

**10k Raster Mapping**

**Published 2006**

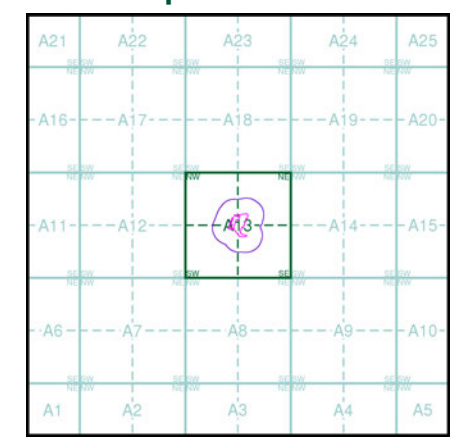
**Source map scale - 1:10,000**

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

**Map Name(s) and Date(s)**

TL21SW	2006	1:10,000
TL20NW	2006	1:10,000

**Historical Map - Slice A**



**Order Details**

Order Number: 283253138\_1\_1  
 Customer Ref: 1922048  
 National Grid Reference: 523330, 208660  
 Slice: A  
 Site Area (Ha): 0.82  
 Search Buffer (m): 1000

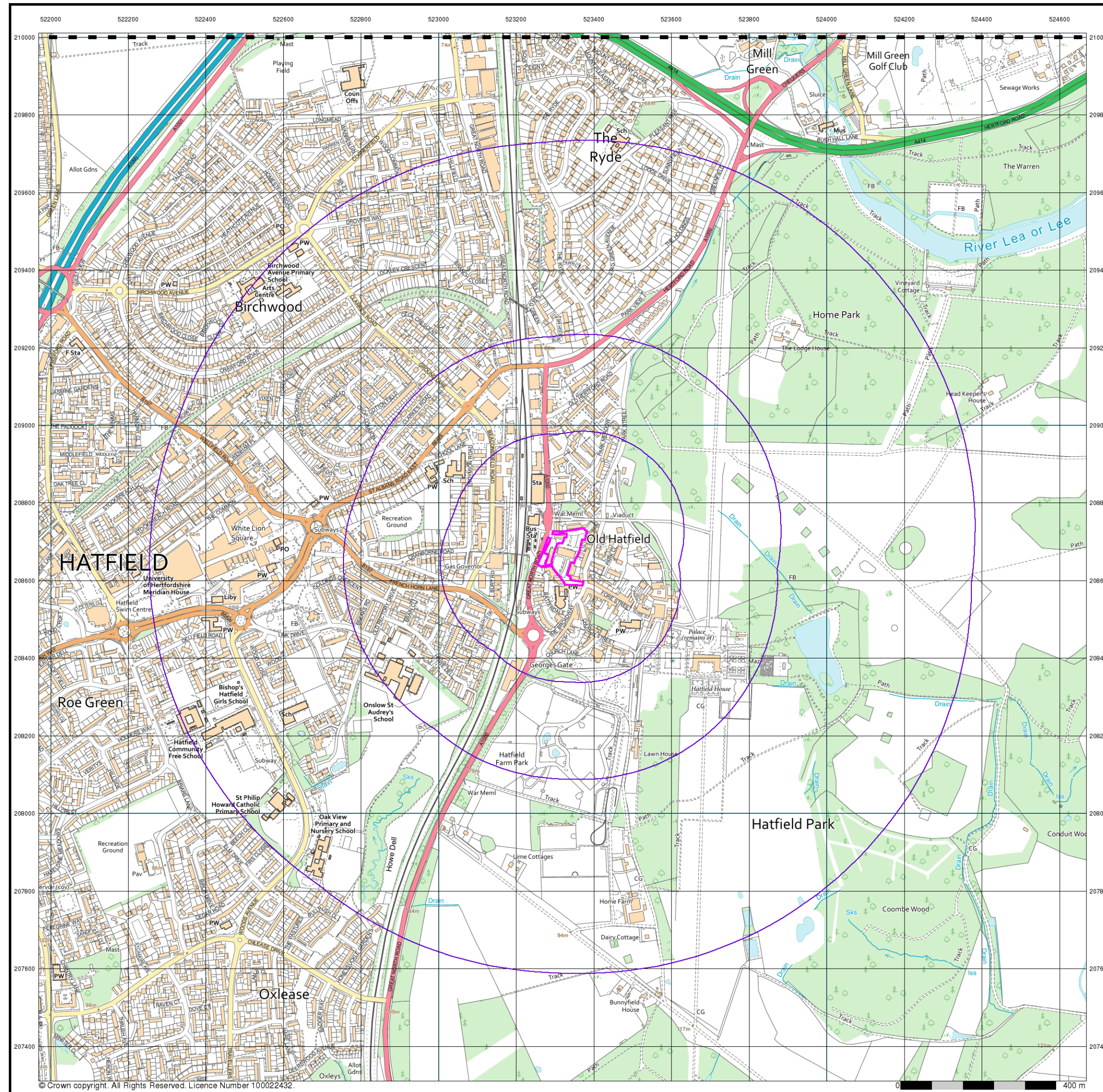
**Site Details**

Salisbury Square, HATFIELD, AL9 5AD



Tel: 0844 844 9952  
 Fax: 0844 844 9951  
 Web: www.envirocheck.co.uk





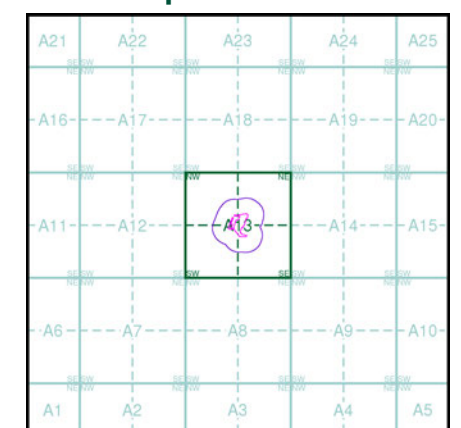
**VectorMap Local**  
**Published 2021**  
**Source map scale - 1:10,000**

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

**Map Name(s) and Date(s)**

- TL21SW | 2021 | Variable
- TL20NW | 2021 | Variable

**Historical Map - Slice A**



**Order Details**

Order Number: 283253138\_1\_1  
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**Site Details**

Salisbury Square, HATFIELD, AL9 5AD




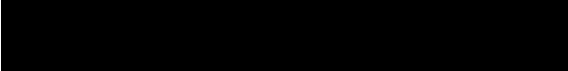

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**APPENDIX E**  
**SUPPORTING DESK STUDY INFORMATION**

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## Environmental Search Report

<b>Ref No:</b>	<b>29266</b>
<b>Site Name:</b>	<b>Salisbury Square</b>
<b>Site Address:</b>	<b>Salisbury Square, Great North Road, Old Hatfield, Herts AL9 5AD</b>
<b>Report Prepared For:</b>	<b>RSK STATS Geoconsult Ltd</b>
<b>Contact:</b>	
<b>Contact number:</b>	
<b>Contact e-mail:</b>	
<b>Request Received date:</b>	<b>01.02.11</b>
<b>Request Received by:</b>	<b>PHI</b>
<b>Invoice Issued:</b>	<b>01.02.11</b>
<b>Report Prepared on:</b>	<b>07/02/11</b>
<b>Report Prepared by:</b>	<b>PEH</b>
<b>Site Map: Grid Ref TL:</b>	<b>2332 0867</b>



**Site Identified in Contaminated Land Strategy:** Yes

**Site Subject to Further Investigation:** Only at time of change of use.

**Known Contamination Issues:** None on record but possible issues related to use of part of site as Hatfield Brewery.

**Known Spills in area:** No records.

**Intrusive Investigation Reports:** No records

**Landfill Sites within 250m:** No records

**Operational Dates:** Brewery opened circa 1800, closed 1920

**Type of waste deposited:** unknown

**Details of Gas Monitoring:** No records

**Any Known Nuisance Issues:** None

**Private Water Supplies Within 2Km::** None

**Flooding Records:.**N/A

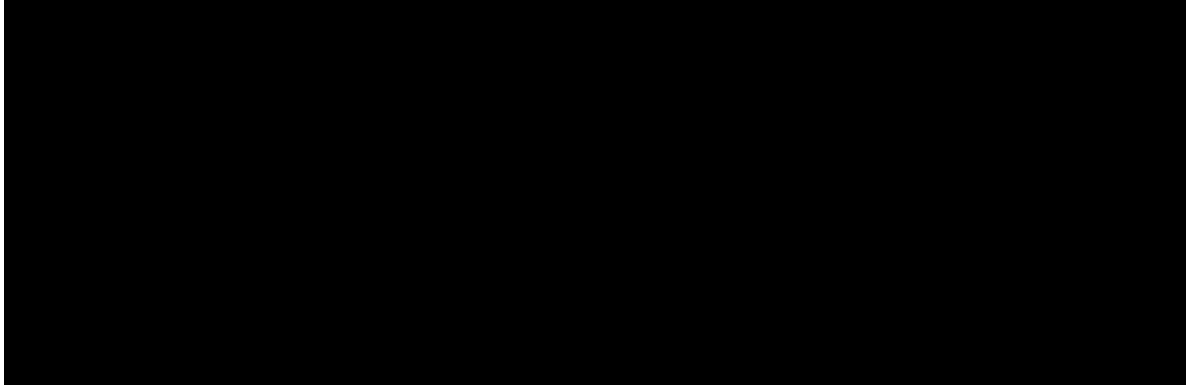
**LAPPC Premises on site or adjacent:** None

**References:**

Gray, Henry W, & Pinhorn, Malcolm (1960): 'Pubs and publicans'. Book 3, in Hatfield WEA (1959-64).

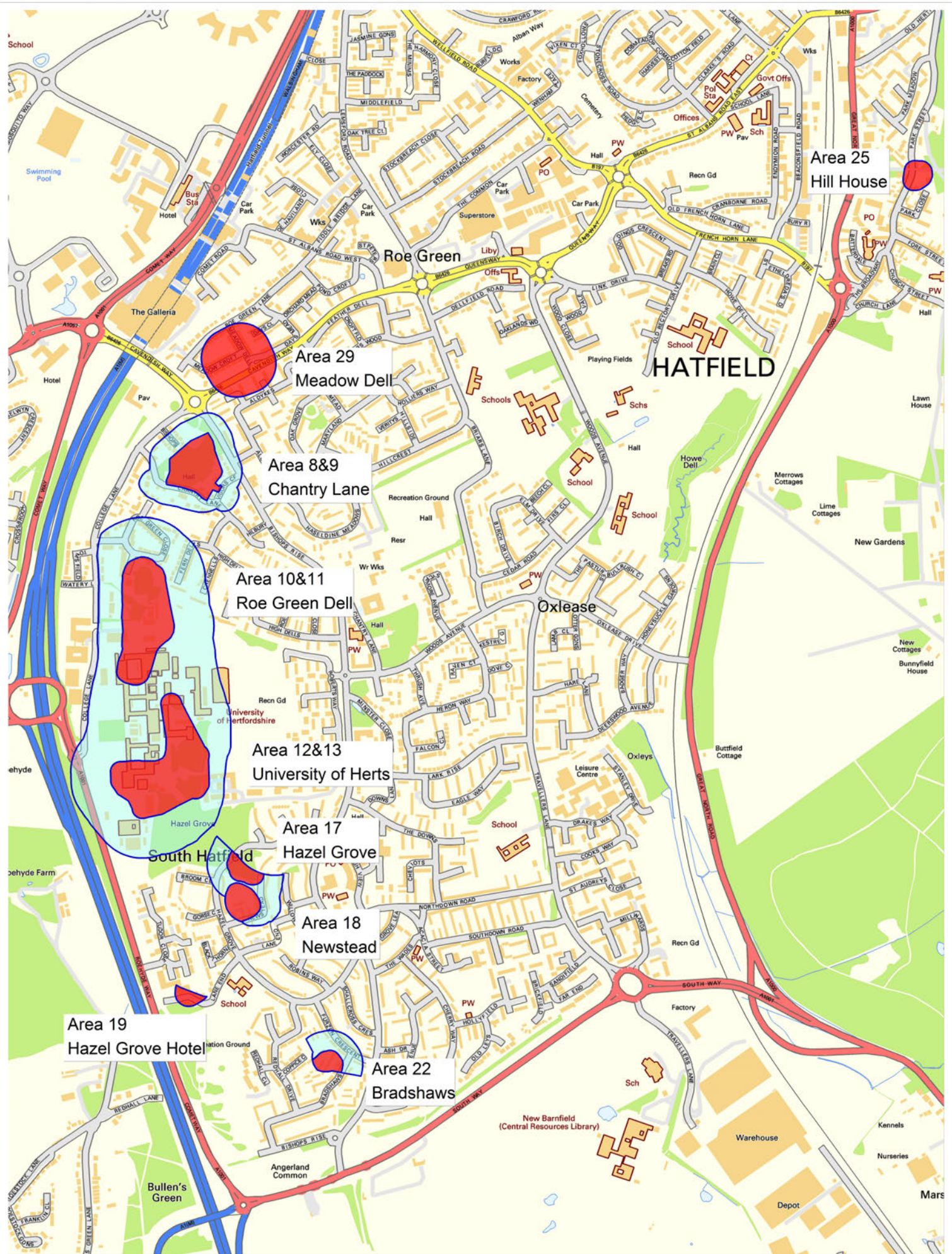
Gray, Henry W (1964): 'Families and trades'. Book 11, in Hatfield WEA (1959-64).

Signed:



This information is supplied without prejudice to Welwyn Hatfield Council's position. No responsibility can be accepted by the Council for any negligence, omission or error on behalf of the Council in supplying the above information and you are advised to make further enquiries over and above this information as is felt necessary.





Name JRY  
 Scale  
 Title  
 Hatfield Chalk Mines




Department Project Revised Nov 2010



## APPENDIX F SITE RECONNAISSANCE PHOTOGRAPHS

<i>PHOTOGRAPHIC LOG</i>	
<b>Photo no.</b> 1	<b>Date:</b> 27 August 2021
<b>Description:</b> Looking west along Arm and Sword Lane	
	

<b>Photo No.</b> 2	<b>Date:</b> 27 August 2021
<b>Description:</b> Eastern corner of northern car park	
	



<b>Photo No.</b> 3	<b>Date:</b> 27 August 2021	
<b>Description:</b> Main car park in north of site		

<b>Photo No.</b> 4	<b>Date:</b> 27 August 2021	
<b>Description:</b> Parade of shops along western edge of Salisbury Square		



<b>Photo No.</b> 5	<b>Date:</b> 27 August 2021	
<b>Description:</b> Area of soft landscaping at heart of Salisbury Square		

<b>Photo No.</b> 6	<b>Date:</b> 27 August 2021	
<b>Description:</b> Retail units along eastern end of Salisbury Square (York House)		



<b>Photo No.</b> 7	<b>Date:</b> 27 August 2021	
<b>Description:</b> Salisbury Square from southeastern corner, looking northwest		

<b>Photo No.</b> 8	<b>Date:</b> 27 August 2021	
<b>Description:</b> Car park on western edge of site behind Job Centre (with scaffolding)		



## **APPENDIX G**

### **TECHNICAL BACKGROUND**

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#### **G1 Desk Study**

##### **Aquifer designation and Source protection zones**

Principal aquifer: layers of rock or drift deposit that have high intergranular and/or fracture permeability (usually providing a high level of water storage). They may support water supply and/or river base flow on a strategic scale.

Secondary A aquifer: permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

Secondary B aquifer: predominantly lower permeability layers that may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

Secondary undifferentiated aquifer: it has not been possible to attribute either a category A or B to a rock type. In most cases this means that it was previously designated as both a minor and non-aquifer in different locations owing to the variable characteristics.

Unproductive' strata: low permeability with negligible significance for water supply or river base flow.

The EA generally adopts a three-fold classification of source protection zones (SPZ) surround abstractions for public water supply. The Site is situated in an area defined as follows:

- Zone 1 or the 'inner protection zone' is located immediately adjacent to the groundwater source and is based on a 50-day travel time from any point below the water table to the source. It is designed to protect against the effects of human activity and biological/chemical contaminants that may have an immediate effect on the source
- Zone 2 or the 'outer protection zone' is defined by a 400-day travel time from a point below the water table to the source. The travel time is designed to provide delay and attenuation of slowly degrading pollutants
- Zone 3 or the 'total catchment' is the area around the source within which all groundwater recharge is presumed to be discharged at the source.

##### **Preliminary risk assessment methodology**

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. An outline conceptual model should be formed at the preliminary risk assessment stage that collates all the existing information pertaining to a site in text, tabular or diagrammatic form. The outline conceptual model identifies potentially complete (termed possible) contaminant linkages (contaminant–pathway–receptor) and is used as the basis for the design of the site investigation. The outline conceptual model is updated as further information becomes available, for example as a result of the site investigation.

Production of a conceptual model requires an assessment of risk to be made. Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the



likelihood and the consequences of an event must be taken into account when assessing risk. RSK has adopted guidance provided in CIRIA C552 for use in the production of conceptual models.

The likelihood of an event can be classified on a four-point system using the following terms and definitions based on CIRIA C552:

- highly likely: the event appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution
- likely: it is probable that an event will occur or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term
- low likelihood: circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term
- unlikely: circumstances are such that it is improbable the event would occur even in the long term.

The severity can be classified using a similar system also based on CIRIA C552. The terms and definitions relating to severity are:

- severe: short term (acute) risk to human health likely to result in ‘significant harm’ as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short-term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in ‘Draft Circular on Contaminated Land’, DETR 2000)
- medium: chronic damage to human health (‘significant harm’ as defined in ‘Draft Circular on Contaminated Land’, DETR 2000), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem
- mild: pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services (‘significant harm’ as defined in ‘Draft Circular on Contaminated Land’, DETR 2000). Damage to sensitive buildings, structures or the environment
- minor: harm, not necessarily significant, but that could result in financial loss or expenditure to resolve. Non-permanent human health effects easily prevented by use of personal protective clothing. Easily repairable damage to buildings, structures and services.

Once the probability of an event occurring and its consequences have been classified, a risk category can be assigned according to the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low

Definitions of these risk categories are as follows together with an assessment of the further work that may be required:

- very high: there is a high probability that severe harm could occur or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability; urgent investigation and remediation are likely to be required
- high: harm is likely to occur. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required. Remedial works may be necessary in the short term and are likely over the long term
- moderate: it is possible that harm could arise, but it is unlikely that the harm would be severe and it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term
- low: it is possible that harm could occur, but it is likely that if realised this harm would at worst normally be mild
- very low: there is a low possibility that harm could occur and if realised the harm is unlikely to be severe.

## **G2 Site Investigation Methodology**

### **Ground gas monitoring**

An infrared gas meter was used to measure gas flow, concentrations of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and oxygen (O<sub>2</sub>) in percentage by volume, while hydrogen sulphide (H<sub>2</sub>S) and carbon monoxide (CO) were recorded in parts per million. Initial and steady state concentrations were recorded. In addition, during the first monitoring round, all wells were screened with a PID to establish if there are any interferences and cross-sensitivity of other hydrocarbons with the infrared gas meter.

### **Low flow groundwater sampling**

Groundwater samples were retrieved using a United States Environment Protection Agency (USEPA) approved low-flow purging and sampling methodology.

The low-flow method relies on moving groundwater through the well screen at approximately the same rate as it flows through the geological formation. This results in a significant reduction in the volume of water extracted before sampling and significantly reduces the amount of disturbance of the water in the monitoring well during purging and sampling. Drawdown levels in the monitoring well and water quality indicator parameters (pH, temperature, electrical conductivity, redox potential and dissolved oxygen) are monitored during low-flow purging and sampling, with stabilisation indicating that purging is complete and sampling can begin. As the flow rate used for purging, in most cases, is the same or only slightly higher than the flow rate used for sampling, and because purging and sampling are conducted as one continuous operation in the field, the process is referred to as low-flow purging and sampling.

### **Reuse of suitable materials**

*The Definition of Waste: Development Industry Code of Practice* (CL:AIRE, 2011) (CoP) was developed in consultation with the Environment Agency and development industry to enable the



re-use of materials under certain scenarios and subject to demonstrating that specific criteria are met. The current reuse scenarios covered by the CoP comprise

- reuse on the site of origin (with or without treatment)
- direct transfer of clean and natural soils between sites
- use in the development of land other than the site of origin following treatment at an authorised Hub site (including a fixed soil treatment facility).

The importation of made ground soils (irrespective of contamination status) or crushed demolition materials is not permitted currently under the CoP and requires either a standard rules environmental permit or a U1 waste exemption (see below).

In the context of excavated materials used on-sites undergoing development, four factors are considered to be of particular relevance in determining if the material is a waste or when it ceases to be waste:

- the aim of the Waste Framework Directive is not undermined, i.e. if the use of the material will create an unacceptable risk of pollution of the environment or harm to human health it is likely to be waste
- the material is certain to be used
- the material is suitable for use both chemically and geotechnically
- only the required quantity of material will be used.

The CoP requires the preparation of a materials management plan (MMP) that confirms the above factors will be met. This plan needs to be reviewed by a 'Qualified Person' (QP) who will then issue a declaration form to the EA. As the project progresses, data must be collated and on completion a verification report produced that shows the MMP was followed and describes any changes.

The MMP establishes whether specific materials are classified as waste and how excavated materials will be treated and/or reused in line with the CoP. The MMP is likely to form part of the site waste management plan.

**APPENDIX H**  
**EXPLORATORY HOLE RECORDS**

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**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Date:**  
2 Feb 11

**Job No:**  
241882

**GROUND WATER      SAMPLES/TESTS      STRATA RECORD      Sheet 1 of 2**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
		0.20	ES 1		0.18		0.18	MADE GROUND: Concrete with reinforcement
		0.25-0.50	B 1				0.47	MADE GROUND: Light brown/orange sandy very gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse flint. Occasional fragments of brick and concrete.
		0.60	D 1		0.65		0.35	MADE GROUND: Dark brown sandy CLAY with traces of angular to subrounded fine to coarse flint, brick, concrete and occasional ashy deposits. Occasional subangular cobbles of concrete
		0.70-1.30	B 2				0.40	MADE GROUND: Weak lean mix concrete and brick (possibly remnant of a former footing).
		0.70	D 2		1.00		0.90	MADE GROUND: Brown sandy gravelly CLAY. Sand is fine to coarse (predominantly medium to coarse). Gravel is angular to subrounded concrete, brick and occasional clinker.
			ES 2					Medium dense light brown/orange slightly clayey silty SAND with traces of subangular to subrounded fine to medium flint gravels. Sand is predominantly fine to medium (GLACIAL DEPOSITS).
		1.40	D 3		1.40			... @ 3.5m Sand becoming predominantly medium to coarse with reduction in clay and silt content
		1.50-2.00	B 3					
		1.50-1.70	ES 3					
				N=34 [37.0](24.3,4.3)				
		2.30-2.50	ES 4		2.30			
		2.40	D 4					
		2.50-3.00	B 4					
				N=14 [4.0](4.3,3.4)				
		3.40	D 5					
		3.50-4.00	B 5					
				N=15 [5.0](4.4,4.3)				
		4.40	D 6					
		4.50-5.00	B 6					
				N=16 [4.0](3.4,4.5)				
		5.20	D 7		5.30			
				N=26 [8.0](6.6,7.7)				
		6.80	D 8					
		6.90-7.35	U 1					
		6.90-7.40	B 7					
		7.50	D 9					
				N=49 [15.0](10.12,12.15)				
		8.90	D 10					
		9.00-9.45	U 2					
		9.00-9.50	B 8					
		9.60	D 11					

*Continued next sheet*

**Remarks and Water Observations**

Service inspection pit to 1.2m bgl. Borehole cased to 5.2m bgl. No water encountered. Undisturbed samples at 6.9m and 9.0m failed due to stiffness of clay and granular content.

**Scale:** 1:50

**Logged by:** BC

**Figure:** App B

**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Date:**  
2 Feb 11

**Job No:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 2 of 2

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
		11	10.90 D 12	N=62 [21.0](14,15,14,19)				Very dense light brown clayey sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded flint and chert (GLACIAL DEPOSITS).
		12	11.70 D 13 11.80-12.30 B 9	N=50 [15.0](12,10,12,16)	11.80	1.00		
		13		N=90 [25.0](15,15,27,33)	12.80			End of Borehole at 12.80 m
		14		-74/150mm [31/150](74/150)				
		15						
		16						
		17						
		18						
		19						

**Remarks and Water Observations**

Service inspection pit to 1.2m bgl. Borehole cased to 5.2m bgl. No water encountered. Undisturbed samples at 6.9m and 9.0m failed due to stiffness of clay and granular content.

**Scale:** 1:50

**Logged by:** BC

**Figure:** App B



**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Date:**  
3 Feb 11

**Job No:**  
241882

**GROUND WATER      SAMPLES/TESTS      STRATA RECORD      Sheet 1 of 2**

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
		0.00-0.50	B 1			0.30	[Cross-hatched pattern]	<p>MADE GROUND: Grass over dark brown sandy silty CLAY with traces of angular to subrounded fine to coarse flint, brick, concrete and occasional clinker. Occasional roots and rootlets.</p> <p>MADE GROUND: Dark brown very sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded brick, clinker, concrete and flint. Occasional ashy deposits. Occasional subangular cobbles of concrete and brick.</p> <p>...@ 1.4m Reduction in sand and gravel content, particularly concrete and chalk clasts</p> <p>...@ 2.1m Increase in gravel constituents, particularly brick and concrete</p>
		0.25	ES 1		0.30			
		0.50	ES 2					
		0.60	D 1					
		0.70-1.30	B 2					
		0.90	ES 3					
		1.40	ES 4			2.70		
		1.50	D 2					
		1.60-2.05	U 1					
		1.60-2.00	B 3					
		2.10	D 3					
		2.10-2.60	B 4	N=47 [30,0](16,12,12,7)				
		3.00	D 4		3.00			
		3.10-3.60	ES 5					
			B 5	N=20 [7,0](6,5,5,4)				
		3.90	D 5			1.90		
		4.00-4.50	B 6					
			C 6	N=14 [5,0](3,3,4,4)				
		4.90	D 6		4.90			
		5.00-5.50	ES 6					
			B 7	N=17 [5,0](5,5,4,3)		0.70		
		5.60	D 7		5.60			
		5.70-6.15	U 2	U65				
		6.20	D 8					
		6.90	D 9					
			S 9	N=37 [12,0](8,8,9,12)				
		8.40	D 10			7.90		
		8.50-8.95	U 3	U130				
		9.00	D 11					
		9.90	D 12					

*Continued next sheet*

**Remarks and Water Observations**

Service inspection pit to 1.2m bgl. Borehole cased to 6.0m bgl. Groundwater encountered at 4.9m, rising to 4.7m in 30 minutes. Water sealed out at 6.0m. Monitoring well installed to 6.0m bgl, comprising 1m plain casing, 5m slotted. Undisturbed sample at 1.6m failed due to granular content.

**Scale:** 1:50

**Logged by:** BC

**Figure:** App B

**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Date:**  
3 Feb 11

**Job No:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 2 of 2

Strike	Well	Depth (m)	Depth/Type (m)	SPT 'N' or U Blows	Depth (m)	Level (mAOD)	Key	Description
		11	11.40 D 13 11.50-12.00 B 8	S N=67 [18,0](14,14,18,21)				
		12	12.10 D 14	S N=59 [15,0](12,15,14,18)				
		13	12.80 D 15	S N=61 [8,0](12,16,16,17)				
		14	13.50 D 16 13.50-14.00 B 9	C -94/225mm [20/150](94/225) C N=97 [17,0](12,23,29,33)	13.50 14.50	1.00		Very dense brown sandy GRAVEL. Sand is fine to coarse (predominantly medium to coarse). Gravel is subangular to subrounded fine to medium flint and chert (GLACIAL DEPOSITS).
		15						<i>End of Borehole at 14.50 m</i>
		16						
		17						
		18						
		19						

**Remarks and Water Observations**

Service inspection pit to 1.2m bgl. Borehole cased to 6.0m bgl. Groundwater encountered at 4.9m, rising to 4.7m in 30 minutes. Water sealed out at 6.0m. Monitoring well installed to 6.0m bgl, comprising 1m plain casing, 5m slotted. Undisturbed sample at 1.6m failed due to granular content.

**Scale:** 1:50

**Logged by:** BC

**Figure:** App B



**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**TP1**

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Dates:**  
2 Feb 11

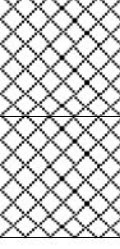
**Job No.:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 1 of 1

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
			ES1 0.10					MADE GROUND: Grass over dark brown sandy silty CLAY with traces of angular to subrounded fine to coarse flint, brick, concrete and occasional clinker. Occasional roots and rootlets.
			ES2 0.40		0.40	0.40		MADE GROUND: Light brown/orange-yellow slightly clayey gravelly SAND. Gravel is angular to subrounded flint, brick and concrete. Occasional subangular fine to medium clinker and ash. Occasional subangular cobbles of concrete.
			ES3 0.70		0.80	0.40		<b>End of Trial Pit at 0.80 m</b>
		1						
		2						
		3						
		4						

**Remarks and Water Observations**

Hand-excavated trial pit. CBR at 0.2m: 3%, CBR at 0.5m: 14%, CBR at 0.7m: 28%. Trial pit remained dry and stable. Exploratory hole terminated due to concrete spanning base of pit.

**Key for Insitu tests**

HV-Hand Vane (kN/m2)  
PP-Pocket Penotometer (kN/m2)  
MP-Mackintosh Probe (N150)

**Scale:** 1:25

**Logged by:** BC

**Figure:** App B

**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**TP2**

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Dates:**  
2 Feb 11

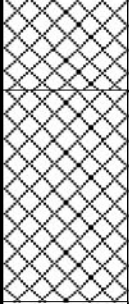
**Job No.:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 1 of 1

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
			ES1 0.20		0.30	0.30		MADE GROUND: Grass over dark brown sandy silty CLAY with traces of angular to subrounded fine to coarse flint, brick, concrete and occasional clinker. Occasional roots and rootlets. Occasional woody fragments.
			ES2 0.50					MADE GROUND: Light brown very sandy silty CLAY with traces of angular to subrounded medium to coarse brick, concrete and flint. Occasional subangular cobbles of brick. Occasional fine rootlets.
	1		ES3 1.00		1.00	0.70		...@ 0.5m Becoming lighter brown. Onset of clinker and occasional fragments of bitumen ...@ 0.85 to 0.90m Relatively weak concrete
	2							<b>End of Trial Pit at 1.00 m</b>
	3							
	4							

**Remarks and Water Observations**

Hand-excavated trial pit. CBR at 0.2m: 2%, CBR at 0.5m: 3%, CBR at 0.8m: 12%. Trial pit remained dry and stable.

**Key for Insitu tests**

HV-Hand Vane (kN/m2)  
PP-Pocket Penotometer (kN/m2)  
MP-Mackintosh Probe (N150)

**Scale:** 1:25

**Logged by:** BC

**Figure:** App B



**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**TP3**

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Dates:**  
2 Feb 11

**Job No.:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 1 of 1

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
			ES1 0.10		0.35	0.35		MADE GROUND: Grass over dark brown sandy silty CLAY with traces of angular to subrounded fine to coarse flint, brick, concrete and occasional clinker. Occasional roots and rootlets.
			ES2 0.50		0.95	0.60		MADE GROUND: Light brown gravelly very clayey SAND/very sandy CLAY. Sand is predominantly fine to medium. Gravel is angular to subrounded fine to coarse (predominantly medium to coarse) brick, concrete, clinker and flint. Occasional subangular fine fragments of chalk. ...@ 0.55m Subangular cobble-sized fragment of concrete
	1							<b>End of Trial Pit at 0.95 m</b>
	2							
	3							
	4							

**Remarks and Water Observations**

Hand-excavated trial pit. CBR at 0.2m: 3%, CBR at 0.6m: 7%. Trial pit remained dry and stable.

**Key for Insitu tests**

HV-Hand Vane (kN/m2)  
PP-Pocket Penotometer (kN/m2)  
MP-Mackintosh Probe (N150)

**Scale:** 1:25

**Logged by:** BC

**Figure:** App B

**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Dates:**  
3 Feb 11

**Job No.:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 1 of 2

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
			ES1 0.20-0.30					MADE GROUND: Grass over dark brown clayey silty gravelly SAND. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium flint. Frequent fine rootlets.
			ES2 0.50-0.60		0.45	0.45		MADE GROUND: Orange/light brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to coarse flint, ceramics, brick and clinker.
			B1 0.90-1.10		0.90	0.45		MADE GROUND: Grey slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is subangular fine to medium flint and subangular fine brick and occasional clinker. Occasional black specks of decomposing organic matter. Organic odour.
			B2 1.20-1.40	S				MADE GROUND: Orange/brown/light brown slightly gravelly CLAY. Gravel is subangular fine to medium flint, brick and infrequent clinker. Occasional black specks of decomposing organic matter  ...@ 1.80 to 1.85m Crushed concrete, recovered as subangular medium to coarse gravels and occasional flint
			B3 1.40-1.70		1.40	0.50		
			B4 1.85-2.00	S	1.90	0.50		MADE GROUND: Brown/white sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular fine to medium flint, brick clinker and low to medium density chalk.  ...@ 2.55m Coarse gravel-sized fragment of brick within sample ...@ 2.70m Crushed concrete encountered in sample tube
				S	3.00	1.10		Stiff dark grey slightly sandy slightly gravelly CLAY with subrounded fine chalk and flint gravels (GLACIAL DEPOSITS).

Continued next sheet

**Remarks and Water Observations**

Service inspection pit to 1.2m bgl. Exploratory hole remained dry and stable.

**Scale:** 1:25

**Key for Insitu tests**  
HV-Hand Vane (kN/m2)  
PP-Pocket Penotometer (kN/m2)  
MP-Mackintosh Probe (N150)

**Logged by:** SOC

**Figure:** App B



**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Dates:**  
3 Feb 11

**Job No.:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 2 of 2

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
		6		S N=28 [5,6](6,7,8)	5.20	2.20		End of Borehole at 5.20 m
		7						
		8						
		9						

**Remarks and Water Observations**

Service inspection pit to 1.2m bgl. Exploratory hole remained dry and stable.

**Scale:** 1:25

**Key for Insitu tests**  
HV-Hand Vane (kN/m2)  
PP-Pocket Penotometer (kN/m2)  
MP-Mackintosh Probe (N150)

**Logged by:** SOC

**Figure:** App B

**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Dates:**  
3 Feb 11

**Job No.:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 1 of 1

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
			ES1 0.20-0.30		0.13	0.13		MADE GROUND: Concrete with reinforcement
			ES2 0.50-0.60		0.45	0.32		MADE GROUND: Orange/brown clayey sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium flint. Occasional fine rootlets.
	1		B1 1.70-1.90	S N=17 (4,5)(4,5,4,4)	1.80	1.35		MADE GROUND: Orange/brown clayey gravelly SAND. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse flint and flint cobbles.
	2		B2 3.50-3.75	C N=4 (2,1)(1,1,1,1)				Loose to medium dense orange/brown SAND with traces of fine subrounded flint gravels. Sand is predominant coarse (GLACIAL DEPOSITS).
	3		B3 3.80-4.00	C N=13 (1,1)(2,3,4,4)	3.75	1.95		Firm dark grey silty CLAY (GLACIAL DEPOSITS).
	4			S N=14 (2,3)(3,3,4,4)	4.00	0.25		<i>End of Borehole at 4.00 m</i>

**Remarks and Water Observations**

Service inspection pit to 1.2m bgl. Exploratory hole remained dry and stable. Monitoring well installed to 3m bgl, comprising 1m plain casing, 2m slotted.

**Scale:** 1:25

**Key for Insitu tests**  
HV-Hand Vane (kN/m2)  
PP-Pocket Penotometer (kN/m2)  
MP-Mackintosh Probe (N150)

**Logged by:** SOC

**Figure:** App B



**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Dates:**  
3 Feb 11

**Job No.:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 1 of 1

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
			ES1 0.20-0.30		0.13	0.13		MADE GROUND: Concrete with reinforcement
			ES2 0.50-0.60		0.45	0.32		MADE GROUND: Orange/brown clayey sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium flint. Occasional fine rootlets. ...@ 0.40 to 0.42m Horizon of lean-mix concrete
	1		B1 1.00-1.20	C				MADE GROUND: Orange/brown clayey SAND and GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse (predominantly fine to medium) flint.
			B2 1.60-1.80	N=16 (4,4)(4,4,4,4)				...@ 1.60m Onset of occasional subangular fine brick and specks of decomposing organic matter. Roots noted in sample tube
	2		B3 2.10-2.30	C				...@ 2.10m Becoming softer
			B4 2.65-2.85	N=12 (2,2)(2,3,3,4)		2.20		...@ 2.60m Occasional linear inclusions of coarse sands
			B5 2.90-3.30	S		2.95		Brown/orange/grey slightly silty slightly gravelly CLAY. Sand is coarse. Gravel is subangular to subrounded fine flint (GLACIAL DEPOSITS).
	3		B6 3.60-3.80	N=11 (4,3)(2,3,3,3)		3.30		Medium dense orange/brown SAND. Sand is medium to coarse (GLACIAL DEPOSITS).
			B7 3.90-4.00	S		4.00		Stiff grey, becoming dark grey by 3.8m silty CLAY with occasional subrounded fine flint and low to medium density chalk (GLACIAL DEPOSITS).
	4			N=21 (3,3)(3,5,6,7)				End of Borehole at 4.00 m

**Remarks and Water Observations**

Service inspection pit to 1.2m bgl. Exploratory hole remained dry and stable.

**Scale:** 1:25

**Key for Insitu tests**  
HV-Hand Vane (kN/m2)  
PP-Pocket Penotometer (kN/m2)  
MP-Mackintosh Probe (N150)

**Logged by:** SOC

**Figure:** App B

**Site:**  
Salisbury Square, Old Hatfield

**Location:**  
Salisbury Square, Old Hatfield

**Client:**  
Gascoyne Cecil Estate

**Ground Level:**  
GL not measured

**Dates:**  
3 Feb 11

**Job No.:**  
241882

**GROUND WATER**

**SAMPLES/TESTS**

**STRATA RECORD**

Sheet 1 of 1

Strike	Well	Depth (m)	Type/Depth (m)	In-situ Tests	Depth (m)	Level (mAOD)	Key	Description
			ES1 0.20-0.30		0.13	0.13		MADE GROUND: Concrete with reinforcement
			ES2 0.50-0.60					MADE GROUND: Orange/brown clayey sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium flint. Occasional fine rootlets.
		1		C	1.25	1.12		MADE GROUND: Brown/dark brown slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium flint and brick.
			B1 1.40-1.60	N=26 [2,3](4,7,7,8)				...@ 1.80m Becoming lighter brown
		2		C	2.20	0.95		Brown silty CLAY with occasional subangular fine flint (GLACIAL DEPOSITS).
			B2 1.80-2.00	N=12 [2,3](3,3,3,3)				Brown slightly clayey gravelly SAND. Gravel is subangular to subrounded fine flint (GLACIAL DEPOSITS).
					2.50	0.30		Stiff dark brown/dark grey CLAY with subangular fine flint and occasional chalk (low to medium density) gravels (GLACIAL DEPOSITS).
		3		S	3.00	0.30		<b>End of Borehole at 3.00 m</b>
		4						

**Remarks and Water Observations**

Service inspection pit to 1.2m bgl. Exploratory hole remained dry and stable. Monitoring well installed to 3m bgl, comprising 1m plain casing, 2m slotted.

**Scale:** 1:25

**Key for Insitu tests**  
HV-Hand Vane (kN/m2)  
PP-Pocket Penotometer (kN/m2)  
MP-Mackintosh Probe (N150)

**Logged by:** SOC

**Figure:** App B

**APPENDIX I**  
**GROUND GAS MONITORING DATA AND SITE CONDITIONS**

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**APPENDIX J**  
**LABORATORY CERTIFICATES FOR SOIL CHEMICAL ANALYSIS**

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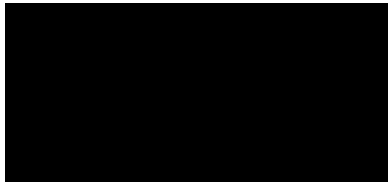
## FINAL ANALYTICAL TEST REPORT

**Envirolab Job Number:** 11/00569  
**Issue Number:** 2 **Date:** 22 March, 2011

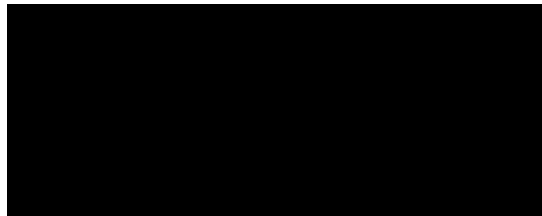
**Client:** RSK STATS Hemel Hempstead  
18 Frogmore Road  
Hemel Hempstead  
Hertfordshire  
UK  
HP3 9RT

**Project Manager:** [REDACTED]  
**Project Name:** Salisbury Square, Hatfield  
**Project Ref:** 241882  
**Order No:** Not specified  
**Date Samples Received:** 10/02/11  
**Date Instructions Received:** 17/03/11  
**Date Analysis Completed:** 22/03/11

**Prepared by:**



**Approved by:**



Notes - Soil analysis

All results are reported as dry weight (<40°C).  
Stones >10mm are removed from the sample prior to analysis and results corrected where appropriate.

Notes - General

For soil samples subscript A indicates analysis performed on the sample as received, D indicates analysis performed on dried & crushed sample.

Superscript M indicates method accredited to MCERTS.

Predominant Matrix Codes - 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER.  
Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our MCERTS accreditation.  
Secondary Matrix Codes - A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis. NDP indicates No Determination Possible. NFI indicates No Fibres Identified.

Superscript # indicates method accredited to ISO 17025.

Accreditation for TPH (C6-C40) applies to the range C6-C36 only.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.



Envirolab Job Number: 11/00569

Client Project Name: Salisbury Square, Hatfield

Client Project Ref: 241882

Lab Sample ID	11/00569/1	11/00569/2	11/00569/3	11/00569/4	11/00569/5	11/00569/6	11/00569/7	11/00569/8	Units	Method ref		
Client Sample No												
Client Sample ID	BH1	BH1	BH1	BH1	BH2	BH2	BH2	BH2				
Depth to Top	0.20	0.70	1.50	2.30	0.25	0.50	0.90	1.40				
Depth To Bottom			1.70	2.50								
Date Sampled	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	7	5A	5A	1A	7	5A	7	5A				
ACM Screen <sub>A</sub>	-	NFI	NFI	-	NFI	NFI	-	-				Visual
pH <sub>D</sub> <sup>M#</sup>	8.1	8.8	9.4	9.0	9.0	8.6	11.6	9.0	pH	A-T-031s		
Sulphate (water sol 2:1) <sub>D</sub> <sup>M#</sup>	0.02	0.05	-	0.02	-	0.03	-	-	g/l	A-T-026s		
Phenols - Total by HPLC <sub>A</sub>	<0.2	-	<0.2	-	-	<0.2	-	-	mg/kg	A-T-050s		
Total Organic Carbon <sub>D</sub> <sup>#</sup>	-	2.07	-	-	-	-	-	0.83	% w/w	A-T-032s		
Arsenic <sub>D</sub> <sup>M#</sup>	26	23	12	7	23	-	23	11	mg/kg	A-T-024		
Boron (water soluble) <sub>D</sub> <sup>M#</sup>	<1.0	<1.0	<1.0	<1.0	<1.0	-	<1.0	<1.0	mg/kg	A-T-027s		
Cadmium <sub>D</sub> <sup>M#</sup>	0.6	0.6	<0.5	<0.5	0.5	-	<0.5	<0.5	mg/kg	A-T-024		
Copper <sub>D</sub> <sup>M#</sup>	17	50	14	3	17	-	16	33	mg/kg	A-T-024		
Chromium <sub>D</sub> <sup>M#</sup>	29	29	29	15	23	-	30	30	mg/kg	A-T-024		
Lead <sub>D</sub> <sup>M#</sup>	14	278	21	5	14	-	43	46	mg/kg	A-T-024		
Mercury <sub>D</sub>	<0.17	<0.17	<0.17	<0.17	<0.17	-	<0.17	<0.17	mg/kg	A-T-024		
Nickel <sub>D</sub> <sup>M#</sup>	43	32	28	9	35	-	35	21	mg/kg	A-T-024		
Selenium <sub>D</sub> <sup>M#</sup>	1	2	<1	<1	<1	-	<1	<1	mg/kg	A-T-024		
Zinc <sub>D</sub> <sup>M#</sup>	105	177	46	17	87	-	97	62	mg/kg	A-T-024		
TPH total (C6-C40) <sub>A</sub>	-	-	-	-	-	-	-	168	mg/kg	A-T-007s		

Envirolab Job Number: 11/00569

Client Project Name: Salisbury Square, Hatfield

Client Project Ref: 241882

Lab Sample ID	11/00569/1	11/00569/2	11/00569/3	11/00569/4	11/00569/5	11/00569/6	11/00569/7	11/00569/8	Units	Method ref
Client Sample No										
Client Sample ID	BH1	BH1	BH1	BH1	BH2	BH2	BH2	BH2		
Depth to Top	0.20	0.70	1.50	2.30	0.25	0.50	0.90	1.40		
Depth To Bottom			1.70	2.50						
Date Sampled	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11		
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES		
Sample Matrix Code	7	5A	5A	1A	7	5A	7	5A		
TPH CWG										
Ali >C5-C6 <sub>A</sub>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
Ali >C6-C8 <sub>A</sub>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
Ali >C8-C10 <sub>A</sub>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
Ali >C10-C12 <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-023s
Ali >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-023s
Ali >C16-C21 <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-023s
Ali >C21-C35 <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-023s
Total Aliphatics <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-022+23s
Aro >C5-C7 <sub>A</sub>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
Aro >C7-C8 <sub>A</sub>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
Aro >C8-C9 <sub>A</sub>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
Aro >C9-C10 <sub>A</sub>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
Aro >C10-C12 <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-023s
Aro >C12-C16 <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-023s
Aro >C16-C21 <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-023s
Aro >C21-C35 <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-023s
Total Aromatics <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-022+23s
TPH (Ali & Aro) <sub>A</sub> <sup>#</sup>	<0.1	-	-	-	-	-	-	-	mg/kg	A-T-022+23s
MTBE <sub>A</sub> <sup>#</sup>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
<b>BTEX</b>										
BTEX - Benzene <sub>A</sub> <sup>#</sup>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
BTEX - Toluene <sub>A</sub> <sup>#</sup>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
BTEX - Ethyl Benzene <sub>A</sub> <sup>#</sup>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
BTEX - m & p Xylene <sub>A</sub> <sup>#</sup>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s
BTEX - o Xylene <sub>A</sub> <sup>#</sup>	<0.01	-	-	-	-	-	-	-	mg/kg	A-T-022s

Envirolab Job Number: 11/00569

Client Project Name: Salisbury Square, Hatfield

Client Project Ref: 241882

Lab Sample ID	11/00569/1	11/00569/2	11/00569/3	11/00569/4	11/00569/5	11/00569/6	11/00569/7	11/00569/8	Units	Method ref
Client Sample No										
Client Sample ID	BH1	BH1	BH1	BH1	BH2	BH2	BH2	BH2		
Depth to Top	0.20	0.70	1.50	2.30	0.25	0.50	0.90	1.40		
Depth To Bottom			1.70	2.50						
Date Sampled	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11		
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES		
Sample Matrix Code	7	5A	5A	1A	7	5A	7	5A		
PAH 16										
Acenaphthene <sub>A</sub> <sup>M#</sup>	<0.01	0.01	0.02	<0.01	<0.01	-	0.04	-	mg/kg	A-T-019s
Acenaphthylene <sub>A</sub> <sup>M#</sup>	<0.01	0.05	<0.01	<0.01	<0.01	-	0.14	-	mg/kg	A-T-019s
Anthracene <sub>A</sub> <sup>M#</sup>	<0.01	0.07	<0.01	<0.01	<0.01	-	0.19	-	mg/kg	A-T-019s
Benzo(a)anthracene <sub>A</sub> <sup>#</sup>	<0.01	0.36	0.01	<0.01	<0.01	-	0.67	-	mg/kg	A-T-019s
Benzo(a)pyrene <sub>A</sub> <sup>M#</sup>	0.02	0.47	<0.01	<0.01	<0.01	-	0.94	-	mg/kg	A-T-019s
Benzo(b)fluoranthene <sub>A</sub> <sup>M#</sup>	0.01	0.33	<0.01	<0.01	0.01	-	0.70	-	mg/kg	A-T-019s
Benzo(ghi)perylene <sub>A</sub> <sup>M#</sup>	<0.01	0.71	0.02	<0.01	0.01	-	1.01	-	mg/kg	A-T-019s
Benzo(k)fluoranthene <sub>A</sub>	0.02	0.48	0.02	<0.01	<0.01	-	0.76	-	mg/kg	A-T-019s
Chrysene <sub>A</sub> <sup>M#</sup>	<0.01	0.70	0.03	<0.01	0.02	-	1.48	-	mg/kg	A-T-019s
Dibenzo(ah)anthracene <sub>A</sub> <sup>#</sup>	<0.01	0.10	<0.01	<0.01	<0.01	-	0.14	-	mg/kg	A-T-019s
Fluoranthene <sub>A</sub> <sup>M#</sup>	0.01	0.78	0.07	<0.01	0.03	-	1.90	-	mg/kg	A-T-019s
Fluorene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	0.01	<0.01	<0.01	-	0.03	-	mg/kg	A-T-019s
Indeno(123-cd)pyrene <sub>A</sub> <sup>#</sup>	<0.01	0.27	<0.01	<0.01	<0.01	-	0.58	-	mg/kg	A-T-019s
Napthalene <sub>A</sub> <sup>M#</sup>	<0.01	0.03	0.11	0.02	<0.01	-	0.04	-	mg/kg	A-T-019s
Phenanthrene <sub>A</sub> <sup>M#</sup>	0.02	0.17	0.06	<0.01	0.02	-	0.65	-	mg/kg	A-T-019s
Pyrene <sub>A</sub> <sup>M#</sup>	0.01	0.75	0.06	0.02	0.03	-	1.71	-	mg/kg	A-T-019s
Total PAH <sub>A</sub> <sup>#</sup>	0.10	5.28	0.41	0.03	0.13	-	11	-	mg/kg	A-T-019s



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Client Project Name: Salisbury Square, Hatfield

Client Project Ref: 241882

Lab Sample ID	11/00569/9	11/00569/10	11/00569/11	11/00569/12	11/00569/13	11/00569/14	11/00569/15	11/00569/16	Units	Method ref		
Client Sample No												
Client Sample ID	BH2	BH2	WS1	WS1	WS2	WS2	WS3	WS3				
Depth to Top	3.00	4.90	0.20	0.50	0.20	0.50	0.20	0.50				
Depth To Bottom			0.30	0.60	0.30	0.60	0.30	0.60				
Date Sampled	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	5A	1A	5AE	5AE	5AE	7	5A					
ACM Screen <sub>A</sub>	-	-	NFI	-	NFI	NFI	NFI	NFI				Visual
pH <sub>D</sub> <sup>M#</sup>	8.7	8.9	-	8.7	-	7.6	-	-	pH	A-T-031s		
Sulphate (water sol 2:1) <sub>D</sub> <sup>M#</sup>	-	0.02	-	<0.01	-	-	-	-	g/l	A-T-026s		
Phenols - Total by HPLC <sub>A</sub>	<0.2	-	<0.2	-	<0.2	-	-	-	mg/kg	A-T-050s		
Total Organic Carbon <sub>D</sub> <sup>#</sup>	-	-	-	-	-	0.10	-	-	% w/w	A-T-032s		
Arsenic <sub>D</sub> <sup>M#</sup>	11	14	-	12	-	23	-	-	mg/kg	A-T-024		
Boron (water soluble) <sub>D</sub> <sup>M#</sup>	<1.0	<1.0	-	<1.0	-	<1.0	-	-	mg/kg	A-T-027s		
Cadmium <sub>D</sub> <sup>M#</sup>	<0.5	<0.5	-	<0.5	-	<0.5	-	-	mg/kg	A-T-024		
Copper <sub>D</sub> <sup>M#</sup>	18	9	-	26	-	17	-	-	mg/kg	A-T-024		
Chromium <sub>D</sub> <sup>M#</sup>	30	18	-	30	-	29	-	-	mg/kg	A-T-024		
Lead <sub>D</sub> <sup>M#</sup>	35	16	-	68	-	17	-	-	mg/kg	A-T-024		
Mercury <sub>D</sub>	<0.17	<0.17	-	<0.17	-	<0.17	-	-	mg/kg	A-T-024		
Nickel <sub>D</sub> <sup>M#</sup>	21	15	-	21	-	42	-	-	mg/kg	A-T-024		
Selenium <sub>D</sub> <sup>M#</sup>	<1	<1	-	<1	-	1	-	-	mg/kg	A-T-024		
Zinc <sub>D</sub> <sup>M#</sup>	55	40	-	80	-	95	-	-	mg/kg	A-T-024		
TPH total (C6-C40) <sub>A</sub>	-	-	-	<10	<10	-	<10	-	mg/kg	A-T-007s		

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Client Project Name: Salisbury Square, Hatfield

Client Project Ref: 241882

Lab Sample ID	11/00569/9	11/00569/10	11/00569/11	11/00569/12	11/00569/13	11/00569/14	11/00569/15	11/00569/16	Units	Method ref
Client Sample No										
Client Sample ID	BH2	BH2	WS1	WS1	WS2	WS2	WS3	WS3		
Depth to Top	3.00	4.90	0.20	0.50	0.20	0.50	0.20	0.50		
Depth To Bottom			0.30	0.60	0.30	0.60	0.30	0.60		
Date Sampled	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11		
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES		
Sample Matrix Code	5A	1A	5AE	5AE	5AE	7	5A			
PAH 16										
Acenaphthene <sub>A</sub> <sup>M#</sup>	-	0.02	-	0.02	-	<0.01	-	-	mg/kg	A-T-019s
Acenaphthylene <sub>A</sub> <sup>M#</sup>	-	<0.01	-	<0.01	-	<0.01	-	-	mg/kg	A-T-019s
Anthracene <sub>A</sub> <sup>M#</sup>	-	<0.01	-	0.02	-	0.01	-	-	mg/kg	A-T-019s
Benzo(a)anthracene <sub>A</sub> <sup>#</sup>	-	<0.01	-	0.04	-	<0.01	-	-	mg/kg	A-T-019s
Benzo(a)pyrene <sub>A</sub> <sup>M#</sup>	-	<0.01	-	0.04	-	<0.01	-	-	mg/kg	A-T-019s
Benzo(b)fluoranthene <sub>A</sub> <sup>M#</sup>	-	<0.01	-	0.03	-	<0.01	-	-	mg/kg	A-T-019s
Benzo(ghi)perylene <sub>A</sub> <sup>M#</sup>	-	<0.01	-	0.09	-	<0.01	-	-	mg/kg	A-T-019s
Benzo(k)fluoranthene <sub>A</sub>	-	<0.01	-	0.03	-	<0.01	-	-	mg/kg	A-T-019s
Chrysene <sub>A</sub> <sup>M#</sup>	-	0.02	-	0.13	-	0.01	-	-	mg/kg	A-T-019s
Dibenzo(ah)anthracene <sub>A</sub> <sup>#</sup>	-	<0.01	-	<0.01	-	<0.01	-	-	mg/kg	A-T-019s
Fluoranthene <sub>A</sub> <sup>M#</sup>	-	0.03	-	0.14	-	0.03	-	-	mg/kg	A-T-019s
Fluorene <sub>A</sub> <sup>M#</sup>	-	<0.01	-	<0.01	-	<0.01	-	-	mg/kg	A-T-019s
Indeno(123-cd)pyrene <sub>A</sub> <sup>#</sup>	-	<0.01	-	0.03	-	<0.01	-	-	mg/kg	A-T-019s
Napthalene <sub>A</sub> <sup>M#</sup>	-	0.02	-	0.02	-	<0.01	-	-	mg/kg	A-T-019s
Phenanthrene <sub>A</sub> <sup>M#</sup>	-	0.02	-	0.05	-	0.02	-	-	mg/kg	A-T-019s
Pyrene <sub>A</sub> <sup>M#</sup>	-	0.03	-	0.13	-	0.02	-	-	mg/kg	A-T-019s
Total PAH <sub>A</sub> <sup>#</sup>	-	0.14	-	0.78	-	0.09	-	-	mg/kg	A-T-019s

Envirolab Job Number: 11/00569

Client Project Name: Salisbury Square, Hatfield

Client Project Ref: 241882

Lab Sample ID	11/00569/17	11/00569/18	11/00569/19	11/00569/20	11/00569/23	11/00569/25			Units	Method ref
Client Sample No										
Client Sample ID	WS4	WS4	TP1	TP1	TP2	TP3				
Depth to Top	0.20	0.50	0.10	0.40	0.50	0.10				
Depth To Bottom	0.30	0.60								
Date Sampled	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	7	7	4AE		4AE	4AE				
ACM Screen <sub>A</sub>	NFI	-	-	NFI	-	-				
pH <sub>D</sub> <sup>M#</sup>	8.4	8.4	8.3	-	8.3	8.2			pH	A-T-031s
Sulphate (water sol 2:1) <sub>D</sub> <sup>M#</sup>	-	0.01	-	-	-	-			g/l	A-T-026s
Total Organic Carbon <sub>D</sub> <sup>#</sup>	0.07	-	-	-	1.08	-			% w/w	A-T-032s
Arsenic <sub>D</sub> <sup>M#</sup>	22	18	10	-	12	22			mg/kg	A-T-024
Boron (water soluble) <sub>D</sub> <sup>M#</sup>	<1.0	<1.0	<1.0	-	<1.0	<1.0			mg/kg	A-T-027s
Cadmium <sub>D</sub> <sup>M#</sup>	<0.5	<0.5	<0.5	-	<0.5	0.9			mg/kg	A-T-024
Copper <sub>D</sub> <sup>M#</sup>	14	11	22	-	37	174			mg/kg	A-T-024
Chromium <sub>D</sub> <sup>M#</sup>	21	20	18	-	20	29			mg/kg	A-T-024
Lead <sub>D</sub> <sup>M#</sup>	39	10	66	-	84	345			mg/kg	A-T-024
Mercury <sub>D</sub>	<0.17	<0.17	0.17	-	<0.17	1.03			mg/kg	A-T-024
Nickel <sub>D</sub> <sup>M#</sup>	30	33	14	-	18	33			mg/kg	A-T-024
Selenium <sub>D</sub> <sup>M#</sup>	<1	1	<1	-	1	2			mg/kg	A-T-024
Zinc <sub>D</sub> <sup>M#</sup>	73	70	80	-	112	306			mg/kg	A-T-024



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Lab Sample ID	11/00569/17	11/00569/18	11/00569/19	11/00569/20	11/00569/23	11/00569/25			Units	Method ref
Client Sample No										
Client Sample ID	WS4	WS4	TP1	TP1	TP2	TP3				
Depth to Top	0.20	0.50	0.10	0.40	0.50	0.10				
Depth To Bottom	0.30	0.60								
Date Sampled	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	7	7	4AE		4AE	4AE				
<b>TPH CWG</b>										
Ali >C5-C6 <sub>A</sub>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
Ali >C6-C8 <sub>A</sub>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
Ali >C8-C10 <sub>A</sub>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
Ali >C10-C12 <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-023s
Ali >C12-C16 <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-023s
Ali >C16-C21 <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-023s
Ali >C21-C35 <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-023s
Total Aliphatics <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-022+23s
Aro >C5-C7 <sub>A</sub>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
Aro >C7-C8 <sub>A</sub>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
Aro >C8-C9 <sub>A</sub>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
Aro >C9-C10 <sub>A</sub>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
Aro >C10-C12 <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-023s
Aro >C12-C16 <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-023s
Aro >C16-C21 <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-023s
Aro >C21-C35 <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-023s
Total Aromatics <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-022+23s
TPH (Ali & Aro) <sub>A</sub> <sup>#</sup>	-	<0.1	-	-	-	-			mg/kg	A-T-022+23s
MTBE <sub>A</sub> <sup>#</sup>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
<b>BTEX</b>										
BTEX - Benzene <sub>A</sub> <sup>#</sup>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
BTEX - Toluene <sub>A</sub> <sup>#</sup>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
BTEX - Ethyl Benzene <sub>A</sub> <sup>#</sup>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
BTEX - m & p Xylene <sub>A</sub> <sup>#</sup>	-	<0.01	-	-	-	-			mg/kg	A-T-022s
BTEX - o Xylene <sub>A</sub> <sup>#</sup>	-	<0.01	-	-	-	-			mg/kg	A-T-022s

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Client Project Name: Salisbury Square, Hatfield

Client Project Ref: 241882

Lab Sample ID	11/00569/17	11/00569/18	11/00569/19	11/00569/20	11/00569/23	11/00569/25			Units	Method ref
Client Sample No										
Client Sample ID	WS4	WS4	TP1	TP1	TP2	TP3				
Depth to Top	0.20	0.50	0.10	0.40	0.50	0.10				
Depth To Bottom	0.30	0.60								
Date Sampled	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11	03-Feb-11				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	7	7	4AE		4AE	4AE				
<b>PAH 16</b>										
Acenaphthene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	0.02	-	0.13	-			mg/kg	A-T-019s
Acenaphthylene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	0.05	-	0.01	-			mg/kg	A-T-019s
Anthracene <sub>A</sub> <sup>M#</sup>	<0.01	0.01	0.09	-	1.60	-			mg/kg	A-T-019s
Benzo(a)anthracene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	0.33	-	3.24	-			mg/kg	A-T-019s
Benzo(a)pyrene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	0.47	-	2.33	-			mg/kg	A-T-019s
Benzo(b)fluoranthene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	0.44	-	2.29	-			mg/kg	A-T-019s
Benzo(ghi)perylene <sub>A</sub> <sup>M#</sup>	<0.01	0.01	0.68	-	1.90	-			mg/kg	A-T-019s
Benzo(k)fluoranthene <sub>A</sub>	<0.01	<0.01	0.36	-	2.64	-			mg/kg	A-T-019s
Chrysene <sub>A</sub> <sup>M#</sup>	<0.01	0.02	0.71	-	5.27	-			mg/kg	A-T-019s
Dibenzo(ah)anthracene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	0.05	-	0.42	-			mg/kg	A-T-019s
Fluoranthene <sub>A</sub> <sup>M#</sup>	<0.01	0.03	0.84	-	8.88	-			mg/kg	A-T-019s
Fluorene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01	<0.01	-	0.17	-			mg/kg	A-T-019s
Indeno(123-cd)pyrene <sub>A</sub> <sup>#</sup>	<0.01	<0.01	0.26	-	1.42	-			mg/kg	A-T-019s
Napthalene <sub>A</sub> <sup>M#</sup>	<0.01	0.01	<0.01	-	0.02	-			mg/kg	A-T-019s
Phenanthrene <sub>A</sub> <sup>M#</sup>	<0.01	0.03	0.22	-	3.49	-			mg/kg	A-T-019s
Pyrene <sub>A</sub> <sup>M#</sup>	<0.01	0.02	0.79	-	6.11	-			mg/kg	A-T-019s
Total PAH <sub>A</sub> <sup>#</sup>	<0.01	0.14	5.30	-	39.9	-			mg/kg	A-T-019s