



D-17 Dynevor Place: well on raised part of side-garden



D-18 Dug-well interior at 2 Dynevor Place



D-19 Dug-well at Comrie: well-head



D-20 Dug-well at Manor Farm: interior backfilled



D-21 Dug-well at Manor Farm: well-head



D-22 Dug-well at Riverdale: interior



D-23 Dug-well at Riverdale: well-head



D-24 Dug-well at Colloseo: well-head



D-25 Dug-well at Colloseo: interior

## Appendix E Drilling Logs

### E-1 Observation Borehole Geology and Construction Details

Figure E-1 Borehole A2 Details

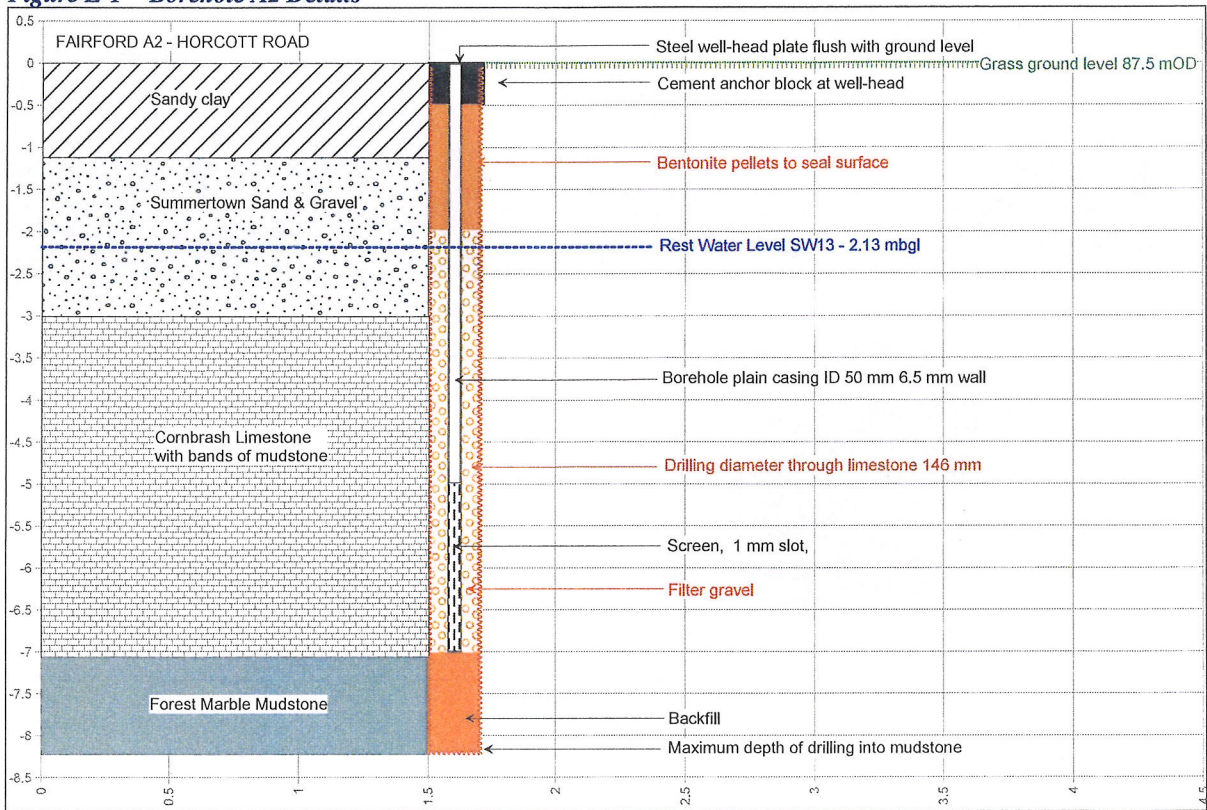
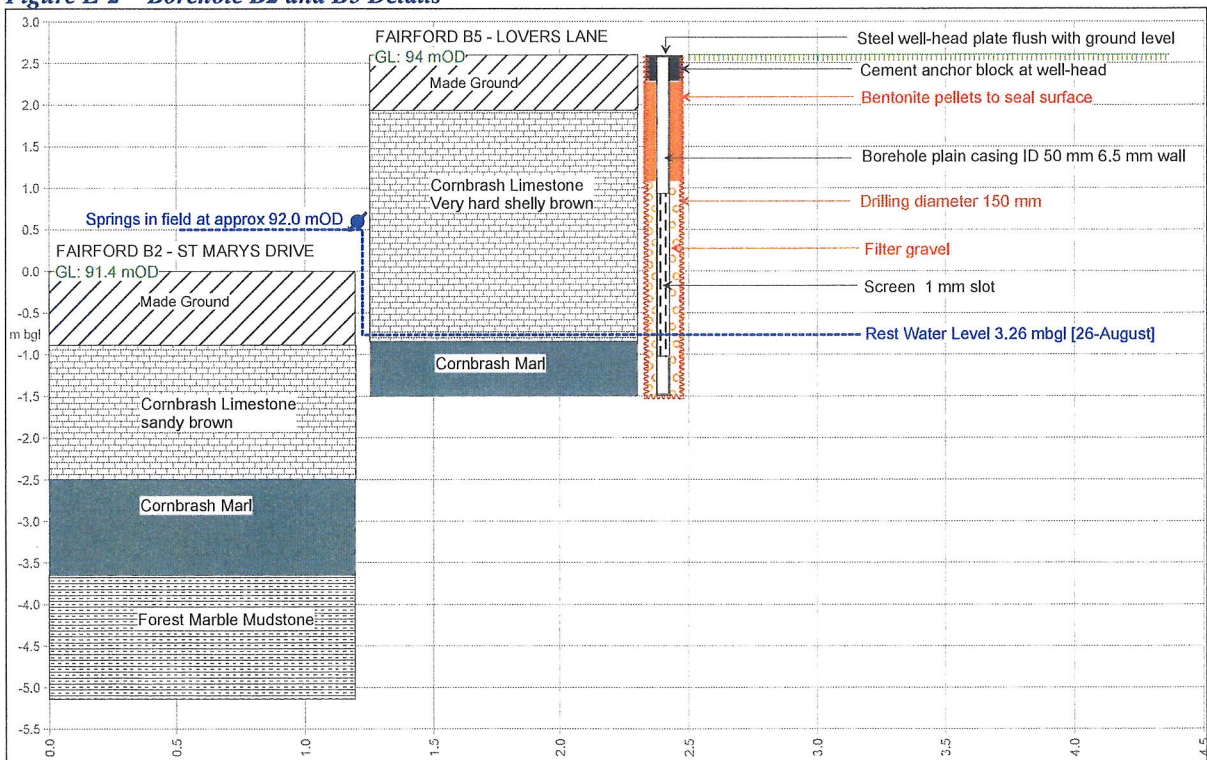


Figure E-2 Borehole B2 and B5 Details



## E-2 CCGI Borehole Logs

### Logging



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The logging of soils and rocks has been carried out in general accordance with BS 5930:2015.

### Sample type

|             |                                                                                                                   |
|-------------|-------------------------------------------------------------------------------------------------------------------|
| B           | Large disturbed sample                                                                                            |
| C           | Core run                                                                                                          |
| CS          | Rotary core sub-sample                                                                                            |
| D           | Small disturbed sample                                                                                            |
| ES          | Environmental sample                                                                                              |
| SPT         | Standard penetration test carried out using split spoon (split spoon sample retained)                             |
| SPT C       | Standard penetration test carried out using solid cone (no sample retained)                                       |
| U70 or U100 | Undisturbed sample followed by nominal diameter of sample. (Taken using thick-walled open-tube sampler – OS-TK/W) |
| UT100       | Undisturbed sample followed by nominal diameter of sample. (Taken using thin-walled open-tube sampler – OS-T/W)   |
| W           | Water sample                                                                                                      |





### Water levels

|                                                                                   |                                                                                   |                                           |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------|
| Initial Water Strike                                                              | Level after monitoring                                                            | Standing Level/No groundwater encountered |
|  |  | <b>3.00m/Dry</b>                          |









### In situ Testing

























|      |                                                                                                     |
|------|-----------------------------------------------------------------------------------------------------|
| S 30 | Denotes SPT undertaken using split spoon followed by N Value (EN ISO 22476-3:2005+A1:2011)          |
| C 30 | Denotes SPT undertaken using solid cone followed by N Value (EN ISO 22476-3:2005+A1:2011)           |
| *240 | Denotes SPT where full test drive has not been completed and linearly extrapolated N value reported |
| **   | Denotes no effective penetration (Linearly extrapolated N value > 1000)                             |
| H 30 | Hand shear vane. Direct reading in kPa                                                              |


### Sample range


|                                                                                                        |                                                                                              |                                                                                                                 |                                                                                                              |
|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|  Undisturbed sample |  Core run |  U(T)100 Undisturbed Samples |  Rotary core sub-sample |
|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|

### Installation Details


|                                                                                                     |                                                                                                            |                                                                                                      |
|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
|  Porous Tip      |  Screened Standpipe     |  Bentonite seal |
|  Plain standpipe |  Granular response zone |  Concrete       |
|  Grout           |  Backfill with arisings |                                                                                                      |

| Soils                                                                                                    | Rocks                                                                                                          |                                                                                                    |                                                                                                     |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
|                                                                                                          | Sedimentary                                                                                                    | Metamorphic                                                                                        | Igneous                                                                                             |
|  Made ground          |  Chalk                      |                                                                                                    |                                                                                                     |
|  Boulders and cobbles |  Limestone                  |  Coarse-grained |  Coarse-grained |
|  Gravel               |  Conglomerate               |  Medium-grained |  Medium-grained |
|  Sand                 |  Breccia                    |  Fine-grained   |  Fine-grained   |
|  Silt                 |  Sandstone                  |                                                                                                    |                                                                                                     |
|  Clay                 |  Siltstone                  |                                                                                                    |                                                                                                     |
|  Peat                 |  Mudstone                   |                                                                                                    |                                                                                                     |
|                                                                                                          |  Shale                      |                                                                                                    |                                                                                                     |
|                                                                                                          |  Coal                       |                                                                                                    |                                                                                                     |
|                                                                                                          |  Pyroclastic (volcanic ash) |                                                                                                    |                                                                                                     |
|                                                                                                          |  Gypsum, Rocksalt etc       |                                                                                                    |                                                                                                     |

NOTE: Composite soil types will be signified by combined symbols, e.g.  Silty sand


| CC Ground Investigations Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |                             |                             |                   |                     |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Borehole No.                   |              |        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------|-----------------------------|-------------------|---------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------|--------|
| <h1 style="text-align: center;">ROTARY BOREHOLE LOG</h1>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |                             |                             |                   |                     |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | A2                             |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |                   |                     | Telephone: 01452 739 165 , Fax: 01452 739 220 , Email: info@CCGround.co.uk          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |              |        |
| Project Name: Fairford Observation Wells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |                             |                             | Project No:       |                     | Co-ords: E N                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Hole Type                      |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             | <b>C5964</b>      |                     |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DS+RC                          |              |        |
| Location: SITE A2 and B2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |                             |                             |                   |                     | Level: mAOD                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Scale                          |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |                   |                     |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1 : 56.25                      |              |        |
| Client: Water Resource Associates LLP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |                             |                             |                   |                     | Dates: Start: 01/03/2018                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Logged By                      |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |                   |                     | End: 01/03/2018                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | TH                             |              |        |
| (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Water Levels     | Core Run, Samples & Testing |                             | Core Run & Sample | TCR SCR RQD         | Install                                                                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Depth (m)                      | Level (mAOD) | Legend |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  | C                           | 1.10 - 2.50                 |                   | 100%<br>0%<br>0%    |                                                                                     | Grass over firm friable dark brown slightly sandy CLAY with frequent roots and rootlets (<2mm).<br>Firm friable brown slightly gravelly slightly sandy calcareous CLAY with rare roots and rootlets (<2mm). Gravel is angular to sub-rounded fine to coarse of limestone.<br>Light brown sandy very clayey angular to sub-rounded fine to coarse GRAVEL of limestone.<br>Light brown slightly gravelly slightly silty SAND with occasional comminuted shell fragments (<10mm). Gravel is sub-angular fine of limestone.                                                                                                                                                                                                 | 0.30<br>0.70<br>1.10<br>(1.40) |              |        |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  | C                           | 2.50 - 4.00                 |                   | 100%<br>22%<br>7%   |                                                                                     | Light greyish brown slightly sandy angular to sub-rounded fine to coarse GRAVEL of limestone.<br>2.75m: 1No. sub-rounded cobble of limestone.<br>Light brown gravelly very clayey SAND locally tending to slightly gravelly sandy clay. Gravel is sub-angular to sub-rounded fine to medium of limestone.<br>Weak light greyish brown and light brown shelly LIMESTONE. Discontinuities are horizontal locally sub-vertical intersecting very closely to closely spaced stepped and undulating rough with light brown clayey sand infill (<2mm) and brown staining.                                                                                                                                                     | 2.50<br>2.80<br>3.00<br>(0.65) |              |        |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  | C                           | 4.00 - 5.50                 |                   | 100%<br>75%<br>51%  |                                                                                     | Firm light brown locally greyish brown slightly gravelly sandy CLAY. Gravel is sub-angular to sub-rounded fine to coarse of limestone.<br>Weak light greyish brown and light brown shelly LIMESTONE. Discontinuities are horizontal locally sub-vertical intersecting very closely to closely spaced stepped and undulating rough with light brown clayey sand infill (<2mm) and brown staining.                                                                                                                                                                                                                                                                                                                        | 4.00<br>4.75<br>(0.75)         |              |        |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  | C                           | 5.50 - 7.00                 |                   | 100%<br>100%<br>88% |                                                                                     | Weak light greyish brown and light brown shelly LIMESTONE. Discontinuities are horizontal locally sub-vertical intersecting very closely to closely spaced stepped and undulating rough with light brown clayey sand infill (<2mm) and brown staining.<br>4.25-4.60m: 1No. sub-vertical discontinuity stepped rough with slightly clayey sand infill (<2mm) and brown staining.<br>4.65-4.75m: 1No. thin bed of firm light brown sandy clay.<br>Medium strong locally weak grey locally light brown shelly LIMESTONE with occasional voids (<40mm). Discontinuities are horizontal closely spaced undulating and stepped rough with light brown or grey slightly clayey sand infill (<2mm).                             | 5.50<br>(2.40)                 |              |        |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  | C                           | 7.00 - 8.20                 |                   | 100%<br>92%<br>71%  |                                                                                     | 4.75-4.95m: 1No. vertical discontinuity undulating rough with orangish brown staining.<br>5.15-5.20m: 1No. very thin bed of grey very clayey sand.<br>5.50-7.15m: With rare voids (<30mm).<br>6.10-6.25m: 1No. thin bed of stiff grey slightly gravelly slightly sandy clay. Gravel is sub-angular to sub-rounded of limestone.<br>6.25-7.10m: discontinuities are horizontal closely to medium spaced.<br>Extremely weak thickly laminated grey MUDSTONE locally tending to very stiff silty clay. discontinuities are horizontal and sub-horizontal very closely to closely spaced undulating smooth with clay smear.<br>7.60-8.20m: with rare lenses (<20mm) very closely to closely spaced of light grey limestone. | 7.15<br>(1.05)<br>8.20         |              |        |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |                             |                             |                   |                     |                                                                                     | Borehole completed at 8.20m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |              |        |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |                             |                             |                   |                     |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |              |        |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |                             |                             |                   |                     |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |              |        |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |                             |                             |                   |                     |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |              |        |
| <p>EQUIPMENT: Hand digging tools, Fraste Multi-drill PL(G) track mounted rig.<br/>                 METHOD: Hand dug inspection pit: 0.00-0.80m. Dynamic sampling using 128mm sample barrel: 0.80-1.10m. Waterflush rotary coring using T6-146 coring barrel: 1.10-8.20m.<br/>                 CASING: 168mm diameter to 1.00m.<br/>                 GROUNDWATER: None encountered prior to using water flush during drilling process.<br/>                 INSTALLATION: Borehole backfilled with bentonite pellets: 7.15-8.20m. Granular filter pack: 7.00-7.15m. 50mm ID HDPE slotted pipe with washed gravel response zone and geo-sock: 5.00-7.00m. Plain 50mm ID HDPE pipe with washed gravel response zone: 2.00-5.00m and bentonite pellet seal: 0.2-2.00m. Flush 150mm steel cover set in concrete: 0.20-0.00m. Gas valve fitted.<br/>                 REMARKS: Driller notes loss of flush from 2.50-7.00m.</p> |                  |                             |                             |                   |                     |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |              |        |
| Groundwater:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                  |                             |                             |                   |                     | Hole Progress:                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |              |        |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Strike Depth (m) | Casing Depth (m)            | Depth After Observation (m) |                   | Date                | Hole Depth (m)                                                                      | Casing Depth (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Water Depth (m)                |              |        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |                   | 01/03/2018 17:00    | 8.20                                                                                | 1.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |              |        |

CC ROTARY LOG C5964.GPJ CCGI GINT STD.ACS 4.0.GDT 9/4/13

| CC Ground Investigations Ltd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                  |                             |                             |        |                             |             |                                                                                                                                                                                                                                                                                                              |                                             |                             |  |        | Borehole No.<br><b>B2</b> |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------|-----------------------------|--------|-----------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|--------|---------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|------|----------------|------------------|-----------------|------------------|------|------|------|
| <h1 style="text-align: center;">ROTARY BOREHOLE LOG</h1>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |                             |                             |        |                             |             |                                                                                                                                                                                                                                                                                                              |                                             |                             |                                                                                     |        | Sheet 1 of 1              |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| Telephone: 01452 739 165 , Fax: 01452 739 220 , Email: Info@CCGround.co.uk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |                             |                             |        |                             |             |                                                                                                                                                                                                                                                                                                              |                                             |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| Project Name: Fairford Observation Wells                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |                             |                             |        | Project No:<br><b>C5964</b> |             |                                                                                                                                                                                                                                                                                                              | Co-ords: E N                                |                             | Hole Type<br>DS                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| Location: SITE A2 and B2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |                             |                             |        |                             |             |                                                                                                                                                                                                                                                                                                              | Level: mAOD                                 |                             | Scale<br>1 : 56.25                                                                  |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| Client: Water Resource Associates LLP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                  |                             |                             |        |                             |             |                                                                                                                                                                                                                                                                                                              | Dates: Start: 20/03/2018<br>End: 20/03/2018 |                             | Logged By<br>EC                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| (m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Water Levels     | Core Run, Samples & Testing |                             |        | Core Run & Sample           | TCR SCR RQD | Install                                                                                                                                                                                                                                                                                                      | Description                                 | Depth (m)                   | Level (mAD)                                                                         | Legend |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                  | No/Type                     | Depth (m)                   | Result |                             |             |                                                                                                                                                                                                                                                                                                              |                                             |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |        |                             |             | MADE GROUND (Grass over): Soft locally firm orangish brown slightly gravelly slightly sandy silty calcareous CLAY. Gravel is angular to sub-angular fine to coarse of limestone and rare porlein.<br>0.00-0.05m: Occasional rootlets (<5mm).<br>0.70m: Low cobble content. Cobbles are angular of limestone. | 0.90                                        |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |        |                             |             | Firm dark orangish brown slightly gravelly slightly sandy silty calcareous CLAY. Gravel is angular to sub-angular fine to coarse of limestone.<br>1.60-1.63m: Sandy.                                                                                                                                         | 0.80                                        |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |        |                             |             | Light yellowish brown and orangish brown sandy slightly clayey angular to sub-angular fine to coarse GRAVEL of limestone with low cobble content. Cobbles are sub-angular of limestone.                                                                                                                      | 1.70                                        |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |        |                             |             | Firm orangish brown locally mottled light grey slightly gravelly slightly sandy silty calcareous CLAY. Gravel is angular to sub-angular fine to coarse of limestone.                                                                                                                                         | 2.50                                        |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |        |                             |             | Firm tending to stiff thinly laminated orangish and greyish brown locally mottled light grey slightly gravelly slightly sandy silty calcareous CLAY. Gravel is angular to sub-angular fine to coarse of limestone.                                                                                           | 3.20                                        |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |        |                             |             | Stiff thinly laminated grey silty calcareous CLAY with rare lenses (<1mm) of light grey silty fine sand.                                                                                                                                                                                                     | 3.70                                        |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |        |                             |             |                                                                                                                                                                                                                                                                                                              | 1.90                                        |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |        |                             |             | Very stiff thinly laminated calcareous grey silty CLAY, locally tending to extremely weak mudstone with occasional lenses (<1mm) of silty fine sand.                                                                                                                                                         | 5.60                                        |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |                             |                             |        |                             |             | Borehole completed at 6.00m                                                                                                                                                                                                                                                                                  | 6.00                                        |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| <p>EQUIPMENT: Hand digging tools. Comacchio MC305 multi-purpose tracked rig.<br/>                 METHOD: Hand dug inspection pit: 0.00-1.00m. Dynamic sampling using 128mm sample barrel: 1.00-6.00m.<br/>                 CASING: 168mm diameter to 3.70m<br/>                 GROUNDWATER: Groundwater encountered at 2.30m and rose to 2.10m after 20 minute monitoring period.<br/>                 INSTALLATION: Borehole backfilled with bentonite pellets: 4.50-6.00m. 50mm ID HDPE slotted pipe with washed gravel response zone and geo-sock: 1.60-4.50m. Plain 50mm ID HDPE pipe with washed gravel response zone: 1.50-1.60m and bentonite pellet seal: 0.10-1.50m. Flush 150mm steel cover set in concrete: 0.10-0.00m. Gas valve fitted.</p> |                  |                             |                             |        |                             |             |                                                                                                                                                                                                                                                                                                              |                                             |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| <p><b>Groundwater:</b></p> <table border="1"> <thead> <tr> <th>Date</th> <th>Strike Depth (m)</th> <th>Casing Depth (m)</th> <th>Depth After Observation (m)</th> </tr> </thead> <tbody> <tr> <td>20/03/18</td> <td>2.30</td> <td></td> <td>2.10</td> </tr> </tbody> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |                             |                             |        |                             | Date        | Strike Depth (m)                                                                                                                                                                                                                                                                                             | Casing Depth (m)                            | Depth After Observation (m) | 20/03/18                                                                            | 2.30   |                           | 2.10 | <p><b>Hole Progress:</b></p> <table border="1"> <thead> <tr> <th>Date</th> <th>Hole Depth (m)</th> <th>Casing Depth (m)</th> <th>Water Depth (m)</th> </tr> </thead> <tbody> <tr> <td>20/03/2018 17:00</td> <td>6.00</td> <td>3.70</td> <td>2.10</td> </tr> </tbody> </table> |  |  |  |  |  | Date | Hole Depth (m) | Casing Depth (m) | Water Depth (m) | 20/03/2018 17:00 | 6.00 | 3.70 | 2.10 |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Strike Depth (m) | Casing Depth (m)            | Depth After Observation (m) |        |                             |             |                                                                                                                                                                                                                                                                                                              |                                             |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 20/03/18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2.30             |                             | 2.10                        |        |                             |             |                                                                                                                                                                                                                                                                                                              |                                             |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Hole Depth (m)   | Casing Depth (m)            | Water Depth (m)             |        |                             |             |                                                                                                                                                                                                                                                                                                              |                                             |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |
| 20/03/2018 17:00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6.00             | 3.70                        | 2.10                        |        |                             |             |                                                                                                                                                                                                                                                                                                              |                                             |                             |                                                                                     |        |                           |      |                                                                                                                                                                                                                                                                               |  |  |  |  |  |      |                |                  |                 |                  |      |      |      |

CC ROTARY LOG C5964.GPJ CCGIGINT.STD.ACS.4.0.GDT 9/4/18

## E-3 GMD Drilling Log and Samples

|                                                                                                                                                   |                                                                                                      |                                                              |                                                                 |                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------|----------------------------|
|                                                                  | <b>Groundwater Monitoring &amp; Drilling Ltd</b><br>1 Adeane Road, Chalgrove<br>Oxfordshire OX44 7TQ |                                                              | <b>DRILLING LOG</b>                                             | <b>BOREHOLE<br/>No. B5</b> |
|                                                                                                                                                   | <b>Equipment &amp; Methods</b><br>Pilcon Wayfarer shell and auger rig<br>150 mm diameter             |                                                              | <b>Location</b><br>LOVERS LANE, FAIRFORD<br>OXFORDSHIRE GL7 4LS |                            |
| <b>Water levels</b><br>Water added to bail<br>RWL on 26/08/18 = 3.26 mbgl<br>Chiselling from 1.80 mbgl                                            |                                                                                                      | <b>Grid Reference:</b> 415701, 201673                        |                                                                 |                            |
|                                                                                                                                                   |                                                                                                      | <b>Ground level:</b> 94.0 m AOD                              |                                                                 |                            |
|                                                                                                                                                   |                                                                                                      | <b>Datum level:</b><br>Well top is 0.06 m below ground level |                                                                 |                            |
| <b>Carried out for</b> Fairford Parish Council                                                                                                    |                                                                                                      | <b>Date</b> 25/8/18-26/08/18                                 |                                                                 |                            |
| <b>Description</b>                                                                                                                                | <b>Thickness<br/>m</b>                                                                               | <b>Depth<br/>m</b>                                           | <b>Reduced<br/>Level</b>                                        |                            |
| Brown [7.5YR4/2] hard dry stony SOIL becoming moist dark brown [7.5YR] and slightly stony between 0.35 m and 0.50 m and brown [7.5YR5/4] at 0.6 m | 0.70                                                                                                 | 0.70                                                         |                                                                 |                            |
| Strong brown [7.5YR5/8] clayey light grey [5Y7/1] hard rubbly limestone.                                                                          | 1.10                                                                                                 | 1.80                                                         |                                                                 |                            |
| Hard LIMESTONE light grey [[5Y7/1] with some Brownish yellow [10YR6/6] CLAY                                                                       | 1.60                                                                                                 | 3.40                                                         |                                                                 |                            |
| Firm-stiff dark grey [N4] CLAY                                                                                                                    | 0.50                                                                                                 | 4.10                                                         |                                                                 |                            |
| <b>Completion</b>                                                                                                                                 |                                                                                                      | <b>Length</b>                                                |                                                                 |                            |
| Inspection cover set in 0.25 m concrete surround with Allen key access<br>Bentonite pellets<br>Pack -2- 5 mm                                      |                                                                                                      | 1.50<br>4.10                                                 |                                                                 |                            |
| 60 mm OD x 50 mm ID PVC plain casing<br>60 mm OD x 50 mm ID PVC screen with 1 mm slots<br>60 mm OD x 50 mm ID PVC plain casing                    |                                                                                                      | 1.80<br>3.60<br>4.10                                         |                                                                 |                            |
| <b>Sample No and depth [m]</b>                                                                                                                    |                                                                                                      |                                                              |                                                                 |                            |
| B5/1 0.00 - 0.35 m                                                                                                                                | B5/6 1.80 - 2.20 m                                                                                   |                                                              |                                                                 |                            |
| B5/2 0.35 - 0.50                                                                                                                                  | B5/7 2.20 - 2.40                                                                                     |                                                              |                                                                 |                            |
| B5/3 0.50 - 0.60                                                                                                                                  | B5/8 2.40 - 2.75                                                                                     |                                                              |                                                                 |                            |
| B5/4 0.60 - 0.70                                                                                                                                  | B5/9 2.75 - 3.40                                                                                     |                                                              |                                                                 |                            |
| B5/5 0.70 - 1.80                                                                                                                                  | B5/10 3.40 - 4.10                                                                                    |                                                              |                                                                 |                            |