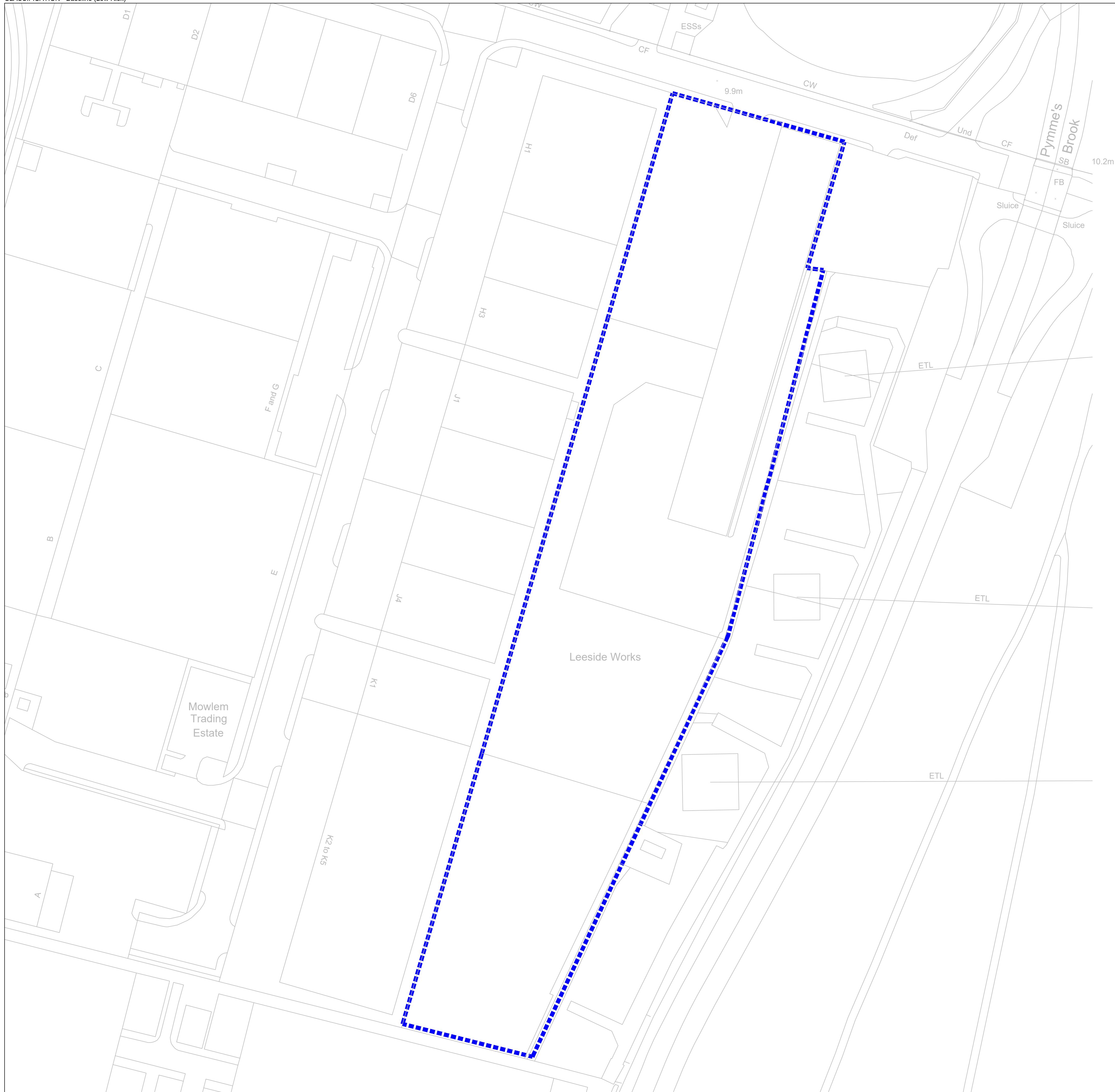


NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. THIS DRAWING SHOULD BE READ IN FULL COLOUR.
3. CONTAINS ORDNANCE SURVEY DATA © CROWN COPYRIGHT AND DATABASE RIGHT 2022.

KEY:

— — — NGET NON-OPERATIONAL SITE BOUNDARY



DO NOT SCALE

[illegible]

|      |          |                 |    |       |       |
|------|----------|-----------------|----|-------|-------|
| P01  | 16/12/24 | FOR INFORMATION | SK | JF    | JF    |
| Rev. | Date     | Description     | By | Chk'd | App'd |

|                        |             |
|------------------------|-------------|
| Drawing Status         | Suitability |
| <b>FOR INFORMATION</b> | <b>S2</b>   |

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Client



Project Title

TOTTENHAM (SITE CODE 8021)

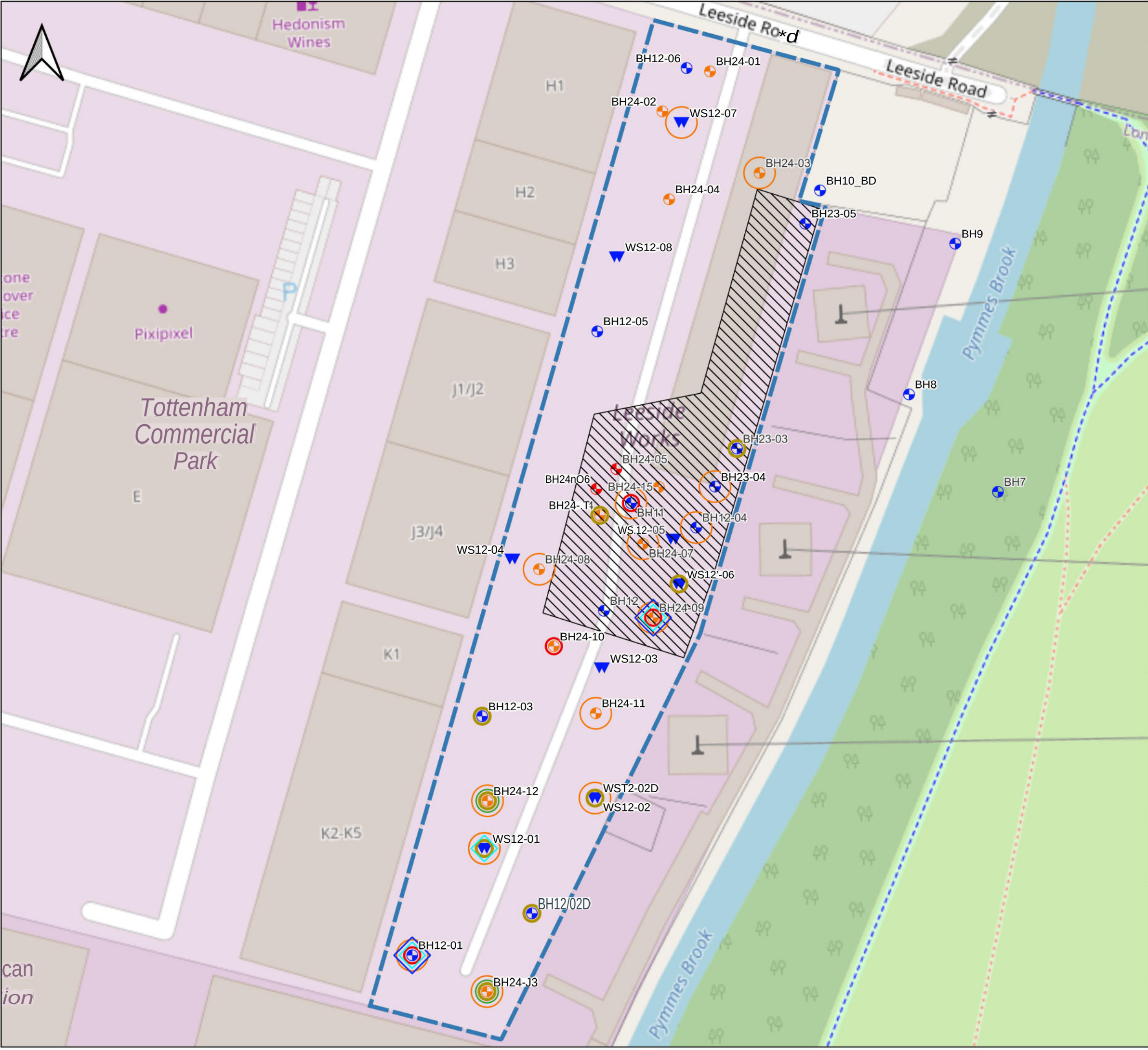
Drawing Title

SITE LAYOUT PLAN

|                     |                    |                    |                    |                    |
|---------------------|--------------------|--------------------|--------------------|--------------------|
| Scale<br>1:500      | Designed<br>SK     | Drawn<br>SK        | Checked<br>JF      | Authorised<br>JF   |
| Original Size<br>## | Date<br>16/12/2024 | Date<br>16/12/2024 | Date<br>16/12/2024 | Date<br>16/12/2024 |

|                |          |          |
|----------------|----------|----------|
| Drawing Number | FIGURE 2 | Revision |
|                |          | P01      |





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LEGEND

- Site Boundary
- Groundwater Sample Exceedances of Level 4 Screening Criteria
  - 1,2-Dichloroethane
  - Benzene
  - Fluoranthene
  - Naphthalene
- DNAPL Pool Height Below 0.102 m Thickness
- DNAPL Pool Height Above 0.102 m Thickness
- Phase 1 Remediation Area
- AtkinsRéalis 2024 GI Locations
  - Borehole
  - Borehole (Terminated)
- Historical Exploratory Locations
  - BH
  - WS

Project Title

NGET Arriva Bus Depot, Tottenham

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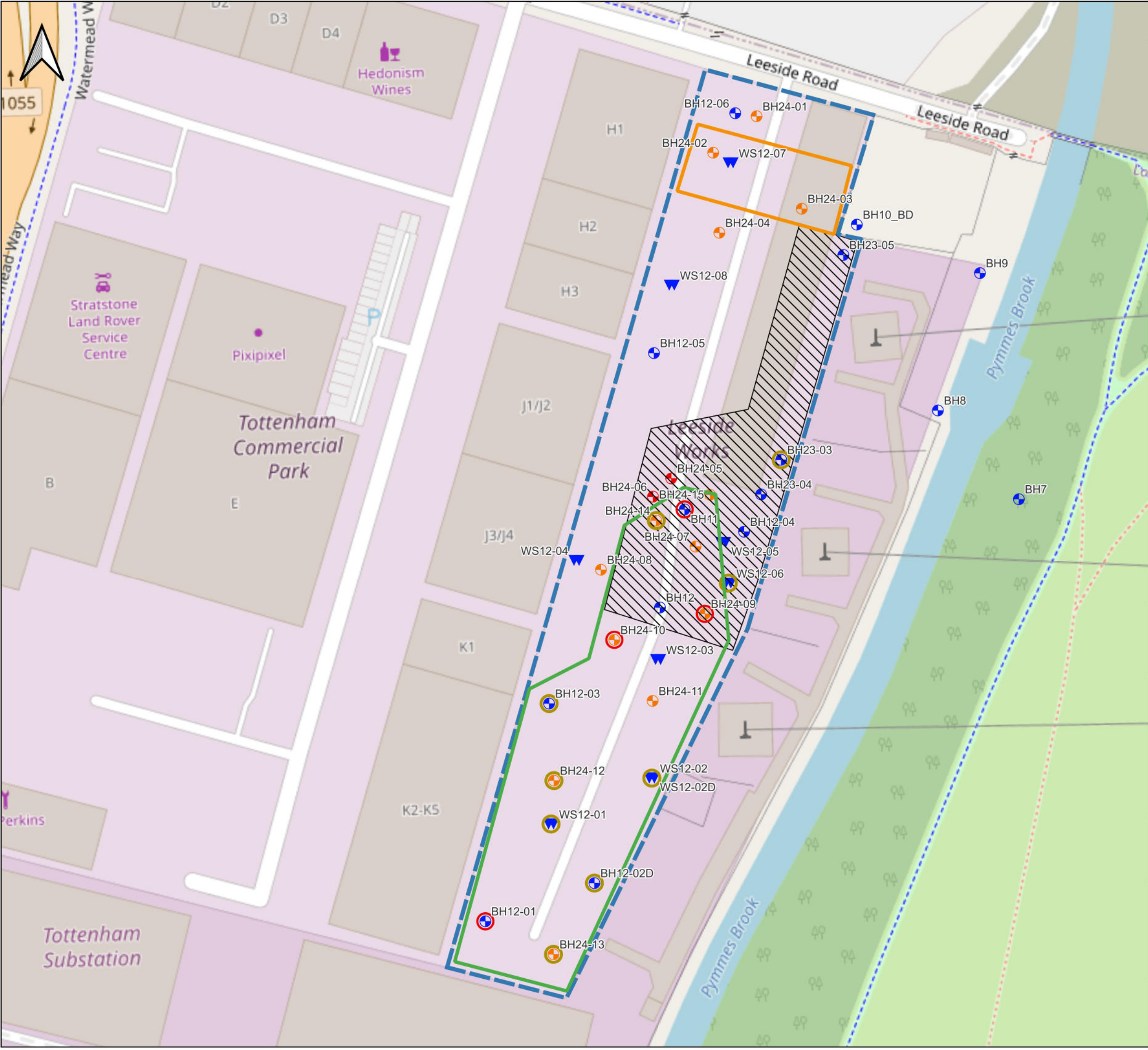
Woodcote Grove  
 Ashley Road  
 Epsom  
 Surrey  
 KT18 5BW

Client

Drawing Title

FIGURE 4  
 EXPLORATORY HOLE, DNAPL PRESENCE  
 AND GROUNDWATER EXCEEDANCE PLAN

|             |   |                |                      |              |         |
|-------------|---|----------------|----------------------|--------------|---------|
| Original to | 3 | Scale: 1:1,750 | Project Ref. No 8021 | Sheet 1 of 1 | Rev 001 |
|-------------|---|----------------|----------------------|--------------|---------|



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LEGEND

- Site Boundary
- Phase 1 Remediation Area
- Phase 2 Remediation - Northern Area
- Phase 2 Remediation - Southern Area
- DNAPL Thickness Below Maximum DNAPL Pool Height in 2024
- DNAPL Thickness Above Maximum DNAPL Pool Height in 2024

AtkinsRéalis 2024 GI Locations

- Borehole
- Borehole (Terminated)

Historical Exploratory Locations

- BH
- WS

Project Title

NGET Arriva Bus Depot, Tottenham



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(2023)

Woodcote Grove  
Ashley Road  
Epsom  
Surrey  
KT18 5BW

Client



Drawing Title

FIGURE 5  
PHASE 2 PROPOSED REMEDIATION AREAS

0 15 30 45 60 75 m



|                   |                |                       |               |          |
|-------------------|----------------|-----------------------|---------------|----------|
| Original Size: A3 | Scale: 1:1,750 | Project Ref. No: 8021 | Sheet: 1 of 1 | Rev: 001 |
|-------------------|----------------|-----------------------|---------------|----------|

# APPENDICES

# Appendix A.    Exploratory Hole Logs



Project Name: NGET Tottenham

Project No.  
5221420

Co-ords: 535395E - 191528N

Hole Type  
BH

Location: Watermead Way, Tottenham, London, N17 0SG

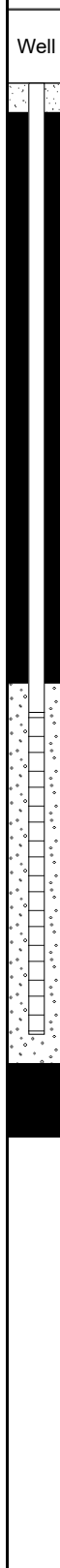
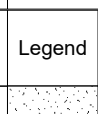
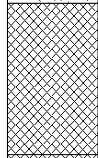
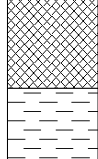
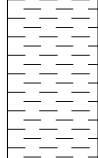
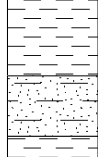
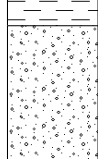
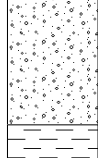
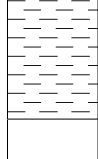
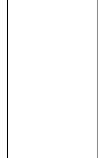
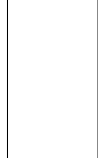
Level: 10.15

Scale  
1:50

Client: National Grid Property Holdings Limited

Dates: 10/09/2024

Logged By  
JR

| Well                                                                               | Water Strikes                                                                      | Sample and In Situ Testing |      |            | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                     |                                                                                      |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------|------|------------|-----------|-----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                                                    |                                                                                    | Depth (m)                  | Type | Results    |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|  |  | 0.30 - 0.40                | ES   |            | 0.20      | 9.95      |    | Hardstanding. CONCRETE.                                                                                                                 |  |
|                                                                                    |                                                                                    | 0.30                       | PID  | PID=0.0    |           |           |    | Dark brown gravelly fine to coarse SAND. Gravel is angular to subangular brick, concrete and flint (MADE GROUND).                       |                                                                                      |
|                                                                                    |                                                                                    | 0.50                       | PID  | PID=0.3    |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 1.00                       | PID  | PID=2566.0 |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    |                            |      |            | 1.20      | 8.95      |    | perched water ingress at 1.00m bgl<br>hydrocarbon odour with oily/tarry substance<br>binding the soil together in clumps                |                                                                                      |
|                                                                                    |                                                                                    | 1.50                       | PID  | PID=149.2  |           |           |                                                                                     | Reddish brown blacked speckled gravelly clayey fine to coarse SAND. Gravel is subrounded coarse brick (MADE GROUND). Hydrocarbon odour. |                                                                                      |
|                                                                                    |                                                                                    |                            |      |            | 1.80      | 8.35      |                                                                                     | Firm to stiff yellowish brown black speckled CLAY. Dense black staining at 1.8 m bgl, reducing with depth (ALLUVIUM).                   |                                                                                      |
|                                                                                    |                                                                                    | 2.00                       | PID  | PID=11.8   |           |           |    |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 2.50                       | PID  | PID=55.9   |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    |                            |      |            |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 3.00 - 3.10                | ES   |            |           |           |   |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 3.00                       | PID  | PID=5000.0 |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    |                            |      |            |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 3.50                       | PID  | PID=2473.0 |           |           |  |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    |                            |      |            | 3.80      | 6.35      |                                                                                     | Grey clayey fine to coarse SAND. (ALLUVIUM)                                                                                             |                                                                                      |
|                                                                                    |                                                                                    | 4.00                       | PID  | PID=110.4  |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 4.10 - 4.20                | ES   |            | 4.20      | 5.95      |  | Firm to stiff yellowish brown black speckled CLAY. Sweet odour. (ALLUVIUM).                                                             |                                                                                      |
|                                                                                    |                                                                                    |                            |      |            | 4.50      | 5.65      |                                                                                     | Dark grey sandy GRAVEL. Sand is coarse. Gravel is angular to rounded. (KEMPTON PARK GRAVEL MEMBER).                                     |                                                                                      |
|                                                                                    |                                                                                    | 5.00 - 5.10                | ES   |            |           |           |  |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 5.00                       | PID  | PID=50.8   |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 5.50                       | PID  | PID=10.0   |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 6.00                       | PID  | PID=23.0   |           |           |  |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    |                            |      |            | 6.20      | 3.95      |                                                                                     | Firm to stiff grey CLAY. (LONDON CLAY).                                                                                                 |                                                                                      |
|                                                                                    |                                                                                    | 6.50                       | PID  | PID=0.3    |           |           |                                                                                     |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 7.00                       | PID  | PID=1.1    |           |           |  |                                                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    |                            |      |            | 7.20      | 2.95      |                                                                                     | End of Borehole at 7.20m                                                                                                                |                                                                                      |
|                                                                                    |                                                                                    |                            |      |            |           |           |                                                                                     |                                                                                                                                         |                                                                                      |

## Remarks

Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/rotary borehole to a final depth of 7.20 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 4.30 m and 6.50 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover. PID values exceed maximum range of monitor of 5000 ppm at 0.30 m.



Project Name: NGET Tottenham

Project No.  
5221420

Co-ords: 535407E - 191503N

Hole Type  
BH

Location: Watermead Way, Tottenham, London, N17 0SG

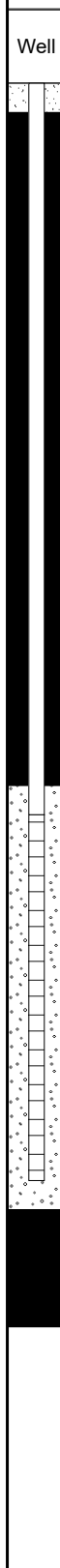
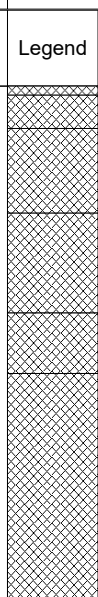
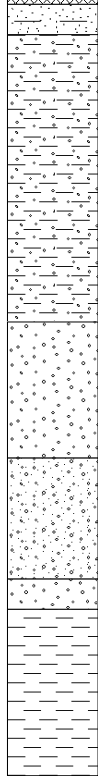
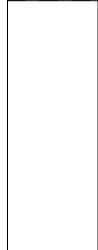
Level: 11.06

Scale  
1:50

Client: National Grid Property Holdings Limited

Dates: 11/09/2024

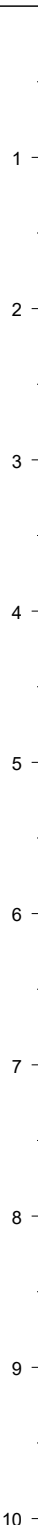
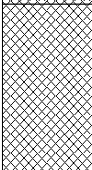
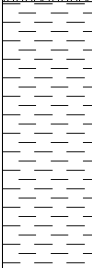
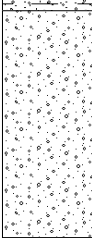
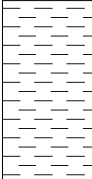
Logged By  
JM

| Well                                                                               | Water Strikes                                                                      | Sample and In Situ Testing |      |             | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                                    |                                                                                      |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------|------|-------------|-----------|-----------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                                                    |                                                                                    | Depth (m)                  | Type | Results     |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|  |  |                            |      |             | 0.06      | 11.00     |    | Hardstanding. Light grey matrix based fine gravelly concrete.                                                                                                          |  |
|                                                                                    |                                                                                    |                            |      |             | 0.28      | 10.78     |                                                                                     | Hardstanding. Light grey matrix based medium gravelly concrete                                                                                                         |                                                                                      |
|                                                                                    |                                                                                    | 0.50                       | PID  | PID=1.2     |           |           |                                                                                     | Orangish brown gravelly cobbly fine to coarse SAND. Gravel is angular to subangular fine to coarse of brick. Cobbles are angular to subangular of brick (MADE GROUND). |                                                                                      |
|                                                                                    |                                                                                    | 1.00                       | PID  | PID=0.0     | 0.84      | 10.22     |                                                                                     | Black gravelly fine to coarse SAND. Gravel is angular to subangular medium to coarse flint, brick, ceramic and concrete (MADE GROUND). Strong hydrocarbon odour.       |                                                                                      |
|                                                                                    |                                                                                    | 1.50 - 1.60                | ES   |             | 1.50      | 9.56      |                                                                                     | Light brown gravelly fine to coarse SAND. Gravel is angular to subangular medium to coarse brick, flint and concrete (MADE GROUND). Strong hydrocarbon odour.          |                                                                                      |
|                                                                                    |                                                                                    | 1.50                       | PID  | PID=3233.0  |           |           |                                                                                     | Black gravelly fine to coarse SAND. Gravel is subangular to subrounded small to medium brick and flint (MADE GROUND). Strong hydrocarbon odour.                        |                                                                                      |
|                                                                                    |                                                                                    | 2.00                       | PID  | PID=15000.0 | 1.90      | 9.16      |                                                                                     | <u>Red staining noted and a strong hydrocarbon odour at 2.00 m bgl</u>                                                                                                 |                                                                                      |
|                                                                                    |                                                                                    | 2.50                       | PID  | PID=15000.0 |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|                                                                                    |                                                                                    | 3.00                       | PID  | PID=15000.0 |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|                                                                                    |                                                                                    | 3.40 - 3.50                | ES   |             | 3.40      | 7.66      |   | Brown clayey SAND. Hydrocarbon odour. (ALLUVIUM).                                                                                                                      |                                                                                      |
|                                                                                    |                                                                                    | 3.50                       | PID  | PID=15000.0 | 3.60      | 7.46      |                                                                                     | Firm to soft greyish yellow gravelly CLAY. Gravel is subangular to subrounded small to coarse flint. Strong hydrocarbon odour. (ALLUVIUM)                              |                                                                                      |
|                                                                                    |                                                                                    | 4.00                       | PID  | PID=2432.0  |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|                                                                                    |                                                                                    | 4.50                       | PID  | PID=300.7   |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|                                                                                    |                                                                                    | 5.00                       | PID  | PID=155.1   |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|                                                                                    |                                                                                    | 5.50 - 5.60                | ES   |             | 5.50      | 5.56      |                                                                                     | Subangular to rounded GRAVEL of medium to coarse flint. (KEMPTON PARK GRAVEL MEMBER).                                                                                  |                                                                                      |
|                                                                                    |                                                                                    | 5.50                       | PID  | PID=243.7   |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|                                                                                    |                                                                                    | 6.00                       | PID  | PID=85.7    |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|                                                                                    |                                                                                    | 6.50                       | PID  | PID=2.8     | 6.40      | 4.66      |                                                                                     | Grey sandy GRAVEL. Gravel is subangular to subrounded medium to coarse flint. Sand is fine to coarse. (KEMPTON PARK GRAVEL MEMBER).                                    |                                                                                      |
|                                                                                    |                                                                                    | 7.00                       | PID  | PID=5.0     |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|                                                                                    |                                                                                    | 7.20                       |      |             | 7.20      | 3.86      |  | Subangular to rounded medium to coarse GRAVEL of flint. (KEMPTON PARK GRAVEL MEMBER).                                                                                  |  |
|                                                                                    |                                                                                    | 7.40                       | PID  | PID=5.3     | 7.40      | 3.66      |                                                                                     | Firm to stiff grey CLAY. (LONDON CLAY).                                                                                                                                |                                                                                      |
|                                                                                    |                                                                                    | 8.00                       | PID  | PID=5.9     |           |           |                                                                                     |                                                                                                                                                                        |                                                                                      |
|                                                                                    |                                                                                    | 8.50                       | PID  | PID=3.8     | 8.50      | 2.56      |                                                                                     | End of Borehole at 8.50m                                                                                                                                               |                                                                                      |

## Remarks

Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/rotary borehole to a final depth of 8.50 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 5.00 m and 7.50 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover.  
PID values exceed maximum range of monitor of 15,000 ppm at 2.00 m, 3.00 m and 3.50 m.



| AtkinsRéalis                                                                                                                                                                                                                                                                                                                                                                                            |               |                            |         |                                              | Borehole Log           |                                                                                     |                                                                                     |                                                                                                                                                               | Borehole No.<br>BH24-04<br>Sheet 1 of 1 |                                                                                       |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------|---------|----------------------------------------------|------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------------------------------------------------|----|
| Project Name: NGET Tottenham                                                                                                                                                                                                                                                                                                                                                                            |               |                            |         |                                              | Project No.<br>5221420 |                                                                                     | Co-ords: 535385E - 191496N                                                          |                                                                                                                                                               | Hole Type<br>BH                         |                                                                                       |    |
| Location: Watermead Way, Tottenham, London, N17 0SG                                                                                                                                                                                                                                                                                                                                                     |               |                            |         |                                              | Level: 10.38           |                                                                                     | Scale<br>1:50                                                                       |                                                                                                                                                               | Logged By<br>GCR and JR                 |                                                                                       |    |
| Client: National Grid Property Holdings Limited                                                                                                                                                                                                                                                                                                                                                         |               |                            |         |                                              | Dates: 09/09/2024      |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
| Well                                                                                                                                                                                                                                                                                                                                                                                                    | Water Strikes | Sample and In Situ Testing |         |                                              | Depth (m)              | Level (m)                                                                           | Legend                                                                              | Stratum Description                                                                                                                                           |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | Depth (m)                  | Type    | Results                                      |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                       |               | 0.20 - 0.30                | ES      |                                              | 0.24                   | 10.14                                                                               |    | Hardstanding. CONCRETE.                                                                                                                                       |                                         |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 0.30                       | PID     | PID=0.0                                      |                        |                                                                                     |                                                                                     | Blackish brown sandy GRAVEL. Gravel is angular to subangular fine to coarse of brick, concrete and flint. Sand is fine to coarse (MADE GROUND).               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 0.50                       | PID     | PID=0.0                                      |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 0.60 - 0.70                | ES      |                                              |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 1.00                       | PID     | PID=0.0                                      | 0.90                   | 9.48                                                                                |    | Soft light brown sandy gravelly CLAY. Sand is fine. Gravel is angular to subangular fine to coarse of brick, tarmac and flint. Occasional peat (MADE GROUND). |                                         |                                                                                       | 1  |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 1.50 - 1.60                | ES      |                                              | 2.00                   | 8.38                                                                                |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 1.50                       | PID     | PID=1.0                                      |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 2.00                       | PID     | PID=5.1                                      |                        |                                                                                     |                                                                                     | Firm to stiff dark grey mottled black CLAY. Clay has occasional laminations and black staining. Slight organic odour. (ALLUVIUM).                             |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 2.50                       | PID     | PID=12.3                                     |                        |                                                                                     |                                                                                     | <i>band of decomposing roots and organic matter</i>                                                                                                           |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 3.00                       | PID     | PID=29.7                                     | 3.80                   | 6.58                                                                                |   |                                                                                                                                                               |                                         |                                                                                       | 3  |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 3.50                       | PID     | PID=6.7                                      |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 3.70 - 3.80                | ES      |                                              |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 4.00                       | PID     | PID=1.2                                      |                        |                                                                                     |                                                                                     | Brownish grey slightly clayey gravelly fine to coarse SAND. Gravel is subangular to round fine to coarse of flint. (KEMPTON PARK GRAVEL MEMBER).              |                                         |                                                                                       | 4  |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 4.50                       | PID     | PID=0.3                                      | 4.50                   | 5.88                                                                                |  | Brownish grey sandy GRAVEL. Sand is medium to coarse. Gravel is angular to rounded fine to coarse flint. (KEMPTON PARK GRAVEL MEMBER).                        |                                         |                                                                                       | 5  |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 5.00                       | EW      |                                              | 6.00                   | 4.38                                                                                |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 5.00                       | PID     | PID=0.0                                      |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 5.50                       | PID     | PID=0.0                                      |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         | 6.00          | PID                        | PID=0.8 | Firm to stiff dark grey CLAY. (LONDON CLAY). |                        |                                                                                     |                                                                                     | 6                                                                                                                                                             |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         | 6.50          | PID                        | PID=0.3 | 7.20                                         | 3.18                   |  |                                                                                     |                                                                                                                                                               | 7                                       |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         | 7.00          | PID                        | PID=0.2 |                                              |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |         |                                              |                        |                                                                                     |                                                                                     | End of Borehole at 7.20m                                                                                                                                      |                                         | 8                                                                                     |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |         |                                              |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       | 9  |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |         |                                              |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |                                                                                       | 10 |
| Remarks<br>Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/ rotary borehole to a final depth of 7.20 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 3.70 m and 6.30 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover. |               |                            |         |                                              |                        |                                                                                     |                                                                                     |                                                                                                                                                               |                                         |  |    |

|                                                                                                                                  |               |                            |           |         | <h1>Borehole Log</h1>  |              |                            | Borehole No.<br><b>BH24-05</b><br>Sheet 1 of 1                                                                 |                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------|-----------|---------|------------------------|--------------|----------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: NGET Tottenham                                                                                                                                                                                      |               |                            |           |         | Project No.<br>5221420 |              | Co-ords: 535372E - 191430N |                                                                                                                | Hole Type<br>BH                                                                       |
| Location: Watermead Way, Tottenham, London, N17 0SG                                                                                                                                                               |               |                            |           |         | Level: 10.47           |              |                            | Scale<br>1:50                                                                                                  |                                                                                       |
| Client: National Grid Property Holdings Limited                                                                                                                                                                   |               |                            |           |         | Dates: 28/08/2024      |              |                            | Logged By<br>ZC and JR                                                                                         |                                                                                       |
| Well                                                                                                                                                                                                              | Water Strikes | Sample and In Situ Testing |           |         | Depth (m)              | Level (m)    | Legend                     | Stratum Description                                                                                            |                                                                                       |
|                                                                                                                                                                                                                   |               | Depth (m)                  | Type      | Results |                        |              |                            |                                                                                                                |                                                                                       |
|                                                                                                                                                                                                                   |               |                            |           |         | 0.05                   | 10.42        |                            | TARMAC.                                                                                                        |                                                                                       |
|                                                                                                                                                                                                                   |               |                            |           |         | 0.26                   | 10.21        |                            | Hardstanding. CONCRETE.                                                                                        |                                                                                       |
|                                                                                                                                                                                                                   |               | 0.40 - 0.50<br>0.50        | ES<br>PID | PID=0.1 |                        |              |                            | Dark brown gravelly fine to coarse SAND. Gravel is fine to medium. Occasional glass and clinker (MADE GROUND). |                                                                                       |
|                                                                                                                                                                                                                   |               | 1.00                       | PID       | PID=0.0 | 0.90<br>1.00           | 9.57<br>9.47 |                            | Cobbles of angular brick.                                                                                      | 1                                                                                     |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            | End of Borehole at 1.00m                                                                                       |                                                                                       |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            |                                                                                                                | 2                                                                                     |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            |                                                                                                                | 3                                                                                     |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            |                                                                                                                | 4                                                                                     |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            |                                                                                                                | 5                                                                                     |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            |                                                                                                                | 6                                                                                     |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            |                                                                                                                | 7                                                                                     |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            |                                                                                                                | 8                                                                                     |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            |                                                                                                                | 9                                                                                     |
|                                                                                                                                                                                                                   |               |                            |           |         |                        |              |                            |                                                                                                                | 10                                                                                    |
| Remarks<br>Location concrete cored from surface to a depth of 1.00 m bgl using a 300 mm coring barrel. Location terminated due to presence of potential medical waste and possible asbestos containing materials. |               |                            |           |         |                        |              |                            |                                                                                                                |  |

|                                                                                                                                                                                  |               |                            |      |         | <h1>Borehole Log</h1>  |           |                                                                                   | Borehole No.<br><b>BH24-06</b><br>Sheet 1 of 1                                                                                                                  |                                                                                                                                    |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------|------|---------|------------------------|-----------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|--|
| Project Name: NGET Tottenham                                                                                                                                                                                                                                      |               |                            |      |         | Project No.<br>5221420 |           | Co-ords: 535389E - 191426N                                                        |                                                                                                                                                                 | Hole Type<br>BH                                                                                                                    |  |
| Location: Watermead Way, Tottenham, London, N17 0SG                                                                                                                                                                                                               |               |                            |      |         | Level: 10.59           |           |                                                                                   | Scale<br>1:50                                                                                                                                                   |                                                                                                                                    |  |
| Client: National Grid Property Holdings Limited                                                                                                                                                                                                                   |               |                            |      |         | Dates: 29/08/2024      |           |                                                                                   | Logged By<br>ZC and JR                                                                                                                                          |                                                                                                                                    |  |
| Well                                                                                                                                                                                                                                                              | Water Strikes | Sample and In Situ Testing |      |         | Depth (m)              | Level (m) | Legend                                                                            | Stratum Description                                                                                                                                             |                                                                                                                                    |  |
|                                                                                                                                                                                                                                                                   |               | Depth (m)                  | Type | Results |                        |           |                                                                                   |                                                                                                                                                                 |                                                                                                                                    |  |
|                                                                                                                                                                                                                                                                   |               |                            |      |         | 0.05                   | 10.54     |  | TARMAC.                                                                                                                                                         | <div>1</div> <div>2</div> <div>3</div> <div>4</div> <div>5</div> <div>6</div> <div>7</div> <div>8</div> <div>9</div> <div>10</div> |  |
|                                                                                                                                                                                                                                                                   |               |                            |      |         | 0.20                   | 10.39     |  | CONCRETE.                                                                                                                                                       |                                                                                                                                    |  |
|                                                                                                                                                                                                                                                                   |               |                            |      |         | 0.40                   | 10.19     |  | Blackish dark brown gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse of brick and concrete. Occasional tile and clinker (MADE GROUND). |                                                                                                                                    |  |
| <div>End of Borehole at 0.40m</div>                                                                                                                                                                                                                               |               |                            |      |         |                        |           |                                                                                   |                                                                                                                                                                 |                                                                                                                                    |  |
| Remarks<br>Location concrete cored from surface to a depth of 0.40 m bgl using a 300 mm coring barrel. Location terminated due to encountering frequent tiles of fibrous material possible asbestos containing materials and lagging/ coating around an old pipe. |               |                            |      |         |                        |           |                                                                                   |                                                                                                                                                                 |                                                                                                                                    |  |
|                                                                                                                                                                              |               |                            |      |         |                        |           |                                                                                   |                                                                                                                                                                 |                                                                                                                                    |  |

Project Name: NGET Tottenham

Project No.  
5221420

Co-ords: 535378E - 191412N

Hole Type  
BH

Location: Watermead Way, Tottenham, London, N17 0SG

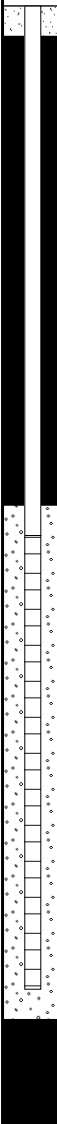
Level: 10.41

Scale  
1:50

Client: National Grid Property Holdings Limited

Dates: 10/09/2024

Logged By  
GR

| Well                                                                               | Water Strikes                                                                     | Sample and In Situ Testing |      |           | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                        |    |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------|------|-----------|-----------|-----------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|----|
|                                                                                    |                                                                                   | Depth (m)                  | Type | Results   |           |           |                                                                                     |                                                                                                                                            |    |
|  |  | 0.20 - 0.60                | ES   |           | 0.20      | 10.21     |    | CONCRETE.                                                                                                                                  |    |
|                                                                                    |                                                                                   | 0.50                       | PID  | PID=21.7  |           |           |    | Dark brownish grey gravelly fine to coarse SAND. Gravel is angular to subrounded medium to coarse brick, concrete and flint (MADE GROUND). |    |
|                                                                                    |                                                                                   | 1.00                       | PID  | PID=47.4  |           |           |    |                                                                                                                                            | 1  |
|                                                                                    |                                                                                   | 1.50                       | PID  | PID=26.4  |           |           |    |                                                                                                                                            |    |
|                                                                                    |                                                                                   | 2.00                       | PID  | PID=113.8 | 2.00      | 8.41      |    | Firm to stiff yellowish brown CLAY with slight peat. (ALLUVIUM).                                                                           | 2  |
|                                                                                    |                                                                                   | 2.40 - 2.70                | ES   |           |           |           |    |                                                                                                                                            |    |
|                                                                                    |                                                                                   | 2.50                       | PID  | PID=361.4 |           |           |    |                                                                                                                                            |    |
|                                                                                    |                                                                                   | 3.00                       | PID  | PID=221.8 |           |           |    |                                                                                                                                            | 3  |
|                                                                                    |                                                                                   | 4.00 - 4.50                | ES   |           |           |           |   |                                                                                                                                            |    |
|                                                                                    |                                                                                   | 4.00                       | PID  | PID=44.5  | 4.20      | 6.21      |  | Band of peaty ALLUVIUM with strong hydrocarbon odour.                                                                                      | 4  |
|                                                                                    |                                                                                   |                            |      |           | 4.50      | 5.91      |  | NO RECOVERY.                                                                                                                               |    |
|                                                                                    |                                                                                   | 5.00 - 5.50                | ES   |           |           |           |  |                                                                                                                                            | 5  |
|                                                                                    |                                                                                   | 5.50                       | PID  | PID=240.0 | 5.20      | 5.21      |  | Grey sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to rounded small to medium flint. (KEMPTON PARK GRAVEL MEMBER).            |    |
|                                                                                    |                                                                                   | 6.20                       | PID  | PID=3.2   | 6.00      | 4.41      |  | Firm to stiff brownish grey CLAY. (LONDON CLAY).                                                                                           | 6  |
|                                                                                    |                                                                                   | 6.50                       | PID  | PID=2.8   |           |           |  |                                                                                                                                            |    |
|                                                                                    |                                                                                   | 7.00                       | PID  | PID=1.8   |           |           |  |                                                                                                                                            | 7  |
|                                                                                    |                                                                                   |                            |      |           | 7.50      | 2.91      |                                                                                     | End of Borehole at 7.50m                                                                                                                   |    |
|                                                                                    |                                                                                   |                            |      |           |           |           |                                                                                     |                                                                                                                                            | 8  |
|                                                                                    |                                                                                   |                            |      |           |           |           |                                                                                     |                                                                                                                                            | 9  |
|                                                                                    |                                                                                   |                            |      |           |           |           |                                                                                     |                                                                                                                                            | 10 |

## Remarks

Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/ rotary borehole to a final depth of 7.50 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 3.50 m and 6.50 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover.

|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |      |                                                                                                                                                                            |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |      | <h1>Borehole Log</h1>                                                                                                                                                      |                          |                                        | Borehole No.<br><b>BH24-08</b><br>Sheet 1 of 1                                       |                                                                                                                                                                                                                                                                                                                                                  |   |    |
| Project Name: NGET Tottenham                                                                                                                                                                                                                                                                                                                                                                            |               |                            |      | Project No.<br>5221420                                                                                                                                                     |                          | Co-ords: 535353E - 191406N             |                                                                                      | Hole Type<br>BH                                                                                                                                                                                                                                                                                                                                  |   |    |
| Location: Watermead Way, Tottenham, London, N17 0SG                                                                                                                                                                                                                                                                                                                                                     |               |                            |      | Level: 10.48                                                                                                                                                               |                          | Scale<br>1:50                          |                                                                                      | Logged By<br>GR                                                                                                                                                                                                                                                                                                                                  |   |    |
| Client: National Grid Property Holdings Limited                                                                                                                                                                                                                                                                                                                                                         |               |                            |      | Dates: 09/09/2024                                                                                                                                                          |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
| Well                                                                                                                                                                                                                                                                                                                                                                                                    | Water Strikes | Sample and In Situ Testing |      |                                                                                                                                                                            | Depth (m)                | Level (m)                              | Legend                                                                               | Stratum Description                                                                                                                                                                                                                                                                                                                              |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | Depth (m)                  | Type | Results                                                                                                                                                                    |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 0.30                       | PID  | PID=0.1                                                                                                                                                                    | 0.30                     | 10.18                                  |                                                                                      | CONCRETE.                                                                                                                                                                                                                                                                                                                                        |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 1                          |      | Loose brown sandy GRAVEL. Gravel is rounded coarse of large brickwork (MADE GROUND).                                                                                       |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |      |                                                                                                                                                                            | 2                        |                                        | NO RECOVERY. Hit a boulder at 2.50m damaging core lining.                            |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |      |                                                                                                                                                                            |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 2.50                       | PID  | PID=8.9                                                                                                                                                                    | 2.50                     | 7.98                                   |                                                                                      | Brown to dark brown gravelly peaty GRAVEL (MADE GROUND). Strong hydrocarbon odour (Infilled Material).                                                                                                                                                                                                                                           |   | 3  |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 2.70 - 3.00                | ES   |                                                                                                                                                                            | 2.70                     | 7.78                                   |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 2.70                       | PID  | PID=18.9                                                                                                                                                                   | 2.70                     | 7.78                                   |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 3.00                       | PID  | PID=1.8                                                                                                                                                                    | 3.00                     | 7.48                                   |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 3.30                       | PID  | PID=333.4                                                                                                                                                                  | 3.30                     | 7.18                                   |                                                                                      | Soft dark brown gravelly CLAY. Gravel is subangular medium chalk flints (MADE GROUND). (Infilled Material).                                                                                                                                                                                                                                      |   | 4  |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 3.50 - 4.60                | ES   |                                                                                                                                                                            | 3.50                     | 6.98                                   |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 3.50                       | PID  | PID=87.2                                                                                                                                                                   | 3.50                     | 6.98                                   |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 4.00                       | PID  | PID=265.7                                                                                                                                                                  | 4.00                     | 5.98                                   |                                                                                      | Loose alluviums medium peat (MADE GROUND). Strong hydrocarbon odour. (Infilled Material).<br>Going chalky large flint fragments within core (MADE GROUND). (Infilled Material)<br>Soft white chalk high of flint sections of putty chalk within unit. Unable to define grade due to cohesiveness of material (MADE GROUND). (Infilled Material). |   | 5  |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 4.50                       | PID  | PID=631.0                                                                                                                                                                  | 4.50                     | 5.98                                   |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 4.70                       | PID  | PID=2.2                                                                                                                                                                    | 4.50                     | 5.98                                   |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               | 5                          |      | Yellowish brown sandy GRAVEL. Gravels are rounded minor in stone. (KEMPTON PARK GRAVEL MEMBER).<br><i>band of contaminated sands and gravels, strong hydrocarbon odour</i> |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |      |                                                                                                                                                                            | 6                        |                                        | becoming more gravelly, no sand identified.<br>Contamination within gravels PID 21.7 |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |      |                                                                                                                                                                            |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |      |                                                                                                                                                                            |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |      |                                                                                                                                                                            |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
| 5.60                                                                                                                                                                                                                                                                                                                                                                                                    | PID           | PID=21.7                   | 5.60 | 3.78                                                                                                                                                                       |                          | Dark blueish grey CLAY. (LONDON CLAY). | 7                                                                                    |                                                                                                                                                                                                                                                                                                                                                  |   |    |
| 5.80                                                                                                                                                                                                                                                                                                                                                                                                    | PID           | PID=19.3                   | 5.80 | 3.78                                                                                                                                                                       |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
| 6.00                                                                                                                                                                                                                                                                                                                                                                                                    | EW            |                            | 6.00 | 3.78                                                                                                                                                                       |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
| 6.20                                                                                                                                                                                                                                                                                                                                                                                                    | PID           | PID=0.0                    | 6.20 | 3.78                                                                                                                                                                       |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
| 6.50 - 6.70                                                                                                                                                                                                                                                                                                                                                                                             | ES            |                            | 6.50 | 3.78                                                                                                                                                                       |                          | End of Borehole at 7.50m               | 8                                                                                    |                                                                                                                                                                                                                                                                                                                                                  |   |    |
| 7.00                                                                                                                                                                                                                                                                                                                                                                                                    | PID           | PID=0.9                    | 7.00 | 2.98                                                                                                                                                                       |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |
| 7.50                                                                                                                                                                                                                                                                                                                                                                                                    |               |                            | 7.50 | 2.98                                                                                                                                                                       | End of Borehole at 7.50m |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  | 9 |    |
|                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |      |                                                                                                                                                                            |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   | 10 |
| Remarks<br>Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/ rotary borehole to a final depth of 7.50 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 4.50 m and 7.00 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover. |               |                            |      |                                                                                                                                                                            |                          |                                        |                                                                                      |                                                                                                                                                                                                                                                                                                                                                  |   |    |

Project Name: NGET Tottenham

Project No.  
5221420

Co-ords: 535381E - 191394N

Hole Type  
BH

Location: Watermead Way, Tottenham, London, N17 0SG

Level: 10.56

Scale  
1:50

Client: National Grid Property Holdings Limited

Dates: 10/09/2024

Logged By  
GR

| Well | Water Strikes | Sample and In Situ Testing |      |           | Depth (m) | Level (m) | Legend | Stratum Description                                                                                                                                           |    |
|------|---------------|----------------------------|------|-----------|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|      |               | Depth (m)                  | Type | Results   |           |           |        |                                                                                                                                                               |    |
|      |               |                            |      |           | 0.20      | 10.36     |        | CONCRETE.                                                                                                                                                     |    |
|      |               | 0.30                       | PID  | PID=2.4   |           |           |        | Black ashy sandy GRAVEL. Gravel is angular medium brickwork and stone (MADE GROUND).                                                                          |    |
|      |               | 0.50                       | PID  | PID=1.9   |           |           |        |                                                                                                                                                               |    |
|      |               | 0.80 - 1.00                | ES   |           |           |           |        | <i>hydrocarbon odour and seepage</i>                                                                                                                          | 1  |
|      |               | 0.80                       | PID  | PID=171.9 |           |           |        |                                                                                                                                                               |    |
|      |               | 1.20                       | PID  | PID=113.7 |           |           |        |                                                                                                                                                               |    |
|      |               | 1.50                       | PID  | PID=132.1 | 1.50      | 9.06      |        | Black to dark brown clayey gravelly fine to coarse SAND. Gravel is angular to subangular medium brickwork and stone (MADE GROUND).                            | 2  |
|      |               | 2.00                       | PID  | PID=10.8  | 2.10      | 8.46      |        | Yellowish brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subrounded small flint. (ALLUVIUM)                                                     |    |
|      |               | 2.30                       |      |           | 2.30      | 8.26      |        | Yellowish brownish CLAY. Strong hydrocarbon odour.                                                                                                            |    |
|      |               | 2.50                       | PID  | PID=44.4  |           |           |        |                                                                                                                                                               |    |
|      |               | 3.10                       | PID  | PID=13.2  | 3.10      | 7.46      |        | Band of silty GRAVEL. Strong hydrocarbon odour.                                                                                                               | 3  |
|      |               | 3.30                       | PID  | PID=87.4  | 3.30      | 7.26      |        | Stiff greyish brown CLAY. Strong hydrocarbon odour. (ALLUVIUM).                                                                                               |    |
|      |               | 3.50                       | PID  | PID=62.4  |           |           |        |                                                                                                                                                               |    |
|      |               | 4.00                       | PID  | PID=187.6 | 4.00      | 6.56      |        | Brown peaty gravelly CLAY. Hydrocarbon odour and staining throughout. (ALLUVIUM).                                                                             | 4  |
|      |               | 4.50                       | PID  | PID=206.4 |           |           |        |                                                                                                                                                               |    |
|      |               | 4.80                       | PID  | PID=16.3  | 4.80      | 5.76      |        | Band of dark brown silty sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded flint. Strong hydrocarbon odour. (KEMPTON PARK GRAVEL MEMBER). | 5  |
|      |               | 5.00 - 5.50                | ES   |           |           |           |        | Dark grey angular to subangular GRAVEL. Strong hydrocarbon odour. (KEMPTON PARK GRAVEL MEMBER).                                                               | 6  |
|      |               | 5.20                       | PID  | PID=7.5   | 5.20      | 5.36      |        |                                                                                                                                                               |    |
|      |               | 6.30 - 6.50                | ES   |           | 6.50      | 4.06      |        | Dark grey CLAY. (LONDON CLAY).                                                                                                                                | 7  |
|      |               | 7.00                       | PID  | PID=0.1   |           |           |        |                                                                                                                                                               |    |
|      |               |                            |      |           | 7.50      | 3.06      |        | End of Borehole at 7.50m                                                                                                                                      | 8  |
|      |               |                            |      |           |           |           |        |                                                                                                                                                               | 9  |
|      |               |                            |      |           |           |           |        |                                                                                                                                                               | 10 |

## Remarks

Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/ rotary borehole to a final depth of 7.50 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 5.00 m and 6.50 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover.

Project Name: NGET Tottenham

Project No.  
5221420

Co-ords: 535356E - 191387N

Hole Type  
BH

Location: Watermead Way, Tottenham, London, N17 0SG

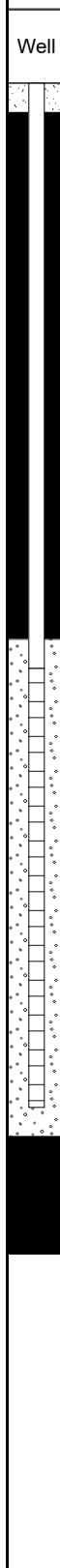
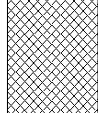
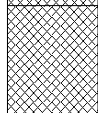
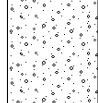
Level: 10.61

Scale  
1:50

Client: National Grid Property Holdings Limited

Dates: 04/09/2024

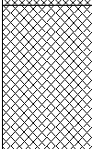
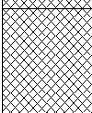
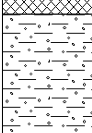
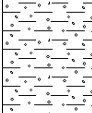
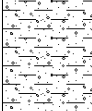
Logged By  
ZC and JR

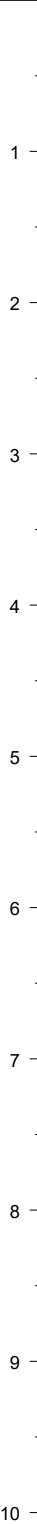
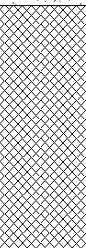
| Well                                                                               | Water Strikes                                                                      | Sample and In Situ Testing |      |           | Depth (m) | Level (m) | Legend                                                                              | Stratum Description                                                                                                                                                                     |   |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------|------|-----------|-----------|-----------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
|                                                                                    |                                                                                    | Depth (m)                  | Type | Results   |           |           |                                                                                     |                                                                                                                                                                                         |   |
|  |  |                            |      |           | 0.07      | 10.54     |    | TARMAC.                                                                                                                                                                                 |   |
|                                                                                    |                                                                                    | 0.30                       | PID  | PID=0.2   | 0.30      | 10.31     |    | CONCRETE with rebar.                                                                                                                                                                    |   |
|                                                                                    |                                                                                    | 0.60                       | PID  | PID=0.9   |           |           |    | Brown gravelly cobbly fine to coarse SAND. Gravel is subangular to angular fine to coarse of concrete and brick. Cobbles are angular to subangular of brick and concrete (MADE GROUND). | 1 |
|                                                                                    |                                                                                    | 1.00                       | PID  | PID=2.5   |           |           |    | <i>frequent cobbles of subangular brick</i>                                                                                                                                             |   |
|                                                                                    |                                                                                    |                            |      |           | 1.20      | 9.41      |    | <i>frequent cobbles of angular brick</i>                                                                                                                                                |   |
|                                                                                    |                                                                                    |                            |      |           |           |           |    | Very dense compacted light grey clayey COBBLES. Cobbles are angular to subangular of concrete and red brick (MADE GROUND).                                                              |   |
|                                                                                    |                                                                                    | 2.00                       | PID  | PID=2.4   | 2.00      | 8.61      |    | Brown sandy cobbly GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of red brick, concrete and flint. Cobbles are subangular of red brick (MADE GROUND).  | 2 |
|                                                                                    |                                                                                    | 3.00                       | PID  | PID=1.8   |           |           |                                                                                     |                                                                                                                                                                                         | 3 |
|                                                                                    |                                                                                    | 3.50                       | PID  | PID=2.6   | 3.40      | 7.21      |    | CONCRETE.                                                                                                                                                                               |   |
|                                                                                    |                                                                                    |                            |      |           | 3.60      | 7.01      |   | Angular and subangular COBBLES of red brick (MADE GROUND).                                                                                                                              |   |
|                                                                                    |                                                                                    | 4.00                       | PID  | PID=112.0 | 3.80      | 6.81      |  | Brown gravelly fine to coarse SAND. Gravel is angular to subrounded predominantly of fine brick (MADE GROUND).                                                                          | 4 |
|                                                                                    |                                                                                    | 4.50                       | PID  | PID=148.3 | 3.90      | 6.71      |  | Black sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse predominantly fine and medium of flint. (KEMPTON PARK GRAVEL MEMBER).                     |   |
|                                                                                    |                                                                                    | 5.00                       | PID  | PID=221.4 |           |           |  | <i>black oily sheen, strong hydrocarbon odour</i>                                                                                                                                       |   |
|                                                                                    |                                                                                    | 5.50                       | PID  | PID=4.1   |           |           |                                                                                     |                                                                                                                                                                                         | 5 |
|                                                                                    |                                                                                    | 6.00                       | PID  | PID=78.4  |           |           |                                                                                     |                                                                                                                                                                                         | 6 |
|                                                                                    |                                                                                    | 6.40 - 6.50                | ES   |           |           |           |                                                                                     |                                                                                                                                                                                         |   |
|                                                                                    |                                                                                    | 6.50                       | PID  | PID=223.0 |           |           |                                                                                     |                                                                                                                                                                                         |   |
|                                                                                    |                                                                                    | 7.00                       | PID  | PID=127.2 | 7.10      | 3.51      |  | Firm to stiff dark grey CLAY. (LONDON CLAY).                                                                                                                                            | 7 |
|                                                                                    |                                                                                    | 7.50                       | PID  | PID=49.4  |           |           |                                                                                     |                                                                                                                                                                                         |   |
|                                                                                    |                                                                                    | 8.00                       | PID  | PID=16.4  | 8.00      | 2.61      |                                                                                     | End of Borehole at 8.00m                                                                                                                                                                |   |

## Remarks

Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/ rotary borehole to a final depth of 8.00 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 4.00 m and 7.00 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover.



| AtkinsRéalis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                            |           | Borehole Log           |           |                                                                                     |                                                                                     | Borehole No.<br>BH24-12<br>Sheet 1 of 1                                                                                                                                                     |                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------|-----------|------------------------|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Project Name: NGET Tottenham                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                            |           | Project No.<br>5221420 |           | Co-ords: 535340E - 191349N                                                          |                                                                                     | Hole Type<br>BH                                                                                                                                                                             |                                                                                       |
| Location: Watermead Way, Tottenham, London, N17 0SG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |                            |           | Level: 10.63           |           | Scale<br>1:50                                                                       |                                                                                     | Logged By<br>GR                                                                                                                                                                             |                                                                                       |
| Client: National Grid Property Holdings Limited                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                            |           | Dates: 11/09/2024      |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |
| Well                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Water Strikes | Sample and In Situ Testing |           |                        | Depth (m) | Level (m)                                                                           | Legend                                                                              | Stratum Description                                                                                                                                                                         |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | Depth (m)                  | Type      | Results                |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |                            |           |                        | 0.20      | 10.43                                                                               |    | Black TARMAC.                                                                                                                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 0.50                       | PID       | PID=34.7               |           |                                                                                     |    | Blackish brown GRAVEL. Gravel is subangular medium brick, tarmac fines and stone (MADE GROUND). Mild hydrocarbon odour.                                                                     | 1                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 1.00                       | PID       | PID=44.2               |           |                                                                                     |    | Black gravelly CLAY. Gravel is subangular medium (unknown) (MADE GROUND).                                                                                                                   |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 1.20                       |           |                        | 1.20      | 9.43                                                                                |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 1.50 - 2.00                | ES        |                        |           |                                                                                     |    | Partial clay infill (MADE GROUND).                                                                                                                                                          | 2                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 1.50                       | PID       | PID=904.3              |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 2.00                       | PID       | PID=1124.0             | 2.00      | 8.63                                                                                |    | Black gravelly CLAY. Gravel is subangular medium. Interbedded gravels of stone with hydrocarbon staining and NAPL. (ALLUVIUM?)                                                              |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 2.50                       | PID       | PID=2396.0             | 2.50      | 8.13                                                                                |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 3.00                       | PID       | PID=400.4              |           |                                                                                     |   | <u>gravel band with NAPL</u>                                                                                                                                                                | 3                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 3.50 - 4.00                | ES        |                        |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 3.50                       | PID       | PID=15000.0            |           |                                                                                     |  | <u>gravel band with NAPL</u>                                                                                                                                                                | 4                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 4.00                       | PID       | PID=15000.0            |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 4.50                       | PID       | PID=5000.0             | 4.50      | 6.13                                                                                |  | Soft to form brownish yellow sandy gravelly CLAY. Gravel is subangular to subrounded. DNAPL staining throughout. Strong hydrocarbon odour. (ALLUVIUM). <u>gravel band stained with NAPL</u> | 5                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 4.80 - 5.20                | ES        |                        |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 5.00                       | PID       | PID=27.3               |           |                                                                                     |  | Angular to subangular GRAVEL. (KEMPTON PARK GRAVEL MEMBER). <u>NAPL staining and DNAPL pooling at 6.20m bgl</u>                                                                             | 6                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5.50          | PID                        | PID=45.8  |                        |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.00 - 6.50   | ES                         |           | 5.80                   | 4.83      |  | Firm to stiff dark grey CLAY. (LONDON CLAY).                                        | 7                                                                                                                                                                                           |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.00          | PID                        | PID=205.3 | 6.20                   | 4.43      |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 6.50          | PID                        | PID=395.6 |                        |           |  | End of Borehole at 7.50m                                                            | 8                                                                                                                                                                                           |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7.00          | PID                        | PID=662.0 |                        |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 7.50          | PID                        | PID=138.9 | 7.50                   | 3.13      |                                                                                     |                                                                                     | 9                                                                                                                                                                                           |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                            |           |                        |           |                                                                                     |                                                                                     | 10                                                                                                                                                                                          |                                                                                       |
| Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |                            |           |                        |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |  |
| Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/rotary borehole to a final depth of 7.50 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 3.50 m and 6.50 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover.<br>PID values exceed maximum range of monitor of 15,000 ppm at 3.50 m and 4.00 m. PID values exceed maximum range of monitor of 5000 ppm at 4.50 m. |               |                            |           |                        |           |                                                                                     |                                                                                     |                                                                                                                                                                                             |                                                                                       |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   |                            |      |                        |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------|------|------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                   |                            |      | <h1>Borehole Log</h1>  |                                                                                     |                                                       | Borehole No.<br><b>BH24-13</b><br>Sheet 1 of 1                                      |                                                                                                                               |                                                                                       |
| Project Name: NGET Tottenham                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                   |                            |      | Project No.<br>5221420 |                                                                                     | Co-ords: 535340E - 191303N                            |                                                                                     | Hole Type<br>BH                                                                                                               |                                                                                       |
| Location: Watermead Way, Tottenham, London, N17 0SG                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                   |                            |      | Level: 10.70           |                                                                                     | Scale<br>1:50                                         |                                                                                     | Logged By<br>JM                                                                                                               |                                                                                       |
| Client: National Grid Property Holdings Limited                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   |                            |      | Dates: 11/09/2024      |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
| Well                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Water Strikes                                                                     | Sample and In Situ Testing |      |                        | Depth (m)                                                                           | Level (m)                                             | Legend                                                                              | Stratum Description                                                                                                           |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | Depth (m)                  | Type | Results                |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                            |  |                            |      |                        | 0.38                                                                                | 10.32                                                 |    | CONCRETE.                                                                                                                     |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 0.50                       | PID  | PID=0.0                |                                                                                     |                                                       |    | Dark brown gravelly SAND. Gravel is fine to coarse subangular to subrounded concrete, brick, clinker and glass (MADE GROUND). |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 1.00                       | PID  | PID=101.0              |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 1.50                       | PID  | PID=40.0               |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 2.00                       | PID  | PID=65.3               | 2.00                                                                                | 8.70                                                  |    | Yellowish sandy CLAY with brick and glass (MADE GROUND).                                                                      |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 2.50                       | PID  | PID=1000.0             | 2.50                                                                                | 8.20                                                  |    | Greyish sandy CLAY with tiles and bricks (MADE GROUND).                                                                       |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 3.00                       | PID  | PID=5000.0             |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 3.50                       | PID  | PID=5000.0             | 3.50                                                                                | 7.20                                                  |    | Greyish sandy CLAY with tiles and bricks and an oil sheen (MADE GROUND).                                                      |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 4.00 - 4.20                | ES   |                        |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 4.00                       | PID  | PID=5000.0             |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 4.50                       | PID  | PID=5000.0             |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 5.00 - 5.20                | ES   |                        |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 5.00                       | PID  | PID=5000.0             | 5.50                                                                                | 5.20                                                  |  | Soft to firm dark brown sandy CLAY. (ALLUVIUM).                                                                               |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 6.00                       | PID  | PID=136.0              | 6.00                                                                                | 4.70                                                  |                                                                                     | NO RECOVERY                                                                                                                   |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                   | 6.30 - 6.50                | ES   |                        |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |
| 6.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | PID                                                                               | PID=150.0                  | 6.50 | 4.20                   |  | Firm to very stiff greyish brown CLAY. (LONDON CLAY). |                                                                                     |                                                                                                                               |                                                                                       |
| 7.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | PID                                                                               | PID=23.0                   | 7.20 | 3.50                   |                                                                                     | End of Borehole at 7.20m                              |                                                                                     |                                                                                                                               |                                                                                       |
| Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                   |                            |      |                        |                                                                                     |                                                       |                                                                                     |                                                                                                                               |  |
| Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/rotary borehole to a final depth of 7.20 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 5.30 m and 7.00 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover.<br>PID values exceed maximum range of monitor of 5000 ppm from 4.00 m to 5.50 m. |                                                                                   |                            |      |                        |                                                                                     |                                                       |                                                                                     |                                                                                                                               |                                                                                       |

Project Name: NGET Tottenham

Project No.  
5221420

Co-ords: 535368E - 191419N

Hole Type  
BH

Location: Watermead Way, Tottenham, London, N17 0SG

Level: 10.57

Scale  
1:50

Client: National Grid Property Holdings Limited

Dates: 30/08/2024

Logged By  
ZC and JR

| Well | Water Strikes | Sample and In Situ Testing |      |          | Depth (m) | Level (m) | Legend | Stratum Description                                                                                                                                                                                                                                              |    |
|------|---------------|----------------------------|------|----------|-----------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
|      |               | Depth (m)                  | Type | Results  |           |           |        |                                                                                                                                                                                                                                                                  |    |
|      |               | 0.03                       |      |          | 0.03      | 10.54     |        | TARMAC.                                                                                                                                                                                                                                                          |    |
|      |               | 0.25                       |      |          | 0.25      | 10.32     |        | Hardstanding. CONCRETE                                                                                                                                                                                                                                           |    |
|      |               | 0.30 - 0.40                | ES   | PID=0.0  |           |           |        | Blackish dark brown cobbly gravelly fine to coarse SAND. Gravel is angular to subangular predominantly fine to coarse of brick and concrete. Cobbles are angular to subangular red and yellow bricks. Occasional glass, ceramic tiles and clinker (MADE GROUND). | 1  |
|      |               | 0.60 - 0.70                | ES   | PID=0.0  | 0.70      | 9.87      |        | Blackish dark brown gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse of brick and concrete. Occasional tile and clinker (MADE GROUND).                                                                                                  |    |
|      |               | 1.10                       | PID  | PID=0.0  | 1.20      | 9.37      |        | Very dense compacted light grey clayey angular to subangular COBBLES of concrete and red brick (MADE GROUND).                                                                                                                                                    | 2  |
|      |               | 1.50                       | PID  | PID=0.0  | 1.50      | 9.07      |        | Blackish brown gravelly CLAY. Gravel is subangular to subrounded predominantly fine and medium of brick, flint, slate and concrete (MADE GROUND).                                                                                                                |    |
|      |               | 2.00 - 2.10                | ES   | PID=0.7  | 2.20      | 8.37      |        | <i>black stained organic and plant fragments and hydrocarbon odour</i>                                                                                                                                                                                           | 3  |
|      |               | 2.50                       | PID  | PID=1.8  |           |           |        | Soft black speckled light grey CLAY. (ALLUVIUM).                                                                                                                                                                                                                 |    |
|      |               | 3.00                       | PID  | PID=2.2  | 3.20      | 7.37      |        | Dark brown silty CLAY. Frequent plant and shell fragments. (ALLUVIUM).                                                                                                                                                                                           | 4  |
|      |               | 3.50                       | PID  | PID=1.9  |           |           |        | Brown organic silty CLAY with frequent plant fragments. (ALLUVIUM).                                                                                                                                                                                              |    |
|      |               | 4.00                       | PID  | PID=1.1  | 4.30      | 6.27      |        | Light grey gravelly fine and medium SAND. Gravel is subangular to subrounded fine and medium of flint. (ALLUVIUM).                                                                                                                                               | 5  |
|      |               | 4.50                       | PID  | PID=2.0  | 4.70      | 5.87      |        | Light grey CLAY. (ALLUVIUM).                                                                                                                                                                                                                                     |    |
|      |               | 5.00                       | PID  | PID=2.2  | 4.90      | 5.67      |        | Slightly sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse predominantly fine and medium of flint. (KEMPTON PARK GRAVEL MEMBER).                                                                                           | 6  |
|      |               | 5.50                       | PID  | PID=0.9  | 5.50      | 5.07      |        | <i>no sand</i>                                                                                                                                                                                                                                                   |    |
|      |               | 6.00 - 6.10                | ES   | PID=20.1 |           |           |        | <i>silty clayey fine sand. No gravel</i>                                                                                                                                                                                                                         |    |
|      |               | 6.40 - 7.00                | B    | PID=4.9  |           |           |        | <i>no sand, gravel only</i>                                                                                                                                                                                                                                      |    |
|      |               | 6.50                       | PID  |          |           |           |        |                                                                                                                                                                                                                                                                  |    |
|      |               | 7.00 - 7.10                | ES   | PID=3.9  | 7.00      | 3.57      |        | Firm to stiff light grey CLAY. Occasional mica. (LONDON CLAY).                                                                                                                                                                                                   | 7  |
|      |               | 7.50                       | PID  | PID=0.8  |           |           |        |                                                                                                                                                                                                                                                                  |    |
|      |               | 8.00                       | PID  | PID=10.9 |           |           |        |                                                                                                                                                                                                                                                                  | 8  |
|      |               | 8.50                       | PID  | PID=4.8  |           |           |        |                                                                                                                                                                                                                                                                  |    |
|      |               | 9.00                       | PID  | PID=3.7  | 9.00      | 1.57      |        | End of Borehole at 9.00m                                                                                                                                                                                                                                         | 9  |
|      |               |                            |      |          |           |           |        |                                                                                                                                                                                                                                                                  | 10 |

## Remarks

Location concrete cored from surface to a depth of 0.2 m bgl using a 300 mm coring barrel. Follow on dynamic percussive/ rotary borehole to a final depth of 9.00 m bgl using a tracked Comacchio 205 drill rig or similar. 50 mm HDPE standpipe installed with response zone between 5.50 m and 7.00 m bgl. Location reinstated with concreted bolted traffic rated flush monitoring cover.





## Borehole No.

Sheet 1 of 1

Project Name: NGET Tottenham

|             |
|-------------|
| Project No. |
| 5221420     |

Co-ords: 535401E - 191435N

| Hole Type | IP |
|-----------|----|
|-----------|----|

Location: Watermead Way, Tottenham, London, N17 0SG

Level: 10.44

Scale  
1:25

Client: National Grid Property Holdings Limited

Dates: 24/04/2023

Logged By  
LC

1

2

3

4

5

|         |
|---------|
| Remarks |
|---------|



## Borehole No.

**BH23-04**

Sheet 1 of 1

Project Name: NGET Tottenham

|             |
|-------------|
| Project No. |
| 5221420     |

Co-ords: 535396E - 191426N

| Hole Type |
|-----------|
| IP+CP+RC  |

Location: Watermead Way, Tottenham, London, N17 0SG

Level: 10.39

Scale  
1:50

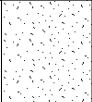
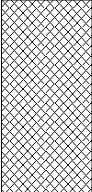
Client: National Grid Property Holdings Limited

Dates: 24/04/2023

Logged By  
LC



|         |
|---------|
| Remarks |
|---------|

|                                                                                   |               |                            |      |                         |           |                            |                                                                                   |                                                                                                                                                                                                                                                                                  |                                                                                       |
|-----------------------------------------------------------------------------------|---------------|----------------------------|------|-------------------------|-----------|----------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <div>ATKINS</div> <div>Member of the SNC-Lavalin Group</div>                      |               |                            |      | <div>Borehole Log</div> |           |                            |                                                                                   | <div>Borehole No.</div> <div>BH23-05</div> <div>Sheet 1 of 1</div>                                                                                                                                                                                                               |                                                                                       |
| Project Name: NGET Tottenham                                                      |               |                            |      | Project No. 5221420     |           | Co-ords: 535418E - 191491N |                                                                                   | Hole Type IP                                                                                                                                                                                                                                                                     |                                                                                       |
| Location: Watermead Way, Tottenham, London, N17 0SG                               |               |                            |      | Level: 10.30            |           | Scale 1:25                 |                                                                                   | Logged By LC                                                                                                                                                                                                                                                                     |                                                                                       |
| Client: National Grid Property Holdings Limited                                   |               |                            |      | Dates: 24/04/2023       |           |                            |                                                                                   |                                                                                                                                                                                                                                                                                  |                                                                                       |
| Well                                                                              | Water Strikes | Sample and In Situ Testing |      |                         | Depth (m) | Level (m)                  | Legend                                                                            | Stratum Description                                                                                                                                                                                                                                                              |                                                                                       |
|                                                                                   |               | Depth (m)                  | Type | Results                 |           |                            |                                                                                   |                                                                                                                                                                                                                                                                                  |                                                                                       |
|  |               |                            |      |                         | 0.35      | 9.95                       |  | CONCRETE<br>(0.0 - 0.035) - Black Staining                                                                                                                                                                                                                                       |   |
|                                                                                   |               |                            |      |                         |           |                            |  | Dark brown medium dense to loose gravelly clayey SAND. Sand is dense to loose. Gravel is sub-angular and sub rounded medium of brick. Occasional wood fragments. Occasional brick. Occasional cobbles. Hydrocarbon odour.(MADE GROUND)                                           |                                                                                       |
|                                                                                   |               |                            |      |                         | 1.00      | 9.30                       |  | Dark black medium dense to loose gravelly clayey SAND. Sand is dense to loose. Gravel is sub-angular and sub rounded medium of brick. Occasional wood fragments. Occasional brick. Occasional cobbles. Hydrocarbon Odour. Hydrocarbon saturated soil strong odour. (MADE GROUND) |                                                                                       |
|                                                                                   |               |                            |      |                         | 1.30      | 9.00                       |                                                                                   | End of Borehole at 1.30m                                                                                                                                                                                                                                                         |                                                                                       |
| Remarks                                                                           |               |                            |      |                         |           |                            |                                                                                   |                                                                                                                                                                                                                                                                                  |  |

# MONITORING WELL LOG

**BH1**

Sheet 1 of 2

**PROJECT No:** 51603-00

**DATE:** 24/04/13 - 01/05/13

**EASTING:** 535238.41

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191149.52

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.59 mAOD

| mbgl | WATER LEVEL               | WELL           |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                            | PID (ppm) | SAMPLE              |                                |
|------|---------------------------|----------------|--------|-----------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------|--------------------------------|
|      |                           | DEPTH          | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                        |           | LABEL               | DEPTH                          |
| 1    | 3.0 mbgl on 29/04/13<br>▽ |                |        |           |       | MADE GROUND<br>Brown to dark brown slightly gravelly sandy clay with fine to medium subangular gravels, plastics, bricks, slate, ashes, ceramic and paper. Sand is fine to medium. Roots and rootlets. No obvious olfactory evidence of contamination. | 0.9       | BH1/BS2             | 0.3 - 0.4 m                    |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           | BH1/BS1             | 1.0 - 1.1 m                    |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           | SPT = 1             | 1.2 m                          |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           | BH1/1<br>BH1/BS3    | 1.9 - 2.0 m<br>1.9 - 2.1 m     |
| 2    |                           |                |        |           |       |                                                                                                                                                                                                                                                        | 6.3       | SPT = 7<br>BH1/2    | 2.0 m<br>1.9 - 2.1 m           |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
| 3    |                           |                |        |           | 3.00  |                                                                                                                                                                                                                                                        | 1.0       |                     |                                |
|      |                           |                |        |           |       | Very soft grey to dark grey slightly sandy gravelly CLAY with fine to medium subangular gravels of flint. Sand is fine to medium. Weak hydrocarbon odour. [ALLUVIUM]                                                                                   |           | SPT = 1<br>BH1/3    | 4.2 m<br>4.2 - 4.3 m<br>4.3 m  |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
| 4    |                           |                |        |           |       |                                                                                                                                                                                                                                                        | 3.6       |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
| 5    |                           |                |        |           |       |                                                                                                                                                                                                                                                        | 1.0       |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
| 6    |                           | 5.7 m<br>5.8 m |        |           | 5.85  | Dense light grey to grey sandy fine to coarse subangular GRAVEL. Sand is fine to coarse. Weak hydrocarbon odour. [KEMPTON PARK GRAVEL]                                                                                                                 | 3.6       | SPT = 37<br>BH1/BS3 | 5.85 m<br>5.9 - 6.0 m<br>6.0 m |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
| 7    |                           |                |        |           |       |                                                                                                                                                                                                                                                        | 3.6       |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
| 8    |                           | 7.8 m          |        |           | 7.70  | Firm to stiff grey to dark grey slightly sandy CLAY. Sand is fine to medium. No obvious visual or olfactory evidence of contamination. [LONDON CLAY FORMATION]                                                                                         | 3.6       |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
| 9    |                           | 8.5 m          |        |           |       |                                                                                                                                                                                                                                                        | 3.6       |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
| 10   |                           |                |        |           |       |                                                                                                                                                                                                                                                        | 3.6       |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |
|      |                           |                |        |           |       |                                                                                                                                                                                                                                                        |           |                     |                                |

## NOTES

Filter sock used within installation.

 Descriptions are based on observations and hand testing of grab samples.  
 Mechanical tests were not performed unless otherwise stated.

 ▽ Water Strike  
 ▼ Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH1**

Sheet 2 of 2

**PROJECT No:** 51603-00

**DATE:** 24/04/13 - 01/05/13

**EASTING:** 535238.41

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191149.52

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.59 mAOD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |       | DESCRIPTION      | PID (ppm) | SAMPLE   |         |
|------|-------------|--------|--------|-----------|-------|------------------|-----------|----------|---------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH |                  |           | LABEL    | DEPTH   |
| 11   |             |        |        |           |       |                  |           | SPT = 23 | 10.45 m |
| 12   |             |        |        |           |       |                  |           | SPT = 23 | 12.45 m |
| 13   |             |        |        |           |       |                  |           |          |         |
| 14   |             |        |        |           |       |                  |           | SPT = 25 | 14.3 m  |
| 15   |             | 15.0 m |        |           | 15.00 | End of borehole. |           |          |         |
| 16   |             |        |        |           |       | 15 m             |           |          |         |
| 17   |             |        |        |           |       |                  |           |          |         |
| 18   |             |        |        |           |       |                  |           |          |         |
| 19   |             |        |        |           |       |                  |           |          |         |
| 20   |             |        |        |           |       |                  |           |          |         |

**NOTES**

Filter sock used within installation.

 Descriptions are based on observations and hand testing of grab samples.  
 Mechanical tests were not performed unless otherwise stated.

 ▽ Water Strike  
 ▼ Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

## BH2

Sheet 1 of 2

**PROJECT No:** 51603-00

**DATE:** 08/05/13 - 09/05/13

**EASTING:** 535273.34

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191148.76

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.68 mAOD

| mbgl | WATER LEVEL               | WELL           |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                                                                                                                  | PID (ppm) | SAMPLE                               |                                                    |
|------|---------------------------|----------------|--------|-----------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------|----------------------------------------------------|
|      |                           | DEPTH          | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                                                                                                              |           | LABEL                                | DEPTH                                              |
| 1    | 3.5 mbgl on 08/05/13<br>▽ |                |        |           |       | MADE GROUND<br>Light brown slightly gravelly sandy reworked clay with fine to coarse subangular to subrounded gravels of brick, flint and occasional slate, clinker, wood and glass fragments. Some ashy patches above 2.2 mbgl. Roots and rootlets.                                                                                         |           | SPT = 4                              | 1.2 m                                              |
| 2    |                           |                |        |           |       |                                                                                                                                                                                                                                                                                                                                              | 0.1       | BH2/1<br>BH2/BS1<br>BH2/2<br>SPT = 4 | 1.9 - 2.0 m<br>1.9 - 2.1 m<br>2.0 - 2.1 m<br>2.0 m |
| 3    |                           |                |        |           |       |                                                                                                                                                                                                                                                                                                                                              | 0.1       |                                      |                                                    |
| 4    |                           |                |        |           |       |                                                                                                                                                                                                                                                                                                                                              | 1.9       | SPT = 7                              | 3.55 m                                             |
| 5    | 6.9 mbgl on 09/05/13<br>▽ |                |        |           |       | Grey, slightly sandy, fine to coarse subangular to subrounded GRAVEL of flint. Sand is fine to medium. Slight oily sheen and hydrocarbon odour. [KEMPTON PARK GRAVEL]<br><br>Firm to stiff grey to dark grey, slightly sandy CLAY. Sand is fine to medium. No obvious visual or olfactory evidence of contamination. [LONDON CLAY FORMATION] |           | SPT = 7                              | 4.55 m                                             |
| 6    |                           | 5.8 m<br>5.9 m |        |           | 6.00  |                                                                                                                                                                                                                                                                                                                                              | 45.2      | SPT = 24                             | 5.7 m                                              |
| 7    |                           | 6.5 m          |        |           | 6.30  |                                                                                                                                                                                                                                                                                                                                              | 21.7      | BH2/BS2                              | 6.0 - 6.3 m                                        |
| 8    |                           |                |        |           |       |                                                                                                                                                                                                                                                                                                                                              |           | BH2/3                                | 6.4 - 6.5 m                                        |
| 9    |                           |                |        |           |       |                                                                                                                                                                                                                                                                                                                                              |           | SPT = 13                             | 7.55 m                                             |
| 10   |                           |                |        |           |       |                                                                                                                                                                                                                                                                                                                                              |           | SPT = 20                             | 9.35 m                                             |

### NOTES

Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH2**

Sheet 2 of 2

**PROJECT No:** 51603-00

**DATE:** 08/05/13 - 09/05/13

**EASTING:** 535273.34

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191148.76

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.68 mAOD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |                | DESCRIPTION                                                                                                                                                               | PID (ppm) | SAMPLE           |                            |
|------|-------------|--------|--------|-----------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------|----------------------------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH          |                                                                                                                                                                           |           | LABEL            | DEPTH                      |
| 11   |             |        |        |           |                |                                                                                                                                                                           |           | SPT = 26         | 11.45 m                    |
| 12   |             |        |        |           |                |                                                                                                                                                                           |           |                  |                            |
| 13   |             |        |        |           |                |                                                                                                                                                                           |           |                  |                            |
| 14   |             |        |        |           |                |                                                                                                                                                                           |           | SPT = 24         | 14.1 m                     |
| 15   |             |        |        |           |                |                                                                                                                                                                           |           |                  |                            |
| 16   |             |        |        |           |                |                                                                                                                                                                           |           | SPT = 30         | 15.7 m                     |
| 17   |             |        |        |           |                |                                                                                                                                                                           |           |                  |                            |
| 18   |             |        |        |           |                |                                                                                                                                                                           |           | SPT = 25         | 17.2 m                     |
| 19   |             |        |        |           | 19.10<br>19.20 | Dark grey SANDSTONE. No obvious visual or olfactory evidence of contamination. [LAMBETH GROUP]<br>Grey to dark grey, clayey fine SAND with white nodules. [LAMBETH GROUP] |           | BH2/4<br>BH2/BS3 | 19.4-19.5 m<br>19.5-19.7 m |
| 20   |             | 20.2 m |        |           | 20.10<br>20.20 | Greensih grey, slightly sandy CLAY. Sand is fine to medium. No obvious visual or olfactory evidence of contamination. [LAMBETH GROUP]<br>End of borehole.                 |           |                  |                            |
| 21   |             |        |        |           |                | 20.2 m                                                                                                                                                                    |           |                  |                            |

**NOTES**

Filter sock used with installation.

 Descriptions are based on observations and hand testing of grab samples.  
 Mechanical tests were not performed unless otherwise stated.

 ▽ Water Strike  
 ▼ Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH3A**

Sheet 1 of 2

**PROJECT No:** 51603-00

**DATE:** 01/05/13 - 07/05/13

**EASTING:** 535289.82

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191131.55

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.66 mAOD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                                                                                      | PID (ppm) | SAMPLE                         |                                           |
|------|-------------|-------|--------|-----------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------|-------------------------------------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                                                                                  |           | LABEL                          | DEPTH                                     |
| 1    |             |       |        |           | 1.40  | MADE GROUND<br>Brown to dark brown slightly sandy slightly gravelly clay with fine to coarse subangular to subrounded gravels of brick, flint, concrete and occasional clinker, ceramic and slate. Roots and rootlets. No obvious olfactory evidence of contamination.                                           |           | SPT = 3                        | 1.2 m                                     |
| 2    |             |       |        |           | 3.90  | Soft grey to dark grey slightly gravelly sandy CLAY with fine to coarse sand and subangular to subrounded fine to medium gravels of flint. Some black organic bands. No obvious visual or olfactory evidence of contamination. [ALLUVIUM]<br><br>Becoming very soft brown and peaty at 3.70 mbgl. Organic odour. |           | BH3A/1<br>BH3A/2.0<br>BH3A/2.0 | 1.8 - 1.9 m<br>1.8 - 2.0 m<br>1.9 - 2.0 m |
| 3    |             |       |        |           | 6.30  | Loose to medium dense brownish grey sandy fine to coarse subangular to rounded GRAVEL of flint. Sand is fine to coarse. Weak hydrocarbon odour. [KEMPTON PARK GRAVEL]                                                                                                                                            |           | SPT = 7                        | 2.55 m                                    |
| 4    |             |       |        |           | 6.30  |                                                                                                                                                                                                                                                                                                                  |           | SPT = 1                        | 3.55 m                                    |
| 5    |             |       |        |           | 6.30  |                                                                                                                                                                                                                                                                                                                  |           | BH3A/3                         | 3.8 - 3.9 m                               |
| 6    |             |       |        |           | 6.30  |                                                                                                                                                                                                                                                                                                                  |           | SPT = 3                        | 4.55 m                                    |
| 7    |             |       |        |           | 6.30  |                                                                                                                                                                                                                                                                                                                  |           | SPT = 21                       | 6.0 m                                     |
| 8    |             |       |        |           | 6.30  | Firm to stiff brown becoming grey slightly sandy CLAY. No obvious visual or olfactory evidence of contamination. [LONDON CLAY FORMATION]                                                                                                                                                                         |           | BH3A/4                         | 6.4 - 6.5 m                               |
| 9    |             |       |        |           | 6.30  |                                                                                                                                                                                                                                                                                                                  |           | SPT = 16                       | 8.05 m                                    |
| 10   |             |       |        |           | 6.30  |                                                                                                                                                                                                                                                                                                                  |           | SPT = 19                       | 9.5 m                                     |

## NOTES

Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH3A**

Sheet 2 of 2

**PROJECT No:** 51603-00

**DATE:** 01/05/13 - 07/05/13

**EASTING:** 535289.82

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191131.55

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.66 mAOD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |       | DESCRIPTION      | PID (ppm) | SAMPLE   |         |
|------|-------------|--------|--------|-----------|-------|------------------|-----------|----------|---------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH |                  |           | LABEL    | DEPTH   |
| 11   |             |        |        |           |       |                  |           |          |         |
| 12   |             |        |        |           |       |                  |           | SPT = 26 | 11.95 m |
| 13   |             |        |        |           |       |                  |           |          |         |
| 14   |             |        |        |           |       |                  |           |          |         |
| 15   |             | 15.0 m |        |           | 15.00 | End of borehole. |           |          |         |
| 16   |             |        |        |           |       | 15 m             |           |          |         |
| 17   |             |        |        |           |       |                  |           |          |         |
| 18   |             |        |        |           |       |                  |           |          |         |
| 19   |             |        |        |           |       |                  |           |          |         |
| 20   |             |        |        |           |       |                  |           |          |         |

**NOTES**

Filter sock used with installation.

 Descriptions are based on observations and hand testing of grab samples.  
 Mechanical tests were not performed unless otherwise stated.

 ▽ Water Strike  
 ▼ Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH5**

Sheet 1 of 2

**PROJECT No:** 51603-00

**DATE:** 29/04/13

**EASTING:** 535328.59

**SITE:** Tottenham Marshes

**LOGGED BY:** Sam Driscoll

**NORTHING:** 191110.55

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.16 mAOD

| mbgl | WATER LEVEL                                                                    | WELL                                           |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                         | PID (ppm) | SAMPLE              |                       |
|------|--------------------------------------------------------------------------------|------------------------------------------------|--------|-----------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------|-----------------------|
|      |                                                                                | DEPTH                                          | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | LABEL               | DEPTH                 |
| 1    | <div> <div>3.63 mbgl on 20/05/13</div> <div>3.60 mbgl on 28/05/13</div> </div> | <div> <div>3.6 m</div> <div>3.7 m</div> </div> |        |           | 1.40  | MADE GROUND<br>Brown to dark grey, slightly gravelly sandy clay. Sand is fine to coarse. Gravels are fine to medium and angular to subrounded brick, concrete and stones. Occasional wood fragments. Rare clinker and very rare glass and tile shards. Roots and rootlets. No odour.<br>At 1.2 mbgl fragments of china, metal (heavily rusted) and wood, along with degraded paper (probably newspaper). No date evident. Fragments of glass and clinker. No odour. | 0.0       |                     |                       |
| 2    |                                                                                |                                                |        |           | 2.20  | MADE GROUND<br>Light brown with orange mottled sandy clay. Sand is fine with rare wood fragments. No odour.                                                                                                                                                                                                                                                                                                                                                         | 0.0       | SPT = 0<br>BH5/2.0  | 1.65 m<br>1.9 - 2.0 m |
| 3    |                                                                                |                                                |        |           | 3.20  | MADE GROUND<br>Brownish grey, slightly gravelly sandy clay. Fine sand with rare gravels of brick, china, glass and wood fragments, rusty orange mottling on clay. No odour.                                                                                                                                                                                                                                                                                         |           |                     |                       |
| 4    |                                                                                |                                                |        |           | 3.70  | Grey slightly sandy CLAY. Sand is fine to medium with occasional black organic pockets. Weak organic odour. No obvious visual or olfactory evidence of contamination. [ALLUVIUM]                                                                                                                                                                                                                                                                                    | 0.0       | SPT = 4             | 3.2 m                 |
| 5    |                                                                                |                                                |        |           | 4.30  | Medium dense light grey, clayey, gravelly, fine to coarse SAND. Gravels are fine to medium angular to subrounded of flint. No obvious visual or olfactory evidence of contamination [KEMPTON PARK GRAVEL]                                                                                                                                                                                                                                                           |           | SPT = 20<br>BH5/BS1 | 4.2 m<br>4.2 - 5.2 m  |
| 6    |                                                                                |                                                |        |           |       | Medium dense light grey, gravelly, fine to coarse SAND with angular to rounded, fine to coarse gravels of flint. No obvious visual or olfactory evidence of contamination. [KEMPTON PARK GRAVEL]                                                                                                                                                                                                                                                                    | 0.0       | SPT = 26<br>BH5/1   | 4.65 m<br>4.6 - 4.8 m |
| 7    |                                                                                |                                                |        |           | 7.30  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | BH5/BS2<br>SPT = 37 | 5.5 - 6.5 m<br>5.75 m |
| 8    |                                                                                |                                                |        |           |       | Firm to stiff grey slightly sandy CLAY. No obvious visual or olfactory evidence of contamination. [LONDON CLAY FORMATION]                                                                                                                                                                                                                                                                                                                                           | 0.0       | SPT = 14            | 7.75 m                |
| 9    |                                                                                |                                                |        |           |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           | SPT = 18            | 9.5 m                 |
| 10   |                                                                                |                                                |        |           |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                     |                       |

## NOTES

Drilling polymer used to flush casing into the clay once gravels had been sampled.  
Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

Drilling Method: Rotary percussion  
Borehole Diameter: 128 mm  
Screen Material: HDPE  
Screen Diameter: 50 mm (ID)  
Screen Slot Size: 1 mm  
Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH5**

Sheet 2 of 2

**PROJECT No:** 51603-00

**DATE:** 29/04/13

**EASTING:** 535328.59

**SITE:** Tottenham Marshes

**LOGGED BY:** Sam Driscoll

**NORTHING:** 191110.55

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.16 mAOD

| mbgl | WATER LEVEL | WELL    |        | LITHOLOGY |       | DESCRIPTION                 | PID (ppm) | SAMPLE   |         |
|------|-------------|---------|--------|-----------|-------|-----------------------------|-----------|----------|---------|
|      |             | DEPTH   | DETAIL | LEGEND    | DEPTH |                             |           | LABEL    | DEPTH   |
| 11   |             |         |        |           |       |                             |           | SPT = 25 | 11.0 m  |
| 12   |             |         |        |           |       |                             |           | SPT = 27 | 12.5 m  |
| 13   |             |         |        |           |       |                             |           | SPT = 28 | 13.55 m |
| 14   |             |         |        |           |       |                             |           |          |         |
| 15   |             | 15.05 m |        |           | 15.05 | End of borehole.<br>15.05 m |           | SPT = 30 | 15.05 m |
| 16   |             |         |        |           |       |                             |           |          |         |
| 17   |             |         |        |           |       |                             |           |          |         |
| 18   |             |         |        |           |       |                             |           |          |         |
| 19   |             |         |        |           |       |                             |           |          |         |
| 20   |             |         |        |           |       |                             |           |          |         |

## NOTES

Drilling polymer used to flush casing into the clay once gravels had been sampled.  
Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

**Drilling Method:** Rotary percussion

**Borehole Diameter:** 128 mm

**Screen Material:** HDPE

**Screen Diameter:** 50 mm (ID)

**Screen Slot Size:** 1 mm

**Sand Particle Size:** 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH6**

Sheet 1 of 2

**PROJECT No:** 51603-00

**DATE:** 01/05/13

**EASTING:** 535379.19

**SITE:** Tottenham Marshes

**LOGGED BY:** Sam Driscoll

**NORTHING:** 191151.32

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.53 mAOD

| mbgl | WATER LEVEL                                    | WELL           |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                                             | PID (ppm) | SAMPLE              |                                     |
|------|------------------------------------------------|----------------|--------|-----------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------|-------------------------------------|
|      |                                                | DEPTH          | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                                         |           | LABEL               | DEPTH                               |
|      |                                                |                |        |           | 0.20  | MADE GROUND<br>Brown sandy clay topsoil with rootlets.                                                                                                                                                                                                                  |           |                     |                                     |
| 1    |                                                |                |        |           |       | MADE GROUND<br>Dark grey, gravelly, fine to coarse sand. Angular to subrounded, fine to medium gravels of clinker with occasional flint and brick. Rare glass and ceramic fragments. No odour.<br><br>At 1.2 mbgl becoming brown with more flint gravels, less brick.   | 0.0       |                     |                                     |
|      |                                                |                |        |           | 1.80  |                                                                                                                                                                                                                                                                         |           | SPT = 1             | 1.65 m                              |
| 2    |                                                |                |        |           | 2.40  | MADE GROUND<br>Black fine to medium SAND. No obvious olfactory evidence of contamination.                                                                                                                                                                               | 0.0       | BH6/2               | 1.9 - 2.0 m                         |
|      |                                                |                |        |           |       | Becoming slightly clayey from 2.30 mbgl.<br>Greyish brown, slightly sandy CLAY. No obvious visual or olfactory evidence of contamination. [ALLUVIUM]                                                                                                                    | 0.0       | SPT = 5             | 2.65 m                              |
| 3    |                                                |                |        |           | 3.50  |                                                                                                                                                                                                                                                                         |           |                     |                                     |
| 4    | 4.27 mbgl on 20/05/13<br>4.14 mbgl on 28/05/13 |                |        |           |       | Brownish grey, clayey, fine to medium SAND. No obvious visual or olfactory evidence of contamination. [KEMPTON PARK GRAVEL]<br><br>Rare to occasional, fine to medium, subangular to subrounded flint gravels within sand from 4.3 mbgl.                                | 0.0       | BH6/1<br>SPT = 4    | 3.8 - 4.0 m<br>Duplicate B<br>4.2 m |
| 5    |                                                | 4.9 m<br>5.0 m |        |           | 5.20  | Medium dense brownish grey, sandy, fine to coarse, angular to subrounded GRAVEL of flint. Sand is medium to coarse. Weak hydrocarbon odour. [KEMPTON PARK GRAVEL]<br><br>Becoming slightly clayey from 6.6 mbgl.                                                        | 0.4       | SPT = 10<br>BH6/BS1 | 5.2 m<br>5.2 - 6.2 m                |
| 6    |                                                |                |        |           | 6.70  |                                                                                                                                                                                                                                                                         |           | SPT = 20            | 5.65 m                              |
|      |                                                |                |        |           |       | Grey, slightly gravelly, slightly sandy CLAY. Gravels are angular to subrounded fine flints with fine sand within clay. No obvious visual or olfactory evidence of contamination. [KEMPTON PARK GRAVEL]                                                                 | 6.8       | BH6/BS2<br>BH6/3    | 7.2 - 7.7 m<br>7.4 - 7.8 m          |
| 7    |                                                |                |        |           | 7.20  |                                                                                                                                                                                                                                                                         |           |                     |                                     |
|      |                                                |                |        |           | 7.80  | Grey, slightly sandy, very clayey, fine to coarse, angular to subrounded GRAVELS of flint. Weak hydrocarbon odour. [KEMPTON PARK GRAVEL]<br><br>Firm to stiff grey, slightly sandy CLAY. No obvious visual or olfactory signs of contamination. [LONDON CLAY FORMATION] | 0.0       | SPT = 14            | 8.05 m<br>8.1 m                     |
| 8    |                                                | 7.8 m          |        |           |       |                                                                                                                                                                                                                                                                         |           |                     |                                     |
| 9    |                                                |                |        |           |       |                                                                                                                                                                                                                                                                         |           | SPT = 21            | 9.7 m                               |
| 10   |                                                |                |        |           |       |                                                                                                                                                                                                                                                                         |           |                     |                                     |

## NOTES

Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Rotary percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm (ID)

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH6**

Sheet 2 of 2

**PROJECT No:** 51603-00

**DATE:** 01/05/13

**EASTING:** 535379.19

**SITE:** Tottenham Marshes

**LOGGED BY:** Sam Driscoll

**NORTHING:** 191151.32

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.53 mAOD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |       | DESCRIPTION      | PID (ppm) | SAMPLE   |         |
|------|-------------|--------|--------|-----------|-------|------------------|-----------|----------|---------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH |                  |           | LABEL    | DEPTH   |
| 11   |             |        |        |           |       |                  |           | SPT = 33 | 10.75 m |
| 12   |             |        |        |           |       |                  |           | SPT = 30 | 12.3 m  |
| 13   |             | 12.9 m |        |           | 12.90 | End of borehole. |           |          |         |
| 14   |             |        |        |           |       | 12.9 m           |           |          |         |
| 15   |             |        |        |           |       |                  |           |          |         |
| 16   |             |        |        |           |       |                  |           |          |         |
| 17   |             |        |        |           |       |                  |           |          |         |
| 18   |             |        |        |           |       |                  |           |          |         |
| 19   |             |        |        |           |       |                  |           |          |         |
| 20   |             |        |        |           |       |                  |           |          |         |

**NOTES**

Filter sock used with installation.

 Descriptions are based on observations and hand testing of grab samples.  
 Mechanical tests were not performed unless otherwise stated.

 ▽ Water Strike  
 ▼ Rest Groundwater Level

Drilling Method: Rotary percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm (ID)

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH7**

Sheet 1 of 2

**PROJECT No:** 51603-00

**DATE:** 24/04/13 - 25/04/13

**EASTING:** 535465.29

**SITE:** Tottenham Marshes

**LOGGED BY:** Phil Harrison

**NORTHING:** 191424.89

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.80 mAOD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PID (ppm)  | SAMPLE              |                                |
|------|-------------|-------|--------|-----------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------|--------------------------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | LABEL               | DEPTH                          |
|      |             |       |        |           |       | MADE GROUND<br>Dark brown, clayey, gravelly sand. Sand is fine to coarse. Gravel is subangular to subrounded flint, brick, wood and coal. Occasional roots and rootlets. No obvious visual or olfactory evidence of contamination.<br>Below 0.2 mbgl fragments of glass, ceramic and metal.                                                                                                                                                                     | 0.3        |                     | 0.5 m                          |
| 1    |             |       |        |           | 0.75  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                     |                                |
|      |             |       |        |           |       | MADE GROUND<br>Reddish brown, slightly clayey, sandy gravel. Sand is fine to coarse. Gravel is angular to subrounded, fine to coarse flint, brick and concrete with occasional cobbles of brick. Occasional roots and rootlets. No obvious visual or olfactory evidence of contamination                                                                                                                                                                        | 0.0        | BH7/2.0<br>SPT = 7  | 1.4 - 2.0 m<br>1.5 m<br>1.65 m |
| 2    |             |       |        |           | 1.50  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                     |                                |
|      |             |       |        |           |       | MADE GROUND<br>Reddish brown, clayey, gravelly sand. Sand is fine to coarse. Gravel is angular to subrounded, fine to medium flint and brick. No obvious visual or olfactory evidence of contamination.                                                                                                                                                                                                                                                         |            |                     |                                |
|      |             |       |        |           | 2.20  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | SPT = 14            | 2.65 m                         |
| 3    |             |       |        |           |       | Firm, grey, slightly sandy CLAY. Orange and black mottling throughout. Slight organic odour. No obvious visual or olfactory evidence of contamination. [ALLUVIUM]<br><br>Between 3.2 mbgl and 4.2 mbgl becoming soft with occasional pockets of peat.                                                                                                                                                                                                           |            |                     |                                |
| 4    |             |       |        |           | 4.20  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                     |                                |
|      |             |       |        |           |       | Soft greenish dark grey CLAY. Strong organic odour. No obvious visual or olfactory evidence of contamination. Occasional medium to coarse, subangular to rounded gravels of flint from 4.7 mbgl.                                                                                                                                                                                                                                                                | 0.0        | SPT = 7<br>SPT = 3  | 4.2 m<br>4.65 m                |
| 5    |             |       |        |           | 4.80  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                     |                                |
|      |             |       |        |           |       | Yellow and grey, slightly clayey, gravelly, fine to coarse SAND. Gravels are subangular to rounded fine to coarse flint. Moderate hydrocarbon odour. Becoming more gravelly and less clayey with depth. [KEMPTON PARK GRAVELS]<br><br>Medium dense yellowish grey, sandy, fine to coarse, angular to rounded GRAVEL of flint with medium to coarse sand. (Fines may have been flushed out by drilling process). Weak hydrocarbon odour. No odour from 6.0 mbgl. | 0.0<br>0.4 | BH7/BS1<br>SPT = 13 | 5.0 - 6.0 m<br>5.1 m<br>5.65 m |
| 6    |             |       |        |           | 5.10  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                     |                                |
|      |             |       |        |           |       | Stiff brownish grey, slightly sandy CLAY. No obvious visual or olfactory evidence of contamination. [LONDON CLAY FORMATION]                                                                                                                                                                                                                                                                                                                                     | 0.1        | SPT = 24            | 6.0 m<br>6.65 m                |
| 7    |             |       |        |           | 6.40  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                     |                                |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | SPT = 18            | 8.3 m                          |
| 8    |             |       |        |           |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                     |                                |
| 9    |             |       |        |           |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |                     |                                |
| 10   |             |       |        |           |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            | SPT = 20            | 9.8 m                          |

## NOTES

Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

Drilling Method: Rotary percussion  
Borehole Diameter: 128 mm  
Screen Material: HDPE  
Screen Diameter: 50 mm  
Screen Slot Size: 1 mm  
Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH7**

Sheet 2 of 2

**PROJECT No:** 51603-00

**DATE:** 24/04/13 - 25/04/13

**EASTING:** 535465.29

**SITE:** Tottenham Marshes

**LOGGED BY:** Phil Harrison

**NORTHING:** 191424.89

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.80 mAOD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |       | DESCRIPTION                | PID (ppm) | SAMPLE   |         |
|------|-------------|--------|--------|-----------|-------|----------------------------|-----------|----------|---------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH |                            |           | LABEL    | DEPTH   |
| 11   |             |        |        |           |       |                            |           | SPT = 21 | 11.3 m  |
| 12   |             |        |        |           |       |                            |           | SPT = 24 | 12.9 m  |
| 13   |             |        |        |           |       |                            |           | SPT = 28 | 13.85 m |
| 14   |             |        |        |           |       |                            |           | SPT = 30 | 15.35 m |
| 15   |             | 14.9 m |        |           | 14.90 | End of borehole.<br>14.9 m |           |          |         |
| 16   |             |        |        |           |       |                            |           |          |         |
| 17   |             |        |        |           |       |                            |           |          |         |
| 18   |             |        |        |           |       |                            |           |          |         |
| 19   |             |        |        |           |       |                            |           |          |         |
| 20   |             |        |        |           |       |                            |           |          |         |

**NOTES**

Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

Drilling Method: Rotary percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH8**

Sheet 1 of 2

**PROJECT No:** 51603-00

**DATE:** 08/05/13

**EASTING:** 535443.52

**SITE:** Tottenham Marshes

**LOGGED BY:** Sam Driscoll

**NORTHING:** 191448.74

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 9.92 mAOD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                          | PID (ppm) | SAMPLE               |                                           |
|------|-------------|-------|--------|-----------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------|-------------------------------------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                      |           | LABEL                | DEPTH                                     |
|      |             |       |        |           | 0.20  | MADE GROUND<br>Topsoil with brambles, nettles and grass.                                                                                                                                                                                             |           |                      |                                           |
|      |             |       |        |           | 1.40  | MADE GROUND<br>Brown to grey slightly clayey gravelly fine to medium sand with subangular to subrounded fine to coarse gravels of flint and brick. Cobbles of brick. Becoming darker grey with organic material from 0.6 mbgl. Slight organic odour. |           |                      |                                           |
|      |             |       |        |           | 2.30  | Light brown to grey with orange mottling slightly sandy moist CLAY. Sand is fine. No obvious visual or olfactory evidence of contamination. [ALLUVIUM]                                                                                               | 0.6       | SPT = 7<br>BH8/2.0   | 1.65 m<br>1.9 - 2.2 m<br>1.9 - 2.0 m      |
|      |             |       |        |           | 3.10  | Dark grey clayey fine to medium SAND with some decaying wood fragments. Strong hydrocarbon odour.<br><br>Becoming gravelly from 3.0 mbgl.                                                                                                            | 32.2      | BH8/1<br>Duplicate C | 2.3 - 2.4 m<br>2.5 - 2.7 m<br>2.5 - 2.7 m |
|      |             |       |        |           | 6.00  | Medium dense dark grey sandy angular to subrounded fine to coarse GRAVEL of flint with medium to coarse sand. Oily sheen and strong hydrocarbon/creosote odour. [KEMPTON PARK GRAVEL]                                                                | 566.8     | SPT = 5<br>BH8/BS1   | 3.2 m<br>3.1 - 4.1 m                      |
|      |             |       |        |           | 6.20  | Dark grey slightly clayey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of flint. [KEMPTON PARK GRAVEL]                                                                                                            | 0.0       | BH8/3                | 3.5 - 3.6 m<br>3.5 - 3.7 m                |
|      |             |       |        |           |       | Stiff brownish grey slightly sandy CLAY with fine to medium sand sized selenite. Sand is fine. No obvious visual or olfactory evidence of contamination. [LONDON CLAY FORMATION]                                                                     |           | SPT = 19             | 4.65 m                                    |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                      | 0.0       |                      | 5.0 - 5.2 m                               |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                      |           | SPT = 14<br>BH8/BS2  | 5.65 m<br>5.5 - 6.5 m                     |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                      | 0.0       |                      | 6.0 - 6.2 m                               |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                      |           | SPT = 17             | 6.65 m                                    |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                      | 0.0       |                      | 8.0 - 8.2 m                               |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                      |           | SPT = 17             | 8.4 m                                     |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                      |           | SPT = 19             | 9.8 m                                     |

## NOTES

Between 4.2 and 6.2 mbgl suspected fines washed out by drilling process.  
Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH8**

Sheet 2 of 2

**PROJECT No:** 51603-00

**DATE:** 08/05/13

**EASTING:** 535443.52

**SITE:** Tottenham Marshes

**LOGGED BY:** Sam Driscoll

**NORTHING:** 191448.74

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 9.92 mAOD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |       | DESCRIPTION              | PID (ppm) | SAMPLE            |               |
|------|-------------|--------|--------|-----------|-------|--------------------------|-----------|-------------------|---------------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH |                          |           | LABEL             | DEPTH         |
| 11   |             |        |        |           |       |                          | 0.0       | SPT = 21          | 11.0 - 11.2 m |
| 12   |             |        |        |           |       |                          |           | SPT = 25          | 12.8 m        |
| 13   |             |        |        |           |       |                          |           | SPT = 31          | 13.8 m        |
| 14   |             |        |        |           |       |                          |           |                   |               |
| 15   |             | 15.0 m |        |           | 15.00 | End of borehole.<br>15 m |           | 44/34cm (refusal) | 15.09 m       |
| 16   |             |        |        |           |       |                          |           |                   |               |
| 17   |             |        |        |           |       |                          |           |                   |               |
| 18   |             |        |        |           |       |                          |           |                   |               |
| 19   |             |        |        |           |       |                          |           |                   |               |
| 20   |             |        |        |           |       |                          |           |                   |               |

**NOTES**

 Between 4.2 and 6.2 mbgl suspected fines washed out by drilling process.  
 Filter sock used with installation.

 Descriptions are based on observations and hand testing of grab samples.  
 Mechanical tests were not performed unless otherwise stated.

 ▽ Water Strike  
 ▼ Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH9**

Sheet 1 of 1

**PROJECT No:** 51603-00

**DATE:** 10/05/13

**EASTING:** 535454.83

**SITE:** Tottenham Marshes

**LOGGED BY:** Sam Driscoll

**NORTHING:** 191485.65

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.02 mAOD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                                                                                                                               | PID (ppm)      | SAMPLE                        |                                               |
|------|-------------|-------|--------|-----------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------|-----------------------------------------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                                                                                                                           |                | LABEL                         | DEPTH                                         |
|      |             |       |        |           | 0.40  | MADE GROUND<br>Topsoil (brown clayey gravelly sand) with grass, nettles and brambles.                                                                                                                                                                                                                                                                     |                |                               |                                               |
|      |             |       |        |           | 1.30  | MADE GROUND<br>Dark grey sandy subangular to subrounded fine to medium gravels of clinker, flint and brick with fine to coarse ashy sand. Occasional to rare tile fragments, glass and concrete. No obvious olfactory evidence of contamination.                                                                                                          |                |                               |                                               |
|      |             |       |        |           |       | Orange mottled light brown sandy moist CLAY with fine sand and very slight hydrocarbon odour (becoming stronger with depth). [ALLUVIUM]<br>Becoming grey with fewer mottles from 1.6 mbgl.                                                                                                                                                                |                | BH9/2.0<br>BH9/2.0<br>SPT = 3 | 1.9 - 2.0 m<br>1.8 - 2.2 m<br>2.3 m           |
|      |             |       |        |           | 3.20  | Slightly peaty with some wood fragments from 2.9 - 3.1 mbgl. Hydrocarbon odour becoming stronger with depth.                                                                                                                                                                                                                                              | 47.6           | BH9/1                         | 2.5 - 2.6 m<br>2.5 - 2.7 m                    |
|      |             |       |        |           |       | Medium dense grey to light grey gravelly medium to coarse SAND with angular to subrounded fine to coarse flint gravels. Oily sheen (greeny/yellow) with strong hydrocarbon/creosote odour. [KEMPTON PARK GRAVEL]<br><br>Becomes lighter in colour with no oily sheen from 3.6 mbgl.<br><br>Odour becomes weaker with depth, but still present throughout. | 120.8<br>149.7 | SPT = 12<br>BH9/3<br>SPT = 9  | 3.3 m<br>3.2 - 3.4 m<br>3.5 - 3.6 m<br>3.75 m |
|      |             |       |        |           | 5.70  |                                                                                                                                                                                                                                                                                                                                                           | 3.6            | BS1<br>BS2<br>SPT = 19        | 3.3 - 4.3 m<br>4.5 - 5.5 m<br>4.75 m          |
|      |             |       |        |           |       | Firm to stiff grey slightly sandy CLAY. Very faint hydrocarbon odour to 5.9 mbgl. [LONDON CLAY FORMATION]<br>No obvious visual or olfactory evidence of contamination from 5.9 mbgl.                                                                                                                                                                      | 0.0            | SPT = 17                      | 5.75 m<br>5.8 - 5.9 m                         |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                                                                                                                           |                | SPT = 16                      | 7.3 m                                         |
|      |             |       |        |           |       |                                                                                                                                                                                                                                                                                                                                                           |                | SPT = 19                      | 8.6 m                                         |
|      |             |       |        |           | 10.05 | End of borehole.                                                                                                                                                                                                                                                                                                                                          |                | SPT = 20                      | 10.1 m                                        |
|      |             |       |        |           |       | 10.05 m                                                                                                                                                                                                                                                                                                                                                   |                |                               |                                               |

## NOTES

Possible loss of fines and flushing of oily contaminants from 4.3 mbgl due to drilling process.  
Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

Drilling Method: Rotary Percussion  
Borehole Diameter: 128 mm  
Screen Material: HDPE  
Screen Diameter: 50 mm  
Screen Slot Size: 1 mm  
Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH10**

Sheet 1 of 1

**PROJECT No:** 51603-00

**DATE:** 15/01/13

**EASTING:** 535421.71

**SITE:** Tottenham Marshes

**LOGGED BY:** Phil Harrison

**NORTHING:** 191498.68

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.19 mAOD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                                    | PID (ppm) | SAMPLE             |                            |
|------|-------------|--------|--------|-----------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------|----------------------------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                                |           | LABEL              | DEPTH                      |
|      |             |        |        |           | 0.35  | MADE GROUND<br>Light brown slightly sandy gravelly clay. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of flint and brick. Occasional rootlets.                                                                                    | 0.0       |                    | 0.0 - 0.35 m               |
|      |             |        |        |           | 1.20  | MADE GROUND<br>Black slightly clayey gravelly sand. Sand is fine to coarse with much ash. Gravel is angular to subrounded fine to coarse of brick, clinker, sandstone, flint, slag and wood. Slight hydrocarbon odour.                                         | 16.2      |                    | 0.35 - 1.2 m               |
|      |             |        |        |           | 1.60  |                                                                                                                                                                                                                                                                | 77.9      | SPT = 5<br>BH10/1  | 1.2 m<br>1.3 - 1.5 m       |
|      |             |        |        |           | 1.90  | MADE GROUND<br>Soft dark grey to black slightly sandy subangular to subrounded fine to coarse gravels of flint with rare brick, concrete, clinker and sandstone. Moist throughout with strong hydrocarbon odour.                                               | 1055      |                    | 1.6 - 1.8 m                |
|      |             |        |        |           | 2.70  |                                                                                                                                                                                                                                                                | 333.8     | BH10/2.0           | 1.9 - 2.0 m<br>2.0 - 2.2 m |
|      |             |        |        |           | 3.00  | MADE GROUND<br>Dark grey slightly gravelly sandy clay. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium of flint, sandstone and brick. Oily sheen in places within the clay. Strong hydrocarbon odour.                                | 1430      | SPT = 4            | 2.2 m                      |
|      |             | 3.0 m  |        |           | 3.20  |                                                                                                                                                                                                                                                                |           |                    |                            |
|      |             | 3.2 m  |        |           | 4.20  | Very soft to soft grey sandy CLAY with orange fine to medium sand. Occasional sheen within clay. Strong hydrocarbon odour. [ALLUVIUM]                                                                                                                          | 912.4     |                    | 3.3 - 3.5 m                |
|      |             |        |        |           | 4.70  | Dark grey to black sandy CLAY. Sand is fine to medium. Strong hydrocarbon odour. [ALLUVIUM]                                                                                                                                                                    | 1526      | SPT = 18<br>BH10/3 | 3.75 m<br>3.8 - 4.1        |
|      |             |        |        |           | 4.70  | Firm dark brown to black amorphous organic silty CLAY. Moderate hydrocarbon odour. [ALLUVIUM]                                                                                                                                                                  | 184.6     |                    | 4.5 - 4.7 m                |
|      |             |        |        |           | 7.20  | Medium dense dark brown to black slightly clayey sandy subangular to subrounded fine to medium GRAVEL of flint with fine to coarse sand. Slight sheen with strong hydrocarbon odour. [KEMPTON PARK GRAVEL]                                                     |           | SPT = 19           | 4.7 m                      |
|      |             |        |        |           | 7.20  | Becoming medium density sandy GRAVEL from 3.5 mbgl. Sheen is more evident and stronger hydrocarbon odour.                                                                                                                                                      | 79.9      | SPT = 20           | 5.7 m<br>5.8 - 6.0 m       |
|      |             |        |        |           | 7.20  | Greyish light brown gravelly fine to coarse SAND with subangular to subrounded fine to coarse gravels of flint. No obvious visual contamination within sediments, but strong hydrocarbon odour and tar observed in drilling flush water. [KEMPTON PARK GRAVEL] | 85.8      |                    | 6.3 - 6.5 m                |
|      |             |        |        |           | 7.20  | Medium dense grey sandy angular to subrounded fine to coarse GRAVEL of flint with fine to coarse sand. No obvious visual contamination observed. Moderate hydrocarbon odour. [KEMPTON PARK GRAVEL]                                                             | 2506      | SPT = 18<br>BH10/4 | 6.7 m<br>6.9 - 7.2 m       |
|      |             | 7.3 m  |        |           |       | Odour becomes weaker with depth, but still evident.                                                                                                                                                                                                            |           | U100               | 7.7 - 8.15 m               |
|      |             |        |        |           |       | Firm to stiff grey slightly sandy CLAY. No obvious visual evidence of contamination. Very slight chemical odour (not typical gasworks or fuel - saline/salty odour). [LONDON CLAY FORMATION]                                                                   |           | SPT = 18           | 8.25 m                     |
|      |             |        |        |           |       |                                                                                                                                                                                                                                                                |           | U70                | 9.6 - 10.05 m              |
|      |             |        |        |           |       |                                                                                                                                                                                                                                                                |           | SPT = 18           | 10.05 m                    |
|      |             | 10.5 m |        |           | 10.50 | End of borehole.                                                                                                                                                                                                                                               |           |                    |                            |
|      |             |        |        |           |       | 10.5 m                                                                                                                                                                                                                                                         |           |                    |                            |

## NOTES

Water strike at 2.35 mbgl after 20 minutes.

Drilling Method: Rotary percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike

 Rest Groundwater Level

# MONITORING WELL LOG

**BH11**

Sheet 1 of 2

**PROJECT No:** 51603-00

**DATE:** 18/04/13, 19/04/13

**EASTING:** 535375.44

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191422.20

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.44 mAOD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                               | PID (ppm) | SAMPLE               |                            |
|------|-------------|-------|--------|-----------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------|----------------------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                           |           | LABEL                | DEPTH                      |
|      |             |       |        |           | 0.10  | MADE GROUND                                                                                                                                                                               |           |                      |                            |
|      |             |       |        |           | 0.40  | Asphalt.                                                                                                                                                                                  |           |                      |                            |
|      |             |       |        |           |       | MADE GROUND                                                                                                                                                                               | 0.0       |                      |                            |
|      |             |       |        |           |       | Concrete (non-reinforced).                                                                                                                                                                |           |                      |                            |
|      |             |       |        |           | 1.20  | MADE GROUND                                                                                                                                                                               |           | SPT = 2              | 1.2 m                      |
|      |             |       |        |           |       | Light brown slightly clayey gravelly fine to coarse sand with gravels of subangular to subrounded fine to coarse sandstone and flint. Occasional brick and glass fragments.               |           |                      |                            |
|      |             |       |        |           |       | Very soft dark grey to black slightly gravelly sandy CLAY. Sand is fine to medium. Gravel is subangular fine to medium of flint. Strong hydrocarbon odour. [ALLUVIUM]                     |           | BH11/BS2<br>BH11/2.0 | 1.8 - 2.0 m<br>1.9 - 2.0 m |
|      |             |       |        |           | 2.65  |                                                                                                                                                                                           | 72.1      |                      |                            |
|      |             |       |        |           | 2.80  |                                                                                                                                                                                           |           |                      |                            |
|      |             |       |        |           |       | Very loose dark grey to black clayey subangular to subrounded fine to medium GRAVEL. Moderate hydrocarbon odour. [ALLUVIUM]                                                               | 2.3       | SPT = 3              | 2.65 m<br>2.75 m           |
|      |             |       |        |           |       | Soft dark grey to black slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to medium of flint. Sand is fine to medium. Moderate hydrocarbon odour. [ALLUVIUM] | 0.9       |                      | 3.0 m                      |
|      |             |       |        |           | 3.90  |                                                                                                                                                                                           | 0.8       | BH11/1               | 3.4 m<br>3.4 - 3.6 m       |
|      |             |       |        |           |       | Dark brown silty organic CLAY. Peaty. Moderate hydrocarbon odour. [ALLUVIUM]                                                                                                              |           | SPT = 12             | 3.75 m                     |
|      |             |       |        |           | 4.20  |                                                                                                                                                                                           |           | BH11/BS1             | 4.2 - 5.2 m                |
|      |             |       |        |           |       | Dense grey sandy subangular fine to coarse GRAVEL. Sand is fine to coarse. [KEMPTON PARK GRAVEL]                                                                                          |           |                      |                            |
|      |             |       |        |           |       | Becoming medium density from 5.6 mbgl.                                                                                                                                                    | 1.4       | SPT = 33             | 4.75 m<br>4.8 m            |
|      |             |       |        |           | 5.90  |                                                                                                                                                                                           |           | BH11/3               | 5.3 - 5.5 m                |
|      |             |       |        |           |       | Dark grey to black slightly sandy CLAY. Sand is fine to medium. Slight oily sheen with strong hydrocarbon odour. [KEMPTON PARK GRAVEL]                                                    | 7.2       | SPT = 12             | 5.2 m                      |
|      |             |       |        |           | 6.10  |                                                                                                                                                                                           |           |                      |                            |
|      |             |       |        |           | 6.40  |                                                                                                                                                                                           |           | SPT = 16             | 6.0 m<br>6.3 m             |
|      |             |       |        |           |       | Medium density grey sandy subangular fine to coarse GRAVEL. Sand is fine to coarse. Oily sheen on gravels. [KEMPTON PARK GRAVEL]                                                          |           | BH11/4               | 6.8 - 6.9 m                |
|      |             |       |        |           |       | Stiff grey slightly sandy CLAY. [LONDON CLAY FORMATION]                                                                                                                                   | 1.8       |                      |                            |
|      |             |       |        |           |       |                                                                                                                                                                                           |           |                      |                            |
|      |             |       |        |           |       |                                                                                                                                                                                           |           | SPT = 24             | 7.5 m<br>8.25 m            |
|      |             |       |        |           |       |                                                                                                                                                                                           |           |                      |                            |
|      |             |       |        |           |       |                                                                                                                                                                                           |           | SPT = 26             | 9.65 m                     |

## NOTES

Drilling polymer used to flush casing from 6.1 - 6.9 mbgl.  
Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

Drilling Method: Rotary Percussion  
Borehole Diameter: 128 mm  
Screen Material: HDPE  
Screen Diameter: 50 mm  
Screen Slot Size: 1 mm  
Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH11**

Sheet 2 of 2

**PROJECT No:** 51603-00

**DATE:** 18/04/13, 19/04/13

**EASTING:** 535375.44

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191422.20

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.44 mAOD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |       | DESCRIPTION                   | PID (ppm) | SAMPLE    |        |
|------|-------------|--------|--------|-----------|-------|-------------------------------|-----------|-----------|--------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH |                               |           | LABEL     | DEPTH  |
| 11   |             |        |        |           |       |                               |           | SPT = 24  | 11.4 m |
| 12   |             |        |        |           |       |                               |           |           |        |
| 13   |             |        |        |           |       |                               |           | SPT = 25  | 12.9 m |
| 14   |             |        |        |           |       |                               |           |           |        |
| 15   |             |        |        |           |       |                               |           |           |        |
| 15.6 |             | 15.6 m |        |           | 15.60 | Becoming hard below 15.6 mbgl |           |           |        |
| 16   |             |        |        |           |       | End of borehole.              |           | SPT = >30 | 15.6 m |
| 17   |             |        |        |           |       | 15.6 m                        |           |           |        |
| 18   |             |        |        |           |       |                               |           |           |        |
| 19   |             |        |        |           |       |                               |           |           |        |
| 20   |             |        |        |           |       |                               |           |           |        |

## NOTES

 Drilling polymer used to flush casing from 6.1 - 6.9 mbgl.  
 Filter sock used with installation.

 Descriptions are based on observations and hand testing of grab samples.  
 Mechanical tests were not performed unless otherwise stated.

 ▽ Water Strike  
 ▼ Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH12**

Sheet 1 of 2

**PROJECT No:** 51603-00

**DATE:** 23/04/13

**EASTING:** 535368.78

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191395.78

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.42 mAOD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                        | PID (ppm) | SAMPLE                |                               |
|------|-------------|-------|--------|-----------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------|-------------------------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                    |           | LABEL                 | DEPTH                         |
|      |             |       |        |           | 0.10  | MADE GROUND                                                                                                                                                                        |           |                       |                               |
|      |             |       |        |           | 0.25  | Tarmacadam.                                                                                                                                                                        |           |                       |                               |
|      |             |       |        |           |       | MADE GROUND                                                                                                                                                                        |           |                       |                               |
|      |             |       |        |           |       | Concrete (non-reinforced).                                                                                                                                                         |           |                       |                               |
|      |             |       |        |           |       | MADE GROUND                                                                                                                                                                        |           |                       |                               |
|      |             |       |        |           |       | Medium density dark brown slightly clayey gravelly fine to coarse sand with subangular fine to coarse gravels of flint, brick and sandstone. Slight hydrocarbon odour.             |           |                       |                               |
|      |             |       |        |           | 1.60  | Some cobbles of concrete from 1.0 mbgl.                                                                                                                                            |           |                       |                               |
|      |             |       |        |           |       | MADE GROUND                                                                                                                                                                        |           |                       |                               |
|      |             |       |        |           |       | Loose to medium density grey to dark grey slightly clayey sandy subangular fine to coarse gravel with brick, sandstone and wood. Sand is fine to coarse. Strong hydrocarbon odour. |           |                       |                               |
|      |             |       |        |           |       |                                                                                                                                                                                    | 1.3       | BH12/1                | 0.4 - 0.6 m<br>0.5 m          |
|      |             |       |        |           |       |                                                                                                                                                                                    |           | SPT = 14              | 1.2 m                         |
|      |             |       |        |           |       |                                                                                                                                                                                    | 1.6       | BH12/2.0              | 1.8 m<br>1.9 - 2.0 m          |
|      |             |       |        |           |       |                                                                                                                                                                                    |           | SPT = 11              | 2.2 m                         |
|      |             |       |        |           |       |                                                                                                                                                                                    | 1757      | BH12/3<br>SPT = 9     | 3.0 m<br>3.0 - 3.2 m<br>3.2 m |
|      |             |       |        |           |       | Dark grey to black slightly gravelly slightly sandy CLAY. Gravel is subangular to subrounded fine to medium. Sand is fine to medium. Strong hydrocarbon odour. [ALLUVIUM]          |           |                       |                               |
|      |             |       |        |           | 4.20  |                                                                                                                                                                                    | 629       |                       | 3.8 m                         |
|      |             |       |        |           |       | Very soft plastic dark grey to black slightly sandy CLAY/amorphous PEAT. Sand is fine to medium. Strong hydrocarbon odour. [ALLUVIUM]                                              |           |                       |                               |
|      |             |       |        |           | 4.70  |                                                                                                                                                                                    |           | SPT = 0<br>BH12/4     | 4.2 m<br>4.3 - 4.4 m          |
|      |             |       |        |           |       | Dense grey sandy subangular fine to coarse GRAVEL. Sand is fine to coarse. [KEMPTON PARK GRAVEL]                                                                                   |           |                       |                               |
|      |             |       |        |           |       |                                                                                                                                                                                    |           | BH12/BS1              | 5.0 - 5.1 m                   |
|      |             |       |        |           |       |                                                                                                                                                                                    |           | SPT = 38              | 5.3 m                         |
|      |             |       |        |           |       | Slight oily sheen from 6.3 mbgl.                                                                                                                                                   |           |                       |                               |
|      |             |       |        |           | 6.40  |                                                                                                                                                                                    | 307.1     | SPT = 37<br>BH12/5    | 6.0 m<br>6.3 m<br>6.3 - 6.4 m |
|      |             |       |        |           |       | Firm to stiff grey to dark grey slightly sandy CLAY. Sand is fine to medium. [LONDON CLAY FORMATION]                                                                               |           |                       |                               |
|      |             |       |        |           |       |                                                                                                                                                                                    | 51.6      |                       | 6.5 m                         |
|      |             |       |        |           |       |                                                                                                                                                                                    |           | SPT = 18              | 7.45 m                        |
|      |             |       |        |           |       |                                                                                                                                                                                    |           | BH12/6<br>Duplicate A | 8.0 - 8.2 m<br>8.0 - 8.2 m    |
|      |             |       |        |           |       | Slight hydrocarbon odour from 8.3 mbgl.                                                                                                                                            |           |                       |                               |
|      |             |       |        |           |       |                                                                                                                                                                                    | 1.9       |                       | 8.3 m                         |
|      |             |       |        |           |       |                                                                                                                                                                                    |           | SPT = 19              | 9.45 m                        |
|      |             |       |        |           | 10.05 |                                                                                                                                                                                    |           |                       |                               |

## NOTES

Hand pit to 1.2 mbgl though large cobble encountered at 1.0 mbgl. Core barrel used to remove this cobble.  
Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Rotary Percussion

Borehole Diameter: 128 mm

Screen Material: HDPE

Screen Diameter: 50 mm

Screen Slot Size: 1 mm

Sand Particle Size: 2 - 3 mm

All depths shown in metres below ground level.

# MONITORING WELL LOG

**BH12**

Sheet 2 of 2

**PROJECT No:** 51603-00

**DATE:** 23/04/13

**EASTING:** 535368.78

**SITE:** Tottenham Marshes

**LOGGED BY:** Danreb Pablo

**NORTHING:** 191395.78

**CLIENT:** NGPH

**CONTRACTOR:** CC Ground Investigations

**ELEVATION:** 10.42 mAOD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |       | DESCRIPTION                                       | PID (ppm) | SAMPLE   |                  |
|------|-------------|--------|--------|-----------|-------|---------------------------------------------------|-----------|----------|------------------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH |                                                   |           | LABEL    | DEPTH            |
| 11   |             |        |        |           |       |                                                   |           | SPT = 24 | 11.4 m           |
| 12   |             |        |        |           |       |                                                   |           |          |                  |
| 13   |             |        |        |           |       |                                                   | 0.6       | SPT = 22 | 12.8 m<br>12.9 m |
| 14   |             |        |        |           |       |                                                   |           |          |                  |
| 15   |             |        |        |           |       |                                                   |           |          |                  |
| 15.4 |             | 15.4 m |        |           | 15.40 | Becoming hard from 15.4 mbgl.<br>End of borehole. |           | SPT = 50 | 15.4 m           |
| 16   |             |        |        |           |       | 15.4 m                                            |           |          |                  |
| 17   |             |        |        |           |       |                                                   |           |          |                  |
| 18   |             |        |        |           |       |                                                   |           |          |                  |
| 19   |             |        |        |           |       |                                                   |           |          |                  |
| 20   |             |        |        |           |       |                                                   |           |          |                  |

**NOTES**

Hand pit to 1.2 mbgl though large cobble encountered at 1.0 mbgl. Core barrel used to remove this cobble.  
Filter sock used with installation.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

**Drilling Method:** Rotary Percussion

**Borehole Diameter:** 128 mm

**Screen Material:** HDPE

**Screen Diameter:** 50 mm

**Screen Slot Size:** 1 mm

**Sand Particle Size:** 2 - 3 mm

All depths shown in metres below ground level.

**WorleyParsons**

resources &amp; energy

**MONITORING WELL LOG****BH12-01**

Sheet 1 of 1

**PROJECT No:** 51576-00**DATE:** 09/01/2013**EASTING:** 535321.83**SITE:** Tottenham**LOGGED BY:** SM**NORTHING:** 191311.44**CLIENT:** NGET**CONTRACTOR:** CCGI**ELEVATION:** 10.79 mAOD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                            | PID      | SAMPLE    |               |
|------|-------------|-------|--------|-----------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------|---------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                        |          | LABEL     | DEPTH         |
|      |             |       |        |           | 0.15  | Reinforced concrete                                                                                                                                                                                                                                    |          |           |               |
|      |             |       |        |           | 0.25  | MADE GROUND: Loose yellow grey gravelly sand. Gravel is medium - coarse, angular fragments of sandstone (Sub-base)                                                                                                                                     | 2.8 ppm  | BH12-01/1 | 0.3 - 0.5 m   |
| 1    |             |       |        |           | 1.20  | MADE GROUND: Medium dense, dark brown, slightly silty, gravelly sand. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-rounded fragments of brick, concrete and sandstone with fragments of metal and glass. Slight hydrocarbon odour. | 180 ppm  |           | 1.0 m         |
| 2    |             |       |        |           | 2.30  | MADE GROUND: Dense, dark brown to black, silty, gravelly, sand. Gravel is fine to coarse, angular to sub-angular fragments of metal, brick, concrete and glass. Hydrocarbon odour.                                                                     | 1100 ppm | BH12-01/2 | 2.0 - 2.2 m   |
|      |             |       |        |           | 2.55  | MADE GROUND: Compact, dark brown to black, sandy, gravelly, slightly clayey silt. Gravel is fine to medium, angular to sub-angular fragments of stone. Strong hydrocarbon odour.                                                                       |          |           |               |
| 3    |             | 2.7 m |        |           | 3.10  | MADE GROUND: Firm, light grey to brown, gravelly clay. Gravel is fine, angular to sub-angular. Hydrocarbon odour and slight staining of oil in clay.                                                                                                   | 200 ppm  | BH12-01/3 | 3.0 m         |
|      |             | 2.8 m |        |           | 4.00  | MADE GROUND: Compact black sandy, gravelly silt. Gravel is fine to coarse, angular fragments of stone and glass. Strong hydrocarbon odour and hydrocarbon staining.                                                                                    |          |           | 3.15 - 3.35 m |
| 4    |             |       |        |           | 4.00  | Loose grey brown, sandy GRAVEL. Gravel is fine to coarse, angular to rounded, poorly sorted. Sand is angular to sub-angular and coarse. (RIVER TERRACE GRAVEL).                                                                                        | 1900 ppm |           | 4.0 m         |
| 5    |             |       |        |           | 6.25  |                                                                                                                                                                                                                                                        | 700 ppm  |           | 5.5 m         |
| 6    |             |       |        |           |       | Stiff, grey brown CLAY. (LONDON CLAY)                                                                                                                                                                                                                  | 120 ppm  |           | 6.5 m         |
| 7    |             | 6.5 m |        |           |       |                                                                                                                                                                                                                                                        | 0.8 ppm  |           | 7.5 m         |
|      |             | 6.6m  |        |           | 8.00  | Borehole terminated at 8.0 mbgl in London Clay. Cased to 7.0 mbgl.                                                                                                                                                                                     |          |           |               |

**NOTES**

Hand dug pit to 1.3 mbgl. Probed to 1.5 mbgl.  
 Water strike at 3.5 mbgl  
 Strong odour in pit (tar smell not like gasworks)  
 Poor recovery of gravel but collapsed back on runs of clay.

Descriptions are based on observations and hand testing of grab samples.  
 Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
 ▼ Rest Groundwater Level

Drilling Method: Dynamic Rotary  
 Borehole Diameter: 140 mm to 70 mbgl 128 to 8 mbgl  
 Screen Material: HDPE  
 Screen Diameter: 53 mm  
 Screen Slot Size: 0.75 mm  
 Sand Particle Size: 1-3 mm  
 All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 08/01/2013

**EASTING:**

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:**

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:**

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY                                                                         |       | DESCRIPTION                                                                                                                                                                                                                               | PID | SAMPLE |       |
|------|-------------|-------|--------|-----------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------|
|      |             | DEPTH | DETAIL | LEGEND                                                                            | DEPTH |                                                                                                                                                                                                                                           |     | LABEL  | DEPTH |
|      |             |       |        |  | 0.20  | Asphalt skin across surface.                                                                                                                                                                                                              |     |        |       |
|      |             |       |        |  |       | Concrete                                                                                                                                                                                                                                  |     |        |       |
|      |             |       |        |  | 0.53  | MADE GROUND: Loose, dark brown, clayey, gravelly sand. Sand is angular. Gravel is medium to coarse, angular to well rounded fragments of brick, concrete and sandstone. Frequent cobbles of brick and concrete. Hydrocarbon odour in pit. |     |        |       |
| 1    |             |       |        |                                                                                   |       | Borehole terminated at 0.53 mbgl due to a concrete obstruction. (Sloping)                                                                                                                                                                 |     |        |       |
|      |             |       |        |                                                                                   |       | 0.53 m                                                                                                                                                                                                                                    |     |        |       |
| 2    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                           |     |        |       |
| 3    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                           |     |        |       |
| 4    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                           |     |        |       |
| 5    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                           |     |        |       |
| 6    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                           |     |        |       |
| 7    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                           |     |        |       |

**NOTES**

Borehole was terminated as a large concrete block was found in the base of the pit at 0.53 mbgl

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Hand dug

Borehole Diameter: -

Screen Material: -

Screen Diameter: -

Screen Slot Size: -

Sand Particle Size: -

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 08/01/2013

**EASTING:**

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:**

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:**

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY                                                                         |       | DESCRIPTION                                                                                                                                                                                                                                      | PID    | SAMPLE |             |
|------|-------------|-------|--------|-----------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|-------------|
|      |             | DEPTH | DETAIL | LEGEND                                                                            | DEPTH |                                                                                                                                                                                                                                                  |        | LABEL  | DEPTH       |
|      |             |       |        |  | 0.20  | Asphalt skin across surface                                                                                                                                                                                                                      |        |        |             |
|      |             |       |        |  |       | Concrete                                                                                                                                                                                                                                         |        |        |             |
|      |             |       |        |  | 0.70  | MADE GROUND: Loose, dark brown clayey, gravelly sand. Sand is angular. Gravel is medium to coarse, angular to well rounded fragments of brick, concrete and sandstone. Frequent cobbles of brick or concrete. Slight hydrocarbon odour from pit. | 19 ppm |        | 0.3 - 0.5 m |
| 1    |             |       |        |                                                                                   |       | Borehole terminated at 0.7 mbgl due to a concrete obstruction in the ground. Obstruction is sloping so is more likely dumped in ground.                                                                                                          |        |        |             |
|      |             |       |        |                                                                                   |       | 0.7 m                                                                                                                                                                                                                                            |        |        |             |
| 2    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                  |        |        |             |
| 3    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                  |        |        |             |
| 4    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                  |        |        |             |
| 5    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                  |        |        |             |
| 6    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                  |        |        |             |
| 7    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                  |        |        |             |

**NOTES**

Borehole repositioned as obstruction found in BH12-02.

Borehole terminated at 0.70 mbgl on concrete block in ground.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Hand dug

Borehole Diameter: -

Screen Material: -

Screen Diameter: -

Screen Slot Size: -

Sand Particle Size: -

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 08/01/2013

**EASTING:**

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:**

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:**

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY                                                                         |       | DESCRIPTION                                                                                                                                                                                                                                                                                                                       | PID | SAMPLE     |       |
|------|-------------|-------|--------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------|-------|
|      |             | DEPTH | DETAIL | LEGEND                                                                            | DEPTH |                                                                                                                                                                                                                                                                                                                                   |     | LABEL      | DEPTH |
|      |             |       |        |  | 0.20  | Asphalt skin across surface                                                                                                                                                                                                                                                                                                       |     | BH12-02B/1 | 0.3 m |
|      |             |       |        |  | 0.30  | Concrete (with reinforcement)                                                                                                                                                                                                                                                                                                     |     |            |       |
|      |             |       |        |                                                                                   |       | MADE GROUND: Loose dark brown, clayey, gravelly sand. Sand is angular. Gravel is medium to coarse, angular to rounded fragments of brick, concrete and sandstone. Potential asbestos containing material found at 0.3 mbgl.<br><br>Borehole terminated at 0.3 mbgl due to presence of asbestos containing material (Sample taken) |     |            |       |
| 1    |             |       |        |                                                                                   |       | 0.3 m                                                                                                                                                                                                                                                                                                                             |     |            |       |
| 2    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                                                                                   |     |            |       |
| 3    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                                                                                   |     |            |       |
| 4    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                                                                                   |     |            |       |
| 5    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                                                                                   |     |            |       |
| 6    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                                                                                   |     |            |       |
| 7    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                                                                                   |     |            |       |

**NOTES**

Terminated at 0.3m bgl due to potential asbestos containing material.  
Relocated from BH12-02/A

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

Drilling Method: Hand dug

Borehole Diameter: -

Screen Material: -

Screen Diameter: -

Screen Slot Size: -

Sand Particle Size: -

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 08/01/2013

**EASTING:**

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:**

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:**

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY                                                                         |       | DESCRIPTION                                                                                                                                                                                                                                                             | PID | SAMPLE |       |
|------|-------------|-------|--------|-----------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------|
|      |             | DEPTH | DETAIL | LEGEND                                                                            | DEPTH |                                                                                                                                                                                                                                                                         |     | LABEL  | DEPTH |
|      |             |       |        |  | 0.20  | Asphalt across surface.                                                                                                                                                                                                                                                 |     |        |       |
|      |             |       |        |  | 0.40  | Concrete                                                                                                                                                                                                                                                                |     |        |       |
| 1    |             |       |        |                                                                                   |       | MADE GROUND: Loose, dark brown, clayey, gravelly sand. Sand is angular. Gravel is medium to coarse, angular to rounded fragments of brick, concrete and sandstone. Metal pipe found at 0.3 mbgl. Exploratory hole extended to 0.4 mbgl at the side to avoid metal pipe. |     |        |       |
|      |             |       |        |                                                                                   |       | Potential asbestos containing material found so hole was terminated.                                                                                                                                                                                                    |     |        |       |
|      |             |       |        |                                                                                   |       | 0.4 m                                                                                                                                                                                                                                                                   |     |        |       |
| 2    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                         |     |        |       |
| 3    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                         |     |        |       |
| 4    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                         |     |        |       |
| 5    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                         |     |        |       |
| 6    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                         |     |        |       |
| 7    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                                                         |     |        |       |

**NOTES**

Relocated from BH12-02A and BH12-02B  
Abandoned at 0.4 mbgl due to potential asbestos containing material.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike  
 Rest Groundwater Level

Drilling Method: Hand dug

Borehole Diameter: -

Screen Material: -

Screen Diameter: -

Screen Slot Size: -

Sand Particle Size: -

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 14/01/2013

**EASTING:** 535351.15

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191321.71

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:** 10.63 mOAD

| mbgl                            | WATER LEVEL            | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                                                           | PID     | SAMPLE     |                      |
|---------------------------------|------------------------|-------|--------|-----------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------|----------------------|
|                                 |                        | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                                                       |         | LABEL      | DEPTH                |
| 1<br>2<br>3<br>4<br>5<br>6<br>7 | 1.15 mbgl (14/01/2013) |       |        |           | 0.20  | Asphalt                                                                                                                                                                                                                                                                               | 450 ppm | BH12-02D/1 | 0.2 - 0.3 m<br>0.5 m |
|                                 |                        |       |        |           |       | Reinforced concrete                                                                                                                                                                                                                                                                   |         |            |                      |
|                                 |                        |       |        |           |       | MADE GROUND: Loose dark brown, gravelly, cobbly sand. Sand is fine to medium. Gravel is fine to coarse, angular to sub-rounded fragments of brick, concrete and stone. Frequent wood fragments. Cobbles are broken bricks. Hydrocarbon odour below 0.5 mbgl. Hydrocarbon tar in soil. |         |            |                      |
|                                 |                        |       |        |           | 1.50  | MADE GROUND: Loose red to dark brown, slightly silty, gravelly sand. Sand is fine to medium. Gravel is fine to coarse, angular to sub-angular fragments of brick and sandstone. Frequent wood. Strong hydrocarbon odour.                                                              |         |            |                      |
|                                 |                        |       |        |           | 3.00  | @ 2.4 - 3.0 mbgl Matrix very tarry                                                                                                                                                                                                                                                    |         | 2000 ppm   | BH12-02D/2           |
|                                 |                        |       |        |           | 3.80  | Light brown/black, clayey SILT. Black is hydrocarbon staining. Tar found in fissures. Strong hydrocarbon odour. (ALLUVIUM)                                                                                                                                                            |         |            |                      |
|                                 |                        |       |        |           | 4.40  | Light brown, clayey SILT. Tar found in fissures. Hydrocarbon odour. (ALLUVIUM)                                                                                                                                                                                                        |         |            |                      |
|                                 |                        |       |        |           | 5.30  | Very stiff, light brown, gravelly CLAY. Gravel is medium to coarse, sub-angular to sub-rounded flint. (ALLUVIUM)                                                                                                                                                                      | 700 ppm | BH12-02D/3 | 4.9 - 5.0 m          |
|                                 |                        |       |        |           | 6.50  | Loose, light brown, sandy GRAVEL. Sand is medium to coarse. Gravel is fine to coarse, sub-angular to sub-rounded flint and sandstone. (RIVER TERRACE GRAVEL) Hydrocarbon in matrix from 6.3 - 6.5 mbgl.                                                                               |         |            |                      |
|                                 |                        |       |        |           | 7.00  | Very soft, brown, grey CLAY. (LONDON CLAY)                                                                                                                                                                                                                                            | 15 ppm  | BH12-02D/4 | 6.8 - 6.9 m          |
|                                 |                        |       |        |           |       | Borehole terminated at 7.0 mbgl in London Clay.                                                                                                                                                                                                                                       |         |            |                      |

**NOTES**

Hand dug to 1.15 mbgl. Water in pit.  
Probed to 1.3 mbgl.  
Borehole terminated at 7.0 mbgl in London Clay

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic and Rotary  
Borehole Diameter: 140 mm  
Screen Material: HDPE  
Screen Diameter: 53 mm  
Screen Slot Size: 0.75 mm  
Sand Particle Size: 1-3 mm

All depths shown in metres below ground level.

**WorleyParsons**

resources &amp; energy

**MONITORING WELL LOG****BH12-03**

Sheet 1 of 1

**PROJECT No:** 51576-00**DATE:** 09/01/2013**EASTING:** 535338.96**SITE:** Tottenham**LOGGED BY:** SM**NORTHING:** 191369.97**CLIENT:** NGET**CONTRACTOR:** CCGI**ELEVATION:** 10.82 mOAD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                      | PID     | SAMPLE    |               |
|------|-------------|-------|--------|-----------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|---------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                  |         | LABEL     | DEPTH         |
|      |             |       |        |           | 0.20  | Asphalt                                                                                                                                                                                                          |         |           |               |
|      |             |       |        |           | 0.45  | MADE GROUND: Loose, light brown, slightly silty, gravelly sand. Sand is medium to coarse and angular. Gravel is coarse with sub angular fragments of stone.                                                      |         | BH12-03/1 | 0.2 - 0.3 m   |
| 1    |             |       |        |           | 0.90  | MADE GROUND: Loose brown, slightly silty, gravelly, cobbly sand. Sand is medium to coarse and angular. Gravel is coarse, subangular fragments of stone, concrete and brick. Cobbles are broken and whole bricks. | 0.4 ppm |           | 1.0 m         |
|      |             |       |        |           |       | MADE GROUND: Loose dark brown, silty, gravelly sand. Sand is medium and angular. Gravel is fine to coarse, sub-angular fragments of stone, brick and concrete.                                                   | 0.6 ppm |           | 1.5 m         |
| 2    |             |       |        |           | 2.30  |                                                                                                                                                                                                                  | 1.2 ppm | BH12-03/2 | 1.9 - 2.0 m   |
|      |             |       |        |           | 2.50  | MADE GROUND: Loose brick silty, gravelly sand. Sand is medium and angular. Gravel is fine to coarse fragments of stone, brick and concrete. Hydrocarbon odour and staining.                                      | 26 ppm  | BH12-03/3 | 2.35 - 2.45 m |
| 3    |             |       |        |           |       | Very soft, grey with black staining, slightly silty CLAY. Hydrocarbon found in fissures. Hydrocarbon odour. (ALLUVIUM)                                                                                           | 200 ppm | BH12-03/4 | 3.0 - 3.1 m   |
| 4    |             |       |        |           | 3.80  |                                                                                                                                                                                                                  |         |           |               |
|      |             |       |        |           |       | Very soft, light brown, slightly clayey SILT. Hydrocarbon staining in fissures. Hydrocarbon odour. (ALLUVIUM)                                                                                                    | 250 ppm |           | 4.0 m         |
|      |             |       |        |           |       | Becoming gravelly with depth.                                                                                                                                                                                    |         |           |               |
| 5    |             |       |        |           | 5.50  |                                                                                                                                                                                                                  | 400 ppm |           | 5.0 m         |
|      |             |       |        |           |       | Loose dark grey/brown, sandy GRAVEL. Sand is medium to coarse and angular. Gravel is fine to medium, angular to sub-rounded fragments of stone. (RIVER TERRACE GRAVEL)                                           |         |           |               |
| 6    |             |       |        |           | 6.55  |                                                                                                                                                                                                                  | 160 ppm |           | 6.0 m         |
|      |             |       |        |           |       | Stiff, fissured brown/grey CLAY (LONDON CLAY)                                                                                                                                                                    |         |           |               |
| 7    |             |       |        |           | 7.20  |                                                                                                                                                                                                                  | 4.8 ppm |           | 7.0 m         |
|      |             |       |        |           |       | Borehole terminated at 7.2 mbgl in London Clay.                                                                                                                                                                  |         |           |               |

**NOTES**

Hand dug to 1.35 mbgl, probed to 1.45 mbgl.  
LNAPL found on groundwater

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic and Rotary

Borehole Diameter: 140 mm

Screen Material: HDPE

Screen Diameter: 53 mm

Screen Slot Size: 0.75 mm

Sand Particle Size: 1-3 mm

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 11/01/2013

**EASTING:** 53591.38

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191416.15

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:** 10.45 mOAD

| mbgl | WATER LEVEL | WELL   |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                                     | PID      | SAMPLE    |               |
|------|-------------|--------|--------|-----------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------|---------------|
|      |             | DEPTH  | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                                 |          | LABEL     | DEPTH         |
|      |             |        |        |           | 0.20  | Reinforced concrete.                                                                                                                                                                                                                                            |          |           |               |
|      |             |        |        |           | 0.40  | MADE GROUND: Loose black/brown, gravelly sand. Sand is angular to sub-angular and fine to medium. Gravel is fine to coarse fragments of angular concrete, brick and stone.                                                                                      | 20 ppm   | BH12-04/1 | 0.2 - 0.3 m   |
|      |             |        |        |           |       |                                                                                                                                                                                                                                                                 | 200 ppm  | BH12-04/2 | 0.45 - 0.55 m |
|      |             |        |        |           | 1.05  | MADE GROUND: Loose, black-slightly red, slightly silty, gravelly sand. Sand is fine to medium, angular to sub-angular. Gravel is fine to medium, sub-angular to sub-rounded fragments of stone, occasional brick and concrete. Moist. Strong hydrocarbon odour. | 5000 ppm | BH12-04/3 | 1.0 - 1.1 m   |
|      |             |        |        |           | 1.40  | MADE GROUND: Medium dense, black, slightly silty, slightly gravelly sand. Sand is fine to medium, sub-angular to sub-rounded. Gravel is fine and sub-angular to sub-rounded. Tarry with strong hydrocarbon odour.                                               | 800 ppm  |           | 1.5 m         |
|      |             |        |        |           | 2.55  | Soft, brown, mottled, black silty CLAY. Hydrocarbon odour with hydrocarbons present in fissures. (ALLUVIUM)                                                                                                                                                     | 600 ppm  | BH12-04/4 | 2.3 - 2.4 m   |
|      |             |        |        |           | 2.85  | Very soft, brown, slightly sandy SILT. Sand is firm to medium, sub-angular to sub-rounded. (ALLUVIUM) Black hydrocarbon staining towards base. Hydrocarbon odour.                                                                                               |          |           |               |
|      |             |        |        |           |       | Firm, light grey/brown mottled with black, slightly silty CLAY. (ALLUVIUM) Black mottling is potentially hydrocarbon staining. Becomes less frequent with depth.                                                                                                | 200 ppm  |           | 3.0 m         |
|      |             |        |        |           |       |                                                                                                                                                                                                                                                                 | 220 ppm  |           | 4.0 m         |
|      |             | 4.30 m |        |           | 4.60  | Loose, light brown to grey, sandy GRAVEL. Gravel is fine to medium, sub-angular to sub-rounded fragments of flint, quartz and sandstone. (RIVER TERRACE GRAVELS)                                                                                                |          |           |               |
|      |             | 4.40 m |        |           |       | Becoming less sandy with depth.                                                                                                                                                                                                                                 | 210 ppm  |           | 5.0 m         |
|      |             |        |        |           | 5.70  | Stiff, grey/brown CLAY. (LONDON CLAY)                                                                                                                                                                                                                           |          |           |               |
|      |             | 5.85 m |        |           |       |                                                                                                                                                                                                                                                                 | 1.2 ppm  | BH12-04/5 | 6.0 m         |
|      |             | 5.95 m |        |           |       |                                                                                                                                                                                                                                                                 |          |           |               |
|      |             | 7.00 m |        |           | 7.00  | Borehole terminated at 7.0 mbgl in London Clay                                                                                                                                                                                                                  | 0.8 ppm  |           | 7.0 m         |

**NOTES**

Hand dug to 1.3 mbgl, probed to 1.45 mbgl.  
Strong hydrocarbon odour in hole.  
Dynamic sample, casing rotary flushed.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic & Rotary  
Borehole Diameter: 140 mm to 6.8 mbgl 128 mm to 7 mbgl  
Screen Material: HDPE  
Screen Diameter: 53 mm  
Screen Slot Size: 0.75 mm  
Sand Particle Size: 1-3 mm  
All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 14/01/2013

**EASTING:** 535367.16

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191464.16

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:** 10.44 m0AD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |                  | DESCRIPTION                                                                                                                                                              | PID     | SAMPLE    |             |
|------|-------------|-------|--------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|-------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH            |                                                                                                                                                                          |         | LABEL     | DEPTH       |
|      |             |       |        |           | 0.20             | Asphalt                                                                                                                                                                  |         |           |             |
|      |             |       |        |           | 0.30             | Reinforced concrete                                                                                                                                                      |         |           |             |
|      |             |       |        |           | 0.70             | MADE GROUND: Loose light brown, gravelly sand. Gravel is sub-angular to sub-rounded, medium to coarse, brick coal and stone. Occasional cobbles of concrete.             | 0 ppm   | BH12-05/1 | 0.3 - 0.4m  |
|      |             |       |        |           | 1.40             | MADE GROUND: Loose dark brown, slightly silty, gravelly sand. Sand is fine to medium. Gravel is medium to coarse, sub-angular to sub-rounded brick, concrete and stone.  | 0.4 ppm | BH12-05/2 | 1.0 - 1.1 m |
|      |             |       |        |           | 2.05             | Very soft light brown, clayey SILT. (ALLUVIUM)                                                                                                                           | 12 ppm  |           | 1.45 m      |
|      |             |       |        |           | 3.50             | Firm light grey/green with brown mottling CLAY. Brown mottles are possible organic matter. (ALLUVIUM)                                                                    | 0.5 ppm |           | 2.5 m       |
|      |             |       |        |           | 4.60             | Soft, dark brown CLAY. Contains frequent gastropod shells (white) and roots/stems of organic material. (ALLUVIUM)                                                        | 0.3 ppm | BH12-05/3 | 2.8 - 2.9 m |
|      |             |       |        |           | 4.30 m<br>4.40 m |                                                                                                                                                                          | 0.4 ppm |           | 4.5 m       |
|      |             |       |        |           | 6.35             | Loose, brown/grey, sandy GRAVEL. Sand is medium to coarse and rounded. Gravel is fine to coarse, sub-rounded to well-rounded flint and sandstone. (RIVER TERRACE GRAVEL) | 0.7 ppm | BH12-05/4 | 5.5 - 5.6 m |
|      |             |       |        |           | 6.50 m<br>6.60 m |                                                                                                                                                                          | 2.2 ppm | BH12-05/5 | 6.5 - 6.6 m |
|      |             |       |        |           | 7.00             | Stiff, grey/brown CLAY. (LONDON CLAY)                                                                                                                                    |         |           |             |
|      |             |       |        |           |                  | Borehole terminated at 7.0 mbgl in London Clay.                                                                                                                          |         |           |             |
|      |             |       |        |           |                  | 7 m                                                                                                                                                                      |         |           |             |

**NOTES**

Hand dug to 1.5 mbgl.  
No obvious hydrocarbon odour.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic & Rotary

Borehole Diameter: 140 mm

Screen Material: HDPE

Screen Diameter: 53 mm

Screen Slot Size: 0.75 mm

Sand Particle Size: 1-3 mm

All depths shown in metres below ground level.

**WorleyParsons**

resources &amp; energy

**MONITORING WELL LOG****BH12-06**

Sheet 1 of 1

**PROJECT No:** 51576-00**DATE:** 16/01/2013**EASTING:** 535389.03**SITE:** Tottenham**LOGGED BY:** SM**NORTHING:** 191528.63**CLIENT:** NGET**CONTRACTOR:** CCGI**ELEVATION:** 10.15 m0AD

| mbgl | WATER LEVEL         | WELL             |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                   | PID        | SAMPLE    |             |
|------|---------------------|------------------|--------|-----------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|-------------|
|      |                     | DEPTH            | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                               |            | LABEL     | DEPTH       |
|      |                     |                  |        |           | 0.10  | Asphalt                                                                                                                                                                                                       |            |           |             |
|      |                     |                  |        |           |       | MADE GROUND: Loose yellow grey gravelly sand. Gravel is medium to coarse angular fragments of stone. (SUB-BASE).                                                                                              | 2.8 ppm    | BH12-06/1 | 0.2 - 0.3 m |
|      |                     |                  |        |           |       | MADE GROUND: Loose dark brown, slightly silty, gravelly sand. Sand is fine to medium and sub-round to sub-angular. Gravel is fine to medium, sub-angular to sub-round fragments of concrete, brick and stone. | 1.1 ppm    |           | 0.5 m       |
| 1    | 1.00 m (16/01/2013) |                  |        |           | 1.20  |                                                                                                                                                                                                               | 1.0 ppm    |           | 1.0 m       |
|      |                     |                  |        |           | 1.50  | MADE GROUND: Medium dense, black, slightly silty, gravelly sand. Gravel is fine to medium, sub-angular to sub-rounded fragments of brick and stone. Frequent peices of wood, highly impacted with tar.        | 13,000 ppm |           | 1.2 m       |
|      |                     |                  |        |           |       | Firm, light brown, slightly silty CLAY. Strong sickly sweet smell. Becoming dark brown / black with depth. (ALLUVIUM)                                                                                         | 15,000 ppm | BH12-06/2 | 1.5 m       |
| 2    |                     |                  |        |           |       |                                                                                                                                                                                                               | 10,000 ppm |           | 1.7 - 1.8 m |
|      |                     |                  |        |           |       |                                                                                                                                                                                                               | 10,000 ppm |           | 2.2 m       |
| 3    |                     |                  |        |           |       |                                                                                                                                                                                                               | 7,500 ppm  |           | 3.0 m       |
| 4    |                     |                  |        |           | 3.90  | Stiff light grey/brown, slightly silty CLAY. Sickly sweet smell. (ALLUVIUM)                                                                                                                                   | 3,000 ppm  |           | 4.0 m       |
| 5    |                     | 4.80 m<br>4.90 m |        |           | 4.95  | Loose dark brown, sandy GRAVEL. Gravel is fine to coarse, sub-angular to well-rounded. Sand is fine to coarse, sub-angular to sub-rounded. Sickly sweet smell. (RIVER TERRACE GRAVEL).                        | 2,500 ppm  | BH12-06/3 | 5.0 m       |
|      |                     |                  |        |           | 5.90  |                                                                                                                                                                                                               | 700 ppm    |           | 5.2 - 5.3 m |
|      |                     |                  |        |           |       |                                                                                                                                                                                                               |            |           | 5.5 m       |
| 6    |                     | 6.10 m<br>6.20 m |        |           |       | Stiff, grey/brown fissured CLAY. (LONDON CLAY)                                                                                                                                                                | 50 ppm     |           | 5.9 m       |
|      |                     |                  |        |           | 6.90  |                                                                                                                                                                                                               | 80 ppm     | BH12-06/4 | 6.5 - 6.6m  |
| 7    |                     | 6.90 m           |        |           |       | Borehole terminated at 6.90 mbgl in London Clay                                                                                                                                                               | 10 ppm     |           | 6.9 m       |
|      |                     |                  |        |           |       | 6.9 m                                                                                                                                                                                                         |            |           |             |

**NOTES**

Hand dug to 1.2 mbgl. Probed to 1.45 mbgl.  
Borehole has a strange odour, slightly hydrocarbon, sickly sweet.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic & Rotary  
Borehole Diameter: 140 mm to 6.0 mbgl, 128mm to 6.9 mbgl  
Screen Material: HDPE  
Screen Diameter: 53 mm  
Screen Slot Size: 0.75 mm  
Sand Particle Size: 1-3 mm  
All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 21/01/2013

**EASTING:** 535339.49

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191337.60

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:** 10.51 mOAD

| mbgl | WATER LEVEL                               | WELL            |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                   | PID       | SAMPLE    |             |
|------|-------------------------------------------|-----------------|--------|-----------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|
|      |                                           | DEPTH           | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                               |           | LABEL     | DEPTH       |
|      |                                           |                 |        |           | 0.26  | Reinforced concrete with asphalt skin.                                                                                                                                                                                        |           |           |             |
|      |                                           |                 |        |           | 0.50  | MADE GROUND: Dense brown, slightly silty, gravelly sand. Sand is fine to medium. Gravel is fine to coarse, sub-angular to sub-rounded fragments of brick, concrete and stone.                                                 | 2.2 ppm   | WS12-01/1 | 0.3 - 0.4 m |
|      |                                           |                 |        |           | 0.90  | MADE GROUND: Dense, dark brown/black, slightly silty, gravelly sand. Sand is medium to coarse. Gravel is fine to medium, sub-angular to sub-round fragments of brick, concrete and stone. Occasional cobbles of broken brick. | 0.7 ppm   |           | 0.6 m       |
| 1    | 1.25 m (21/01/2013)<br>1.7 m (21/01/2013) | 0.90 m<br>1.0 m |        |           | 1.90  | MADE GROUND: Soft, white with black mottling, sandy, gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded fragments of chalk. (Foul lime)                                                                      | 1.5 ppm   | WS12-01/2 | 1.0 - 1.1 m |
| 2    |                                           |                 |        |           |       | Soft black with red tinge, sandy SILT. Oil staining, becoming more oil stained and softer with depth. Strong hydrocarbon odour. (ALLUVIUM)                                                                                    | 1,300 ppm |           | 2.0 m       |
|      |                                           |                 |        |           |       |                                                                                                                                                                                                                               | 3,800 ppm |           | 2.5 m       |
| 3    |                                           | 3.0 m<br>3.1 m  |        |           | 3.60  | Firm, light brown, fissured, silty CLAY. Slight evidence of hydrocarbon staining in the fissures. Becoming softer with a slight hydrocarbon smell with depth. (ALLUVIUM)                                                      | 3,500 ppm |           | 3.0 m       |
| 4    |                                           |                 |        |           |       |                                                                                                                                                                                                                               | 160 ppm   |           | 4.0 m       |
| 5    |                                           | 5.0 m           |        |           | 5.00  | Borehole terminated at 5.0 mbgl in clay.                                                                                                                                                                                      | 500 ppm   |           | 5.0 m       |

**NOTES**

Hand dug to 1.35 mbgl.  
Concrete cored.  
Oil staining and hydrocarbon odour in hole  
Borehole Diameter: 113 mm:2.0 mbgl, 101 mm:4.0 mbgl, 86 mm :5.0 mbgl

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic  
Borehole Diameter: see notes  
Screen Material: HDPE  
Screen Diameter: 53 mm  
Screen Slot Size: 0.75 mm  
Sand Particle Size: 1-3 mm

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 17/01/2013

**EASTING:** 535366.59

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191349.93

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:** 10.57 mOAD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                            | PID                | SAMPLE    |                        |
|------|-------------|-------|--------|-----------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------|------------------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                        |                    | LABEL     | DEPTH                  |
|      |             |       |        |           | 0.15  | Asphalt                                                                                                                                                                                                                                                |                    |           |                        |
|      |             |       |        |           |       | MADE GROUND: Dense dark brown, slightly silty, gravelly sand. Sand is fine to coarse, sub-angular to sub-round. Gravel is fine to coarse, angular to sub-round fragments of brick, stone and glass. Glass "Bovril" bottles found. Slight diesel odour. | 0.9 ppm<br>1.6 ppm | WS12-02/1 | 0.2 - 0.3 m<br>0.5 m   |
|      |             |       |        |           | 0.80  |                                                                                                                                                                                                                                                        |                    |           |                        |
|      |             |       |        |           | 1.10  | MADE GROUND: Dense black/dark brown, slightly silty, gravelly sand. Sand is sub-angular to sub-round, fine to coarse. Gravel is fine to coarse, angular to sub-round fragments of stone and glass. Strong diesel odour.                                | 400 ppm            | WS12-02/2 | 0.9 m - 1.0 m          |
|      |             |       |        |           |       | MADE GROUND: Dense black, very silty, very gravelly sand. Sand is fine to coarse, sub-angular to sub round. Gravel is medium to coarse, sub-angular to round fragments of stone. Hydrocarbon staining and strong diesel odour.                         | 2,700 ppm          | WS12-02/3 | 1.4 m - 1.5 m          |
|      |             |       |        |           | 2.40  |                                                                                                                                                                                                                                                        | 15,000 ppm         |           | 2.0 m                  |
|      |             |       |        |           |       | Dark brown/black mottled, slightly clayey, slightly sandy SILT. Sand is fine. Black mottling is hydrocarbon in fissures. Strong diesel odour. Black mottling/hydrocarbons becomes less with depth. (ALLUVIUM)                                          | 15,000 ppm         | WS12-02/4 | 2.9 m - 3.0 m          |
|      |             |       |        |           | 3.80  |                                                                                                                                                                                                                                                        |                    |           |                        |
|      |             |       |        |           |       | Loose, brown, slightly silty, sandy GRAVEL. Gravel is fine to medium, sub-angular to well rounded. (RIVER TERRACE GRAVEL) Diesel odour and some black staining in matrix.                                                                              | 15,000 ppm         | WS12-02/5 | 4.0 m<br>4.3 m - 4.5 m |
|      |             |       |        |           | 5.40  |                                                                                                                                                                                                                                                        |                    |           |                        |
|      |             |       |        |           |       | Borehole terminated at 5.4 mbgl in river terrace gravel.                                                                                                                                                                                               |                    |           |                        |
|      |             |       |        |           |       | 5.4 m                                                                                                                                                                                                                                                  |                    |           |                        |

**NOTES**

Hand dug to 1.3 mbgl, probed to 1.5 mbgl.  
Strong diesel odour throughout pit.  
Hydrocarbons in water found in matrix of cores.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic & Rotary

Borehole Diameter: 140 mm

Screen Material: HDPE

Screen Diameter: 53 mm

Screen Slot Size: 0.75 mm

Sand Particle Size: 1-3 mm

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 21/01/2013

**EASTING:** 535368.27

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191381.79

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:** 10.52 mOAD

| mbgl | WATER LEVEL                              | WELL                       |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                              | PID     | SAMPLE    |               |
|------|------------------------------------------|----------------------------|--------|-----------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|---------------|
|      |                                          | DEPTH                      | DETAIL | LEGEND    | DEPTH |                                                                                                                                                          |         | LABEL     | DEPTH         |
|      |                                          |                            |        |           | 0.35  | Reinforced concrete in three separate layers.                                                                                                            |         |           |               |
|      |                                          |                            |        |           | 0.90  | MADE GROUND: Dense, brown, slightly silty, sandy gravel. Gravel is fine to coarse, sub-angular to sub-rounded fragments of stone. No odour.              | 0.5 ppm | WS12-03/1 | 0.45 - 0.55 m |
| 1    | 1.1 m (21/01/2013)<br>1.6 m (21/01/2013) | 1.0 m                      |        |           |       | MADE GROUND: Medium dense, dark brown, silty, sandy gravel. Gravel is fine to coarse, sub-angular to sub-rounded fragments of stone, brick and concrete. | 0.2 ppm |           | 0.9 m         |
|      |                                          | 1.90 m                     |        |           |       |                                                                                                                                                          | 0.2 ppm |           | 1.5 m         |
| 2    |                                          | 2.20 m<br>2.30 m<br>2.40 m |        |           | 2.70  |                                                                                                                                                          | 0.3 ppm | WS12-03/2 | 2.0 - 2.1 m   |
|      |                                          | 2.70 m                     |        |           |       | Borehole terminated at 2.7 mbgl on hard obstruction.                                                                                                     |         |           | 2.5 m         |
| 3    |                                          |                            |        |           |       | 2.7 m                                                                                                                                                    |         |           |               |
| 4    |                                          |                            |        |           |       |                                                                                                                                                          |         |           |               |
| 5    |                                          |                            |        |           |       |                                                                                                                                                          |         |           |               |
| 6    |                                          |                            |        |           |       |                                                                                                                                                          |         |           |               |
| 7    |                                          |                            |        |           |       |                                                                                                                                                          |         |           |               |

**NOTES**

Hand dug to 1.35 mbgl.  
Borehole collapsed to 2.2 mbgl and installed to that depth.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic  
Borehole Diameter: 86 mm  
Screen Material: HDPE  
Screen Diameter: 53 mm  
Screen Slot Size: 0.75 mm  
Sand Particle Size: 1-3 mm

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 18/01/2013

**EASTING:** 535346.34

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191408.44

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:**

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY                                                                         |       | DESCRIPTION                                                                                                                                                                                                                                 | PID             | SAMPLE |                |
|------|-------------|-------|--------|-----------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------|----------------|
|      |             | DEPTH | DETAIL | LEGEND                                                                            | DEPTH |                                                                                                                                                                                                                                             |                 | LABEL  | DEPTH          |
|      |             |       |        |  | 0.25  | Reinforced concrete                                                                                                                                                                                                                         |                 |        |                |
|      |             |       |        |  | 0.70  | MADE GROUND: Dense brown, slightly silty, gravelly sand. Gravel is fine to coarse, sub-angular to sub-rounded fragments of brick, concrete and stone. Frequent cobbles of brick and concrete. Occasional voids found, 1-2 litres in volume. | 12 ppm<br>8 ppm |        | 0.2 m<br>0.5 m |
| 1    |             |       |        |                                                                                   |       | Refusal at 0.7 mbgl on large concrete obstruction at angle so appears as if part of made ground and not a structure.                                                                                                                        |                 |        |                |
|      |             |       |        |                                                                                   |       | 0.7 m                                                                                                                                                                                                                                       |                 |        |                |
| 2    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                             |                 |        |                |
| 3    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                             |                 |        |                |
| 4    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                             |                 |        |                |
| 5    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                             |                 |        |                |
| 6    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                             |                 |        |                |
| 7    |             |       |        |                                                                                   |       |                                                                                                                                                                                                                                             |                 |        |                |

**NOTES**

Hand dug to 0.7 mbgl.

Drilling Method: Hand dug

Borehole Diameter: -

Screen Material:

Screen Diameter:

Screen Slot Size:

Sand Particle Size:

All depths shown in metres below ground level.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

 Water Strike

 Rest Groundwater Level



**PROJECT No:** 51576-00

**DATE:** 18/01/2013

**EASTING:** 535385.77

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191413.29

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:**

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                 | PID    | SAMPLE    |             |
|------|-------------|-------|--------|-----------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------|-------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                             |        | LABEL     | DEPTH       |
|      |             |       |        |           | 0.30  | Reinforced concrete.                                                                                                                                                                                                                        |        |           |             |
|      |             |       |        |           | 0.65  | MADE GROUND: Dense, slightly silty, gravelly sand. Sand is fine to coarse and sub-angular to sub-rounded. Gravel is fine to coarse, angular to sub-rounded fragments of stone with occasional brick and concrete. Slight hydrocarbon odour. | 6 ppm  | WS12-05/1 | 0.3 - 0.4m  |
|      |             |       |        |           |       | MADE GROUND: Medium dense, slightly silty, slightly sandy gravel. Gravel is medium to coarse lumps of vitrified slag and clinker.                                                                                                           | 12 ppm | WS12-05/2 | 0.6 m       |
|      |             |       |        |           | 1.50  |                                                                                                                                                                                                                                             | 18 ppm |           | 0.7 - 0.8 m |
| 1    |             |       |        |           |       | 1.5 m                                                                                                                                                                                                                                       |        |           | 1.1 m       |
| 2    |             |       |        |           |       |                                                                                                                                                                                                                                             |        |           |             |
| 3    |             |       |        |           |       |                                                                                                                                                                                                                                             |        |           |             |
| 4    |             |       |        |           |       |                                                                                                                                                                                                                                             |        |           |             |
| 5    |             |       |        |           |       |                                                                                                                                                                                                                                             |        |           |             |
| 6    |             |       |        |           |       |                                                                                                                                                                                                                                             |        |           |             |
| 7    |             |       |        |           |       |                                                                                                                                                                                                                                             |        |           |             |

**NOTES**

Hand dug to 1.25 mbgl, probed to 1.5 mbgl.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Hand dug

Borehole Diameter: WS12-05

Screen Material:

Screen Diameter:

Screen Slot Size:

Sand Particle Size:

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 16/01/2013

**EASTING:** 535387.16

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191402.23

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:** 10.55 mOAD

| mbgl | WATER LEVEL        | WELL   |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                                                                                                    | PID       | SAMPLE    |             |
|------|--------------------|--------|--------|-----------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|-------------|
|      |                    | DEPTH  | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                                                                                                |           | LABEL     | DEPTH       |
|      |                    |        |        |           | 0.20  | Reinforced concrete                                                                                                                                                                                                                            |           |           |             |
|      |                    | 0.5 m  |        |           |       | MADE GROUND: Loose dark brown/reddish, slightly silty, gravelly sand. Sand is medium to coarse. Gravel is fine to coarse, angular to sub-rounded fragments of brick, concrete and stone. Slight hydrocarbon odour getting stronger with depth. | 44 ppm    | WS12-06/1 | 0.3 - 0.4 m |
| 1    | 1.0 m (16/01/2013) | 0.6 m  |        |           | 1.20  |                                                                                                                                                                                                                                                | 45 ppm    | WS12-06/2 | 1.0 m       |
|      |                    |        |        |           | 1.90  | Firm, dark brown, mottled black, fissured CLAY. Fissures contain tar. (ALLUVIUM) Strong hydrocarbon odour.                                                                                                                                     |           |           | 1.1 - 1.2 m |
| 2    |                    |        |        |           | 2.40  | Stiff, brown, mottled black, fissured CLAY. Black mottling is hydrocarbon staining. Strong hydrocarbon odour. (ALLUVIUM)                                                                                                                       | 270 ppm   |           | 2.0 m       |
|      |                    | 2.8 m  |        |           |       | Stiff, grey green, mottled black, silty CLAY. Black is hydrocarbon staining. Strong hydrocarbon odour. (ALLUVIUM)                                                                                                                              |           |           |             |
| 3    |                    | 3.0 m  |        |           |       |                                                                                                                                                                                                                                                | 1,600 ppm | WS12-06/3 | 3.0 m       |
|      |                    |        |        |           | 4.20  | Soft, dark brown, silty CLAY. Organic content, roots etc. No hydrocarbon odour. (ALLUVIUM)                                                                                                                                                     | 150 ppm   |           | 4.0 m       |
|      |                    |        |        |           | 4.90  |                                                                                                                                                                                                                                                |           |           |             |
| 5    |                    |        |        |           | 5.30  | Loose, dark brown, sandy GRAVEL. Gravel is fine to coarse, sub-angular to well rounded. (RIVER TERRACE GRAVEL)                                                                                                                                 | 22 ppm    |           | 5.2 m       |
|      |                    | 5.30 m |        |           |       | Borehole terminated at 5.3 mbgl in gravels.                                                                                                                                                                                                    |           |           |             |
|      |                    |        |        |           |       | 5.3 m                                                                                                                                                                                                                                          |           |           |             |
| 6    |                    |        |        |           |       |                                                                                                                                                                                                                                                |           |           |             |
| 7    |                    |        |        |           |       |                                                                                                                                                                                                                                                |           |           |             |

**NOTES**

Hand dug to 1.5 mbgl  
Borehole terminated at 5.3 mbgl within river terrace gravels.  
Borehole Diameter: 101 mm to 3.0 mbgl; 86 mm to 5.3 mbgl.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic  
Borehole Diameter: see notes  
Screen Material: HDPE  
Screen Diameter: 53 mm  
Screen Slot Size: 0.75 mm  
Sand Particle Size: 1-3 mm

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 22/01/2013

**EASTING:** 535396.88

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191502.88

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:** 10.28 mAOD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                               | PID        | SAMPLE    |               |
|------|-------------|-------|--------|-----------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------|---------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                           |            | LABEL     | DEPTH         |
|      |             |       |        |           | 0.22  | Reinforced concrete.                                                                                                                                                      |            |           |               |
|      |             |       |        |           | 0.60  | MADE GROUND: Dense, dark brown/black, slightly silty, gravelly sand. Gravel is fine to coarse, sub-angular to sub-rounded fragments of stone. Strong, sickly sweet odour. | 2.5 ppm    | WS12-07/1 | 0.35 - 0.45 m |
|      |             |       |        |           |       | MADE GROUND: Stiff, wet, black/red, slightly sandy clay. Very strong sickly sweet odour. Becoming very stiff to hard with depth.                                          | 12,000 ppm |           | 0.6 m         |
|      |             |       |        |           |       |                                                                                                                                                                           | 15,000 ppm | WS12-07/2 | 0.9 - 1.0 m   |
|      |             |       |        |           |       |                                                                                                                                                                           | 15,000 ppm |           | 1.5 m         |
|      |             |       |        |           | 2.10  | Firm, dark brown silty CLAY. Strong hydrocarbon, sickly sweet smell. Becoming soft to very soft with depth. (ALLUVIUM)                                                    | 1,000      |           | 2.5 m         |
|      |             |       |        |           |       |                                                                                                                                                                           | 15,000     |           | 3.5 m         |
|      |             |       |        |           | 4.00  | Borehole terminated at 4.0 mbgl in silts.                                                                                                                                 |            |           |               |
|      |             |       |        |           |       | 4 m                                                                                                                                                                       |            |           |               |

**NOTES**

Concrete cored.  
Strong, sickly sweet odour coming from hole.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic  
Borehole Diameter: 86 mm  
Screen Material: HDPE  
Screen Diameter: 53 mm  
Screen Slot Size: 0.75 mm  
Sand Particle Size: 1-3 mm

All depths shown in metres below ground level.



**PROJECT No:** 51576-00

**DATE:** 22/01/2013

**EASTING:** 535371.95

**SITE:** Tottenham

**LOGGED BY:** SM

**NORTHING:** 191482.41

**CLIENT:** NGET

**CONTRACTOR:** CCGI

**ELEVATION:** 10.43 mOAD

| mbgl | WATER LEVEL | WELL  |        | LITHOLOGY |       | DESCRIPTION                                                                                                                                                          | PID     | SAMPLE    |             |
|------|-------------|-------|--------|-----------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|-------------|
|      |             | DEPTH | DETAIL | LEGEND    | DEPTH |                                                                                                                                                                      |         | LABEL     | DEPTH       |
|      |             |       |        |           | 0.10  | Reinforced concrete                                                                                                                                                  |         |           |             |
|      |             |       |        |           | 0.20  | MADE GROUND: Loose dark brown, slightly gravelly sand. Gravel is fine to coarse and sub-angular to sub-rounded.                                                      |         |           |             |
|      |             |       |        |           | 0.53  | Concrete.                                                                                                                                                            |         |           |             |
|      |             |       |        |           | 0.90  | MADE GROUND: Loose dark brown, slightly silty gravelly sand. Gravel is fine to coarse, sub-angular to sub-rounded fragments of stone.                                | 0.2 ppm | WS12-08/1 | 0.6 m       |
| 1    |             | 0.9 m |        |           |       | MADE GROUND: Loose light brown/yellow, slightly silty sand. Sand is fine. Occasional fragments of glass.                                                             | 0.8 ppm |           | 0.7 - 0.8 m |
|      |             | 1.0 m |        |           | 1.60  |                                                                                                                                                                      |         |           | 1.0 m       |
|      |             |       |        |           |       | Light brown/yellow, slightly sandy SILT. (ALLUVIUM)                                                                                                                  | 0.2 ppm |           | 1.5 m       |
| 2    |             | 2.0 m |        |           | 2.40  |                                                                                                                                                                      |         |           |             |
|      |             | 2.1 m |        |           |       | Firm, grey/green fissured CLAY. (ALLUVIUM)                                                                                                                           | 1.7 ppm | WS12-08/2 | 2.5 - 2.6 m |
|      |             |       |        |           | 3.40  |                                                                                                                                                                      |         |           |             |
|      |             |       |        |           |       | Loose, brown, slightly sandy, slightly silty GRAVEL. Gravel is fine to medium, sub-angular to well rounded fragments of flint and sandstone. (RIVER TERRACE GRAVELS) | 1.3 ppm |           | 3.5 m       |
|      |             |       |        |           |       |                                                                                                                                                                      | 1.9 ppm |           | 4.5 m       |
| 5    |             | 5.0 m |        |           | 5.00  | Borehole terminated at 5.0 mbgl in gravels.                                                                                                                          |         |           |             |
|      |             |       |        |           |       | 5 m                                                                                                                                                                  |         |           |             |

**NOTES**

Hand dug to 1.5 mbgl.  
No obvious odour observed.

Descriptions are based on observations and hand testing of grab samples.  
Mechanical tests were not performed unless otherwise stated.

▽ Water Strike  
▼ Rest Groundwater Level

Drilling Method: Dynamic  
Borehole Diameter: 101 mm to 3.0 mbgl, 86 mm to 5.0 mbgl  
Screen Material: HDPE  
Screen Diameter: 53 mm  
Screen Slot Size: 0.75 mm  
Sand Particle Size: 1-3 mm  
All depths shown in metres below ground level.

# Appendix B. PID Profiles



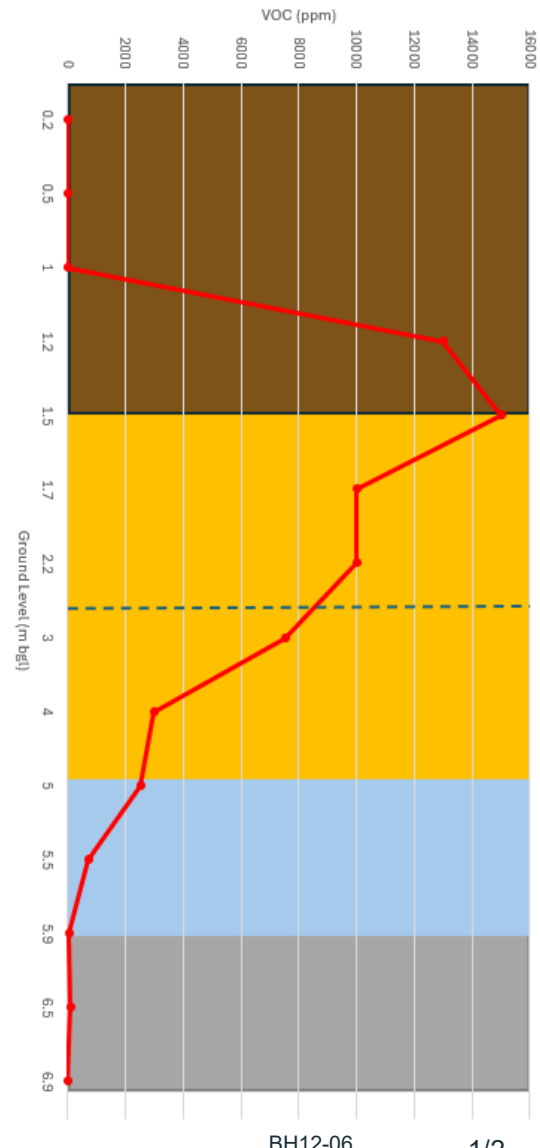
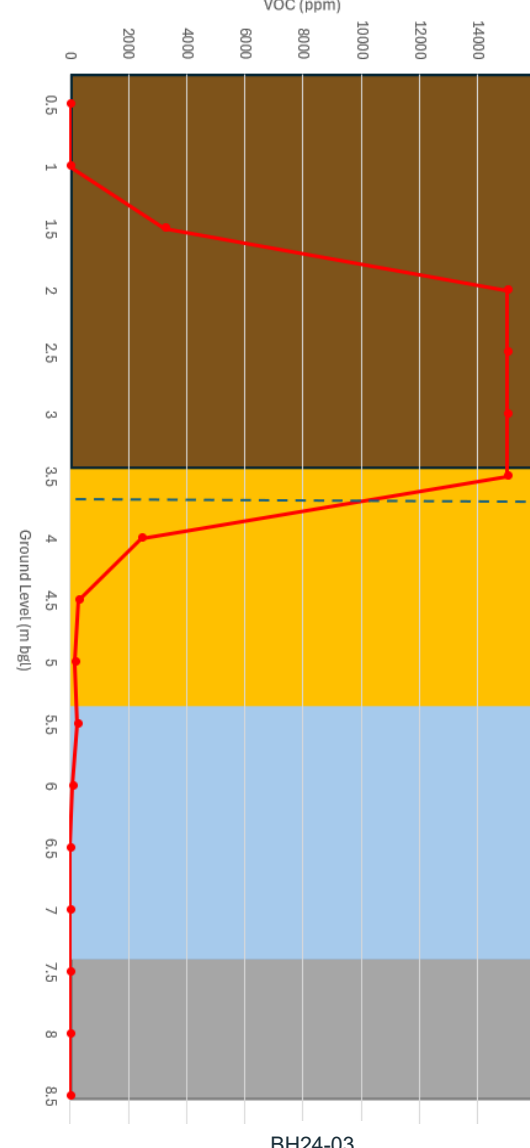
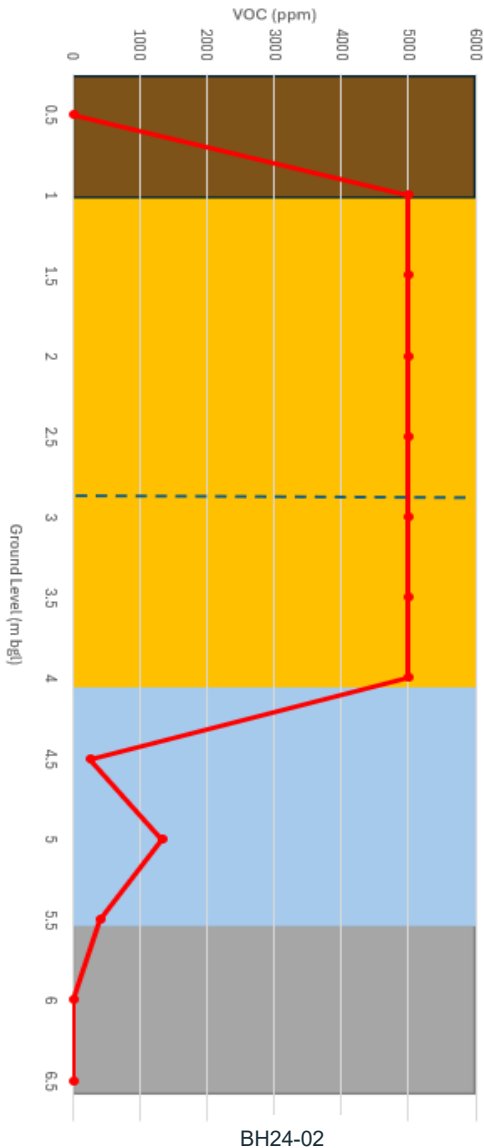
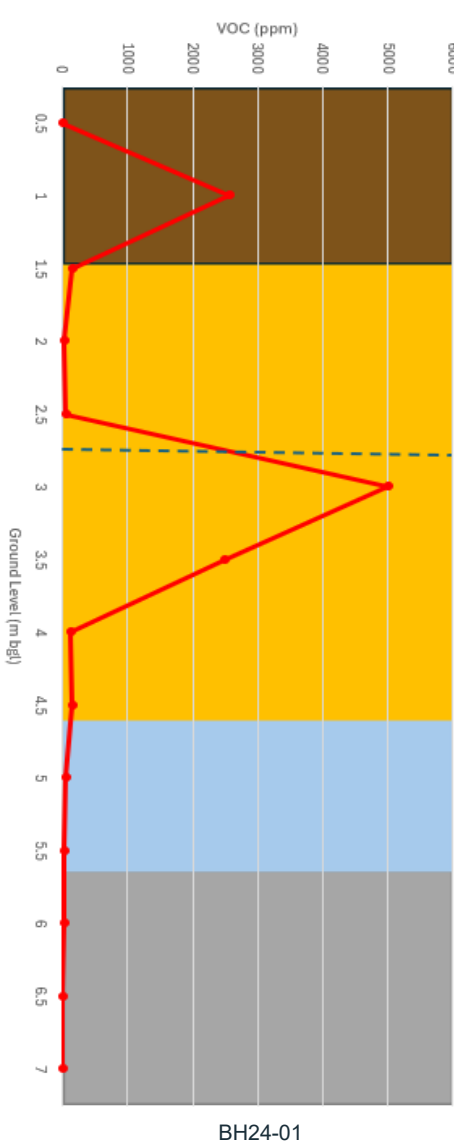
# PID readings with depth (m bgl)

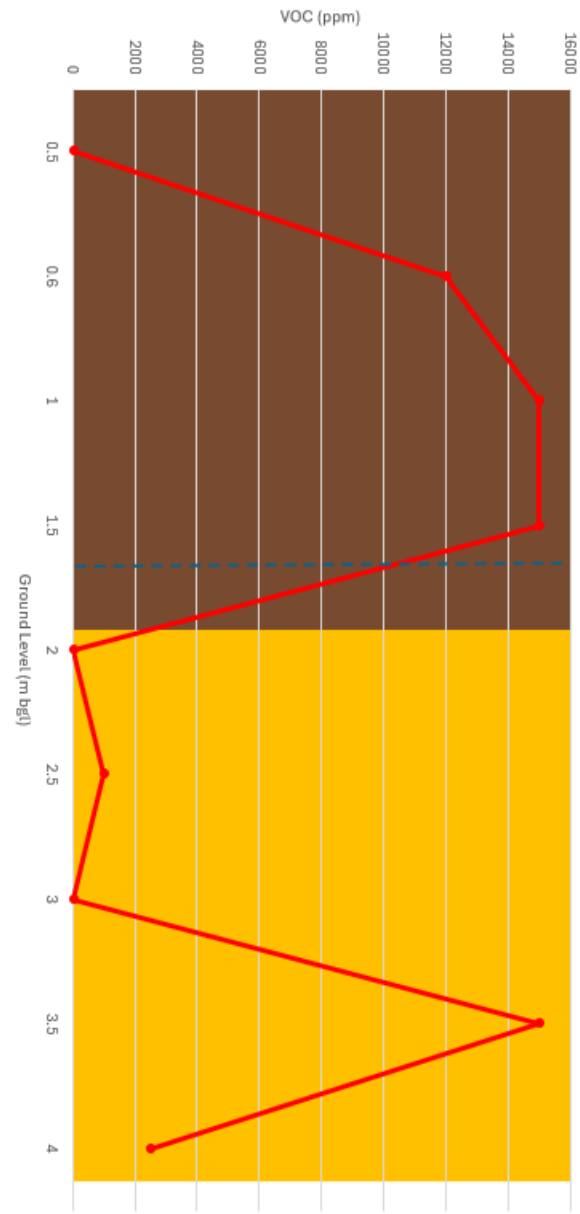
Legend

- PID (ppm)
- Water level (m bgl)

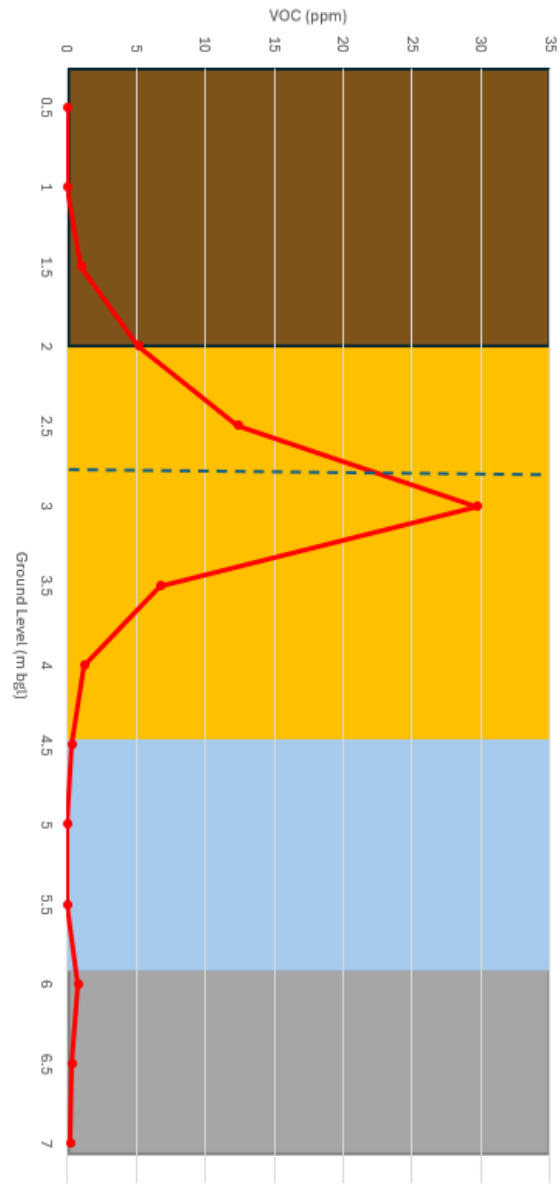
Water levels collected from the October 2024 monitoring (except for WS12-07, which was collected during the June 2023 monitoring)

|                        |  |
|------------------------|--|
| Made Ground            |  |
| Alluvium               |  |
| River Terrace Deposits |  |
| London Clay            |  |





WS12-07  
\*Terminated within the Alluvium



BH24-04

# AtkinsRéalis



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Lauren Ilyas  
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**Our ref:** NE/2025/138442/02

**Date:** 10 December 2025

Dear Lauren,

**North London Reinforcement Project Stage 3A. Remediation Options Appraisal  
Phase 2 Remediation.**

**NGET Arriva Bus Depot, Tottenham.**

Thank you for engaging with us on the above topic. As part of the consultation, we have reviewed:

*Phase 2 Remedial Options Appraisal, National Grid Electricity Transmissions, NGET Arriva Bus Depot (8021) (AtkinsRealis, Document reference: 5225197, Revision 3.0 Dated November 2025).*

**Environment Agency Position**

Based on a review of the submitted information we agree with the approach taken and are supportive of the selected remedial options. We do, however, note the following:

- It has been identified that delivery timeframes for the wider project may result in the remedial options being revisited. Should there be a need to revisit the remedial options appraisal we would request that we are reconsulted.
- Detailed design of the final remedial strategy will require input from a specialist contractor and that pilot trials will likely need to be completed as part of the finalisation process, with results captured in a "Remediation Detailed Design." The Environment Agency would like the opportunity to review such documents prior to remedial works. It is welcomed that on-going engagement with the Environment Agency is proposed during the finalisation process.

**Further information and advice**

**Movement of waste off-site**

The Waste (England and Wales) Regulations 2011 for dealing with waste materials are applicable to anyone who produces, carries, keeps, disposes of, treats, imports or has control of waste in England or Wales.

The law requires anyone dealing with waste to keep it safe and make sure they deal with it responsibly. They must only pass it to someone authorised to take it. You can

find the waste duty of care code of practice here: [Waste duty of care code of practice - GOV.UK](#)

If you need to register as a carrier of waste, please follow the instructions here: [Register or renew as a waste carrier, broker or dealer - GOV.UK](#). If you require any local advice or guidance, please contact your local Environment Agency office.

In order to meet the applicant's duties under the waste hierarchy and obligations under the duty of care, it is important that waste is properly classified. Some waste (e.g. wood and wood-based products) may be either a hazardous or non-hazardous waste dependent upon whether or not they have had preservative treatments.

Proper classification of the waste both ensures compliance and enables the correct onward handling and treatment to be applied. In the case of treated wood, it may require high temperature incineration in a directive compliant facility. More information on this can be found here: [Classify different types of waste: your legal responsibilities - GOV.UK](#).

### **Final comments**

Thank you for contacting us regarding the above topic. Our comments are based on our available records and the information submitted to us. Please quote our reference number in any future correspondence.

Please note that the views expressed in this report by the Environment Agency are a response to a pre-application enquiry only and do not represent our final view in relation to any future application made in relation to this site. We reserve the right to change our position in relation to any such application. You should seek your own expert advice in relation to technical matters relevant to any planning application before submission.

Should you have any queries regarding this response, please contact me.

Yours sincerely,

**George Lloyd**  
**Planning Specialist – Green Growth and Delivery**

Direct dial: 02030 254843

E-mail: [HNLGreenGrowth@environment-agency.gov.uk](mailto:HNLGreenGrowth@environment-agency.gov.uk)

## Appendix B. Chemical Criteria



## B.1 Imported Material Criteria

WRAP imported material does not require testing as it has met end of waste criteria. However, for reassurance purposes in this instance, all WRAP material will be checked for evidence of gross contaminated as defined in Table B-1.

All imported material shall be certified as free of asbestos and invasive plants, as defined by Environment Agency and in particular Japanese Knotweed. A visual assessment of the material upon entry at the site will be carried out to confirm the absence of visual contaminants, olfactory contamination, and deleterious material.

The criteria presented in Table B-1 is applicable to material imported to site. The criteria are a combination of AtkinsRéalis derived soil screening values (SSVs) for a residential (without plant uptake) land use scenario, applicable AtkinsRéalis derived site-specific assessment criteria (SSAC) taken from the 2025 DQRA [8] and concentrations indicative of anthropogenic activity.

**Table B-1: Imported Material Criteria**

| Contaminant of concern         | Import (mg/kg unless otherwise specified) |                                                                                                               |
|--------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|                                | Criteria                                  | Source                                                                                                        |
| <b>General Inorganics</b>      |                                           |                                                                                                               |
| Asbestos                       | No detection(1)                           | LOD                                                                                                           |
| <b>Heavy Metals/Metalloids</b> |                                           |                                                                                                               |
| Arsenic                        | 3.99E+01                                  | SSV – Residential without plant uptake                                                                        |
| Cadmium                        | 1.49E+02                                  | SSV – Residential without plant uptake                                                                        |
| Chromium III                   | 6.85E+02                                  | SSV – Residential without plant uptake                                                                        |
| Chromium VI                    | 2.05E+01                                  | SSV – Residential without plant uptake                                                                        |
| Lead                           | 1.00E+01                                  | Reduced limit compared to SSV to minimise the contaminant concentrations being brought onto site.             |
| Mercury                        | 1.00E-01                                  | Pragmatic limit to minimise the contaminant concentrations being brought onto site.                           |
| Nickel                         | 1.88E+02                                  | SSV – Residential without plant uptake                                                                        |
| Selenium                       | 5.95E+02                                  | SSV – Residential without plant uptake                                                                        |
| Zinc                           | 1.00E+02                                  | Pragmatic limit based on background concentrations and existing site concentrations to prevent contamination. |
| <b>BTEX</b>                    |                                           |                                                                                                               |
| Benzene                        | 8.90E-01                                  | SSV – Residential without plant uptake                                                                        |
| Toluene                        | 3.12E+02                                  | SSV – Residential without plant uptake                                                                        |
| Ethylbenzene                   | 8.30E+01                                  | SSV – Residential without plant uptake                                                                        |
| Xylenes                        | 2.68E+01                                  | SSV – Residential without plant uptake                                                                        |



| Contaminant of concern     | Import (mg/kg unless otherwise specified) |                                                                                                              |
|----------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------|
|                            | Criteria                                  | Source                                                                                                       |
| <b>TPH</b>                 |                                           |                                                                                                              |
| TPH (sum of all compounds) | 1.00E+03                                  | To prevent any gross contaminated material import.                                                           |
| <b>PAHs</b>                |                                           |                                                                                                              |
| Anthracene                 | 6.12E+01                                  | Controlled Waters DQRA derived SSAC                                                                          |
| Benzo(a)pyrene             | 1.00E+00                                  | Pragmatic limit to prevent gross contamination being brought onto site. Benzo(a)pyrene is not a risk driver. |
| Fluoranthene               | 1.89E+01                                  | Calculated soil saturation limit using the CLEA model. Selected as more conservative than the SSAC.          |
| Naphthalene                | 1.50E+01                                  | SSV – Residential without plant uptake                                                                       |
| <b>Other Organics</b>      |                                           |                                                                                                              |
| Trichloroethene (TCE)      | 1.59E-03                                  | SSV– Residential without plant uptake                                                                        |
| Tetrachloroethene (PCE)    | 6.78E-01                                  | SSV – Residential without plant uptake                                                                       |
| Vinyl Chloride (VC)        | 3.00E-04                                  | SSV – Residential without plant uptake                                                                       |
| Phenol                     | 7.50E+02                                  | SSV – Residential without plant uptake                                                                       |

(1) Laboratory limit of detection <0.001% w/w.  
LOD – Limit of detection



## B.2 Validation Criteria

Validation samples shall comply with the criteria presented in Table B-2. The objective of the excavation is to remove gross contamination and as such, the criteria selected is based on CL:AIRE Category 4 Screening Level (C4SLs), LQM/CIEH Suitable 4 Use Levels (S4ULs), AtkinsRéalís derived soil screening values (SSVs) and calculated soil saturation limits at 1% SOM, using the CLEA model. Applicable AtkinsRéalís derived site-specific assessment criteria (SSAC) taken from the 2025 DQRA [8] have also been incorporated. Additional olfactory and visual indicators of contamination have also been adopted for select compounds..

**Table B-2: Validation Criteria**

| Contaminant of concern    | Validation Criteria                       |                                                         |
|---------------------------|-------------------------------------------|---------------------------------------------------------|
|                           | Soil (mg/kg)                              | Source                                                  |
| <b>General Inorganics</b> |                                           |                                                         |
| Asbestos                  | 0.01%                                     | A suitable anthropogenic threshold.                     |
| Ammonium                  | 6.58E-01                                  | Controlled Waters DQRA derived SSAC                     |
| Total Cyanide             | 5.30E+01                                  | Controlled Waters DQRA derived SSAC                     |
| <b>BTEX</b>               |                                           |                                                         |
| Benzene                   | 1.16E+02                                  | Controlled Waters DQRA derived SSAC                     |
| Toluene                   | 8.69E+02                                  | Calculated soil saturation limit using the CLEA model   |
| Ethylbenzene              | 5.18E+02                                  | Calculated soil saturation limit using the CLEA model   |
| Xylenes                   | 5.76E+02                                  | Calculated soil saturation limit using the CLEA model   |
| <b>TPH Bands</b>          |                                           |                                                         |
| TPH Aliphatic > C5-C6     | 3.04E+02                                  | Calculated soil saturation limit using the CLEA model   |
| TPH Aliphatic > C6-C8     | 1.44E+02                                  | Calculated soil saturation limit using the CLEA model   |
| TPH Aliphatic > C8-C10    | 7.77E+01                                  | Calculated soil saturation limit using the CLEA model   |
| TPH Aliphatic > C10-C12   | 1.23E+04                                  | - SSV – Commercial                                      |
|                           | Free of staining and odours, PID < 100ppm |                                                         |
| TPH Aliphatic > C12-C16   | 4.13E+04                                  | - SSV – Commercial                                      |
|                           | Free of staining and odours, PID < 100ppm |                                                         |
| TPH Aromatic > C5-C7      | 2.7E+01                                   | C4SL – Commercial                                       |
| TPH Aromatic > C7-C8      | 8.69E+02                                  | - Calculated soil saturation limit using the CLEA model |



| Contaminant of concern | Validation Criteria                       |                                                       |
|------------------------|-------------------------------------------|-------------------------------------------------------|
|                        | Soil (mg/kg)                              | Source                                                |
| TPH Aromatic > C8-C10  | 6.13E+02                                  | Calculated soil saturation limit using the CLEA model |
| TPH Aromatic > C10-C12 | 1.60E+04                                  | - S4UL – Commercial                                   |
|                        | Free of staining and odours, PID < 100ppm |                                                       |
| TPH Aromatic > C12-C16 | 3.6E+04                                   | S4UL – Commercial                                     |
|                        | Free of staining and odours, PID < 100ppm |                                                       |
| PAHs                   |                                           |                                                       |
| Total PAH              | 50                                        | Gross contamination indicator.                        |
| Other Organics         |                                           |                                                       |
| Phenol                 | 750                                       | S4UL – Commercial                                     |



# Appendix C. Pilot Trial Report



AtkinsRéalis



## Proof of Concept for DNAPL Recovery

National Grid Electricity Transmission

12 June 2026

# NGET FORMER BUS DEPOT, TOTTENHAM

# Notice

This document and its contents have been prepared and are intended solely as information for National Grid Electricity Transmission (NGET) and use in relation to providing a proof of concept report regarding the pilot trial for a DNAPL recovery technique proposed for the Phase 2 remediation at NGET Non-Operational Land at the Former Bus Depot located at Leaside Road, Tottenham, London, N17 0SG (herein referred to as 'the site').

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## Document history

Document title: Proof of Concept for DNAPL Recovery

Document reference: 100128383

| Revision | Purpose description | Originated | Checked | Reviewed | Authorised | Date         |
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| 1.0      | Draft               | AA         | DK      | DC       | PH         | 05 June 2026 |
| 2.0      | Final               | LI         | LI      | LI       | PH         | 12 June 2026 |

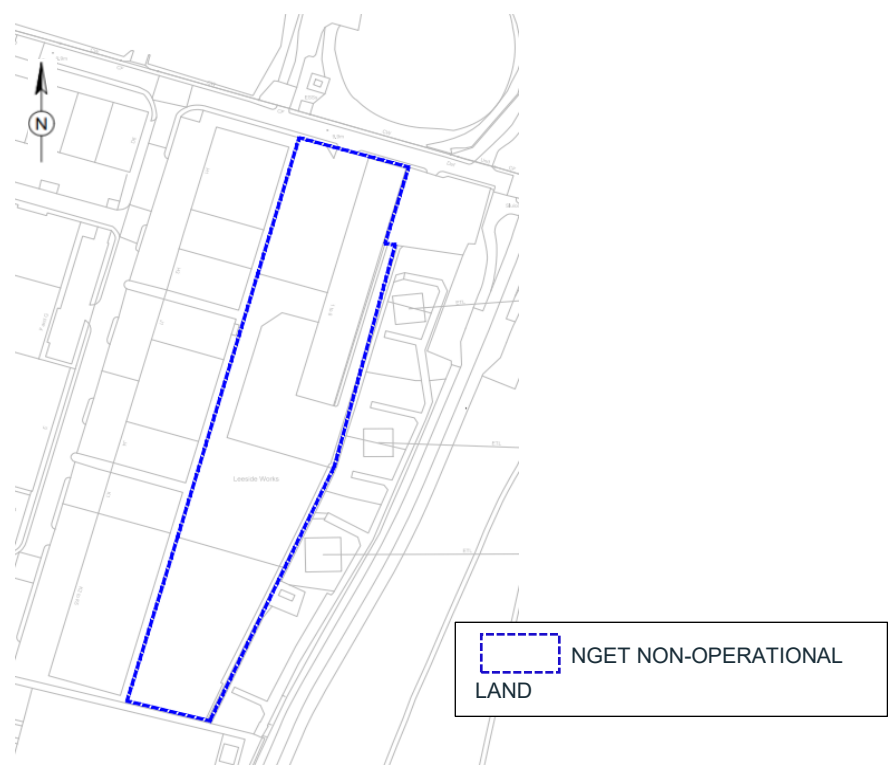
## Client signoff

|            |                                        |
|------------|----------------------------------------|
| Client     | National Grid Electricity Transmission |
| Project    | NGET FORMER BUS DEPOT, TOTTENHAM       |
| Job number | 100111299                              |

Client  
signature/date



# Document Details



This report refers to the non-operational land as shown above (blue line boundary).

|                               |                                                                                                                                                                                             |                            |                                           |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------|
| Site Address                  | Leaside Road, Tottenham, London, N17 0SG                                                                                                                                                    | NGP Document Tracking code |                                           |
| Report Title                  | NGET Arriva Bus Depot Tottenham (8021) Proof of Concept                                                                                                                                     | Retention Period           | Indefinitely                              |
| Report Type                   | Contamination                                                                                                                                                                               | Author (Company)           | AtkinsRéalis                              |
| Site Code                     | 8021                                                                                                                                                                                        | Factual/ Interpretative    | Interpretative                            |
| Report Date                   | May 2026                                                                                                                                                                                    | H&S File?                  | No                                        |
| Version                       | V1.0                                                                                                                                                                                        | NGET Contact               | LRA – Matthew Lush<br>LRM – Gareth Taylor |
| Draft/Final                   | Draft                                                                                                                                                                                       | Work Stage                 | Remediation (Pilot Trial)                 |
| Brief Description of Contents | Proof of concept report for the DNAPL recovery pilot trial conducted at the NGET Former Arriva Bus Depot in February and March 2026. This is to inform the Phase 2 remediation at the site. |                            |                                           |
| Work Stage*                   | Pilot Trial                                                                                                                                                                                 | Access Permitted           | NGET                                      |



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# 1. Introduction

## 1.1 General

AtkinsRéalis UK Limited (AtkinsRéalis) was commissioned by National Grid Electricity Transmission (NGET), to undertake a pilot trial to inform the Phase 2 remediation design of the NGET Former Bus Depot, Leaside Road, Tottenham, London, N17 0SG (herein referred to as 'the site'). A site plan is included as Figure 1.

This report presents the proof of concept report for the non-aqueous extraction tool (NET) system pilot trial undertaken between February and March 2026. This has been produced in accordance with the AtkinsRéalis' Offer of Services, dated 29 January 2026. The objective of the pilot trial was to assess the transmissivity of the dense non-aqueous phase liquid (DNAPL) encountered and evaluate the effectiveness of the NET system for DNAPL recovery from identified source zones at the site.

## 1.2 Background

The site is located off Leaside Road, Tottenham, London and is situated in the north-east of the Mowlem Trading Estate, approximately 1.5 km to the east of Tottenham.

The most recent site arrangement comprised a building and plumbing merchants, steel fabricators, and a storage and logistics yard before these were demolished in the summer of 2024. This demolition was carried out to clear the site for development works, associated with the North London Reinforcement Project (NLRP).

Historically the site has been used as a bus depot which included associated infrastructure such as above and below ground oil tanks. Prior to this, the north of the site was occupied by an engineering works and an infilled pond is indicated to be present beneath the south of the site. A historical sludge pond is understood to have been located in the central extent of the site, in the footprint of a central infilled pond. The land off-site to the north of the site was a former gasworks and other heavy industrial uses were present within the local area such as a chemical works.

Previous site investigations and assessments by other consultants have taken place at the site between 2013 and 2016 [1], [2], [3] and pertinent data was incorporated into the 2025 assessments [4], [5], [6].

Widespread contamination in soils and groundwater has been identified across the site, including exceedances of identified risk-based criteria in the north and south of the site reported by the 2025 CWDQRA [6]. DNAPL has been recorded at the base of the superficial deposits in the centre and south of the site.

A Remediation Options Appraisal was completed by AtkinsRéalis in 2025 [7] that considered the potential contamination sources necessary to remediate and established the most sustainable and cost-effective approach to risk driven remediation at the site in line with Land Contamination Risk Management (LCRM) guidance [8]. A pilot trial was recommended to determine the applicability of the fabric extraction technique for DNAPL recovery in the centre and south of the site.

## 1.3 Objectives and scope of works

The objective of the pilot trial is to determine if the DNAPL present beneath the site is sufficiently transmissive to be recovered using DNAPL recovery technique, namely the NET system (similar to a belt skimmer). If the NET system



is successful, the NAPL recovery rate over time shall be obtained to inform the best approach for remediation four source reduction across the site.

The scope of works of pilot trial detailed herein was as follows:

- A groundwater monitoring round completed prior to system installation to collect baseline DNAPL data, including its presence at each monitoring well, its measurable thickness (where possible), and its visual characteristics. This data informed the selection of appropriate wells for the trial;
- A gas monitoring round undertaken prior to works to assess in situ vapour and bulk gas conditions, providing data for the design of future unsaturated zone soils remediation;
- Installation of the NET system by Turnkey Regeneration at a selected monitoring well. System was moved to additional locations during the pilot trial period. All works were supervised by AtkinsRéalis engineers;
- One week of site setup and training of AtkinsRéalis staff by Turnkey Regeneration to operate and maintain the remediation equipment (week 1). The system was operated and maintained by AtkinsRéalis site engineers from weeks 2 to 4. Remote support from Turnkey Regeneration provided during the 4-week trial period (weeks 2 to 4).
- Provision of a competent Lead Engineer to operate the NET system for a four-week period, supported by an Assistant Engineer for the full duration of the works, including onsite data management;
- Provision of full welfare facilities, this included a canteen, office space, a secure store, and a decontamination unit for the full duration of the pilot trial. This included establishing a sump area to contain drums, which will remain in place for the entirety of the works. A bund was also implemented to house the NET system, with a jerry can positioned adjacent to each operational monitoring location. Upon completion of the works, all DNAPL was removed from site by a licensed waste carrier. The compound contained sump pallets and drums, each clearly and appropriately labelled;
- Specific mitigation measures related to vapours included such as a RPE / specific PPE; and
- Following the pilot trial, four weekly groundwater monitoring visits were carried out to confirm DNAPL elevations, to determine the potential for DNAPL rebound.

## 1.4 Project team

The project team is shown in Table 1-1.

**Table 1-1 - Project team**

| Role                        | Contact                                   |
|-----------------------------|-------------------------------------------|
| Client                      | Matthew Lush (LRA)<br>Gareth Taylor (LRM) |
| Principal Contractor        | AtkinsRéalis                              |
| Project Director            | Philip Harrison                           |
| Project Manager             | Lauren Ilyas                              |
| Lead Engineer               | Zita Czinke                               |
| Assistant Engineer          | Amitha Anilkumar                          |
| CDM advisor                 | Nick James (Mace Consult)                 |
| Remediation Sub-contractor  | Turnkey Regeneration                      |
| Laboratory analysis (DNAPL) | Element Materials Technology              |



## 1.5 Assumptions and limitations

This report is prepared and written in the context of an agreed scope of works and should not be used in a different context. Furthermore, new information, improved practices and changes in legislation may necessitate the re-interpretation of the report in whole, or in part, after its original submission.

Findings, opinions and recommendations presented in this report are based on both information obtained from a variety of third-party sources (as detailed within this report) and data collected on site. Site conditions are based on observations made at the time of the trial and may be subject to temporal variability such as atmospheric, seasonal or other effects. AtkinsRéalis has not independently verified third-party information and for the purposes of this assessment has assumed that such information is accurate and complete.



## 2. Site information

### 2.1 Introduction

The section provides a summary of the site status, history and environmental setting based on available desk-based information.

**Table 2-1 - Site information**

|                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Site details</b>                                                          | Site address: NGET Arriva Bus Depot, Leaside Road, Tottenham N17 0SG<br>Site access is from Leaside Road.<br>Ordnance Survey (OS) Grid reference: 535413, 191516<br>A site plan is provided in Figure 1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Site description</b>                                                      | The site is approximately rectangular and covers an area of approximately 1.2 hectares (ha).<br>The site is vacant and secured by BNP Paribas.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Site history</b>                                                          | <p>A full review of historical maps for the site and the surrounding area provided in the Groundsure report has previously been undertaken and is included in the 2023 AtkinsRéalis Factual Site Investigation report [4].</p> <p>In summary, the site remained largely undeveloped until 1955, between 1955 and 1956 a pond is shown to be present in the south of the site with buildings shown to be present from 1967 and the pond no longer shown and assumed to have been infilled. A second pond is shown in the centre of the site circa 1967 until 1981. The buildings on-site present from 1967 were demolished and redeveloped in 2001, with a tank shown to be present east of centre of the site on mapping dating from 2001. All on-site buildings were demolished by August 2024 and the site is currently vacant.</p> <p>Off-site to the north, significant development has taken place including the presence of the Tottenham and Edmonton Gasworks and the Gothic Gasworks. Additionally off-site development includes the Leaside Depot and a chemical works, the NGET Tottenham Substation and industrial warehouses.</p> |
| <b>Site ownership and boundaries</b>                                         | The site is owned by NGET and the former buildings have since been demolished. The site plan is provided as Figure 2.<br>Palisade fencing bounds the site in all directions. The entrance gate to the site is present in the north.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Adjoining and nearby land uses, including sensitive and contaminative</b> | North: Former gasworks, currently active construction site for a multi-storey building;<br>East: NGET owned substation infrastructure and the Pymmes Brook surface water course 30 m to the east;<br>South: NGET Tottenham Substation; and<br>West: Mowlem Trading Estate (various commercial and industrial uses).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Site topography</b>                                                       | The site is largely flat, with localised depressions, and is located at approximately 10 m Above Ordnance Datum (AOD).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Ground cover and description</b>                                          | The site is covered by concrete, asphalt hardstanding, and engineered fill in remediation footprints and trial trench locations. A narrow soft landscaping area is present along the eastern boundary, with fly tipped materials.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Services</b>             | <p>A composite drawing that presents information from service providers that have assets on, or in the near vicinity of the site is included in the Atkins 2023 Factual Site Investigation Report [4]. The BT telecommunications, Virgin Media, UK Power Networks (low voltage) services were disconnected as part of the demolition phase of works in May and June 2024.</p> <p>As part of these works, the gas main was confirmed to have been disconnected by the supplier previously.</p> <p>The following services are understood to be located on-site:</p> <ul style="list-style-type: none"> <li>▪ A surface drain entering from Leaside Road crossing the site in a north-east to south-west alignment before exiting the site at the eastern boundary.</li> <li>▪ The water remains live.</li> </ul> <p>Although not shown on site, electricity infrastructure is present adjacent to the east of the site that includes pylons.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Proposed development</b> | <p>An upgrade of the substation to the east and south of the site, that formerly comprised of an underground cable and sealing end compound design but now consists of a pylon only in the southern half of the site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Geology</b>              | <p>Made Ground was encountered to a maximum depth of 6.0 m below ground level (bgl), underlain by superficial deposits of Alluvium to a maximum depth of 5.85 m bgl and River Terrace Deposits (RTD), namely the Kempton Park Gravels (KPGR), to a maximum depth of 7.8 m bgl. Alluvium was not found to be present within the southern portion of the site, in the vicinity of the anticipated southern and central infilled ponds (noting the central pond was labelled as a 'sludge pit'). Cohesive soils are present in the southern infilled pond area.</p> <p>The bedrock geology comprises the London Clay Formation (LCF) proven off-site (approximately 40 m to the north east) to a depth of 19 m bgl [2]. This formation is in turn underlain by the Lambeth Group, Thanet Sand and White Chalk Group at depth.</p> <p>There is one Brit Pit reported within 250 m of site associated with the Tottenham Marshes sand and gravel commodity to the south.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Hydrogeology</b>         | <p>Superficial: Alluvium – secondary undifferentiated aquifer</p> <p>Superficial: Kempton Park Gravel (KPGR) – secondary A aquifer</p> <p>Bedrock: London Clay Formation – unproductive strata</p> <p>Bedrock: Lambeth Group, Thanet Sand – secondary A aquifer</p> <p>AtkinsRéalis consider there to be a continuous groundwater body above the London Clay within the Made Ground and Kempton Park Gravels where the Alluvium is not present (the central and southern areas of site).</p> <p>During the 2024 groundwater monitoring [6], groundwater elevation within the Kempton Park Gravels ranged from 7.63 m to 7.77 m Above Ordnance Datum (AOD), in the north at BH24-02, and between 7.59 m to 7.63 m AOD at BH11, located within the centre of the site. Groundwater elevations within boreholes installed within the Kempton Park Gravels, coincident with the historical southern infilled pond, were noted to be higher than other locations with levels of between 8.88 m to 8.99 m AOD at BH24-12. Further to the south of the infilled pond, groundwater elevation within the Kempton Park Gravels were between 7.83 m to 8.72 m AOD at BH12-02D.</p> <p>It is anticipated that the Made Ground and Kempton Park Gravels are typically separate groundwater bodies and the groundwater within the Made Ground is continuous, which is consistent with the findings of the 2023 groundwater monitoring and the 2024 CW DQRA [8]. Where the Alluvium is absent (in the south of the site), the two groundwater bodies are considered to be in hydraulic continuity.</p> |

---

Groundwater levels indicate that groundwater within the Kempton Park Gravels has a southerly and easterly flow direction.

---

### Hydrology

The closest surface water feature to the site is the Pymmes Brook located approximately 30 m to the east of the site parallel to the eastern site boundary. The Brook flows from the north-north-east to the south-west in direction. The River Lea Navigation Canal is located 230 m to the east of the site and the River Lea is located approximately 250 m to the east of the site. Other surface water features include the Banbury Reservoir located approximately 360 m to the east of the site and the Lockwood Reservoir located approximately 530 m to the south of the site.

It is understood that the Lee River Reservoir Chain are primarily fed by surface waters, including the Pymmes Brook, River Lee Diversion and River Lee Flood Relief Channel.

There are no reported licensed surface water abstractions within 1 km of the site.

---

## 2.2 Previous site investigations

A number of historical ground investigations have been undertaken at this site. These are listed below and summarised in the AtkinsRéalis 2025 Factual Site Investigation report [9]. This list does exclude the excavation of exploratory holes in 2008 by RSK as AtkinsRéalis was not provided with the supporting ground investigation reports.

- WorleyParsons. Environmental Assessment, Factual Site Investigation, Arriva Bus Depot, Tottenham, April 2013. Ref 51576-00 [3].
- WorleyParsons. Geotechnical and Environmental Assessment Site Investigation Factual Report. Proposed Cable Route, Tottenham, 1 August 2013. Ref: 305008-00018 51603-00 [2].
- Atkins. Factual Site Investigation Report. NGET Arriva Bus Depot, Tottenham (8021), December 2023 [10]
- AtkinsRéalis. Factual Site Investigation Report. NGET Arriva Bus Depot, Tottenham (8021), July 2025. [9]

## 2.3 Observations of NAPL

Non-aqueous phase liquid (NAPL) was detected at variable thicknesses during the groundwater monitoring between 2013 and 2024 in 13 locations as summarised in Table 2-2. It should be noted that due to degraded and emulsified nature of the NAPL recorded during the groundwater monitoring, measurable thicknesses of phase-separated NAPL was not always possible to be recorded using an interface probe.

The distribution of NAPL identified during groundwater monitoring between 2013 and 2024 is located centrally and in the south of the site, which is coincident with the historically infilled ponds.

A total of six product samples were obtained during previous investigations for whole oil analysis from five exploratory holes (BH12-01, BH12-03, BH11, BH24-10 and BH24-13). The sample results recorded the product as 'coal tar' in BH12-01 (2013 and 2023), BH12-03 (2013) and BH11 (2023 and 2024) and the recorded densities range between 1039.5 kg/m<sup>3</sup> and 1075.4 kg/m<sup>3</sup>, which is consistent with the range for coal tar as presented in the Environment Agency DNAPL handbook [11]. No determination possible (NDP) was presented for product samples where the sample was listed as 'unsuitable for this test' at BH24-10 and BH24-13. Moreover, NDP was also presented for viscosity across all product samples as the product was found to be 'too thin to register a result'.



**Table 2-2 - Summary of NAPL distribution and thickness**

| Borehole  | No. of monitoring rounds | No. of NAPL detections | NAPL thickness (m)                                                 | NAPL thickness adjusted with sump in London Clay Formation (m)* | Period                        |
|-----------|--------------------------|------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------|
| BH11*     | 8                        | 5                      | 0.40 to 1.74 DNAPL                                                 | 0.30 to 1.64 DNAPL                                              | May 2013 to October 2024      |
| BH12-01*  | 9                        | 6                      | 0.10 to 1.00 DNAPL                                                 | <0.01 to 0.90 DNAPL                                             | February 2013 to October 2024 |
| BH12-02D* | 9                        | 3                      | 0.05 to 0.30 DNAPL                                                 | <0.01 DNAPL                                                     | June 2023 to October 2024     |
| BH12-03   | 3                        | 3                      | n/a – NAPL presence indicated but no measurable thickness recorded | n/a                                                             | February to March 2013        |
| BH23-03   | 6                        | 4                      | n/a – NAPL presence indicated but no measurable thickness recorded | n/a                                                             | May 2023 to October 2024      |
| BH24-09   | 3                        | 3                      | 0.42 to 0.67 DNAPL                                                 | n/a                                                             | September to October 2024     |
| BH24-10   | 3                        | 3                      | 0.15 to 0.40 DNAPL                                                 | n/a                                                             | September to October 2024     |
| BH24-12*  | 3                        | 2                      | 0.08 DNAPL                                                         | <0.01 DNAPL                                                     | September to October 2024     |
| BH24-13*  | 3                        | 3                      | <0.01 LNAPL<br>0.22 to 0.83 DNAPL                                  | <0.01 LNAPL<br><0.01 to 0.33 DNAPL                              | September to October 2024     |
| BH24-14   | 3                        | 2                      | 0.22 to 1.00 DNAPL                                                 | n/a                                                             | September to October 2024     |
| WS12-01   | 9                        | 5                      | 0.05 DNAPL                                                         | n/a                                                             | March 2013 to October 2024    |
| WS12-02   | 9                        | 5                      | 0.01 to 0.15 DNAPL                                                 | n/a                                                             | May 2023 to October 2024      |
| WS12-06   | 9                        | 1                      | 0.30 possible DNAPL                                                | n/a                                                             | September 2024                |

\*The response zone at BH11, BH12-01 and BH12-03 (0.10 m), BH12-02D and BH24-12 (0.30 m) and BH24-13 (0.50 m) extends into the impermeable London Clay Formation. This may act as a sump where DNAPL could pool to a greater thickness. Therefore, the thicknesses recorded at these locations has been adjusted in a separate column where encountered. At locations BH12-01, BH12-02D, BH12-12 and BH12-13 "<0.01 m" indicates that a measurable thickness of DNAPL was not encountered on every monitoring visit.



## 3. Conceptual site model

### 3.1 Introduction

Land contamination is evaluated through the identification and assessment of Potential Contaminant Linkages (PCL) denoting where plausible source-pathway-receptor relationships have been identified and a potential risk to the receptor is present.

The approach adopted involves the development of a Conceptual Site Model (CSM) to describe sources of contamination, potential migration/exposure pathways and potential receptors that may exist at the site and subsequently identified PCLs.

The PCLs that are relevant to the Phase 2 remediation zone have been summarised within this section in accordance with guidance provided in LCRM [8].

This report considers the future end use of the site as an operational substation comprising a pylon to be constructed in the centre of the site. This end use is consistent with a commercial end use.

The ground surface across the site is expected to comprise predominantly hardstanding, crushed concrete or imported aggregate, with no or limited areas of soft landscaping. Therefore, it is assumed that infiltration following development will be limited. A scenario where the slab has been removed and replaced with backfilled aggregate was also included in the DQRA [12] to model a more conservative, worst-case condition. The above ground concrete slab was broken out to match the existing ground level in the footprint of the former building and was only removed below ground as part of the Phase 1 remediation area to facilitate the establishment of a clean corridor for subsequent cable routes.

Construction phase risks such as risks to construction workers and risks associated with any future construction piling requirements into the Kempton Park Gravels aquifer are not covered in this CSM and are outside of the scope of this report.

### 3.2 Potential contaminant linkages

Following the earlier phases of investigation [13] [14] [12], targeted investigation across the site in 2024 [4], GQRA [5] and DQRA [6], a CSM has been developed. A summary of the CSM and remaining PCLs relevant to the site to has been summarised within Table 3-1. PCLs have been classified in accordance with CIRIA 552 guidance [15] and the risk rating provided is in absence of any mitigation. The rationale for the risk rating is provided by the qualitative risk matrix, based on CIRIA guidance [16], taking into account the consequence and likelihood of a complete contaminant linkage.

This CSM has been modified to focus on unacceptable risks to controlled waters only relevant to this pilot trial. Risks to human health have been removed from this report.



**Table 3-1 - Conceptual site model and risk assessment**

| Source and area/structure                                                                                       | Critical receptors and scenarios                                                            | Pathway                                                                               | Potential consequence of complete contaminant linkage | Likelihood of complete contaminant linkage | Risk rating    |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|----------------|
| Source 1 – Hydrocarbon impacted Made Ground across the site.                                                    | Secondary A aquifer (Kempton Park Gravels)<br>Secondary undifferentiated aquifer (Alluvium) | Leaching/dissolution from contaminated soil/NAPL                                      | Medium                                                | Low likelihood                             | Moderate / Low |
|                                                                                                                 |                                                                                             | Leaching/dissolution from contaminated soil/NAPL followed by migration in groundwater | Medium                                                | Low likelihood                             | Moderate / Low |
|                                                                                                                 | Surface water (Pymmes Brook)                                                                | Migration via surface water/drainage                                                  | Medium                                                | Low likelihood                             | Moderate / Low |
|                                                                                                                 |                                                                                             | NAPL migration and discharge to surface water                                         | Medium                                                | Low likelihood                             | Moderate / Low |
| Source 3 – Made Ground associated with southern and central infilled ponds (formerly recorded as a sludge pit). | Secondary A aquifer (Kempton Park Gravels)<br>Secondary undifferentiated aquifer (Alluvium) | Leaching/dissolution from contaminated soil/NAPL                                      | Medium                                                | Likely                                     | Moderate       |



| Source and area/structure                                                                       | Critical receptors and scenarios                                                            | Pathway                                                                               | Potential consequence of complete contaminant linkage | Likelihood of complete contaminant linkage | Risk rating |
|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|-------------|
|                                                                                                 | Surface water (Pymmes Brook)                                                                | Leaching/dissolution from contaminated soil/NAPL followed by migration in groundwater | Medium                                                | Likely                                     | Moderate    |
|                                                                                                 |                                                                                             | Migration via surface water/drainage                                                  | Medium                                                | Likely                                     | Moderate    |
|                                                                                                 |                                                                                             | NAPL migration and discharge to surface water                                         | Medium                                                | Likely                                     | Moderate    |
|                                                                                                 |                                                                                             | Soil erosion/surface flooding resulting in discharge of contaminants to surface water | Medium                                                | Likely                                     | Moderate    |
| Source 6 – Contaminated groundwater perched in the Made Ground and in the Kempton Park Gravels. | Secondary A aquifer (Kempton Park Gravels)<br>Secondary undifferentiated aquifer (Alluvium) | Migration to aquifer                                                                  | Medium                                                | Likely                                     | Moderate    |
|                                                                                                 |                                                                                             |                                                                                       |                                                       |                                            |             |
|                                                                                                 | Surface water (Pymmes Brook)                                                                | Migration in groundwater                                                              | Medium                                                | Likely                                     | Moderate    |
|                                                                                                 |                                                                                             | Migration via surface water drainage                                                  | Medium                                                | Likely                                     | Moderate    |



| Source and area/structure                                                                                                                                               | Critical receptors and scenarios              | Pathway                                                                               | Potential consequence of complete contaminant linkage | Likelihood of complete contaminant linkage | Risk rating |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|-------------|
| Source 7a – LNAPL in the Made Ground, Alluvium and Kempton Park Gravels within the southern and central infilled pond areas.                                            | Secondary A aquifer (Kempton Park Gravels)    | Leaching/dissolution from contaminated soil/NAPL                                      | Medium                                                | Unlikely                                   | Low         |
|                                                                                                                                                                         |                                               | Migration to aquifer                                                                  | Medium                                                | Unlikely                                   | Low         |
|                                                                                                                                                                         | Secondary undifferentiated aquifer (Alluvium) | Leaching/dissolution from contaminated soil/NAPL followed by migration in groundwater | Medium                                                | Unlikely                                   | Low         |
|                                                                                                                                                                         |                                               | Migration via surface water drainage                                                  | Medium                                                | Unlikely                                   | Low         |
|                                                                                                                                                                         |                                               | NAPL migration and discharge to surface water                                         | Medium                                                | Unlikely                                   | Low         |
| Source 7b – DNAPL in the Made Ground, Alluvium and Kempton Park Gravels within the southern and central infilled pond areas. The DNAPL has been identified as coal tar. | Secondary A aquifer (Kempton Park Gravels)    | Leaching/dissolution from contaminated soil/NAPL                                      | Medium                                                | Likely                                     | Moderate    |
|                                                                                                                                                                         | Secondary undifferentiated aquifer (Alluvium) | Migration to aquifer                                                                  | Medium                                                | Likely                                     | Moderate    |



| Source and area/structure                                                                  | Critical receptors and scenarios                                                            | Pathway                                                                               | Potential consequence of complete contaminant linkage | Likelihood of complete contaminant linkage | Risk rating |
|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|-------------|
|                                                                                            | Surface water (Pymmes Brook)                                                                | Leaching/dissolution from contaminated soil/NAPL followed by migration in groundwater | Medium                                                | Likely                                     | Moderate    |
|                                                                                            |                                                                                             | Migration via surface water drainage                                                  | Medium                                                | Likely                                     | Moderate    |
|                                                                                            |                                                                                             | NAPL migration and discharge to surface water                                         | Medium                                                | Likely                                     | Moderate    |
| Source 8 – Organic contamination in the Made Ground and Alluvium in the north of the site. | Secondary A aquifer (Kempton Park Gravels)<br>Secondary undifferentiated aquifer (Alluvium) | Leaching/dissolution from contaminated soil/NAPL                                      | Medium                                                | Likely                                     | Moderate    |
|                                                                                            |                                                                                             |                                                                                       |                                                       |                                            |             |
|                                                                                            | Surface water (Pymmes Brook)                                                                | Leaching/dissolution from contaminated soil/NAPL followed by migration in groundwater | Medium                                                | Likely                                     | Moderate    |
|                                                                                            |                                                                                             | Migration via surface water/drainage                                                  | Medium                                                | Likely                                     | Moderate    |
|                                                                                            |                                                                                             | NAPL migration and discharge to surface water                                         | Medium                                                | Likely                                     | Moderate    |



| Source and area/structure | Critical receptors and scenarios | Pathway                                                                               | Potential consequence of complete contaminant linkage | Likelihood of complete contaminant linkage | Risk rating |
|---------------------------|----------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------|-------------|
|                           |                                  | Soil erosion/surface flooding resulting in discharge of contaminants to surface water | Medium                                                | Likely                                     | Moderate    |



### 3.3 Summary of targeted PCLs

As detailed in Table 3-1, risks to controlled waters across the site are considered to be moderate. Further detail and justification for the PCLs selected for remediation are provided in the AtkinsRéalis Remediation Options Appraisal [7]. All PCLs associated with the following sources will be remediated (or partially remediated) with the principal objective of site betterment:

- Source 1 – Hydrocarbon impacted Made Ground across the site.
- Source 3 – Made Ground associated with southern and central infilled ponds (formerly recorded as a sludge pit).
- Source 6 – Contaminated groundwater perched in the Made Ground and in the Kempton Park Gravels.
- Source 7a – LNAPL in the Made Ground, Alluvium and Kempton Park Gravels within the southern and central infilled pond areas.
- Source 7b – DNAPL in the Made Ground, Alluvium and Kempton Park Gravels within the southern and central infilled pond areas. The DNAPL has been identified as coal tar.

These PCLs will be targeted by DNAPL recovery works with the objective of source reduction in the centre and south of the site as part of the main remediation works. The NET system has been selected for the DNAPL recovery pilot trial that will focus on DNAPL encountered at the base of the superficial deposits in existing wells only (Sources 3, 6 and 7b).



## 4. Pilot trial methodology and findings

### 4.1 Background

The pilot trial methodology and findings are presented herein, with a summary of the scope of works and key dates specified in Table 4-1. The four-week programme consisted of installation, operation and optimisation of the NET system to assess the potential for DNAPL recovery behaviour selected wells.

**Table 4-1 - Summary of works**

| Date                                         | Works undertaken                                                                                                                                                                                                                                                      | Parties involved                                 |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| 16 <sup>th</sup> – 20 <sup>th</sup> February | <ul style="list-style-type: none"><li>▪ Site mobilisation</li><li>▪ Ground gas monitoring round</li><li>▪ Groundwater monitoring round</li><li>▪ Installation of NET system</li><li>▪ Training lead engineer in the operation and maintenance of NET system</li></ul> | AtkinsRéalis<br>Turnkey Regeneration             |
| 23 <sup>rd</sup> – 27 <sup>th</sup> February | <ul style="list-style-type: none"><li>▪ Operation and maintenance of NET system</li><li>▪ DNAPL sampling</li><li>▪ Fabric adjustment and installation of NET system at new location</li></ul>                                                                         | AtkinsRéalis<br>(Turnkey Regeneration – one day) |
| 2 <sup>nd</sup> – 6 <sup>th</sup> March      | <ul style="list-style-type: none"><li>▪ Operation and maintenance of NET system</li><li>▪ DNAPL sampling</li><li>▪ Fabric adjustment and installation of NET system at new location</li></ul>                                                                         | AtkinsRéalis<br>(Turnkey Regeneration – one day) |
| 9 <sup>th</sup> – 13 <sup>th</sup> March     | <ul style="list-style-type: none"><li>▪ Operation and maintenance of NET system</li><li>▪ Site demobilisation</li></ul>                                                                                                                                               | AtkinsRéalis<br>(Turnkey Regeneration – one day) |

### 4.2 Groundwater and gas monitoring

A groundwater monitoring round was conducted prior to the NET system installation to obtain data on the presence and thickness of DNAPL at each location, where encountered. The original exploratory hole plan is presented in Figure 3. Many of the boreholes were decommissioned as part of the Phase 1 remediation in 2025. The remaining wells formed the accessible well network, used for the monitoring and this was carried out prior to the trial, during the DNAPL recovery period, and following the pilot trial. These are highlighted on Figure 4 and listed below.



**Table 4-2 – Accessible wells**

|         |          |         |
|---------|----------|---------|
| BH11    | BH12-01  | BH24-09 |
| BH24-14 | BH24-13  | BH24-02 |
| BH24-04 | BH12-02D | BH12-05 |
| WS12-08 | BH24-03  | WS12-02 |
| WS12-01 | BH24-12  |         |

Access was not possible for BH24-01 and WS12-07. BH24-01 had been covered by concrete blocks (installed for site security purposes) and the bung within WS12-07 could not be removed. These locations are in the northern section of the site.

The results of the groundwater monitoring round are summarised in Table 4-3. An interface probe was used to record groundwater and DNAPL elevations. It should be noted that due to the degraded and emulsified nature of the NAPL recorded during all groundwater monitoring visits, measurable thicknesses of phase-separated NAPL was not always possible to be recorded using the interface probe.

The logs for all boreholes which were monitored are included in Appendix A. The complete set of data, including the ground gas monitoring round undertaken prior to the pilot trial is included in Appendix E. Gas monitoring was completed to inform the soil vapour extraction (SVE) technique proposed in the north of the site and for health and safety considerations (particularly the presence of hydrogen sulphide).

**Table 4-3 - Initial groundwater monitoring round**

| Location | Water level (m bgl) | Water level (m AOD) | DNAPL level (m bgl) | DNAPL level (m AOD) | Base (m bgl) | Base (m AOD) | DNAPL thickness (m) |
|----------|---------------------|---------------------|---------------------|---------------------|--------------|--------------|---------------------|
| BH11     | 2.41                | 8.03                | 6.10                | 4.34                | 6.60         | 3.84         | 0.50                |
| BH12-01  | 2.32                | 8.47                | 5.38                | 5.41                | 6.21         | 4.58         | 0.83                |
| BH24-09  | 2.67                | 7.89                | 5.72                | 4.84                | 6.54         | 4.02         | 0.82                |
| BH24-14  | 2.67                | 7.90                | 6.10                | 4.47                | 6.92         | 3.65         | 0.82                |
| BH24-13  | 2.33                | 8.37                | 6.88                | 3.82                | 7.11         | 3.59         | 0.23                |
| BH24-02  | 2.50                | 7.90                | Base                | Base                | 6.59         | 3.81         | NA                  |
| BH24-04  | 2.53                | 7.85                | NA                  | NA                  | 6.45         | 3.93         | NA                  |
| BH12-02D | 2.41                | 8.22                | No reading*         | NA                  | 5.88         | 4.75         | NA                  |
|          | 2.46                | 8.17                | 5.86                | 4.77                | 5.86         | 4.77         | 0.00                |
| BH12-05  | 2.58                | 7.86                | ND                  | ND                  | 6.57         | 3.87         | NA                  |
| WS12-08  | 1.34                | 9.09                | ND                  | ND                  | 2.13         | 8.30         | NA                  |



| Location | Water level (m bgl) | Water level (m AOD) | DNAPL level (m bgl) | DNAPL level (m AOD) | Base (m bgl) | Base (m AOD) | DNAPL thickness (m) |
|----------|---------------------|---------------------|---------------------|---------------------|--------------|--------------|---------------------|
| BH24-03  | 1.11                | 9.95                | ND                  | ND                  | 3.97         | 7.09         | NA                  |
| WS12-02  | 1.05                | 9.52                | Base                | Base                | 2.99         | 7.58         | NA                  |
|          | 1.24                | 9.33                | NA                  | NA                  | 2.99         | 7.58         | NA                  |
| WS12-01  | 0.61                | 9.90                | Base                | Base                | 3.05         | 7.46         | NA                  |
|          | 0.71                | 9.80                | NA                  | NA                  | 3.05         | 7.46         | NA                  |
| BH24-12  | 1.54                | 9.09                | Base                | Base                | 6.25         | 4.38         | NA                  |

\* Unable to obtain reading due to patchy and inconsistent NAPL

NA – not applicable

Base – DNAPL was present only on the end of the IP (so at the base of the well)

## 4.3 Monitoring well selection

The locations initially selected for NET extraction were BH24-13, BH11 and BH24-09 based on historical DNAPL elevations and spatial distribution. The DNAPL recorded at these locations exceeded the DNAPL critical pool height of 0.102 m and was considered potentially mobile, based on industry accepted guidance for a Kempton Park Gravels host matrix. This is detailed in the AtkinsRéalis CW DQRA update and NAPL assessment [6]. DNAPL encountered at these locations was considered to be the most transmissive.

BH24-10 and BH24-14 also exceeded the critical pool height. BH24-10 was found to have been decommissioned as part of the Phase 1 remedial works. BH24-14 was selected following the pre-trial monitoring due the DNAPL thickness recorded. In addition, as it was the deepest viable monitoring well, the oleophilic NET fabric was cut on site to extract from BH24-14 first and subsequently the fabric was cut each time to recover DNAPL from shallower wells.

Following the pre-trial groundwater monitoring, BH24-13 was excluded from the trial as the DNAPL thickness (0.23 m) was below the 0.27 m pulley length required for operation of the NET system equipment.

The NET system trial wells selected comprised of BH24-09, BH24-14, BH11 and BH12-01.

## 4.4 Methodology

### 4.4.1 NET system viability

The NET system shown in Figure 4-1 uses an oleophilic absorbent fabric belt and pulley arrangement designed to selectively recover NAPL from monitoring wells. The fabric belt is conveyed in a continuous loop into the recovery well to intercept the oil-water interface, where NAPL is adsorbed and recovered at surface through motorised squeeze rollers. The pulley creates tension on the fabric and this sits above the base of the well; hydrocarbon material above the pulley is recovered. The product drains into a collection drum for disposal. A key benefit of the NET system is that it recovers limited amounts of water as part of the process, which supports efficient and cost-effective waste disposal.





**Figure 4-1 - NET system set up**

To test the viability of the NET system, the methodology involved the recovery of the maximum amount of DNAPL feasible, whilst limiting the volume of groundwater extracted. This approach recovered the maximum amount of DNAPL in the shortest time period, and depending on the recharge rate, further extractions could be carried out later in the day.

The NET system was operated at maximum fabric belt speed (Gear 10) at select locations across the site to determine effectiveness; followed by experimenting with reduced speeds to mirror the recharge of DNAPL into the monitoring well. The NET system fabric speeds are provided by changing through Gears 1 to 10: 1 is the minimum and 10 is the maximum speed.

Extractions were stopped when only groundwater was being recovered from the well, indicating the full volume of available DNAPL within the well had been extracted. The total volume recovered was measured, photographs were taken and the DNAPL was transferred to a drum for disposal.

After extraction, the time for recharge of DNAPL into the monitoring well was monitored. This method was trialled at monitoring wells across the centre and south of the site.

#### **4.4.2 NAPL recovery rate**

All monitoring wells were assessed for the maximum volume of DNAPL that could be extracted in a day. The monitoring well selected for the NAPL recovery rate test was based on the greatest thickness of DNAPL and consistent DNAPL recharge recorded. This comprised of optimising the NET system to operate at a lower fabric speed that mirrored the DNAPL recharge rate into the monitoring well, over a longer time period. The intention was to identify the maximum volume of DNAPL that could be recovered in a day.

The extraction was stopped at the end of the working day. The total volume recovered was measured, photographs were taken and the DNAPL was transferred to a drum for disposal.

Due to site constraints (including available light and site security) the operational hours on site were restricted to 9am to 4pm. It is assumed that a DNAPL recovery system would run for a 24-hour period as part of the main remediation phase.

## 4.5 Field records

### 4.5.1 NET extraction summary

A summary of the extractions carried out at each borehole are listed in Tables 4-4 to 4.7. For detailed notes, see Appendix C. In total, 47.2 L of DNAPL was recovered during the pilot trial.

**Table 4-4 - DNAPL extractions from BH24-14**

| Date-time        | Daily Recovery (L) | Cumulative Recovery (L) | Fabric Speed |
|------------------|--------------------|-------------------------|--------------|
| 17/02/2026 14:46 | 2.0                | 2.0                     | Maximum      |
| 18/02/2026 14:50 | 1.3                | 3.3                     | Maximum      |
| 23/02/2026 10:28 | 1.4                | 4.7                     | Maximum      |
| 26/02/2026 10:25 | 0.9                | 5.6                     | Moderate     |

**Table 4-5 - DNAPL extractions from BH24-09**

| Date-Time        | Daily Recovery (L) | Cumulative Recovery (L) | Fabric Speed                                    |
|------------------|--------------------|-------------------------|-------------------------------------------------|
| 18/02/2026 11:58 | 2.0                | 2.0                     | Maximum                                         |
| 23/02/2026 11:27 | 2.0                | 4.0                     | Maximum                                         |
| 24/02/2026 11:55 | 2.1                | 6.1                     | Maximum                                         |
| 25/02/2026 10:36 | 1.6                | 7.7                     | Maximum                                         |
| 25/02/2026 14:58 | 1.3                | 9.0                     | Maximum                                         |
| 27/02/2026 10:56 | 1.7                | 10.7                    | Maximum                                         |
| 02/03/2026 10:59 | 1.9                | 12.6                    | Moderate                                        |
| 02/03/2026 14:42 | 1.8                | 14.4                    | Moderate                                        |
| 02/03/2026 11:30 | 2.0                | 16.4                    | Maximum                                         |
| 03/03/2026 14:21 | 1.0                | 17.4                    | Maximum                                         |
| 03/03/2026 15:46 | 0.9                | 18.3                    | Maximum                                         |
| 04/03/2026 09:37 | 3.8                | 22.1                    | Low                                             |
| 04/03/2026 15:56 | 1.0                | 23.1                    | Maximum – gear increased as work day was ending |
| 05/03/2026 10:24 | 2.1                | 25.2                    | Moderate                                        |
| 05/03/2026 14:28 | 2.1                | 27.3                    | Moderate                                        |



| Date-Time        | Daily Recovery (L) | Cumulative Recovery (L) | Fabric Speed |
|------------------|--------------------|-------------------------|--------------|
| 06/03/2026 09:22 | 1.9                | 29.2                    | Maximum      |

**Table 4-6 - DNAPL extraction from BH11**

| Date-time  | Daily Recovery (L) | Cumulative Recovery (L) | Fabric Speed |
|------------|--------------------|-------------------------|--------------|
| 05/03/2026 | 1.8                | 1.8                     | Maximum      |

**Table 4-7 - DNAPL extractions from BH12-01**

| Date-time        | Daily Recovery (L) | Cumulative Recovery (L) | Fabric Speed                                                              |
|------------------|--------------------|-------------------------|---------------------------------------------------------------------------|
| 06/03/2026 11:53 | 3.8                | 3.8                     | Maximum. Liquid extracted conservative – DNAPL and water did not separate |
| 09/03/2026 11:37 | 2.1                | 5.9                     | Maximum                                                                   |
| 09/03/2026 15:12 | 1.4                | 7.3                     | Maximum. Liquid extracted conservative – DNAPL and water did not separate |
| 10/03/2026 13:40 | 1.3                | 8.6                     | Maximum                                                                   |
| 11/03/2026 10:48 | 1.0                | 9.6                     | Moderate                                                                  |
| 12/03/2026 09:31 | 1.0                | 10.6                    | Maximum                                                                   |

A low volume of groundwater is extracted during the NET system recovery process. Approximately 13.0 L of groundwater was removed during the pilot trial works and is summarised in Table 4-8.

**Table 4-8 - Groundwater extracted**

| Location | Groundwater (L) |
|----------|-----------------|
| BH24-14  | 1.9             |
| BH24-09  | 6.0             |
| BH11     | 0.3             |
| BH12-01  | 5.1             |

A higher relative volume of groundwater was recovered from BH12-01 due to the DNAPL being highly degraded, as evident in Appendix C. The DNAPL was more viscous and recovered intermittently as cohesive 'masses', and as shown in photographs in Appendix B. An obstruction was also noted at approximately 5.8



m bgl. BH12-01 is a historical monitoring well, drilled in 2013 and as such, conditions in BH12-01 may be evidence of biofouling.

## 4.5.2 DNAPL recharge

DNAPL recharge varied between and within monitoring wells, over the pilot trial. Often extractions would appear to clear the monitoring well of DNAPL (no reading or thickness recorded on the interface probe), DNAPL would recharge quickly within the first 15 to 30 minutes, before continuing to increase at a more gradual rate. This is evidenced within the field data in Appendix C.

## 4.5.3 DNAPL sampling

A sample of DNAPL was obtained from BH24-09 and BH12-01. Results are attached in Appendix D. Viscosity tests could not be performed as the samples were indicated to be 'non-homogeneous'.

Chemical analysis undertaken on DNAPL samples from BH24-09 and BH12-01 confirmed the product as coal tar, with densities between 1025.9 and 1027.5 kg/m<sup>3</sup> which is consistent with the range for coal tar as presented in the Environment Agency DNAPL handbook [11]. The densities are slightly lower than samples from previous years.

## 4.6 Post-works groundwater monitoring

Post-works groundwater level monitoring was undertaken weekly between 18<sup>th</sup> March to 8<sup>th</sup> April 2026. The full set of results can be found In Appendix F. DNAPL levels are relatively stable with little fluctuations following the pilot trial period. Potential light non-aqueous phase liquid (LNAPL) was encountered in BH24-02.



## 5. Discussion

### 5.1 NET system viability

DNAPL at the site was sufficiently transmissive to be recovered by the NET system and it was successful in the centre and south of the site, whilst limiting groundwater extraction. Overall, the volume of water recovered was lower than the volume of DNAPL recovered at an approximate ratio of 4:1 (DNAPL to water). The use of wider diameter monitoring wells may allow for greater DNAPL recovery and the ability to perform in-situ level monitoring during recovery.

DNAPL recharge varied at each of the monitoring wells possibly indicating a spatial discontinuity across the site. Recharge was slow at the BH24-14 location, compared with the fast recharge at BH24-09 approximately 25 m to the south east. At the BH24-09 location, recharge rates increased as the trial progressed and further DNAPL was recovered.

There appeared to be evidence of biofouling within BH12-01, reflected in the composition of the DNAPL recovered and the 'obstructions' noted within the well screen during the monitoring. This resulted in a difficulty measuring accurate DNAPL thicknesses within the monitoring well. Some boreholes at the site were drilled in 2013 and, therefore, microbial biomass may have accumulated over time. This emphasises the need to carry out further ground investigation specific for remediation across the site to optimise recovery.

### 5.2 NAPL recovery rate

The monitoring well selected for the NAPL recovery rate test was based on the greatest thickness of DNAPL and consistent DNAPL recharge recorded, and therefore BH24-09 was considered appropriate.

A greater volume of DNAPL was recovered from BH24-09 at a low fabric speed (Gear 2) than the maximum speed (Gear 10). On maximum speed, a volume of 2.1 L was extracted over 11 minutes equating to a recovery rate of 3.18 mL/s, that cleared the monitoring well. Recharge of the DNAPL into the well took approximately 4 hours and due to site constraints, it was not possible to carry out a second extraction in a single day.

On a low speed, a total volume of DNAPL of 4.8 L was recovered over approximately 6.3 hours equating to a recovery rate of 0.21 mL/s. The recovery rate from the fabric belt is considered to have broadly matched the recharge rate into the monitoring well. During the pilot trial, more DNAPL could be recovered if the NET system was operated at a lower speed.

In absence of site constraints, the data from BH24-09 indicates that up to approximately 18 L of DNAPL could be recovered over a 24 hour period if the NET system was left operating, with the recovery rate matching the DNAPL recharge rate.



## 6. Conclusions and recommendations

The NET system was successful in recovering degraded DNAPL from the former infilled ponds in the centre and south of the site, indicating that DNAPL was sufficiently transmissive for recovery at the site. DNAPL actively recharges at all monitoring wells, following recovery techniques. The recharge behaviour varies between locations, indicating that DNAPL occurrence and transmissivity are likely to be heterogeneous and controlled by local geological conditions.

The NET system pilot trial successfully demonstrated that DNAPL can be recovered from the subsurface using an oleophilic belt-based extraction approach for DNAPL source reduction, and is appropriate for the deployment as part of the Phase 2 remediation. The low volume of contaminated groundwater recovered is unlikely to lead to the generation of significant volumes of water for disposal, reducing treatment costs.

Optimising the belt speed of the system is likely to recover a higher volume of DNAPL from monitoring wells at the site by matching the system recovery rate of the DNAPL to recharge rate within the well. An estimate of up to 18 L/day DNAPL could be recovered from monitoring wells in the vicinity of BH24-09. This may vary across the site considering the DNAPL composition, volume of DNAPL present in the vicinity of a given well and topography of the underlying London Clay.

Due to the potential for biofouling at the site, it is recommended that fit-for-purpose monitoring wells (wider diameter and sufficient sump construction) are installed across the relevant areas of the site, in a tight array around monitoring wells with a sufficient thickness of DNAPL present. The pylon footprint should be a focus of an array, particularly around BH24-09 so that as much DNAPL can be recovered as is reasonable and practicable during the main remediation.



## 7. References

- [1] Advisian, "Indoor Air Quality Assessment Letter Report, Tottenham Arriva Bus Depot Ref 51576-03," 2016.
- [2] Worley Parsons, "Geotechnical and Environmental Assessment Site Investigation Factual Report. Proposed Cable Route, Tottenham.," 2013c.
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- [4] AtkinsRéalis, "NGET Former Bus Depot, Tottenham (8021). Factual Site Investigation Report.," 2025.
- [5] AtkinsRéalis, "NGET Arriva Bus Depot, Tottenham (8021). Interpretative Site Investigation Report.," 2025.
- [6] AtkinsRéalis, "NGET Former Bus Depot, Tottenham (8021). CW DQRA Update and NAPL Assessment," 2025.
- [7] AtkinsRéalis, "NGET Arriva Bus Depot, Tottenham (8021). Remediation Options Appraisal," 2025.
- [8] Environment Agency, "Land Contamination Risk Management (LCRM)," 2020.
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- [10] Atkins, "NGET Arriva Bus Depot, Tottenham (8021), Factual Site Investigation Report," December 2023.
- [11] Environment Agency, "An illustrated handbook of DNAPL transport and fate in the subsurface," 2003.
- [12] Atkins, "NGET Arriva Bus Depot. Controlled Waters Detailed Quantitative Risk Assessment Report," 2024.
- [13] Atkins, "NGET Arriva Bus Depot, Tottenham. Factual Site Investigation Report.," 2023a.
- [14] Atkins, "NGET Arriva Bus Depot, Tottenham (8021). Interpretative Site Investigation Report.," 2023b.
- [15] CIRIA, C552: Contaminated Land Risk Assessment: A Guide to Good Practice. CIRIA., 2001.
- [16] CIRIA, "Contaminated land risk assessment. A guide to good practice (C552)," 2001.



# FIGURES