Plate Diameter: 450 mm  
 Plate Area: 0.159043 m<sup>2</sup>  
 Plate Correction: 0.62

#### Results

Max applied pressure: 349 kN/m<sup>2</sup>  
 Max settlement: 2.28 mm  
 Avg Bearing Pressure (P) at 1.25mm penetration: 191 kN/m<sup>2</sup>  
 Modulus of subgrade K762: 95 kN/m<sup>2</sup>/mm  
 Equivalent C.B.R Value at 1.25mm penetration: 25.9%

APPLIED LOAD vs SETTLEMENT RELATIONSHIP



Equivalent C.B.R Value: 25.9 %

#### Remarks:

Test results reported relate only to the items tested.  
 This report shall not be reproduced except in full without approval of the Laboratory.  
 Amended report. This test report supersedes test report version 1 - Change of location

## TEST REPORT:

## Determination of Equivalent CBR Value

In-house Test Procedure STP S8 & Interim Advice Note 73/06 Revision 1 (2009) Design Guidance for Road Pavement Foundations (DRAFT HD25)

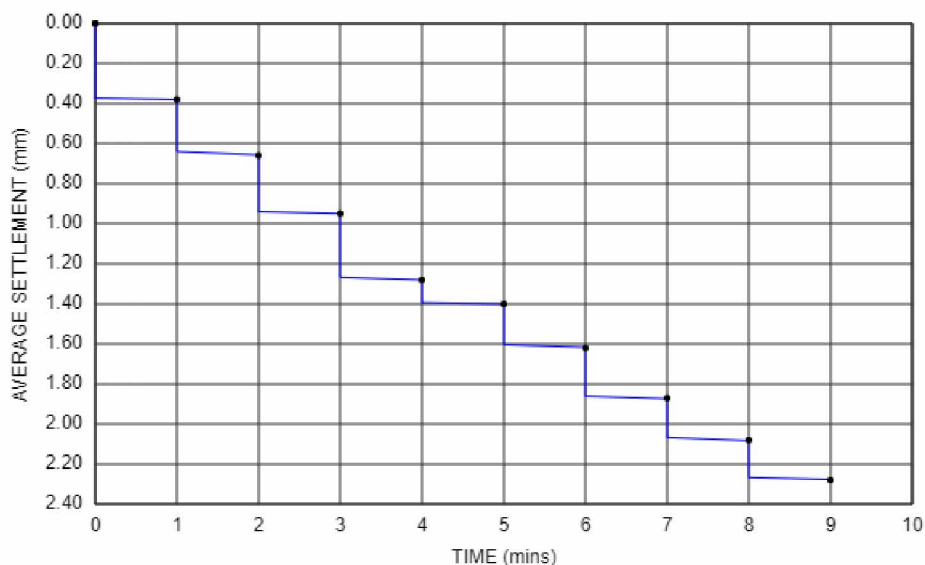
## REPORT NUMBER:

C1055642 / 161933.1.1.2

## TEST RESULTS

| LOAD APPLIED TO PLATE | AVERAGE BEARING PRESSURE | GAUGE READING |       |       | GAUGE SETTLEMENT |      |      | AVERAGE SETTLEMENT |
|-----------------------|--------------------------|---------------|-------|-------|------------------|------|------|--------------------|
|                       |                          | 1             | 2     | 3     | 1                | 2    | 3    |                    |
| kN                    | kN/m <sup>2</sup>        | mm            |       |       | mm               |      |      | mm                 |
| 0.3                   | 2.1                      | 0.00          | 0.00  | 0.00  | 0.00             | 0.00 | 0.00 | 0.00               |
| 9.5                   | 59.9                     | -0.62         | -0.32 | -0.20 | 0.62             | 0.32 | 0.20 | 0.38               |
| 18.7                  | 117.6                    | -0.98         | -0.61 | -0.38 | 0.98             | 0.61 | 0.38 | 0.66               |
| 24.8                  | 156.1                    | -1.28         | -0.82 | -0.75 | 1.28             | 0.82 | 0.75 | 0.95               |
| 30.9                  | 194.6                    | -1.65         | -1.19 | -1.00 | 1.65             | 1.19 | 1.00 | 1.28               |
| 34.0                  | 213.8                    | -1.82         | -1.30 | -1.08 | 1.82             | 1.30 | 1.08 | 1.40               |
| 40.1                  | 252.3                    | -2.05         | -1.49 | -1.31 | 2.05             | 1.49 | 1.31 | 1.62               |
| 46.3                  | 290.8                    | -2.29         | -1.80 | -1.53 | 2.29             | 1.80 | 1.53 | 1.87               |
| 52.4                  | 329.3                    | -2.51         | -2.03 | -1.71 | 2.51             | 2.03 | 1.71 | 2.08               |
| 55.4                  | 348.6                    | -2.69         | -2.23 | -1.91 | 2.69             | 2.23 | 1.91 | 2.28               |

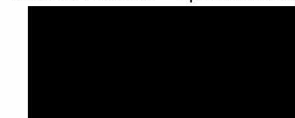
SETTLEMENT RELATIONSHIP vs TIME



## Remarks:

Test results reported relate only to the items tested.  
This report shall not be reproduced except in full without approval of the Laboratory.  
Amended report. This test report supersedes test report version 1 - Change of location

For and on behalf of CTS  
Vincent Faulkner - Operations Supervisor



Approved Signatory  
Report date 25-Jan-22



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