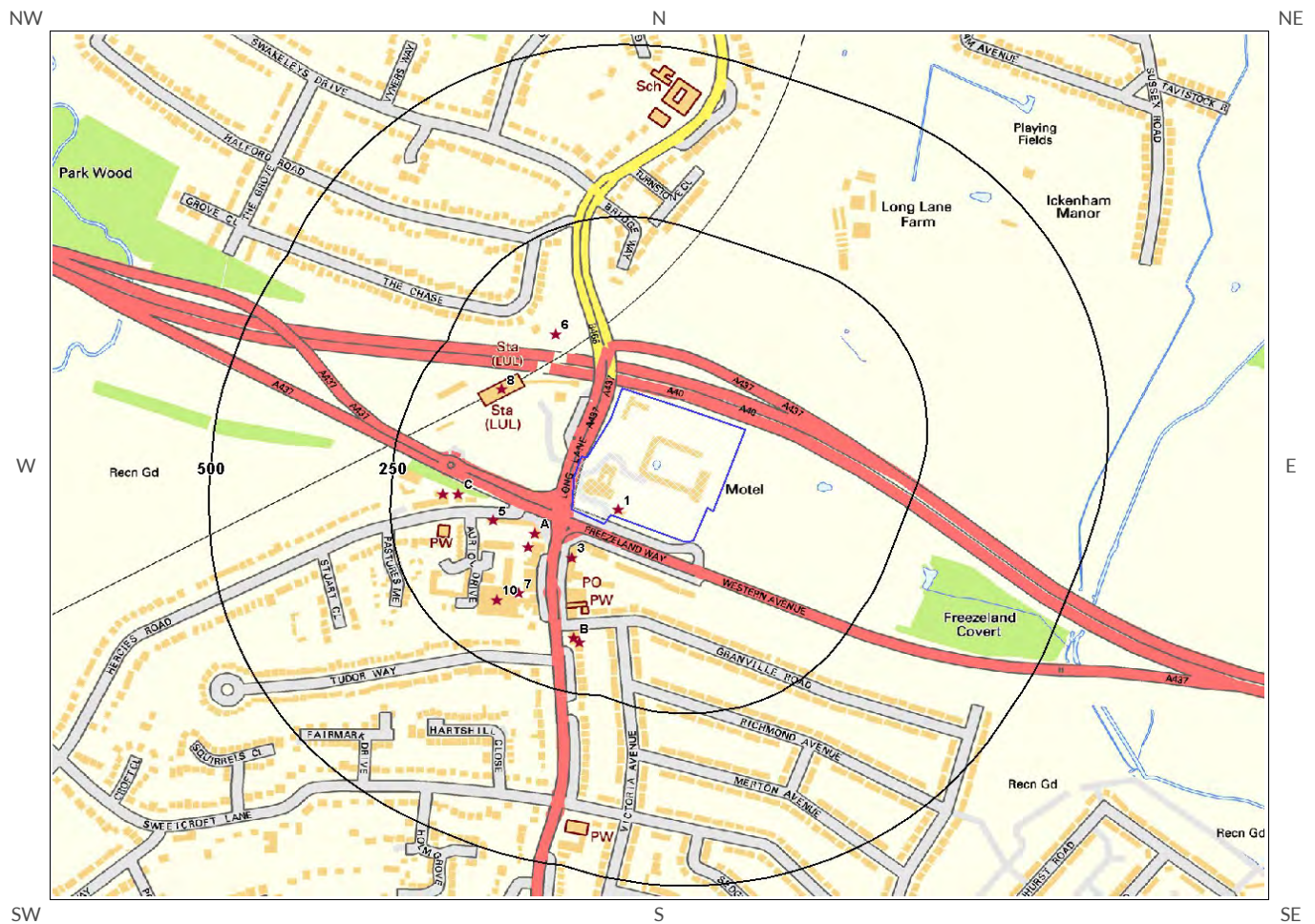


3. Current Land Use Map



Current Land Use Legend



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Site Outline



Search Buffers (m)



Current Industrial Sites



Petrol & Fuel Sites



Underground High Pressure Oil & Fuel Pipelines



3. Current Land Uses

3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

13

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	0.0	On Site	Tank	507728 184840	UB10	Tanks (Generic)	Industrial Features
2A	63.0	SW	S M C Cars	507612 184805	331, Long Lane, Hillingdon, Uxbridge, UB10 9JU	New Vehicles	Motoring
3	63.0	SW	J G Regan Ltd	507663 184770	396a, Long Lane, Hillingdon, Uxbridge, UB10 9PG	Printing Related Machinery	Industrial Products
4A	81.0	SW	S M C	507603 184785	325-327, Long Lane, Hillingdon, Uxbridge, UB10 9JU	New Vehicles	Motoring
5	110.0	W	I J Plant Co Ltd	507554 184824	11, Hercies Road, Uxbridge, UB10 9LS	Construction Plant	Construction Services
6	121.0	NW	Electricity Sub Station	507641 185095	UB10	Electrical Features	Infrastructure and Facilities
7	141.0	SW	Electricity Sub Station	507591 184719	UB10	Electrical Features	Infrastructure and Facilities
8	148.0	NW	Hillingdon	507566 185015	Hillingdon Station, Long Lane, Hillingdon, Uxbridge, UB10 9NR	Underground Network Stations	Public Transport, Stations and Infrastructure
9C	158.0	W	Electricity Sub Station	507507 184863	UB10	Electrical Features	Infrastructure and Facilities
10	167.0	SW	Depot	507560 184709	UB10	Container and Storage	Transport, Storage and Delivery
11B	172.0	S	Advance Security UK Ltd	507666 184653	Chevron House 346, Long Lane, Hillingdon, Uxbridge, UB10 9PF	Electronic Equipment	Industrial Products
12B	176.0	S	Electricity Sub Station	507674 184648	UB10	Electrical Features	Infrastructure and Facilities
13C	179.0	W	Y H T Ltd	507485 184862	4, Hercies Road, Uxbridge, UB10 9NA	Plate Makers, Print Finishers and Type Setters	IT, Advertising, Marketing and Media Services

3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

0

Database searched and no data found.

3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site:

0

Database searched and no data found.



4. Geology

4.1 Artificial Ground and Made Ground

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

4.2 Superficial Ground and Drift Geology

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

4.3 Bedrock and Solid Geology

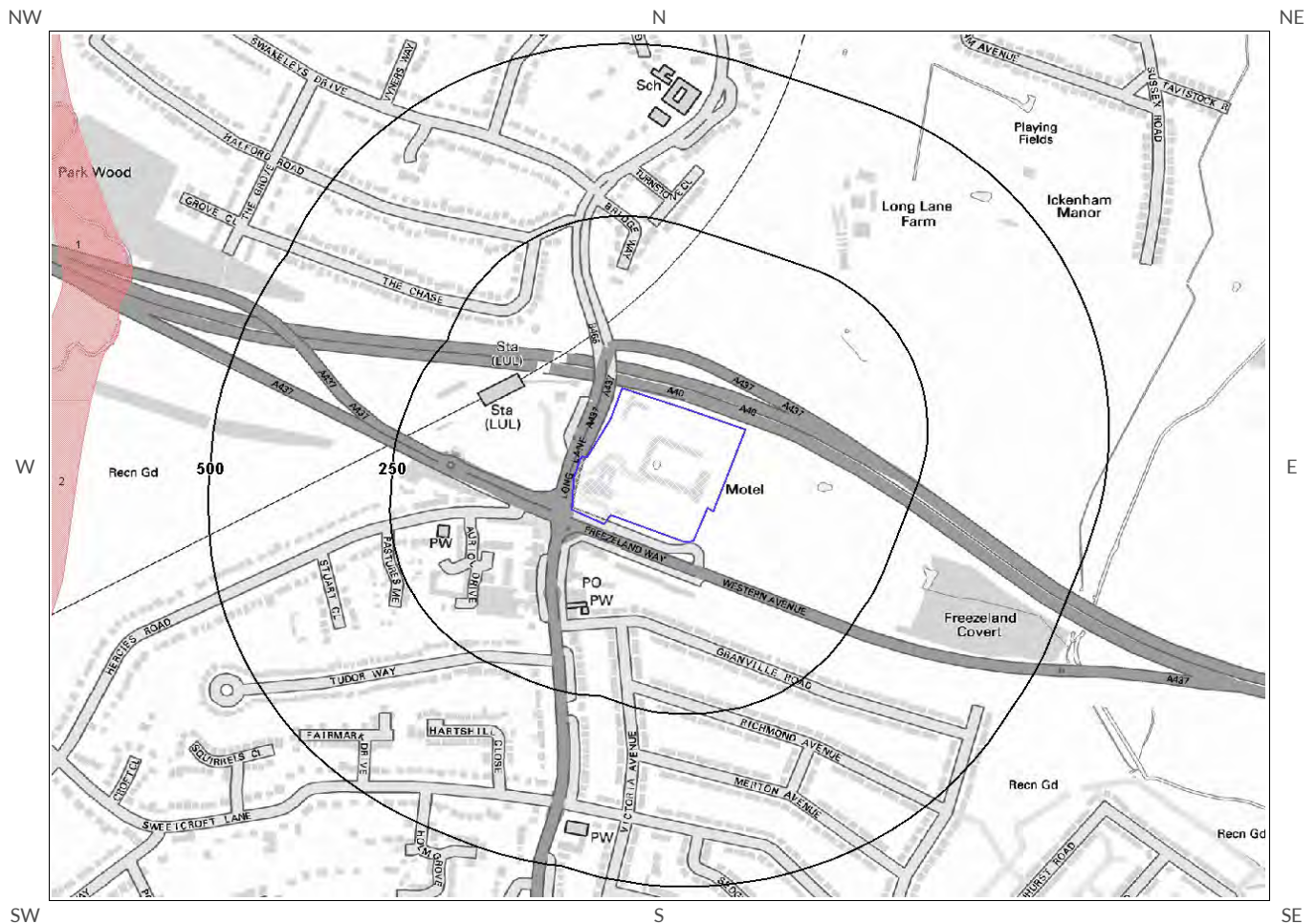
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
LC-CLSS	LONDON CLAY FORMATION	CLAY, SILT AND SAND

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

5. Hydrogeology and Hydrology

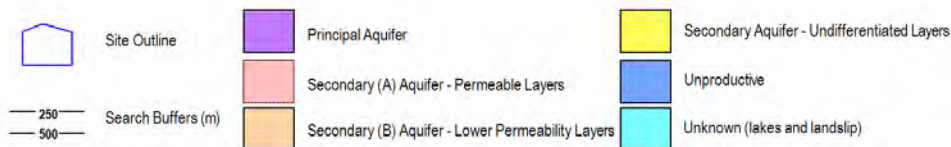
5a. Aquifer Within Superficial Geology



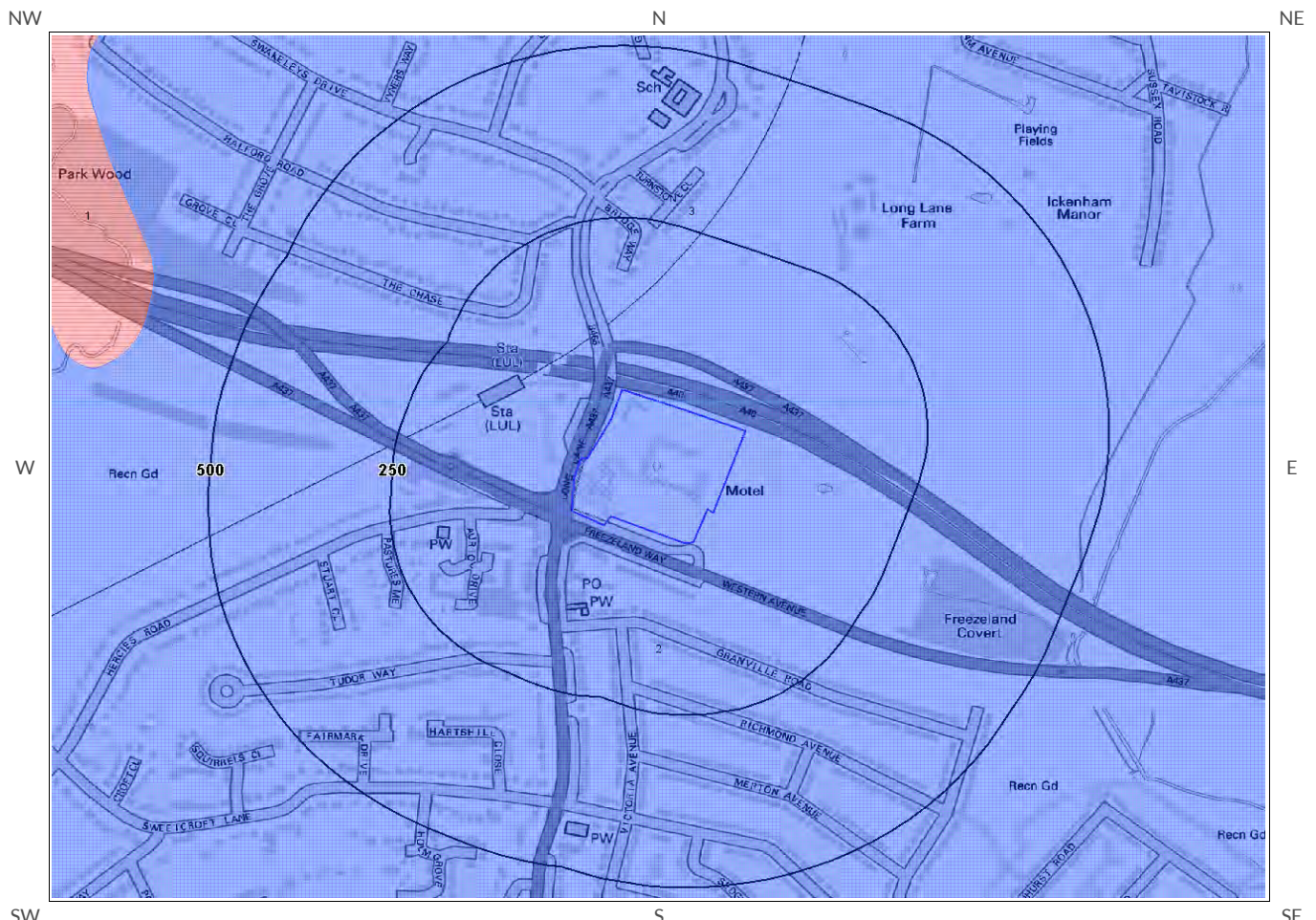
Aquifer Within Superficial Geology



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5b. Aquifer Within Bedrock Geology and Abstraction Licenses

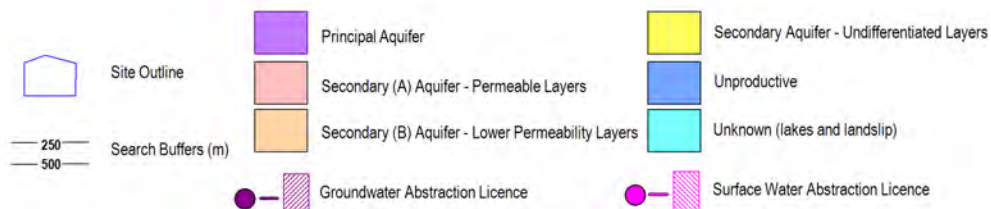


Aquifer Within Bedrock Geology and
Abstraction Licenses

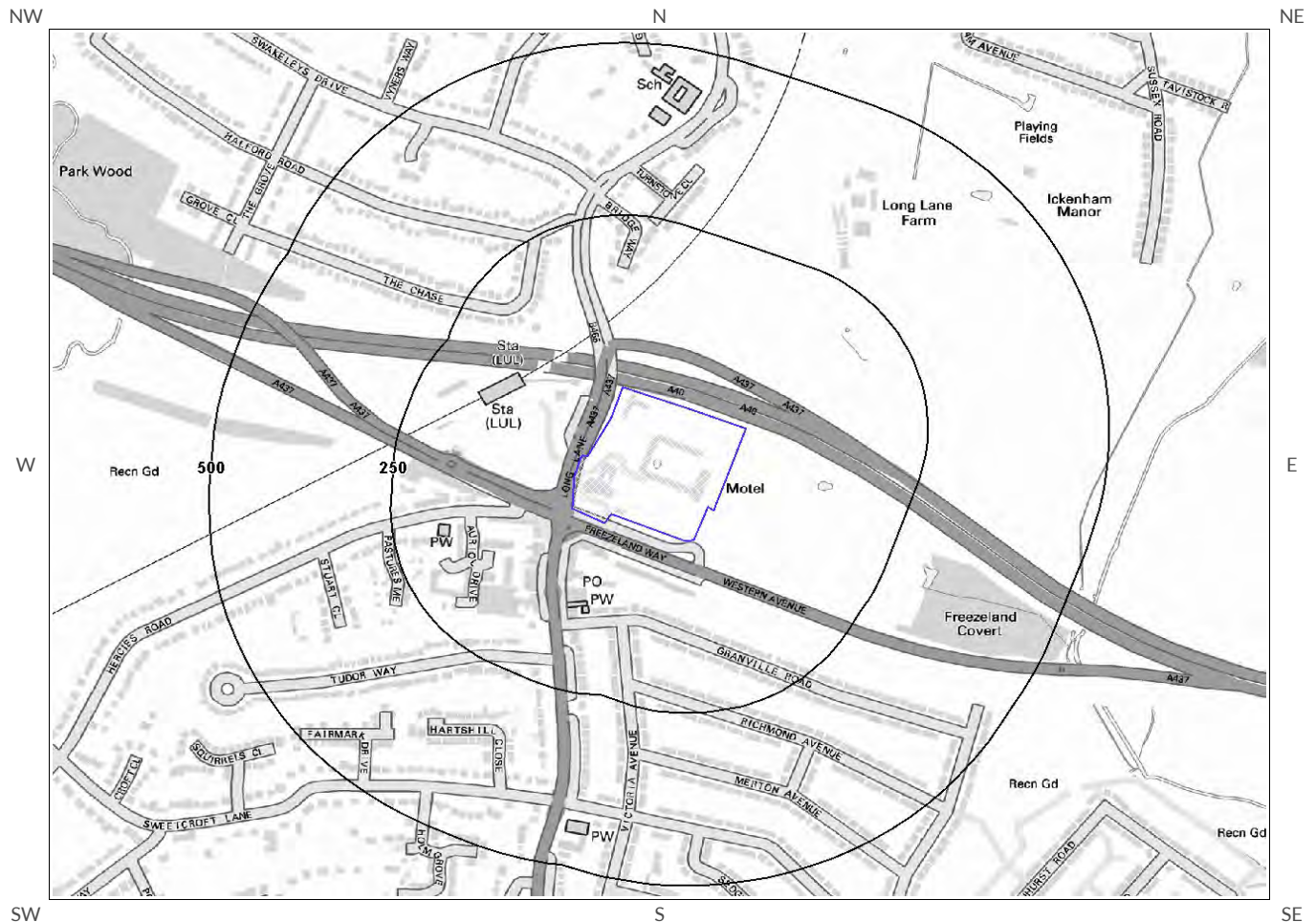
Mapping
sourced from



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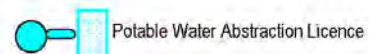
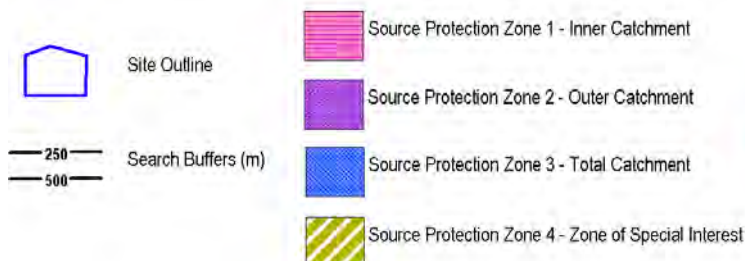
5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



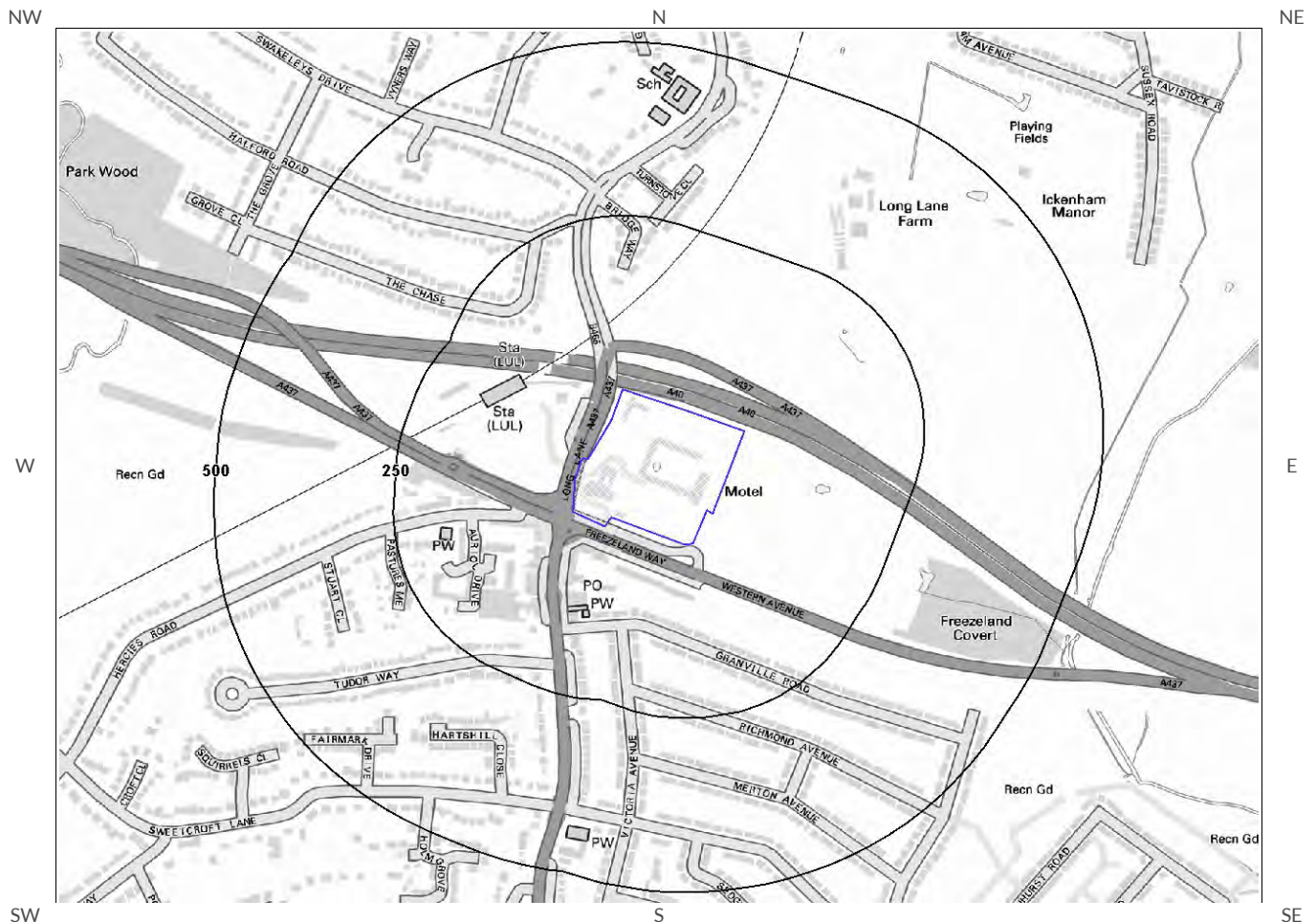
Map Legend Source Protection Zones and Potable Water Abstraction Licenses



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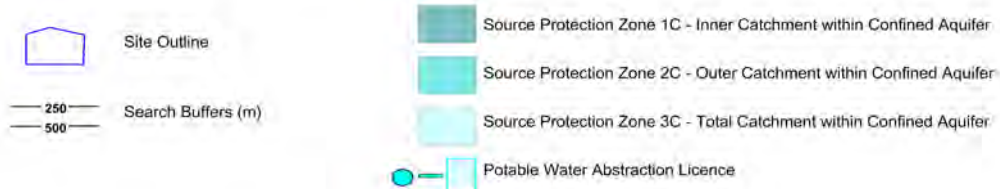
5d. Hydrology Source Protection Zones within confined aquifer



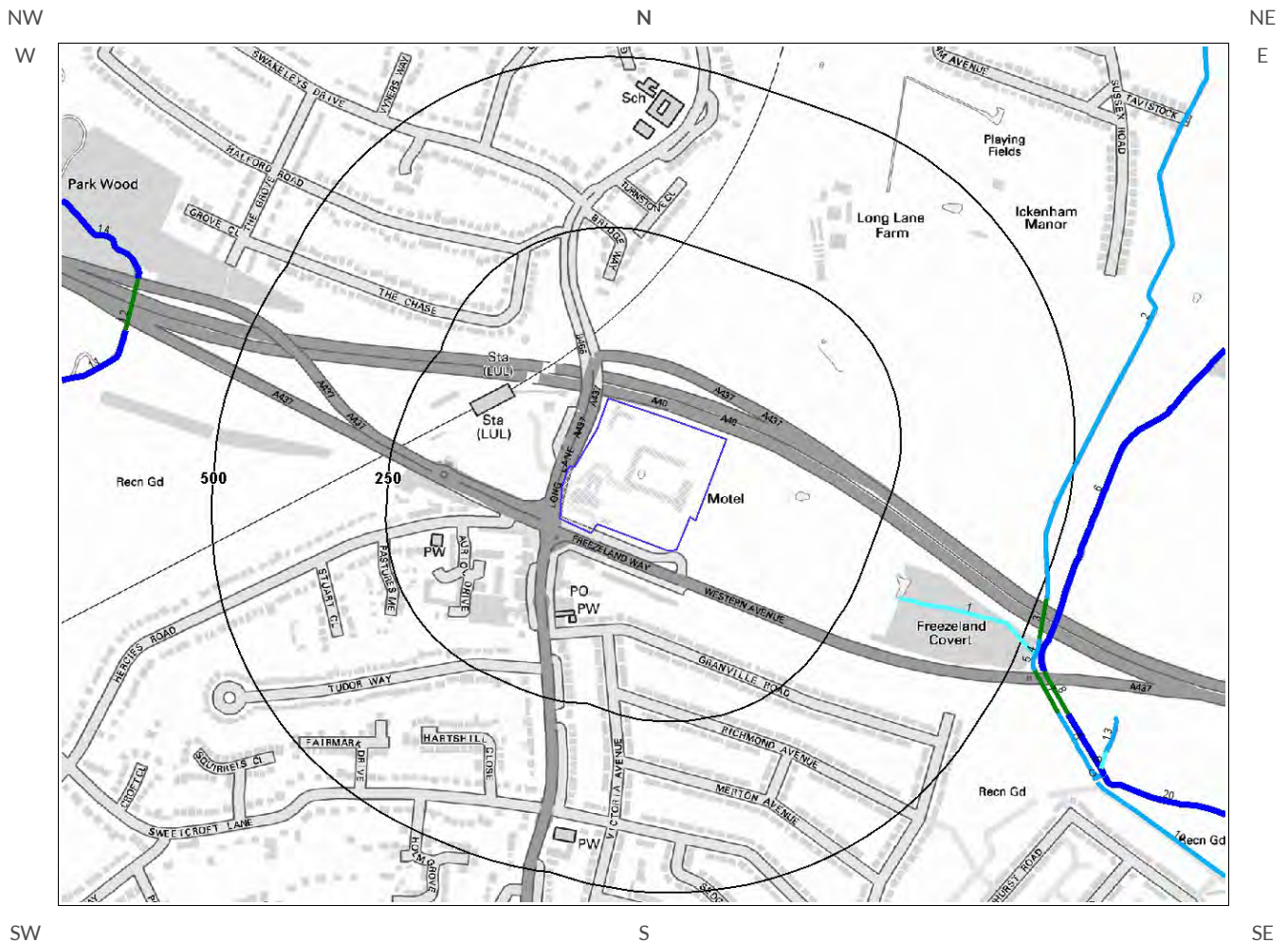
Hydrology Source Protection Zones



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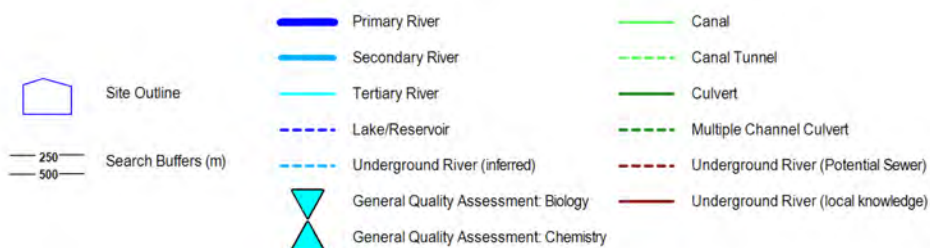
5 e. Hydrology – Detailed River Network and River Quality



Hydrology – Detailed River Network and River Quality



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5. Hydrogeology and Hydrology

5.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? No

Database searched and no data found.

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

5.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	Designation	Description
2	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
3	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details
Not shown	962.0	NW	507310 185880	Licence No: 28/39/28/0577 Details: Make-Up or Top Up Water Direct Source: Thames Groundwater Point: Swakeleys Lake, Ickenham- Borehole Data Type: Point Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: WRA/N/1196 Original Start Date: 2/4/2003 Expiry Date: 31/3/2014 Issue No: 1 Version Start Date: 2/4/2003 Version End Date:

5.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site?

No

Database searched and no data found.

5.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site?

No

Database searched and no data found.

5.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?

No

Database searched and no data found.

5.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site?

No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

5.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site?

No

Database searched and no data found.

5.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site?

No

5.9.1 Biological Quality:

Database searched and no data found.

5.9.2 Chemical Quality:

Database searched and no data found.

5.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?

Yes

The following Detailed River Network records are represented on the Hydrology Map (5e):

ID	Distance (m)	Direction	Details
1	315.0	E	<div> <div>River Name: - Welsh River Name: - Alternative Name: -</div> <div>River Type: Tertiary River Main River Status: Currently Undefined</div> </div>
2	478.0	E	<div> <div>River Name: Drain Welsh River Name: - Alternative Name: -</div> <div>River Type: Secondary River Main River Status: Currently Undefined</div> </div>

5.11 Surface Water Features

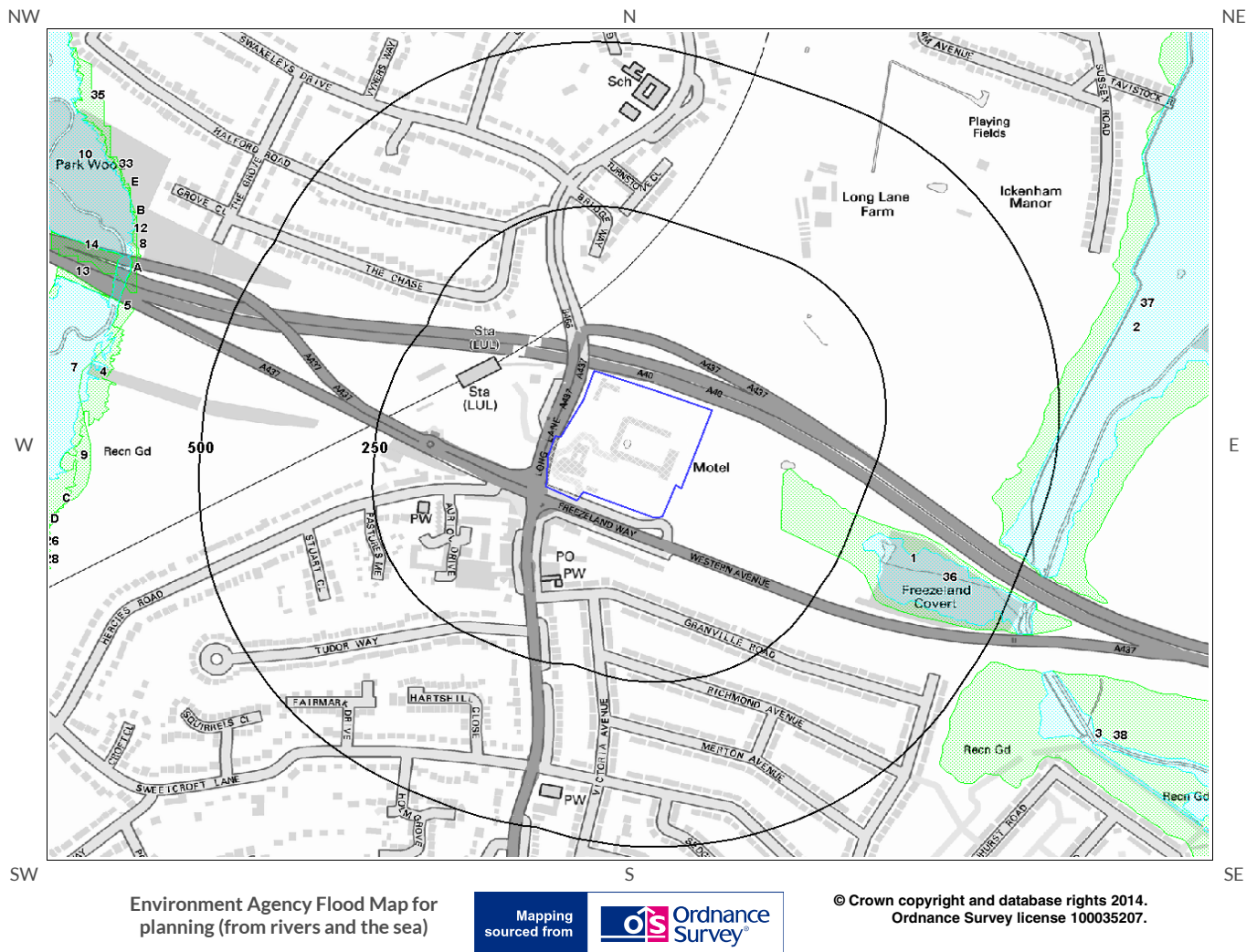
Are there any surface water features within 250m of the study site?

Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
188.0	NE

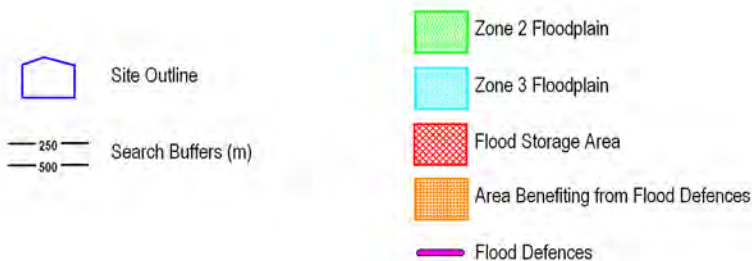
6. Environment Agency Flood Map for planning (from rivers and the sea)

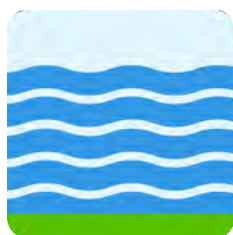


Environment Agency Flood Map for planning (from rivers and the sea)



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6. Flooding

6.1 Zone 2 Flooding

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning:

Is the site within 250m of an Environment Agency Zone 2 floodplain? Yes

The following floodplain records are represented as green shading on the Flood Map:

ID	Distance (m)	Direction	Update	Type
1	129.0	E	10-Sep-2014	Zone 2 - (Fluvial Models)

6.2 Zone 3 Flooding

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning.

Is the site within 250m of an Environment Agency Zone 3 floodplain? No

Database searched and no data found.

6.3 Flood Defences

Are there any Flood Defences within 250m of the study site? No

Database searched and no data found.

6.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

6.5 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

6.6 Groundwater Flooding Susceptibility Areas

6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site?

Yes

Does this relate to Clearwater Flooding or Superficial Deposits Flooding?

Superficial Deposits Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

6.7 Groundwater Flooding Confidence Areas

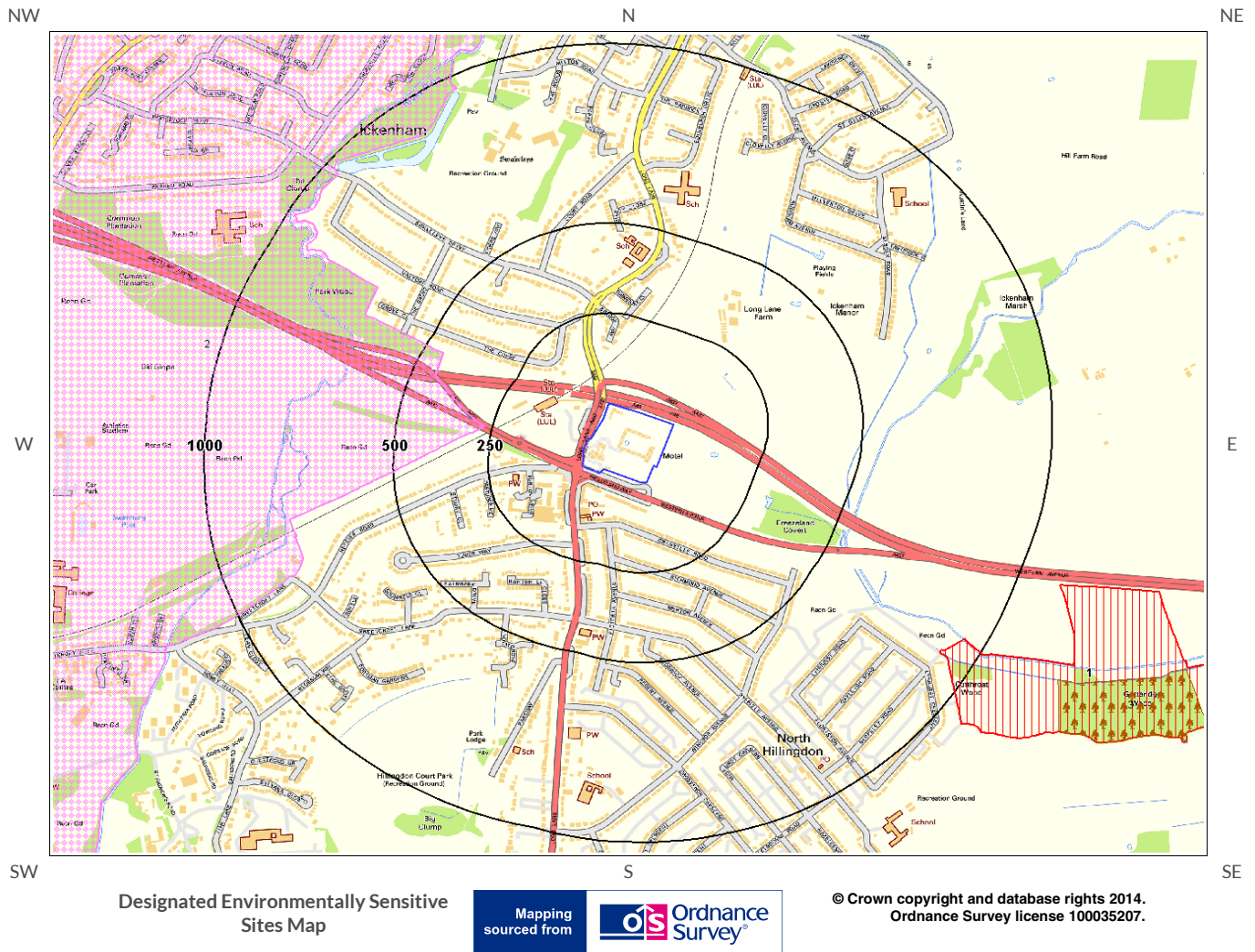
What is the British Geological Survey confidence rating in this result?

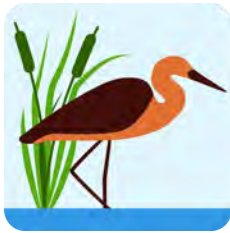
Moderate

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

7. Designated Environmentally Sensitive Sites Map





7. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site: 0

Database searched and no data found.

7.2 Records of National Nature Reserves (NNR) within 2000m of the study site: 0

Database searched and no data found.

7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site: 0

Database searched and no data found.

7.4 Records of Special Protection Areas (SPA) within 2000m of the study site: 0

Database searched and no data found.

7.5 Records of Ramsar sites within 2000m of the study site: 0

Database searched and no data found.

7.6 Records of Ancient Woodland within 2000m of the study site:

1

The following Ancient Woodland records are supplied by English Nature/Scottish Natural Heritage/Natural Resources Wales and are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
3	1212.0	SE	GUTTERIDGE WOOD	Ancient and Semi-Natural Woodland

7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

1

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales and Scottish Natural Heritage are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
1	906.0	SE	Yeading Woods	Natural England

7.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

7.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

1

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
2	270.0	W	NVZ Area	DEFRA



8. Natural Hazards Findings

8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a **GroundSure GeoInsight**, available from [our website](#). The following information has been found:

8.1.1 Shrink Swell

What is the maximum Shrink-Swell** hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

8.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site?

Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Significant potential for slope instability with relatively small changes in ground conditions. Avoid large amounts of water entering the ground through pipe leakage or soak-aways. Do not undercut or place large amounts of material on slopes without technical advice. For new build – consider the potential and consequences of ground movement during excavations, or consequence of changes to loading or drainage. For existing property – probable increase in insurance risk is likely due to potential natural slope instability after changes to ground conditions such as a very long, excessively wet winter.

* This indicates an automatically generated 50m buffer and site.

8.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site?

Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

8.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Very low potential for compressible deposits to be present. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

8.1.6 Running Sand

What is the maximum Running Sand** hazard rating identified on the study site?

Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

* This indicates an automatically generated 50m buffer and site.



9. Mining

9.1 Coal Mining

Are there any coal mining areas within 75m of the study site?

No

Database searched and no data found.

9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site*?

Low

*Please note this data is searched with a 150m buffer.

9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site?

No

Guidance: No Guidance Required.

Contact Details

GroundSure Helpline
 Telephone: 08444 159 000
 info@groundsurre.com



British Geological Survey Enquiries

Kingsley Dunham Centre
 Keyworth, Nottingham NG12 5GG
 Tel: 0115 936 3143.
 Fax: 0115 936 3276.
 Email: enquiries@bgs.ac.uk
 Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



Environment Agency

National Customer Contact Centre, PO Box 544
 Rotherham, S60 1BY
 Tel: 08708 506 506
 Web: www.environment-agency.gov.uk
 Email: enquiries@environment-agency.gov.uk



Public Health England

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 Public Health England, Wellington House
 133-155 Waterloo Road, London, SE1 8UG
<https://www.gov.uk/government/organisations/public-health-england>
 Email: enquiries@phe.gov.uk
 Main switchboard: 020 7654 8000



The Coal Authority

200 Lichfield Lane
 Mansfield
 Notts NG18 4RG
 Tel: 0345 7626 848
 DX 716176 Mansfield 5
www.coal.gov.uk



Ordnance Survey

Adanac Drive, Southampton
 SO16 0AS
 Tel: 08456 050505



Local Authority

Authority: Hillingdon London Borough Council
 Phone: 01895 250111
 Web: www.hillingdon.gov.uk
 Address: Civic Centre, High Street, Uxbridge, Middlesex, UB8 1UW

Gemapping PLC

Virginia Villas, High Street, Hartley Witney,
 Hampshire RG27 8NW
 Tel: 01252 845444



Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, English Nature who retain the Copyright and Intellectual Property Rights for the data. PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028].
 This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

“Beneficiary” means the person or entity for whose benefit the Client has obtained the Services.

“Client” means the party or parties entering into a Contract with GroundSure.

“Commercial” means any building or property which is not Residential.

“Confidential Information” means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

“Support Services” means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

“Contract” means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

“Third Party Data Provider” means any third party providing Third Party Content to GroundSure.

“Data Reports” means reports comprising factual data with no accompanying interpretation.

“Fees” has the meaning set out in clause 5.1.

“GroundSure” means GroundSure Limited, a company registered in England and Wales under number 03421028.

“GroundSure Materials” means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

“Intellectual Property” means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

“Mapping” means a map, map data or a combination of historical maps of various ages, time periods and scales.

“Order” means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

“Ordnance Survey” means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

“Order Website” means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

“Report” means a Risk Screening Report or Data Report for Commercial or Residential property.

“Residential” means any building or property used as or intended to be used as a single dwelling.

“Risk Screening Report” means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

“Services” means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

“Site” means the area of land in respect of which the Client has requested GroundSure to provide the Services.

“Third Party Content” means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

“User Guide” means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions

implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together “Fees”).

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death

or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

- (ii) the Reports and/or Mapping provided under this Contract are
 - (a) supplied to the Client's specification(s) and in any event
 - (b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English

law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © GroundSure Limited June 2013

Delta-Simons
UNIT 3 DELTA SIMONS LTD, HENLEY WAY,
LINCOLN, LN6 3QR

GroundSure Reference: GS-1745869

Your Reference: 14-0724.01

Report Date 3 Nov 2014

Report Delivery Method: Email - pdf

GroundSure Geoinsight

Address: FORMER MASTER BREWER SITE FREEZELAND WAY UXBRIDGE, UB10 9QE

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure GeoInsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,



Managing Director
Groundsure Limited

Enc.
GroundSure GeoInsight



GroundSure GeoInsight

Address: FORMER MASTER BREWER SITE FREEZELAND WAY UXBRIDGE,
UB10 9QE

Date: 3 Nov 2014

Reference: GS-1745869

Client: Delta-Simons

NW N NE



SW S SE

Aerial Photograph Capture date: 20-Apr-2013

Grid Reference: 507768,184904

Site Size: 3.38ha

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Overview of Findings

The GroundSure GeoInsight provides high quality geo-environmental information that allows geo-environmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and GroundSure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1:Geology

1.1 Artificial Ground	1.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	Yes
	1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	Yes
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?	No
	1.2.2 Are there any records relating to permeability of superficial geology within the study site boundary?	No
	1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	1.2.4 Are there any records relating to permeability of landslips within the study site boundary?	No
1.3 Bedrock, Solid Geology & Faults	1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	1.3.2 Are there any records relating to permeability of bedrock within the study site boundary?	Yes
	1.3.3 Are there any records of faults within 500m of the study site boundary?	No
1.4 Radon data	1.4.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level
	1.4.2 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	2	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	0	0	0
Section 3:Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	0	0	0	0	4
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

Section 4: Natural Ground Subsidence	On-site
4.1 Shrink Swell Clay	Low
4.2 Landslides	Moderate
4.3 Ground Dissolution of Soluble Rocks	Negligible
4.4 Compressible Deposits	Very Low
4.5 Collapsible Deposits	Very Low
4.6 Running Sand	Very Low

Section 5: Borehole Records	On-site	0-50m	51-250
5 BGS Recorded Boreholes	0	2	6

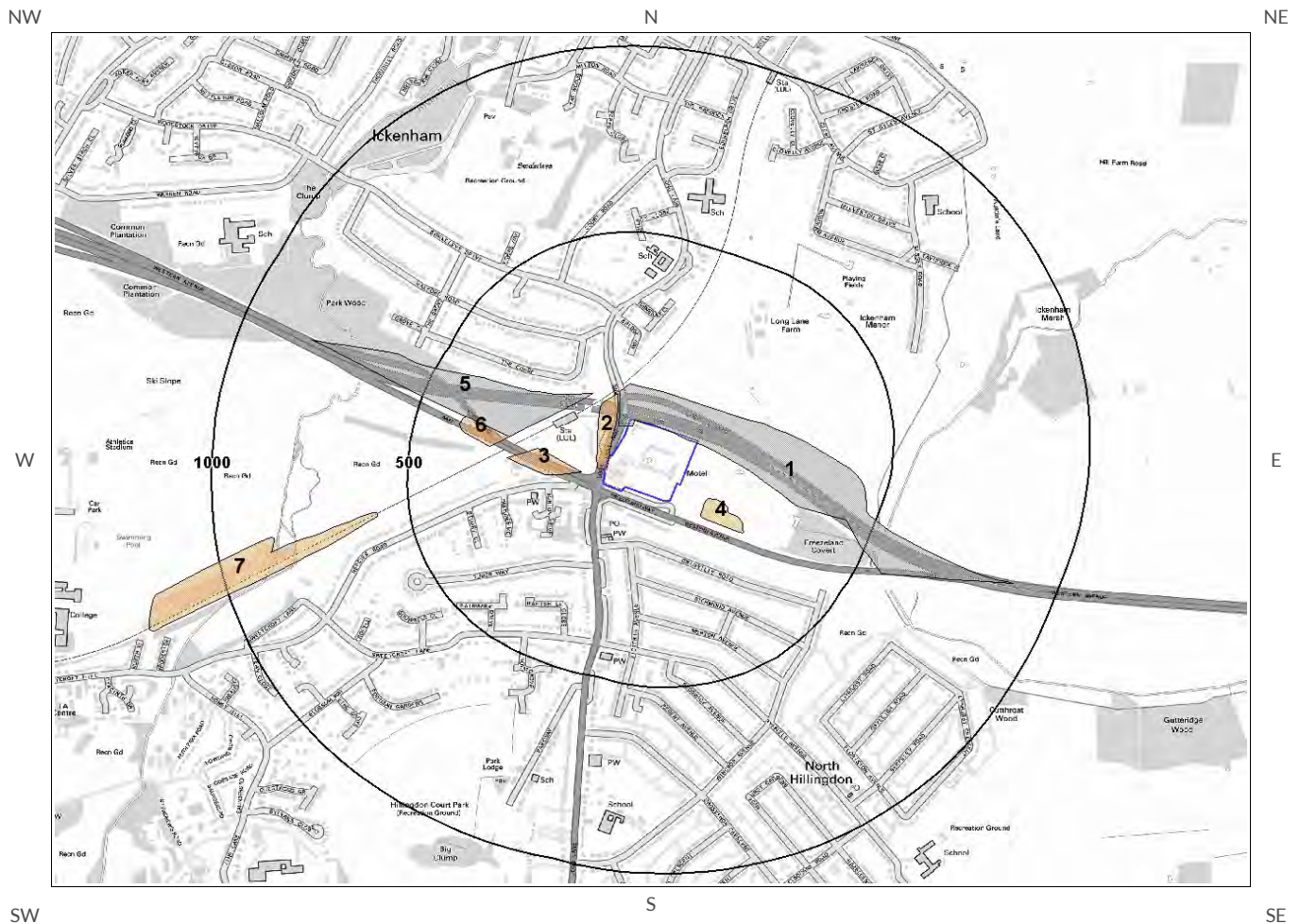
Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250
6 Records of Background Soil Chemistry	2	0	2

Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.1 Tunnels	0	0	2	Not Searched
7.2 Historical Railway and Tunnel Features	0	0	10	Not Searched
7.3 Historical Railways	0	0	0	Not Searched
7.4 Active Railways	0	0	0	Not Searched

Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	0

1 Geology

1.1 Artificial Ground Map

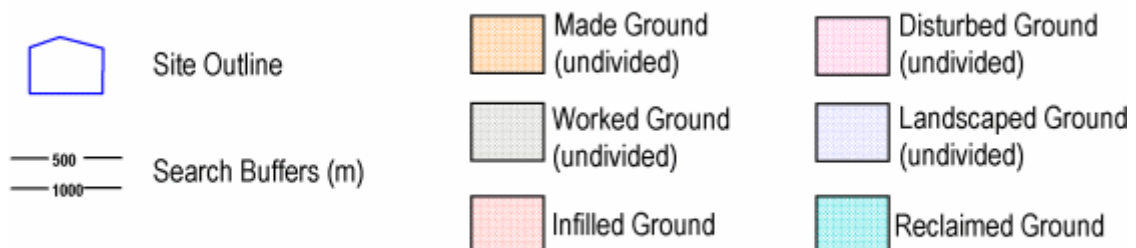


Artificial Ground Legend

Mapping
sourced from



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1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:255

Are there any records of Artificial/Made Ground within 500m of the study site boundary? Yes

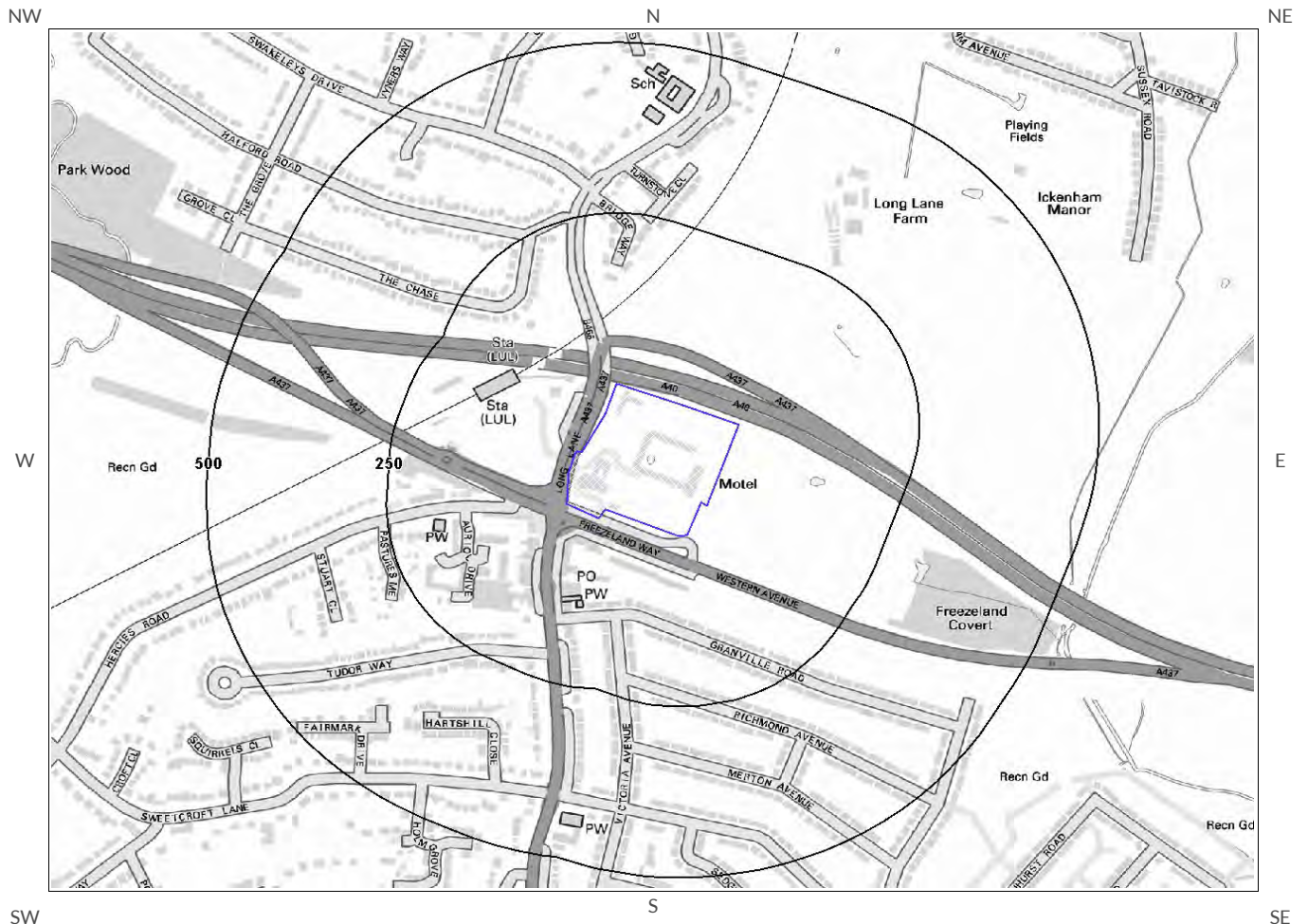
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
2	0.0	On Site	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
3	59.0	W	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	78.0	SE	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
5	119.0	NW	WGR-OPEN	WORKED GROUND (UNDIVIDED)	VOID
6	258.0	W	MGR-MGRD	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

1.1.2 Permeability of Artificial Ground

Are there any records relating to permeability of artificial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Very High	Very Low
32.0	W	Intergranular	Very High	Very Low

1.2 Superficial Deposits and Landslips Map



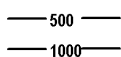
Superficial Deposits and Landslips
Legend



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Site Outline



Search Buffers (m)

1.2 Superficial Deposits and Landslips

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? No

Database searched and no data found.

1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? No

Database searched and no data found.

1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary? No

Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site** boundary? No

Database searched and no data found.

* This includes an automatically generated 50m buffer zone around the site

1.3 Bedrock and Faults Map



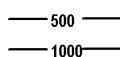
Bedrock and Faults Legend



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Site Outline



Search Buffers (m)

1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:255

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	LC-CLSS	London Clay Formation - Clay, Silt And Sand	Eocene

1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site* boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Mixed	Moderate	Very Low
0.0	On Site	Mixed	Moderate	Very Low

1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary? No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

* This includes an automatically generated 50m buffer zone around the site

1.4 Radon Data

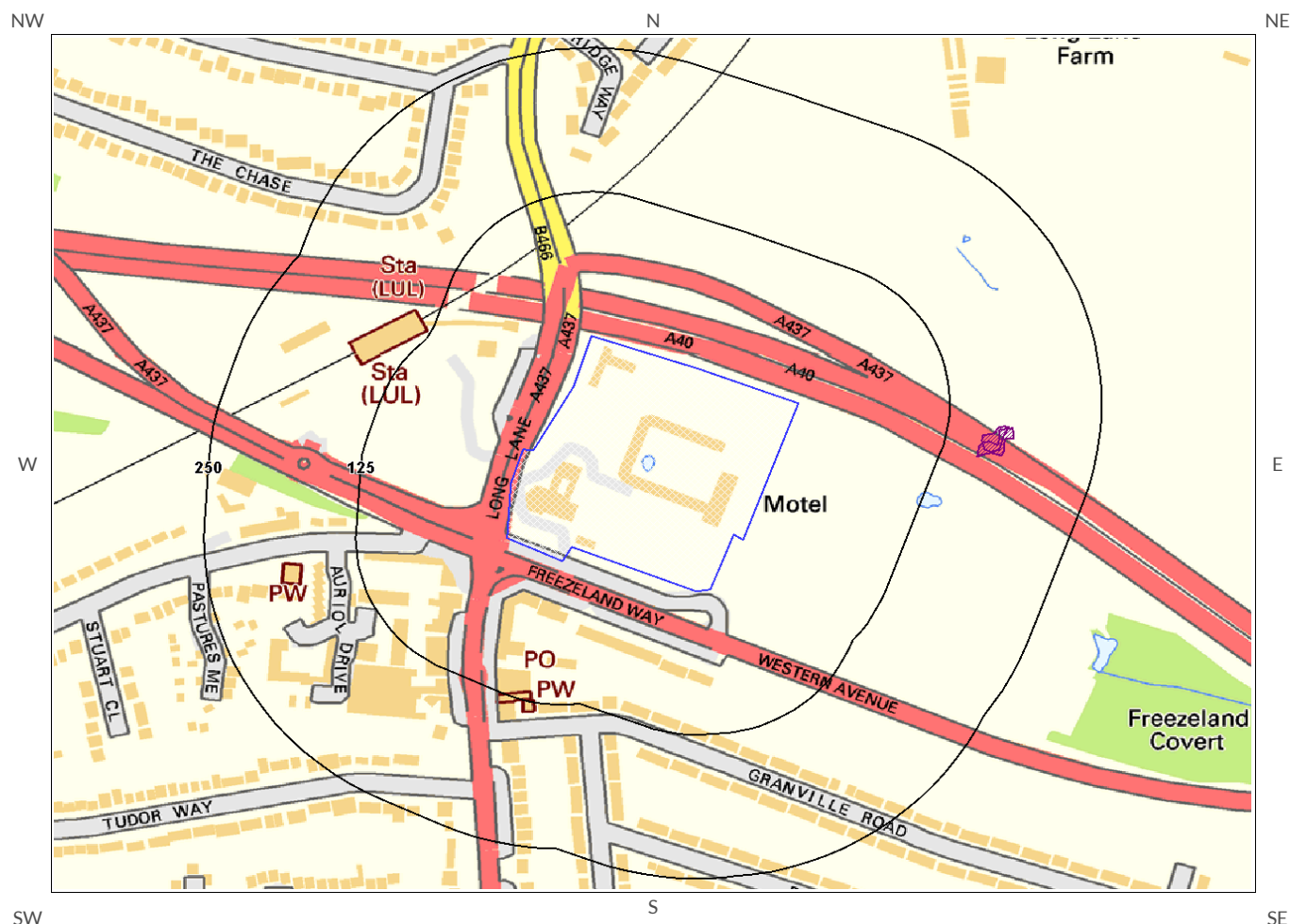
1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary





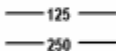
2 Ground Workings Map



Ground Workings Legend



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-  Site Outline
-  Historic Surface Ground Workings
-  Historic Underground Workings
-  Current Ground Workings
-  Search Buffers (m)



2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on GroundSure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

The following Historical Surface Ground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
1A	154.0	E	508059 184923	Pond	1865
2A	155.0	E	508066 184926	Pond	1970

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the GroundSure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

2.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? No

Database searched and no data found.



3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from GroundSure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	532.0	W	Not available	Chalk	Occasional minor mining may have occurred but of restricted extent.
2	559.0	W	Not available	Chalk	Occasional minor mining may have occurred but of restricted extent.
3	632.0	W	Not available	Chalk	Rare and localised small scale mining may have occurred.
4	755.0	W	Not available	Chalk	Rare and localised small scale mining may have occurred.

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

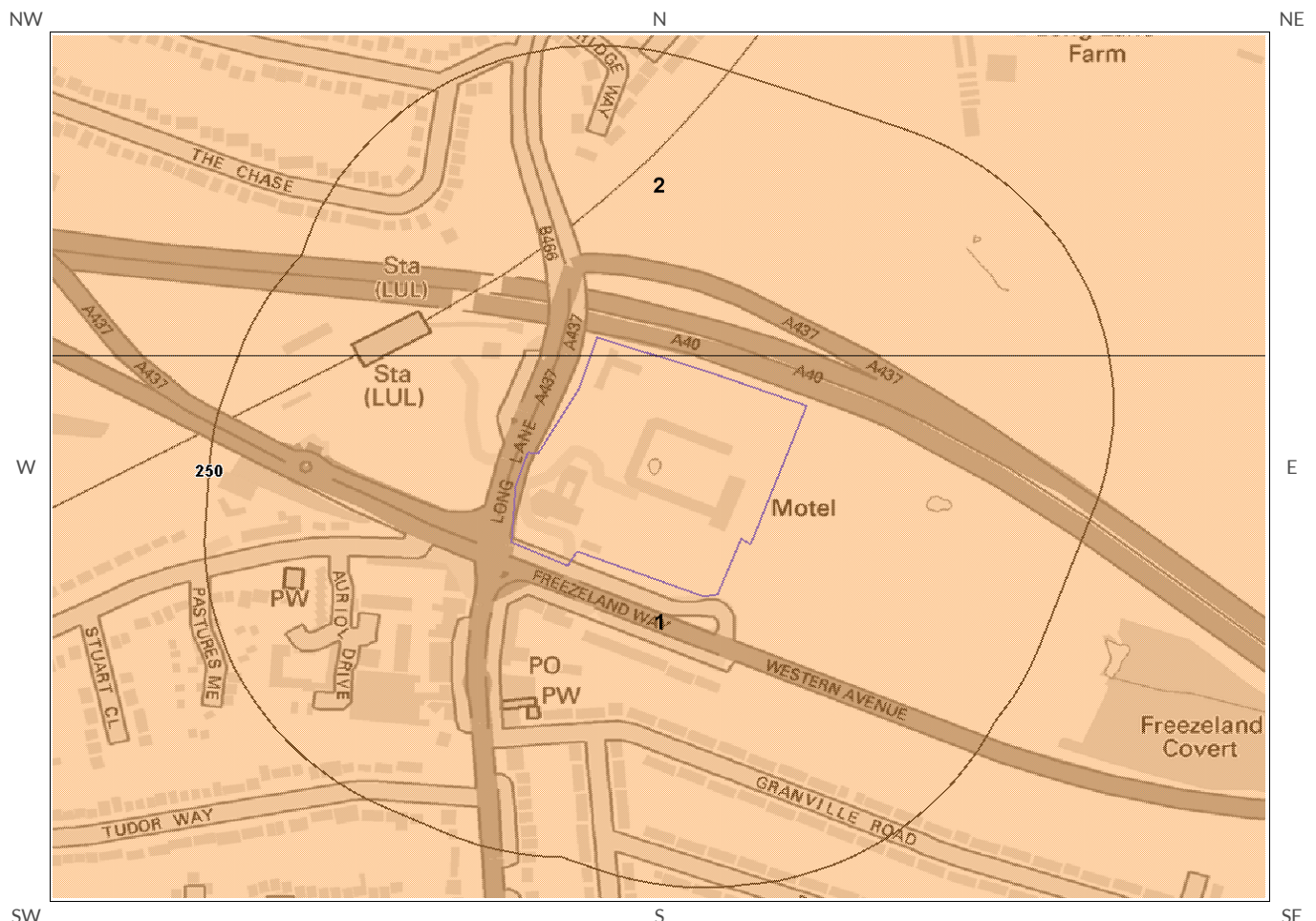
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

4 Natural Ground Subsidence

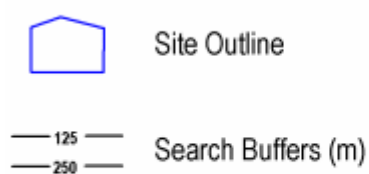
4.1 Shrink-Swell Clay Map



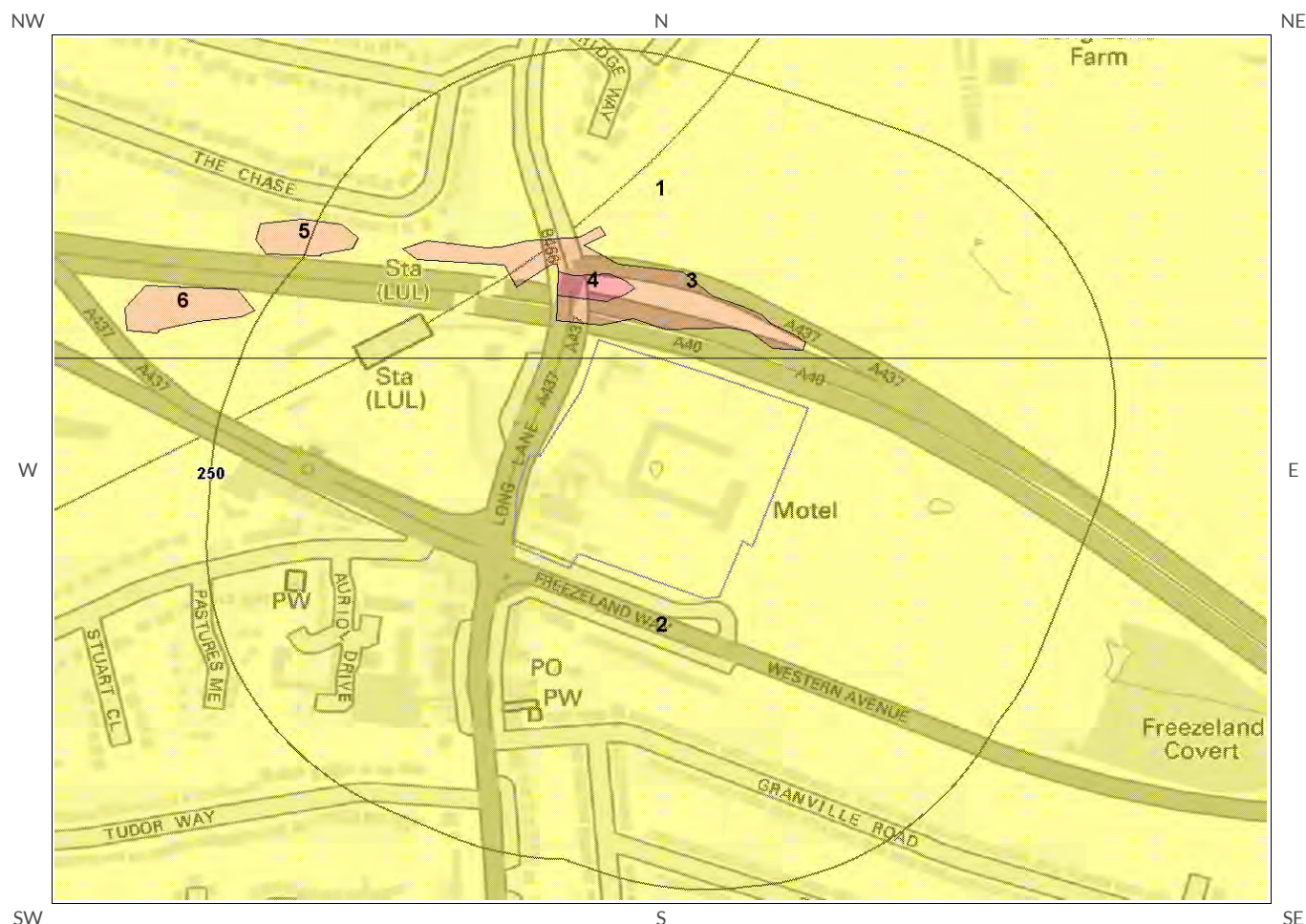
Shrink Swell Clay Legend



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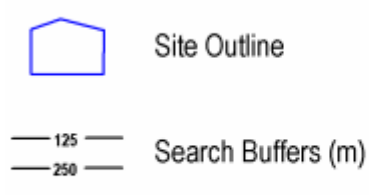
4.2 Landslides Map



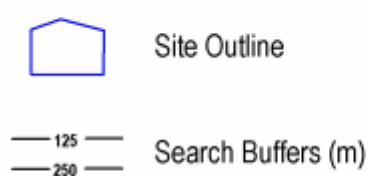
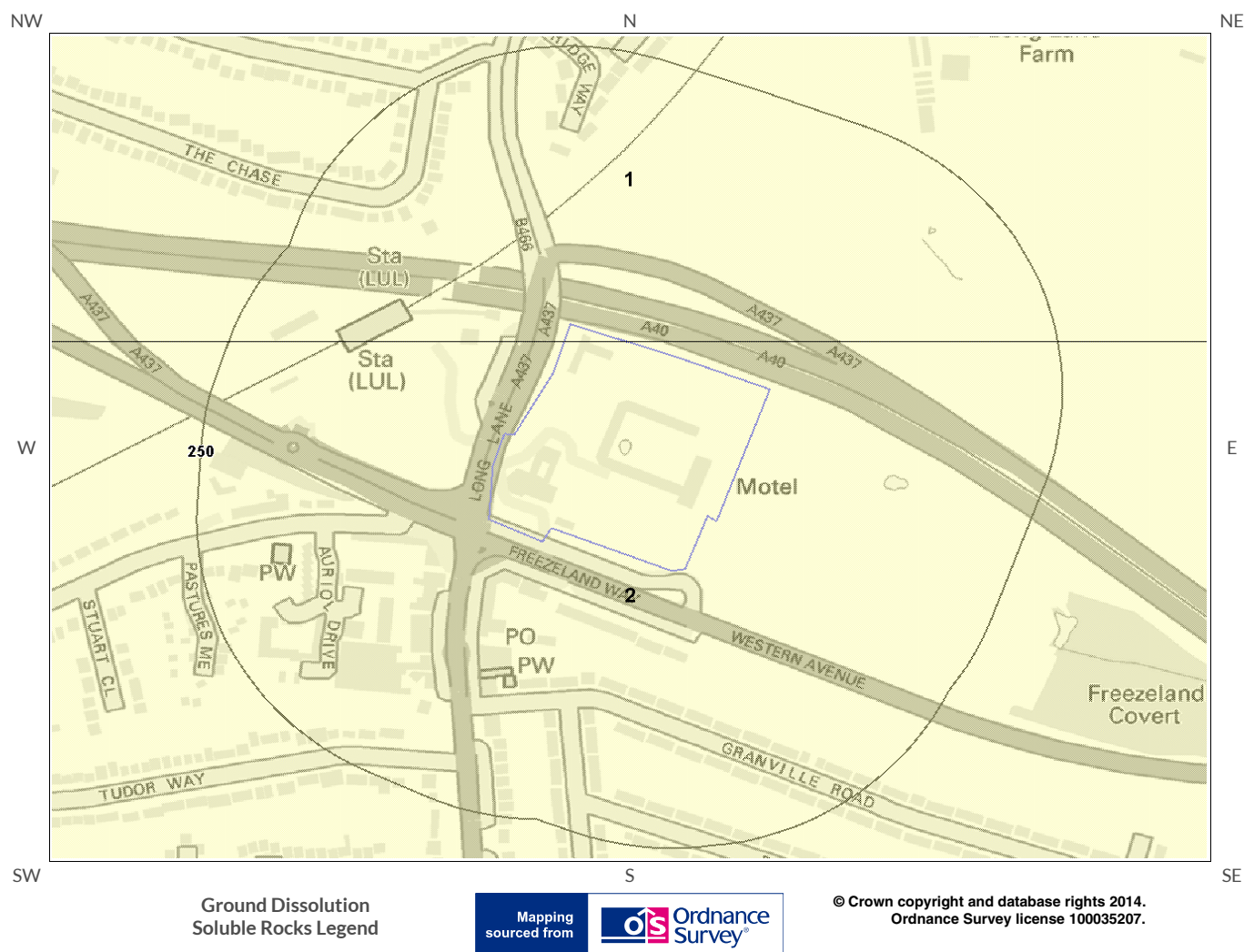
Landslides Legend



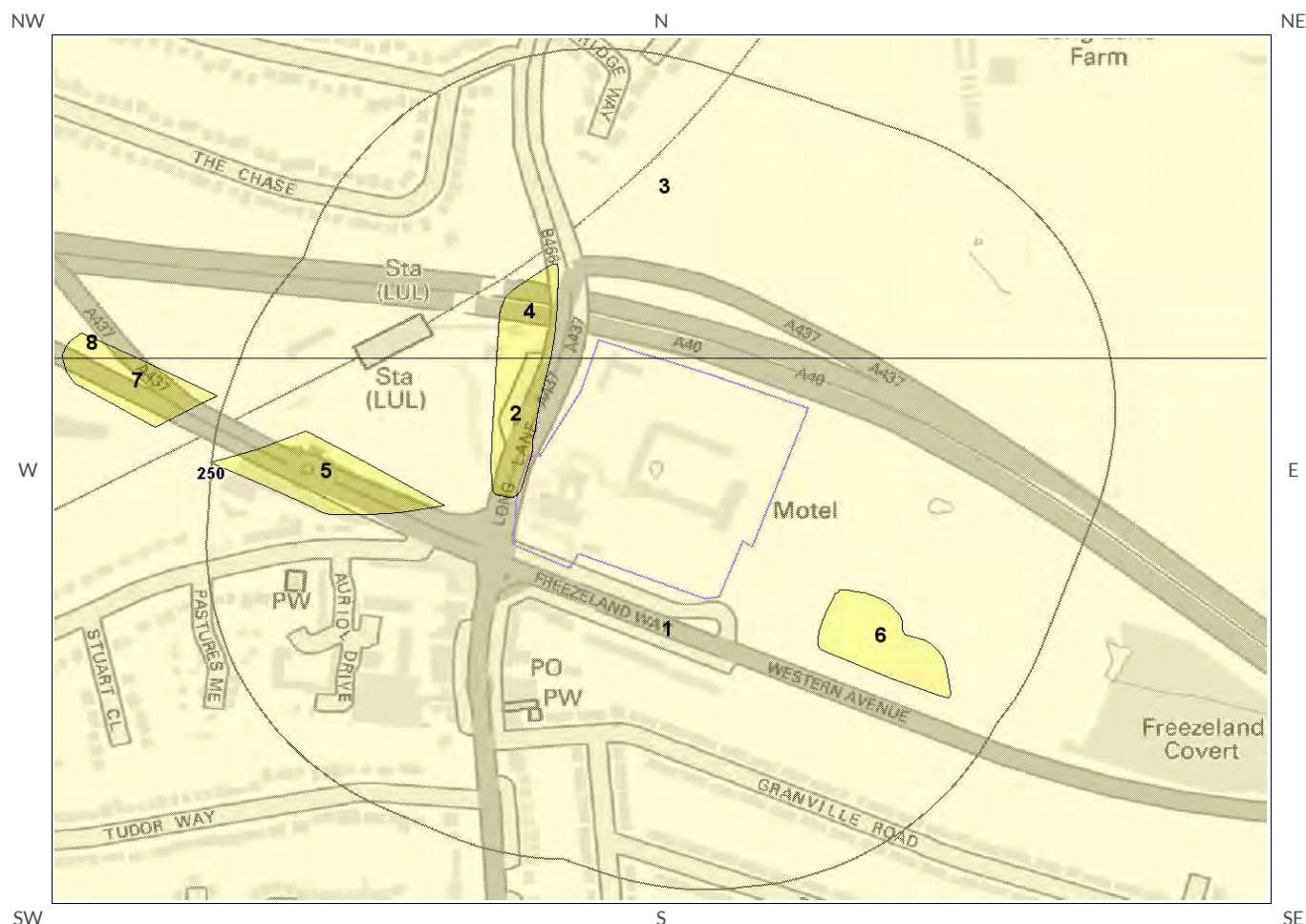
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4.3 Ground Dissolution Soluble Rocks Map



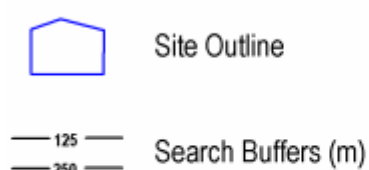
4.4 Compressible Deposits Map



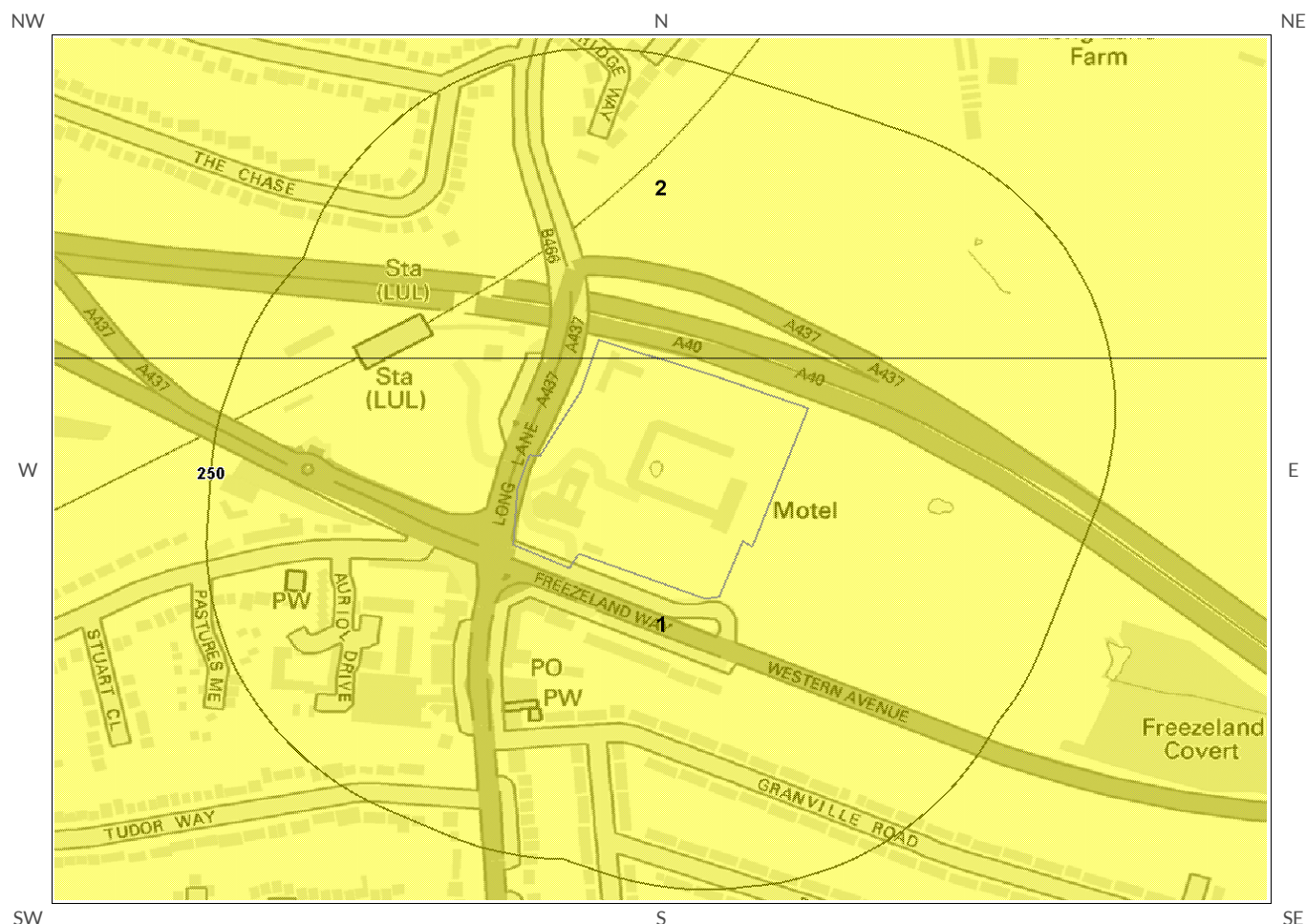
Compressible Deposits Legend



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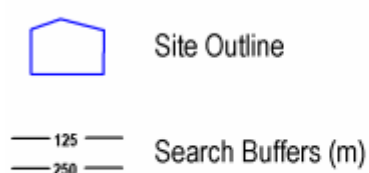
4.5 Collapsible Deposits Map



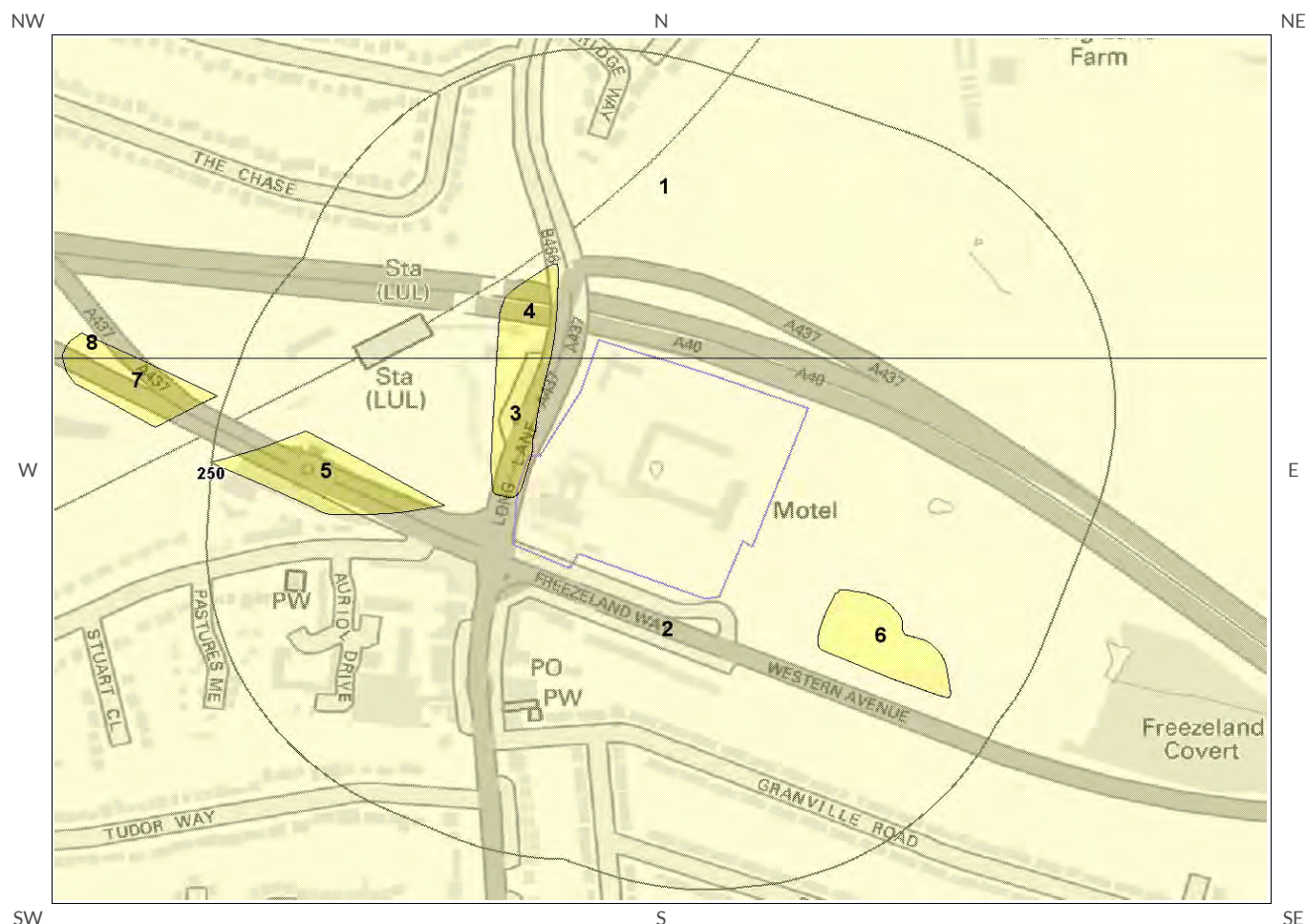
Collapsible Deposits Legend



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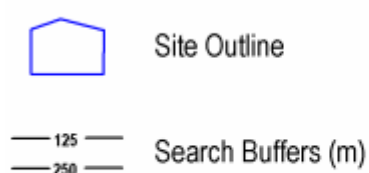
4.6 Running Sand Map



Running Sand Legend



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4 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site* boundary? **Moderate**

4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.
2	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
2	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.
3	13.0	N	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.

* This includes an automatically generated 50m buffer zone around the site

ID	Distance (m)	Direction	Hazard Rating	Details
4	34.0	N	Moderate	Significant potential for slope instability with relatively small changes in ground conditions. Avoid large amounts of water entering the ground through pipe leakage or soak-aways. Do not undercut or place large amounts of material on slopes without technical advice. For new build - consider the potential and consequences of ground movement during excavations, or consequence of changes to loading or drainage. For existing property - probable increase in insurance risk is likely due to potential natural slope instability after changes to ground conditions such as a very long, excessively wet winter.

4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.
2	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
2	0.0	On Site	Very Low	Very low potential for compressible deposits to be present. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
3	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
4	32.0	W	Very Low	Very low potential for compressible deposits to be present. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

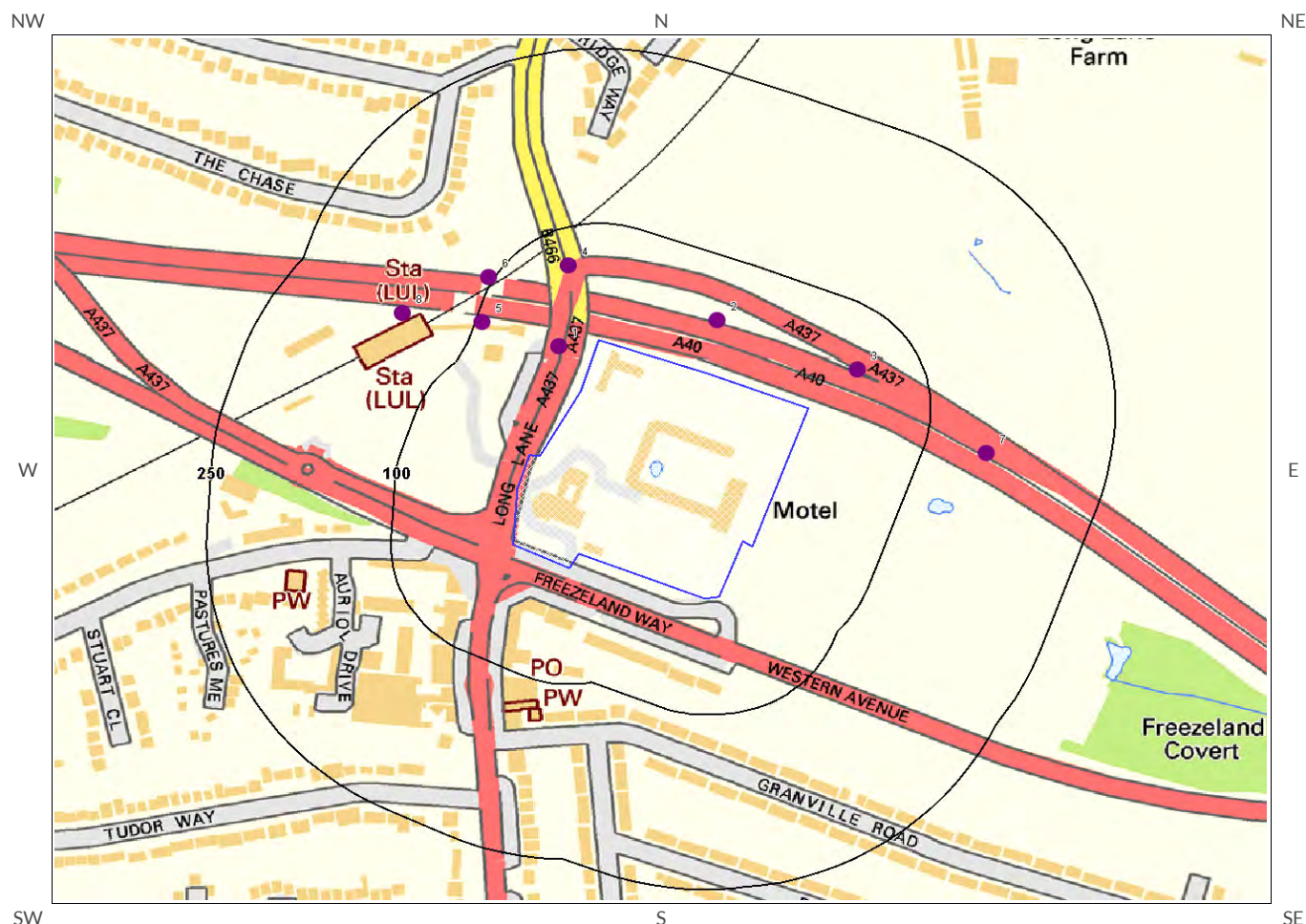
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	0.0	On Site	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
3	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
4	32.0	W	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.

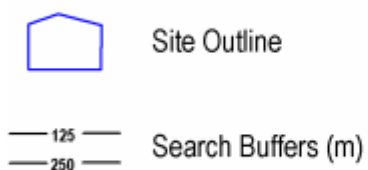
5 Borehole Records Map



Borehole Records Legend



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● Borehole Locations



5 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

8

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	29.0	W	507700 185010	TQ08NE39	20.5	A40 WESTERN AVENUE BH16
2	45.0	N	507829 185032	TQ08NE40	10.0	A40 WESTERN AVENUE BH17
3	52.0	NE	507943 184990	TQ08SE56	3.0	A40 WESTERN AVENUE TP15
4	68.0	N	507708 185079	TQ08NE38	19.8	A40 WESTERN AVENUE BH15
5	95.0	W	507638 185031	TQ08NE37	23.0	A40 WESTERN AVENUE BH14
6	104.0	NW	507643 185069	TQ08NE36	21.5	A40 WESTERN AVENUE BH13
7	150.0	E	508048 184918	TQ08SE57	3.0	A40 WESTERN AVENUE TP16
8	158.0	NW	507573 185038	TQ08NE35	25.0	A40 WESTERN AVENUE BH12

Additional online information is available for the following boreholes listed above:

#1: scans.bgs.ac.uk/sobi_scans/boreholes/575779
 #2: scans.bgs.ac.uk/sobi_scans/boreholes/575780
 #3: scans.bgs.ac.uk/sobi_scans/boreholes/576389
 #4: scans.bgs.ac.uk/sobi_scans/boreholes/575778
 #5: scans.bgs.ac.uk/sobi_scans/boreholes/575777
 #6: scans.bgs.ac.uk/sobi_scans/boreholes/575776
 #7: scans.bgs.ac.uk/sobi_scans/boreholes/576390
 #8: scans.bgs.ac.uk/sobi_scans/boreholes/575775



6 Estimated Background Soil Chemistry

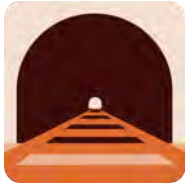
Records of background estimated soil chemistry within 250m of the study site boundary:

4

For further information on how this data is calculated and limitations upon its use, please see the GroundSure GeoInsight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	London	No data	No data	No data	No data	No data
0.0	On Site	London	No data	No data	No data	No data	No data
97.0	E	London	No data	No data	No data	No data	No data
106.0	NE	London	No data	No data	No data	No data	No data

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.



7 Railways and Tunnels

7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary? No

Have any underground railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Line
87	NW	London Underground - Metropolitan Line
87	NW	London Underground - Piccadilly Line

The approximate depth value for the nearest London Underground line given in this dataset has been extrapolated from published depths of tube lines at station platforms, and assume a constant gradient between stations. Using this method, topographical variation has resulted in some parts of the line having associated depth values either shallower or deeper than the real-world situation. Depth values are for indication only and should not be relied upon for any calculation or technical purpose and are in no way a substitute for a professional survey.

Line
London Underground Line: Metropolitan Line Depth: 0mbgl Track Type: Surface Track

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary? No

Have any other railway tunnels been identified within 250m of the site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

7.2 Historical Railway and Tunnel Features

This data is derived from GroundSure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary? No

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	91	NW	507463 184934	Railway Sidings	1970
2	97	NW	507309 184891	Railway Sidings	1959
6	111	W	507537 184953	Railway Sidings	1962
3	112	W	507372 184906	Railway Sidings	1938
4	112	W	507372 184906	Railway Sidings	1938
7	112	W	507380 184901	Railway Sidings	1962
8A	117	NW	507375 184899	Railway Sidings	1934
5A	119	W	507372 184899	Railway Sidings	1935
9B	139	NW	507528 184974	Railway Sidings	1962
10B	153	NW	507522 184983	Railway Sidings	1962

Any records that have been identified are represented on the Railways and Tunnels Map.

7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary? No

Have any historical railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary? No

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels Map.

7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail.

Is the study site within 5km of the route of the High Speed 2 rail project? Yes

Is the study site within 500m of the route of the Crossrail rail project? No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a GroundSure HS2 and Crossrail Report.

Contact Details

GroundSure Helpline
Telephone: 08444 159 000
info@groundsure.com



British Geological Survey Enquiries

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Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email: enquiries@bgs.ac.uk
Web: www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries



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Leicestershire
LE12 6HX



The Coal Authority

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Mansfield
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Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk



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133-155 Waterloo Road, London, SE1 8UG
<https://www.gov.uk/government/organisations/public-health-england>
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Report Reference: GS-1745869

Client Reference: 14-0724.01

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order

shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1 The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1 The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

- (i) the Beneficiary,
- (ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),
- (iv) the first purchaser or first tenant of the Site, and
- (v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1 GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

- (i) full payment of all relevant Fees and
- (ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

- (i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;
 - (ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;
 - (iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);
 - (iv) not combine the Services with or incorporate such Services into any other information data or service;
 - (v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);
 - (vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and
 - (vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,
- 6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

- (i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;
- (ii) any use made of the Reports, Services, Materials or any part of them; and
- (iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

- (i) loss of profits;
- (ii) loss of business;
- (iii) depletion of goodwill and/or similar losses;
- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract;
- (vii) loss of use;
- (viii) loss or corruption of data or information;
- (ix) business interruption;
- (x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;
- (xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;
- (xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;
- (xiii) loss or damage to a computer, software, modem, telephone or other property; and
- (xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

- (i) the Client fails to pay any sum due to GroundSure within 30

days of the Payment Date; or

- (ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or
- (iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or
- (iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

- (i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and
- (ii) the Reports and/or Mapping provided under this Contract are
 - (a) supplied to the Client's specification(s) and in any event
 - (b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

- (i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and
- (ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

- (i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;
- (ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and
- (iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

- (i) the Client or Beneficiary's failure to provide facilities, access or information;
- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;
- (vii) suspension or delay of services at public registries by Third Party Data Providers;
- (viii) changes in law; or
- (ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly

given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law




Delta-Simons 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR Tel: +44 (0) 870 0400 012 Fax: +44 (0) 1522 698393 Email: info@deltasimons.com									
Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP01			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 30/03/2015 - 31/03/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL.				(0.70) 33.87 0.70	D ES	1 2	0.50		
Soft brown mottled orange, gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint and limestone. (POSSIBLE WEATHERED LONDON CLAY)				(0.90) 32.97 1.60	D ES	3 4	1.00		
Stiff brown mottled orange, slightly gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint and limestone. High mineral content. Becoming less gravelly with depth. (POSSIBLE WEATHERED LONDON CLAY)				(1.80)	D	5	2.00	SPT N=9 1,1/2,2,2,3	
					U	6	2.50 -		
					D	7	3.00		
					D	8	3.20		
Stiff brown mottled orange, pink and green friable, thinly laminated, slightly gravelly CLAY. Gravel is fine to medium, sub-angular flint. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(2.60)			3.50 - 3.95	SPT N=21 3,3/4,5,6,6	
					D	9	4.00		
					D	10	4.50		
					U	11	4.50 -		
					D	12	5.00		
Very stiff brown, mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(7.00)			6.00 - 6.45	SPT N=37 3,5/6,9,9,13	
					D	13	5.50		
					D	14	7.00		
					U	15	7.50 -		
					D	16	8.00		
					D	17	8.50		
			9.00 - 9.45	SPT N=37 4,6/8,8,10,11					
			10.00						

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater strike at 18.00 m bgl. 4. Installed with a 50 mm HDPE standpipe to 20.00 m bgl.	CHISELLING			WATER LEVEL OBSERVATIONS				
	Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
	NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
	BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
				20.00m				

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 1 of 3
Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507751.429 N: 184882.677 Level: 34.572	Logged By: CB	Checked By: CB Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP01			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 30/03/2015 - 31/03/2015		Client: Spenn Hill			
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Very stiff brown, mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)(BH Continued)					U	19	10.50 -	U=54/mm	
					D	20	11.00		
					D	21	12.00 12.00 - 12.45	SPT N=50/200mm (7,7/8,15,27/50mm)	
					D	22	13.00		
Very stiff reddish brown mottled greyish green CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(3.20)	U	23	13.50 -	U=59/mm	
					D	24	14.00		
							15.00 - 15.45	SPT N=50/195mm (6,7/11,20,19/45mm)	
					D	25	16.00		
Brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)							16.50 - 16.95	SPT N=50/135mm (7,10/24,26/60mm)	
Firm brown mottled grey sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)				(1.50)	D	26	17.50	SPT N=24/60mm (9,26/24/60mm)	
					D	27	18.00 18.00 - 18.45		
Brown fine to medium sand.				(2.00)	D	28	19.00 19.50 - 19.95	SPT N=40 6,8/8,10,11,11	
REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater strike at 18.00 m bgl. 4. Installed with a 50 mm HDPE standpipe to 20.00 m bgl.				CHISELLING Depth From Depth To Time Taken			WATER LEVEL OBSERVATIONS Date Time Water Strike Standing Level Casing Depth		
				NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:		
				BOREHOLE DIAMETER			CASING DIAMETER		
				20.00m			DEPTH SEALED		
All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50		Coordinates to National Grid Ground Level to Ordnance Datum				Page 2 of 3	
Plant Used: Pilcon Wayfarer		Coordinates / Level (mAOD): E: 507751.429 N: 184882.677 Level: 34.572		Logged By: CB			Checked By: CB		Approved By: SS

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Project: **Hillingdon** Project No: **14-0724.01** Hole ID: **CP01**

CABLE PERCUSSION BOREHOLE LOG

Date From / To:
30/03/2015 - 31/03/2015

Client:
Spenn Hill

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Borehole completed at 20.00m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Groundwater strike at 18.00 m bgl.
4. Installed with a 50 mm HDPE standpipe to 20.00 m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS					
Depth From	Depth To	Time Taken		Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:						NO WATER ENCOUNTERED:		
BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED		
			20.00m					

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum			Page 3 of 3	
Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507751.429 N: 184882.677 Level: 34.572	Logged By: CB		Checked By: CB		Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP02			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 31/03/2015 - 01/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL.				34.16 0.40	D		0.50		
POSSIBLE MADE GROUND: Dark brown, sandy, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded flint. High mineral content.				(0.50) 33.66 0.90	ES		0.80		
Firm brown mottled orange and grey friable, bedded, thinly laminated slightly gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint. (POSSIBLE WEATHERED LONDON CLAY)				(1.60)	ES		1.00		
					U		1.10		
							1.50 -	U=16/mm	
					D		2.00		
Firm brown silty CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)				32.06 2.50			2.50 - 2.95	SPT N=3/75mm (2,2/3)	
				(1.00)	D		3.00		
Stiff, brown mottled grey and orange friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				31.06 3.50	U		3.50 -	U=29/mm	
				(1.00)	D		4.00		
Very stiff brown mottled greenish grey and pink CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				30.06 4.50			4.50 - 4.95	SPT N=30 3,5/5,7,9,9	
					D		5.00		
					D		5.50		
				(3.00)	U		6.00 -	U=45/mm	
					D		6.50		
Very stiff brown mottled greenish grey CLAY. Occasionally silty. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				27.06 7.50			7.50 - 7.95	SPT N=35 5,6/7,7,9,12	
					D		8.00		
				(2.00)	D		8.50		
					U		9.00 -	U=58/mm	
				25.06 9.50	D		9.50		
				(mm)					

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 10.00 m bgl and 17.70 m bgl. 4. Installed with a 50 mm HDPE standpipe to 19.5m bgl.				CHISELLING			WATER LEVEL OBSERVATIONS				
				Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
				NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
				BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
							20.00m				

All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum		Page 1 of 3
Pilot Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507789.102 N: 184864.457 Level: 34.562		Logged By: CB		Checked By: CB
					Approved By: SS

Delta-Simons 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR Tel: +44 (0) 870 0400 012 Fax: +44 (0) 1522 698393 Email: info@deltasimons.com									
Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP02			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 31/03/2015 - 01/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details					
					TYPE	REF	Depth	SPT N Value/Drive mm						
Very stiff brown mottled grey, bedded, thinly laminated CLAY. Occasionally silty. (LAMINATED BEDS - WOOLWICH AND READING BEDS)(BH Continued)	[Pattern]			(8.20)	D		10.50 - 10.95	SPT N=50/215mm (6,8/10,12,28/65mm)	[Pattern]					
							D	11.50		D	12.00 - 12.45	SPT N=53/175mm (5,7/16,20,17/25mm)		
								D			13.00	U	13.50 -	U=71/mm
											D		14.00	
							D	15.00 - 15.45		D	15.00 - 15.45	SPT N=50/175mm (6,10/12,25,13/25mm)		
								D			16.00			
							D	16.50 - 16.95		D	16.50 - 16.95	SPT N=50/175mm (8,9/15,20,15/25mm)		
								D			17.50			
							D	18.00 - 18.45		D	18.00 - 18.45	SPT N=50/175mm (7,8/12,20,18/25mm)		
								D			19.00			
D	19.50 - 19.95	D	19.50 - 19.95	SPT N=50/200mm (6,8/10,15,25/50mm)										
	D		20.00											
Brown, fine to medium sand.	[Pattern]			(1.00)	D		18.00 - 18.45	SPT N=50/175mm (7,8/12,20,18/25mm)	[Pattern]					
Very stiff slightly sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			(1.30)	D		19.00		[Pattern]					
							19.50 - 19.95							
			20.00	14.56	20.00									

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 10.00 m bgl and 17.70 m bgl. 4. Installed with a 50 mm HDPE standpipe to 19.5m bgl.	CHISELLING			WATER LEVEL OBSERVATIONS				
	Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
	NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
	BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
				20.00m				

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 2 of 3
Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507789.102 N: 184864.457 Level: 34.562	Logged By: CB	Checked By: CB Approved By: SS

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Project: **Hillingdon** Project No: **14-0724.01** Hole ID: **CP02**

CABLE PERCUSSION BOREHOLE LOG

Date From / To:
31/03/2015 - 01/04/2015

Client:
Spenn Hill

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Borehole completed at 20.00m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Groundwater encountered at 10.00 m bgl and 17.70 m bgl.
4. Installed with a 50 mm HDPE standpipe to 19.5m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS					
Depth From	Depth To	Time Taken		Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:						NO WATER ENCOUNTERED:		
BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED		
			20.00m					

All measurements in metres
 unless otherwise stated

10m/page Scale: 1:62.50

Coordinates to National Grid
 Ground Level to Ordnance Datum

Page 3 of 3

Plant Used:
 Pilcon Wayfarer

Coordinates / Level (mAOD):
 E: 507789.102 N: 184864.457
 Level: 34.562

Logged By:
 CB

Checked By:
 CB

Approved By:
 SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP03			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 08/04/2015 - 10/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
MADE GROUND: Grass overlying brown slightly sandy, slightly gravelly CLAY. Gravel is fine to medium, sub-rounded to sub-angular flint.				34.17 0.40	ES	1	0.30		
					B	2	0.40		
					D	3	0.70		
Soft becoming stiff brown mottled orange slightly gravelly CLAY. Gravel is fine to medium, sub-rounded to sub-angular flint. (POSSIBLE WEATHERED LONDON CLAY)				(2.10)	B	4	1.20 1.20 - 1.65	SPT N=7 1,1/1,2,2,2	
					D	5	2.00	U=72/mm	
					U	6	2.00 -		
				32.07 2.50	D	7	2.50		
Firm brown silty CLAY. (POSSIBLE WEATHERED LONDON CLAY)				(1.00)	B	8	3.00 3.00 - 3.45	SPT N=18 4,3/5,4,4,5	
					D	9	3.60		
				31.07 3.50	D	10	4.00	U=84/mm	
Stiff becoming very stiff brown mottled grey and pink friable CLAY. High mineral content. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)					U	11	4.00 -		
					B	12	5.00		
					D	13	5.00 - 5.45	SPT N=36 6,7/8,8,9,11	
				(4.80)	B	14	6.50 6.50 - 6.95	SPT N=42 6,7/7,8,11,16	
					B	15	8.00 8.00 - 8.45	SPT N=50/205mm (9,13/13,21,16/55mm)	
				26.27 8.30	D	16	9.00		
Very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)					B	17	9.50 9.50 - 9.95	SPT N=50/180mm (7,14/16,24,10/30mm)	

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 15.50 m bgl. 4. Installed with a HDPE standpipe to 15.80m bgl.	CHISELLING			WATER LEVEL OBSERVATIONS					
	Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth	
	NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:					
	BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED		
			15.80m						

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 1 of 2
Plant Used: Dando 2000	Coordinates / Level (mAOD): E: 507832.392 N: 184843.574 Level: 34.571	Logged By: CB	Checked By: CB Approved By: SS

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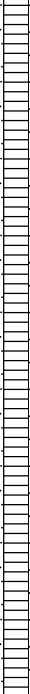



Project: **Hillingdon** Project No: **14-0724.01** Hole ID: **CP03**

CABLE PERCUSSION BOREHOLE LOG

Date From / To:
08/04/2015 - 10/04/2015

Client:
Spenn Hill

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)(BH Continued)				(7.20)	B	18	11.00 11.00 - 11.45	SPT N=50/210mm (6,12/14,19,17/60mm)	
					B	19	12.50 12.50 - 12.95	SPT N=50/285mm (4,8/8,14,16,12/60mm)	
					D	20	13.50		
					B	21	14.00 14.00 - 14.45	SPT N=50/200mm (6,11/13,17,20/50mm)	
Very stiff, brown, very sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)			15.80	19.07 15.50 18.77 15.80	B	22	15.50 15.50 - 15.95	SPT N=50/180mm (7,10/17,22,11/30mm)	
Borehole completed at 15.80m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Groundwater encountered at 15.50 m bgl.
4. Installed with a HDPE standpipe to 15.80m bgl.

CHISELLING

Depth From	Depth To	Time Taken

NO CHISELLING UNDERTAKEN:

WATER LEVEL OBSERVATIONS

Date	Time	Water Strike	Standing Level	Casing Depth

NO WATER ENCOUNTERED:

BOREHOLE DIAMETER

CASING DIAMETER

DEPTH SEALED

15.80m

All measurements in metres unless otherwise stated

10m/page Scale: 1:62.50

Coordinates to National Grid
 Ground Level to Ordnance Datum

Page 2 of 2

Plant Used: **Dando 2000** Coordinates / Level (mAOD): **E: 507832.392 N: 184843.574 Level: 34.571** Logged By: **CB** Checked By: **CB** Approved By: **SS**

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Project: Hillingdon				Project No: 14-0724.01				Hole ID: CP04					
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 01/04/2015 - 08/04/2015				Client: Spenn Hill					

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
MADE GROUND: Grass overlying soft dark brown, slightly sandy CLAY.				34.11 0.30	ES B	1 2	0.20 0.30		
Soft becoming stiff brown mottled orange, slightly gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint. (POSSIBLE WEATHERED LONDON CLAY)				(1.90)	ES B	3 4	1.00 1.20 1.20 - 1.65	SPT N=6 1,0/1,1,2,2	
Stiff brown mottled grey and orange friable, bedded, thinly laminated CLAY. (POSSIBLE WEATHERED LONDON CLAY)				32.21 2.20	B U D	5 6 7	2.00 2.00 - 2.40	U=37/mm	
Stiff grey and brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(0.80)	B	8	3.00 3.00 - 3.45	SPT N=21 3,2/3,5,6,7	
Stiff grey and brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				31.41 3.00	D U	9 10	4.00 4.00 -	U=104/mm	
Hard, becoming very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				29.61 4.80 29.41 5.00	D B D	11 12 13	4.80 5.00 5.00 - 5.45	SPT N=50/155mm (8,17/21,24,5/5mm)	
Medium dense, brown, fine to medium SAND.				(0.60)	D	14	5.60		
Hard, becoming very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				28.81 5.60	D	15	5.70		
					B	16	6.50 6.50 - 6.95	SPT N=28 5,6/6,7,7,8	
					D D	17 18	7.00 7.10		
					B	19	8.00 8.00 - 8.45	SPT N=31 6,6/8,8,7,8	
					D	20	9.00		
					B	21	9.50 9.50 - 9.95	SPT N=50/285mm (5,8/11,12,14,13/60mm)	

(mm)

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 5.10m bgl and 14.70 m bgl. 4. Installed with a HDPE standpipe to 20.00m bgl.										CHISELLING			WATER LEVEL OBSERVATIONS				
										Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
										NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
										BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED	
										20.00m			20.00m				

All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum		Page 1 of 3
Plant Used: Dando 2000		Coordinates / Level (mAOD): E: 507854.662 N: 184881.994 Level: 34.41	Logged By: CB		Checked By: CB Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP04			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 01/04/2015 - 08/04/2015		Client: Spenn Hill			
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Hard, becoming very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)(BH Continued)				(9.10)					
				B	22	11.00 11.00 - 11.45	SPT N=52/215mm (7,10/12,15,25/65mm)		
				B	23	12.90 12.90 - 13.35	SPT N=50/265mm (4,9/10,11,18,11/40mm)		
				D	24	13.50			
					B	25	14.00 14.00 - 14.45	SPT N=50/115mm (11,14/32,18/40mm)	
				19.71 14.70					
Brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)				(1.70)	B	26	15.50 15.50 - 15.95	SPT N=32 7,8/8,8,8	
				18.01 16.40	D	27	16.50		
Stiff to hard reddish brown CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)					D	28	16.80		
					B	29	17.00 17.00 - 17.45	SPT N=50/115mm (14,11/27,23/40mm)	
				(3.60)	B	30	18.50 18.50 - 18.95	SPT N=50/105mm (16,9/50mm/34,16/30mm)	
				20.00 14.41 20.00			20.00 - 20.45		

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 5.10m bgl and 14.70 m bgl. 4. Installed with a HDPE standpipe to 20.00m bgl.					CHISELLING			WATER LEVEL OBSERVATIONS				
					Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
					NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
					BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
					20.00m			20.00m			20.00m	

All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum		Page 2 of 3
Plant Used: Dando 2000	Coordinates / Level (mAOD): E: 507854.662 N: 184881.994 Level: 34.41		Logged By: CB	Checked By: CB	Approved By: SS

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Project: Hillingdon	Project No: 14-0724.01	Hole ID: CP04
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CABLE PERCUSSION BOREHOLE LOG

Date From / To:
01/04/2015 - 08/04/2015

Client:
Spenn Hill

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Borehole completed at 20.00m bgl.								SPT N=50/200mm (13,12/70mm/16,19,15/50mm)	

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Groundwater encountered at 5.10m bgl and 14.70 m bgl.
4. Installed with a HDPE standpipe to 20.00m bgl.

CHISELLING

Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
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NO CHISELLING UNDERTAKEN:

NO WATER ENCOUNTERED:

BOREHOLE DIAMETER
CASING DIAMETER
DEPTH SEALED

20.00m

All measurements in metres unless otherwise stated

10m/page Scale: 1:62.50

Coordinates to National Grid
Ground Level to Ordnance Datum

Page 3 of 3

Plant Used: Dando 2000	Coordinates / Level (mAOD): E: 507854.662 N: 184881.994 Level: 34.41	Logged By: CB	Checked By: CB	Approved By: SS
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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP05			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 07/04/2015 - 08/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth		
MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL.				34.39 0.20	ES	1	0.40		
			33.94 0.65	D	2	0.50			
				ES	3	0.70			
				D	4	1.00			
MADE GROUND: Reddish brown, fine to coarse, sub-angular to sub-rounded brick, concrete and limestone GRAVEL. Occasional brick cobbles.				(1.65)			1.50 - 1.95	SPT N=10 1,1/2,2,3,3	
Firm becoming stiff orangeish brown slightly gravelly CLAY. Gravel is fine to medium, sub-rounded to sub-angular flint, limestone and sandstone. Rare flint cobbles. (POSSIBLE WEATHERED LONDON CLAY)					D	5	2.00		
Firm becoming stiff, friable, bedded, thinly laminated brown mottled grey and orange CLAY. (POSSIBLE WEATHERED LONDON CLAY)				32.29 2.30	D	6	2.50	U=20/mm	
			(0.70)	U	7	2.50 -			
Firm becoming stiff, brown mottled grey and pink friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				31.59 3.00	D	8	3.00	SPT N=18 2,2/4,4,4,6	
			(1.00)	D	9	3.50			
						3.50 - 3.95			
			30.59 4.00	D	10	4.00			
Stiff becoming very stiff brown mottled pink and greyish green friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)					D	11	4.50	U=41/mm	
				U	12	4.50 -			
				D	13	5.00			
							6.00 - 6.45	SPT N=25 3,4/5,5,7,8	
				D	14	7.00			
				U	15	7.50 -			
								U=52/mm	
				D	16	8.00			
				(9.00)			9.00 - 9.45	SPT N=31 4,6/6,8,9,8	
			(mm)		D	17	10.00		

REMARKS :

- Engineer verified logged in general accordance to BS 5930:2010.
- Area CAT scanned prior to excavation.
- Groundwater encountered at 13.70 m bgl.
- Installed with a 50 mm HDPE standpipe to 20.00 m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS				
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
	20.00m	

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 1 of 3
Plant Used: Pilson Wayfarer	Coordinates / Level (mAOD): E: 507863.222 N: 184924.368 Level: 34.592	Logged By: CB	Checked By: CB Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP05			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 07/04/2015 - 08/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL / DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Stiff becoming very stiff brown mottled pink and greyish green friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)(BH Continued)	[Pattern]				D	18	10.50	U=59/mm	[Pattern]
					U	19	10.50 -		
					D	20	11.00		
					D	21	12.00 12.00 - 12.45	SPT N=45/225mm (5,7/10,11,24)	
			21.59 13.00		D	22	13.00		
Firm to hard brown, very sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]		(0.70)		U	23	13.50 -	U=21/mm	
			20.89 13.70				14.00 - 14.45	SPT N=50/150mm (6,10/20,30)	
Brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			(2.80)	D	24	15.00		
							15.50 - 15.95	SPT N=37/150mm (7,9/15,22)	
			18.09 16.50		D	25	16.50		
					D	26	17.00 17.00 - 17.45	SPT N=45 5,6/10,10,11,14	
Very stiff brown CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			(3.50)	D	27	18.00		
							18.50 - 18.95	SPT N=47 6,7/9,10,12,16	
							19.50 - 19.95	SPT N=50/255mm (5,6/9,9,16,16/30mm)	
			20.00	14.59 20.00					

REMARKS :

- Engineer verified logged in general accordance to BS 5930:2010.
- Area CAT scanned prior to excavation.
- Groundwater encountered at 13.70 m bgl.
- Installed with a 50 mm HDPE standpipe to 20.00 m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS					
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth	
NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:					
BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED			
			20.00m					

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 2 of 3
Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507863.222 N: 184924.368 Level: 34.592	Logged By: CB	Checked By: CB Approved By: SS

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Project: **Hillingdon** Project No: **14-0724.01** Hole ID: **CP05**

CABLE PERCUSSION BOREHOLE LOG

Date From / To:
 07/04/2015 - 08/04/2015

Client:
Spenn Hill



DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Borehole completed at 20.00m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Groundwater encountered at 13.70 m bgl.
4. Installed with a 50 mm HDPE standpipe to 20.00 m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS						
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth		
NO CHISELLING UNDERTAKEN:					NO WATER ENCOUNTERED:				
BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED			
			20.00m						

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum			Page 3 of 3	
Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507863.222 N: 184924.368 Level: 34.592	Logged By: CB		Checked By: CB		Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01			Hole ID: CP06				
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 01/04/2015 - 02/04/2015			Client: Spenn Hill				
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details		
					TYPE	REF	Depth	SPT N Value/Drive mm			
MADE GROUND: Tarmac and concrete overlying brown, sandy, fine to medium sub-angular to sub-rounded limestone, flint and concrete GRAVEL.				34.31 0.20							
Firm greyish brown, occasionally black CLAY. Slight hydrocarbon odour at interface with Made Ground. (POSSIBLE WEATHERED LONDON CLAY)											
Firm becoming stiff brown mottled grey CLAY. (POSSIBLE WEATHERED LONDON CLAY)											
Firm becoming stiff brown mottled grey friable, bedded, thinly laminated CLAY. (POSSIBLE WEATHERED LONDON CLAY)											
Stiff grey mottled orange and pink friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)											
Stiff brown mottled greyish green and pink CLAY. Becoming less pink with depth. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)											
REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 15.00m bgl and 18.30 m bgl. 4. Installed with a 50 mm HDPE standpipe to 20.00 m bgl.				CHISELLING Depth From Depth To Time Taken			WATER LEVEL OBSERVATIONS Date Time Water Strike Standing Level Casing Depth				
				NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
				BOREHOLE DIAMETER			CASING DIAMETER				
				19.50m			DEPTH SEALED				
All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50		Coordinates to National Grid Ground Level to Ordnance Datum				Page 1 of 2			
Plant Used: Pilcon Wayfarer		Coordinates / Level (mAOD): E: 507827.832 N: 184941.816 Level: 34.508		Logged By: CB			Checked By: CB		Approved By: SS		

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP06			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 01/04/2015 - 02/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Stiff becoming very stiff reddish brown mottled grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)	[Pattern]	[Pattern]		(5.00)	U	20	10.50 -	U=62/mm	[Pattern]
					D	21	11.00		
					D	22	12.00 12.00 - 12.45	SPT N=50/200mm (6,8/11,15,24/50mm)	
					D	23	13.00		
					U	24	13.50 -	U=64/mm	
					D	25	14.00		
Brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]	[Pattern]		(1.90)	D	26	15.00 15.00 - 15.45	SPT N=50/180mm (6,10/12,25,13/30mm)	[Pattern]
					D	27	16.00		
					D	28	16.20		
Very stiff reddish brown mottled grey CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]	[Pattern]		(1.40)	D	29	16.50 16.50 - 16.95	SPT N=50/135mm (8,9/23,27/60mm)	[Pattern]
					D	30	17.50		
					D	31	18.00 18.00 - 18.45		
Brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]	[Pattern]		(0.60)	D	32	19.00		[Pattern]
					D	33	19.50 19.50 - 19.95		
Very stiff grey very sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]	[Pattern]		(0.60)					[Pattern]
Borehole completed at 19.50m bgl.									[Pattern]

REMARKS :

- Engineer verified logged in general accordance to BS 5930:2010.
- Area CAT scanned prior to excavation.
- Groundwater encountered at 15.00m bgl and 18.30 m bgl.
- Installed with a 50 mm HDPE standpipe to 20.00 m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS				
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
			19.50m				

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 2 of 2
Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507827.832 N: 184941.816 Level: 34.508	Logged By: CB	Checked By: CB Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP07			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 30/03/2015 - 31/03/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL / DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
MADE GROUND: Grass overlying brown slightly sandy, slightly gravelly CLAY. Gravel is fine to medium, sub-rounded to sub-angular flint.				34.68 0.30	B ES	1 2	0.20		
Soft becoming stiff brown mottled orange slightly gravelly CLAY. Gravel is fine to medium, sub-rounded to sub-angular flint. (POSSIBLE WEATHERED LONDON CLAY)				(0.80) 33.88 1.10	B	3	1.20 1.20 - 1.65	SPT N=5 1,0/1,1,1,2	
Soft becoming stiff brown mottled orange silty CLAY. (POSSIBLE WEATHERED LONDON CLAY)				(1.80)	ES D U	4 5 6	1.80 2.00 2.00 -	U=24/mm	
Stiff brown mottled grey and orange friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				32.08 2.90	B D	8 9	3.00 3.00 - 3.45	SPT N=26 3,5/6,6,7,7	
Stiff becoming very stiff brown mottled greenish grey and pink CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(2.10)	D U D	10 11 12	4.00 4.00 - 4.50	U=62/mm	
				29.98 5.00	B	13	5.00 5.00 - 5.45	SPT N=20 1,1/4,4,6,6	
				(6.00)	D	14	5.50		
					U D	15 16	6.40 - 6.50	U=78/mm	
					D	17	7.00		
					B D	18 19	8.00 8.00 - 8.45	SPT N=42 6,6/5,11,12,14	
					D	20	9.00		
					D U	21 22	9.50 9.50 -	U=120/mm	

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Borehole remained dry upon completion. 4. Installed with a HDPE standpipe to 14.30m bgl	CHISELLING			WATER LEVEL OBSERVATIONS				
	Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
	NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
	BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
			14.30m					

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 1 of 2
Plant Used: Dando 2000	Coordinates / Level (mAOD): E: 507776.095 N: 184983.701 Level: 34.979	Logged By: CB	Checked By: CB Approved By: SS



Hillingdon

14-0724.01

CP07

CABLE PERCUSSION BOREHOLE LOG

30/03/2015 - 31/03/2015

Spen Hill

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry upon completion.
4. Installed with a HDPE standpipe to 14.30m bgl

CHISELLING			WATER LEVEL OBSERVATIONS					
Depth From	Depth To	Time Taken		Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:						NO WATER ENCOUNTERED:		

BOREHOLE DIAMETER	CASING DIAMETER	DEPTH SEALED
	14.30m	

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum		Page 2 of 2
Plant Used: Dando 2000	Coordinates / Level (mAOD): E: 507776.095 N: 184983.701 Level: 34.979	Logged By: CB	Checked By: CB	Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP08			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 09/04/2015 - 10/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL / DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
MADE GROUND: Tarmac overlying a brick layer, overlying brown, sandy, fine to medium sub-angular to sub-rounded limestone, flint and concrete GRAVEL.				34.12 0.40	ES	1	0.50		
Firm brown mottled orange CLAY. (POSSIBLE WEATHERED LONDON CLAY)				(0.70) 33.42 1.10	D	3	1.00		
Firm becoming stiff brown mottled orange silty CLAY. (POSSIBLE WEATHERED LONDON CLAY)				(0.85) 32.57 1.95	ES	4	1.50	SPT N=10 1,2/1,2,3,4	
Firm becoming stiff brown mottled grey and pink, friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(2.55)	D	5	2.00		
					U	6	2.50 -	U=20/mm	
					D	7	3.00		
							3.50 - 3.95		
					D	8	4.00	SPT N=16 1,2/3,3,4,6	
				30.02 4.50	U	9	4.50 -	U=45/mm	
Stiff, brown mottled greenish grey friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(2.50)	D	10	5.00		
							6.00 - 6.45	SPT N=33 3,6/6,7,9,11	
				27.52 7.00	D	11	7.00		
Stiff becoming very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)					U	12	7.50 -	U=48/mm	
					D	13	8.00		
							9.00 - 9.45	SPT N=48 5,7/9,11,12,16	
				(4.90)	D	14	10.00		

REMARKS :

- Engineer verified logged in general accordance to BS 5930:2010.
- Area CAT scanned prior to excavation.
- Groundwater encountered at 11.90 m bgl.
- Installed with a HDPE standpipe to 20.00 m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS					
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth	
NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:					
BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED			
			20.00m					

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 1 of 3
Plant Used: Pilson Wayfarer	Coordinates / Level (mAOD): E: 507742.364 N: 184946.174 Level: 34.522	Logged By: CB	Checked By: CB Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP08			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 09/04/2015 - 10/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL / DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Stiff becoming very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)(BH Continued)	[Pattern]				D	15 16	10.50		[Pattern]
					D	17	11.00		
Very stiff becoming hard, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			22.62 11.90			12.00 - 12.45	SPT N=100 6,10/12,20,18,50	[Pattern]
Very stiff becoming hard, reddish brown mottled greenish grey CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			22.22 12.30					
					D	18	13.00		
				(2.10)	U	19	13.50 -	U=68/mm	
					D	20	14.00		
				20.12 14.40					
Very dense brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]						15.00 - 15.45	SPT N=115/225mm (8,11/29,31,55)	[Pattern]
				(2.60)	D	21	16.00		
							16.50 - 16.95	SPT N=85 7,10/19,19,12,35	
				17.52 17.00					
Very stiff, brown mottled grey, very sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			(0.50) 17.02 17.50	D	22 23	17.50		
Very stiff becoming hard brown CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]						18.00 - 18.45	SPT N=100/225mm (5,10/22,28,50)	
				(2.00)	D	24	19.00		
				15.02 19.50			19.50 - 19.95	SPT N=90/225mm (8,11/15,35,40)	[Pattern]
Very dense, brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			(0.50) 20.00 14.52 20.00					

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 11.90 m bgl. 4. Installed with a HDPE standpipe to 20.00 m bgl.	CHISELLING			WATER LEVEL OBSERVATIONS				
	Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
	NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
	BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
			20.00m					

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 2 of 3
Plant Used: Pilson Wayfarer	Coordinates / Level (mAOD): E: 507742.364 N: 184946.174 Level: 34.522	Logged By: CB	Checked By: CB Approved By: SS

Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507742.364 N: 184946.174 Level: 34.522	Logged By: CB	Checked By: CB	Approved By: SS
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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP09						
CABLE PERCUSSION BOREHOLE LOG				Date: 30/03/2015		Client: Spenn Hill						
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL / DEPTH (Thickness)	Sample Details			Test Results	Backfill Details			
					TYPE	REF	Depth	SPT N Value/Drive mm				
MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL. Borehole completed at 0.50m bgl.				(0.50) 34.49 0.50	D	1	0.50	U=17/mm				
					D	2	1.00					
					D	3	2.00					
					U	4	2.50 -	U=33/mm				
					D	5	3.00					
					D	6	4.00					
					U	7	4.50 -	U=41/mm				
					D	8	6.00					
					U	9	6.50 -					
					D	10	7.00	U=52/mm				
					D	11	9.00					
					U	12	9.50 -					
					D	13	10.00					
REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 18.40 m bgl. 4. Installed with a HDPE standpipe to 20.00 m bgl.				CHISELLING			WATER LEVEL OBSERVATIONS					
				Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth	
				NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:					
				BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED		
All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50		Coordinates to National Grid Ground Level to Ordnance Datum				Page 1 of 2				
Plant Used: Pilcon Wayfarer		Coordinates / Level (mAOD): E: 507727.136 N: 184890.369 Level: 34.991		Logged By: CB		Checked By: CB		Approved By: SS				

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Project: **Hillingdon** Project No: **14-0724.01** Hole ID: **CP09**

CABLE PERCUSSION BOREHOLE LOG

Date: **30/03/2015**

Client: **Spenn Hill**

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details	
					TYPE	REF	Depth	SPT N Value/Drive mm		
					D	14	12.00	U=60/mm		
					U	15	12.50 -			
					D	16	13.00			
					D	17	15.00	U=71/mm		
					U	18	15.50 -			
					D	19	16.00			
					D	20	18.00			

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Groundwater encountered at 18.40 m bgl.
4. Installed with a HDPE standpipe to 20.00 m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS						
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth		
NO CHISELLING UNDERTAKEN:									
BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED			

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum			Page 2 of 2
Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507727.136 N: 184890.369 Level: 34.991	Logged By: CB		Checked By: CB	Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP09(A)			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 08/04/2015 - 09/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL.				(0.50)	ES	1	0.30		
0.50				ES	2	0.70			
MADE GROUND: Soft to firm, brown gravelly CLAY. Gravel is fine to medium, sub-angular to angular brick.				(0.80)	D	3	1.50	SPT N=11 1,2/2,2,3,4	
1.30				1.50 - 1.95					
Firm brown mottled orange, gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint. Occasional flint cobbles. (POSSIBLE WEATHERED LONDON CLAY)				1.70					
Firm, brown mottled orange silty CLAY. (POSSIBLE WEATHERED LONDON CLAY)				(1.60)					
Firm becoming stiff brown mottled grey and pink friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				3.30	D	4	3.50	SPT N=14 3,3/4,4,3,3	
				(4.70)			5.00 - 5.45	SPT N=24 3,4/4,5,6,9	
				8.00			8.00 - 8.45	SPT N=49 5,8/11,12,12,14	
Stiff becoming very stiff reddish brown mottled grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)					D	5	8.50		

(mm)

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Borehole remained dry on completion. 4. Backfilled with arisings.				CHISELLING			WATER LEVEL OBSERVATIONS				
				Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
				NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
				BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
							20.00m				

All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50	No Coordinate Data Available No Datum Information Available		Page 1 of 3
Plant Used: Dando 2000	Coordinates / Level (mAOD):		Logged By: CB	Checked By: CB	Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP09(A)					
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 08/04/2015 - 09/04/2015		Client: Spenn Hill					
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	DEPTH (Thickness)	Sample Details			Test Results	Backfill Details		
					TYPE	REF	Depth	SPT N Value/Drive mm			
Stiff becoming very stiff reddish brown mottled grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)(BH Continued)	[Pattern]			(5.70)			11.00 - 11.45	SPT N=38 5,7/8,8,10,12	[Pattern]		
Very stiff brown mottled grey friable, bedded, thinly laminated silty CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			13.70 (0.80) 14.50	D	6	14.00 14.00 - 14.45	SPT N=70 6,10/10,15,25,20	[Pattern]		
Very stiff reddish brown mottled grey CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			(2.50)					[Pattern]		
Very stiff grey sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			17.00 (1.40)			17.50 - 17.95	SPT N=88 8,9/13,22,13,40	[Pattern]		
Dense brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			18.40 18.70			18.50 - 18.95	SPT N=50+/150mm (9,50)	[Pattern]		
Very stiff grey CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]			(1.30)	D	7	19.00 19.50 - 19.95	SPT N=37 5,7/7,8,9,13	[Pattern]		
			20.00	20.00						[Pattern]	
REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Borehole remained dry on completion. 4. Backfilled with arisings.			CHISELLING			WATER LEVEL OBSERVATIONS					
			Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth	
			NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:					
			BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED			
						20.00m					
All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50	No Coordinate Data Available No Datum Information Available					Page 2 of 3			
Plant Used: Dando 2000		Coordinates / Level (mAOD):	Logged By: CB		Checked By: CB		Approved By: SS				

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Project: **Hillingdon** Project No: **14-0724.01** Hole ID: **CP09(A)**

CABLE PERCUSSION BOREHOLE LOG

Date From / To:
 08/04/2015 - 09/04/2015

Client:
Spenn Hill

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Borehole completed at 20.00m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Borehole remained dry on completion.
4. Backfilled with arisings.

CHISELLING			WATER LEVEL OBSERVATIONS						
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth		
NO CHISELLING UNDERTAKEN:					NO WATER ENCOUNTERED:				
BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED			
			20.00m						

All measurements in metres
 unless otherwise stated

10m/page Scale: 1:62.50

No Coordinate Data Available
 No Datum Information Available

Page 3 of 3

Plant Used:
 Dando 2000

Coordinates / Level (mAOD):

Logged By:
 CB

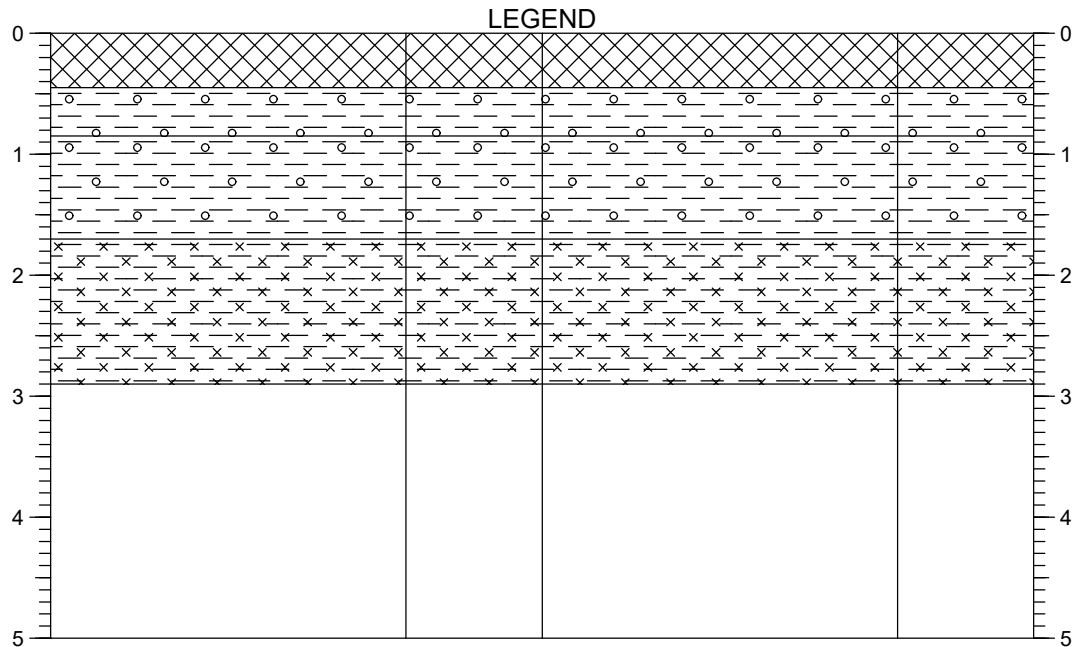
Checked By:
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Approved By:
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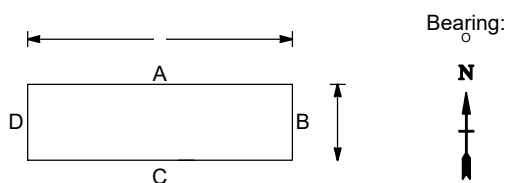


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP01
	TRIAL PIT LOG	Date:	25/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
34.294	0.45	MADE GROUND: Grass overlying soft to firm brown, slightly sandy, gravelly CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint, brick and limestone. Occasional rootlets and brick cobbles.	0.20	ES		
33.894	0.85		0.50	ES		
(0.85)		Firm grey friable, thinly laminated, slightly gravelly CLAY. Gravel is fine to medium, sub-angular flint. (POSSIBLE WEATHERED LONDON CLAY)	1.00	D		
33.044		1.70	Firm brown, mottled orange, gravelly CLAY. Gravel is fine to medium, sub-angular flint. Tree root identified at 1.50 m bgl. (POSSIBLE WEATHERED LONDON CLAY)			
(1.20)			Firm greyish brown, laminated, thinly bedded silty CLAY. Occasional shell / relic shell. Initially coarse gravel and rounded pebbles / angular concretions from 1.20 to 1.40 m bgl. (POSSIBLE WEATHERED LONDON CLAY).	2.00		
31.844	2.90	-----				
		Trial pit completed at 2.9m bgl.				

Shoring/Support:
Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
unless otherwise stated

5m/page Scale: 1:62.5

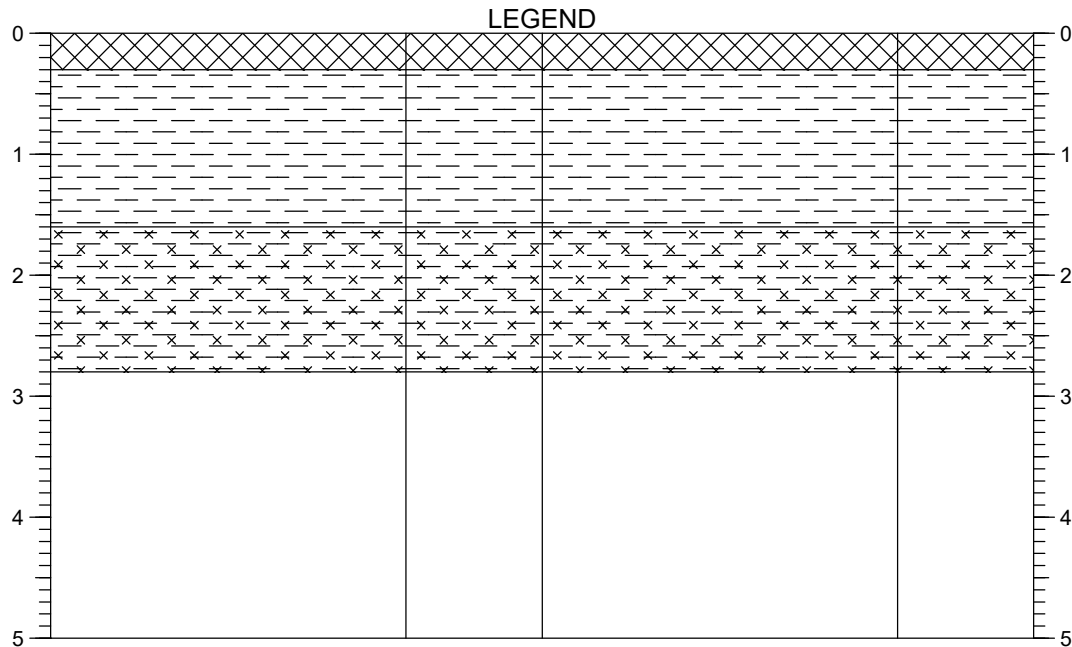
Coordinates to National Grid
Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507740.895 N: 184867.862 Level: 34.744	Logged By:	CB	Checked By:	CB	Approved By:	SS
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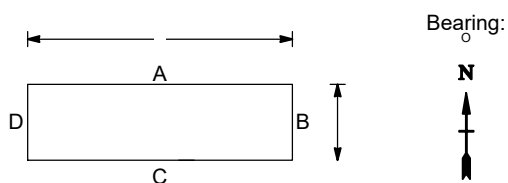


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP02
	TRIAL PIT LOG	Date:	25/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
34.275	0.30	MADE GROUND: Grass overlying soft to firm brown, slightly sandy, gravelly CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint, brick and limestone. Steel bar removed at 0.10 m bgl. Steel bar at 0.1 m bgl. Firm grey, mottled orange, friable CLAY. (POSSIBLE WEATHERED LONDON CLAY)	0.20	ES		
(1.30)			1.00	D		
32.975	1.60					
(1.20)		Firm brown mottled orange, laminated, thinly bedded silty CLAY. High cream coloured mineral content. Occasional root relics. (POSSIBLE WEATHERED LONDON CLAY).	1.80 2.00	D B		
31.775	2.80	-----				
		Trial pit completed at 2.8m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

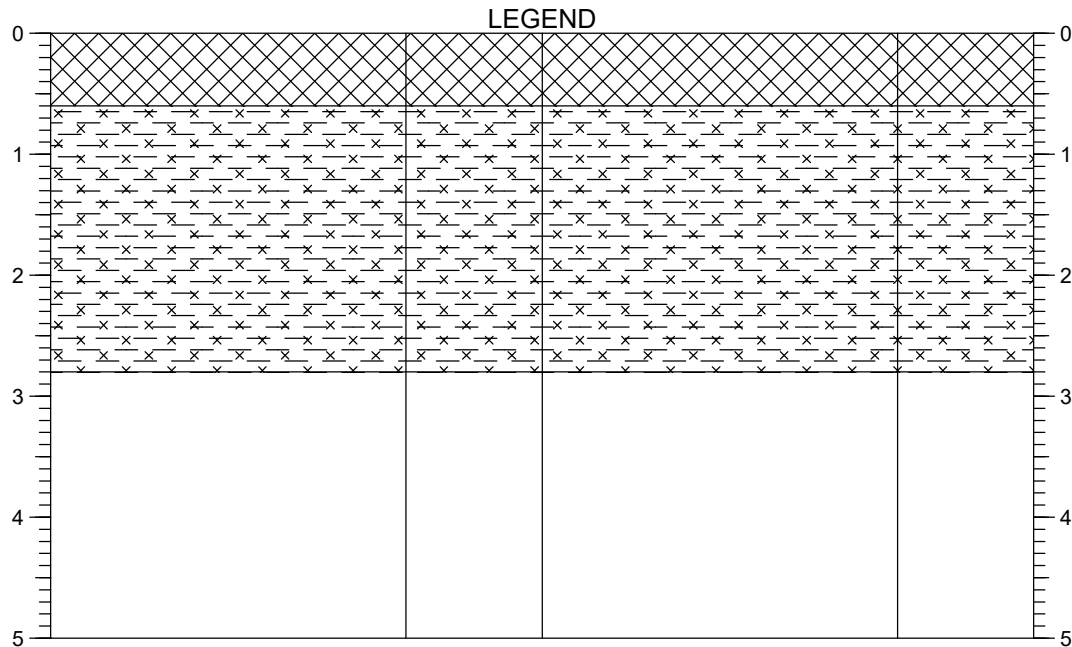
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507765.892 N: 184840.01 Level: 34.575	Logged By:	CB	Checked By:	CB	Approved By:	SS
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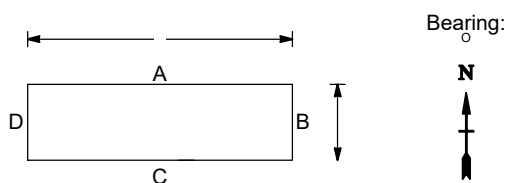


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP03
	TRIAL PIT LOG	Date:	25/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
(0.60) 34.119 0.60		MADE GROUND: Grass overlying soft to firm brown, slightly sandy, gravelly CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint, brick and limestone. Rare tarmac fragments.	0.50 1.00 2.50	ES ES D		
(2.20)		Firm brown mottled orange, laminated, thinly bedded silty CLAY. Becoming less friable with depth. (POSSIBLE WEATHERED LONDON CLAY)				
31.919 2.80						
		Trial pit completed at 2.8m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

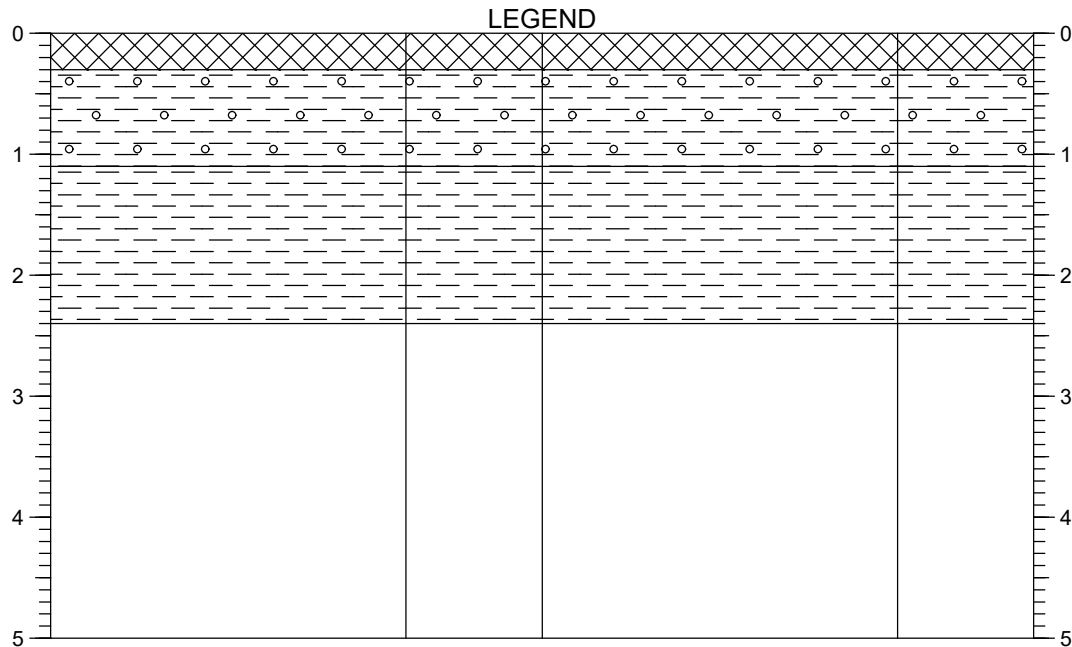
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507816.978 N: 184823.685 Level: 34.719	Logged By:	CB	Checked By:	CB	Approved By:	SS
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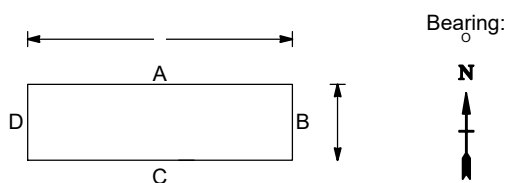


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP04
	TRIAL PIT LOG	Date:	25/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
34.324	0.30	MADE GROUND: Grass overlying soft to firm brown, slightly sandy, gravelly CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint, brick and limestone. Firm brown mottled orange, slightly gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint. Black organic material at 0.35 to 0.40 m. (POSSIBLE WEATHERED LONDON CLAY)	0.20	ES		
(0.80)			0.35	ES		
33.524	1.10		0.70	ES		
(1.30)		Firm, greyish brown mottled orange, friable, thinly laminated CLAY. High cream coloured mineral content. (POSSIBLE WEATHERED LONDON CLAY)	2.00	D		
32.224	2.40					
		Trial pit completed at 2.4m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

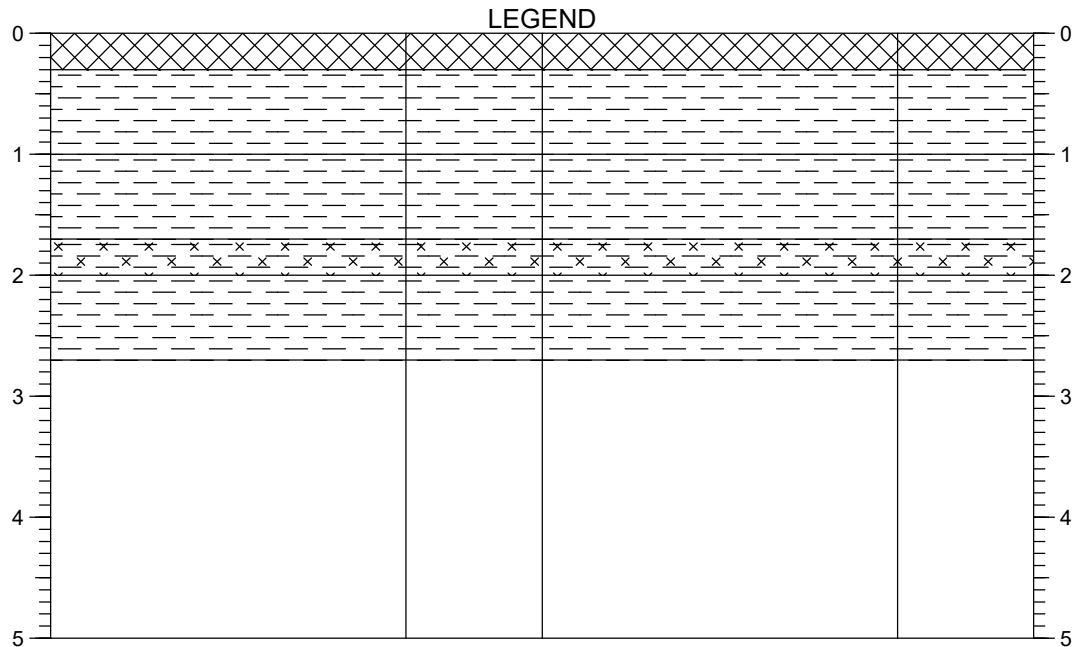
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507800.309 N: 184845.694 Level: 34.624	Logged By:	CB	Checked By:	CB	Approved By:	SS
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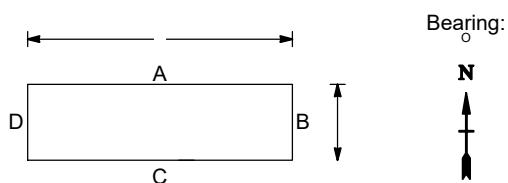


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP05
	TRIAL PIT LOG	Date:	25/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
34.219	0.30	MADE GROUND: Grass overlying soft to firm brown, slightly sandy, gravelly CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint, brick and limestone. Occasional brick cobbles.	0.20	ES		
(0.70)						
33.519	1.00	Firm brown mottled orange, friable, thinly laminated CLAY. (POSSIBLE WEATHERED LONDON CLAY)	1.00	ES		
(0.70)		Firm, greyish brown mottled orange, friable, thinly laminated CLAY. High cream coloured mineral content. (POSSIBLE WEATHERED LONDON CLAY)				
32.819	1.70					
32.519	2.00	Firm greyish brown, laminated, thinly bedded silty CLAY. (POSSIBLE WEATHERED LONDON CLAY).	2.30	D		
(0.70)		Firm, greyish brown mottled orange, friable, thinly laminated CLAY. High cream coloured mineral content. (POSSIBLE WEATHERED LONDON CLAY)				
31.819	2.70					
		Trial pit completed at 2.7m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

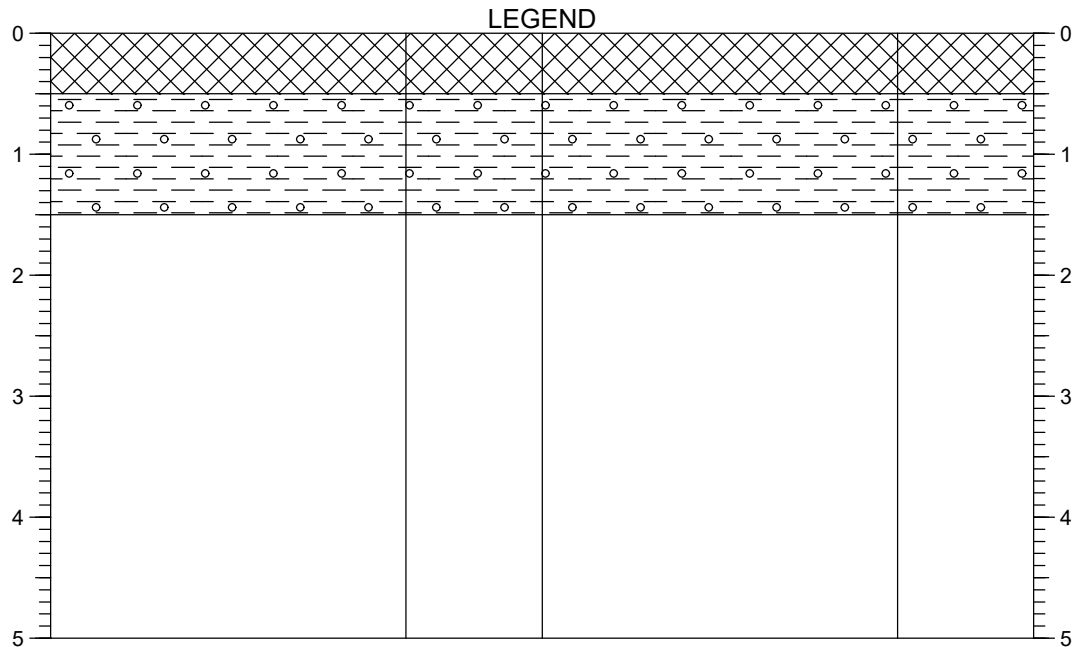
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507766.436 N: 184863.521 Level: 34.519	Logged By:	CB	Checked By:	CB	Approved By:	SS
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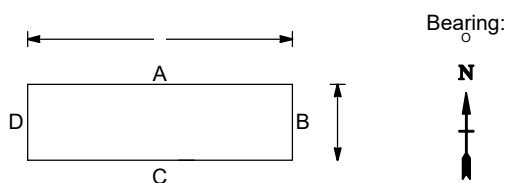


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP06
	TRIAL PIT LOG	Date:	25/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
(0.50) 34.054 0.50		MADE GROUND: Brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL. Rare wires. Brick wall from ground level to 0.30 m bgl on western side of Trial Pit.	0.20	ES		
(1.00) 33.054 1.50		Firm brown, mottled orange, gravelly CLAY. Gravel is fine to medium, sub-angular flint. Multicoloured, medium, rounded to sub-rounded gravel surrounding disused clay pipe at 0.70 m bgl. Foundations encountered at 0.30 m bgl to 0.90 m bgl. (POSSIBLE WEATHERED LONDON CLAY)				
		Trial pit completed at 1.5m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

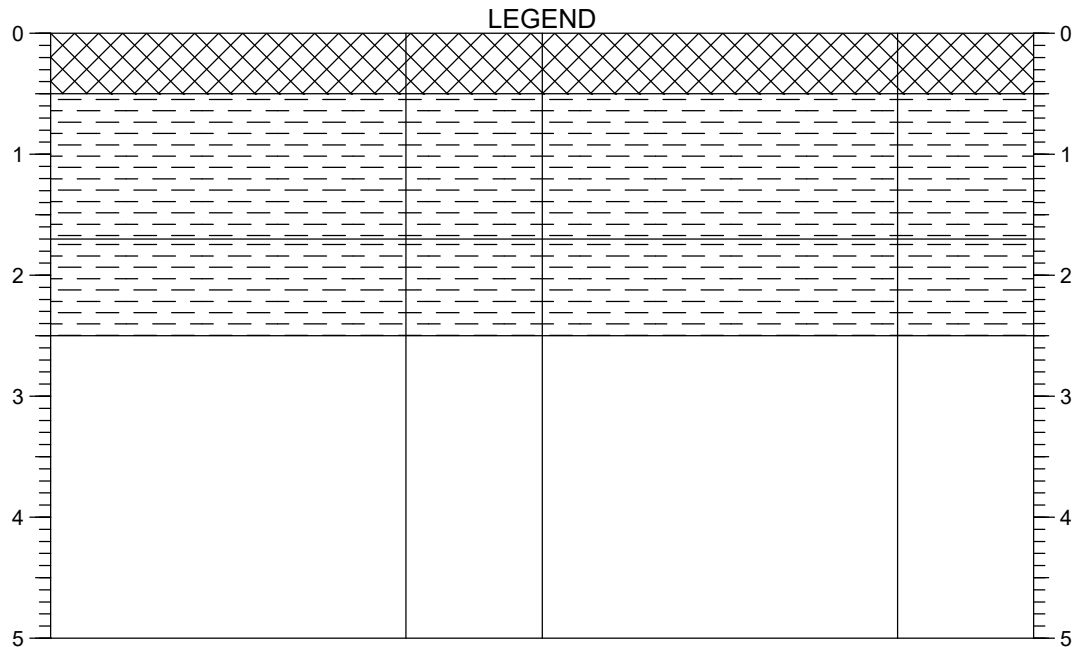
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507843.594 N: 184868.807 Level: 34.554	Logged By:	CB	Checked By:	CB	Approved By:	SS
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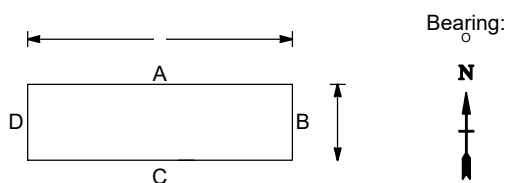


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP07
	TRIAL PIT LOG	Date:	25/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
(0.50) 33.75	0.50	MADE GROUND: Grass overlying soft to firm brown, slightly sandy, gravelly CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint, brick and limestone.	0.20	ES		
(1.20) 32.55	1.70	Firm to stiff orangeish brown CLAY. (POSSIBLE WEATHERED LONDON CLAY)	1.00	ES		
(0.80) 31.75	2.50	Firm to stiff grey mottled orange laminated, thinly bedded, friable CLAY, becoming occasionally pink with depth. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)	2.30	D		
		Trial pit completed at 2.5m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

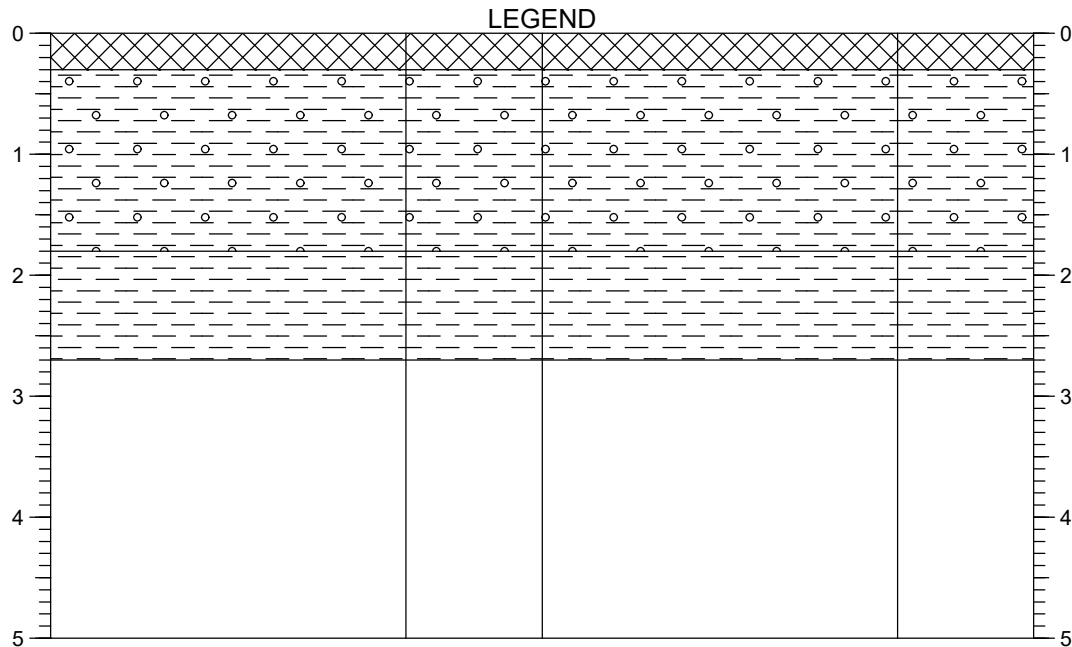
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507863.338 N: 184898.926 Level: 34.25	Logged By:	CB	Checked By:	CB	Approved By:	SS
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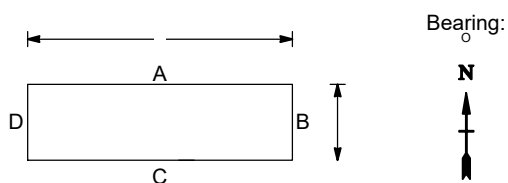


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP08
	TRIAL PIT LOG	Date:	25/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
34.056	0.30	MADE GROUND: Grass overlying soft to firm brown, slightly sandy, gravelly CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint, brick and limestone.	0.20	ES		
(1.50)		Firm, brown mottled orange, laminated, thinly bedded, gravelly CLAY. Gravel is fine to medium sub-angular to sub-rounded flint. (POSSIBLE WEATHERED LONDON CLAY)				
32.556	1.80		1.50	D		
(0.90)		Firm, grey mottled orange, friable, thinly laminated CLAY, becoming occasionally pink with depth. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)	2.00	ES		
31.656	2.70	Trial pit completed at 2.7m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

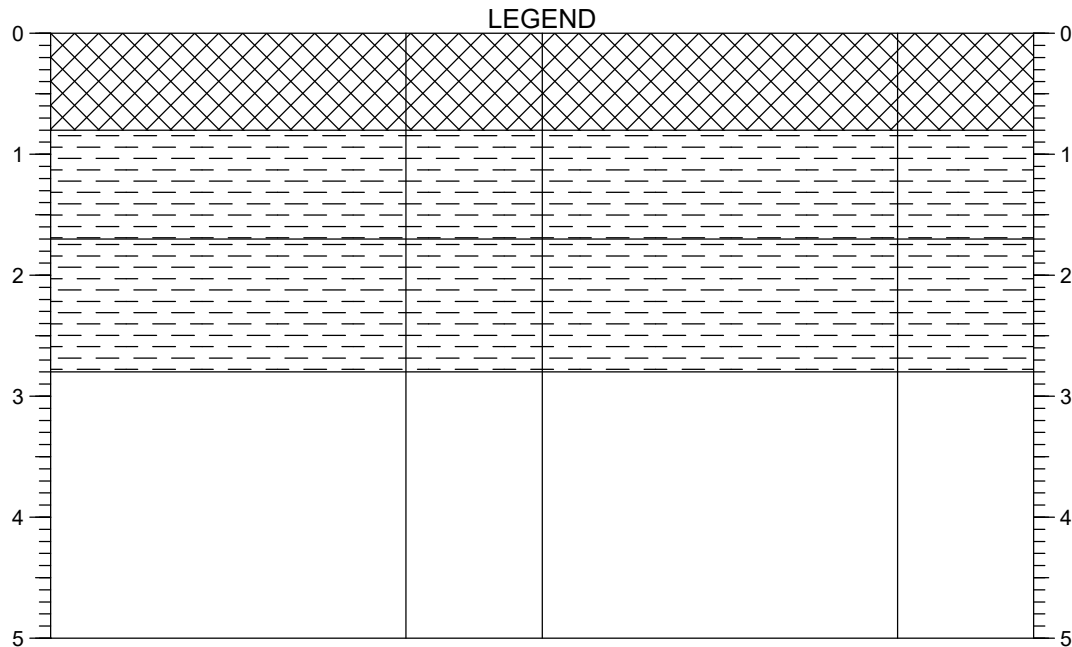
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507881.842 N: 184936.229 Level: 34.356	Logged By:	CB	Checked By:	CB	Approved By:	SS
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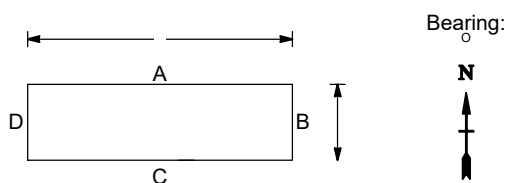


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP09
	TRIAL PIT LOG	Date:	26/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
(0.80) 33.78 0.80		MADE GROUND: Tarmac and concrete overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL.	0.20	ES		
(0.90) 32.88 1.70		Firm becoming stiff, brown mottled orange CLAY. (POSSIBLE WEATHERED LONDON CLAY)	1.20	D		
(1.10) 31.78 2.80		Firm brown mottled orange and grey friable, bedded, thinly laminated CLAY. (POSSIBLE WEATHERED LONDON CLAY)				
		Trial pit completed at 2.8m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

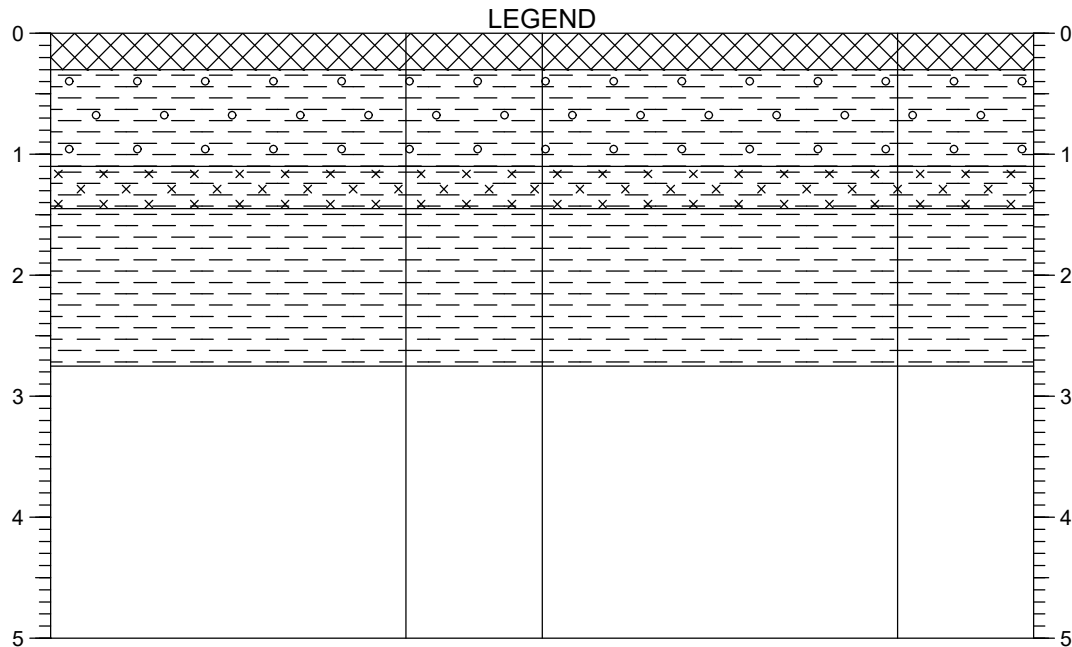
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used: JCB 3X	Coordinates / Level (mAOD): E: 507846.611 N: 184920.937 Level: 34.58	Logged By: CB	Checked By: CB	Approved By: SS
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Email: info@deltasimons.com

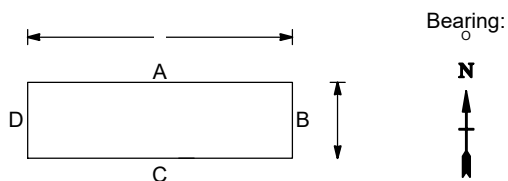


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP10
	TRIAL PIT LOG	Date:	26/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
34.222	0.30	MADE GROUND: Grass overlying soft brown, slightly sandy, gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded, brick, flint and limestone. Concrete removed at 0.05 m bgl. Tree roots at 0.10 m bgl.	0.20	ES		
(0.80)		Firm, brown mottled orange, laminated, thinly bedded, gravelly CLAY. Gravel is fine to medium sub-angular to sub-rounded flint. Occasional roots. Becoming slightly gravelly with depth. Gravel is fine to medium, sub-angular to sub-rounded flint. Occasional flint pebbles. (POSSIBLE WEATHERED LONDON CLAY)	1.20	ES		
33.422	1.10					
33.072	1.45	Soft becoming firm, light brown, silty CLAY. (POSSIBLE WEATHERED LONDON CLAY)				
(1.30)		Firm becoming stiff greyish brown mottled orange laminated, thinly bedded, friable CLAY. (POSSIBLE WEATHERED LONDON CLAY)				
31.772	2.75					
		Trial pit completed at 2.75m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

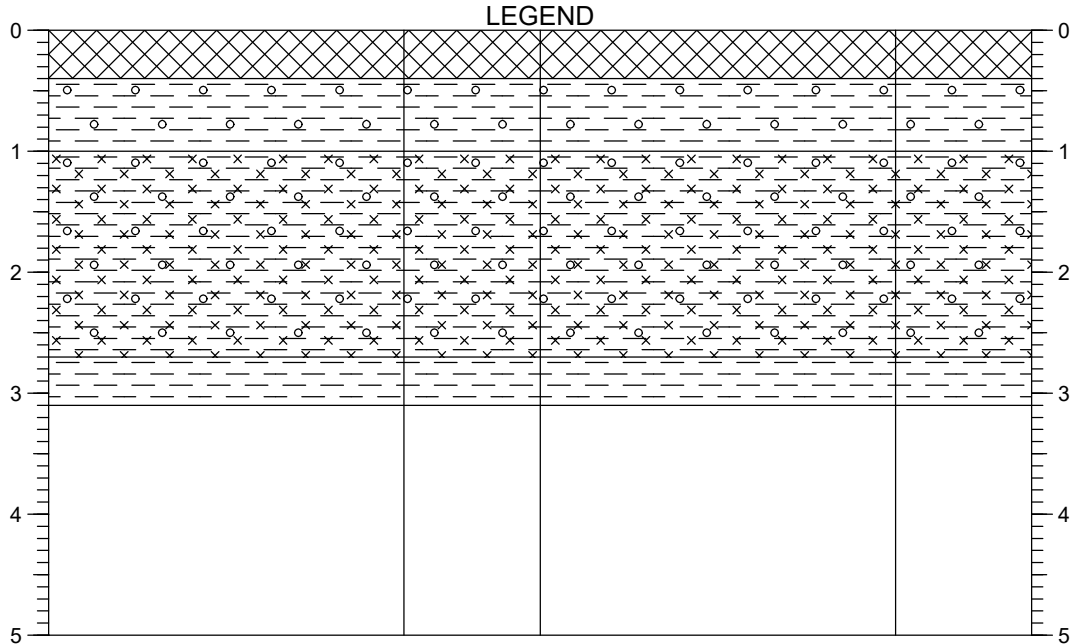
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507856.966 N: 184937.02 Level: 34.522	Logged By:	CB	Checked By:	CB	Approved By:	SS
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Fax: +44 (0) 1522 698393
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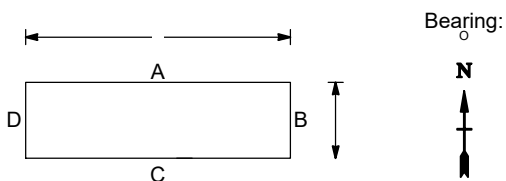


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP11
	TRIAL PIT LOG	Date:	26/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
34.366	0.40	MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL.				
(0.60)		Firm becoming stiff brown mottled orange, slightly gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint and limestone. (POSSIBLE WEATHERED LONDON CLAY)	0.50	ES		
33.766	1.00					
(1.70)		Firm, light brown mottled orange, gravelly, silty CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint and limestone. (POSSIBLE WEATHERED LONDON CLAY)	1.10	ES		
32.066	2.70					
31.666	3.10	Firm becoming stiff, grey mottled orange, friable, thinly laminated CLAY. High cream coloured mineral content. (POSSIBLE WEATHERED LONDON CLAY)				
		Trial pit completed at 3.1m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

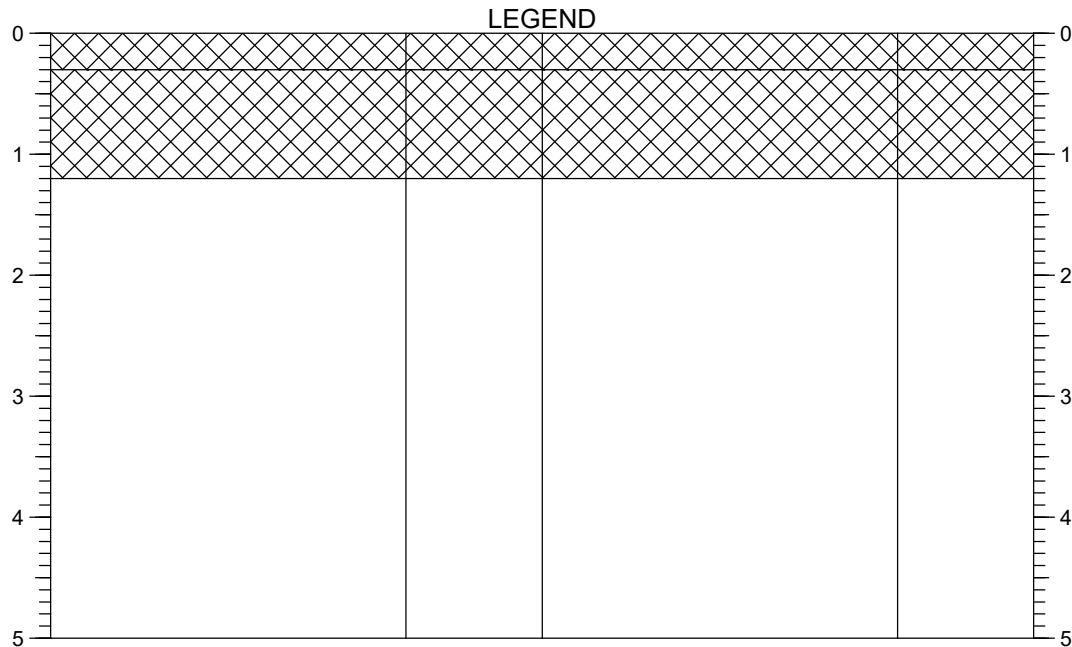
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507756.974 N: 184975.395 Level: 34.766	Logged By:	CB	Checked By:	CB	Approved By:	SS
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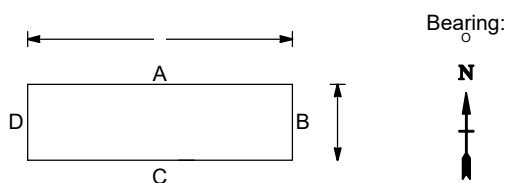


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP12
	TRIAL PIT LOG	Date:	26/03/2015	Client:	Spenn Hill



STRATA				SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results	
34.194	0.30	MADE GROUND: Grass overlying soft to firm brown, slightly sandy, gravelly CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint, brick and limestone.	0.20	ES			
(0.90)		MADE GROUND: Firm brown mottled orange friable, thinly laminated clay. Brick layer from ground level to 0.45 m bgl. Disused clay pipe at 1.00 m bgl.					
33.294	1.20	Trial pit completed at 1.2m bgl.					

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

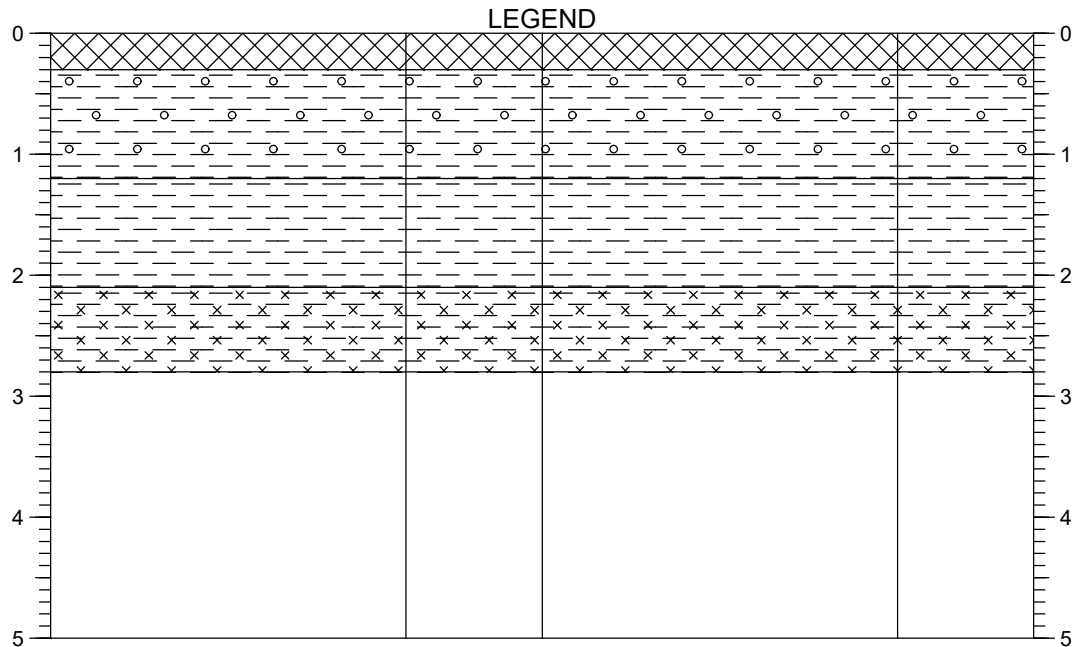
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507795.217 N: 184930.36 Level: 34.494	Logged By:	CB	Checked By:	CB	Approved By:	SS
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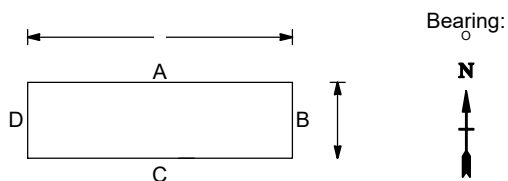


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP13
	TRIAL PIT LOG	Date:	26/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
34.273	0.30	MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL. Firm brown mottled orange, slightly gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint. (POSSIBLE WEATHERED LONDON CLAY)	0.20	ES		
(0.90)			0.50	ES		
33.373	1.20	Firm orangeish brown, friable, bedded, thinly laminated CLAY. (POSSIBLE WEATHERED LONDON CLAY)	2.50	D		
(0.90)						
32.473	2.10	Firm brown mottled orange friable, silty CLAY. (POSSIBLE WEATHERED LONDON CLAY).				
(0.70)						
31.773	2.80	-----				
		Trial pit completed at 2.8m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

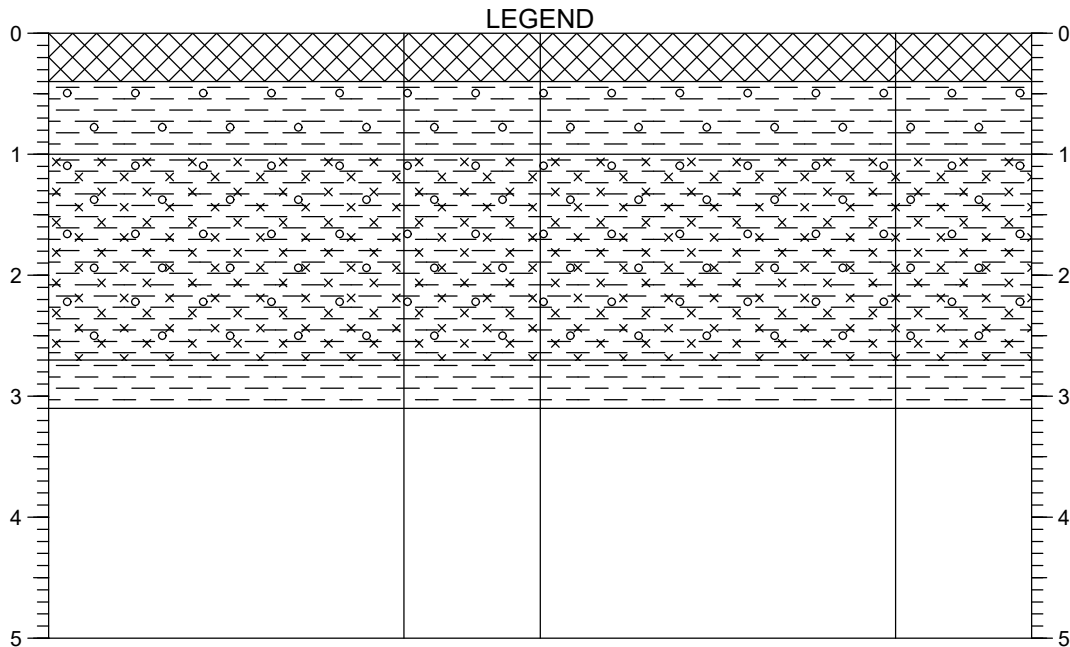
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507761.639 N: 184928.166 Level: 34.573	Logged By:	CB	Checked By:	CB	Approved By:	SS
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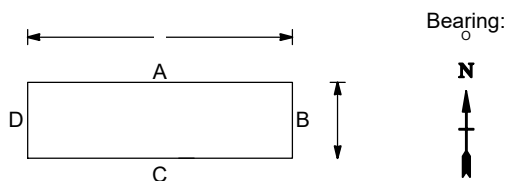


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP14
	TRIAL PIT LOG	Date:	26/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
34.141	0.40	MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL.				
(0.60)		Firm orangeish brown slightly gravelly CLAY. Gravel is fine to medium, sub-rounded to sub-angular flint, limestone and sandstone. Rare flint cobbles. (POSSIBLE WEATHERED LONDON CLAY)	0.50	ES		
33.541	1.00					
(1.70)		Firm light brown, slightly gravelly silty CLAY. Gravel is fine to medium, sub-rounded to sub-angular flint and limestone. Shell relic and white/cream mineral present. (POSSIBLE WEATHERED LONDON CLAY)	1.20	B		
31.841	2.70					
31.441	3.10	Firm friable grey mottled orange CLAY, becoming mottled pink with depth. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)	2.80	D		
		Trial pit completed at 3.1m bgl.				

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Trial Pit remained dry on completion.
4. Backfilled with arisings.

All measurements in metres
 unless otherwise stated

5m/page Scale: 1:62.5

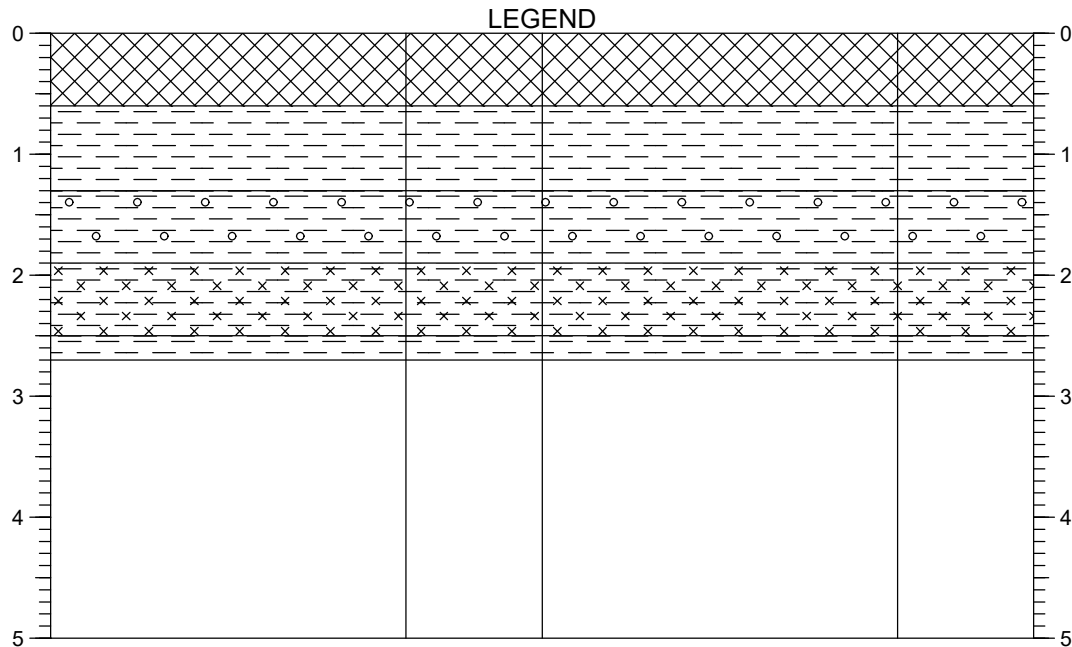
Coordinates to National Grid
 Ground Level to Ordnance Datum

Plant Used:	JCB 3X	Coordinates / Level (mAOD):	E: 507736.462 N: 184910.035 Level: 34.541	Logged By:	CB	Checked By:	CB	Approved By:	SS
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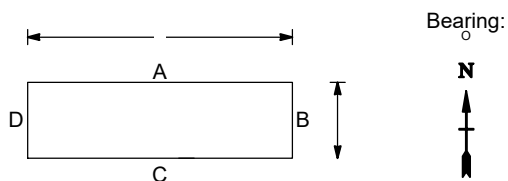


Project:	Hillingdon	Project No:	14-0724.01	Hole ID:	TP15
	TRIAL PIT LOG	Date:	26/03/2015	Client:	Spenn Hill



STRATA			SAMPLES		TESTS	
Depth	No	DESCRIPTION	Depth	No	Depth	Results
(0.60) 34.583 0.60		MADE GROUND: Concrete with re-bar, overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL. Black geo-textile membrane at 0.28 m bgl. Brick layer at base of strata.	0.35	ES		
(0.70) 33.883 1.30		Firm becoming stiff greyish brown mottled orange laminated, thinly bedded, friable CLAY. Small area of black clay 0.80 m to 1.0 m in west of trial pit only. Slight organic odour. (POSSIBLE WEATHERED LONDON CLAY)	0.85	ES		
(0.60) 33.283 1.90		Firm orangeish brown, friable, bedded, thinly laminated gravelly CLAY. Gravel is fine to coarse, sub-angular to sub-rounded flint and limestone. (POSSIBLE WEATHERED LONDON CLAY)				
(0.60) 32.683 2.50		Firm, orangeish brown friable, bedded, thinly laminated silty CLAY. Shells and relic shells present and high mineral content. (POSSIBLE WEATHERED LONDON CLAY)	2.00	ES		
32.483 2.70		Firm becoming stiff, light brown mottled orange and grey, friable, bedded, thinly laminated CLAY. High mineral content. (POSSIBLE WEATHERED LONDON CLAY) Trial pit completed at 2.7m bgl.	2.55	D		

Shoring/Support:
 Stability:



REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
 2. Area CAT scanned prior to excavation. 3. Trial Pit remained dry on completion. 4. Backfilled with arisings.

All measurements in metres unless otherwise stated	5m/page	Scale: 1:62.5	Coordinates to National Grid Ground Level to Ordnance Datum		
Plant Used: JCB 3X	Coordinates / Level (mAOD): E: 507709.473 N: 184899.754 Level: 35.183	Logged By: CB	Checked By: CB	Approved By: SS	





GROUNDWATER AND GROUND GAS MONITORING RECORD SHEET

Sheet:

1 of 1

Project Name:	Hillingdon	Weather Conditions:	Overcast, warm (16.8 degrees celsius)	Date:
Project Number:	14-0724.01	Gas Kit Model:	GFM435	13/04/2015
Personnel:	CB	Gas Kit Serial No:		

LOCATION	Flow Peak	Flow Steady	CH ₄ Peak	CH ₄ Steady	CO ₂ Peak	CO ₂ Steady	O ₂ Min.	O ₂ Steady	Atmospheric Pressure	PID	Well I.D.	Depth to Product (DTP)	Product Thickness	Depth to Water (DTW)	Depth to Base (DTB)	Height of Water Column	NOTES
	(L/hr)	(L/hr)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(mb)	(ppm)	(mm)	(m)	(m)	(m)	(m)	(m)	
CP01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	15.8	15.8	1026					1.770	15.440	13.670	
CP02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.4	20.4	1026					1.070	9.760	8.690	
CP03	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A					N/A	N/A	N/A	Borehole was not completed at time of monitoring
CP04	120.0	120.0	<0.1	<0.1	1.0	1.0	18.9	18.9	1026					0.900	12.290	11.390	Newly installed borehole - to be checked on next mo
CP05	<0.1	<0.1	<0.1	<0.1	0.1	0.1	19.9	19.9	1026					1.900	18.130	16.230	
CP06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.2	20.2	1026					1.540	14.450	12.910	
CP07	<0.1	<0.1	<0.1	<0.1	0.9	0.9	17.0	17.0	1026					2.050	14.340	12.290	
CP08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.1	20.1	1026					1.230	14.000	12.770	
CP09(A)	<0.1	<0.1	<0.1	<0.1	0.3	0.3	19.5	19.5	1026					2.360	14.430	12.070	

GUIDE TO PURGING VOLUMES

To calculate the number of litres to be purged from a well with a different diameter, use the formula $3\pi r^2 h$ (where r = radius of the well and h = height of the water column). Use the formula $\pi r^2 h$ to calculate the volume of a bailer. Please note that the standard bailers Delta-Simons use are typically 0.95 m in length.	Diameter of Casing (mm)	19	35	50	50	75	100
	Diameter of Bailer (mm)	18	19	19	38	38	38
	No. bails per m	4	12	22	6	13	23

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GROUNDWATER AND GROUND GAS MONITORING RECORD SHEET

Sheet:

1 of 1

Project Name:	Hillingdon	Weather Conditions:	Sunny, warm (15 degrees celsius)	Date:
Project Number:	14-0724.01	Gas Kit Model:	GFM435	21/04/2015
Personnel:	CB	Gas Kit Serial No:		

LOCATION	Flow Peak	Flow Steady	CH ₄ Peak	CH ₄ Steady	CO ₂ Peak	CO ₂ Steady	O ₂ Min.	O ₂ Steady	Atmospheric Pressure	PID	Well I.D.	Depth to Product (DTP)	Product Thickness	Depth to Water (DTW)	Depth to Base (DTB)	Height of Water Column	NOTES
	(L/hr)	(L/hr)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(mb)	(ppm)	(mm)	(m)	(m)	(m)	(m)	(m)	
CP01	<0.1	<0.1	<0.1	<0.1	0.3	0.3	16.6	16.6	1028					1.880	14.870	12.990	
CP02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.8	19.8	1028					1.280	9.460	8.180	
CP03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.3	20.3	1028					0.320	14.000	N/A	
CP04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.2	20.2	1028					0.980	12.350	11.370	
CP05	<0.1	<0.1	<0.1	<0.1	0.1	0.1	20.4	20.4	1028					1.920	17.960	16.040	
CP06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.3	20.3	1028					1.570	14.500	12.930	
CP07	<0.1	<0.1	<0.1	<0.1	0.9	0.9	18.4	18.4	1028					2.190	14.400	12.210	
CP08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	18.9	18.9	1028					1.550	13.760	12.210	
CP09A	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.0	20.0	1028					2.360	14.150	11.790	

GUIDE TO PURGING VOLUMES

To calculate the number of litres to be purged from a well with a different diameter, use the formula $3\pi r^2 h$ (where r = radius of the well and h = height of the water column). Use the formula $\pi r^2 h$ to calculate the volume of a bailer. Please note that the standard bailers Delta-Simons use are typically 0.95 m in length.	Diameter of Casing (mm)	19	35	50	50	75	100
	Diameter of Bailer (mm)	18	19	19	38	38	38
	No. bails per m	4	12	22	6	13	23

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GROUNDWATER AND GROUND GAS MONITORING RECORD SHEET

Sheet:

1 of 1

Project Name:	Hillingdon	Weather Conditions:	Sunny, warm (13 degrees celsius)	Date:
Project Number:	14-0724.01	Gas Kit Model:	GFM435	07/05/2015
Personnel:	RM	Gas Kit Serial No:		

LOCATION	Flow Peak	Flow Steady	CH ₄ Peak	CH ₄ Steady	CO ₂ Peak	CO ₂ Steady	O ₂ Min.	O ₂ Steady	Atmospheric Pressure	PID	Well I.D.	Depth to Product (DTP)	Product Thickness	Depth to Water (DTW)	Depth to Base (DTB)	Height of Water Column	NOTES
	(L/hr)	(L/hr)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(mb)	(ppm)	(mm)	(m)	(m)	(m)	(m)	(m)	
CP01	<0.1	<0.1	<0.1	<0.1	0.3	0.2	18.6	18.6	1009					1.640	14.870	13.230	
CP02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.1	20.1	1009					1.100	9.460	8.360	
CP03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.0	20.0	1009					0.740	14.000	N/A	
CP04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.9	19.9	1009					0.790	12.350	11.560	
CP05	<0.1	<0.1	<0.1	<0.1	0.1	0.1	20.2	20.2	1009					1.530	17.960	16.430	
CP06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.1	20.1	1009					1.310	14.500	13.190	
CP07	<0.1	<0.1	<0.1	<0.1	0.9	0.6	18.6	18.6	1009					2.110	14.400	12.290	
CP08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.1	19.1	1009					1.380	13.760	12.380	
CP09A	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.1	20.1	1009					2.330	14.150	11.820	

GUIDE TO PURGING VOLUMES

To calculate the number of litres to be purged from a well with a different diameter, use the formula $3\pi r^2 h$ (where r = radius of the well and h = height of the water column). Use the formula $\pi r^2 h$ to calculate the volume of a bailer. Please note that the standard bailers Delta-Simons use are typically 0.95 m in length.	Diameter of Casing (mm)	19	35	50	50	75	100
	Diameter of Bailer (mm)	18	19	19	38	38	38
	No. bails per m	4	12	22	6	13	23

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GROUNDWATER AND GROUND GAS MONITORING RECORD SHEET

Sheet:

1 of 1

Project Name: Hillingdon

Weather Conditions: Cloudy, wind at 1.8 m/s

Project Number: 14-0724.01

Gas Kit Model: GFM4

Personnel: AC

Gas Kit Serial No:

Date:

29/04/2015

LOCATION	Flow Peak	Flow Steady	CH ₄ Peak	CH ₄ Steady	CO ₂ Peak	CO ₂ Steady	O ₂ Min.	O ₂ Steady	Atmospheric Pressure	PID	Well I.D.	Depth to Product (DTP)	Product Thickness	Depth to Water (DTW)	Depth to Base (DTB)	Height of Water Column	NOTES
	(L/hr)	(L/hr)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(mb)	(ppm)	(mm)	(m)	(m)	(m)	(m)	(m)	
CP01	<0.1	<0.1	<0.1	<0.1	0.5	0.5	17.2	19.0	1006					1.76	14.79	13.03	
CP02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.2	20.2	1006					1.14	9.47	8.33	
CP03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.2	20.2	1006					0.76	13.60	12.84	
CP04	<0.1	<0.1	<0.1	<0.1	0.6	0.6	19.9	19.9	1006					0.83	12.40	11.58	
CP05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.3	20.3	1006					1.62	17.61	15.99	
CP06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.4	20.4	1006					1.34	14.36	13.02	
CP07	<0.1	<0.1	<0.1	<0.1	1.0	1.0	18.3	18.3	1006					2.12	14.20	12.08	
CP08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	18.9	18.9	1006					1.42	13.65	12.23	
CP09(A)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.2	20.2	1006					2.23	14.09	11.86	

GUIDE TO PURGING VOLUMES

To calculate the number of litres to be purged from a well with a different diameter, use the formula $3\pi r^2 h$ (where r = radius of the well and h = height of the water column). Use the formula $\pi r^2 h$ to calculate the volume of a bailer. Please note that the standard bailers Delta-Simons use are typically 0.95 m in length.

Diameter of Casing (mm)	19	35	50	50	75	100
Diameter of Bailer (mm)	18	19	19	38	38	38
No. bails per m	4	12	22	6	13	23

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GROUNDWATER AND GROUND GAS MONITORING RECORD SHEET

Sheet:

1 of 1

Project Name: Hillingdon

Weather Conditions: Cloudy + Sunny

Date:

Project Number: 14-0724.01

Gas Kit Model: GFM4

12/03/2015

Personnel: JC

Gas Kit Serial No:

LOCATION	Flow Peak	Flow Steady	CH ₄ Peak	CH ₄ Steady	CO ₂ Peak	CO ₂ Steady	O ₂ Min.	O ₂ Steady	Atmospheric Pressure	PID	Well I.D.	Depth to Product (DTP)	Product Thickness	Depth to Water (DTW)	Depth to Base (DTB)	Height of Water Column	NOTES
	(L/hr)	(L/hr)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(mb)	(ppm)	(mm)	(m)	(m)	(m)	(m)	(m)	
CP01	<0.1	<0.1	<0.1	<0.1	0.5	0.2	14.5	16.5	1013					1.88	14.79	12.91	
CP02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.3	20.3	1012					1.30	9.39	8.09	
CP03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.3	20.3	1013					1.24	13.57	12.33	
CP04	<0.1	<0.1	<0.1	<0.1	0.2	0.2	20.0	20.0	1013					1.05	12.27	11.22	
CP05	<0.1	<0.1	<0.1	<0.1	0.3	0.3	19.9	19.9	1013					1.91	17.85	15.94	
CP06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.5	20.5	1013					1.52	14.47	12.95	
CP07	<0.1	<0.1	<0.1	<0.1	0.9	0.9	18.4	18.4	1013					2.25	14.23	11.98	
CP08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	19.2	19.2	1013					1.47	13.87	12.40	
CP09a	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.3	20.3	1013					2.33	14.24	11.91	

GUIDE TO PURGING VOLUMES

To calculate the number of litres to be purged from a well with a different diameter, use the formula $3\pi r^2 h$ (where r = radius of the well and h = height of the water column). Use the formula $\pi r^2 h$ to calculate the volume of a bailer. Please note that the standard bailers Delta-Simons use are typically 0.95 m in length.

Diameter of Casing (mm)	19	35	50	50	75	100
Diameter of Bailer (mm)	18	19	19	38	38	38
No. bails per m	4	12	22	6	13	23

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GROUNDWATER AND GROUND GAS MONITORING RECORD SHEET

Sheet:

1 of 1

Project Name: Hillingdon

Weather Conditions: Rainy, cloudy and windy.

Date:

Project Number: 14-0724.01

Gas Kit Model: GFM4

18/05/2015

Personnel: JC

Gas Kit Serial No:

LOCATION	Flow Peak	Flow Steady	CH ₄ Peak	CH ₄ Steady	CO ₂ Peak	CO ₂ Steady	O ₂ Min.	O ₂ Steady	Atmospheric Pressure	PID	Well I.D.	Depth to Product (DTP)	Product Thickness	Depth to Water (DTW)	Depth to Base (DTB)	Height of Water Column	NOTES
	(L/hr)	(L/hr)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(mb)	(ppm)	(mm)	(m)	(m)	(m)	(m)	(m)	
CP01	<0.1	<0.1	<0.1	<0.1	0.5	0.5	15.4	15.9	997					1.88	14.79	12.91	
CP02	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	19.5	20.0	997					1.22	9.39	8.17	
CP03	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.0	20.0	997					1.27	13.57	12.30	
CP04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	20.2	20.2	997					1.02	12.27	11.25	
CP05	<0.1	<0.1	<0.1	<0.1	0.4	0.4	19.5	19.5	997					1.90	17.85	15.95	
CP06	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	19.6	20.1	997					1.54	14.47	12.93	
CP07	<0.1	<0.1	<0.1	<0.1	0.7	0.7	18.9	18.9	997					2.27	14.23	11.96	
CP08	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	18.9	18.9	997					1.40	13.87	12.47	
CP09a	<0.1	<0.1	<0.1	<0.1	0.1	0.1	19.9	19.9	997					2.35	14.24	11.89	

GUIDE TO PURGING VOLUMES

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Delta-Simons Adopted Human Health Generic Assessment Criteria

For

Residential End Use without Consumption of Home Grown Produce

Version 4.0 – January 2015

Guidance Notes – Using Human Health Soil Screening Values

A tiered risk assessment approach is used for the assessment of soil analysis results considering the ‘pollutant linkages’ on the basis of a ‘source-pathway-receptor’ relationship.

The following tables present conservative Tier 1 generic screening assessment criteria (GAC) used by Delta-Simons to provide an initial assessment of risk to Human Health in the context of the proposed redevelopment of the Site.

GACs are intended to assess:

- △ Chronic (long-term) on-site exposure risk to contaminants in the soil to future users and occupiers of the Site.
- △ Concentrations below the GAC considered tolerable or to pose a minimal risk to human health, or low risk in relation to the Category 4 Screening Levels (C4SLs).

GACs are not relevant for assessing:

- △ Acute (short-term) exposure risks (e.g. construction workers during development);
- △ Non-human receptors such as controlled waters, ecosystems, buildings and services, animals, domestic pets or plants;
- △ Aesthetic issues which may render a soil unsuitable for use such as odour or colour;
- △ GACs do not take account of other non-soil based sources of contamination such as contamination in groundwater or surface waters; and
- △ GACs are not suitable for assessing whether a soil provides a suitable growing medium for crops or plants.

Exceedences of Generic Assessment Criteria

An exceedence of a GAC:

- △ Is not an indicator of a significant risk to human health;
- △ Is an indication that the contaminant *may* pose a possibility harm to human health and, therefore, further consideration is required.

In assessing the significance of an exceedence consideration should be given to:

- △ The *nature* of the contaminant (e.g. volatile or non-volatile contaminants)
- △ Site design and potential exposure *pathways* (e.g. hard cover, buildings, landscaping)
- △ The *distribution* of exceedences (widespread or localised, numerous or few exceedences – **NB: Consider data limitations – site coverage and gaps in data.**)
- △ The *margin* of the exceedence(s);
- △ The *duration* and *frequency* of exposure; and
- △ Any other *site specific* factors.

Generic Assessment Criteria used by Delta-Simons

In the absence of a complete regulatory set of screening values derived using the CLEA Framework, Delta-Simons screening values are based on the following:

- △ The current Soil Guidance Values (SGVs) published by the EA;
- △ Category 4 Screening Levels (C4SLs) published by DEFRA;
- △ The 2014 Land Quality Management (LQM) / Chartered Institute of Environmental Health (CIEH) Suitable for Use Levels for Human Health Risk Assessment (S4ULs);
- △ The guidance values produced by the Environmental Industries Commission (EIC), the Association of Geotechnical and Geoenvironmental Specialists (AGS) and Contaminated Land: Application in Real Environments (CL:AIRE) in December 2009; and
- △ In house Generic Screening Values (DS-GACs) derived by Delta-Simons.

Contaminants for which Generic Assessment Criteria are Unavailable

Insufficient toxicological data is available to derive GAC for a number of potential contaminants of concern and GAC cannot be derived for mixtures of compounds (e.g. total petroleum hydrocarbons). In such cases Delta-Simons will endeavour to use conservative surrogate GAC values to provide an initial screening assessment based on the known chemical and physical properties of the contaminant.

Notes and References used in the Tables

Generic Assessment Criteria Source	
SGV	Soil Guidance Values published by the EA
DS-GAC	Delta-Simons Generic Assessment Criteria derived using CLEA V.1.06.
C4SL	Category 4 Screening Levels, DEFRA December 2014
SGV v.1.05	Environment Agency Soil Guideline Values for dioxins, furans and dioxin-like PCBs calculated within CLEA V.1.05.
LQM	LQM/CIEH Suitable for Use Levels for Human Health Risk Assessment (S4UL), November 2014. (Copyright Land Quality Management Limited, reduced with permission; Publication Number S4UL3087. All rights reserved).
EIC	EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment derived using CLEA V.1.06.
Abbreviations	
Units	All values mg/kg unless otherwise stated.
SOM	Soil Organic Matter – GAC have been derived for a range of soil organic matter content – 1%, 2.5 or 3% and 6%. In the absence of site specific data or robust soil characterisation the most conservative value of 1% soil organic matter should be used as the initial screening value.
(##)	GAC exceed soil saturation concentration (given in brackets). Soil concentrations above the soil saturation may indicate that non-aqueous phase liquid (NAPL) is present. Risks from NAPL may need to be considered separately.

Use of C4SLs as Screening Criteria

Only the lead C4SL should be used as an initial screening level, as there is no ‘minimal risk’ screening value available. Though primarily designed for assessing the risk of land being determined as ‘contaminated’ under Part 2A, Defra have confirmed¹ that the C4SL could be used under the planning regime. Where applicable, the ‘minimal risk’ level should be used as the initial screening level and where exceedances are identified reference to, and consideration of the C4SL levels may be made in the risk assessment process.

¹ Defra/Lord de Mauley letter to all Local Authorities dated 3rd September 2014.

Metals

Compound	1% SOM	Source	2.5 - 3% SOM	Source	6% SOM	Source
Antimony	550	EIC	550	EIC	550	EIC
Arsenic	40	LQM	40	LQM	40	LQM
Arsenic	40	C4SL	40	C4SL	40	C4SL
Barium	1,300	EIC	1,300	EIC	1,300	EIC
Beryllium	1.7	LQM	1.7	LQM	1.7	LQM
Boron	11000	LQM	11000	LQM	11000	LQM
Cadmium	85	LQM	85	LQM	85	LQM
Cadmium	150	C4SL	150	C4SL	150	C4SL
Chromium (III)	910	LQM	910	LQM	910	LQM
Chromium (VI)	6	LQM	6	LQM	6	LQM
Chromium (VI)	21	C4SL	21	C4SL	21	C4SL
Copper	7100	LQM	7100	LQM	7100	LQM
Lead	310	C4SL	310	C4SL	310	C4SL
Mercury (Elemental)	0.2	DS-GAC	0.5	DS-GAC	1.0	DS-GAC
Mercury (Elemental)	-	-	-	-	1.2	LQM
Mercury (Inorganic)	56	LQM	56	LQM	56	LQM
Mercury (Methyl)	8.4	DS-GAC	12	DS-GAC	14	DS-GAC
Mercury (Methyl)	-	-	-	-	15	LQM
Molybdenum	670	EIC	670	EIC	670	EIC
Nickel	180	LQM	180	LQM	180	LQM
Selenium	430	LQM	430	LQM	430	LQM
Vanadium	1200	LQM	1200	LQM	1200	LQM
Zinc	40000	LQM	40000	LQM	40000	LQM

Italics– These values were derived based on a 6% SOM, however, the supporting documentation indicates that SOM has a negligible influence for these metals.

Petroleum Hydrocarbons

Compound	1% SOM	Source	2.5 - 3% SOM	Source	6% SOM	Source
Aliphatic EC5-EC6	42	LQM	78	LQM	160	LQM
Aliphatic >EC6-EC8	100	LQM	230	LQM	530	LQM
Aliphatic >EC8-EC10	27	LQM	65	LQM	150	LQM
Aliphatic >EC10-EC12	130 (48)	LQM	330 (118)	LQM	770 (283)	LQM
Aliphatic >EC12-EC16	1100 (24)	LQM	2400 (59)	LQM	4400 (142)	LQM
Aliphatic >EC16-EC35	65000 (8.48)	LQM	92000 (21)	LQM	110000	LQM
Aliphatic >EC35-EC44	65000 (8.48)	LQM	92000 (21)	LQM	110000	LQM
Aromatic >EC5-EC7	370	LQM	690	LQM	1400	LQM
Aromatic >EC7-EC8	860	LQM	1800	LQM	3900	LQM
Aromatic >EC8-EC10	47	LQM	110	LQM	270	LQM
Aromatic >EC10-EC12	250	LQM	590	LQM	1200	LQM
Aromatic >EC12-EC16	1800	LQM	2300 (419)	LQM	2500	LQM
Aromatic >EC16-EC21	1900	LQM	1900	LQM	1900	LQM
Aromatic >EC21-EC35	1900	LQM	1900	LQM	1900	LQM
Aromatic >EC35-EC44	1900	LQM	1900	LQM	1900	LQM
Aromatic and Aliphatic >EC44-EC70	1900	LQM	1900	LQM	1900	LQM

Polycyclic Aromatic Hydrocarbons (PAH)

Compound	1% SOM	Source	2.5 - 3% SOM	Source	6% SOM	Source
Naphthalene	2.3	LQM	5.6	LQM	13	LQM
Acenaphthylene	2900 (86.1)	LQM	4600 (212)	LQM	6000 (506)	LQM
Acenaphthene	3000 (57)	LQM	4700 (141)	LQM	6000 (336)	LQM
Fluorene	2800 (30.9)	LQM	3800 (76.5)	LQM	4500 (183)	LQM
Phenanthrene	1300 (36)	LQM	1500	LQM	1500	LQM
Anthracene	31000 (1.17)	LQM	35000	LQM	37000	LQM
Fluoranthene	1500	LQM	1600	LQM	1600	LQM
Pyrene	3700	LQM	3800	LQM	3800	LQM
Benz[a]anthracene	11	LQM	14	LQM	15	LQM
Chrysene	30	LQM	31	LQM	32	LQM
Benzo[b]fluoranthene	3.9	LQM	4	LQM	4	LQM
Benzo[k]fluoranthene	110	LQM	110	LQM	110	LQM
Benzo[a]pyrene	3.2	LQM	3.2	LQM	3.2	LQM
Benzo[a]pyrene	5.3	C4SL	5.3	C4SL	5.3	C4SL
Indeno[123-cd]pyrene	45	LQM	46	LQM	46	LQM
Dibenz[ah]anthracene	0.31	LQM	0.32	LQM	0.32	LQM
Benzo[ghi]perylene	360	LQM	360	LQM	360	LQM

C4SL for benzo(a)pyrene is based on 6% SOM only, however, the published C4SL Final Project Report indicates that SOM has a negligible influence for this compound.

Volatile Organic Compounds (VOC)

Compound	1% SOM	Source	2.5 - 3% SOM	Source	6% SOM	Source
BTEX/MTBE						
Benzene	0.38	LQM	0.7	LQM	1.4	LQM
Benzene	0.89	C4SL	-	-	3.3	C4SL
Toluene	880 (869)	LQM	1900	LQM	3900	LQM
Ethylbenzene	83	LQM	190	LQM	440	LQM
o-Xylene	88	LQM	210	LQM	480	LQM
m-Xylene	82	LQM	190	LQM	450	LQM
p-Xylene	79	LQM	180	LQM	430	LQM
Methyl <i>tert</i> -butyl ether	73	EIC	120	EIC	220	EIC
Chlorinated Solvents						
Vinyl Chloride (Chloroethene)	0.00077	LQM	0.001	LQM	0.0015	LQM
Trichloromethane (Chloroform)	1.2	LQM	2.1	LQM	4.2	LQM
1,2-Dichloroethane (1,2-DCA)	0.0092	LQM	0.013	LQM	0.023	LQM
Trichloroethene (TCE)	0.017	LQM	0.036	LQM	0.08	LQM
1,1,1-Trichloroethane	9	LQM	18	LQM	40	LQM
Tetrachloroethene (PCE)	0.18	LQM	0.4	LQM	0.92	LQM
1,1,1,2-Tetrachloroethanes	1.5	LQM	3.5	LQM	8.2	LQM
1,1,2,2-Tetrachloroethane	3.9	LQM	8	LQM	17	LQM
Tetrachloromethane	0.026	LQM	0.056	LQM	0.13	LQM
1,1,2 Trichloroethane	0.88	EIC	1.8	EIC	3.9	EIC
1,1-Dichloroethane	2.5	EIC	4.1	EIC	7.7	EIC
1,1-Dichloroethene	0.23	EIC	0.41	EIC	0.82	EIC
<i>Cis</i> 1,2-Dichloroethene	0.12	EIC	0.2	EIC	0.39	EIC
<i>Trans</i> 1,2-dichloroethene	0.19	EIC	0.35	EIC	0.71	EIC
Benzenes						
Chlorobenzene	0.46	LQM	1	LQM	2.4	LQM
1,2,4-Trimethylbenzene	0.41	EIC	0.99	EIC	2.3	EIC
Iso-propylbenzene	12	EIC	28	EIC	67	EIC
Propylbenzene	40	EIC	97	EIC	230	EIC
Other						
Bromobenzene	0.91	EIC	2.1	EIC	4.9	EIC
Bromodichloromethane	5.2	EIC	11	EIC	23	EIC
Carbon Disulphide	0.14	LQM	0.29	LQM	0.62	LQM
Chloroethane	8.4	EIC	11	EIC	18	EIC
Chloromethane	0.0085	EIC	0.0099	EIC	0.013	EIC
Dichloromethane	2.1	EIC	2.8	EIC	4.5	EIC
1,2-Dichloropropane	0.024	EIC	0.042	EIC	0.085	EIC
Hexachlorobutadiene	0.32	LQM	0.78	LQM	1.8	LQM
Styrene	35	EIC	78	EIC	170	EIC

Semi-Volatile Organic Compounds (SVOC) and Other Organic Compounds

Compound	1% SOM	Source	2.5 - 3% SOM	Source	6% SOM	Source
Chlorobenzenes						
1,2-Dichlorobenzene	24	LQM	57	LQM	130	LQM
1,3-Dichlorobenzene	0.44	LQM	1.1	LQM	2.5	LQM
1,4-Dichlorobenzene	61	LQM	150	LQM	350	LQM
1,2,3-Trichlorobenzene	1.5	LQM	3.7	LQM	8.8	LQM
1,2,4-Trichlorobenzene	2.6	LQM	6.4	LQM	15	LQM
1,3,5-Trichlorobenzene	0.33	LQM	0.81	LQM	1.9	LQM
1,2,3,4-Tetrachlorobenzene	24	LQM	56	LQM	120	LQM
1,2,3,5-Tetrachlorobenzene	0.75	LQM	1.9	LQM	4.3	LQM
1,2,4,5-Tetrachlorobenzene	0.73	LQM	1.7	LQM	3.5	LQM
Pentachlorobenzene	19	LQM	30	LQM	38	LQM
Hexachlorobenzene	4.1 (0.2)	LQM	5.7 (0.5)	LQM	6.7 (1.2)	LQM
Phthalates						
Bis (2-ethylhexyl)phthalate	2,700 (8.68)	EIC	2,800 (21.6)	EIC	2,800 (51.7)	EIC
Diethyl phthalate	1,800 (13.7)	EIC	3,500 (29.1)	EIC	6,300 (65)	EIC
Di- <i>n</i> -butyl phthalate	450 (4.65)	EIC	450 (11.4)	EIC	450 (27.3)	EIC
Di- <i>n</i> -octyl phthalate	3,400 (32.6)	EIC	3,400 (81.5)	EIC	3,400 (196)	EIC
Butyl benzyl phthalate	42,000 (26.3)	EIC	44,000 (64.7)	EIC	44,000 (154)	EIC
Phenols						
Phenol (see end notes)	750	LQM	1300	LQM	2300	LQM
2,4-Dimethylphenol	210	EIC	410	EIC	730	EIC
Total Cresols (2-, 3- and 4-methylphenol)	3,700	EIC	5,400	EIC	6,900	EIC
Chlorophenols						
Chlorophenols (except Pentachlorophenol)	94	LQM	150	LQM	210	LQM
Pentachlorophenol	27 (16.4)	LQM	29	LQM	31	LQM
Other						
Biphenyl	220 (34.4)	EIC	500 (84.3)	EIC	980 (201)	EIC
Bromoform	0.019	EIC	0.034	EIC	0.070	EIC
2-Chloronaphthalene	3.8	EIC	9.3	EIC	22	EIC
2,4-Dinitrotoluene	170 (141)	EIC	170	EIC	170	EIC
2,6-Dinitrotoluene	78	EIC	84	EIC	87	EIC
Hexachloroethane	0.22	EIC	0.54	EIC	1.3	EIC
Tributyl tin oxide	1.4	EIC	3.1	EIC	5.7	EIC

PCBs, Furans and Dioxins

Compound	1% SOM	Source	2.5 - 3% SOM	Source	6% SOM	Source
Sum of PCDDs, PCDFs and dioxin-like PCBs	-	-	-	-	0.008	SGV v.1.05

Pesticides and Herbicides

Compound	1% SOM	Source	2.5 - 3% SOM	Source	6% SOM	Source
Aldrin	7.3	LQM	7.4	LQM	7.5	LQM
Dieldrin	7	LQM	7.3	LQM	7.4	LQM
Atrazine	610	LQM	620	LQM	620	LQM
Dichlorvos	6.4	LQM	6.5	LQM	6.6	LQM
Endosulfan (alpha)	160 (0.003)	LQM	280 (0.007)	LQM	410 (0.016)	LQM
Endosulfan (beta)	190 (0.00007)	LQM	320 (0.0002)	LQM	440 (0.0004)	LQM
alpha-Hexachlorocyclohexanes	6.9	LQM	9.2	LQM	11	LQM
beta-Hexachlorocyclohexanes	3.7	LQM	3.8	LQM	3.8	LQM
gamma-Hexachlorocyclohexanes (inc. Lindane)	2.9	LQM	3.3	LQM	3.5	LQM

Explosives

Compound	1% SOM	Source	2.5 - 3% SOM	Source	6% SOM	Source
2,4,6 Trinitrotoluene (TNT)	65	LQM	66	LQM	66	LQM
RDX	13000	LQM	13000	LQM	13000	LQM
HMX	6700	LQM	6700	LQM	6700	LQM





Final Report

Report Number: 15-07419 Issue-1

Initial Date of Issue: 08-Apr-2015

Client: Delta Simons

Client Address: 3 Henley Office Park
Doddington Road
Lincoln
Lincolnshire
LN6 3QR

Contact(s): Cerys Baldwin
Simon Steele

Project: Hillingdon

Quotation No.: **Date Received:** 01-Apr-2015

Order No.: DS24131(T) **Date Instructed:** 31-Mar-2015

No. of Samples: 28

Turnaround: (Wkdays) 5 **Results Due Date:** 08-Apr-2015

Date Approved: 08-Apr-2015

Approved By:

Details: Darrell Hall, Laboratory Director

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:		15-07419	15-07419	15-07419	15-07419	15-07419	15-07419	15-07419	15-07419	15-07419
Quotation No.:	Chemtest Sample ID.:		122892	122893	122894	122895	122896	122897	122898	122899	
Order No.: DS24131(T)	Client Sample Ref.:										
	Client Sample ID.:		TP03	TP07	TP08	TP10	TP11	TP12	TP13	TP15	
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Top Depth (m):		0.25	1.00	0.20	0.20	1.10	0.20	0.50	0.85	
	Bottom Depth(m):										
	Date Sampled:		25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	
Determinand	Accred.	SOP	Units	LOD							
ACM Type	U	2192			-		-	-		-	
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected		No Asbestos Detected	
Moisture	N	2030	%	0.02	25	18	23	22	20	21	18
Soil Colour	N				brown	brown	brown	brown	brown	brown	brown
Other Material	N				none	none	roots	stones	none	stones	stones
Soil Texture	N				clay	clay	clay	clay	clay	clay	clay
pH	M	2010			6.5	7.9	6.5	7.6	7.9	7.6	8.1
Boron (Hot Water Soluble)	M	2120	mg/kg	0.4	2.0	0.90	0.94	0.73	< 0.40	0.96	0.72
Sulphate (2:1 Water Soluble) as SO ₄	M	2120	g/l	0.01		0.033			0.20		0.25
Total Sulphur	M	2175	%	0.01		0.030			0.030		0.17
Cyanide (Total)	M	2300	mg/kg	0.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.01		0.041			0.056		0.15
Arsenic	M	2450	mg/kg	1	12	23	14	19	14	17	15
Cadmium	M	2450	mg/kg	0.1	0.31	0.36	0.24	0.41	< 0.10	0.27	0.20
Chromium	M	2450	mg/kg	1	43	89	42	49	45	52	51
Copper	M	2450	mg/kg	0.5	26	33	26	25	52	32	18
Mercury	M	2450	mg/kg	0.1	0.44	< 0.10	0.21	0.45	< 0.10	0.23	< 0.10
Nickel	M	2450	mg/kg	0.5	18	69	16	20	34	21	41
Lead	M	2450	mg/kg	0.5	97	56	150	90	23	100	55
Selenium	M	2450	mg/kg	0.2	0.51	1.5	0.41	0.33	0.22	0.59	0.36
Zinc	M	2450	mg/kg	0.5	91	86	76	95	61	88	58
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10		< 0.10	< 0.10			< 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10		< 0.10	< 0.10			< 0.10
Aliphatic TPH >C8-C10	M	2675	mg/kg	0.1	< 0.10		< 0.10	< 0.10			< 0.10
Aliphatic TPH >C10-C12	M	2675	mg/kg	1	< 1.0		< 1.0	< 1.0			< 1.0
Aliphatic TPH >C12-C16	M	2675	mg/kg	1	< 1.0		< 1.0	< 1.0			< 1.0
Aliphatic TPH >C16-C21	M	2675	mg/kg	1	< 1.0		< 1.0	< 1.0			< 1.0
Aliphatic TPH >C21-C35	M	2675	mg/kg	1	< 1.0		< 1.0	< 1.0			< 1.0
Aliphatic TPH >C35-C44	M	2675	mg/kg	1	< 1.0		< 1.0	< 1.0			< 1.0
Total Aliphatic Hydrocarbons	M	2675	mg/kg	5	< 5.0		< 5.0	< 5.0			< 5.0
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10		< 0.10	< 0.10			< 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10		< 0.10	< 0.10			< 0.10

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:		15-07419	15-07419	15-07419	15-07419	15-07419	15-07419	15-07419	15-07419	15-07419
Quotation No.:	Chemtest Sample ID.:		122892	122893	122894	122895	122896	122897	122898	122899	
Order No.: DS24131(T)	Client Sample Ref.:										
	Client Sample ID.:		TP03	TP07	TP08	TP10	TP11	TP12	TP13	TP15	
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Top Depth (m):		0.25	1.00	0.20	0.20	1.10	0.20	0.50	0.85	
	Bottom Depth(m):										
	Date Sampled:		25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	25-Mar-15	
Determinand	Accred.	SOP	Units	LOD							
Aromatic TPH >C8-C10	M	2675	mg/kg	0.1	< 0.10		< 0.10	< 0.10		< 0.10	< 0.10
Aromatic TPH >C10-C12	M	2675	mg/kg	1	< 1.0		< 1.0	< 1.0		< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2675	mg/kg	1	< 1.0		< 1.0	< 1.0		< 1.0	< 1.0
Aromatic TPH >C16-C21	M	2675	mg/kg	1	< 1.0		< 1.0	< 1.0		< 1.0	< 1.0
Aromatic TPH >C21-C35	M	2675	mg/kg	1	< 1.0		< 1.0	< 1.0		< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0		< 1.0	< 1.0		< 1.0	< 1.0
Total Aromatic Hydrocarbons	M	2675	mg/kg	5	< 5.0		< 5.0	< 5.0		< 5.0	< 5.0
Total Petroleum Hydrocarbons	M	2675	mg/kg	10	< 10		< 10	< 10		< 10	< 10
Naphthalene	M	2700	mg/kg	0.1	0.14	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.1	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.16
Acenaphthene	M	2700	mg/kg	0.1	0.16	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.11
Fluorene	M	2700	mg/kg	0.1	0.11	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.16
Phenanthrene	M	2700	mg/kg	0.1	0.67	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.4
Anthracene	M	2700	mg/kg	0.1	0.18	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.26
Fluoranthene	M	2700	mg/kg	0.1	1.5	< 0.10	0.44	0.44	< 0.10	0.78	1.5
Pyrene	M	2700	mg/kg	0.1	1.4	< 0.10	0.40	0.30	< 0.10	0.67	1.8
Benzo[a]anthracene	M	2700	mg/kg	0.1	0.55	< 0.10	< 0.10	< 0.10	< 0.10	0.23	0.47
Chrysene	M	2700	mg/kg	0.1	0.89	< 0.10	< 0.10	< 0.10	< 0.10	0.31	0.61
Benzo[b]fluoranthene	M	2700	mg/kg	0.1	1.0	< 0.10	< 0.10	< 0.10	< 0.10	0.46	0.42
Benzo[k]fluoranthene	M	2700	mg/kg	0.1	0.74	< 0.10	< 0.10	< 0.10	< 0.10	0.31	0.16
Benzo[a]pyrene	M	2700	mg/kg	0.1	0.71	< 0.10	< 0.10	< 0.10	< 0.10	0.33	0.45
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.1	0.52	< 0.10	< 0.10	< 0.10	< 0.10	0.23	0.25
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.1	0.68	< 0.10	< 0.10	< 0.10	< 0.10	0.24	0.38
Total Of 16 PAH's	M	2700	mg/kg	2	9.4	< 2.0	< 2.0	< 2.0	< 2.0	3.6	8.1

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at our Coventry laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk



Final Report

Report Number: 15-07806 Issue-1

Initial Date of Issue: 20-Apr-2015

Client: Delta Simons

Client Address: 3 Henley Office Park
Doddington Road
Lincoln
Lincolnshire
LN6 3QR

Contact(s): Cerys Baldwin
Simon Steele

Project: Hillingdon

Quotation No.: **Date Received:** 08-Apr-2015

Order No.: DS24131(T) **Date Instructed:** 14-Apr-2015

No. of Samples: 33

Turnaround: (Wkdays) 5 **Results Due Date:** 20-Apr-2015

Date Approved: 20-Apr-2015

Approved By:

KT Jones

Details: Keith Jones, Technical Manager

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:		15-07806	15-07806	15-07806	15-07806	15-07806	15-07806	15-07806	15-07806	15-07806	15-07806	15-07806
Quotation No.:	Chemtest Sample ID.:		124768	124770	124774	124776	124779	124781	124782	124786	124790	124792	
Order No.: DS24131(T)	Client Sample Ref.:												
	Client Sample ID.:		CP01	CP01	CP04	CP04	CP07	CP06	CP06	CP06	CP01	CP02	
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Top Depth (m):		4.50	18.00	2.40	5.70	5.50	0.50	1.00	19.50	0.50	0.50	
	Bottom Depth(m):												
	Date Sampled:		30-Mar-15	31-Mar-15	01-Apr-15	01-Apr-15	30-Mar-15	01-Apr-15	01-Apr-15	02-Apr-15	30-Mar-15	31-Mar-15	
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192							-	-		-	-
Asbestos Identification	U	2192	%	0.001					No Asbestos Detected	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.02	13	14	19	19	15	20	17	18	13
Soil Colour	N				brown	brown	brown	brown	brown	brown	brown	grey	brown
Other Material	N				none	none	none	none	none	none	none	stones brick	stones
Soil Texture	N				clay	clay	clay	clay	clay	clay	clay	sand	sand
pH	M	2010			9.2	8.9	8.6	8.9	8.9	8.3	8.4	9.1	10.0
Boron (Hot Water Soluble)	M	2120	mg/kg	0.4						1.0	1.0		3.4
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.01	0.042	0.015	0.040	0.057	< 0.010		0.074		
Total Sulphur	M	2175	%	0.01	0.030	0.020	0.030	0.21	0.030		0.15		
Cyanide (Total)	M	2300	mg/kg	0.5						< 0.50	< 0.50		< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.01	0.046	< 0.010	0.038	0.020	< 0.010		0.025		
Arsenic	M	2450	mg/kg	1						33	30		22
Cadmium	M	2450	mg/kg	0.1						0.58	0.23		0.45
Chromium	M	2450	mg/kg	1						85	79		51
Copper	M	2450	mg/kg	0.5						39	31		19
Mercury	M	2450	mg/kg	0.1						< 0.10	< 0.10		< 0.10
Nickel	M	2450	mg/kg	0.5						76	51		29
Lead	M	2450	mg/kg	0.5						62	37		580
Selenium	M	2450	mg/kg	0.2						1.0	< 0.20		< 0.20
Zinc	M	2450	mg/kg	0.5						150	100		140
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1						< 0.10	< 0.10		B < 0.10
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1						< 0.10	< 0.10		B < 0.10
Aliphatic TPH >C8-C10	M	2675	mg/kg	0.1						< 0.10	< 0.10		B < 0.10
Aliphatic TPH >C10-C12	M	2675	mg/kg	1						< 1.0	< 1.0		B < 1.0
Aliphatic TPH >C12-C16	M	2675	mg/kg	1						< 1.0	< 1.0		B < 1.0
Aliphatic TPH >C16-C21	M	2675	mg/kg	1						< 1.0	< 1.0		B < 1.0
Aliphatic TPH >C21-C35	M	2675	mg/kg	1						< 1.0	< 1.0		B 97
Aliphatic TPH >C35-C44	M	2675	mg/kg	1						< 1.0	< 1.0		B 7.3
Total Aliphatic Hydrocarbons	M	2675	mg/kg	5						< 5.0	< 5.0		B 100
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1						< 0.10	< 0.10		B < 0.10
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1						< 0.10	< 0.10		B < 0.10

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:		15-07806	15-07806	15-07806	15-07806	15-07806	15-07806	15-07806	15-07806	15-07806	15-07806
Quotation No.:	Chemtest Sample ID.:		124768	124770	124774	124776	124779	124781	124782	124786	124790	124792
Order No.: DS24131(T)	Client Sample Ref.:											
	Client Sample ID.:		CP01	CP01	CP04	CP04	CP07	CP06	CP06	CP06	CP01	CP02
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		4.50	18.00	2.40	5.70	5.50	0.50	1.00	19.50	0.50	0.50
	Bottom Depth(m):											
	Date Sampled:		30-Mar-15	31-Mar-15	01-Apr-15	01-Apr-15	30-Mar-15	01-Apr-15	01-Apr-15	02-Apr-15	30-Mar-15	31-Mar-15
Determinand	Accred.	SOP	Units	LOD								
Aromatic TPH >C8-C10	M	2675	mg/kg	0.1					< 0.10	< 0.10	B < 0.10	< 0.10
Aromatic TPH >C10-C12	M	2675	mg/kg	1					< 1.0	< 1.0	B < 1.0	< 1.0
Aromatic TPH >C12-C16	M	2675	mg/kg	1					< 1.0	< 1.0	B < 1.0	< 1.0
Aromatic TPH >C16-C21	M	2675	mg/kg	1					< 1.0	< 1.0	B 2.9	4.0
Aromatic TPH >C21-C35	M	2675	mg/kg	1					< 1.0	< 1.0	B 15	10
Aromatic TPH >C35-C44	N	2675	mg/kg	1					< 1.0	< 1.0	B < 1.0	< 1.0
Total Aromatic Hydrocarbons	M	2675	mg/kg	5					< 5.0	< 5.0	B 18	15
Total Petroleum Hydrocarbons	M	2675	mg/kg	10					< 10	< 10	B 120	61
Naphthalene	M	2700	mg/kg	0.1					< 0.10	< 0.10	0.36	1.6
Acenaphthylene	M	2700	mg/kg	0.1					< 0.10	< 0.10	< 0.10	0.19
Acenaphthene	M	2700	mg/kg	0.1					< 0.10	< 0.10	< 0.10	0.31
Fluorene	M	2700	mg/kg	0.1					< 0.10	< 0.10	< 0.10	0.53
Phenanthrene	M	2700	mg/kg	0.1					< 0.10	< 0.10	0.94	2.6
Anthracene	M	2700	mg/kg	0.1					< 0.10	< 0.10	0.23	0.67
Fluoranthene	M	2700	mg/kg	0.1					< 0.10	< 0.10	1.8	2.7
Pyrene	M	2700	mg/kg	0.1					< 0.10	< 0.10	1.9	2.6
Benzo[a]anthracene	M	2700	mg/kg	0.1					< 0.10	< 0.10	0.49	1.8
Chrysene	M	2700	mg/kg	0.1					< 0.10	< 0.10	0.26	1.9
Benzo[b]fluoranthene	M	2700	mg/kg	0.1					< 0.10	< 0.10	< 0.10	1.3
Benzo[k]fluoranthene	M	2700	mg/kg	0.1					< 0.10	< 0.10	< 0.10	0.57
Benzo[a]pyrene	M	2700	mg/kg	0.1					< 0.10	< 0.10	< 0.10	1.2
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.1					< 0.10	< 0.10	< 0.10	1.0
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.1					< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.1					< 0.10	< 0.10	< 0.10	0.79
Total Of 16 PAH's	M	2700	mg/kg	2					< 2.0	< 2.0	6.0	20

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:				15-07806	15-07806	15-07806
Quotation No.:	Chemtest Sample ID.:				124794	124796	124799
Order No.: DS24131(T)	Client Sample Ref.:						
	Client Sample ID.:				CP04	CP07	CP04
	Sample Type:				SOIL	SOIL	SOIL
	Top Depth (m):				0.25	0.20	0.50
	Bottom Depth(m):						
	Date Sampled:				01-Apr-15	31-Mar-15	01-Apr-15
Determinand	Accred.	SOP	Units	LOD			
ACM Type	U	2192					
Asbestos Identification	U	2192	%	0.001			
Moisture	N	2030	%	0.02	21	19	21
Soil Colour	N				brown	brown	brown
Other Material	N				none	none	none
Soil Texture	N				clay	clay	clay
pH	M	2010			8.1	6.0	8.1
Boron (Hot Water Soluble)	M	2120	mg/kg	0.4	0.59	0.53	0.81
Sulphate (2:1 Water Soluble) as SO ₄	M	2120	g/l	0.01			
Total Sulphur	M	2175	%	0.01			
Cyanide (Total)	M	2300	mg/kg	0.5	< 0.50		
Sulphate (Acid Soluble)	M	2430	%	0.01			
Arsenic	M	2450	mg/kg	1	12	11	29
Cadmium	M	2450	mg/kg	0.1	0.22	< 0.10	0.64
Chromium	M	2450	mg/kg	1	51	40	72
Copper	M	2450	mg/kg	0.5	19	14	31
Mercury	M	2450	mg/kg	0.1	< 0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.5	19	14	68
Lead	M	2450	mg/kg	0.5	67	44	58
Selenium	M	2450	mg/kg	0.2	0.67	0.56	1.0
Zinc	M	2450	mg/kg	0.5	110	68	130
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1		< 0.10	
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1		< 0.10	
Aliphatic TPH >C8-C10	M	2675	mg/kg	0.1		< 0.10	
Aliphatic TPH >C10-C12	M	2675	mg/kg	1		< 1.0	
Aliphatic TPH >C12-C16	M	2675	mg/kg	1		< 1.0	
Aliphatic TPH >C16-C21	M	2675	mg/kg	1		< 1.0	
Aliphatic TPH >C21-C35	M	2675	mg/kg	1		< 1.0	
Aliphatic TPH >C35-C44	M	2675	mg/kg	1		< 1.0	
Total Aliphatic Hydrocarbons	M	2675	mg/kg	5		< 5.0	
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1		< 0.10	
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1		< 0.10	

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:				15-07806	15-07806	15-07806
Quotation No.:	Chemtest Sample ID.:				124794	124796	124799
Order No.: DS24131(T)	Client Sample Ref.:						
	Client Sample ID.:				CP04	CP07	CP04
	Sample Type:				SOIL	SOIL	SOIL
	Top Depth (m):				0.25	0.20	0.50
	Bottom Depth(m):						
	Date Sampled:				01-Apr-15	31-Mar-15	01-Apr-15
Determinand	Accred.	SOP	Units	LOD			
Aromatic TPH >C8-C10	M	2675	mg/kg	0.1		< 0.10	
Aromatic TPH >C10-C12	M	2675	mg/kg	1		< 1.0	
Aromatic TPH >C12-C16	M	2675	mg/kg	1		< 1.0	
Aromatic TPH >C16-C21	M	2675	mg/kg	1		< 1.0	
Aromatic TPH >C21-C35	M	2675	mg/kg	1		< 1.0	
Aromatic TPH >C35-C44	N	2675	mg/kg	1		< 1.0	
Total Aromatic Hydrocarbons	M	2675	mg/kg	5		< 5.0	
Total Petroleum Hydrocarbons	M	2675	mg/kg	10		< 10	
Naphthalene	M	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10
Anthracene	M	2700	mg/kg	0.1	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2700	mg/kg	0.1	0.55	0.19	< 0.10
Pyrene	M	2700	mg/kg	0.1	0.47	0.13	< 0.10
Benzo[a]anthracene	M	2700	mg/kg	0.1	0.22	< 0.10	< 0.10
Chrysene	M	2700	mg/kg	0.1	0.50	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2700	mg/kg	0.1	0.38	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.1	0.45	< 0.10	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.1	0.66	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.1	0.19	< 0.10	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.1	0.15	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.1	0.20	< 0.10	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2	3.8	< 2.0	< 2.0

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Chemtest Sample ID:	Sample Ref:	Sample ID:	Sampled Date:	Containers Received:	Deviation Code(s):
124790		CP01	30-Mar-2015	Amber Glass 250ml	B
124790		CP01	30-Mar-2015	Amber Glass 60ml	B
124790		CP01	30-Mar-2015	Plastic Tub 500g	B

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at our Coventry laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk



Final Report

Report Number: 15-08536 Issue-1

Initial Date of Issue: 21-Apr-2015

Client: Delta Simons

Client Address: 3 Henley Office Park
Doddington Road
Lincoln
Lincolnshire
LN6 3QR

Contact(s): Cerys Baldwin
Simon Steele

Project: Hillingdon

Quotation No.: **Date Received:** 15-Apr-2015

Order No.: DS24131(T) **Date Instructed:** 17-Apr-2015

No. of Samples: 19

Turnaround: (Wkdays) 3 **Results Due Date:** 21-Apr-2015

Date Approved: 21-Apr-2015

Approved By:

Details: Keith Jones, Technical Manager

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:		15-08536	15-08536	15-08536	15-08536	15-08536	15-08536	15-08536	15-08536	15-08536	15-08536	15-08536
Quotation No.:	Chemtest Sample ID.:		128112	128114	128115	128116	128117	128118	128121	128122	128123	128125	
Order No.: DS24131(T)	Client Sample Ref.:												
	Client Sample ID.:		CP05	CP05	CP05	CP04	CP05	CP09	CP09	CP09	CP03	CP03	
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
	Top Depth (m):		0.4	4.50	10.00	16.50	17.00	0.30	8.50	19.00	0.30	9.00	
	Bottom Depth(m):												
	Date Sampled:		07-Apr-15	07-Apr-15	07-Apr-15	07-Apr-15	07-Apr-15	08-Apr-15	08-Apr-15	09-Apr-15	08-Apr-15	09-Apr-15	
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192			-				-			-	
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected				No Asbestos Detected			No Asbestos Detected	
Moisture	N	2030	%	0.02	11	14	16	19	19	18	18	16	14
Soil Colour	N				brown	brown	brown	brown	brown	brown	brown	brown	brown
Other Material	N				stones	none	none	none	none	stones	none	stones	none
Soil Texture	N				sand	clay	clay	clay	sand	clay	clay	clay	clay
pH	M	2010			11.6	9.0	9.0	8.8	9.0	8.4	8.8	8.6	8.9
Boron (Hot Water Soluble)	M	2120	mg/kg	0.4	0.61					1.3			1.5
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.01		< 0.010	< 0.010	< 0.010	< 0.010		< 0.010	0.067	< 0.010
Total Sulphur	M	2175	%	0.01		0.050	0.11	0.060	0.050		0.050	0.38	0.050
Cyanide (Total)	M	2300	mg/kg	0.5	< 0.50					< 0.50			< 0.50
Sulphate (Acid Soluble)	M	2430	%	0.01		< 0.010	< 0.010	< 0.010	< 0.010		0.013	0.055	0.031
Arsenic	M	2450	mg/kg	1	25					9.7			16
Cadmium	M	2450	mg/kg	0.1	2.1					0.20			0.21
Chromium	M	2450	mg/kg	1	42					33			43
Copper	M	2450	mg/kg	0.5	41					24			31
Mercury	M	2450	mg/kg	0.1	0.11					< 0.10			0.22
Nickel	M	2450	mg/kg	0.5	20					40			34
Lead	M	2450	mg/kg	0.5	180					78			870
Selenium	M	2450	mg/kg	0.2	< 0.20					0.49			< 0.20
Zinc	M	2450	mg/kg	0.5	260					140			170
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1	< 0.10					< 0.10			
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1	< 0.10					< 0.10			
Aliphatic TPH >C8-C10	M	2675	mg/kg	0.1	< 0.10					< 0.10			
Aliphatic TPH >C10-C12	M	2675	mg/kg	1	< 1.0					< 1.0			
Aliphatic TPH >C12-C16	M	2675	mg/kg	1	66					< 1.0			
Aliphatic TPH >C16-C21	M	2675	mg/kg	1	170					< 1.0			
Aliphatic TPH >C21-C35	M	2675	mg/kg	1	70					< 1.0			
Aliphatic TPH >C35-C44	M	2675	mg/kg	1	6.0					< 1.0			
Total Aliphatic Hydrocarbons	M	2675	mg/kg	5	310					< 5.0			
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1	< 0.10					< 0.10			
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1	< 0.10					< 0.10			

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:				15-08536	15-08536	15-08536	15-08536	15-08536	15-08536	15-08536	15-08536	15-08536	15-08536
Quotation No.:	Chemtest Sample ID.:				128112	128114	128115	128116	128117	128118	128121	128122	128123	128125
Order No.: DS24131(T)	Client Sample Ref.:													
	Client Sample ID.:				CP05	CP05	CP05	CP04	CP05	CP09	CP09	CP09	CP03	CP03
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.4	4.50	10.00	16.50	17.00	0.30	8.50	19.00	0.30	9.00
	Bottom Depth(m):													
	Date Sampled:				07-Apr-15	07-Apr-15	07-Apr-15	07-Apr-15	07-Apr-15	08-Apr-15	08-Apr-15	09-Apr-15	08-Apr-15	09-Apr-15
Determinand	Accred.	SOP	Units	LOD										
Aromatic TPH >C8-C10	M	2675	mg/kg	0.1	< 0.10					< 0.10				
Aromatic TPH >C10-C12	M	2675	mg/kg	1	< 1.0					< 1.0				
Aromatic TPH >C12-C16	M	2675	mg/kg	1	8.7					< 1.0				
Aromatic TPH >C16-C21	M	2675	mg/kg	1	35					10				
Aromatic TPH >C21-C35	M	2675	mg/kg	1	12					7.6				
Aromatic TPH >C35-C44	N	2675	mg/kg	1	< 1.0					< 1.0				
Total Aromatic Hydrocarbons	M	2675	mg/kg	5	56					18				
Total Petroleum Hydrocarbons	M	2675	mg/kg	10	370					18				
Naphthalene	M	2700	mg/kg	0.1	0.11					< 0.10			< 0.10	
Acenaphthylene	M	2700	mg/kg	0.1	0.13					< 0.10			< 0.10	
Acenaphthene	M	2700	mg/kg	0.1	0.17					< 0.10			< 0.10	
Fluorene	M	2700	mg/kg	0.1	0.24					< 0.10			< 0.10	
Phenanthrene	M	2700	mg/kg	0.1	0.80					0.75			1.9	
Anthracene	M	2700	mg/kg	0.1	0.26					0.21			0.52	
Fluoranthene	M	2700	mg/kg	0.1	0.84					1.1			2.2	
Pyrene	M	2700	mg/kg	0.1	0.59					1.0			2.1	
Benzo[a]anthracene	M	2700	mg/kg	0.1	< 0.10					0.40			0.74	
Chrysene	M	2700	mg/kg	0.1	< 0.10					0.78			1.2	
Benzo[b]fluoranthene	M	2700	mg/kg	0.1	< 0.10					0.51			1.0	
Benzo[k]fluoranthene	M	2700	mg/kg	0.1	< 0.10					0.23			0.52	
Benzo[a]pyrene	M	2700	mg/kg	0.1	< 0.10					0.64			0.88	
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.1	< 0.10					0.26			0.58	
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.1	< 0.10					0.18			0.30	
Benzo[g,h,i]perylene	M	2700	mg/kg	0.1	< 0.10					0.52			0.65	
Total Of 16 PAH's	M	2700	mg/kg	2	3.1					6.6			13	

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:				15-08536	15-08536	15-08536
Quotation No.:	Chemtest Sample ID.:				128126	128128	128129
Order No.: DS24131(T)	Client Sample Ref.:						
	Client Sample ID.:				CP08	CP08	CP08
	Sample Type:				SOIL	SOIL	SOIL
	Top Depth (m):				0.50	4.00	9.00
	Bottom Depth(m):						
	Date Sampled:				09-Apr-15	09-Apr-15	10-Apr-15
Determinand	Accred.	SOP	Units	LOD			
ACM Type	U	2192			-		
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected		
Moisture	N	2030	%	0.02	18	17	15
Soil Colour	N				brown	brown	brown
Other Material	N				none	none	none
Soil Texture	N				clay	clay	clay
pH	M	2010			8.2	8.7	8.7
Boron (Hot Water Soluble)	M	2120	mg/kg	0.4	0.64		
Sulphate (2:1 Water Soluble) as SO ₄	M	2120	g/l	0.01		< 0.010	< 0.010
Total Sulphur	M	2175	%	0.01		0.050	0.040
Cyanide (Total)	M	2300	mg/kg	0.5	< 0.50		
Sulphate (Acid Soluble)	M	2430	%	0.01		0.010	< 0.010
Arsenic	M	2450	mg/kg	1	14		
Cadmium	M	2450	mg/kg	0.1	0.13		
Chromium	M	2450	mg/kg	1	53		
Copper	M	2450	mg/kg	0.5	21		
Mercury	M	2450	mg/kg	0.1	< 0.10		
Nickel	M	2450	mg/kg	0.5	52		
Lead	M	2450	mg/kg	0.5	70		
Selenium	M	2450	mg/kg	0.2	< 0.20		
Zinc	M	2450	mg/kg	0.5	90		
Aliphatic TPH >C5-C6	N	2675	mg/kg	0.1			
Aliphatic TPH >C6-C8	N	2675	mg/kg	0.1			
Aliphatic TPH >C8-C10	M	2675	mg/kg	0.1			
Aliphatic TPH >C10-C12	M	2675	mg/kg	1			
Aliphatic TPH >C12-C16	M	2675	mg/kg	1			
Aliphatic TPH >C16-C21	M	2675	mg/kg	1			
Aliphatic TPH >C21-C35	M	2675	mg/kg	1			
Aliphatic TPH >C35-C44	M	2675	mg/kg	1			
Total Aliphatic Hydrocarbons	M	2675	mg/kg	5			
Aromatic TPH >C5-C7	N	2675	mg/kg	0.1			
Aromatic TPH >C7-C8	N	2675	mg/kg	0.1			

Results Summary - Soil

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:				15-08536	15-08536	15-08536
Quotation No.:	Chemtest Sample ID.:				128126	128128	128129
Order No.: DS24131(T)	Client Sample Ref.:						
	Client Sample ID.:				CP08	CP08	CP08
	Sample Type:				SOIL	SOIL	SOIL
	Top Depth (m):				0.50	4.00	9.00
	Bottom Depth(m):						
	Date Sampled:				09-Apr-15	09-Apr-15	10-Apr-15
Determinand	Accred.	SOP	Units	LOD			
Aromatic TPH >C8-C10	M	2675	mg/kg	0.1			
Aromatic TPH >C10-C12	M	2675	mg/kg	1			
Aromatic TPH >C12-C16	M	2675	mg/kg	1			
Aromatic TPH >C16-C21	M	2675	mg/kg	1			
Aromatic TPH >C21-C35	M	2675	mg/kg	1			
Aromatic TPH >C35-C44	N	2675	mg/kg	1			
Total Aromatic Hydrocarbons	M	2675	mg/kg	5			
Total Petroleum Hydrocarbons	M	2675	mg/kg	10			
Naphthalene	M	2700	mg/kg	0.1	< 0.10		
Acenaphthylene	M	2700	mg/kg	0.1	< 0.10		
Acenaphthene	M	2700	mg/kg	0.1	< 0.10		
Fluorene	M	2700	mg/kg	0.1	< 0.10		
Phenanthrene	M	2700	mg/kg	0.1	< 0.10		
Anthracene	M	2700	mg/kg	0.1	< 0.10		
Fluoranthene	M	2700	mg/kg	0.1	0.21		
Pyrene	M	2700	mg/kg	0.1	0.24		
Benzo[a]anthracene	M	2700	mg/kg	0.1	< 0.10		
Chrysene	M	2700	mg/kg	0.1	< 0.10		
Benzo[b]fluoranthene	M	2700	mg/kg	0.1	< 0.10		
Benzo[k]fluoranthene	M	2700	mg/kg	0.1	< 0.10		
Benzo[a]pyrene	M	2700	mg/kg	0.1	< 0.10		
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.1	< 0.10		
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.1	< 0.10		
Benzo[g,h,i]perylene	M	2700	mg/kg	0.1	< 0.10		
Total Of 16 PAH's	M	2700	mg/kg	2	< 2.0		

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
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- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at our Coventry laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk





Final Report

Report Number: 15-08511 Issue-1

Initial Date of Issue: 21-Apr-2015

Client: Delta Simons

Client Address: 3 Henley Office Park
Doddington Road
Lincoln
Lincolnshire
LN6 3QR

Contact(s): Cerys Baldwin
Simon Steele

Project: Hillingdon

Quotation No.: **Date Received:** 15-Apr-2015

Order No.: DS24131(T) **Date Instructed:** 15-Apr-2015

No. of Samples: 8

Turnaround: (Wkdays) 5 **Results Due Date:** 21-Apr-2015

Date Approved: 21-Apr-2015

Approved By:

Details: Darrell Hall, Laboratory Director

Results Summary - Water

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:				15-08511	15-08511	15-08511	15-08511	15-08511	15-08511	15-08511	15-08511
Quotation No.:	Chemtest Sample ID.:				127974	127975	127976	127977	127978	127979	127980	127981
Order No.: DS24131(T)	Client Sample Ref.:											
	Client Sample ID.:				CP01	CP02	CP04	CP05	CP06	CP07	CP08	CP09
	Sample Type:				WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
	Top Depth (m):											
	Bottom Depth(m):											
	Date Sampled:				13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15
Determinand	Accred.	SOP	Units	LOD								
pH	U	1010			8.2	8.3	8.3	8.2	8.3	8.2	8.2	8.1
Sulphate	U	1220	mg/l	1	480	1200	450	650	120	86	300	420
Arsenic (Dissolved)	U	1450	µg/l	1	16	4.5	1.6	1.5	1.4	1.1	2.2	4.0
Boron (Dissolved)	U	1450	µg/l	20	650	170	160	380	160	170	350	690
Cadmium (Dissolved)	U	1450	µg/l	0.08	< 0.080	< 0.080	< 0.080	< 0.080	< 0.080	< 0.080	< 0.080	< 0.080
Chromium (Dissolved)	U	1450	µg/l	1	3.2	< 1.0	< 1.0	4.4	< 1.0	4.0	3.8	7.8
Copper (Dissolved)	U	1450	µg/l	1	2.5	2.1	1.2	< 1.0	< 1.0	< 1.0	2.7	6.3
Mercury (Dissolved)	U	1450	µg/l	0.5	0.57	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Nickel (Dissolved)	U	1450	µg/l	1	6.5	4.0	3.6	2.3	2.8	4.4	1.4	6.1
Lead (Dissolved)	U	1450	µg/l	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Selenium (Dissolved)	U	1450	µg/l	1	7.6	5.4	3.0	20	3.1	4.3	8.7	12
Zinc (Dissolved)	U	1450	µg/l	1	19	24	25	24	13	7.1	8.9	16
Aliphatic TPH >C5-C6	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	U	1675	µg/l	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results Summary - Water

Project: Hillingdon

Client: Delta Simons	Chemtest Job No.:				15-08511	15-08511	15-08511	15-08511	15-08511	15-08511	15-08511	15-08511
Quotation No.:	Chemtest Sample ID.:				127974	127975	127976	127977	127978	127979	127980	127981
Order No.: DS24131(T)	Client Sample Ref.:											
	Client Sample ID.:				CP01	CP02	CP04	CP05	CP06	CP07	CP08	CP09
	Sample Type:				WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
	Top Depth (m):											
	Bottom Depth(m):											
	Date Sampled:				13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15	13-Apr-15
Determinand	Accred.	SOP	Units	LOD								
Acenaphthene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	1700	µg/l	0.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	U	1700	µg/l	2	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVCOs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at our Coventry laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 60 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk



Waste Classification Report



G44LT-NY6CV-UNLP7

Job name

Hillingdon V2

Waste Stream

Updated Waste Stream September 2013

Comments

Project

Site

Classified by

Name:

Huteson, Paul

Date:

04/06/2015 12:03 UTC

Telephone:

01522 823335

Company:

Delta-Simons**3 Chalkhill House****19 Rosary Road****Norwich****NR1 1SZ**

Report

Created by: Huteson, Paul

Created date: 04/06/2015 12:03 UTC

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazardous properties	Page
1	TP03	0.25	Non Hazardous		2
2	TP08	0.2	Non Hazardous		4
3	TP10	0.2	Non Hazardous		6
4	TP12	0.2	Non Hazardous		8
5	CP01	0.5	Non Hazardous		10
6	CP04	0.25	Non Hazardous		12
7	CP07	0.2	Non Hazardous		14
8	CP09	0.3	Non Hazardous		16
9	CP03	0.3	Non Hazardous		19

Appendices

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Appendix A: Classifier defined and non CLP determinands	21
Appendix B: Notes	22
Appendix C: Version	24

Classification of sample: TP03



Non Hazardous Waste
Classified as **17 05 04**
in the European Waste Catalogue

Sample details

Sample Name:	EWC Code:
TP03	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.25 m	
Moisture content: 25% (dry weight correction)	

Hazard properties

None identified

Determinands (Moisture content: 25%, dry weight correction)

Acenaphthene: (Whole conc. entered as: 0.16 mg/kg or 0.0000128%)
 Acenaphthylene: (Whole conc. entered as: 0.1 mg/kg or 0.000008%)
 Anthracene: (Whole conc. entered as: 0.18 mg/kg or 0.0000144%)
 Arsenic trioxide: (Cation conc. entered: 12 mg/kg, converted to compound conc.: 12.675 mg/kg or 0.00127%)
 Benzo[a]anthracene: (Whole conc. entered as: 0.55 mg/kg or 0.000044%)
 Benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: 0.7 mg/kg or 0.000056%)
 Benzo[b]fluoranthene: (Whole conc. entered as: 1 mg/kg or 0.00008%)
 Benzo[ghi]perylene: (Whole conc. entered as: 0.68 mg/kg or 0.0000544%)
 Benzo[k]fluoranthene: (Whole conc. entered as: 0.74 mg/kg or 0.0000592%)
 Boron tribromide/trichloride/trifluoride (combined risk phrases): (Cation conc. entered: 2 mg/kg, converted to compound conc.: 21.488 mg/kg or 0.00215%)
 Cadmium sulphide: (Cation conc. entered: 0.31 mg/kg, converted to compound conc.: 0.319 mg/kg or 0.0000319%, Note 1 conc.: 0.0000248%)
 Chromium(III) oxide: (Cation conc. entered: 43 mg/kg, converted to compound conc.: 50.278 mg/kg or 0.00503%)
 Chrysene: (Whole conc. entered as: 0.89 mg/kg or 0.0000712%)
 Copper (I) oxide: (Cation conc. entered: 26 mg/kg, converted to compound conc.: 23.418 mg/kg or 0.00234%)
 Cyanides (with the exception of complex cyanides): (Whole conc. entered as: <0.5 mg/kg or <0.00004%) **IGNORED Because: "<LOD"**
 Dibenz[a,h]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.000008%) **IGNORED Because: "<LOD"**
 Fluoranthene: (Whole conc. entered as: 1.5 mg/kg or 0.00012%)
 Fluorene: (Whole conc. entered as: 0.11 mg/kg or 0.0000088%)
 Indeno[123-cd]pyrene: (Whole conc. entered as: 0.52 mg/kg or 0.0000416%)
 Lead chromate: (Cation conc. entered: 97 mg/kg, converted to compound conc.: 121.042 mg/kg or 0.0121%, Note 1 conc.: 0.00776%)
 Mercury dichloride: (Cation conc. entered: 0.44 mg/kg, converted to compound conc.: 0.476 mg/kg or 0.0000476%)
 Naphthalene: (Whole conc. entered as: 0.14 mg/kg or 0.0000112%)
 Nickel dihydroxide: (Cation conc. entered: 18 mg/kg, converted to compound conc.: 22.745 mg/kg or 0.00227%)
 pH: (Whole conc. entered as: 6.5 pH, converted to conc.: 6.5 pH or 6.5 pH)
 Phenanthrene: (Whole conc. entered as: 0.67 mg/kg or 0.0000536%)
 Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite): (Cation conc. entered: 0.51 mg/kg, converted to compound conc.: 0.612 mg/kg or 0.0000612%)
 TPH (C6 to C40) Petroleum Group: (Whole conc. entered as: <10 mg/kg or <0.0008%) **IGNORED Because: "<LOD"**
 Zinc chromate: (Cation conc. entered: 91 mg/kg, converted to compound conc.: 201.958 mg/kg or 0.0202%)

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Cadmium sulphide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Fluorene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Acenaphthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Anthracene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Arsenic trioxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[a]anthracene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[a]pyrene; benzo[def]chrysene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[b]fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[ghi]perylene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[k]fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Chromium(III) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Chrysene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Copper (I) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Lead chromate"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Mercury dichloride"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Naphthalene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Nickel dihydroxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Phenanthrene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Zinc chromate"

Note 1 , used on:

Test: "HP 5 on STOT SE 1; H370, STOT RE 1; H372" for determinand: "Cadmium sulphide"
Test: "HP 5 on STOT SE 2; H371, STOT RE 2; H373" for determinand: "Cadmium sulphide"
Test: "HP 6 on Acute Tox. 4; H302" for determinand: "Cadmium sulphide"
Test: "HP 7 on Carc. 1B; H350, Carc. 1A; H350, Carc. 1B; H350i, Carc. 1A; H350i" for determinand: "Cadmium sulphide"
Test: "HP 10 on Repr. 1A; H360, Repr. 1B; H360, Repr. 1B; H360F, Repr. 1A; H360F, Repr. 1A; H360D, Repr. 1B; H360D, Repr. 1B; H360FD, Repr. 1A; H360FD, Repr. 1A; H360Fd, Repr. 1B; H360Fd, Repr. 1B; H360Df, Repr. 1A; H360Df" for determinand: "Lead chromate"
Test: "HP 10 on Repr. 2; H361, Repr. 2; H361f, Repr. 2; H361d, Repr. 2; H361fd" for determinand: "Cadmium sulphide"
Test: "HP 11 on Muta. 2; H341" for determinand: "Cadmium sulphide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Cadmium sulphide"

Determinand notes

Note 1 , used on:

determinand: "Cadmium sulphide"
determinand: "Lead chromate"

Note A , used on:

determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"
determinand: "Zinc chromate"

Classification of sample: TP08



Non Hazardous Waste
Classified as **17 05 04**
in the European Waste Catalogue

Sample details

Sample Name:	EWG Code:
TP08	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	
Moisture content: 23% (dry weight correction)	

Hazard properties

None identified

Determinands (Moisture content: 23%, dry weight correction)

Acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Arsenic trioxide: (Cation conc. entered: 14 mg/kg, converted to compound conc.:15.028 mg/kg or 0.0015%)
 Benzo[a]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Benzo[b]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Benzo[ghi]perylene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Benzo[k]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Boron tribromide/trichloride/trifluoride (combined risk phrases): (Cation conc. entered: 0.94 mg/kg, converted to compound conc.:10.264 mg/kg or 0.00103%)
 Cadmium sulphide: (Cation conc. entered: 0.24 mg/kg, converted to compound conc.:0.251 mg/kg or 0.0000251%, Note 1 conc.: 0.0000195%)
 Chromium(III) oxide: (Cation conc. entered: 42 mg/kg, converted to compound conc.:49.907 mg/kg or 0.00499%)
 Chrysene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Copper (I) oxide: (Cation conc. entered: 26 mg/kg, converted to compound conc.:23.799 mg/kg or 0.00238%)
 Cyanides (with the exception of complex cyanides): (Whole conc. entered as: <0.5 mg/kg or <0.0000407%) **IGNORED Because: "<LOD"**
 Dibenz[a,h]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Fluoranthene: (Whole conc. entered as: 0.44 mg/kg or 0.0000358%)
 Fluorene: (Whole conc. entered as: 0.11 mg/kg or 0.00000894%)
 Indeno[123-cd]pyrene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Lead chromate: (Cation conc. entered: 150 mg/kg, converted to compound conc.:190.221 mg/kg or 0.019%, Note 1 conc.: 0.0122%)
 Mercury dichloride: (Cation conc. entered: 0.21 mg/kg, converted to compound conc.:0.231 mg/kg or 0.0000231%)
 Naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Nickel dihydroxide: (Cation conc. entered: 16 mg/kg, converted to compound conc.:20.546 mg/kg or 0.00205%)
 pH: (Whole conc. entered as: 6.5 pH, converted to conc.:6.5 pH or 6.5 pH)
 Phenanthrene: (Whole conc. entered as: <0.1 mg/kg or <0.00000813%) **IGNORED Because: "<LOD"**
 Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite): (Cation conc. entered: 0.41 mg/kg, converted to compound conc.:0.5 mg/kg or 0.00005%)
 TPH (C6 to C40) Petroleum Group: (Whole conc. entered as: <10 mg/kg or <0.000813%) **IGNORED Because: "<LOD"**
 Zinc chromate: (Cation conc. entered: 76 mg/kg, converted to compound conc.:171.411 mg/kg or 0.0171%)

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Cadmium sulphide"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Fluorene"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Arsenic trioxide"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Chromium(III) oxide"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Copper (I) oxide"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Fluoranthene"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Lead chromate"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Mercury dichloride"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Nickel dihydroxide"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Zinc chromate"

Determinand notes

Note 1 , used on:

determinand: "Cadmium sulphide"

determinand: "Lead chromate"

Note A , used on:

determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"

determinand: "Zinc chromate"

Classification of sample: TP10



Non Hazardous Waste
Classified as **17 05 04**
in the European Waste Catalogue

Sample details

Sample Name:	EWG Code:
TP10	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	
Moisture content: 22% (dry weight correction)	

Hazard properties

None identified

Determinands (Moisture content: 22%, dry weight correction)

Acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Arsenic trioxide: (Cation conc. entered: 19 mg/kg, converted to compound conc.:20.562 mg/kg or 0.00206%)
 Benzo[a]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Benzo[b]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Benzo[ghi]perylene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Benzo[k]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Boron tribromide/trichloride/trifluoride (combined risk phrases): (Cation conc. entered: 0.73 mg/kg, converted to compound conc.:8.036 mg/kg or 0.000804%)
 Cadmium sulphide: (Cation conc. entered: 0.41 mg/kg, converted to compound conc.:0.432 mg/kg or 0.0000432%, Note 1 conc.: 0.0000336%)
 Chromium(III) oxide: (Cation conc. entered: 49 mg/kg, converted to compound conc.:58.702 mg/kg or 0.00587%)
 Chrysene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Copper (I) oxide: (Cation conc. entered: 25 mg/kg, converted to compound conc.:23.071 mg/kg or 0.00231%)
 Cyanides (with the exception of complex cyanides): (Whole conc. entered as: <0.5 mg/kg or <0.000041%) **IGNORED Because: "<LOD"**
 Dibenz[a,h]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Fluoranthene: (Whole conc. entered as: 0.44 mg/kg or 0.0000361%)
 Fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Indeno[123-cd]pyrene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Lead chromate: (Cation conc. entered: 90 mg/kg, converted to compound conc.:115.068 mg/kg or 0.0115%, Note 1 conc.: 0.00738%)
 Mercury dichloride: (Cation conc. entered: 0.45 mg/kg, converted to compound conc.:0.499 mg/kg or 0.0000499%)
 Naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Nickel dihydroxide: (Cation conc. entered: 20 mg/kg, converted to compound conc.:25.893 mg/kg or 0.00259%)
 pH: (Whole conc. entered as: 7.6 pH, converted to conc.:7.6 pH or 7.6 pH)
 Phenanthrene: (Whole conc. entered as: <0.1 mg/kg or <0.0000082%) **IGNORED Because: "<LOD"**
 Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite): (Cation conc. entered: 0.33 mg/kg, converted to compound conc.:0.406 mg/kg or 0.0000406%)
 TPH (C6 to C40) Petroleum Group: (Whole conc. entered as: <10 mg/kg or <0.00082%) **IGNORED Because: "<LOD"**
 Zinc chromate: (Cation conc. entered: 95 mg/kg, converted to compound conc.:216.02 mg/kg or 0.0216%)

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Arsenic trioxide"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Chromium(III) oxide"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Copper (I) oxide"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Fluoranthene"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Lead chromate"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Mercury dichloride"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Nickel dihydroxide"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Zinc chromate"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Cadmium sulphide"

Note 1 , used on:

Test: "HP 5 on STOT SE 1; H370, STOT RE 1; H372" for determinand: "Cadmium sulphide"

Test: "HP 5 on STOT SE 2; H371, STOT RE 2; H373" for determinand: "Cadmium sulphide"

Test: "HP 6 on Acute Tox. 4; H302" for determinand: "Cadmium sulphide"

Test: "HP 7 on Carc. 1B; H350, Carc. 1A; H350, Carc. 1B; H350i, Carc. 1A; H350i" for determinand: "Cadmium sulphide"

Test: "HP 10 on Repr. 1A; H360, Repr. 1B; H360, Repr. 1B; H360F, Repr. 1A; H360F, Repr. 1A; H360D, Repr. 1B; H360D, Repr. 1B; H360FD, Repr. 1A; H360FD, Repr. 1A; H360Fd, Repr. 1B; H360Fd, Repr. 1B; H360Df, Repr. 1A; H360Df" for determinand: "Lead chromate"

Test: "HP 10 on Repr. 2; H361, Repr. 2; H361f, Repr. 2; H361d, Repr. 2; H361fd" for determinand: "Cadmium sulphide"

Test: "HP 11 on Muta. 2; H341" for determinand: "Cadmium sulphide"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Lead chromate"

Determinand notes

Note 1 , used on:

determinand: "Cadmium sulphide"

determinand: "Lead chromate"

Note A , used on:

determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"

determinand: "Zinc chromate"

Classification of sample: TP12



Non Hazardous Waste
Classified as **17 05 04**
in the European Waste Catalogue

Sample details

Sample Name:	EWC Code:
TP12	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	
Moisture content: 21% (dry weight correction)	

Hazard properties

None identified

Determinands (Moisture content: 21%, dry weight correction)

Acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Arsenic trioxide: (Cation conc. entered: 17 mg/kg, converted to compound conc.:18.55 mg/kg or 0.00186%)
 Benzo[a]anthracene: (Whole conc. entered as: 0.23 mg/kg or 0.000019%)
 Benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: 0.33 mg/kg or 0.0000273%)
 Benzo[b]fluoranthene: (Whole conc. entered as: 0.46 mg/kg or 0.000038%)
 Benzo[ghi]perylene: (Whole conc. entered as: 0.24 mg/kg or 0.0000198%)
 Benzo[k]fluoranthene: (Whole conc. entered as: 0.31 mg/kg or 0.0000256%)
 Boron tribromide/trichloride/trifluoride (combined risk phrases): (Cation conc. entered: 0.96 mg/kg, converted to compound conc.:10.655 mg/kg or 0.00107%)
 Cadmium sulphide: (Cation conc. entered: 0.27 mg/kg, converted to compound conc.:0.287 mg/kg or 0.0000287%, Note 1 conc.: 0.0000223%)
 Chromium(III) oxide: (Cation conc. entered: 52 mg/kg, converted to compound conc.:62.811 mg/kg or 0.00628%)
 Chrysene: (Whole conc. entered as: 0.31 mg/kg or 0.0000256%)
 Copper (I) oxide: (Cation conc. entered: 32 mg/kg, converted to compound conc.:29.776 mg/kg or 0.00298%)
 Cyanides (with the exception of complex cyanides): (Whole conc. entered as: <0.5 mg/kg or <0.0000413%) **IGNORED Because: "<LOD"**
 Dibenz[a,h]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Fluoranthene: (Whole conc. entered as: 0.78 mg/kg or 0.0000645%)
 Fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Indeno[123-cd]pyrene: (Whole conc. entered as: 0.23 mg/kg or 0.000019%)
 Lead chromate: (Cation conc. entered: 100 mg/kg, converted to compound conc.:128.91 mg/kg or 0.0129%, Note 1 conc.: 0.00826%)
 Mercury dichloride: (Cation conc. entered: 0.23 mg/kg, converted to compound conc.:0.257 mg/kg or 0.0000257%)
 Naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Nickel dihydroxide: (Cation conc. entered: 21 mg/kg, converted to compound conc.:27.413 mg/kg or 0.00274%)
 pH: (Whole conc. entered as: 7.6 pH, converted to conc.:7.6 pH or 7.6 pH)
 Phenanthrene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite): (Cation conc. entered: 0.59 mg/kg, converted to compound conc.:0.731 mg/kg or 0.0000731%)
 Zinc chromate: (Cation conc. entered: 88 mg/kg, converted to compound conc.:201.756 mg/kg or 0.0202%)

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Arsenic trioxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[a]anthracene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[a]pyrene; benzo[def]chrysene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[b]fluoranthene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[ghi]perylene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[k]fluoranthene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Chromium(III) oxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Chrysene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Copper (I) oxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Fluoranthene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Lead chromate"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Mercury dichloride"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Nickel dihydroxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Zinc chromate"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Cadmium sulphide"

Determinand notes

Note 1 , used on:

determinand: "Cadmium sulphide"
determinand: "Lead chromate"

Note A , used on:

determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"
determinand: "Zinc chromate"

Classification of sample: CP01



Non Hazardous Waste
Classified as **17 05 04**
in the European Waste Catalogue

Sample details

Sample Name:	EWC Code:
CP01	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.5 m	
Moisture content: 13% (dry weight correction)	

Hazard properties

None identified

Determinands (Moisture content: 13%, dry weight correction)

Acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000885%) **IGNORED Because: "<LOD"**
 Acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.00000885%) **IGNORED Because: "<LOD"**
 Anthracene: (Whole conc. entered as: 0.23 mg/kg or 0.0000204%)
 Arsenic trioxide: (Cation conc. entered: 22 mg/kg, converted to compound conc.:25.705 mg/kg or 0.00257%)
 Benzo[a]anthracene: (Whole conc. entered as: 0.49 mg/kg or 0.0000434%)
 Benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: <0.1 mg/kg or <0.00000885%) **IGNORED Because: "<LOD"**
 Benzo[b]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000885%) **IGNORED Because: "<LOD"**
 Benzo[ghi]perylene: (Whole conc. entered as: <0.1 mg/kg or <0.00000885%) **IGNORED Because: "<LOD"**
 Benzo[k]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000885%) **IGNORED Because: "<LOD"**
 Boron tribromide/trichloride/trifluoride (combined risk phrases): (Cation conc. entered: 3.4 mg/kg, converted to compound conc.:40.409 mg/kg or 0.00404%)
 Cadmium sulphide: (Cation conc. entered: 0.45 mg/kg, converted to compound conc.:0.512 mg/kg or 0.0000512%, Note 1 conc.: 0.0000398%)
 Chromium(III) oxide: (Cation conc. entered: 51 mg/kg, converted to compound conc.:65.964 mg/kg or 0.0066%)
 Chrysene: (Whole conc. entered as: 0.26 mg/kg or 0.000023%)
 Copper (I) oxide: (Cation conc. entered: 19 mg/kg, converted to compound conc.:18.931 mg/kg or 0.00189%)
 Cyanides (with the exception of complex cyanides): (Whole conc. entered as: <0.5 mg/kg or <0.0000442%) **IGNORED Because: "<LOD"**
 Dibenz[a,h]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00000885%) **IGNORED Because: "<LOD"**
 Fluoranthene: (Whole conc. entered as: 1.8 mg/kg or 0.000159%)
 Fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.00000885%) **IGNORED Because: "<LOD"**
 Indeno[123-cd]pyrene: (Whole conc. entered as: <0.1 mg/kg or <0.00000885%) **IGNORED Because: "<LOD"**
 Lead chromate: (Cation conc. entered: 580 mg/kg, converted to compound conc.:800.613 mg/kg or 0.0801%, Note 1 conc.: 0.0513%)
 Mercury dichloride: (Cation conc. entered: <0.1 mg/kg, converted to compound conc.:<0.12 mg/kg or <0.000012%) **IGNORED Because: "<LOD"**
 Naphthalene: (Whole conc. entered as: 0.36 mg/kg or 0.0000319%)
 Nickel dihydroxide: (Cation conc. entered: 29 mg/kg, converted to compound conc.:40.536 mg/kg or 0.00405%)
 pH: (Whole conc. entered as: 10 pH, converted to conc.:10 pH or 10 pH)
 Phenanthrene: (Whole conc. entered as: 0.94 mg/kg or 0.0000832%)
 Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite): (Cation conc. entered: <0.2 mg/kg, converted to compound conc.:<0.265 mg/kg or <0.0000265%) **IGNORED Because: "<LOD"**
 TPH (C6 to C40) Petroleum Group: (Whole conc. entered as: 120 mg/kg or 0.0106%)
 Zinc chromate: (Cation conc. entered: 140 mg/kg, converted to compound conc.:343.7 mg/kg or 0.0344%)

Test Settings

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this test to non hazardous because: "Significant contamination not identified. Free product not noted during sampling. Unlikley to be flammable."**

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Cadmium sulphide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Anthracene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Arsenic trioxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[a]anthracene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Chromium(III) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Chrysene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Copper (I) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Lead chromate"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Naphthalene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Nickel dihydroxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Phenanthrene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Zinc chromate"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "TPH (C6 to C40) Petroleum Group"

Note 1 , used on:

Test: "HP 5 on STOT SE 1; H370, STOT RE 1; H372" for determinand: "Cadmium sulphide"
Test: "HP 5 on STOT SE 2; H371, STOT RE 2; H373" for determinand: "Cadmium sulphide"
Test: "HP 6 on Acute Tox. 4; H302" for determinand: "Cadmium sulphide"
Test: "HP 7 on Carc. 1B; H350, Carc. 1A; H350, Carc. 1B; H350i, Carc. 1A; H350i" for determinand: "Cadmium sulphide"
Test: "HP 10 on Repr. 1A; H360, Repr. 1B; H360, Repr. 1B; H360F, Repr. 1A; H360F, Repr. 1A; H360D, Repr. 1B; H360D, Repr. 1B; H360FD, Repr. 1A; H360FD, Repr. 1A; H360Fd, Repr. 1B; H360Fd, Repr. 1B; H360Df, Repr. 1A; H360Df" for determinand: "Lead chromate"
Test: "HP 10 on Repr. 2; H361, Repr. 2; H361f, Repr. 2; H361d, Repr. 2; H361fd" for determinand: "Cadmium sulphide"
Test: "HP 11 on Muta. 2; H341" for determinand: "Cadmium sulphide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Cadmium sulphide"

Determinand notes

3.4.2 , used on:

determinand: "TPH (C6 to C40) Petroleum Group"

Note 1 , used on:

determinand: "Cadmium sulphide"
determinand: "Lead chromate"

Note A , used on:

determinand: "Zinc chromate"

WM3: Unknown oil , used on:

determinand: "TPH (C6 to C40) Petroleum Group"

Classification of sample: CP04



Non Hazardous Waste
Classified as **17 05 04**
in the European Waste Catalogue

Sample details

Sample Name:	EWC Code:
CP04	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.25 m	
Moisture content: 21% (dry weight correction)	

Hazard properties

None identified

Determinands (Moisture content: 21%, dry weight correction)

Acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Arsenic trioxide: (Cation conc. entered: 12 mg/kg, converted to compound conc.:13.094 mg/kg or 0.00131%)
 Benzo[a]anthracene: (Whole conc. entered as: 0.22 mg/kg or 0.0000182%)
 Benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: 0.66 mg/kg or 0.0000545%)
 Benzo[b]fluoranthene: (Whole conc. entered as: 0.38 mg/kg or 0.0000314%)
 Benzo[ghi]perylene: (Whole conc. entered as: 0.2 mg/kg or 0.0000165%)
 Benzo[k]fluoranthene: (Whole conc. entered as: 0.45 mg/kg or 0.0000372%)
 Boron tribromide/trichloride/trifluoride (combined risk phrases): (Cation conc. entered: 0.59 mg/kg, converted to compound conc.:6.549 mg/kg or 0.000655%)
 Cadmium sulphide: (Cation conc. entered: 0.22 mg/kg, converted to compound conc.:0.234 mg/kg or 0.0000234%, Note 1 conc.: 0.0000182%)
 Chromium(III) oxide: (Cation conc. entered: 51 mg/kg, converted to compound conc.:61.603 mg/kg or 0.00616%)
 Chrysene: (Whole conc. entered as: 0.5 mg/kg or 0.0000413%)
 Copper (I) oxide: (Cation conc. entered: 19 mg/kg, converted to compound conc.:17.679 mg/kg or 0.00177%)
 Cyanides (with the exception of complex cyanides): (Whole conc. entered as: <0.5 mg/kg or <0.0000413%) **IGNORED Because: "<LOD"**
 Dibenz[a,h]anthracene: (Whole conc. entered as: 0.15 mg/kg or 0.0000124%)
 Fluoranthene: (Whole conc. entered as: 0.55 mg/kg or 0.0000455%)
 Fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Indeno[123-cd]pyrene: (Whole conc. entered as: 0.19 mg/kg or 0.0000157%)
 Lead chromate: (Cation conc. entered: 67 mg/kg, converted to compound conc.:86.37 mg/kg or 0.00864%, Note 1 conc.: 0.00554%)
 Mercury dichloride: (Cation conc. entered: <0.1 mg/kg, converted to compound conc.:<0.112 mg/kg or <0.0000112%) **IGNORED Because: "<LOD"**
 Naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Nickel dihydroxide: (Cation conc. entered: 19 mg/kg, converted to compound conc.:24.802 mg/kg or 0.00248%)
 pH: (Whole conc. entered as: 8.1 pH, converted to conc.:8.1 pH or 8.1 pH)
 Phenanthrene: (Whole conc. entered as: <0.1 mg/kg or <0.00000826%) **IGNORED Because: "<LOD"**
 Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite): (Cation conc. entered: 0.67 mg/kg, converted to compound conc.:0.831 mg/kg or 0.0000831%)
 Zinc chromate: (Cation conc. entered: 110 mg/kg, converted to compound conc.:252.195 mg/kg or 0.0252%)

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Arsenic trioxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[a]anthracene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[a]pyrene; benzo[def]chrysene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[b]fluoranthene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[ghi]perylene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[k]fluoranthene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Chromium(III) oxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Chrysene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Copper (I) oxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Dibenz[a,h]anthracene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Fluoranthene"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Lead chromate"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Nickel dihydroxide"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Selenium compounds (with the exception of cadmium sulposelenide and sodium selenite)"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Zinc chromate"
Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Cadmium sulphide"

Determinand notes

Note 1 , used on:

determinand: "Cadmium sulphide"
determinand: "Lead chromate"

Note A , used on:

determinand: "Selenium compounds (with the exception of cadmium sulposelenide and sodium selenite)"
determinand: "Zinc chromate"

Classification of sample: CP07



Non Hazardous Waste
Classified as **17 05 04**
in the European Waste Catalogue

Sample details

Sample Name:	EWC Code:
CP07	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.2 m	
Moisture content: 19% (dry weight correction)	

Hazard properties

None identified

Determinands (Moisture content: 19%, dry weight correction)

Acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Arsenic trioxide: (Cation conc. entered: 11 mg/kg, converted to compound conc.:12.205 mg/kg or 0.00122%)
 Benzo[a]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Benzo[b]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Benzo[ghi]perylene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Benzo[k]fluoranthene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Boron tribromide/trichloride/trifluoride (combined risk phrases): (Cation conc. entered: 0.53 mg/kg, converted to compound conc.:5.981 mg/kg or 0.000598%)
 Cadmium sulphide: (Cation conc. entered: <0.1 mg/kg, converted to compound conc.:<0.108 mg/kg or <0.0000108%, Note 1 conc.: <0.0000084%) **IGNORED Because: "<LOD"**
 Chromium(III) oxide: (Cation conc. entered: 40 mg/kg, converted to compound conc.:49.128 mg/kg or 0.00491%)
 Chrysene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Copper (I) oxide: (Cation conc. entered: 14 mg/kg, converted to compound conc.:13.246 mg/kg or 0.00132%)
 Dibenz[a,h]anthracene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Fluoranthene: (Whole conc. entered as: 0.19 mg/kg or 0.000016%)
 Fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Indeno[123-cd]pyrene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Lead chromate: (Cation conc. entered: 44 mg/kg, converted to compound conc.:57.674 mg/kg or 0.00577%, Note 1 conc.: 0.0037%)
 Mercury dichloride: (Cation conc. entered: <0.1 mg/kg, converted to compound conc.:<0.114 mg/kg or <0.0000114%) **IGNORED Because: "<LOD"**
 Naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Nickel dihydroxide: (Cation conc. entered: 14 mg/kg, converted to compound conc.:18.582 mg/kg or 0.00186%)
 pH: (Whole conc. entered as: 6 pH, converted to conc.:6 pH or 6 pH)
 Phenanthrene: (Whole conc. entered as: <0.1 mg/kg or <0.0000084%) **IGNORED Because: "<LOD"**
 Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite): (Cation conc. entered: 0.56 mg/kg, converted to compound conc.:0.706 mg/kg or 0.0000706%)
 TPH (C6 to C40) Petroleum Group: (Whole conc. entered as: <10 mg/kg or <0.00084%) **IGNORED Because: "<LOD"**
 Zinc chromate: (Cation conc. entered: 68 mg/kg, converted to compound conc.:158.523 mg/kg or 0.0159%)

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Arsenic trioxide"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Chromium(III) oxide"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Copper (I) oxide"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Fluoranthene"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Lead chromate"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Nickel dihydroxide"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Zinc chromate"

Note 1 , used on:

Test: "HP 5 on STOT SE 2; H371, STOT RE 2; H373" for determinand: "Lead chromate"

Test: "HP 7 on Carc. 1B; H350, Carc. 1A; H350, Carc. 1B; H350i, Carc. 1A; H350i" for determinand: "Lead chromate"

Test: "HP 10 on Repr. 1A; H360, Repr. 1B; H360, Repr. 1B; H360F, Repr. 1A; H360F, Repr. 1A; H360D, Repr. 1B; H360D, Repr. 1B; H360FD, Repr. 1A; H360FD, Repr. 1A; H360Fd, Repr. 1B; H360Fd, Repr. 1B; H360Df, Repr. 1A; H360Df" for determinand: "Lead chromate"

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Lead chromate"

Determinand notes

Note 1 , used on:

determinand: "Lead chromate"

Note A , used on:

determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"

determinand: "Zinc chromate"

Classification of sample: CP09



Non Hazardous Waste
Classified as **17 05 04**
in the European Waste Catalogue

Sample details

Sample Name:	EWC Code:
CP09	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.3 m	
Moisture content: 18% (dry weight correction)	

Hazard properties

None identified

Determinands (Moisture content: 18%, dry weight correction)

Acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000847%) **IGNORED Because: "<LOD"**
 Acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.00000847%) **IGNORED Because: "<LOD"**
 Anthracene: (Whole conc. entered as: 0.21 mg/kg or 0.0000178%)
 Arsenic trioxide: (Cation conc. entered: 9.7 mg/kg, converted to compound conc.:10.854 mg/kg or 0.00109%)
 Benzo[a]anthracene: (Whole conc. entered as: 0.4 mg/kg or 0.0000339%)
 Benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: 0.64 mg/kg or 0.0000542%)
 Benzo[b]fluoranthene: (Whole conc. entered as: 0.51 mg/kg or 0.0000432%)
 Benzo[ghi]perylene: (Whole conc. entered as: 0.52 mg/kg or 0.0000441%)
 Benzo[k]fluoranthene: (Whole conc. entered as: 0.23 mg/kg or 0.0000195%)
 Boron tribromide/trichloride/trifluoride (combined risk phrases): (Cation conc. entered: 1.3 mg/kg, converted to compound conc.:14.796 mg/kg or 0.00148%)
 Cadmium sulphide: (Cation conc. entered: 0.2 mg/kg, converted to compound conc.:0.218 mg/kg or 0.0000218%, Note 1 conc.: 0.0000169%)
 Chromium(III) oxide: (Cation conc. entered: 33 mg/kg, converted to compound conc.:40.874 mg/kg or 0.00409%)
 Chrysene: (Whole conc. entered as: 0.78 mg/kg or 0.0000661%)
 Copper (I) oxide: (Cation conc. entered: 24 mg/kg, converted to compound conc.:22.899 mg/kg or 0.00229%)
 Cyanides (with the exception of complex cyanides): (Whole conc. entered as: <0.5 mg/kg or <0.0000424%) **IGNORED Because: "<LOD"**
 Dibenz[a,h]anthracene: (Whole conc. entered as: 0.18 mg/kg or 0.0000153%)
 Fluoranthene: (Whole conc. entered as: 1.1 mg/kg or 0.0000932%)
 Fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.00000847%) **IGNORED Because: "<LOD"**
 Indeno[123-cd]pyrene: (Whole conc. entered as: 0.26 mg/kg or 0.000022%)
 Lead chromate: (Cation conc. entered: 78 mg/kg, converted to compound conc.:103.106 mg/kg or 0.0103%, Note 1 conc.: 0.00661%)
 Mercury dichloride: (Cation conc. entered: <0.1 mg/kg, converted to compound conc.:<0.115 mg/kg or <0.0000115%) **IGNORED Because: "<LOD"**
 Naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.00000847%) **IGNORED Because: "<LOD"**
 Nickel dihydroxide: (Cation conc. entered: 40 mg/kg, converted to compound conc.:53.542 mg/kg or 0.00535%)
 pH: (Whole conc. entered as: 8.4 pH, converted to conc.:8.4 pH or 8.4 pH)
 Phenanthrene: (Whole conc. entered as: 0.75 mg/kg or 0.0000636%)
 Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite): (Cation conc. entered: 1 mg/kg, converted to compound conc.:1.271 mg/kg or 0.000127%)
 TPH (C6 to C40) Petroleum Group: (Whole conc. entered as: 18 mg/kg or 0.00153%)
 Zinc chromate: (Cation conc. entered: 140 mg/kg, converted to compound conc.:329.136 mg/kg or 0.0329%)

Test Settings

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this test to non hazardous because: "Significant contamination not identified. Free product not noted during sampling. Unlikley to be flammable."**

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Cadmium sulphide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Anthracene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Arsenic trioxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[a]anthracene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[a]pyrene; benzo[def]chrysene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[b]fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[ghi]perylene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Benzo[k]fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Chromium(III) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Chrysene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Copper (I) oxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Dibenz[a,h]anthracene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Fluoranthene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Lead chromate"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Nickel dihydroxide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Phenanthrene"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Zinc chromate"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "TPH (C6 to C40) Petroleum Group"

Note 1 , used on:

Test: "HP 5 on STOT SE 1; H370, STOT RE 1; H372" for determinand: "Cadmium sulphide"
Test: "HP 5 on STOT SE 2; H371, STOT RE 2; H373" for determinand: "Cadmium sulphide"
Test: "HP 6 on Acute Tox. 4; H302" for determinand: "Cadmium sulphide"
Test: "HP 7 on Carc. 1B; H350, Carc. 1A; H350, Carc. 1B; H350i, Carc. 1A; H350i" for determinand: "Cadmium sulphide"
Test: "HP 10 on Repr. 1A; H360, Repr. 1B; H360, Repr. 1B; H360F, Repr. 1A; H360F, Repr. 1A; H360D, Repr. 1B; H360D, Repr. 1B; H360FD, Repr. 1A; H360FD, Repr. 1A; H360Fd, Repr. 1B; H360Fd, Repr. 1B; H360Df, Repr. 1A; H360Df" for determinand: "Lead chromate"
Test: "HP 10 on Repr. 2; H361, Repr. 2; H361f, Repr. 2; H361d, Repr. 2; H361fd" for determinand: "Cadmium sulphide"
Test: "HP 11 on Muta. 2; H341" for determinand: "Cadmium sulphide"
Test: "HP 14 on R50, R52, R53, R50/53, R51/53, R52/53" for determinand: "Cadmium sulphide"

Determinand notes

3.4.2 , used on:

determinand: "TPH (C6 to C40) Petroleum Group"

Note 1 , used on:

determinand: "Cadmium sulphide"
determinand: "Lead chromate"


Note A , used on:

determinand: "Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite)"
determinand: "Zinc chromate"

WM3: Unknown oil , used on:

determinand: "TPH (C6 to C40) Petroleum Group"

Classification of sample: CP03

 **Non Hazardous Waste**
 Classified as **17 05 04**
 in the European Waste Catalogue

Sample details

Sample Name:	EWC Code:
CP03	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.3 m	
Moisture content: 14% (dry weight correction)	

Hazard properties

None identified

Determinands (Moisture content: 14%, dry weight correction)

Acenaphthene: (Whole conc. entered as: <0.1 mg/kg or <0.00000877%) **IGNORED Because: "<LOD"**
 Acenaphthylene: (Whole conc. entered as: <0.1 mg/kg or <0.00000877%) **IGNORED Because: "<LOD"**
 Anthracene: (Whole conc. entered as: 0.52 mg/kg or 0.0000456%)
 Arsenic trioxide: (Cation conc. entered: 16 mg/kg, converted to compound conc.:18.531 mg/kg or 0.00185%)
 Benzo[a]anthracene: (Whole conc. entered as: 0.74 mg/kg or 0.0000649%)
 Benzo[a]pyrene; benzo[def]chrysene: (Whole conc. entered as: 0.88 mg/kg or 0.0000772%)
 Benzo[b]fluoranthene: (Whole conc. entered as: 1 mg/kg or 0.0000877%)
 Benzo[ghi]perylene: (Whole conc. entered as: 0.65 mg/kg or 0.000057%)
 Benzo[k]fluoranthene: (Whole conc. entered as: 0.52 mg/kg or 0.0000456%)
 Boron tribromide/trichloride/trifluoride (combined risk phrases): (Cation conc. entered: 1.5 mg/kg, converted to compound conc.:17.671 mg/kg or 0.00177%)
 Cadmium sulphide: (Cation conc. entered: 0.21 mg/kg, converted to compound conc.:0.237 mg/kg or 0.0000237%, Note 1 conc.: 0.0000184%)
 Chromium(III) oxide: (Cation conc. entered: 43 mg/kg, converted to compound conc.:55.129 mg/kg or 0.00551%)
 Chrysene: (Whole conc. entered as: 1.2 mg/kg or 0.000105%)
 Copper (I) oxide: (Cation conc. entered: 31 mg/kg, converted to compound conc.:30.616 mg/kg or 0.00306%)
 Cyanides (with the exception of complex cyanides): (Whole conc. entered as: <0.5 mg/kg or <0.0000439%) **IGNORED Because: "<LOD"**
 Dibenz[a,h]anthracene: (Whole conc. entered as: 0.3 mg/kg or 0.0000263%)
 Fluoranthene: (Whole conc. entered as: 2.2 mg/kg or 0.000193%)
 Fluorene: (Whole conc. entered as: <0.1 mg/kg or <0.00000877%) **IGNORED Because: "<LOD"**
 Indeno[123-cd]pyrene: (Whole conc. entered as: 0.58 mg/kg or 0.0000509%)
 Lead chromate: (Cation conc. entered: 870 mg/kg, converted to compound conc.:1190.385 mg/kg or 0.119%, Note 1 conc.: 0.0763%)
 Mercury dichloride: (Cation conc. entered: 0.22 mg/kg, converted to compound conc.:0.261 mg/kg or 0.0000261%)
 Naphthalene: (Whole conc. entered as: <0.1 mg/kg or <0.00000877%) **IGNORED Because: "<LOD"**
 Nickel dihydroxide: (Cation conc. entered: 34 mg/kg, converted to compound conc.:47.108 mg/kg or 0.00471%)
 pH: (Whole conc. entered as: 8.9 pH, converted to conc.:8.9 pH or 8.9 pH)
 Phenanthrene: (Whole conc. entered as: 1.9 mg/kg or 0.000167%)
 Selenium compounds (with the exception of cadmium sulphoselenide and sodium selenite): (Cation conc. entered: <0.2 mg/kg, converted to compound conc.:<0.263 mg/kg or <0.0000263%) **IGNORED Because: "<LOD"**
 Zinc chromate: (Cation conc. entered: 170 mg/kg, converted to compound conc.:413.689 mg/kg or 0.0414%)

Notes utilised in assessment

C14: Step 5

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..." , used on:

Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Anthracene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Arsenic trioxide"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[a]anthracene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[a]pyrene; benzo[def]chrysene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[b]fluoranthene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[ghi]perylene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Benzo[k]fluoranthene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Chromium(III) oxide"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Chrysene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Copper (I) oxide"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Dibenz[a,h]anthracene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Fluoranthene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Lead chromate"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Mercury dichloride"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Nickel dihydroxide"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Phenanthrene"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Zinc chromate"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Cadmium sulphide"

Note 1 , used on:

Test: "HP 5 on STOT SE 1; H370, STOT RE 1; H372" for determinand: "Cadmium sulphide"
 Test: "HP 5 on STOT SE 2; H371, STOT RE 2; H373" for determinand: "Cadmium sulphide"
 Test: "HP 6 on Acute Tox. 4; H302" for determinand: "Cadmium sulphide"
 Test: "HP 7 on Carc. 1B; H350, Carc. 1A; H350, Carc. 1B; H350i, Carc. 1A; H350i" for determinand: "Cadmium sulphide"
 Test: "HP 10 on Repr. 1A; H360, Repr. 1B; H360, Repr. 1B; H360F, Repr. 1A; H360F, Repr. 1A; H360D, Repr. 1B; H360D, Repr. 1B; H360FD, Repr. 1A; H360FD, Repr. 1A; H360Fd, Repr. 1B; H360Fd, Repr. 1B; H360Df, Repr. 1A; H360Df" for determinand: "Lead chromate"
 Test: "HP 10 on Repr. 2; H361, Repr. 2; H361f, Repr. 2; H361d, Repr. 2; H361fd" for determinand: "Cadmium sulphide"
 Test: "HP 11 on Muta. 2; H341" for determinand: "Cadmium sulphide"
 Test: "HP 14 on R50, R52, R50/53, R51/53, R53, R52/53" for determinand: "Lead chromate"

Determinand notes

Note 1 , used on:

determinand: "Cadmium sulphide"
 determinand: "Lead chromate"

Note A , used on:

determinand: "Zinc chromate"

Appendix A: Classifier defined and non CLP determinands

Acenaphthene (CAS Number: 83-32-9)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=133563&HarmOnly=no>

Data source date: 16/07/2012

Risk Phrases: R36, R37, R38, N; R50/53, N; R51/53

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

Acenaphthylene (CAS Number: 208-96-8)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=59285&HarmOnly=no>

Data source date: 16/07/2012

Risk Phrases: R22, R26, R27, R36, R37, R38

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

Anthracene (CAS Number: 120-12-7)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=101102&HarmOnly=no>

Data source date: 08/03/2013

Risk Phrases: R36, R37, R38, R43, N; R50/53

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

Benzo[ghi]perylene (CAS Number: 191-24-2)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=15793&HarmOnly=no>

Data source date: 16/07/2012

Risk Phrases: N; R50/53

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

Boron tribromide/trichloride/trifluoride (combined risk phrases)

Comments: Combines the risk phrases and the average of the conversion factors for Boron tribromide, Boron trichloride and Boron trifluoride

Data source: N/A

Data source date: 10/01/2011

Risk Phrases: T+; R26/28, C; R34, C; R35, R14

Hazard Statements: EUH014, Acute Tox. 2; H300, Acute Tox. 2; H330, Skin Corr. 1A; H314, Skin Corr. 1B; H314

Chromium(III) oxide (CAS Number: 1308-38-9)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

[http://clp-](http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=33806&HarmOnly=no?fc=true&lang=en)

[inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=33806&HarmOnly=no?fc=true&lang=en](http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=33806&HarmOnly=no?fc=true&lang=en)

Data source date: 26/11/2012

Risk Phrases: R20, R22, R36, R37, R38, R42, R43, R60, R61, R50/53

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 4; H332, Skin Irrit. 2; H315, Eye Irrit. 2; H319, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, STOT SE 3; H335, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

Fluoranthene (CAS Number: 206-44-0)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=56375&HarmOnly=no>

Data source date: 16/07/2012

Risk Phrases: R20, R22, R36, N; R50/53

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 4; H332, Eye Irrit. 2; H319, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

Fluorene (CAS Number: 86-73-7)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=81845&HarmOnly=no>

Data source date: 16/07/2012

Risk Phrases: N; R50/53, R53

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 4; H413

Indeno[123-cd]pyrene (CAS Number: 193-39-5)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=128806&HarmOnly=no>

Data source date: 08/03/2013

Risk Phrases: R40

Hazard Statements: Carc. 2; H351

pH

Comments: Appendix C, C4.5

Data source: WM2 - Interpretation of the definition and classification of hazardous waste (Second Edition, version2.2), Environment Agency

Data source date: 30/05/2008

Risk Phrases: None.

Hazard Statements: None.

Phenanthrene (CAS Number: 85-01-8)

Comments: Risk phrase data taken from European Chemicals Agency's Classification & Labelling Inventory

Data source:

<http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=109754&HarmOnly=no>

Data source date: 16/07/2012

Risk Phrases: R22, R36, R37, R38, R40, R43, N; R50/53

Hazard Statements: Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Carc. 2; H351, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Skin Irrit. 2; H315

TPH (C6 to C40) Petroleum Group

Comments: Risk phrase data given on page A41

Data source: WM2 3rd edition, 2013

Data source date: 01/08/2013

Risk Phrases: R10, R45, R46, R51/53, R63, R65

Hazard Statements: Flam. Liq. 3; H226, Asp. Tox. 1; H304, STOT RE 2; H373, Muta. 1B; H340, Carc. 1B; H350, Repr. 2; H361d, Aquatic Chronic 2; H411

Appendix B: Notes

3.4.2

from section: 3.4.2 in the document: "[WM2 - Hazardous Waste Technical Guidance](#)"

"If the identity of the oil is unknown, and the petroleum group cannot be established, then the oil contaminating the waste can be classified as non-carcinogenic due to the presence of oil if all three of the following criteria are met:

- the waste contains benzo[a]pyrene (BaP) at a concentration of less than 0.01% (1/10,000th) of the TPH concentration (This is the carcinogenic limit specified in table 3.2 of the CLP for BaP)
- this has been determined by an appropriate and representative sampling approach in accordance with the principles set out in Appendix D, and
- the analysis clearly demonstrates, for example by carbon bands or chromatograph, and the laboratory has reasonably concluded that the hydrocarbons present have not arisen from petrol or diesel

"

C14: Step 5

from section: WM3: C14 in the document: "[WM3 - Waste Classification](#)"

"identify whether any individual ecotoxic substance is present at or above a cut-off value ..."

Note 1

from section: 1.1.3.2, Annex VI in the document: "[CLP Regulations](#)"

"The concentration stated or, in the absence of such concentrations, the generic concentrations of this Regulation (Table 3.1) or the generic concentrations of Directive 1999/45/EC (Table 3.2), are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture."

Note A

from section: 1.1.3.1, Annex VI in the document: "[CLP Regulations](#)"

"Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as '... compounds' or '... salts'. In this case, the supplier is required to state on the label the correct name, due account being taken of section 1.1.1.4."

WM3: Unknown oil

from section: Chapter 3: 4. Waste oils and other wastes containing or contaminated with oil in the document: "[WM3 - Waste Classification](#)"

"If the identity of the oil is unknown, and the petroleum group cannot be established, then the oil contaminating the waste can be classified as non-carcinogenic due to the presence of oil if all three of the following criteria are met:

- the waste contains **benzo[a]pyrene (BaP)** at a concentration of less than 0.01% (1/10,000th) of the TPH concentration (This is the carcinogenic limit specified in table 3.2 of the CLP for BaP)
- this has been determined by an appropriate and representative sampling approach in accordance with the principles set out in Appendix D, and
- the analysis clearly demonstrates, for example by carbon bands or chromatograph, and the laboratory has reasonably concluded that the hydrocarbons present have not arisen from petrol or diesel

"

Appendix C: Version

Classification utilises the following:

- **CLP Regulations - Regulation (EC) No 1272/2008 of 16 December 2008**
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
- **1st ATP - Regulation (EC) No 790/2009 of 10 August 2009**
COMMISSION REGULATION (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- **2nd ATP - Regulation (EC) No 286/2011 of 10 March 2011**
COMMISSION REGULATION (EU) No 286/2011 of 10 March 2011 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- **3rd ATP - Regulation (EU) No 618/2012 of 10 July 2012**
COMMISSION REGULATION (EU) No 618/2012 of 10 July 2012 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- **4th ATP - Regulation (EU) No 487/2013 of 8 May 2013**
COMMISSION REGULATION (EU) No 487/2013 of 8 May 2013 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- **Correction to 1st ATP - Regulation (EU) No 758/2013 of 7 August 2013**
COMMISSION REGULATION (EU) No 758/2013 of 7 August 2013 correcting Annex VI to Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- **5th ATP - Regulation (EU) No 944/2013 of 2 October 2013**
COMMISSION REGULATION (EU) No 944/2013 of 2 October 2013 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- **6th ATP - Regulation (EU) No 605/2014 of 5 June 2014**
COMMISSION REGULATION (EU) No 605/2014 of 5 June 2014 amending, for the purposes of introducing hazard and precautionary statements in the Croatian language and its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures
- **WFD Annex III replacement - Regulation (EU) No 1357/2014 of 18 December 2014**
COMMISSION REGULATION (EU) No 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives
- **Revised List of Wastes 2014 - Decision (EU) No 955/2014 of 18 December 2014**
COMMISSION DECISION of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council (2014/955/EU)
- **WM3 - Waste Classification - May 2015**
Technical Guidance WM3 - Guidance on the classification and assessment of waste (1st edition 2015)
- **POPs Regulation 2004 - Regulation (EC) No 850/2004 of 29 April 2004**
REGULATION (EC) No 850/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC
- **1st ATP to POPs Regulation - Regulation (EU) No 756/2010 of 24 August 2010**
COMMISSION REGULATION (EU) No 756/2010 of 24 August 2010 amending Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants as regards Annexes IV and V
- **2nd ATP to POPs Regulation - Regulation (EU) No 757/2010 of 24 August 2010**
COMMISSION REGULATION (EU) No 757/2010 of 24 August 2010 amending Regulation (EC) No 850/2004 of the European Parliament and of the Council on persistent organic pollutants as regards Annexes I and III

HazWasteOnline Engine: WM3 1st Edition, May 2015

HazWasteOnline Engine Version: 2015.149.2815.5763 (29 May 2015)

HazWasteOnline Database: 2015.149.2815.5763 (29 May 2015)

Preliminary Waste Classification Report, Former Master
Brewer Hillingdon, dated August 2017, by Delta-Simons
Environmental Consultants Limited (Reference: 17-0420.01
V2)



PRELIMINARY WASTE CLASSIFICATION REPORT
FORMER MASTER BREWER, HILLINGDON
DELTA-SIMONS PROJECT NUMBER: 17-0420.01 V2
DATED: 30th August 2017

1.0 Introduction and Purpose

Delta-Simons was requested by Meyer Homes (the 'Client') to undertake a preliminary waste classification assessment, at a site known as the Former Master Brewer, Hillingdon (hereafter referred to as the 'Site'), to indicate likely waste classification of stockpiled demolition arisings at the Site.

This Letter Report has been produced utilising laboratory test results (and HazWasteOnline tools) from the sampling of existing demolition stockpiles on Site undertaken by Delta Simons on 21st April 2017.

2.0 Limitations

Delta-Simons obtained, reviewed and evaluated information in preparing this Report from the Client, Chemtest Laboratories and others. Delta-Simons' conclusions, opinions and recommendations are based upon this information. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible for any opinions which Delta-Simons has expressed, or conclusions which it has reached, in reliance upon information which is subsequently proven to be inaccurate.

At the time of sampling, it was not known what material may specifically need to be disposed of off-Site and, therefore, it has not been possible to target segregated materials designated for disposal. Additional sampling may, therefore, be required once more detailed development proposals are known and it is determined which specific soil materials may require disposal. The testing carried out to date has been designed to provide an initial assessment of likely waste classification of the stockpiled material to assist in the understanding of likely cost implications for the off-site disposal of these materials, should this be required.

3.0 Field Observations

The identified ground conditions from the works are summarised below. An approximate sample location plan is presented as Figure 1.

The central portion of the Site is occupied by two main stockpiles – denoted by Delta-Simons as SP1 West, SP2 East - of material associated with the demolition of the Master Brewer motel. Security bunds are also in place near the entrances to the Site. In general, the material typically comprised white grey, sandy angular to sub-rounded gravel of masonry materials, concrete and brick with a high cobble content. Cobbles are angular to sub-rounded of concrete and brick. In large part the stockpiles were vegetated with small shrubs and grasses, frequent rootlets were observed in the upper layer (~0.10 m) of stockpiled material.

4.0 Waste Classification – Regulatory Guidance

The key guidance document in relation to waste is Technical Guidance WM3, Waste Classification: Guidance on the classification and assessment of waste (1st edition 2015). This document provides a common technical basis for applying the definition and classification of hazardous waste in the UK.

Hazardous waste classification presents certain challenges within the context of contaminated soils because classification relies upon the detailed knowledge of toxicological properties of specific substances. Therefore, to completely profile waste soils the advanced categorisation of specific substances would be required. However, this level of testing is not considered practicable or cost effective and, therefore, strict compliance with WM3 is not considered possible in most instances for contaminated soils. For example, typical laboratory testing only provides cation concentrations for heavy metals rather than concentrations of specific heavy metal compounds. Therefore, a conservative approach is typically adopted utilising a suitable worst-case surrogate substance as a benchmark against the hazardous waste property threshold.

HazWasteOnline (HAZWOL) is a web-based tool for classifying hazardous waste. The software follows the latest UK guidance and European regulations, and maintains a conservative approach for surrogate compounds

(although it can be adapted to reflect additional knowledge/data). The HAZWOL tool will classify sample results as either hazardous or non-hazardous based upon the concentrations of contaminants present and the threshold levels for various hazardous properties.

Since the Landfill Directive was implemented into UK law, landfill sites have been divided into those accepting inert, non-hazardous and hazardous waste. Landfills may only accept waste of the same classification as the landfill, although some non-hazardous landfills with specially prepared engineered cells, can accept certain types of hazardous waste such as Stable Non-Reactive Hazardous Waste (SNRHW).

Waste Acceptance Criteria (WAC) are used to determine the acceptance of waste at landfills, these do not provide waste classification. There are specific WAC tests for inert and hazardous landfills. Materials classified as hazardous must meet the hazardous WAC before these are accepted in a hazardous landfill. If materials classified as non-hazardous meet the inert WAC these may be accepted in an inert landfill, if not, these may be accepted at a non-hazardous landfill. There are currently no non-hazardous WAC.

Landfill facilities may also have their own individual permit restrictions dictating the waste acceptable at their premises. These permit restrictions are often only available following direct consultation with the landfill facility.

4.1 Preliminary Waste Classification – Analytical Review

Analytical data from five environmental soil samples (ES) collected from the stockpile locations - SP1 West, three samples and SP2 East, two samples - (a copy of which is included as Appendix I) have been entered into the HAZWOL report (a copy of which is included as Appendix II). In summary, three soil samples submitted for preliminary waste classification using the HWOL programme were classified as Non-Hazardous. Two of the soil samples, SP1 ES2 and SP2 ES1, submitted for preliminary waste classification using the HWOL programme were identified as hazardous due to elevated pH levels which do not fall within the range 2pH to 11.5pH, with values of 12.2pH and 11.8pH respectively. No asbestos was detected in any sample analysed.

Analytical data relating to Waste Acceptance Criteria (WAC) was carried out on two soil samples, which would be classified as non-hazardous due to elevated antimony, sulphate and total dissolved solids.



5.0 Conclusions and Recommendation

Analytical data from soil samples collected from the stockpile locations- SP1 West, SP2 East - have been entered into the HAZWOL report. Three soil samples were classified as **Non-Hazardous** and two soil samples were identified as **Hazardous**. Furthermore, both samples submitted for WAC analysis would be classified as Non-Hazardous.

No asbestos was identified in the samples obtained within these works, however, it is recommended that all soils are visually screened for presence of ACMs prior to disposal.

It is recommended that the results of both the initial waste classification and WAC are submitted to an appropriate disposal facility to confirm their acceptance criteria and evolve appropriate budget costs.

6.0 Contact Details of Project Team

Name	Signature	Position	Telephone	Mobile	Email
Susana Pereira		Consultant	02034 781166	077730 43926	susana.pereira@deltasimons.com
Simon Steele		Principal	01522 823336	07791 693048	simon.steele@deltasimons.com

Enc. Figure 1 Site Layout and Approximate Sample Location Plan

Appendix I Soil Analytical Results
Appendix II HAZWOL Classification Spreadsheets
Appendix III Waste Acceptance Criteria Results





LEGEND

Site Boundary

SPx-ESx Stockpile Location

Site Plan Provided by Client



Final Report

Report No.: 17-09944-1

Initial Date of Issue: 02-May-2017

Client Delta Simons

Client Address: 3 Henley Office Park
Doddington Road
Lincoln
Lincolnshire
LN6 3QR

Contact(s): Simon Steele

Project 17-0420.01 - Master Brewer, Hillingdon

Quotation No.: Q17-09201

Date Received: 25-Apr-2017

Order No.: LON071

Date Instructed: 25-Apr-2017

No. of Samples: 5

Turnaround (Wkdays): 5

Results Due: 02-May-2017

Date Approved: 02-May-2017

Approved By:



Details: Martin Dyer, Laboratory Manager

Results - Soil

Client: Delta Simons	Chemtest Job No.:				17-09944	17-09944	17-09944	17-09944	17-09944
Quotation No.: Q17-09201	Chemtest Sample ID.:				443935	443936	443937	443938	443939
Order No.: LON071	Client Sample Ref.:				SP1	SP1	SP1	SP2	SP2
	Client Sample ID.:				ES1	ES2	ES3	ES1	ES2
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL
	Date Sampled:				21-Apr-2017	21-Apr-2017	21-Apr-2017	21-Apr-2017	21-Apr-2017
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD					
ACM Type	U	2192		N/A	-	-	-	-	-
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	2.2	7.3	4.6	4.0	5.9
Soil Colour	N	2040		N/A	Grey	Grey	Grey	Grey	Grey, Black
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand
pH	M	2010		N/A	11.0	12.2	10.3	11.8	10.2
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	1.2	0.75	1.1	0.93	1.9
Flammability	N	2145		N/A	non-flammable	non-flammable	non-flammable	non-flammable	non-flammable
Arsenic	M	2450	mg/kg	1.0	14	26	20	14	17
Cadmium	M	2450	mg/kg	0.10	0.34	0.28	0.37	0.13	0.14
Chromium	M	2450	mg/kg	1.0	31	30	32	22	25
Copper	M	2450	mg/kg	0.50	18	31	28	14	19
Mercury	M	2450	mg/kg	0.10	0.23	0.16	0.47	< 0.10	0.10
Nickel	M	2450	mg/kg	0.50	23	28	25	22	28
Lead	M	2450	mg/kg	0.50	56	100	390	26	21
Selenium	M	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc	M	2450	mg/kg	0.50	120	130	210	40	46
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fuel Type	N	2670		N/A	LUBE	LUBE/PAH	LUBE	N/A	LUBE
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	33	82	98	< 1.0	52
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	12	< 1.0	4.2
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	34	82	110	< 5.0	56
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	21	57	79	< 1.0	43
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	6.2	< 1.0	3.4

Results - Soil

Client: Delta Simons	Chemtest Job No.:				17-09944	17-09944	17-09944	17-09944	17-09944
Quotation No.: Q17-09201	Chemtest Sample ID.:				443935	443936	443937	443938	443939
Order No.: LON071	Client Sample Ref.:				SP1	SP1	SP1	SP2	SP2
	Client Sample ID.:				ES1	ES2	ES3	ES1	ES2
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL
	Date Sampled:				21-Apr-2017	21-Apr-2017	21-Apr-2017	21-Apr-2017	21-Apr-2017
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD					
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	21	57	85	< 5.0	46
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	55	140	190	< 10	100
Naphthalene	M	2700	mg/kg	0.10	< 0.10	0.14	< 0.10	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10	0.18	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10	< 0.10	0.65	< 0.10	< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10	< 0.10	0.55	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	0.15	2.1	0.65	< 0.10	< 0.10
Anthracene	M	2700	mg/kg	0.10	< 0.10	0.31	0.16	< 0.10	< 0.10
Fluoranthene	M	2700	mg/kg	0.10	0.30	1.8	0.88	< 0.10	< 0.10
Pyrene	M	2700	mg/kg	0.10	0.33	1.5	0.68	< 0.10	< 0.10
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	0.54	< 0.10	< 0.10	< 0.10
Chrysene	M	2700	mg/kg	0.10	< 0.10	0.43	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	8.2	2.4	< 2.0	< 2.0
Dichlorodifluoromethane	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Chloromethane	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Vinyl Chloride	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Bromomethane	M	2760	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Chloroethane	U	2760	mg/kg	0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Trichlorofluoromethane	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,1-Dichloroethene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Trans 1,2-Dichloroethene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,1-Dichloroethane	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis 1,2-Dichloroethene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Bromochloromethane	U	2760	mg/kg	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Trichloromethane	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,1,1-Trichloroethane	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Tetrachloromethane	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,1-Dichloropropene	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Benzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2-Dichloroethane	M	2760	mg/kg	0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Trichloroethene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2-Dichloropropane	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Dibromomethane	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010

Results - Soil

Client: Delta Simons	Chemtest Job No.:				17-09944	17-09944	17-09944	17-09944	17-09944
Quotation No.: Q17-09201	Chemtest Sample ID.:				443935	443936	443937	443938	443939
Order No.: LON071	Client Sample Ref.:				SP1	SP1	SP1	SP2	SP2
	Client Sample ID.:				ES1	ES2	ES3	ES1	ES2
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL
	Date Sampled:				21-Apr-2017	21-Apr-2017	21-Apr-2017	21-Apr-2017	21-Apr-2017
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD					
Bromodichloromethane	M	2760	mg/kg	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
cis-1,3-Dichloropropene	N	2760	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Toluene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Trans-1,3-Dichloropropene	N	2760	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
1,1,2-Trichloroethane	M	2760	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Tetrachloroethene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,3-Dichloropropane	U	2760	mg/kg	0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Dibromochloromethane	U	2760	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
1,2-Dibromoethane	M	2760	mg/kg	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Chlorobenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,1,1,2-Tetrachloroethane	M	2760	mg/kg	0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Ethylbenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
m & p-Xylene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
o-Xylene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Styrene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Tribromomethane	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Isopropylbenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Bromobenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2,3-Trichloropropane	N	2760	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
N-Propylbenzene	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
2-Chlorotoluene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,3,5-Trimethylbenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
4-Chlorotoluene	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Tert-Butylbenzene	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2,4-Trimethylbenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Sec-Butylbenzene	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,3-Dichlorobenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
4-Isopropyltoluene	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,4-Dichlorobenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
N-Butylbenzene	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2-Dichlorobenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2-Dibromo-3-Chloropropane	U	2760	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
1,2,4-Trichlorobenzene	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Hexachlorobutadiene	U	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,2,3-Trichlorobenzene	U	2760	mg/kg	0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Methyl Tert-Butyl Ether	M	2760	mg/kg	0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

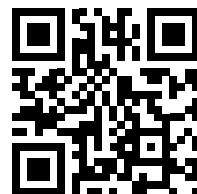
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk



Waste Classification Report



9RLDS-QJPA3-V3PGU

Job name

Hillingdon, Master Brewer

Description/Comments

Project

17-0420.01

Site

Hillingdon

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name:

John Rhoades

Date:

5/16/2017 11:09:32 AM UTC

Telephone:

01522 823337

Company:

Delta-Simons**3 Henley Office Park****Doddington Road****Lincoln****LN6 3QR**

Report

Created by: John Rhoades

Created date: 5/16/2017 11:09 UTC

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	SP1 - ES1		Non Hazardous		2
2	SP1 - ES2		Hazardous	HP 8	5
3	SP1 - ES3		Non Hazardous		8
4	SP2 - ES1		Hazardous	HP 8	11
5	SP2 - ES2		Non Hazardous		14

Appendices

	Page
Appendix A: Classifier defined and non CLP determinands	17
Appendix B: Rationale for selection of metal species	18
Appendix C: Version	19

Classification of sample: SP1 - ES1

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
SP1 - ES1	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
2.2%	Entry:
(no correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: **2.2% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				14	mg/kg	1.32	18.485	mg/kg	0.00185 %		
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				1.2	mg/kg	3.22	3.864	mg/kg	0.000386 %		
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				0.34	mg/kg	1.142	0.388	mg/kg	0.0000388 %		
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]									
4	chromium in chromium(III) compounds { chromium(III) oxide }				31	mg/kg	1.462	45.308	mg/kg	0.00453 %		
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
6	copper { dicopper oxide; copper (I) oxide }				18	mg/kg	1.126	20.266	mg/kg	0.00203 %		
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	56	mg/kg	1.56	87.35	mg/kg	0.0056 %		
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				0.23	mg/kg	1.353	0.311	mg/kg	0.0000311 %		
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				23	mg/kg	2.976	68.454	mg/kg	0.00685 %		
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
	034-002-00-8											
11	zinc { zinc chromate }				120	mg/kg	2.774	332.898	mg/kg	0.0333 %		
	024-007-00-3											
12	TPH (C6 to C40) petroleum group		TPH		34	mg/kg		34	mg/kg	0.0034 %		
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
14	benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	pH				11 pH		11 pH	11pH			
			PH								
19	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
20	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
21	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
22	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
23	phenanthrene				0.15 mg/kg		0.15 mg/kg	0.000015 %			
		201-581-5	85-01-8								
24	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
25	fluoranthene				0.3 mg/kg		0.3 mg/kg	0.00003 %			
		205-912-4	206-44-0								
26	pyrene				0.33 mg/kg		0.33 mg/kg	0.000033 %			
		204-927-3	129-00-0								
27	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
28	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
29	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
30	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
31	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
32	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
33	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
34	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
35	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3								
36	carbon tetrachloride; tetrachloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-008-00-5	200-262-8	56-23-5								
37	vinyl chloride; chloroethylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-023-00-7	200-831-0	75-01-4								
Total:									0.0584 %		


Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because**
No evidence of free phase hydrocarbons/potentially flammable liquid phase within the samples.

Classification of sample: SP1 - ES2

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample Name:	LoW Code:
SP1 - ES2	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
7.3%	Entry:
(no correction)	17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 8: Corrosive "waste which on application can cause skin corrosion"

Risk phrases hit:












pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 12.2 pH)

Determinands

Moisture content: 7.3% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	26 mg/kg	1.32	34.328 mg/kg	0.00343 %			
2	 boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	0.75 mg/kg	3.22	2.415 mg/kg	0.000241 %			
3	 cadmium { cadmium oxide }	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]	0.28 mg/kg	1.142	0.32 mg/kg	0.000032 %			
4	 chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9	30 mg/kg	1.462	43.847 mg/kg	0.00438 %			
5	 chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
6	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	31 mg/kg	1.126	34.903 mg/kg	0.00349 %			
7	 lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	100 mg/kg	1.56	155.982 mg/kg	0.01 %			
8	 mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7	0.16 mg/kg	1.353	0.217 mg/kg	0.0000217 %			
9	 nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7	28 mg/kg	2.976	83.335 mg/kg	0.00833 %			
10	 selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8			<0.2 mg/kg	2.554	<0.511 mg/kg	<0.0000511 %			<LOD
11	 zinc { zinc chromate }	024-007-00-3			130 mg/kg	2.774	360.639 mg/kg	0.0361 %			

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
12	TPH (C6 to C40) petroleum group				82	mg/kg		82	mg/kg	0.0082 %		
			TPH									
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
14	benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
15	toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
16	ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									
17	xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
18	pH				12.2	pH		12.2	pH	12.2 pH		
			PH									
19	naphthalene				0.14	mg/kg		0.14	mg/kg	0.000014 %		
	601-052-00-2	202-049-5	91-20-3									
20	acenaphthylene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
		205-917-1	208-96-8									
21	acenaphthene				0.65	mg/kg		0.65	mg/kg	0.000065 %		
		201-469-6	83-32-9									
22	fluorene				0.55	mg/kg		0.55	mg/kg	0.000055 %		
		201-695-5	86-73-7									
23	phenanthrene				2.1	mg/kg		2.1	mg/kg	0.00021 %		
		201-581-5	85-01-8									
24	anthracene				0.31	mg/kg		0.31	mg/kg	0.000031 %		
		204-371-1	120-12-7									
25	fluoranthene				1.8	mg/kg		1.8	mg/kg	0.00018 %		
		205-912-4	206-44-0									
26	pyrene				1.5	mg/kg		1.5	mg/kg	0.00015 %		
		204-927-3	129-00-0									
27	benzo[a]anthracene				0.54	mg/kg		0.54	mg/kg	0.000054 %		
	601-033-00-9	200-280-6	56-55-3									
28	chrysene				0.43	mg/kg		0.43	mg/kg	0.000043 %		
	601-048-00-0	205-923-4	218-01-9									
29	benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-034-00-4	205-911-9	205-99-2									
30	benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-036-00-5	205-916-6	207-08-9									
31	benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-032-00-3	200-028-5	50-32-8									
32	indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-893-2	193-39-5									
33	dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-041-00-2	200-181-8	53-70-3									
34	benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-883-8	191-24-2									
35	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3									
36	carbon tetrachloride; tetrachloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-008-00-5	200-262-8	56-23-5									
37	vinyl chloride; chloroethylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-023-00-7	200-831-0	75-01-4									
Total:										0.0752 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because**
No evidence of free phase hydrocarbons/potentially flammable liquid phase within the samples.

Classification of sample: SP1 - ES3

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
SP1 - ES3	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
4.6%	Entry:
(no correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: **4.6% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				20	mg/kg	1.32	26.407	mg/kg	0.00264 %		
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				1.1	mg/kg	3.22	3.542	mg/kg	0.000354 %		
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				0.37	mg/kg	1.142	0.423	mg/kg	0.0000423 %		
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]									
4	chromium in chromium(III) compounds { chromium(III) oxide }				32	mg/kg	1.462	46.77	mg/kg	0.00468 %		
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
6	copper { dicopper oxide; copper (I) oxide }				28	mg/kg	1.126	31.525	mg/kg	0.00315 %		
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	390	mg/kg	1.56	608.328	mg/kg	0.039 %		
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				0.47	mg/kg	1.353	0.636	mg/kg	0.0000636 %		
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				25	mg/kg	2.976	74.407	mg/kg	0.00744 %		
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
	034-002-00-8											
11	zinc { zinc chromate }				210	mg/kg	2.774	582.571	mg/kg	0.0583 %		
	024-007-00-3											
12	TPH (C6 to C40) petroleum group		TPH		110	mg/kg		110	mg/kg	0.011 %		
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
14	benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	pH				10.3 pH		10.3 pH	10.3 pH			
			PH								
19	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
20	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
21	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
22	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
23	phenanthrene				0.65 mg/kg		0.65 mg/kg	0.000065 %			
		201-581-5	85-01-8								
24	anthracene				0.16 mg/kg		0.16 mg/kg	0.000016 %			
		204-371-1	120-12-7								
25	fluoranthene				0.88 mg/kg		0.88 mg/kg	0.000088 %			
		205-912-4	206-44-0								
26	pyrene				0.68 mg/kg		0.68 mg/kg	0.000068 %			
		204-927-3	129-00-0								
27	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
28	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
29	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
30	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
31	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
32	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
33	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
34	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
35	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3								
36	carbon tetrachloride; tetrachloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-008-00-5	200-262-8	56-23-5								
37	vinyl chloride; chloroethylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-023-00-7	200-831-0	75-01-4								
Total:									0.127 %		


Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because**
No evidence of free phase hydrocarbons/potentially flammable liquid phase within the samples.

Classification of sample: SP2 - ES1

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample Name:	LoW Code:
SP2 - ES1	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
4%	Entry:
(no correction)	17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 8: Corrosive "waste which on application can cause skin corrosion"

Risk phrases hit:

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 11.8 pH)

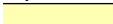




Determinands

Moisture content: **4% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				14 mg/kg	1.32	18.485 mg/kg	0.00185 %			
	033-003-00-0	215-481-4	1327-53-3								
2	boron { diboron trioxide; boric oxide }				0.93 mg/kg	3.22	2.994 mg/kg	0.000299 %			
	005-008-00-8	215-125-8	1303-86-2								
3	cadmium { cadmium oxide }				0.13 mg/kg	1.142	0.149 mg/kg	0.0000149 %			
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]								
4	chromium in chromium(III) compounds { chromium(III) oxide }				22 mg/kg	1.462	32.154 mg/kg	0.00322 %			
		215-160-9	1308-38-9								
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
6	copper { dicopper oxide; copper (I) oxide }				14 mg/kg	1.126	15.762 mg/kg	0.00158 %			
	029-002-00-X	215-270-7	1317-39-1								
7	lead { lead chromate }			1	26 mg/kg	1.56	40.555 mg/kg	0.0026 %			
	082-004-00-2	231-846-0	7758-97-6								
8	mercury { mercury dichloride }				<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
9	nickel { nickel chromate }				22 mg/kg	2.976	65.478 mg/kg	0.00655 %			
	028-035-00-7	238-766-5	14721-18-7								
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<0.2 mg/kg	2.554	<0.511 mg/kg	<0.0000511 %			<LOD
	034-002-00-8										
11	zinc { zinc chromate }				40 mg/kg	2.774	110.966 mg/kg	0.0111 %			
	024-007-00-3										

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		CLP index number	EC Number	CAS Number									
12	●	TPH (C6 to C40) petroleum group				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
				TPH									
13		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
14		benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16	●	ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		xylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-022-00-9	202-422-2 [1]	95-47-6 [1]									
			203-396-5 [2]	106-42-3 [2]									
			203-576-3 [3]	108-38-3 [3]									
			215-535-7 [4]	1330-20-7 [4]									
18	●	pH				11.8	pH		11.8	pH	11.8 pH		
				PH									
19		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
20	●	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
21	●	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
22	●	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
23	●	phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
24	●	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
25	●	fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
26	●	pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
27		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
28		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
29		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
30		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
31		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
32	●	indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
33		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
34	●	benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
35	●	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		carbon tetrachloride; tetrachloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
37		vinyl chloride; chloroethylene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
Total:									0.028 %				

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: SP2 - ES2

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:	LoW Code:
SP2 - ES2	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
5.9%	Entry:
(no correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 5.9% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				17	mg/kg	1.32	22.446	mg/kg	0.00224 %		
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				1.9	mg/kg	3.22	6.118	mg/kg	0.000612 %		
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				0.14	mg/kg	1.142	0.16	mg/kg	0.000016 %		
	048-002-00-0	231-152-8 [1] 215-146-2 [2]	7440-43-9 [1] 1306-19-0 [2]									
4	chromium in chromium(III) compounds { chromium(III) oxide }				25	mg/kg	1.462	36.539	mg/kg	0.00365 %		
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) oxide }				<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
6	copper { dicopper oxide; copper (I) oxide }				19	mg/kg	1.126	21.392	mg/kg	0.00214 %		
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	21	mg/kg	1.56	32.756	mg/kg	0.0021 %		
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				0.1	mg/kg	1.353	0.135	mg/kg	0.0000135 %		
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				28	mg/kg	2.976	83.335	mg/kg	0.00833 %		
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }				<0.2	mg/kg	2.554	<0.511	mg/kg	<0.0000511 %		<LOD
	034-002-00-8											
11	zinc { zinc chromate }				46	mg/kg	2.774	127.611	mg/kg	0.0128 %		
	024-007-00-3											
12	TPH (C6 to C40) petroleum group		TPH		56	mg/kg		56	mg/kg	0.0056 %		
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
14	benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	pH				10.2 pH		10.2 pH	10.2 pH			
			PH								
19	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
20	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
21	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
22	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
23	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
24	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
25	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
26	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
27	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
28	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
29	benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
30	benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
31	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
32	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
33	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
34	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
35	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3								
36	carbon tetrachloride; tetrachloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-008-00-5	200-262-8	56-23-5								
37	vinyl chloride; chloroethylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-023-00-7	200-831-0	75-01-4								
Total:									0.0378 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
•	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i) on Flam. Liq. 1; H224, Flam. Liq. 2; H225, Flam. Liq. 3; H226: **Force this Hazardous property to non hazardous because**
No evidence of free phase hydrocarbons/potentially flammable liquid phase within the samples.

Appendix A: Classifier defined and non CLP determinands

■ **chromium(III) oxide** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Conversion factor: 1.462

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 7/17/2015

Risk Phrases: R20 , R22 , R36 , R37 , R38 , R42 , R43 , R50/53 , R60 , R61

Hazard Statements: Acute Tox. 4 H332 , Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Resp. Sens. 1 H334 , Skin Sens. 1 H317 , Repr. 1B H360FD , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **dicopper oxide; copper (I) oxide** (EC Number: 215-270-7, CAS Number: 1317-39-1)

CLP index number: 029-002-00-X

Data source: Regulation (EU) 2016/1179 of 19 July 2016 (ATP9)

Additional Risk Phrases: N R50/53 , N R50/53 >= 0.25 %

Additional Hazard Statement(s): None.

Reason for additional Hazards Statement(s)/Risk Phrase(s):

10/10/2016 - N R50/53 risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

10/10/2016 - N R50/53 >= 0.25 % risk phrase sourced from: WM3 v1 still uses ecotoxic risk phrases

■ **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 5/25/2015

Risk Phrases: R10 , R45 , R46 , R51/53 , R63 , R65

Hazard Statements: Flam. Liq. 3 H226 , Asp. Tox. 1 H304 , STOT RE 2 H373 , Muta. 1B H340 , Carc. 1B H350 , Repr. 2 H361d , Aquatic Chronic 2 H411

■ **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

CLP index number: 601-023-00-4

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Risk Phrases: None.

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s)/Risk Phrase(s):

6/3/2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

■ **pH** (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 5/25/2015

Risk Phrases: None.

Hazard Statements: None.

■ **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 7/17/2015

Risk Phrases: R22 , R26 , R27 , R36 , R37 , R38

Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 1 H330 , Acute Tox. 1 H310 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315

■ **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 7/17/2015

Risk Phrases: R36 , R37 , R38 , N R50/53 , N R51/53

Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Aquatic Chronic 2 H411

■ **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 8/6/2015

Risk Phrases: N R50/53

Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 8/6/2015

Risk Phrases: R22 , R36 , R37 , R38 , R40 , R43 , N R50/53

Hazard Statements: Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 2 H351 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Skin Irrit. 2 H315

■ **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 7/17/2015

Risk Phrases: R36 , R37 , R38 , R43 , N R50/53

Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 8/21/2015

Risk Phrases: Xn R22 , N R50/53

Hazard Statements: Acute Tox. 4 H302 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 8/21/2015

Risk Phrases: Xi R36/37/38 , N R50/53

Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 8/6/2015

Risk Phrases: R40

Hazard Statements: Carc. 2 H351

■ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 7/23/2015

Risk Phrases: N R50/53

Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **1,1-dichloroethane and 1,2-dichloroethane (combined)** (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane

Data source: N/a

Data source date: 10/14/2016

Risk Phrases: F R11 , Xn R22 , Xi R36/37/38 , Carc Cat 2 R45 , R52/53

Hazard Statements: Flam. Liq. 2 H225 , Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 1B H350 , Aquatic Chronic 3 H412

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

boron {diboron trioxide; boric oxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(III) compounds {chromium(III) oxide}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil. (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition, May 2015**

HazWasteOnline Classification Engine Version: 2017.129.3312.6648 (09 May 2017)

HazWasteOnline Database: 2017.129.3312.6648 (09 May 2017)

This classification utilises the following guidance and legislation:

WM3 - Waste Classification - May 2015

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004

1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010

2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010



Final Report

Report No.: 17-09946-1

Initial Date of Issue: 05-May-2017

Client Delta Simons

Client Address: 3 Henley Office Park
Doddington Road
Lincoln
Lincolnshire
LN6 3QR

Contact(s): Simon Steele

Project 17-0420.01 - Master Brewer, Hillingdon

Quotation No.: Q17-09201

Date Received: 25-Apr-2017

Order No.: LON071

Date Instructed: 25-Apr-2017

No. of Samples: 2

Turnaround (Wkdays): 7

Results Due: 04-May-2017

Date Approved: 05-May-2017

Approved By:



Details: Martin Dyer, Laboratory Manager

Results - 2 Stage WAC

Project: 17-0420.01 - Master Brewer, Hillingdon

Chemtest Job No: 17-09946 Chemtest Sample ID: 443946 Sample Ref: SP1 Sample ID: ES3 Top Depth(m): Bottom Depth(m): Sampling Date: 21-Apr-2017							Landfill Waste Acceptance Criteria Limits		
							Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Determinand	SOP	Accred.	Units						
Total Organic Carbon	2625	U	%				3	5	6
Loss On Ignition	2610	U	%				--	--	10
Total BTEX	2760	U	mg/kg				6	--	--
Total PCBs (7 Congeners)	2815	U	mg/kg				1	--	--
TPH Total WAC (Mineral Oil)	2670	U	mg/kg				500	--	--
Total (Of 17) PAH's	2700	N	mg/kg				100	--	--
pH	2010	U					--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg				--	To evaluate	To evaluate
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
Arsenic	1450	U	0.0037	0.0026	< 0.050	< 0.050	0.5	2	25
Barium	1450	U	0.12	0.073	< 0.50	0.80	20	100	300
Cadmium	1450	U	< 0.00010	< 0.00010	< 0.010	< 0.010	0.04	1	5
Chromium	1450	U	0.053	0.031	0.11	0.35	0.5	10	70
Copper	1450	U	0.038	0.012	0.076	0.061	2	50	100
Mercury	1450	U	< 0.00050	< 0.00050	< 0.0010	< 0.0050	0.01	0.2	2
Molybdenum	1450	U	0.031	0.010	0.062	0.13	0.5	10	30
Nickel	1450	U	0.0090	0.0046	< 0.050	0.053	0.4	10	40
Lead	1450	U	< 0.0010	< 0.0010	< 0.010	< 0.010	0.5	10	50
Antimony	1450	U	0.020	0.033	0.040	0.31	0.06	0.7	5
Selenium	1450	U	0.0021	0.0015	< 0.010	0.016	0.1	0.5	7
Zinc	1450	U	0.037	0.026	< 0.50	< 0.50	4	50	200
Chloride	1220	U	17	4.8	34	67	800	15000	25000
Fluoride	1220	U	0.42	0.42	< 1.0	4.2	10	150	500
Sulphate	1220	U	1500	900	3000	9900	1000	20000	50000
Total Dissolved Solids	1020	N	1500	910	3000	10000	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	30	20	60	220	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	5.8

Leachate Test Information	
Leachant volume 1st extract/l	0.339
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.280

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - 2 Stage WAC

Project: 17-0420.01 - Master Brewer, Hillingdon

Chemtest Job No: 17-09946 Chemtest Sample ID: 443947 Sample Ref: SP2 Sample ID: ES1 Top Depth(m): Bottom Depth(m): Sampling Date: 21-Apr-2017							Landfill Waste Acceptance Criteria Limits		
							Inert Waste Landfill	Stable, Non-reactive hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Determinand	SOP	Accred.	Units						
Total Organic Carbon	2625	U	%				3	5	6
Loss On Ignition	2610	U	%				--	--	10
Total BTEX	2760	U	mg/kg				6	--	--
Total PCBs (7 Congeners)	2815	U	mg/kg				1	--	--
TPH Total WAC (Mineral Oil)	2670	U	mg/kg				500	--	--
Total (Of 17) PAH's	2700	N	mg/kg				100	--	--
pH	2010	U					--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg				--	To evaluate	To evaluate
Eluate Analysis			2:1 mg/l	8:1 mg/l	2:1 mg/kg	Cumulative mg/kg 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
Arsenic	1450	U	0.0039	0.0025	< 0.050	< 0.050	0.5	2	25
Barium	1450	U	0.084	0.065	< 0.50	0.68	20	100	300
Cadmium	1450	U	< 0.00010	< 0.00010	< 0.010	< 0.010	0.04	1	5
Chromium	1450	U	0.037	0.020	0.074	0.23	0.5	10	70
Copper	1450	U	0.013	0.0068	< 0.050	< 0.050	2	50	100
Mercury	1450	U	< 0.00050	< 0.00050	< 0.0010	< 0.0050	0.01	0.2	2
Molybdenum	1450	U	0.020	0.0061	< 0.050	0.083	0.5	10	30
Nickel	1450	U	0.0052	0.0031	< 0.050	< 0.050	0.4	10	40
Lead	1450	U	< 0.0010	< 0.0010	< 0.010	< 0.010	0.5	10	50
Antimony	1450	U	0.0032	< 0.0010	< 0.010	< 0.010	0.06	0.7	5
Selenium	1450	U	0.0019	< 0.0010	< 0.010	< 0.010	0.1	0.5	7
Zinc	1450	U	0.042	0.039	< 0.50	< 0.50	4	50	200
Chloride	1220	U	7.7	5.6	15	59	800	15000	25000
Fluoride	1220	U	0.23	0.17	< 1.0	1.8	10	150	500
Sulphate	1220	U	1500	1200	3000	12000	1000	20000	50000
Total Dissolved Solids	1020	N	1500	1200	3000	12000	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	20	12	< 50	130	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	4.0

Leachate Test Information	
Leachant volume 1st extract/l	0.343
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.273

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS

Report Information

Key

- U UKAS accredited
- M MCERTS and UKAS accredited
- N Unaccredited
- S This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
- SN This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
- T This analysis has been subcontracted to an unaccredited laboratory
- I/S Insufficient Sample
- U/S Unsuitable Sample
- N/E not evaluated
- < "less than"
- > "greater than"

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container

Sample Retention and Disposal

All soil samples will be retained for a period of 45 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.co.uk

Factual and Interpretive Geotechnical Report, Former Master
Brewer, Hillingdon, dated June 2015, by Delta Simons
Environmental Consultants Limited (Reference: 14-
0724.01_G



**Factual and Interpretative Geotechnical Report
Former Master Brewer, Hillingdon**

For Spen Hill Developments Ltd

Delta-Simons Project No. 14-0724.01_G

Issued: June 2015

EXECUTIVE SUMMARY
FACTUAL AND INTERPRETIVE GEOTECHNICAL REPORT
FORMER MASTER BREWER, HILLINGDON.
DELTA-SIMONS PROJECT NO: 14-0724.01_G

Purpose	Delta-Simons was instructed by Spen Hill Developments Ltd To undertake a Geotechnical Assessment at land located at the Former Master Brewer, Hillingdon, UB10 9NX. The purpose of completing this investigation is to provide detailed information on the ground conditions at the Site for the proposed extension along the south-western elevation and associated hardstanding for use as vehicle storage areas across the remainder of the Site.
Current Site Status	<p>The Site is located on Freezeland Way in Uxbridge, London, with the approximate Site centre located at National Grid Reference 507773, 184840. The Site is now vacant, following the demolition of a motel, which formerly comprised a main accommodation building, a reception building, and a staff accommodation building, with surrounding hardstanding and landscaping. The former motel area is now overgrown with vegetation, with piles of demolition rubble present on-Site.</p> <p>Beyond the motel site to the north is the A40, and to the west is Long Lane, beyond which is a tube station.</p> <p>The Site is bounded to the south by Freezeland Way, beyond which is predominantly residential and commercial properties. To the east of the Site is undeveloped open land.</p>
Geology	From British Geological Survey (BGS) online data, it is understood that the Site is directly underlain by the London Clay Formation, underlain by the Woolwich and Reading Beds of the Lambeth Group, followed by the Seaford Chalk and Newhaven Chalk Formation.
Hydrogeology	The Site is within an area classified as Unproductive Strata with respect to the London Clay Formation. The Woolwich and Reading Beds are classified as a Secondary A Aquifer and the Seaford Chalk and Newhaven Chalk Formation is classified as a Principal Aquifer.
Ground Conditions	<p>Ground conditions either comprised of Made Ground consisting of tarmac/concrete over sandy gravel to depths between 0.3 m and 0.9 m below ground level (bgl), or Made Ground comprising grass overlying sandy gravelly clay (Topsoil) to depths of between 0.3 m bgl and 0.6 m bgl. These all overlay possible Weathered London Clay comprising predominantly firm to stiff, occasionally silty clay to depths between 1.7 m and 3.5 m bgl, overlying firm to stiff, multi-coloured clays of the Woolwich and Reading Beds (Upper Mottled Beds) to depth between 9.5 m and 16.2 m bgl, overlying Woolwich and Reading Beds (Laminated Beds) comprising firm brown laminated clay and slightly clayey sand layers proven to a maximum depth of 20.0 m bgl.</p> <p>Resting groundwater levels recorded during the return monitoring visits were between 0.90 m and 2.36 m bgl, considered representative of confined groundwater struck within the Laminated Beds.</p>
Geotechnical Recommendations	<p>Traditional pad foundation bearing into the weathered London Clay may be suitable depending on design loads.</p> <p>A piled foundation solution using traditional bored or CFA piles transferring loads to competent geology may be suitable for the proposed larger development loads.</p> <p>Following removal or improvement of unsuitable soils (Made Ground strata), ground bearing floor slabs may be suitable for uniformly distributed floor loads up to 35 kN/m².</p> <p>Shallow cohesive soils are considered unlikely to be suitable for soakaway drainage.</p> <p>Shallow groundwater is not likely to be encountered in shallow excavations and trenches, however, surface water is likely to collect in any open excavations.</p> <p>In-situ CBR testing indicates that a conservative value of 3.0% should be adopted for shallow soils for preliminary pavement design.</p> <p>The conditions of the shallow soils at the Site would be classified as Design Sulphate Class DS-3 and ACEC Class AC-3 (reduced to DS-2 for piles).</p>
This Executive Summary is intended as a summary of the assessment of the Site based on information received by Delta-Simons at the time of production.	

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Appendix II	Trial Pit Logs
Appendix III	Gas and Groundwater Monitoring Results
Appendix IV	DCP CBR Test Results
Appendix V	Geotechnical Laboratory Test Results
Appendix VI	Geo-chemical Test Results
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**FACTUAL AND INTERPRETATIVE GEOTECHNICAL REPORT
FORMER MASTER BREWER, HILLINGDON
FOR SPEN HILL DEVELOPMENTS LTD.
DELTA-SIMONS PROJECT NO. 14-0724.01_G**

1.0 INTRODUCTION

1.1 Instruction

Delta-Simons was instructed by Spen Hill Developments Ltd (the 'Client') to undertake a Geotechnical Assessment at land located at the Former Master Brewer, Hillingdon, UB10 9NX (hereafter referred to as the 'Site').

A Site location map is included as Figure 1.

1.2 Scope and Objectives

The purpose of completing the Geotechnical Assessment at the Site is to provide information regarding the strength and chemical characteristics of the underlying geological deposits in order to aid foundation design of the proposed redevelopment of the Site and determine earthworks material properties.

This investigation has been completed in general accordance with BS5930:1999 +A2:2010, Code of Practice for Site Investigations [Ref. 1].

1.3 Site Description

The Site is roughly square in shape, occupying an area of approximately 3.5 hectares (ha) and is generally flat.

The Site is now vacant, following the demolition of a motel, which formerly comprised a main accommodation building, a reception building, and a staff accommodation building, with surrounding hardstanding and landscaping. The former motel area is now overgrown with vegetation, with piles of demolition rubble present on-Site. Beyond the motel site to the north is the A40, and to the west is Long Lane, beyond which is a tube station.

The Site is bounded to the south by Freezeland Way, beyond which is predominantly residential and commercial properties. To the east of the Site is undeveloped open land.

The Site is located within a mixed commercial and residential area and the current layout is shown on Figure 2.

1.4 Proposed Development

It is understood that two Planning Applications have been submitted to London Borough of Hillingdon Council (Planning Application No. 4266/APP/2014/518 and 4266/APP/2014/519) for the redevelopment of the Site, including mixed use development, comprising the erection of a foodstore (3,543 sq.m) with associated ancillary uses, and the erection of 125 residential units, respectively. The Planning Applications at the time of writing are undecided and awaiting a final decision. A proposed development layout is presented as Figure 3.

1.5 Limitations

Any other issues not listed in the scope of works, but subsequently identified during the completion of the Site investigation and reported herein (such as the potential presence of contamination, Japanese Knotweed, flood assessment studies or ecological surveys) are provided for information only and fall outside the scope of this assessment. The Report does not constitute an environmental, archaeological or ecological assessment, nor does it constitute an asbestos inspection or flood assessment.

During the preparation of this assessment, Delta-Simons obtained, reviewed and evaluated information in preparing this Report from the Client, Professional Soils Laboratory (PSL), Derwentside Environmental Testing Services and Chemtest Limited. Delta-Simons' conclusions, opinions and recommendations are based upon this information and the information obtained during the investigation. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible for any opinions that Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

The recommendations contained in this assessment represent our professional opinions. These opinions were arrived at in accordance with currently accepted industry practices and hydrological and engineering practices at this time and location and, as such, are not a guarantee that the Site is free of hazardous or potentially hazardous materials or conditions.

This assessment was prepared by Delta-Simons for our Client. Any third party using this assessment does so entirely at their own risk. Delta-Simons makes no warranty or representation whatsoever, express or implied, with respect to the use by a third party of any information contained in this assessment or its suitability for any purpose. Delta-Simons assumes no responsibility for any costs, claims, damages or expenses (including any consequential damages) resulting from the use of this assessment or any information

contained in this assessment by a third party, with the exception of those named on the cover.

2.0 SITE SETTING

2.1 Geology

From the British Geological Survey (BGS) online data, it is understood that the Site is underlain by bedrock of the London Clay Formation, underlain by the Woolwich and Reading beds of the Lambeth Group, followed by the Seaford Chalk and Newhaven Chalk Formation (undifferentiated).

A BGS borehole, located approximately 50 m north of the Site (Ref: TQ08NE40) encountered a limited amount of topsoil, underlain by Weathered London Clay (silty clay) to 0.85 m bgl followed by London Clay to 3.00 m bgl, followed by the Woolwich and Reading Beds to a maximum drilled depth of 10.00 m bgl, generally comprising silty clay with pockets of sand.

2.2 Hydrogeology

The Site is within an area classified as Unproductive Strata with respect to the London Clay Formation. The Woolwich and Reading Beds are classified as a Secondary A Aquifer and the Seaford Chalk and Newhaven Chalk Formation is classified as a Principal Aquifer.

The nearest surface water feature to the Site is an unnamed pond, located approximately 320 m to the east, which feeds into the Yeading Brook.

3.0 FIELD AND LABORATORY STUDIES

3.1 Walkover Survey

A representative of Delta-Simons carried out a walkover survey at the start of the works in order to confirm the location of the proposed exploratory holes.

3.2 Ground Investigation

The fieldwork was undertaken between the 25th March and 14th April 2015, and comprised the following items:

- Δ Supervision of all works by a Delta-Simons geo-environmental engineer. All boreholes were logged to BS5930:1999 +A2:2010, Code of Practice for Site Investigations ^[Ref.1];
- Δ Service avoidance exercise;
- Δ Drilling of 10 cable percussion boreholes (CP01 to CP09A) to a maximum depth of 20.00 m below ground level (bgl);
- Δ Installation of nine 50 mm internal diameter groundwater monitoring wells;
- Δ Standard penetration tests (SPTs) within the cable percussion boreholes at 1.00 m intervals to 5.00 m bgl and then at 1.50 m intervals thereafter;
- Δ Excavation of 15 trial pits (TP01 to TP015) with in-situ hand shear vane testing;
- Δ Excavation of two hand dug inspection pits against existing foundations;
- Δ Fifteen dynamic cone penetrometer California Bearing Ratio tests (DCP CBR) tests;
- Δ Collection of disturbed and undisturbed soil samples from all intrusive locations for subsequent laboratory testing;
- Δ Collection of groundwater samples from installed boreholes on one occasion; and
- Δ Six rounds of gas and groundwater level monitoring.

3.3 Ground Investigation Factual Data

An approximate intrusive location plan is presented as Figure 2.

Delta-Simons engineer verified borehole logs are presented as Appendix I, the trial pit logs are included as Appendix II. The gas and groundwater monitoring results are presented as Appendix III.

3.4 In-situ Testing and Sampling

Where undisturbed sampling was not attempted, SPTs were undertaken at 1.00 m intervals for the first 5.00 m and then at 1.50 m intervals thereafter in all cable percussive boreholes. The results of these tests are presented in the borehole logs included as Appendix I.

Sampling comprised disturbed tub and bulk bag samples generally taken at 1.00 m intervals as detailed on the borehole logs. Undisturbed samples were taken in cohesive strata as detailed on the borehole logs.

The results of the DCP CBR tests, with interpretation in accordance with Design Manual for Roads and Bridges (DMRB) Vol. 7 Section 3 Part 2 HD29/08 ^[Ref. 3], are included in Appendix IV.

The results of the SPT tests are included on the logs presented as Appendix I.

3.5 Laboratory Investigation

Following the ground investigations, a schedule of geotechnical and chemical laboratory testing was prepared by Delta-Simons.

3.5.1 Geotechnical Testing

The geotechnical testing was carried out by a UKAS accredited laboratory (PSL), in accordance with BS 1377 - Parts 2 to 9:1990 Methods of test for soils for civil engineering purposes ^[Ref. 4] which comprised:

- Δ Twenty moisture content;
- Δ Twenty liquid and plastic limits;
- Δ One particle size distribution;
- Δ Eight quick undrained triaxial tests; and
- Δ Two multi-stage undrained triaxial tests.

Copies of the geotechnical laboratory test results are presented in Appendix V.

3.5.2 Soil Geo-chemical Analysis

Soil geo-chemical analysis on the Made Ground, Possible Weathered London Clay, and Woolwich and Reading Beds was undertaken by Chemtest Limited, which comprised:

- Δ Eighteen BRE SD1 suite (pH, total sulphur, water soluble sulphate and acid soluble sulphate).

Copies of the soil chemical laboratory test results for the above are presented in Appendix VI.

3.5.3 Groundwater Chemical Testing

Two rounds of groundwater chemical testing were undertaken by a UKAS accredited laboratory (Chemtest) and relevant testing comprised:

- Δ Eight pH and sulphate.

Copies of the groundwater chemical test results are presented in Appendix VII.

4.0 GROUND SUMMARY

This section outlines the ground conditions encountered during the investigation.

4.1 Geology Summary

Details of the ground conditions identified by the investigation have been summarised in Table 1 below.

Table 1: Generalised Geology Strata

Strata	Description of Strata	Depth Range of Strata Base (m bgl)
Made Ground	Tarmac or concrete overlying brown, very sandy, fine to coarse, sub-rounded to rub-angular brick, limestone and concrete GRAVEL.	<i>0.30 m bgl in TP13 – 0.90 m bgl in CP02</i>
Made Ground - Topsoil	Grass overlying brown, slightly sandy, slightly gravelly CLAY.	<i>0.30 m bgl in multiple locations – 0.60 m bgl in TP03</i>
Possible Weathered London Clay	Firm to stiff brown mottled orange, occasionally gravelly CLAY.	<i>1.70 m bgl in TP07 – 3.50 in CP03</i>
Upper Mottled Beds – Woolwich and Reading Beds	Firm to stiff brown mottled orange, pink, grey and green friable, thinly laminated CLAY. Becoming less friable with depth.	<i>9.50 m bgl in CP02 – 16.2 m bgl in CP01</i>
Laminated Beds (Cohesive) – Woolwich and Reading Beds	Firm brown mottled grey friable, bedded, thinly laminated silty CLAY. Brown, slightly clayey fine to medium SAND.	<i>Proven to a maximum depth of 20.00 in six locations.</i>

4.2 Groundwater

Resting groundwater levels recorded during the return monitoring visits were between 0.90 m and 2.36 m bgl.

5.0 GROUND CONDITIONS AND MATERIAL PROPERTIES

A plot of uncorrected SPT 'N' values against depth for all strata is presented as Figure 7 and a plasticity chart is presented as Figure 8.

5.1 Summary of Geotechnical Parameters

A summary of geotechnical parameters for each strata are summarised in Table 2.

Table 2: Summary of Geotechnical Parameters

	Possible Weathered London Clay	Upper Mottled Beds – Woolwich and Reading Beds	Laminated Beds – Woolwich and Reading Beds
Moisture Content - w	24% - 25%	19% - 31%	16% - 26%
Liquid Limit - w _L	40% - 80%	52% - 82%	33% - 59%
Plastic Limit - w _P	20% - 32%	24% - 33%	19% - 27%
Plasticity Index - I _P	18% - 48%	27% - 49%	12% - 33%
Bulk Density ³ - ρ	1.90 - 2.08 Mg/m ³	1.97 – 2.16 Mg/m ³	1.97 – 2.13 Mg/m ³
Bulk Unit Weight ¹ - γ	18.6 - 20.4 Mg/m ³	19.3 - 21.2 Mg/m ³	19.3 - 20.9 Mg/m ³
Uncorrected SPT N	5 - 21	14 - 75	32 - 79
Undrained Shear Strength ³ - c _u	40 – 159 kPa	102 – 303 kPa	245 – 350 kPa
Hand Shear Vane - c _u	32 - 100 kPa	-	-

1. Bulk unit weight (kN/m³) = 9.81 x bulk density (Mg/m³) - as determined by laboratory testing)
2. SPT N values corrected for energy delivered to drive rods utilising the determined energy ratio (E_r): N₆₀ = (E_r x N) / 60 after BS EN ISO 22476-3:2005^[Ref. 2]
3. From laboratory test results.

5.2 Geochemical Testing

Geochemical analysis was undertaken on 18 soil samples (34 for pH) and 8 groundwater samples, tested for selective contaminants (BRE Special Digest 1:2005 (3rd Edition), Concrete in Aggressive Ground^[Ref. 5]), the results of which are summarised in Table 3.

Table 3: BRE SD1 Test Result Summary

	No. of Tests	Minimum	Maximum
Soil - pH	34	6.0	11.6
Soil - Total Sulphur	18	<0.01%	0.38%
Soil – Acid Soluble Sulphate	18	<0.01%	0.15%
Soil - Water Soluble Sulphate	18	<0.01 g/l	0.25 g/l
Groundwater - pH	8	8.1	8.3
Groundwater - Sulphate	8	86 mg/l	1200 mg/l

6.0 GEOTECHNICAL ASSESSMENT

6.1 Summary of Development Proposals

It is understood that a development may comprise retail and residential blocks, with limited landscaping areas are located around the Site. A proposed development layout is presented as Figure 3.

At this stage, detailed design loads are not known, however, structural loadings are expected to be moderate to high.

6.2 Existing Foundations

Existing foundations at selected locations were exposed by machine excavation, the results of which are presented as Figure 6.

The foundations exposed possibly indicate traditional strip foundations transferring loads to the firm weathered London Clay circa 0.9 m bgl.

6.3 Foundations

6.3.1 Shallow Foundations

The Made Ground/Topsoil is considered to be too variable, weak and compressible in its existing condition for conventional shallow foundations at the Site.

For preliminary foundation design purposes, the firm (shear strength of >45 kPa) cohesive deposits encountered circa 1.0 m bgl are likely to achieve the following allowable bearing capacities (limited to less than 25 mm predicted settlement).

- Δ 0.6 m wide strip at 1.0 m - 98 kPa (equivalent to 58.8 kN/m);
- Δ 1.0 m x 1.0 m pad at 1.0 m - 112 kPa (equivalent to 112 kN); and
- Δ 2.0 m x 2.0 m pad at 1.0 m - 112 kPa (equivalent to 448 kN).

Similarly, for cohesive deposits exhibiting shear strength of >60 kPa encountered circa 2.0 m bgl are likely to achieve the following allowable bearing capacities:

- Δ 0.6 m wide strip at 2.0 m - 143 kPa (equivalent to 85.8 kN/m);
- Δ 1.0 m x 1.0 m pad at 2.0 m - 163 kPa (equivalent to 163 kN); and
- Δ 2.0 m x 2.0 m pad at 2.0 m - 150 kPa (equivalent to 600 kN).

Foundation excavations should be checked by a suitably qualified geotechnical engineer prior to casting to ensure the appropriate depth, founding medium and strength characteristics have been achieved.

6.3.2 Ground Improvement Techniques

It is not considered that ground improvement techniques are necessary due to the competency of the geology beneath the Site.

6.3.3 Piled Foundation

A piled foundation solution using bored piles transferring loads to competent geology is also likely to be suitable for the expected larger design loads, utilising both skin friction and end bearing capacity.

The precise method of pile installation and applicability of proprietary systems, diameters and depths required would need to be informed based on the results of this investigation, by discussions with a suitably experienced piling contractor.

For preliminary design purposes, the following allowable continuous flight auger (CFA) loads have been assessed based on commonly accepted methods for determining pile base resistance and skin friction/adhesion (utilising a bulk Factor of Safety of 2.5); any negative skin friction effects associated with Made Ground strata has been ignored. Commercial pile designers may use different parameters, design factors or safety factors than published methods.

Table 4 – Estimated Likely Allowable Pile Capacities (CFA Piles)

Typical Pile Size		Likely Allowable Pile Capacity on a Single Pile
0.45 m diameter	15 m	540 kN
	20 m	830 kN
0.60 m diameter	15 m	780 kN
	20 m	1160 kN
0.75 m diameter	15 m	1050 kN
	20 m	1520 kN

Individual pile/ pile group loads will be a function of the surface area of the piles to be employed at the Site and their method of construction.

Normal static and dynamic load testing (including uplift tests) should be considered to achieve satisfactory quality control/assurance in accordance with good practice.

There will be a requirement for the placement of a suitably engineered piling mat, which should be designed and validated by a suitably qualified and experienced engineer.

6.3.4 Floor Slabs

It is recommended, that following removal of unsuitable soils (Made Ground/Topsoil), and assuming a maximum floor area of 50 m x 60 m, ground bearing floor slabs may be suitable for uniformly distributed floor loads up to 35 kN/m² (where fully constructed on undisturbed natural strata). Predicted total settlements are expected to be within 25 mm in the centre, reducing to about one-quarter of that amount at the corners; provided the formation is thoroughly proof rolled and any soft spots excavated and replaced with well-compacted granular material.

6.4 Roads and Pavements

In-situ DCP CBR test results are presented as Appendix V. It is assumed that all Made Ground/ Topsoil will be removed prior to pavement construction; CBR values within the Possible Weathered London Clay range from 3.3% to >100%. Therefore, it is recommended that a conservative CBR value of 3.0% should be adopted for the shallow natural soils, for preliminary pavement design.

It is recommended that plate CBR tests are undertaken at formation level prior to finalising pavement design.

6.5 Drainage

Soakage testing has not been undertaken as part of this investigation, however, shallow cohesive soils are considered unlikely to be suitable for soakaway drainage.

6.6 Excavations

It is expected that conventional mechanical excavators will readily remove the Made Ground and superficial soils likely to be encountered in shallow excavations, although a breaker will be required to remove any existing concrete hardstand covering and relic foundations.

All shallow foundation or services excavations at the Site should be considered unstable, therefore, temporary support of all excavations should be considered when excavating on-Site.

6.7 Groundwater

Resting groundwater levels recorded during the return monitoring visits were between 0.90 m and 2.36 m bgl, considered representative of confined groundwater struck within the Laminated Beds.

Groundwater is unlikely to be encountered in shallow excavations and trenches, however, open excavations may collect surface waters. It is considered that the formation of sumps from which the water could be pumped may provide an adequate means of groundwater control.

Deeper groundwater is likely to be encountered from between 6.0 and 16.0 m bgl, resulting in resting groundwater levels of between 0.90 and 2.36 m bgl and should be taken into account during piling design.

6.8 Chemical Attack on Buried Concrete

In accordance with the recommendations of BRE Special Digest 1, 'Concrete in Aggressive Ground' 2005, the conditions of the soils at the Site would therefore, be classified as Design Sulphate Class DS-3 and ACEC Class AC-3 for soils and groundwater, when considering the most appropriate type of concrete to be used at the Site in order to resist chemical attack in shallow foundations from elevated sulphate present in the soils (assuming mobile groundwater in pyritic soils).

Piling is not generally considered to result in disturbed ground (BRE SD1 – *Appendix A*), therefore, any pyrite is unlikely to be oxidised. As such, consideration only needs to be given to water soluble sulphate content of the clay/ groundwater (BRE SD1 – *Box C8*), which in this case would result in a DS-2 classification based on the results obtained.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 General

Ground conditions either comprised of Made Ground consisting of tarmac/concrete over sandy gravel to depths between 0.3 m and 0.9 m below ground level (bgl), or Made Ground comprising grass overlying sandy gravelly clay (Topsoil) to depths of between 0.3 m bgl and 0.6 m bgl. These all overlay Possible Weathered London Clay comprising predominantly firm to stiff, occasionally silty clay to depths between 1.7 m and 3.5 m bgl, overlying firm to stiff, multi-coloured clays of the Woolwich and Reading Beds (Upper Mottled Beds) to depth between 9.5 m and 16.2 m bgl, overlying Woolwich and Reading Beds (Laminated Beds) comprising firm brown laminated clay and slightly clayey sand layers proven to a maximum depth of 20.0 m bgl.

Resting groundwater levels recorded during the return monitoring visits were between 0.90 m and 2.36 m bgl, considered representative of confined groundwater struck within the Laminated Beds.

7.2 Summary of Geotechnical Recommendations

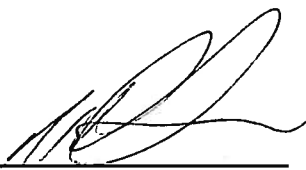
On the basis of the information obtained and reviewed as part of this Assessment and the conclusions drawn above, Delta-Simons makes the following geotechnical recommendations:

- Δ Traditional pad foundation bearing into the weathered London Clay may be suitable depending on design loads;
- Δ A piled foundation solution using traditional bored or CFA piles transferring loads to competent geology may be suitable for the proposed larger development loads;
- Δ Following removal or improvement of unsuitable soils (Made Ground strata), ground bearing floor slabs may be suitable for uniformly distributed floor loads up to 35 kN/m²;
- Δ Shallow cohesive soils are considered unlikely to be suitable for soakaway drainage; Shallow groundwater is not likely to be encountered in shallow excavations and trenches, however, surface water is likely to collect in any open excavations;
- Δ In-situ CBR testing indicates that a conservative value of 3.0% should be adopted for shallow soils for preliminary pavement design; and
- Δ The conditions of the shallow soils at the Site would be classified as Design Sulphate Class DS-3 and ACEC Class AC-3 (reduced to DS-2 for piles).

8.0 REFERENCES

- Ref. 1** BS5930:1999 +A2:2010, Code of Practice for Site Investigations.
- Ref. 2** BS EN ISO 22476-3:2005 (incorporating corrigendum No. 1 2007),
Geotechnical investigation and testing - Field testing - Part 3: Standard
penetration test.
- Ref. 3** Design Manual for Roads and Bridges, Volume 7, Section 3, Part 2 HD29/08,
dated May 2008.
- Ref. 4** BS1377 – Parts 2 to 9:1990 Methods of test for soils for civil engineering
purposes.
- Ref. 5** BRE Special Digest 1:2005 (3rd Edition), Concrete in Aggressive Ground.

The factual and interpretative parts of this Report were prepared by:

P.P. 

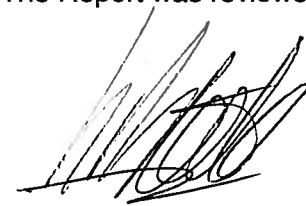
Cerys Baldwin

Graduate Geo-Environmental Engineer

12/06/15

Date

The Report was reviewed by:



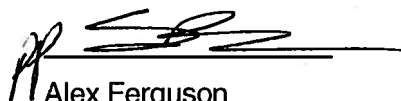
Simon Steele

Project Manager

12/6/15

Date

This report was authorised by:



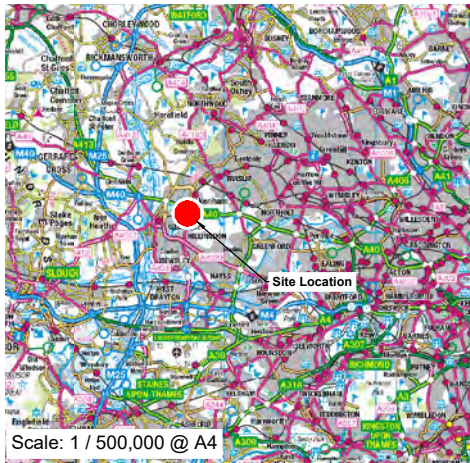
Alex Ferguson

Operations Director


12/6/15

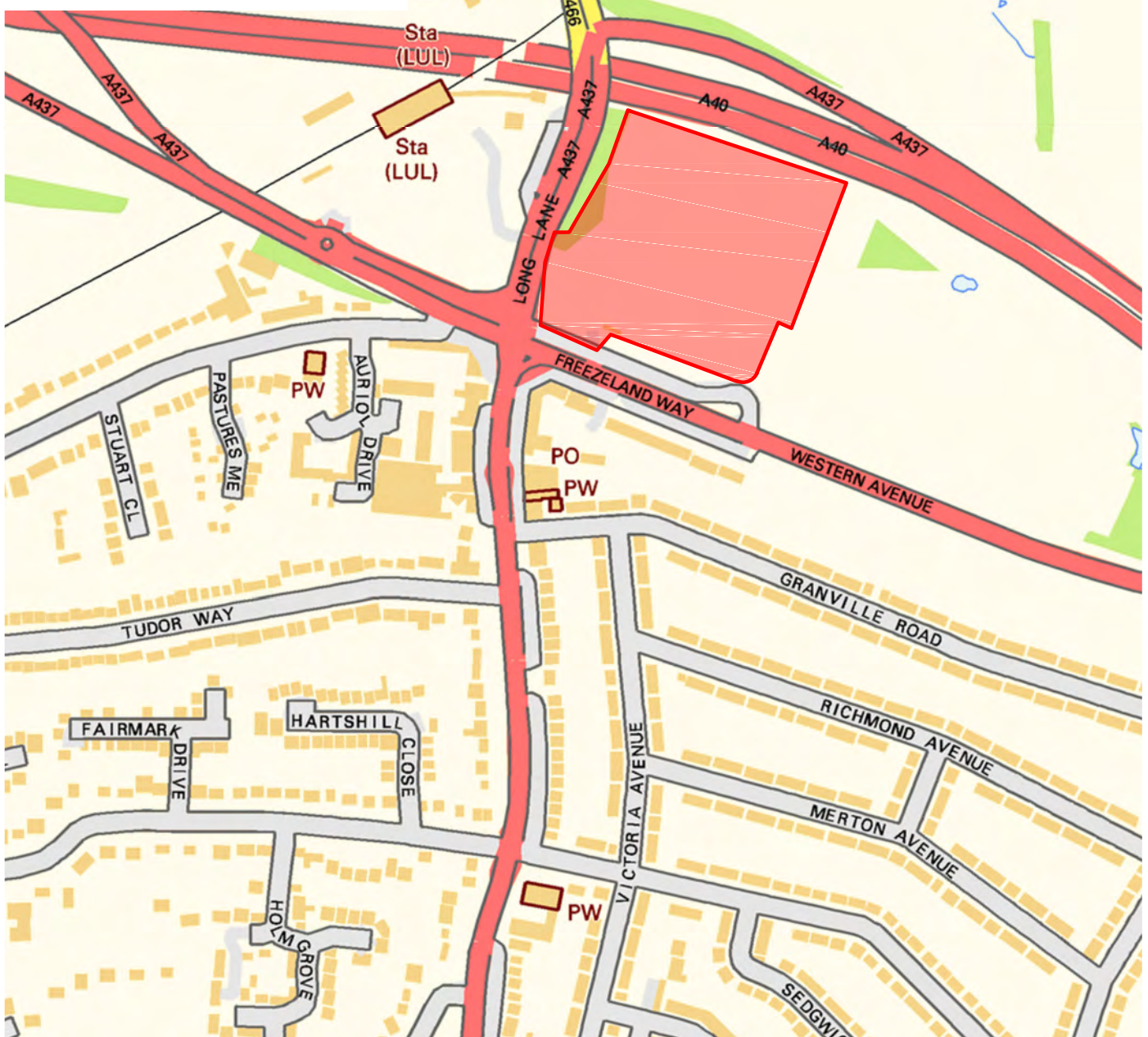
Date





LEGEND

 Site Boundary



Scale: 1 / 10,000 @ A4

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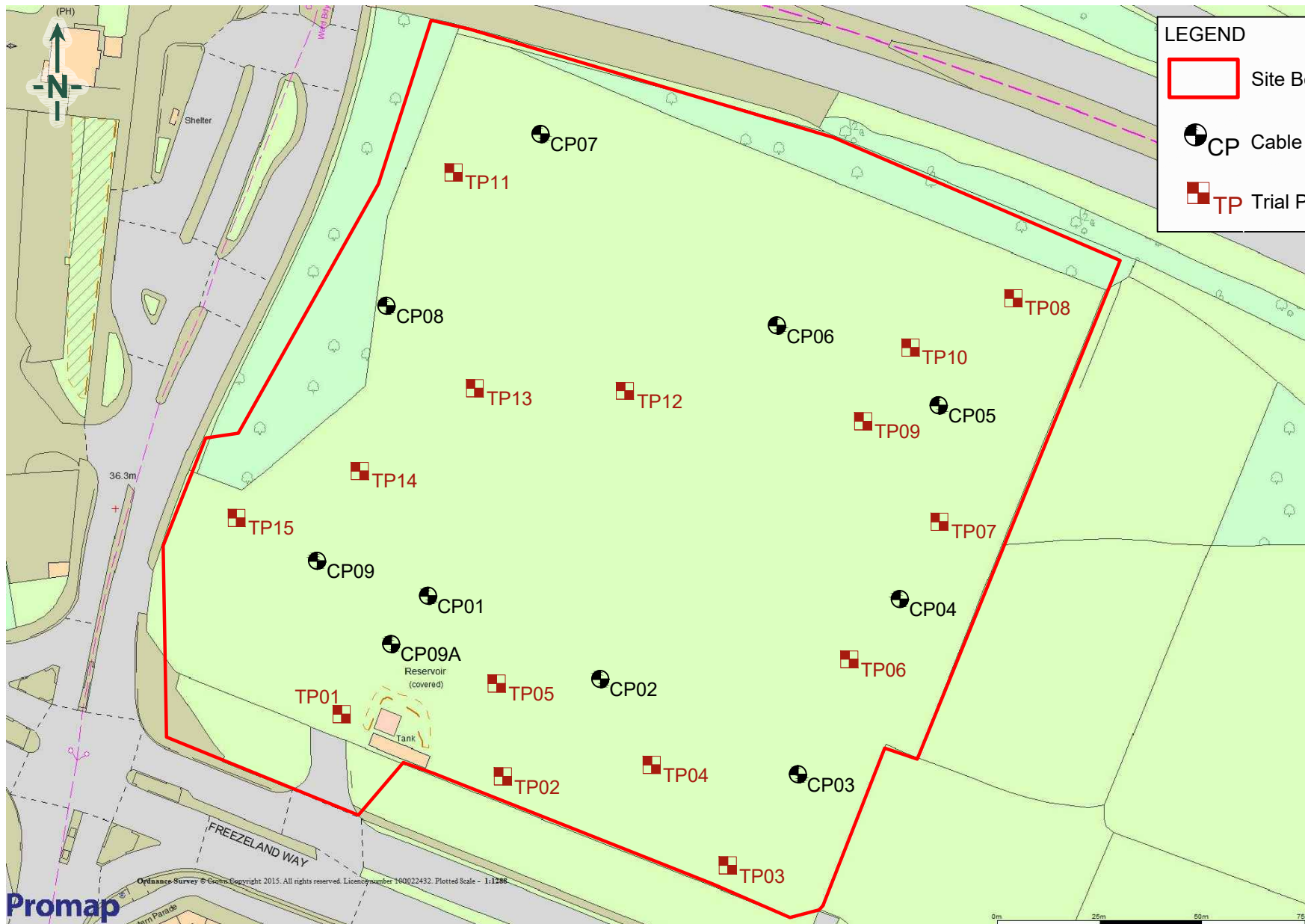


TITLE:
Site Location Map
Master Brewer
Hillingdon

DRAWN BY:
DP
CHECKED BY:
CB
DATE:
16 April 2015

SCALE:
To Scale@A4
REVISION:
1

PROJECT NO:
14-0724.01
FIGURE NO:
1



LEGEND

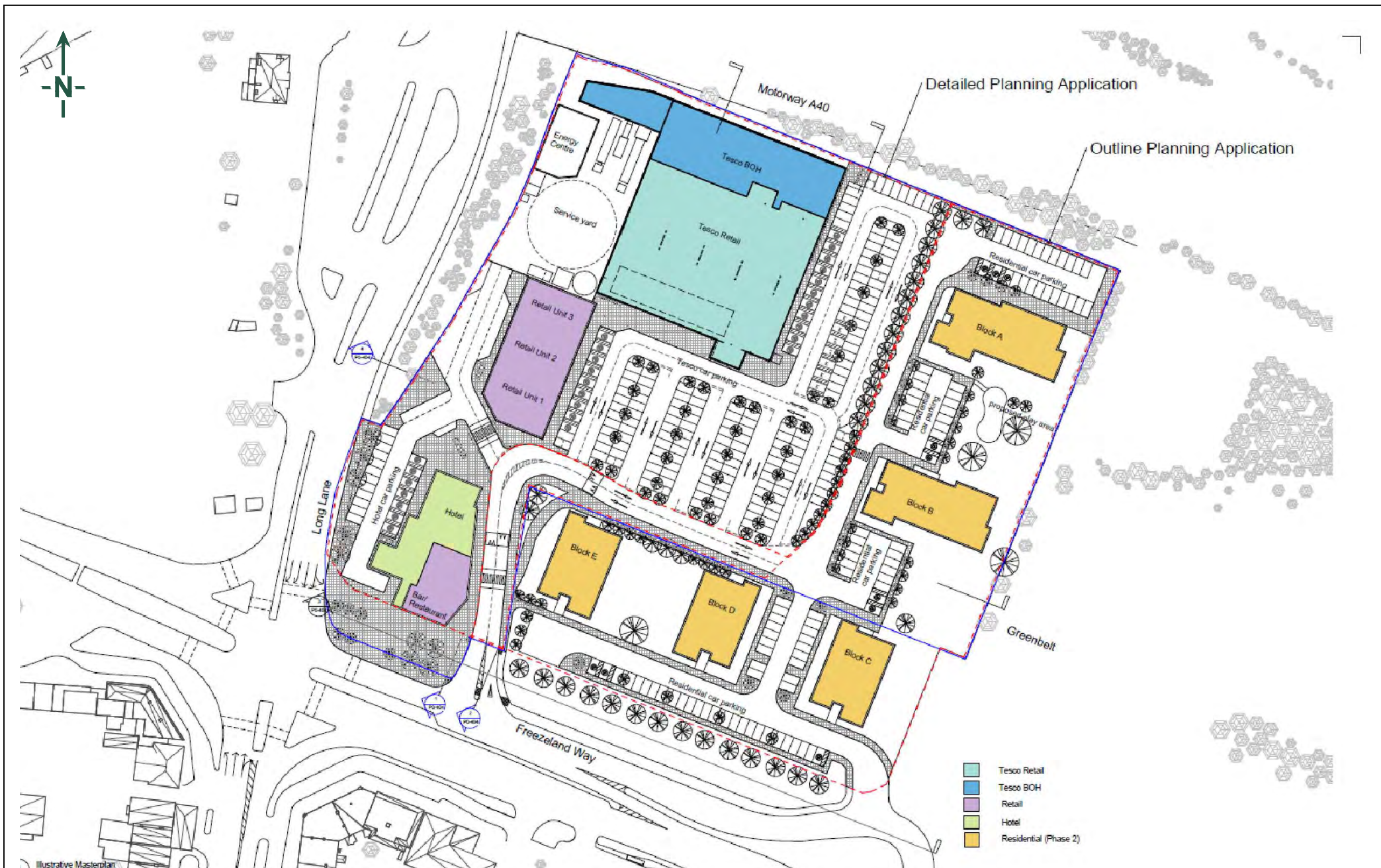
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- CP Cable Percussion Borehole
- TP Trial Pit

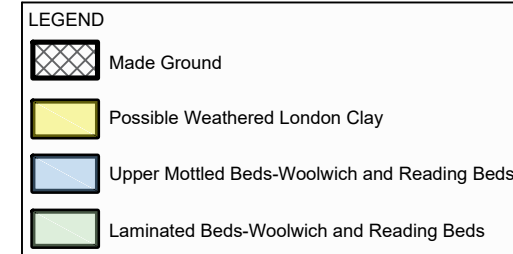
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TITLE:
 Site Layout and Borehole Location Map
 Master Brewer
 Hillington

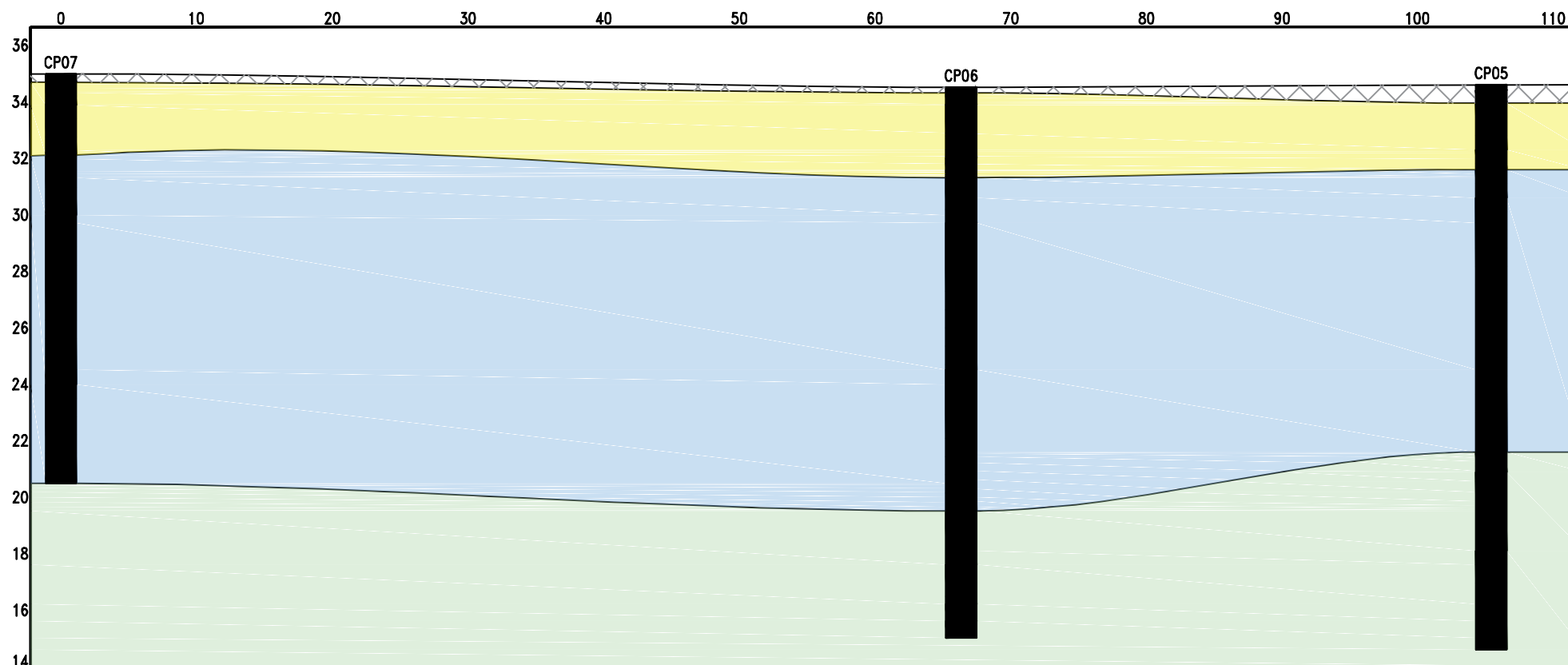
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CHECKED BY: CB	REVISION: 1	FIGURE NO: 2
DATE: 16 April 2015		





A West

East A1

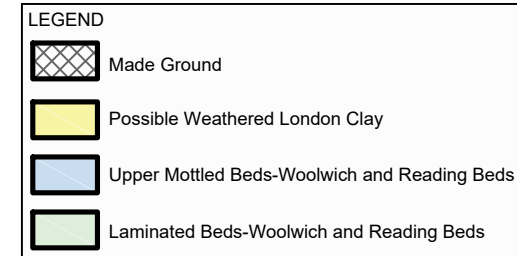


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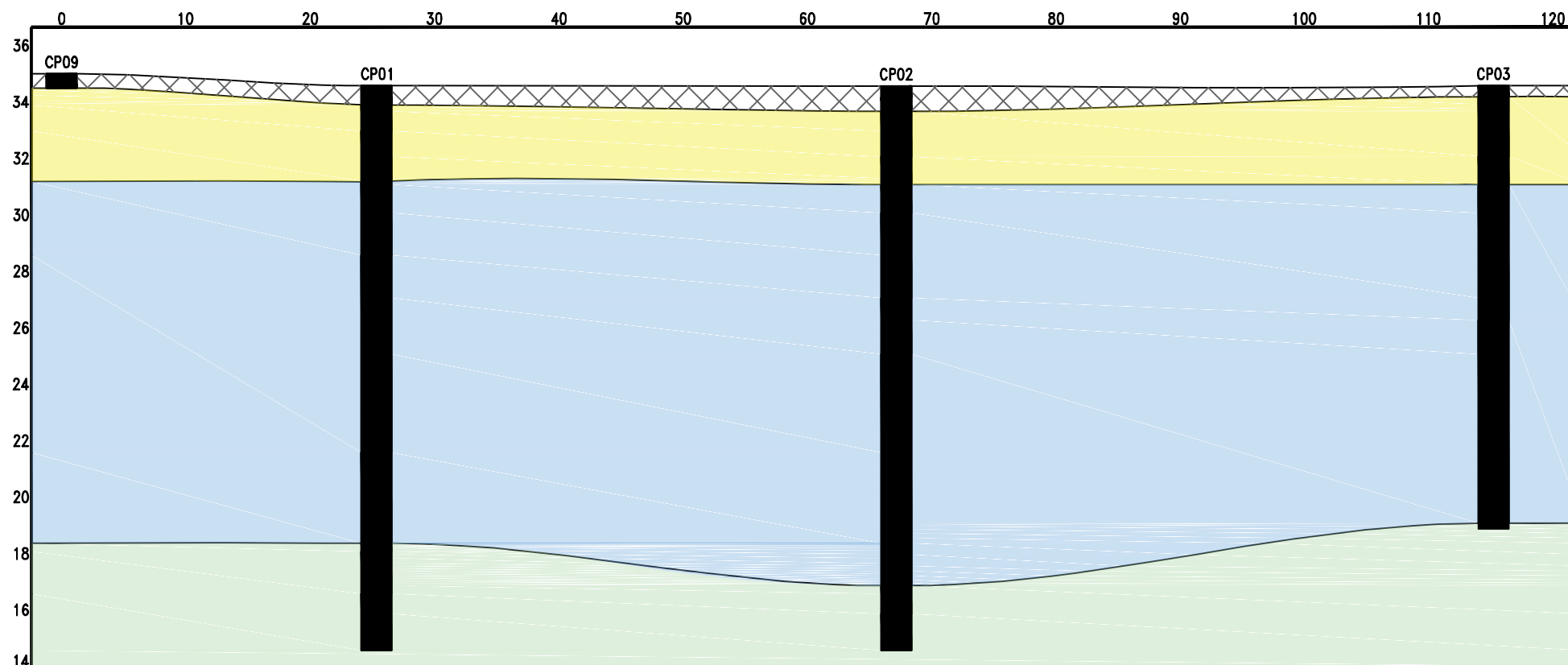
TITLE:
Cross Section A
Master Brewer
Hillingdon

DRAWN BY: DP	SCALE: Not to Scale	PROJECT NO: 14-0724.01
CHECKED BY: CB	REVISION: 1	FIGURE NO: 4A
DATE: 13 May 2015		



B West

East B1

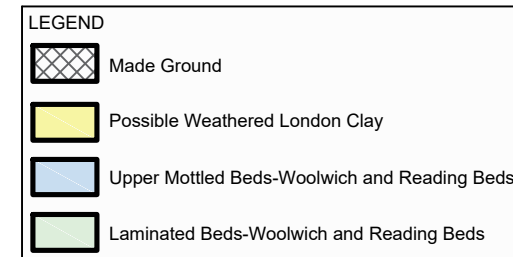


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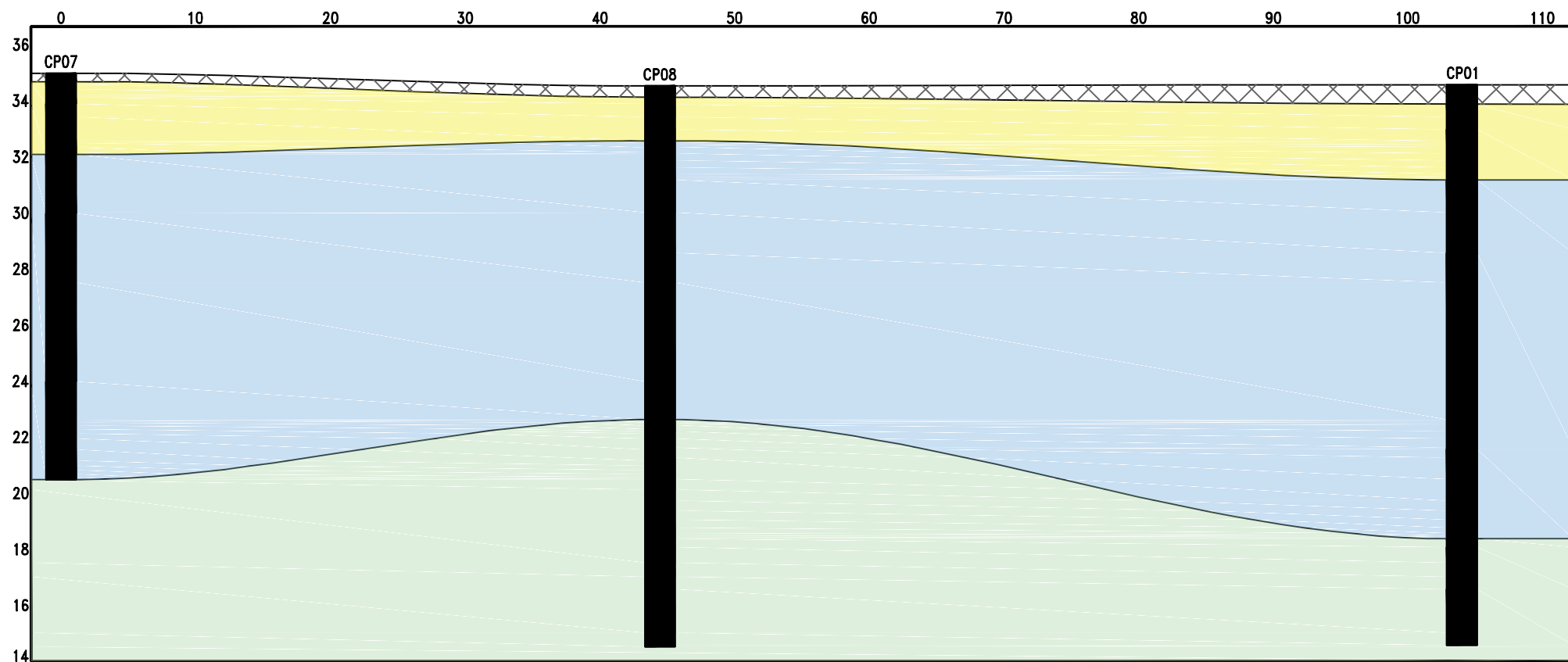
TITLE:
Cross Section B
Master Brewer
Hillingdon

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CHECKED BY: CB	REVISION: 1	FIGURE NO:
DATE: 13 May 2015	4B	

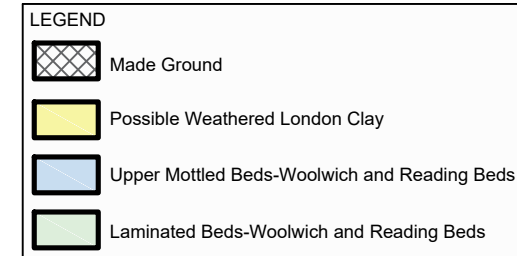


C North

South C1

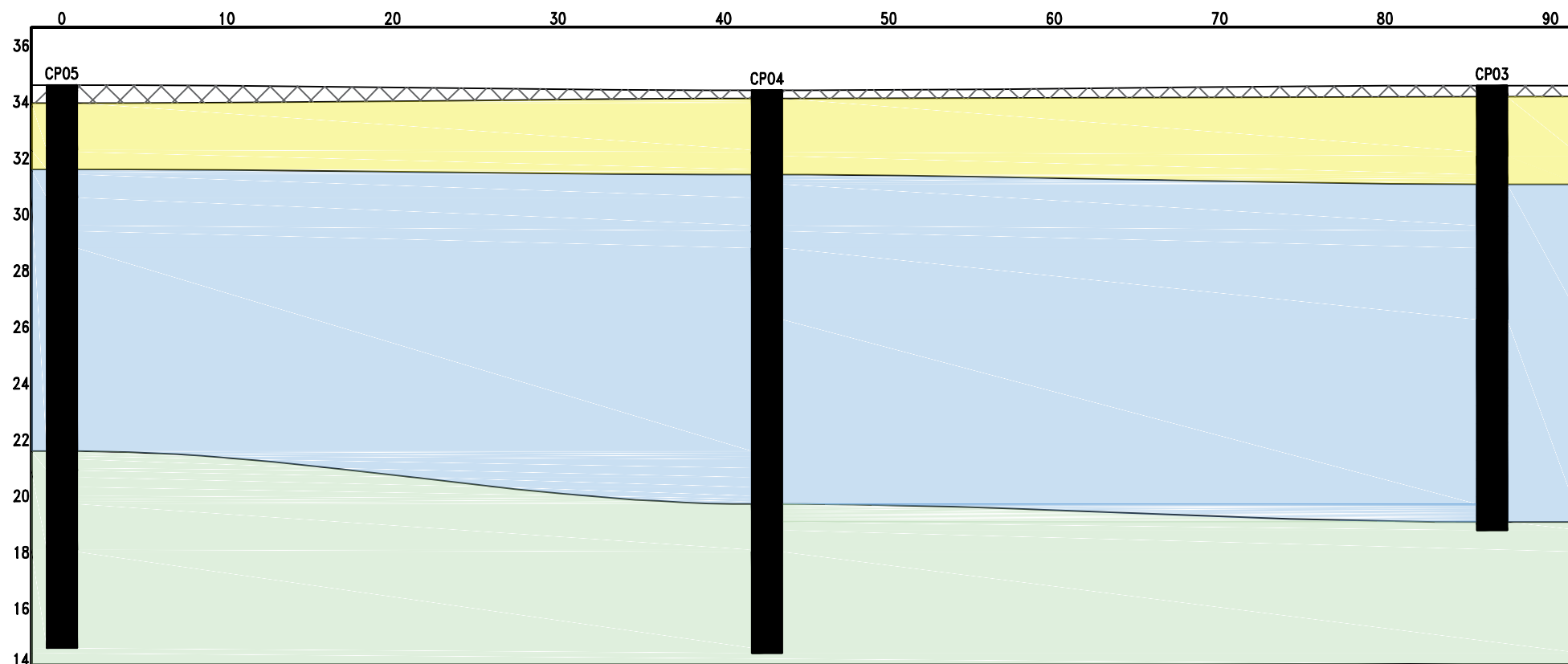


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D North

South D1

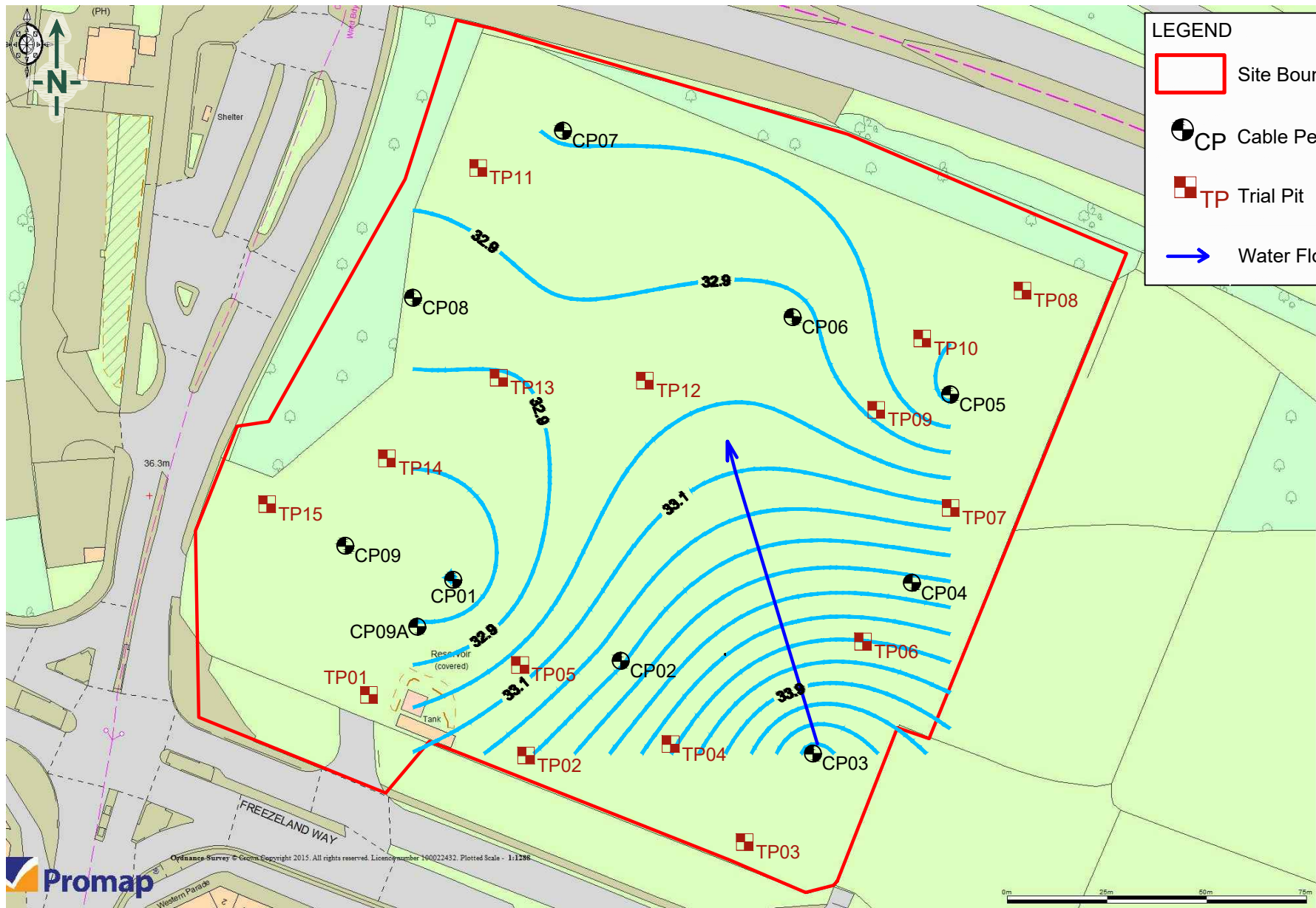


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TITLE:
Cross Section D
Master Brewer
Hillingdon

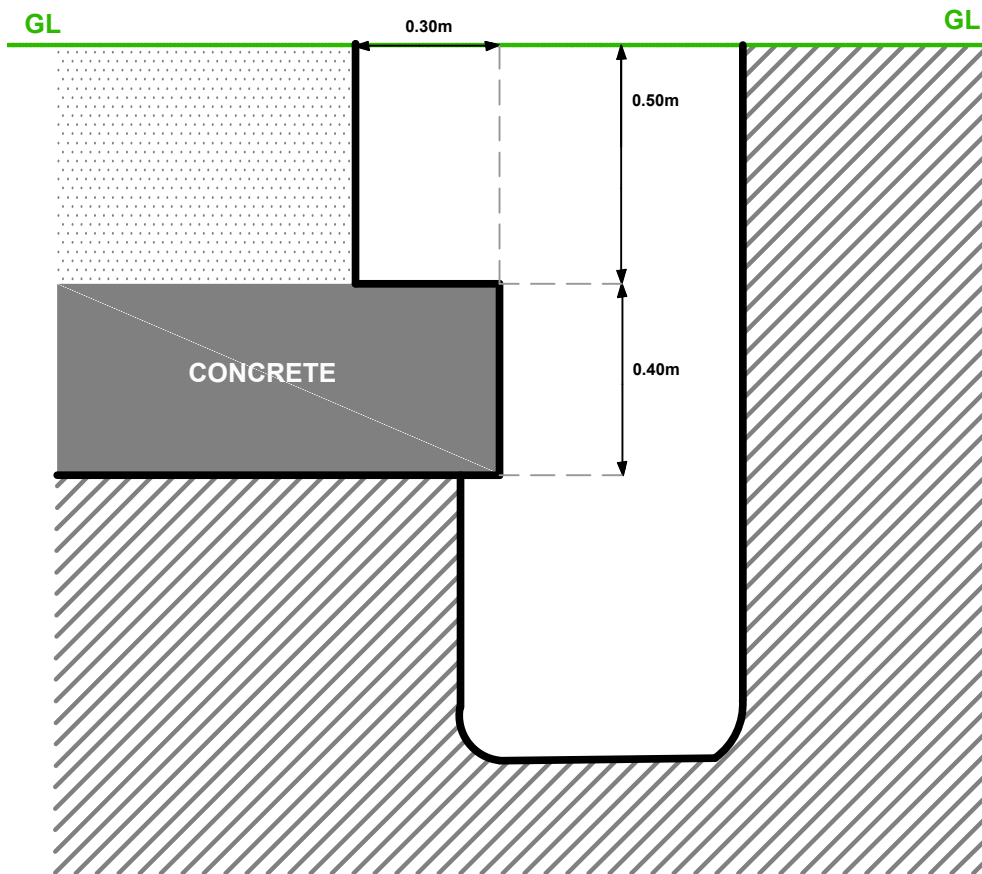
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DATE: 13 May 2015		4D



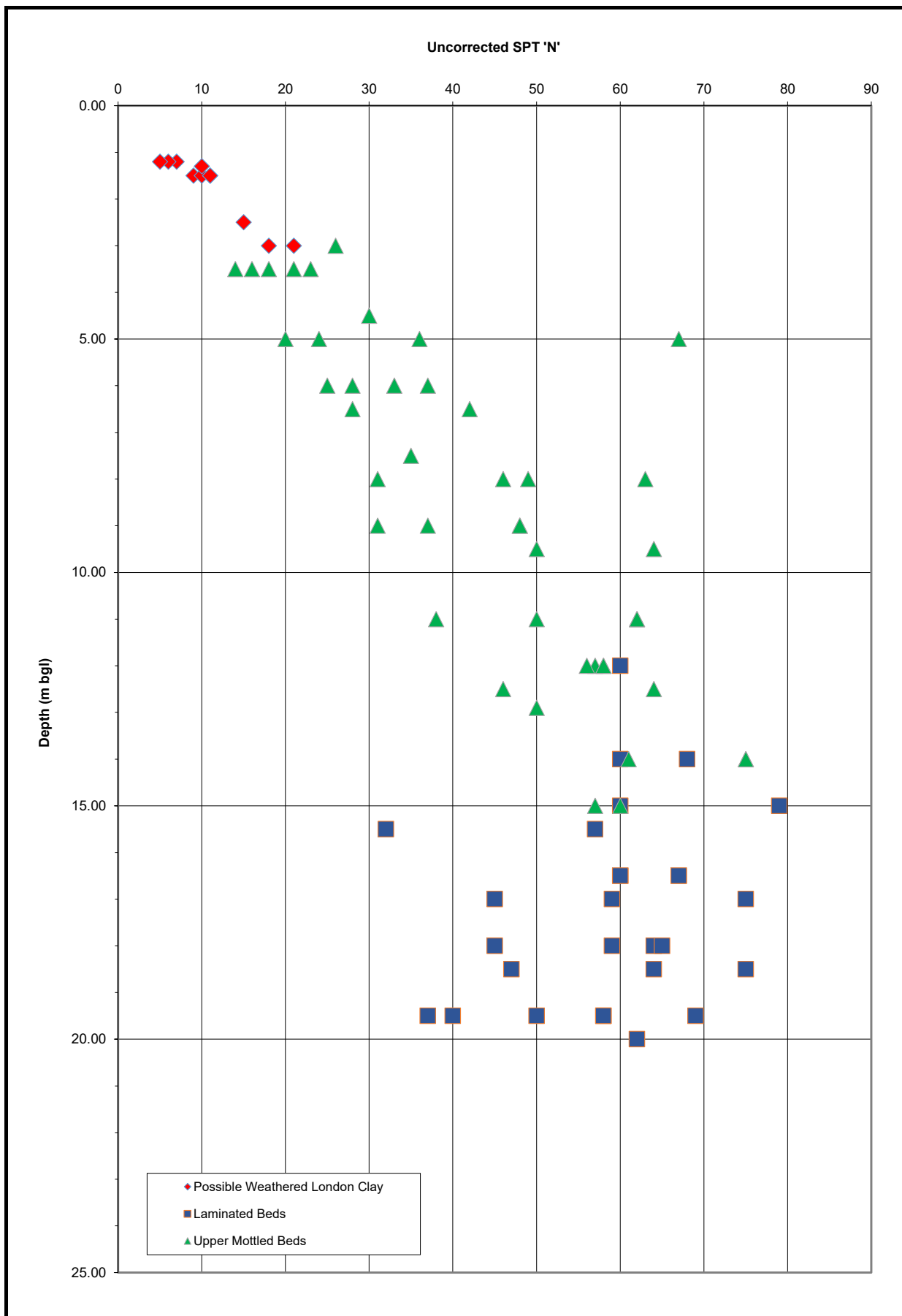
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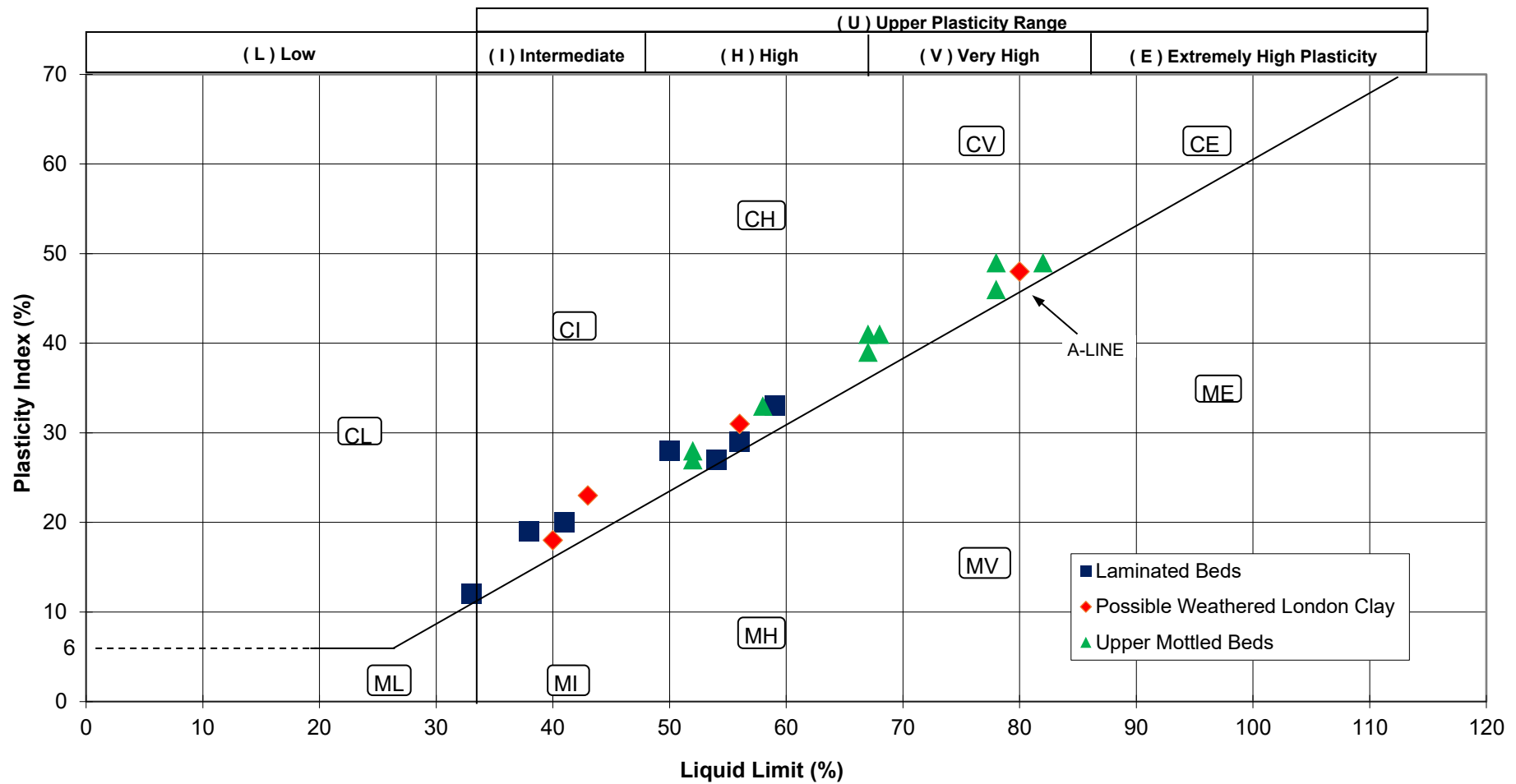
- Site Boundary
- CP Cable Percussion Borehole
- TP Trial Pit
- Water Flow Direction

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LOG		
0.00m	MADE GROUND: Brown, Very sandy brick, limestone, concrete and sandstone.	
0.50m	MADE GROUND: Red medium rounded to subrounded gravel surrounding pipe at 0.7m.	
1.00m	Firm brown slightly gravelly CLAY. (POSSIBLE WEATHER LONDON CLAY).	
1.50m	Foundation pit complete at 1.50m bgl.	





TITLE:

Plasticity Chart - Master Brewer, Hillingdon

DWN:

CB

DATE:

Jun-15



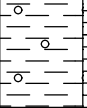
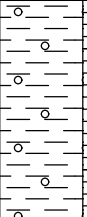

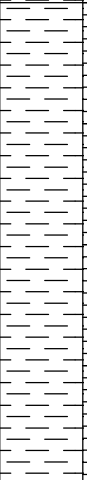
PROJECT NO.:


14-0724.01

FIGURE NO.:

8



Delta-Simons 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR Tel: +44 (0) 870 0400 012 Fax: +44 (0) 1522 698393 Email: info@deltasimons.com									
Project: Hillingdon				Project No: 14-0724.01			Hole ID: CP01		
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 30/03/2015 - 31/03/2015			Client: Spenn Hill		
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL / DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth		
MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL.				(0.70) 33.87 0.70	D ES	1 2	0.50		
Soft brown mottled orange, gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint and limestone. (POSSIBLE WEATHERED LONDON CLAY)				(0.90) 32.97 1.60	D ES	3 4	1.00		
Stiff brown mottled orange, slightly gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint and limestone. High mineral content. Becoming less gravelly with depth. (POSSIBLE WEATHERED LONDON CLAY)				(1.80)	D	5	2.00	SPT N=9 1,1/2,2,2,3	
					U	6	2.50 -		
					D	7	3.00		
					D	8	3.20		
Stiff brown mottled orange, pink and green friable, thinly laminated, slightly gravelly CLAY. Gravel is fine to medium, sub-angular flint. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(2.60)			3.50 - 3.95	SPT N=21 3,3/4,5,6,6	
					D	9	4.00		
					D	10	4.50		
					U	11	4.50 -		
					D	12	5.00		
Very stiff brown, mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(7.00)			6.00 - 6.45	SPT N=37 3,5/6,9,9,13	
					D	13	5.50		
					D	14	7.00		
					U	15	7.50 -		
					D	16	8.00		
					D	17	8.50		
			9.00 - 9.45	SPT N=37 4,6/8,8,10,11					
D	18	10.00							
REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater strike at 18.00 m bgl. 4. Installed with a 50 mm HDPE standpipe to 20.00 m bgl.				CHISELLING Depth From Depth To Time Taken			WATER LEVEL OBSERVATIONS Date Time Water Strike Standing Level Casing Depth		
				NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:		
				BOREHOLE DIAMETER			CASING DIAMETER		
							20.00m		
				DEPTH SEALED					
All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50		Coordinates to National Grid Ground Level to Ordnance Datum				Page 1 of 3	
Plant Used: Pilcon Wayfarer		Coordinates / Level (mAOD): E: 507751.429 N: 184882.677 Level: 34.572		Logged By: CB			Checked By: CB		Approved By: SS

Delta-Simons 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR Tel: +44 (0) 870 0400 012 Fax: +44 (0) 1522 698393 Email: info@deltasimons.com													
Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP01							
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 30/03/2015 - 31/03/2015		Client: Spenn Hill							
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details				
					TYPE	REF	Depth	SPT N Value/Drive mm					
Very stiff brown, mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)(BH Continued)					U	19	10.50 -	U=54/mm					
					D	20	11.00						
					D	21	12.00 12.00 - 12.45	SPT N=50/200mm (7,7/8,15,27/50mm)					
					D	22	13.00						
Very stiff reddish brown mottled greyish green CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(3.20)	U	23	13.50 -	U=59/mm					
					D	24	14.00						
							15.00 - 15.45	SPT N=50/195mm (6,7/11,20,19/45mm)					
					D	25	16.00						
Brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)							16.50 - 16.95	SPT N=50/135mm (7,10/24,26/60mm)					
Firm brown mottled grey sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)				(1.50)	D	26	17.50	SPT N=24/60mm (9,26/24/60mm)					
					D	27	18.00 18.00 - 18.45						
Brown fine to medium sand.				(2.00)	D	28	19.00 19.50 - 19.95	SPT N=40 6,8/8,10,11,11					
			20.00	14.57 20.00									
REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater strike at 18.00 m bgl. 4. Installed with a 50 mm HDPE standpipe to 20.00 m bgl.					CHISELLING		WATER LEVEL OBSERVATIONS						
					Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth	
					NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:					
					BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED			
								20.00m					
All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50		Coordinates to National Grid Ground Level to Ordnance Datum				Page 2 of 3					
Plant Used: Pilcon Wayfarer		Coordinates / Level (mAOD): E: 507751.429 N: 184882.677 Level: 34.572		Logged By: CB		Checked By: CB		Approved By: SS					

Delta-Simons
3 Henley Office Park, Doddington Road,
Lincoln, LN6 3QR
Tel: +44 (0) 870 0400 012
Fax: +44 (0) 1522 698393
Email: info@deltasimons.com



Project: **Hillingdon** Project No: **14-0724.01** Hole ID: **CP01**

CABLE PERCUSSION BOREHOLE LOG

Date From / To:
 30/03/2015 - 31/03/2015

Client:
Spenn Hill


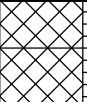

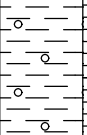
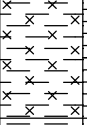



DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Borehole completed at 20.00m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Groundwater strike at 18.00 m bgl.
4. Installed with a 50 mm HDPE standpipe to 20.00 m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS					
Depth From	Depth To	Time Taken		Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:						NO WATER ENCOUNTERED:		
BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED		
			20.00m					

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum				Page 3 of 3
Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507751.429 N: 184882.677 Level: 34.572	Logged By: CB		Checked By: CB		Approved By: SS

Delta-Simons 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR Tel: +44 (0) 870 0400 012 Fax: +44 (0) 1522 698393 Email: info@deltasimons.com												
Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP02						
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 31/03/2015 - 01/04/2015		Client: Spenn Hill						
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details			
					TYPE	REF	Depth	SPT N Value/Drive mm				
MADE GROUND: Tarmac overlying brown, very sandy, fine to coarse, sub-rounded to sub-angular brick, limestone and concrete GRAVEL.				34.16 0.40	D		0.50					
POSSIBLE MADE GROUND: Dark brown, sandy, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded flint. High mineral content.				(0.50) 33.66 0.90	ES		0.80					
					D		1.00					
					ES		1.10					
Firm brown mottled orange and grey friable, bedded, thinly laminated slightly gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint. (POSSIBLE WEATHERED LONDON CLAY)				(1.60)	U		1.50 -	U=16/mm				
					D		2.00					
				32.06 2.50			2.50 - 2.95	SPT N=3/75mm (2,2/3)				
Firm brown silty CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)				(1.00)	D		3.00					
				31.06 3.50	U		3.50 -	U=29/mm				
Stiff, brown mottled grey and orange friable, bedded, thinly laminated CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(1.00)	D		4.00					
				30.06 4.50			4.50 - 4.95	SPT N=30 3,5/5,7,9,9				
Very stiff brown mottled greenish grey and pink CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)					D		5.00					
					D		5.50					
				(3.00)	U		6.00 -	U=45/mm				
					D		6.50					
				27.06 7.50			7.50 - 7.95	SPT N=35 5,6/7,7,9,12				
Very stiff brown mottled greenish grey CLAY. Occasionally silty. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(2.00)	D		8.00					
					D		8.50					
					U		9.00 -	U=58/mm				
				25.06 9.50	D		9.50					
			(mm)									
REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 10.00 m bgl and 17.70 m bgl. 4. Installed with a 50 mm HDPE standpipe to 19.5m bgl.				CHISELLING			WATER LEVEL OBSERVATIONS					
				Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth	
				NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:					
				BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED			
							20.00m					
All measurements in metres unless otherwise stated		10m/page	Scale: 1:62.50		Coordinates to National Grid Ground Level to Ordnance Datum				Page 1 of 3			
Plant Used: Pilcon Wayfarer		Coordinates / Level (mAOD): E: 507789.102 N: 184864.457 Level: 34.562		Logged By: CB		Checked By: CB		Approved By: SS				

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP02			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 31/03/2015 - 01/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details		
					TYPE	REF	Depth	SPT N Value/Drive mm			
Very stiff brown mottled grey, bedded, thinly laminated CLAY. Occasionally silty. (LAMINATED BEDS - WOOLWICH AND READING BEDS)(BH Continued)	[Pattern]			(8.20)	D		10.50 - 10.95	SPT N=50/215mm (6,8/10,12,28/65mm)	[Pattern]		
							D	11.50			
								D		12.00	
										12.00 - 12.45	SPT N=53/175mm (5,7/16,20,17/25mm)
							D	13.00			
								U		13.50 -	U=71/mm
							D			14.00	
								D		15.00	
							15.00 - 15.45			SPT N=50/175mm (6,10/12,25,13/25mm)	
							D	16.00			
D	16.50										
	16.50 - 16.95	SPT N=50/175mm (8,9/15,20,15/25mm)									
D	17.50										
	D	18.00									
18.00 - 18.45		SPT N=50/175mm (7,8/12,20,18/25mm)									
D	19.00										
	19.50 - 19.95	SPT N=50/200mm (6,8/10,15,25/50mm)									
Brown, fine to medium sand.	[Pattern]										
Very stiff slightly sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]										
				20.00	14.56	20.00					

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 10.00 m bgl and 17.70 m bgl. 4. Installed with a 50 mm HDPE standpipe to 19.5m bgl.	CHISELLING			WATER LEVEL OBSERVATIONS				
	Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
	NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
	BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
				20.00m				

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 2 of 3
Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507789.102 N: 184864.457 Level: 34.562	Logged By: CB	Checked By: CB Approved By: SS

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Project: Hillingdon	Project No: 14-0724.01	Hole ID: CP02
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CABLE PERCUSSION BOREHOLE LOG

Date From / To:
31/03/2015 - 01/04/2015

Client:
Spenn Hill

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Borehole completed at 20.00m bgl.									

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Groundwater encountered at 10.00 m bgl and 17.70 m bgl.
4. Installed with a 50 mm HDPE standpipe to 19.5m bgl.

CHISELLING

Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
NO CHISELLING UNDERTAKEN:					NO WATER ENCOUNTERED:		

BOREHOLE DIAMETER
CASING DIAMETER
DEPTH SEALED

20.00m

All measurements in metres unless otherwise stated

10m/page Scale: 1:62.50

Coordinates to National Grid
 Ground Level to Ordnance Datum

Page 3 of 3

Plant Used: Pilcon Wayfarer	Coordinates / Level (mAOD): E: 507789.102 N: 184864.457 Level: 34.562	Logged By: CB	Checked By: CB	Approved By: SS
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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP03			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 08/04/2015 - 10/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
MADE GROUND: Grass overlying brown slightly sandy, slightly gravelly CLAY. Gravel is fine to medium, sub-rounded to sub-angular flint.				34.17 0.40	ES	1	0.30		
					B	2	0.40		
					D	3	0.70		
Soft becoming stiff brown mottled orange slightly gravelly CLAY. Gravel is fine to medium, sub-rounded to sub-angular flint. (POSSIBLE WEATHERED LONDON CLAY)				(2.10)	B	4	1.20 1.20 - 1.65	SPT N=7 1,1/1,2,2,2	
					D	5	2.00	U=72/mm	
					U	6	2.00 -		
				32.07 2.50	D	7	2.50		
Firm brown silty CLAY. (POSSIBLE WEATHERED LONDON CLAY)				(1.00)	B	8	3.00 3.00 - 3.45	SPT N=18 4,3/5,4,4,5	
					D	9	3.60		
				31.07 3.50	D	10	4.00	U=84/mm	
Stiff becoming very stiff brown mottled grey and pink friable CLAY. High mineral content. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)					U	11	4.00 -		
					B	12	5.00	SPT N=36 6,7/8,8,9,11	
					D	13	5.00 - 5.45		
				(4.80)	B	14	6.50 6.50 - 6.95	SPT N=42 6,7/7,8,11,16	
					B	15	8.00 8.00 - 8.45	SPT N=50/205mm (9,13/13,21,16/55mm)	
				26.27 8.30	D	16	9.00		
Very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)					B	17	9.50 9.50 - 9.95	SPT N=50/180mm (7,14/16,24,10/30mm)	

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 15.50 m bgl. 4. Installed with a HDPE standpipe to 15.80m bgl.	CHISELLING			WATER LEVEL OBSERVATIONS					
	Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth	
	NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:					
	BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED		
			15.80m						

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 1 of 2
Plant Used: Dando 2000	Coordinates / Level (mAOD): E: 507832.392 N: 184843.574 Level: 34.571	Logged By: CB	Checked By: CB Approved By: SS

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP03			
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 08/04/2015 - 10/04/2015		Client: Spenn Hill			

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)(BH Continued)	[Pattern]			(7.20)	B	18	11.00 11.00 - 11.45	SPT N=50/210mm (6,12/14,19,17/60mm)	[Pattern]
					B	19	12.50 12.50 - 12.95	SPT N=50/285mm (4,8/8,14,16,12/60mm)	
					D	20	13.50		
					B	21	14.00 14.00 - 14.45	SPT N=50/200mm (6,11/13,17,20/50mm)	
					B	22	15.50 15.50 - 15.95	SPT N=50/180mm (7,10/17,22,11/30mm)	
Very stiff, brown, very sandy CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]		15.80	19.07 15.50 18.77 15.80	B	22	15.50 15.50 - 15.95	SPT N=50/180mm (7,10/17,22,11/30mm)	[Pattern]
Borehole completed at 15.80m bgl.									

REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 15.50 m bgl. 4. Installed with a HDPE standpipe to 15.80m bgl.	CHISELLING			WATER LEVEL OBSERVATIONS					
	Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth	
	NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:					
	BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED		
				15.80m					

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum	Page 2 of 2
Plant Used: Dando 2000	Coordinates / Level (mAOD): E: 507832.392 N: 184843.574 Level: 34.571	Logged By: CB	Checked By: CB Approved By: SS

Delta-Simons 3 Henley Office Park, Doddington Road, Lincoln, LN6 3QR Tel: +44 (0) 870 0400 012 Fax: +44 (0) 1522 698393 Email: info@deltasimons.com													
Project: Hillingdon				Project No: 14-0724.01				Hole ID: CP04					
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 01/04/2015 - 08/04/2015				Client: Spenn Hill					
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details				
					TYPE	REF	Depth	SPT N Value/Drive mm					
MADE GROUND: Grass overlying soft dark brown, slightly sandy CLAY.				34.11 0.30	ES B	1 2	0.20 0.30						
Soft becoming stiff brown mottled orange, slightly gravelly CLAY. Gravel is fine to medium, sub-angular to sub-rounded flint. (POSSIBLE WEATHERED LONDON CLAY)				(1.90)	ES B	3 4	1.00 1.20 1.20 - 1.65	SPT N=6 1,0/1,1,2,2					
Stiff brown mottled grey and orange friable, bedded, thinly laminated CLAY. (POSSIBLE WEATHERED LONDON CLAY)				32.21 2.20	B U D	5 6 7	2.00 2.00 - 2.40	U=37/mm					
Stiff grey and brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				(0.80)	B	8	3.00 3.00 - 3.45	SPT N=21 3,2/3,5,6,7					
Stiff grey and brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				31.41 3.00	D U	9 10	4.00 4.00 -	U=104/mm					
Hard, becoming very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				29.61 4.80 29.41 5.00	D B D	11 12 13	4.80 5.00 5.00 - 5.45	SPT N=50/155mm (8,17/21,24,5/5mm)					
Medium dense, brown, fine to medium SAND.				(0.60)	D	14	5.60						
Hard, becoming very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)				28.81 5.60	D	15	5.70						
					B	16	6.50 6.50 - 6.95	SPT N=28 5,6/6,7,7,8					
					D D	17 18	7.00 7.10						
					B	19	8.00 8.00 - 8.45	SPT N=31 6,6/8,8,7,8					
					D	20	9.00						
					B	21	9.50 9.50 - 9.95	SPT N=50/285mm (5,8/11,12,14,13/60mm)					
				(mm)									
REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 5.10m bgl and 14.70 m bgl. 4. Installed with a HDPE standpipe to 20.00m bgl.				CHISELLING			WATER LEVEL OBSERVATIONS						
				Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth		
				NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:						
				BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED				
							20.00m						
All measurements in metres unless otherwise stated		10m/page	Scale: 1:62.50		Coordinates to National Grid Ground Level to Ordnance Datum				Page 1 of 3				
Plant Used: Dando 2000		Coordinates / Level (mAOD): E: 507854.662 N: 184881.994 Level: 34.41		Logged By: CB		Checked By: CB		Approved By: SS					

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Project: Hillingdon				Project No: 14-0724.01		Hole ID: CP04					
CABLE PERCUSSION BOREHOLE LOG				Date From / To: 01/04/2015 - 08/04/2015		Client: Spenn Hill					
DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details		
					TYPE	REF	Depth	SPT N Value/Drive mm			
Hard, becoming very stiff, reddish brown mottled greenish grey CLAY. (UPPER MOTTLED BEDS - WOOLWICH AND READING BEDS)(BH Continued)	[Pattern]	[Pattern]		(9.10)	B	22	11.00 11.00 - 11.45	SPT N=52/215mm (7,10/12,15,25/65mm)	[Pattern]		
Brown, slightly clayey fine to medium SAND. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]	[Pattern]		19.71 14.70	B	26	15.50 15.50 - 15.95	SPT N=32 7,8/8,8,8	[Pattern]		
Stiff to hard reddish brown CLAY. (LAMINATED BEDS - WOOLWICH AND READING BEDS)	[Pattern]	[Pattern]		18.01 16.40	D	27	16.50	SPT N=50/115mm (14,11/27,23/40mm)	[Pattern]		
	[Pattern]	[Pattern]		(3.60)	B	30	18.50 18.50 - 18.95	SPT N=50/105mm (16,9/50mm/34,16/30mm)	[Pattern]		
			20.00	14.41 20.00	20.00 - 20.45						
REMARKS : 1. Engineer verified logged in general accordance to BS 5930:2010. 2. Area CAT scanned prior to excavation. 3. Groundwater encountered at 5.10m bgl and 14.70 m bgl. 4. Installed with a HDPE standpipe to 20.00m bgl.				CHISELLING			WATER LEVEL OBSERVATIONS				
				Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth
				NO CHISELLING UNDERTAKEN:			NO WATER ENCOUNTERED:				
				BOREHOLE DIAMETER			CASING DIAMETER		DEPTH SEALED		
							20.00m				
All measurements in metres unless otherwise stated		10m/page Scale: 1:62.50		Coordinates to National Grid Ground Level to Ordnance Datum				Page 2 of 3			
Plant Used: Dando 2000		Coordinates / Level (mAOD): E: 507854.662 N: 184881.994 Level: 34.41		Logged By: CB		Checked By: CB		Approved By: SS			

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Project: Hillingdon	Project No: 14-0724.01	Hole ID: CP04
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CABLE PERCUSSION BOREHOLE LOG

Date From / To:
 01/04/2015 - 08/04/2015

Client:
Spenn Hill

DESCRIPTION OF STRATA	LEGEND	WATER	CASING DEPTH / (Diam. mm)	REDUCED LEVEL/ DEPTH (Thickness)	Sample Details			Test Results	Backfill Details
					TYPE	REF	Depth	SPT N Value/Drive mm	
Borehole completed at 20.00m bgl.								SPT N=50/200mm (13,12/70mm/16,19,15/50mm)	

REMARKS :

1. Engineer verified logged in general accordance to BS 5930:2010.
2. Area CAT scanned prior to excavation.
3. Groundwater encountered at 5.10m bgl and 14.70 m bgl.
4. Installed with a HDPE standpipe to 20.00m bgl.

CHISELLING			WATER LEVEL OBSERVATIONS						
Depth From	Depth To	Time Taken	Date	Time	Water Strike	Standing Level	Casing Depth		
NO CHISELLING UNDERTAKEN:									
BOREHOLE DIAMETER			CASING DIAMETER			DEPTH SEALED			
			20.00m						

All measurements in metres unless otherwise stated	10m/page Scale: 1:62.50	Coordinates to National Grid Ground Level to Ordnance Datum			Page 3 of 3
Plant Used: Dando 2000	Coordinates / Level (mAOD): E: 507854.662 N: 184881.994 Level: 34.41	Logged By: CB		Checked By: CB	Approved By: SS