

LABORATORY TEST RESULTS

CONTRACT QUEENSMEAD SCHOOL, SOUTH RUISLIP

| Bore-hole | Sample | Depth<br>m    | Classification    |                    |                       |                       | Density                   |                          | Triaxial Compression |                                    |                      |                       |                                      | Sulphates (SO <sub>4</sub> ) |                              |               |     | Remarks                                                |
|-----------|--------|---------------|-------------------|--------------------|-----------------------|-----------------------|---------------------------|--------------------------|----------------------|------------------------------------|----------------------|-----------------------|--------------------------------------|------------------------------|------------------------------|---------------|-----|--------------------------------------------------------|
|           |        |               | Liquid Limit<br>% | Plastic Limit<br>% | Plasticity Index<br>% | Moisture Content<br>% | Bulk<br>Mg/m <sup>3</sup> | Dry<br>Mg/m <sup>3</sup> | Type                 | Principal Stress Difference<br>kPa | Cell Pressure<br>kPa | Shear Strength<br>kPa | Angle of Shear Resistance<br>degrees | Total Dry Wt.<br>%           | Soil Aqueous Extract<br>mg/l | Water<br>mg/l | pH  |                                                        |
| BH1       | B1     | 0.50          | 42                | 18                 | 24                    |                       |                           |                          |                      |                                    |                      |                       |                                      |                              |                              |               |     | SOIL CLASSIFICATION = CI<br>1% retained on 425µm sieve |
|           | U1     | 1.20 – 1.65   | 56                | 21                 | 35                    | 25                    | 1.99                      | 1.59                     | Q                    | 141                                | 50                   | 70                    | 0                                    |                              |                              |               |     | SOIL CLASSIFICATION = CH<br>0% retained on 425µm sieve |
|           | U3     | 3.00 – 3.45   |                   |                    |                       | 32                    | 1.91                      | 1.45                     | Q                    | 125                                | 70                   | 62                    | 0                                    |                              | 1063                         |               | 7.6 |                                                        |
|           | U5     | 5.00 – 5.45   |                   |                    |                       | 21                    | 2.08                      | 1.72                     | Q                    | 152                                | 110                  | 76                    | 0                                    |                              |                              |               |     |                                                        |
|           | U7     | 8.00 – 8.45   |                   |                    |                       | 24                    | 2.12                      | 1.71                     | Q                    | 360                                | 170                  | 180                   | 0                                    |                              |                              |               |     |                                                        |
|           | U9     | 11.00 – 11.45 |                   |                    |                       | 23                    | 2.07                      | 1.68                     | Q                    | 377                                | 230                  | 189                   | 0                                    |                              |                              |               |     |                                                        |
|           | U10    | 12.50 – 12.95 |                   |                    |                       | 16                    | 2.23                      | 1.92                     | Q                    | 777                                | 250                  | 388                   | 0                                    |                              | 402                          |               | 8.6 |                                                        |
|           | U11    | 14.00 – 14.45 |                   |                    |                       | 15                    | 2.20                      | 1.91                     | Q                    | 802                                | 290                  | 401                   | 0                                    |                              |                              |               |     |                                                        |
| BH2       | U1     | 1.20 – 1.65   |                   |                    |                       | 25                    | 1.99                      | 1.60                     | Q                    | 137                                | 50                   | 68                    | 0                                    |                              | 211                          |               | 7.8 |                                                        |
|           | U2     | 2.00 – 2.45   |                   |                    |                       | 21                    | 1.99                      | 1.64                     | Q                    | 168                                | 50                   | 84                    | 0                                    |                              |                              |               |     |                                                        |

U – UNDISTURBED SAMPLE  
D – DISTURBED SAMPLE  
B – BULK SAMPLE  
W – WATER SAMPLE

C.U. – CONSOLIDATED UNDRAINED  
C.D. – CONSOLIDATED DRAINED  
Q. – IMMEDIATE UNDRAINED  
Q.M. – IMMEDIATE UNDRAINED MULTISTAGE

Aqueous Extract 2:1 Water: Soil

15024

LABORATORY TEST RESULTS

CONTRACT QUEENSNEAD SCHOOL, SOUTH RUISLIP

| Bore-hole | Sample | Depth<br>m    | Classification    |                    |                       |                       | Density                   |                          | Triaxial Compression |                                    |                      |                       |                                      | Sulphates (SO <sub>4</sub> ) |                         |               |     | Remarks                                                |  |
|-----------|--------|---------------|-------------------|--------------------|-----------------------|-----------------------|---------------------------|--------------------------|----------------------|------------------------------------|----------------------|-----------------------|--------------------------------------|------------------------------|-------------------------|---------------|-----|--------------------------------------------------------|--|
|           |        |               | Liquid Limit<br>% | Plastic Limit<br>% | Plasticity Index<br>% | Moisture Content<br>% | Bulk<br>Mg/m <sup>3</sup> | Dry<br>Mg/m <sup>3</sup> | Type                 | Principal Stress Difference<br>kPa | Cell Pressure<br>kPa | Shear Strength<br>kPa | Angle of Shear Resistance<br>degrees | Total Dry Wt. %              | Aqueous Extract<br>mg/l | Water<br>mg/l | pH  |                                                        |  |
| BH2       | U4     | 4.00 – 4.45   |                   |                    |                       | 32                    | 1.90                      | 1.44                     | Q                    | 128                                | 90                   | 64                    | 0                                    |                              |                         |               |     |                                                        |  |
|           | U6     | 6.50 – 6.95   |                   |                    |                       | 22                    | 2.09                      | 1.71                     | QM                   | 390<br>411<br>439                  | 100<br>200<br>400    | 206                   | 0                                    |                              |                         |               |     |                                                        |  |
|           | U8     | 9.50 – 9.95   |                   |                    |                       | 13                    | 2.19                      | 1.94                     | Q                    | 727                                | 200                  | 364                   | 0                                    |                              | 212                     |               | 9.1 |                                                        |  |
|           | U10    | 12.50 – 12.95 |                   |                    |                       | 17                    | 2.21                      | 1.89                     | Q                    | 894                                | 260                  | 447                   | 0                                    |                              |                         |               |     |                                                        |  |
|           | U1     | 1.20 – 1.65   | 49                | 19                 | 30                    | 23                    | 1.91                      | 1.55                     | QM                   | 90<br>96<br>106                    | 50<br>100<br>200     | 49                    | 0                                    |                              |                         |               |     | SOIL CLASSIFICATION = CI<br>0% retained on 425µm sieve |  |
|           | U3     | 5.00 – 5.45   |                   |                    |                       |                       |                           |                          |                      |                                    |                      |                       |                                      |                              |                         |               |     |                                                        |  |
|           | U5     | 5.00 – 5.45   |                   |                    |                       | 28                    | 1.99                      | 1.56                     | Q                    | 158                                | 110                  | 79                    | 0                                    |                              | 844                     |               | 8.0 |                                                        |  |
|           | U8     | 9.50 – 9.95   |                   |                    |                       | 16                    | 2.29                      | 1.97                     | Q                    | 820                                | 200                  | 410                   | 0                                    |                              |                         |               |     |                                                        |  |
|           | U9     | 11.00 – 11.45 |                   |                    |                       | 23                    | 2.07                      | 1.68                     | Q                    | 377                                | 230                  | 189                   | 0                                    |                              |                         |               |     |                                                        |  |
|           | U10    | 14.00 – 14.45 |                   |                    |                       | 18                    | 2.10                      | 1.79                     | Q                    | 431                                | 290                  | 215                   | 0                                    |                              |                         |               |     |                                                        |  |

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Aqueous Extract 2:1 Water:Soil

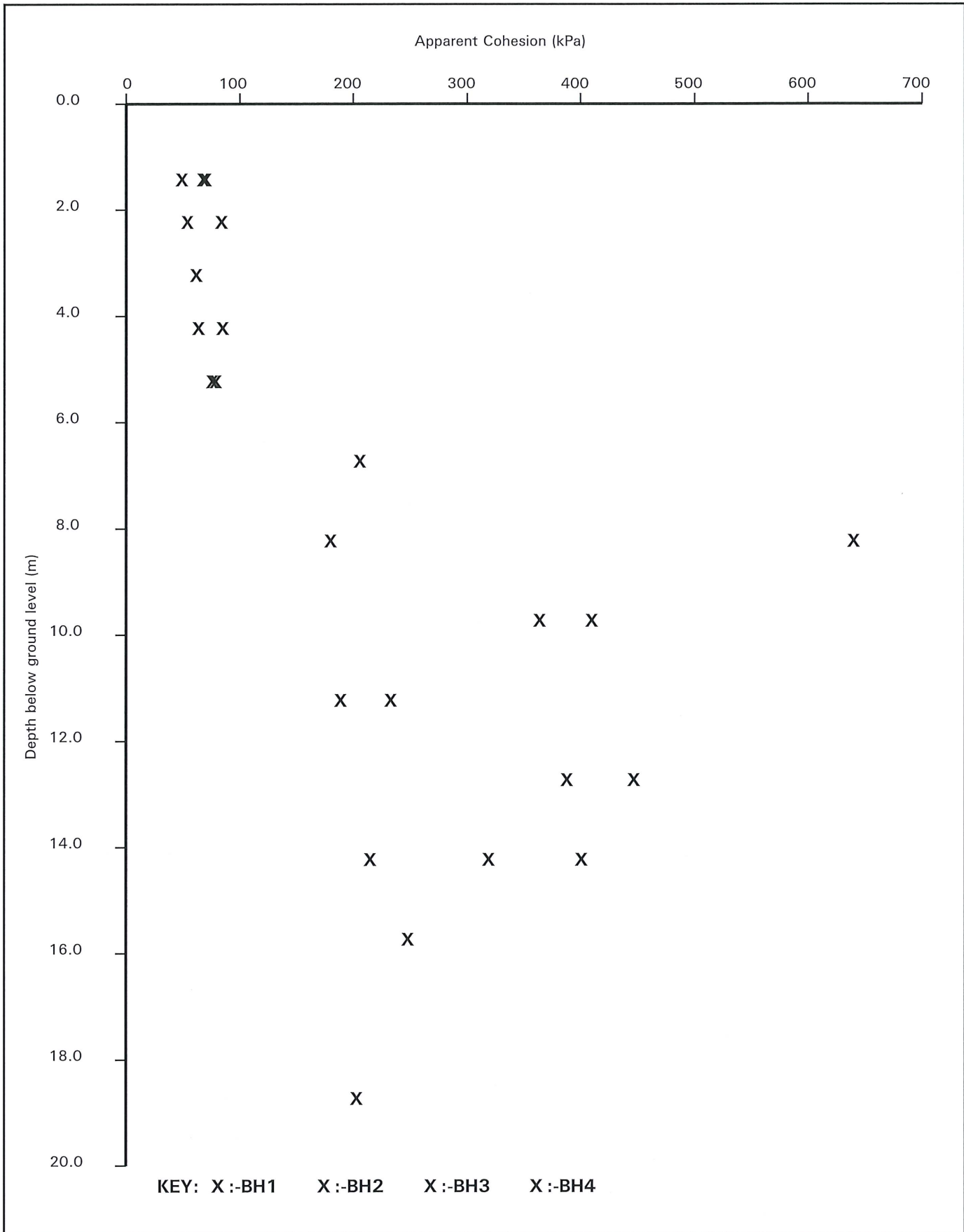
# LABORATORY TEST RESULTS

CONTRACT QUEENSNEAD SCHOOL, SOUTH RUISLIP

| Bore-hole | Sample | Depth<br>m       | Classification    |                    |                       |                       | Density                   |                          | Triaxial Compression |                                    |                      |                       |                                      | Sulphates (SO <sub>4</sub> ) |                              |               |     | Remarks                                                |
|-----------|--------|------------------|-------------------|--------------------|-----------------------|-----------------------|---------------------------|--------------------------|----------------------|------------------------------------|----------------------|-----------------------|--------------------------------------|------------------------------|------------------------------|---------------|-----|--------------------------------------------------------|
|           |        |                  | Liquid Limit<br>% | Plastic Limit<br>% | Plasticity Index<br>% | Moisture Content<br>% | Bulk<br>Mg/m <sup>3</sup> | Dry<br>Mg/m <sup>3</sup> | Type                 | Principal Stress Difference<br>kPa | Cell Pressure<br>kPa | Shear Strength<br>kPa | Angle of Shear Resistance<br>degrees | Total<br>%<br>Dry Wt.        | Soil Aqueous Extract<br>mg/l | Water<br>mg/l | pH  |                                                        |
| BH3       | U11    | 15.50 –<br>15.95 |                   |                    |                       | 18                    | 2.15                      | 1.81                     | Q                    | 496                                | 320                  | 248                   | 0                                    |                              |                              |               |     | SOIL CLASSIFICATION = CH<br>9% retained on 425µm sieve |
|           | U13    | 18.50 –<br>18.95 |                   |                    |                       | 22                    | 2.08                      | 1.70                     | Q                    | 406                                | 380                  | 203                   | 0                                    |                              | 305                          |               | 8.9 |                                                        |
| BH4       | B1     | 0.50             | 67                | 22                 | 45                    |                       |                           |                          |                      |                                    |                      |                       |                                      |                              |                              |               |     |                                                        |
|           | U2     | 2.00 –<br>2.45   |                   |                    |                       | 29                    | 1.91                      | 1.48                     | Q                    | 109                                | 50                   | 54                    | 0                                    |                              | 317                          |               | 7.7 |                                                        |
|           | U4     | 4.00 –<br>4.45   |                   |                    |                       | 29                    | 1.97                      | 1.52                     | Q                    | 171                                | 90                   | 85                    | 0                                    |                              |                              |               |     |                                                        |
|           | U7     | 8.00 –<br>8.45   |                   |                    |                       | 12                    | 2.25                      | 2.01                     | Q                    | 1281                               | 170                  | 640                   | 0                                    |                              | 140                          |               | 9.0 |                                                        |
|           | U9     | 11.00 –<br>11.45 |                   |                    |                       | 19                    | 2.07                      | 1.74                     | Q                    | 466                                | 260                  | 233                   | 0                                    |                              |                              |               |     |                                                        |
|           | U11    | 14.00 –<br>14.45 |                   |                    |                       | 15                    | 2.14                      | 1.86                     | Q                    | 637                                | 290                  | 319                   | 0                                    |                              |                              |               |     |                                                        |
|           |        |                  |                   |                    |                       |                       |                           |                          |                      | Aqueous Extract 2:1 Water:Soil     |                      |                       |                                      |                              |                              |               |     |                                                        |

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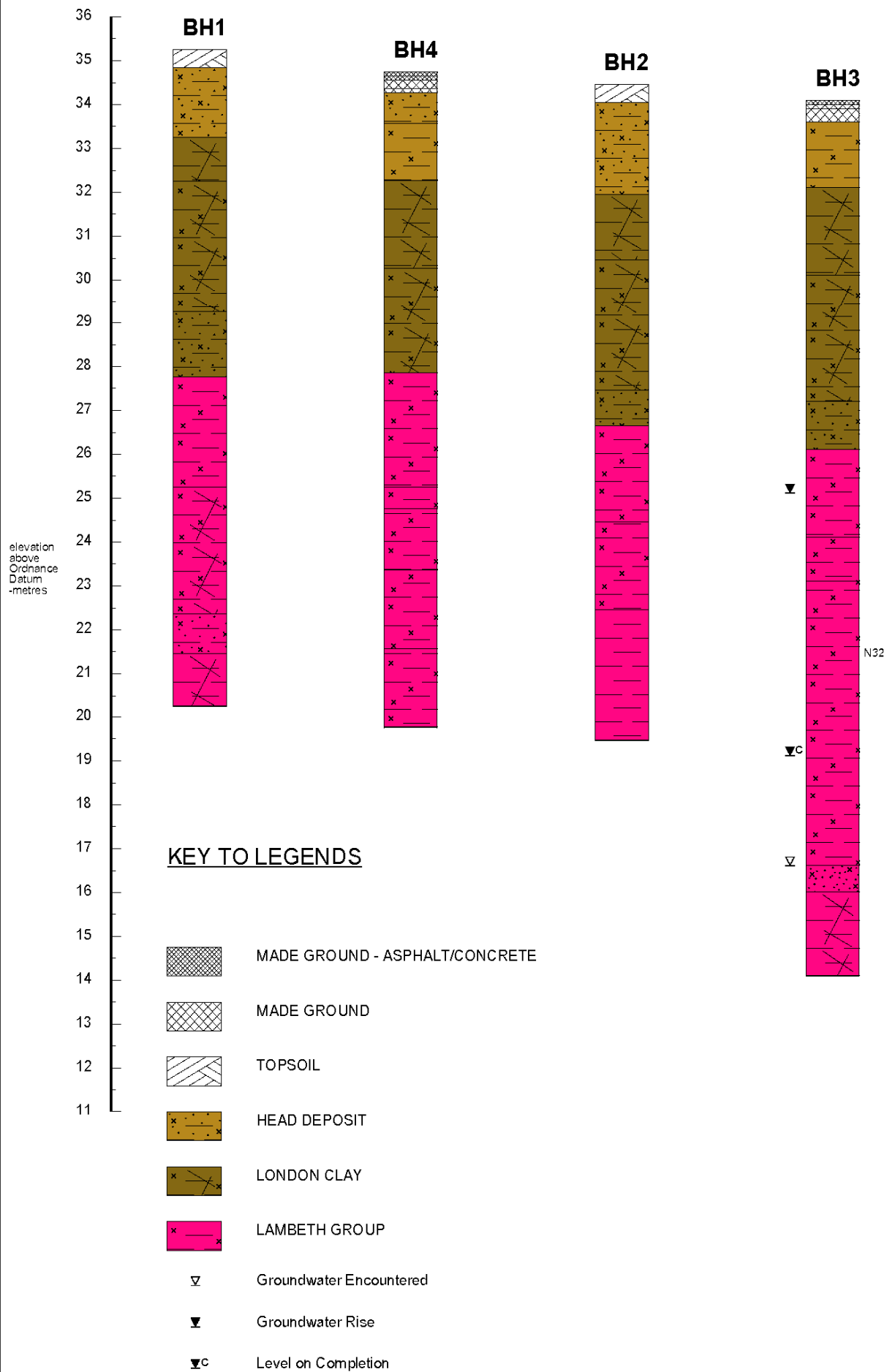


Apparent Cohesion (kPa) vs Depth below ground level (m).

|                                            |  |                                                  |                           |
|--------------------------------------------|--|--------------------------------------------------|---------------------------|
| SITE                                       |  | QUEENSMEAD SCHOOL, SOUTH RUISLIP                 |                           |
| CLIENT                                     |  | MORGAN SINDALL C. & I. LTD                       | Contract Number 15024     |
| <b>GROUND ENGINEERING</b><br>L I M I T E D |  | Tel: 01733-566566<br>www.groundengineering.co.uk | Date 09/04/20<br>Figure 1 |

WEST

EAST



SITE QUEENSMEAD SCHOOL, SOUTH RUISLIP

Contract No. 15024

CLIENT MORGAN SINDALL C. &amp; I. LTD

Soil Profile

Vertical Scale 1:125

© GROUND ENGINEERING, NEWARK ROAD, PETERBOROUGH. Tel (01733) 566566

Date 27/04/20

Fig. No 2

## **APPENDIX 1**

### **CHEMICAL TEST RESULTS**

**Steve Fleming**

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## **Analytical Report Number : 20-95317**

Replaces Analytical Report Number : 20-95317, issue no. 1

Additional analysis undertaken.

|                             |                                  |                               |            |
|-----------------------------|----------------------------------|-------------------------------|------------|
| <b>Project / Site name:</b> | Queensmead School, South Ruislip | <b>Samples received on:</b>   | 31/03/2020 |
| <b>Your job number:</b>     | C15024                           | <b>Samples instructed on:</b> | 31/03/2020 |
| <b>Your order number:</b>   |                                  | <b>Analysis completed by:</b> | 28/04/2020 |
| <b>Report Issue Number:</b> | 2                                | <b>Report issued on:</b>      | 30/04/2020 |
| <b>Samples Analysed:</b>    | 4 soil samples                   |                               |            |

**Signed:** *A. Czerwińska*

Agnieszka Czerwińska

Technical Reviewer (Reporting Team)  
**For & on behalf of i2 Analytical Ltd.**

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

|           |                           |
|-----------|---------------------------|
| soils     | - 4 weeks from reporting  |
| leachates | - 2 weeks from reporting  |
| waters    | - 2 weeks from reporting  |
| asbestos  | - 6 months from reporting |

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

Iss No 20-95317-2 Queensmead School, South Ruislip C15024

This certificate should not be reproduced, except in full, without the express permission of the laboratory.

The results included within the report are representative of the samples submitted for analysis.

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Analytical Report Number: 20-95317

Project / Site name: Queensmead School, South Ruislip

|                                                                         |          |                       |                         |               |               |               |               |  |
|-------------------------------------------------------------------------|----------|-----------------------|-------------------------|---------------|---------------|---------------|---------------|--|
| Lab Sample Number                                                       |          |                       |                         | 1487279       | 1487280       | 1487281       | 1487282       |  |
| Sample Reference                                                        |          |                       |                         | BH 1, B1      | BH 2, B1      | BH 3, B1      | BH 4, B1      |  |
| Sample Number                                                           |          |                       |                         | None Supplied | None Supplied | None Supplied | None Supplied |  |
| Depth (m)                                                               |          |                       |                         | 0.50          | 0.50          | 0.50          | 0.50          |  |
| Date Sampled                                                            |          |                       |                         | 24/03/2020    | 24/03/2020    | 24/03/2020    | 24/03/2020    |  |
| Time Taken                                                              |          |                       |                         | None Supplied | None Supplied | None Supplied | None Supplied |  |
| Analytical Parameter<br>(Soil Analysis)                                 | Units    | Limit of<br>detection | Accreditation<br>Status |               |               |               |               |  |
| Stone Content                                                           | %        | 0.1                   | NONE                    | < 0.1         | < 0.1         | < 0.1         | < 0.1         |  |
| Moisture Content                                                        | %        | N/A                   | NONE                    | 16            | 16            | 19            | 20            |  |
| Total mass of sample received                                           | kg       | 0.001                 | NONE                    | 1.0           | 1.0           | 1.0           | 1.0           |  |
| Asbestos in Soil                                                        |          |                       |                         |               |               |               |               |  |
| Type                                                                    | N/A      | ISO 17025             | Not-detected            | Not-detected  | Not-detected  | Not-detected  | Not-detected  |  |
| General Inorganics                                                      |          |                       |                         |               |               |               |               |  |
| pH - Automated                                                          | pH Units | N/A                   | MCERTS                  | 8.0           | 7.6           | 7.8           | 8.3           |  |
| Total Cyanide                                                           | mg/kg    | 1                     | MCERTS                  | < 1           | < 1           | < 1           | < 1           |  |
| Free Cyanide                                                            | mg/kg    | 1                     | MCERTS                  | < 1           | < 1           | < 1           | < 1           |  |
| Water Soluble Sulphate as SO <sub>4</sub> 16hr extraction (2:1)         | mg/kg    | 2.5                   | MCERTS                  | 48            | 32            | 570           | 100           |  |
| Water Soluble SO <sub>4</sub> 16hr extraction (2:1 Leachate Equivalent) | g/l      | 0.00125               | MCERTS                  | 0.024         | 0.016         | 0.28          | 0.051         |  |
| Water Soluble SO <sub>4</sub> 16hr extraction (2:1 Leachate Equivalent) | mg/l     | 1.25                  | MCERTS                  | 24.1          | 15.8          | 283           | 50.5          |  |
| Organic Matter                                                          | %        | 0.1                   | MCERTS                  | < 0.1         | 0.7           | 1.5           | 0.2           |  |
| Total Phenols                                                           |          |                       |                         |               |               |               |               |  |
| Total Phenols (monohydric)                                              | mg/kg    | 1                     | MCERTS                  | < 1.0         | < 1.0         | < 1.0         | < 1.0         |  |



Environmental Science

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Project / Site name: Queensmead School, South Ruislip

|                                      |       |      |        |               |                    |                      |               |  |
|--------------------------------------|-------|------|--------|---------------|--------------------|----------------------|---------------|--|
| Lab Sample Number                    |       |      |        | 1487279       | 1487280            | 1487281              | 1487282       |  |
| Sample Reference                     |       |      |        | BH 1, B1      | BH 2, B1           | BH 3, B1             | BH 4, B1      |  |
| Sample Number                        |       |      |        | None Supplied | None Supplied      | None Supplied        | None Supplied |  |
| Depth (m)                            |       |      |        | 0.50          | 0.50               | 0.50                 | 0.50          |  |
| Date Sampled                         |       |      |        | 24/03/2020    | 24/03/2020         | 24/03/2020           | 24/03/2020    |  |
| Time Taken                           |       |      |        | None Supplied | None Supplied      | None Supplied        | None Supplied |  |
| Analytical Parameter (Soil Analysis) |       |      |        | Units         | Limit of detection | Accreditation Status |               |  |
| <b>Speciated PAHs</b>                |       |      |        |               |                    |                      |               |  |
| Naphthalene                          | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Acenaphthylene                       | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Acenaphthene                         | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Fluorene                             | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Phenanthrene                         | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Anthracene                           | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Fluoranthene                         | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Pyrene                               | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Benzo(a)anthracene                   | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Chrysene                             | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Benzo(b)fluoranthene                 | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Benzo(k)fluoranthene                 | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Benzo(a)pyrene                       | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Indeno(1,2,3-cd)pyrene               | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Dibenz(a,h)anthracene                | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| Benzo(ghi)perylene                   | mg/kg | 0.05 | MCERTS | < 0.05        | < 0.05             | < 0.05               | < 0.05        |  |
| <b>Total PAH</b>                     |       |      |        |               |                    |                      |               |  |
| Speciated Total EPA-16 PAHs          | mg/kg | 0.8  | MCERTS | < 0.80        | < 0.80             | < 0.80               | < 0.80        |  |



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|                                         |               |                       |                         |               |  |
|-----------------------------------------|---------------|-----------------------|-------------------------|---------------|--|
| Lab Sample Number                       | 1487279       | 1487280               | 1487281                 | 1487282       |  |
| Sample Reference                        | BH 1, B1      | BH 2, B1              | BH 3, B1                | BH 4, B1      |  |
| Sample Number                           | None Supplied | None Supplied         | None Supplied           | None Supplied |  |
| Depth (m)                               | 0.50          | 0.50                  | 0.50                    | 0.50          |  |
| Date Sampled                            | 24/03/2020    | 24/03/2020            | 24/03/2020              | 24/03/2020    |  |
| Time Taken                              | None Supplied | None Supplied         | None Supplied           | None Supplied |  |
| Analytical Parameter<br>(Soil Analysis) | Units         | Limit of<br>detection | Accreditation<br>Status |               |  |

#### Heavy Metals / Metalloids

|                                   |       |     |        |       |       |       |       |  |
|-----------------------------------|-------|-----|--------|-------|-------|-------|-------|--|
| Arsenic (aqua regia extractable)  | mg/kg | 1   | MCERTS | 12    | 11    | 13    | 12    |  |
| Boron (water soluble)             | mg/kg | 0.2 | MCERTS | 1.0   | 1.7   | 3.4   | 1.4   |  |
| Cadmium (aqua regia extractable)  | mg/kg | 0.2 | MCERTS | < 0.2 | < 0.2 | < 0.2 | < 0.2 |  |
| Chromium (hexavalent)             | mg/kg | 4   | MCERTS | < 4.0 | < 4.0 | < 4.0 | < 4.0 |  |
| Chromium (III)                    | mg/kg | 1   | NONE   | 38    | 40    | 36    | 41    |  |
| Chromium (aqua regia extractable) | mg/kg | 1   | MCERTS | 38    | 40    | 36    | 41    |  |
| Copper (aqua regia extractable)   | mg/kg | 1   | MCERTS | 19    | 19    | 24    | 30    |  |
| Lead (aqua regia extractable)     | mg/kg | 1   | MCERTS | 12    | 22    | 66    | 15    |  |
| Mercury (aqua regia extractable)  | mg/kg | 0.3 | MCERTS | < 0.3 | < 0.3 | < 0.3 | < 0.3 |  |
| Nickel (aqua regia extractable)   | mg/kg | 1   | MCERTS | 28    | 26    | 23    | 34    |  |
| Selenium (aqua regia extractable) | mg/kg | 1   | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 |  |
| Zinc (aqua regia extractable)     | mg/kg | 1   | MCERTS | 55    | 61    | 80    | 73    |  |

#### Petroleum Hydrocarbons

|               |       |    |        |    |      |    |      |  |
|---------------|-------|----|--------|----|------|----|------|--|
| TPH C10 - C40 | mg/kg | 10 | MCERTS | 45 | < 10 | 52 | < 10 |  |
|---------------|-------|----|--------|----|------|----|------|--|



**Analytical Report Number : 20-95317**

**Project / Site name: Queensmead School, South Ruislip**

\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

| Lab Sample Number | Sample Reference | Sample Number | Depth (m) | Sample Description *                   |
|-------------------|------------------|---------------|-----------|----------------------------------------|
| 1487279           | BH 1, B1         | None Supplied | 0.50      | Light brown clay and sand with gravel. |
| 1487280           | BH 2, B1         | None Supplied | 0.50      | Brown clay and sand with gravel.       |
| 1487281           | BH 3, B1         | None Supplied | 0.50      | Brown clay and sand with gravel.       |
| 1487282           | BH 4, B1         | None Supplied | 0.50      | Brown clay with gravel.                |

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**Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)**

| Analytical Test Name                               | Analytical Method Description                                                                                                                             | Analytical Method Reference                                                                                     | Method number | Wet / Dry Analysis | Accreditation Status |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------|--------------------|----------------------|
| Asbestos identification in soil                    | Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.                                     | In house method based on HSG 248                                                                                | A001-PL       | D                  | ISO 17025            |
| Boron, water soluble, in soil                      | Determination of water soluble boron in soil by hot water extract followed by ICP-OES.                                                                    | In-house method based on Second Site Properties version 3                                                       | L038-PL       | D                  | MCERTS               |
| Cr (III) in soil                                   | In-house method by calculation from total Cr and Cr VI.                                                                                                   | In-house method by calculation                                                                                  | L080-PL       | W                  | NONE                 |
| Free cyanide in soil                               | Determination of free cyanide by distillation followed by colorimetry.                                                                                    | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar) | L080-PL       | W                  | MCERTS               |
| Hexavalent chromium in soil                        | Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.     | In-house method                                                                                                 | L080-PL       | W                  | MCERTS               |
| Metals in soil by ICP-OES                          | Determination of metals in soil by aqua-regia digestion followed by ICP-OES.                                                                              | In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.                            | L038-PL       | D                  | MCERTS               |
| Moisture Content                                   | Moisture content, determined gravimetrically. (30 oC)                                                                                                     | In house method.                                                                                                | L019-UK/PL    | W                  | NONE                 |
| Monohydric phenols in soil                         | Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.                                    | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar) | L080-PL       | W                  | MCERTS               |
| Organic matter (Automated) in soil                 | Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.                             | In house method.                                                                                                | L009-PL       | D                  | MCERTS               |
| pH in soil (automated)                             | Determination of pH in soil by addition of water followed by automated electrometric measurement.                                                         | In house method.                                                                                                | L099-PL       | D                  | MCERTS               |
| Speciated EPA-16 PAHs in soil                      | Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.    | In-house method based on USEPA 8270                                                                             | L064-PL       | D                  | MCERTS               |
| Stones content of soil                             | Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.                               | In-house method based on British Standard Methods and MCERTS requirements.                                      | L019-UK/PL    | D                  | NONE                 |
| Sulphate, water soluble, in soil (16hr extraction) | Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent). | In house method.                                                                                                | L038-PL       | D                  | MCERTS               |
| Total cyanide in soil                              | Determination of total cyanide by distillation followed by colorimetry.                                                                                   | In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar) | L080-PL       | W                  | MCERTS               |
| TPH Banding in Soil by FID                         | Determination of hexane extractable hydrocarbons in soil by GC-FID.                                                                                       | In-house method, TPH with carbon banding and silica gel split/cleanup.                                          | L076-PL       | W                  | MCERTS               |

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**

# Sample Deviation Report



| Sample ID | Other_ID | Sample Type | Job      | Sample Number | Sample Deviation Code | test_name             | test_ref | Test Deviation code |
|-----------|----------|-------------|----------|---------------|-----------------------|-----------------------|----------|---------------------|
| BH 1, B1  |          | S           | 20-95317 | 1487279       | c                     | Free cyanide in soil  | L080-PL  | c                   |
| BH 1, B1  |          | S           | 20-95317 | 1487279       | c                     | Total cyanide in soil | L080-PL  | c                   |
| BH 2, B1  |          | S           | 20-95317 | 1487280       | c                     | Free cyanide in soil  | L080-PL  | c                   |
| BH 2, B1  |          | S           | 20-95317 | 1487280       | c                     | Total cyanide in soil | L080-PL  | c                   |
| BH 3, B1  |          | S           | 20-95317 | 1487281       | c                     | Free cyanide in soil  | L080-PL  | c                   |
| BH 3, B1  |          | S           | 20-95317 | 1487281       | c                     | Total cyanide in soil | L080-PL  | c                   |
| BH 4, B1  |          | S           | 20-95317 | 1487282       | c                     | Free cyanide in soil  | L080-PL  | c                   |
| BH 4, B1  |          | S           | 20-95317 | 1487282       | c                     | Total cyanide in soil | L080-PL  | c                   |

Key: a - No sampling date b - Incorrect container  
c - Holding time d - Headspace e - Temperature



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## **Analytical Report Number : 20-97189**

|                             |                                  |                               |            |
|-----------------------------|----------------------------------|-------------------------------|------------|
| <b>Project / Site name:</b> | Queensmead School, South Ruislip | <b>Samples received on:</b>   | 31/03/2020 |
| <b>Your job number:</b>     | C15024                           | <b>Samples instructed on:</b> | 23/04/2020 |
| <b>Your order number:</b>   |                                  | <b>Analysis completed by:</b> | 30/04/2020 |
| <b>Report Issue Number:</b> | 1                                | <b>Report issued on:</b>      | 30/04/2020 |
| <b>Samples Analysed:</b>    | 2 10:1 WAC samples               |                               |            |

**Signed:** *A. Czerwińska*

Agnieszka Czerwińska

Technical Reviewer (Reporting Team)  
**For & on behalf of i2 Analytical Ltd.**

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting  
leachates - 2 weeks from reporting  
waters - 2 weeks from reporting  
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

Iss No 20-97189-1 Queensmead School, South Ruislip C15024

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The results included within the report are representative of the samples submitted for analysis.

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