# Appendix **C**



| Ashton Bennett C<br>Tel: 01484689531<br>email: geoenviro@<br>www.ashton-benn |                  |   |   |                         |              |                         | Disultancy Borehole WS1<br>ett.com Sheet 1 of the test.com |  |   |  |  |
|--|------------------|---|---|-------------------------|--------------|-------------------------|--|--|---|--|--|
| Proj   | ect Na<br>Glasto | ame   | root  |                         | Pr           | oject No.               | Co-ords  | : -  | Hole Type<br>WLS  |  |  |
| Loc  | ation:           | Londor  | า   |                         | 5            | 170                     | Level:   | -  | Scale<br>1:50   |  |  |
| Clie   | nt:              | Cape F  | Properti  | es Holdings Lt          | d            |                         | Dates:   | 17/09/2014   | Logged By   |  |  |
| /ell   | Water<br>Strikes | Sampl<br>Depth (m)  | es & In S                                       | Situ Testing<br>Results | Depth<br>(m) | Level<br>(m AOD) Legend |  | Stratum Description  |   |  |  |
|  |                  | 1.00-1.45<br>2.00<br>2.00-2.45<br>3.00<br>3.00-3.45<br>4.00<br>4.00-4.45<br>5.00<br>5.00-5.45 | SPTLS<br>D<br>SPTLS<br>D<br>SPTLS<br>D<br>SPTLS |                         | 0.30         |                         | MADE GROUNI<br>Low stength ora<br>gravel                   | D - Concrete with soils and gravel<br>inge brown grey silty CLAY with su<br>h brown orange grey silty CLAY wi<br>End of Borehole at 5.45 m | ub angular flint -1 -2 -2 -3 -3 -3 -4 -4 -5 -5 -6 -6 -6 -7 -7 -8 -8 -8 -9 -9 -9 -9 -9 -9 -9 -9 -9 -9 -9 -9 -9 |  |  |
|  |                  |   |   |                         |              |                         |  |  | -<br>-<br>-   |  |  |
| Rem  | harks:           | Monitori  | Type<br>ng pipe                                 | Results<br>installed.   |              |                         |  |  | AGS   |  |  |



## FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: Issue Number:

14/05473 1

Date: 15 October, 2014

**Client:** 

Structural Soils Limited (Castleford Lab) The Potteries Pottery Street Castleford West Yorkshire UK WF10 1NJ

| Project Manager:            | Mark Athorne       |
|-----------------------------|--------------------|
| Project Name:               | Glastonbury Street |
| Project Ref:                | 781377             |
| Order No:                   | N/A                |
| Date Samples Received:      | 09/10/14           |
| Date Instructions Received: | 09/10/14           |
| Date Analysis Completed:    | 14/10/14           |
|                             |                    |

Prepared by:

Marshall IV

Melanie Marshall Laboratory Coordinator Approved by:

1lock

lain Haslock Analytical Consultant





#### Envirolab Job Number: 14/05473

Client Project Name: Glastonbury Street

Client Project Ref: 781377

| Lab Sample ID   | 14/05473/1 | 14/05473/2 |  |  |  |       |          |
|---|------------|------------|--|--|--|-------|----------|
| Client Sample No  |            |            |  |  |  |       |          |
| Client Sample ID  | WS1        | WS1        |  |  |  |       |          |
| Depth to Top  | 3.00       | 4.00       |  |  |  |       |          |
| Depth To Bottom   | 3.40       | 4.40       |  |  |  |       |          |
| Date Sampled  |            |            |  |  |  |       | əf       |
| Sample Type   | Soil       | Soil       |  |  |  | s     | od re    |
| MCERTS Sample Matrix Code                               | 6          | 6          |  |  |  | Unit  | Meth     |
| % Stones >10mm <sub>A</sub> <sup>#</sup>                | <0.1       | <0.1       |  |  |  | % w/w | A-T-044  |
| pH BRE <sub>D</sub> <sup>M#</sup>                       | 7.88       | 7.82       |  |  |  | рН    | A-T-031s |
| Sulphate BRE (water sol 2:1) <sub>D</sub> <sup>M#</sup> | 2070       | 2860       |  |  |  | mg/l  | A-T-026s |



#### REPORT NOTES

#### Notes - Soil chemical analysis

All results are reported as dry weight (<40 °C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis. For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

#### Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts.

Superscript "M" indicates method accredited to MCERTS.

If results are in italic font they are associated with an AQC failure. These are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

TPH analysis of water by method A-T-007

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

#### Asbestos in soil

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if present as discrete fibres/fragments. Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified a being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

#### Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER. Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations.

#### Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

| - Chille |
|----------|
|----------|

## STRUCTURAL SOILS LTD

### TEST REPORT



| Report No.                                  | 781377 R01   |  |  | 1774                       |
|---|--|--|--|----------------------------|
| Date  | 20-October-2014  | Contract Glastonbu   | ry Street  |                            |
| Client<br>Address                           | Ashton Bennett Consultancy<br>Unit K<br>Bridge Mills<br>Huddersfield Road<br>Holmfirth HD9 3TW                                 |  |  |                            |
| For the Atter                               | tion of Frances Ber  | nnett  | 1  |                            |
| Samples sub<br>Testing Start<br>Testing Com | mitted by client 07/10/2014<br>ed 07/10/2014<br>pleted 20/10/2014  |  | Client Reference<br>Client Order No.<br>Instruction Type | 3178<br>Written            |
| UKAS Accre                                  | dited Tests Undertaken   |  |  |                            |
|   | Moisture Content (oven dryin<br>Liquid Limit (definitive meth<br>Plastic Limit BS1377:Part 2:<br>Plasticity Index Derivation B | ng method) BS1377:Part 2<br>nod) BS1377:Part 2:1990,<br>1990,clause 5.3<br>SS1377:Part 2:1990,clause | 2:1990,clause 3.2<br>clause 4.3<br>2:5.4                 |                            |
| Please Note: F                              | Remaining samples will be retained   | d for a period of one month f  | from today and will then b                               | e disposed of              |
|   | Approved signate   | ories: Mark Athorne (Labo  | oratory Manager) Richa                                   | rd Clarkson<br>Page 2 of   |
|   | Structural Soils Ltd The Potteries F   | Pottery Street Castleford WF10 1   | NJ Tel: 01977 552255 e-mai                               | l mark.athorne@soils.co.uk |

## SUMMARY OF SOIL CLASSIFICATION TESTS

In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

| oloratory<br>sition ID | Sample<br>Ref | Sample<br>Type | Depth<br>(m) | Moisture<br>Content<br>% | Liquid<br>Limit<br>% | Plastic<br>Limit<br>% | Plasticity<br>Index<br>% | %<br><425um | Description of Sample                       |               |
|------------------------|---------------|----------------|--------------|--------------------------|----------------------|-----------------------|--------------------------|-------------|---|---------------|
| WS1                    | 1             | D              | 2.00         | 32                       | 75                   | 25                    | 50                       | 99          | Brown slightly sandy slightly gravelly CLAY |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
| WS1                    | 2             | D              | 5.00         | 31                       | 70                   | 25                    | 45                       | 98          | Brown slightly sandy slightly gravelly CLAY |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              |                          |                      |                       |                          |             |   |               |
|                        |               |                |              | Contra                   | ict:                 |                       |                          |             |   | Contract Ref: |
|                        | STR<br>S(     | UCT            | URAI<br>LTD  | _                        |                      |                       |                          |             | Glastonbury Street                          | 781377        |

|  | - Low Pl   | asticity  | Intermedi               | ate H - I   | U - Upj<br>High   | V - Very H   | y Range<br>ligh   | E - Extrem  | iely High  |   |
|--|--|---|-------------------------|---|---|--|---|---|--|---|
|  | - Low PI   |   |                         |   | High  | V - Very H   | ligh  | E - Extrem  | nely High  | -   |
|  |  |   |                         | Сн  |   | CV   |   | CE  |  |   |
|  |  |   |                         | Сн  |   |  |   |   |  |   |
|  |  |   |                         | СН  | · ·   |  | +   | $\rightarrow$   |  |   |
|  |  |   |                         |   |   |  |   |   |  |   |
|  |  | 1   |                         |   |   |  |   |   |  |   |
|  |  |   |                         | ]   |   | $\square$  | -+  | ME  |  | _   |
|  |  |   |                         |   |   |  |   |   |  |   |
|  | +  |   |                         | +   |   |  | +   |   |  | -   |
|  |  |   |                         | $\boldsymbol{X}$  |   | MV   |   |   |  |   |
|  | T  |   | T                       |   |   |  |   |   |  |   |
|  |  |   | $\not\vdash$            |   | $\left  \right $  |  | -+  |   |  | _   |
|  | 1  |   | MI                      |   |   |  |   |   |  |   |
|  | 2  | 20  | 40                      | 6<br>Linuid Linu  | 50<br>51 TT (0/   | 80   |   | 100   | I  | 120   |
|  |  |   |                         |   |   | ))<br>   | <b></b>   |   | 1  | T-1   |
| Sample Identification Exploratory Sample Depth |  | BS Test<br>Method #   | Preparation<br>Method + | n MC  | LL<br>%   | PL<br>%  | PI<br>%   | <425um  |  |   |
| Positio     WS     WS                          | $\frac{m}{S1}$ $\frac{11}{S1}$ $\frac{11}{S1}$   | $\begin{array}{c c} p & (m) \\ \hline D & 2.00 \\ \hline D & 5.00 \\ \hline \end{array}$  | 3.2/4.3/5.3/5.4         | 4 4.2.4   | 32  | 75   | 25  | 50  | 99   | $\downarrow$  |
|  |  | <u> </u>  | 3.2/4.3/3.3/3           | + 4.2.4   |   | /0   | 23  | 43  | 70   | $\downarrow$  |
|  |  |   |                         |   | <u> </u>  | -  |   | <u> </u>  |  | $\frac{1}{1}$   |
|  |  |   | -                       |   | <u> </u>  |  |   |   |  | $\downarrow$  |
| <u> </u>                                       |  |   |                         |   |   |  |   |   | <u> </u>   | $\downarrow$  |
|  |  |   |                         |   |   |  |   |   | <u> </u>   | $\downarrow$  |
|  |  |   |                         |   |   |  |   |   |  |   |
| # Tested                                       | in accordance  | with the follow   | wing clauses of BS      | 1377-2:1990.  | + Tested in   | n accordance wit   | h the follow  | ring clauses of B   | 381377-2:1990  | 0.  |
| 3.2 - Moi<br>4.3 - Con<br>4.4 - One            | sture Content<br>e Penetromet  | er Method<br>Penetrometer M   | lethod                  |   | 4.2.3 - Nat<br>4.2.4 - We   | ural State<br>t Sieved   |   |   |  |   |
| 4.6 - One<br>5.3 - Plas                        | Point Casagr<br>tic Limit Met  | ande Method   | ethou                   |   | Kev *=  | Van standard tes   | • NP = Not  | n plastic   |  |   |
| Approv   | Jed Signator   | ies LBARRI  | TT MATHOR               | NE A FROST  | M RANDEF  | SON R.CLAI   | $\frac{1}{2} \times 10^{-1} \times 10^{-1}$   | I FISHER C.C  | OLE M.ST(  | <br>OKES  |
| <u></u>  |  |   |                         |   | 101.10 H (22.2  | Compiled By  |   |   |  | Date  |
| ) )  | The  | Potteries   |                         | M. Fis  | Le.   |  | MAU   | REEN FISH   | ER   | 20/10/1   |
| 3)   | Potte<br>Cas   | ry Street   | Contra                  | act   | ·   | (, , , , , , , , , , , , , , , , , , ,   | Cont  | ract Ret: <b>78</b> <sup>-</sup>  | 1377   |   |
|  | Sam<br>Explor<br>Positic<br>VS<br>VS<br>VS<br>VS<br>MS<br>H<br>Tested<br>3.2 - Moi<br>4.3 - Con<br>4.3 - Con<br>4.3 - Con<br>4.3 - Con<br>5.3 - Plas<br>5.4 - Plas<br>S<br>VS<br>VS<br>VS<br>VS<br>VS<br>VS<br>VS<br>VS<br>VS<br>VS<br>VS<br>VS<br>V | Sample Identi     Exploratory Sam     WS1 II     WS1 2I     WS1 2I     WS1 2I     WS1 2I     WS1 2I     WS1 4I     W |                         | Image: Sample Identification       BS Test         Exploratory       Sample       Depth         Position ID       Sample       Depth         Image: Sample       Depth       Method #         Strest       Strest       Method #         WS1       1D       2.00       3.2/4.3/5.3/5.4         WS1       2D       5.00       3.2/4.3/5.3/5.4         Juide       Image: Strest Content       4.3       4.3         4.3       Cone Penetrometer Method       4.6       One Point Casagrande Method         5.4       Plastic Limit | Image: Second state of the second s | #       ML       MI       MH         20       40       60         Liquid Limit - LL (%       Sample Identification       BS Test       Preparation       MC         Position ID       Sample Depth (m)       Method #       Preparation       MC         WS1       1D       2.00       3.2/4.3/5.3/5.4       4.2.4       32         WS1       2D       5.00       3.2/4.3/5.3/5.4       4.2.4       31         Linuit - LL (%       MEthod #       4.2.4       32       4.2.4       31         MS1       2D       5.00       3.2/4.3/5.3/5.4       4.2.4       31         MS1       2D       5.00       3.2/4.3/5.3/5.4       4.2.4       31         MS1       2D       5.00       3.2/4.3/5.3/5.4       4.2.4       31         Stront Content       4.3       4.2.3       4.2.4 | #       ML       MV         20       40       60       80         Liquid Limit - LL (%)       Sample Identification       BS Test       Preparation       MC       LL         Position ID       Sample Identification       BS Test       Preparation       MC       LL         WS1       ID       2.00       3.2/4.3/5.3/5.4       4.2.4       32       75         WS1       2D       5.00       3.2/4.3/5.3/5.4       4.2.4       31       70         #       Tore content       4.2.4       31       70       4.2.4       4.2.4       4.2.4         #       Tore content       4.3       1.00       4.2.4       Wetsized       4.2.4       Wetsized <t< td=""><td># Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.</td><td>Image: Structure Content       MI       MI       MI         20       40       60       80       100         Sample Identification       BS Test (m)       Preparation       MC       LL       PL       PI         Exploratory       Sample       Depth (m)       Method #       Method +       %</td><td>Image: Structure of the poly of the</td></t<> | # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190.         # Tested in accordance with the following clauses of BS1377-2:190. | Image: Structure Content       MI       MI       MI         20       40       60       80       100         Sample Identification       BS Test (m)       Preparation       MC       LL       PL       PI         Exploratory       Sample       Depth (m)       Method #       Method +       % | Image: Structure of the poly of the |

GINT LIBRARY V8 05.GLB LibVersion: v8 05 - Lib0004 PiJVersion: v8 05 - Core+Geotech Lab-Castleford - 0002 | Graph L - ALINE STANDARD - EC7 | 781377 - GLASTONBURY.GPJ - v8 05 | 20/10/14 - 12:42 | MF. Structural Soils Lid, Branch Office - Castleford: The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 INJ. Tei: 01977-552255, Fax: 01977-552299, Web: www.soils.co.uk, Email: ask@soils.co.uk

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