Energy, Environment & Design

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Our Ref: EED13325-101.R.1.1.2.KH
Your Ref: 2013/3880/P

Date: 17 November 2014

Head of Development Management
Planning Department
London Borough of Camden
5 Pancras Square
London
N1C 4AG

Dear Sir/Madam

RE: 2013/3880/P Condition 11 – Interim Update on Site Investigation at One Bedford Avenue

We are writing with respect to planning application 2013/3880/P relating to 251-258 Tottenham Court Road and 1 Bedford Avenue, London, W1T 7RB and specifically condition 11b which states:

Before development commences:
(a) a written programme of ground investigation for the presence of soil and groundwater contamination and landfill gas shall be submitted to and approved by the local planning authority in writing; and

(b) following the approval detailed in paragraph (a), an investigation shall be carried out in accordance with the approved programme and the results and a written scheme of remediation measures [if necessary] shall be submitted to and approved by the local planning authority in writing. The remediation measures shall be implemented strictly in accordance with the approved scheme and a written report detailing the remediation shall be submitted to and approved by the local planning authority in writing prior to occupation.

A ground investigation specification 'Geotechnical and Geo-environmental Specification – Seeking discharge of part (a) of Planning Condition 11 with reference to decision notice 2013/3880/P (reference EED13325-101.S.1.1.4.KH)' was issued on the 23 July 2014 in response to condition 11(a). The specification was approved by email informally on the 10 September and formally on the 22 September 2014.

Site Investigation

A site investigation was undertaken by Soil Consultants who were instructed by GVA Second Wall on behalf of Exemplar Properties (Bedford) Ltd between the 11 September and the 25 September 2014.

The investigation varied from the proposed and agreed site investigation strategy due to difficult ground conditions and access constraints (further details of are set out in Table 1 below). Table 1 outlines the proposed exploratory holes designations agreed prior to the start of the site investigation and exploratory locations achieved during the site investigation. The proposed exploratory hole location plan and a draft site investigation exploratory hole location plan are attached.

Table 1: Ground investigation strategy

Layer / Target feature	Proposed Exploratory Holes	Groundwater Wells	Gas Wells	Comments
Lynch Hill Gravel Member Gravel	BH1	installed	installed	Borehole completed
Lynch Hill Gravel Member Gravel	BH2	installed	installed	Borehole completed
Lynch Hill Gravel Member Gravel	BH3	-	-	Not drilled
Made Ground	TP2	-	-	Not drilled
Made Ground	TP4	-	-	Not completed – concrete to 1950mm below ground level
Made Ground	TP8	-	-	Not completed
Made Ground	TP10	-	-	Not completed – concrete >600mm
Made Ground	TP12	Not applicable	Not applicable	Trial pit completed
Structural Investigation	CH2	Not applicable	Not applicable	Location not relevant to ground investigation
Structural Investigation	SI1	Not applicable	Not applicable	Location not relevant to ground investigation

Ground Conditions Encountered

Ground conditions encountered were described as Made Ground over Lynch Hill Gravel Member and London Clay Formation.

The basement slab encountered was reported to be up to 1950mm thick thus preventing effective soil sampling by hand digging.

Parts of the basement were reportedly underlain by water-filled vaults or chambers up to 6m in depth.

Both borehole BH1 and borehole BH2 were drilled from ground level through a basement void.

Environmental Sampling

Shallow soil samples were collected from exploratory positions. One round of groundwater sampling has been undertaken to date. Soil and groundwater samples were sent to an UKAS accredited laboratory for chemical analysis of a suite of contaminants likely to be present at the Site.

Six rounds of ground gas monitoring are scheduled however results are currently awaited.

The chemical test results are appended.

Preliminary Quantitative Risk Assessment

A preliminary review of the data shows soil results are generally compliant with residential end-use criteria with the exception of a number of PAHs that exceed their respective screening levels at borehole BH2, 3.55m below ground level.

Chemical laboratory data of the first groundwater monitoring round were compared against UK Drinking Water Supply Standards and the results were compliant with the screening levels.

A ground gas assessment has not yet been undertaken.

Remaining Environmental Monitoring

Soil Consultants are scheduled to undertake one further ground water monitoring visit at the Site on Thursday, 20 November 2014. The samples will be sent to the UKAS accredited laboratory on a standard 10 day turnaround. Results of a further five rounds of monthly ground gas monitoring are awaited. The final ground gas monitoring visit is anticipated for February 2015.

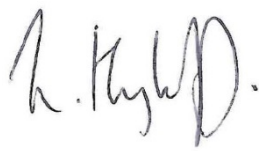
Conclusions

The assessment so far demonstrates an absence of significant contamination at the Site.

Recommendations regarding any remediation measures, if necessary, will be made once all the data are available for review and will be included in the final Environmental Quantitative Risk Assessment report that is anticipated to be issued towards the end of February 2015. Should any further ground investigation works be recommended they will be carried out following the issue of the report and during the phase 2 demolition works (which involve below ground works) scheduled for May 2015.

If you have any queries regarding the above or would like to discuss the results, please do not hesitate to contact me.

Yours sincerely

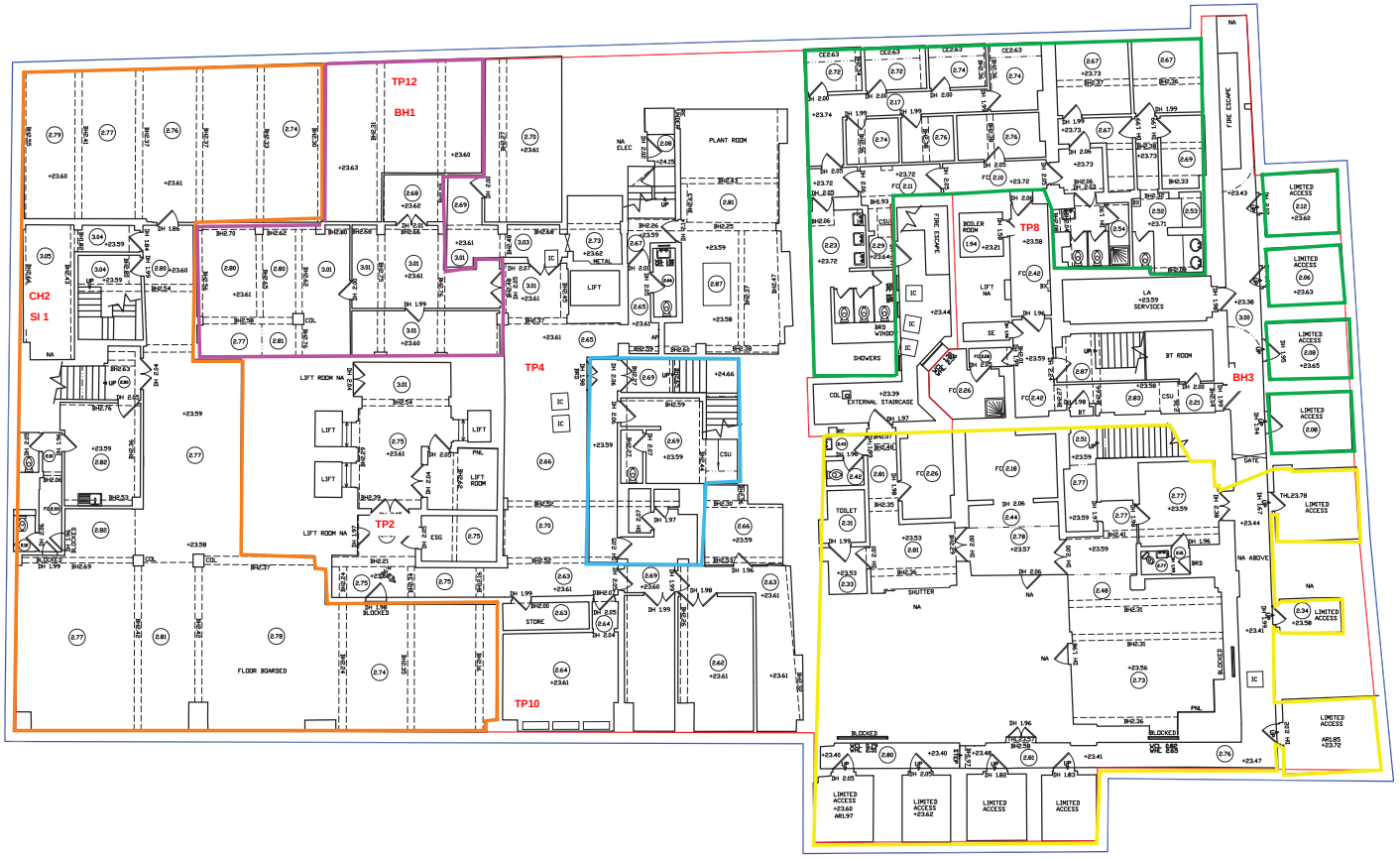


Kerstin Hagenhoff
Senior Consultant
For and On Behalf of Waterman Energy, Environment & Design Ltd

Attached:
Proposed exploratory hole location plan
Exploratory hole location plan
Exploratory hole logs
Laboratory Analysis Certificates – Soils
Laboratory Analysis Certificates - Groundwater

GEA	GIA
15,82.08m²	1,475.78m²
17,029.37ft²	15,885.16ft²

Ask Electronics:	09 Dec 2014 (notice to be served)
Time Out:	12 Aug 2014
Mr Malik - 251-256 TCR:	09 Dec 2014
Mr Malik - 257-258 TCR:	09 Dec 2014
St Giles Hotel:	09 Dec 2014 (notice to be served)



This drawing should not be scaled.

The contractor is to check all dimensions on site and inform the contract administrator/project manager of any discrepancies.

All work is to comply in every aspect with the Building Regulations, Codes of Practice and British Standards.

This drawing is to be read in conjunction with all other contract drawings and specifications.

rev	date	details	by
A	121012	ROOMS PREVIOUSLY INACCESSIBLE SURVEYED.	JL

ABBREVIATIONS

AP	Access Panel	LV	Low Volt
B	Brick	L	Light
BAL	Balcony	LP	Lamp Post
BB	Belisha Beacon	LA	Limited Access
BD	Bollard	MKR	Marker
BH	Borehole or Beam Height	NA	Not Accessible
BRD	Boarded	OP	Overlay Point
BP	Brick Pier	OHC	Overhead Cables
BRV	Brick Retaining Wall	P	Post
BX	Boxing	PNL	Panel
BT	British Telecom	PF	Picket Fence
BW	Brick Wall	PIT	Trial Pit
BWF	Barbed Wire Fence	PL	Pavement Light
C	Concrete	PM	Parking Meter
CAB	Cabinet	PRF	Post & Rail Fence
CE	Ceiling Height	PWF	Post & Wire Fence
CBW	Concrete Block Wall	R	Render
CU	Cupboard	RAD	Radiator
CL	Cover Level	RE	Recess
CLF	Chain Link Fence	RH	Ridge Height
COL	Column	RS	Road Sign
CPF	Concrete Panel Fence	RWP	Rain Water Pipe
CPS	Concrete Paving Slabs	SG	Secondary Glazing
CRW	Concrete Retaining Wall	SV	Stop VALVE
CSU	Ceiling Slopes Up	SL	Skylight
CTV	Cable Television	SP	Soil Pipe
CW	Concrete Wall	SPS	Stone Paving Slabs
DBH	Door Beam Height	SR	Service Riser
D	Door	SV	Shop Window
DHL	Door Head Level	SVS	Surface Water Sewer
DV	Dumb Waiter	TCP	Tactile Paving
EC	Electricity Cover	T	TILE
EH	Eave Height	TB	Telephone Box
EP	Electricity Pole	TL	Traffic Light
ESG	Electricity Switch Gear	UJ	Underside of Roof Joist
FC	False Ceiling	UR	Underside of Ridge Board
F/E	Fire Escape	UWP	Underside of Wall Plate
FH	Fire Hydrant	V	Vent
FL	Floor Level	VP	Vent Pipe
FP	Fireplace	W	Window
GZ	Glazing	WL	Water Level
GY	Gully	WM	Water Meter
GV	Gas Valve	WMF	Wire Mesh Fence
IC	Inspection Cover	WPF	Wooden Panel Fence
IL	Invert Level	WSL	Window SIL Level
IRF	Iron Railing Fence	WHL	Window Head Level
		WRW	Wooden Retaining Wall

Top
Banks
Bottom
Fences
Change in Surface
Edge of Vegetation
OS Data
3.28 Floor to Ceiling Height
Gate
Survey Station
+10.60 Floor Level
Tree

STATION CO-ORDINATE TABLE

Ref.	East	North	Elevation
1	529718.624	181548.321	-
2	529729.414	181531.458	-
3	529746.319	181501.634	26.379
4	529793.151	181501.150	26.438
5	529805.703	181508.847	26.612
6	529775.576	181543.717	-

NOTES

1. ALL LEVELS SHOWN ARE RELATED TO ORDNANCE SURVEY GPS DATUM.
2. ALTHOUGH CARE HAS BEEN TAKEN, DUE TO ACCESS LIMITATIONS ALL HIGH LEVEL DETAIL HAS BEEN SURVEYED REMOTELY AND NOT CHECKED BY PHYSICAL MEASUREMENTS.
4. ALL CRITICAL MEASUREMENTS MUST BE CHECKED / VERIFIED.
5. ALL CO-ORDINATES SHOWN RELATE TO AN ORDNANCE SURVEY DERIVED GRID.

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client
The Bedford Estate c/o McAslan

project
251 - 258 TOTTENHAM COURT RD. & 1 BEDFORD AVENUE

drawing
BASEMENT FLOOR PLAN

drawn	checked	proj./drawing no.	rev.
		EL01	

scale at A1	date
1:100	MAY 2011

GEA	GIA
15,82.08m²	1,475.78m²
17,029.37ft²	15,885.16ft²

Ask Electronics:	09 Dec 2014 (notice to be served)
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NOTES

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rev	date	details	by
A	131212	ROOMS PREVIOUSLY INACCESSIBLE SURVEYED	A

client: The Bedford Estate c/o McAslan

project: 251 - 258 TOTTENHAM COURT RD. & 1 BEDFORD AVENUE

drawing: BASEMENT FLOOR PLAN

drawn	checked	job / drawing no.	rev.
scale at A1: 1:100	date: MAY 2011	EL01	

Site & Location:	**One Bedford Avenue** **Bedford Avenue, Camden, London WC1B 3AU**	Borehole No:	**BH1**
Client:	**Exemplar Properties (Bedford) Ltd**	Coords (E/N): 529772.00 - 181542.00	Sheet 1 of 3
Engineer:	**Waterman Structures Ltd**	Ground Level (m): 26.75	Report No: 9661/JRCB

Progress & Observations	Samples & Tests Type	Samples & Tests Depth (m)	Field Test Results	Strata Depth (m)	Strata Level (m)	Legend	Strata Description	Backfill / Installation
BH commenced: 11/09/2014							ASPHALT [100mm] over reinforced CONCRETE	
BH/casing dia: 150mm				0.40	26.35		Basement VOID	
				3.15	23.60		CONCRETE with 50mm bituminous layer at 3.35m	
				3.55	23.20		MADE GROUND: soft dark brown/grey, brown and pale brown slightly silty gravelly clay with brick, concrete fragments and occasional ash. Locally sandy	
	E	3.70						
	E	4.05						
	B	4.05					*...slight hydrocarbon odour*	
	SPT/S	4.05	N=4 N60=4					
	D	4.75						
	D	5.05						
	SPT/S	5.05	N=3 N60=3					
Water inflow at 5.90m ['fast']; sealed at 7.65m				5.90	20.85		Dense becoming medium dense brown and brown/orange sandy to very sandy fine to coarse, subangular to subrounded flint GRAVEL. Locally grades to gravelly sand	
	E	6.05						
	SPT/C	6.05	N=31					
	B	6.05	N60=31					
Water added to assist drilling between 5.90m and 7.40m								
	SPT/C	7.05	N=21					
	B	7.05	N60=21					
				7.40	19.35		Stiff brown becoming grey fissured slightly silty CLAY with orange/ brown staining in upper levels and occasional partings of pale grey silt. Rare pyrite nodules, selenite crystals and shell fragments	
	D	7.55						
BH cased to 7.90m								
	D	7.95						
	D	8.05						
	SPT/S	8.05	N=25 N60=25					
End of shift: 11/09/2014 BH depth: 8.50m Casing depth: 7.65m Water depth: Dry Start of shift: 15/09/2014 Water depth: Dry								
	D	9.00						
Pressuremeter test at 9.80m depth								
				10.00	16.75		Continued on next sheet	

Key: U = Undisturbed B = Bulk D = Small disturbed W = Water E = glass jar & plastic tub SPT/S = split spoon SPT/C = solid cone HV = Hand Vane [kPa]

PP = Pocket Penetrometer [kg/cm2] PID = Photo Ionisation Detector [ppmv] | Borehole type: Cable Percussion

Remarks :- Self-boring pressuremeter tests carried out by Cambridge Insitu at at 9.80m, 15.30m, 20.00m and 25.00m

Borehole No: **BH1**

[* = full SPT penetration not achieved - see summary sheet]

Site & Location:	**One Bedford Avenue** **Bedford Avenue, Camden, London WC1B 3AU**		Borehole No:	**BH1**
Client:	**Exemplar Properties (Bedford) Ltd**	Coords (E/N):	529772.00 - 181542.00	Sheet 2 of 3
Engineer:	**Waterman Structures Ltd**	Ground Level (m):	26.75	Report No: 9661/JRCB

Progress & Observations	Samples & Tests Type	Samples & Tests Depth (m)	Field Test Results	Strata Depth (m)	Strata Level (m)	Legend	Strata Description	Backfill / Installation
							Stiff grey fissured slightly silty CLAY with occasional partings of pale grey silt and small pockets of fine sand. Rare pyrite nodules and shell fragments	
	U	10.55						
Water inflow at 11.55m ['seepage']; not sealed Chiselling on claystone from 11.55m to 11.70m for 0.5hrs	D	11.50					....claystone nodule between 11.55m and 11.70m	
	D	12.05						
	SPT/S	12.05	N=26 N60=26					
	D	13.00						
	U	13.55						
	D	14.50						
End of shift: 15/09/2014 BH depth: 14.80m Casing depth: 7.90m Water depth: Dry Start of shift: 16/09/2014 Water depth: Dry Pressuremeter test at 15.30m depth				15.00	11.75		Very stiff grey fissured slightly silty CLAY occasional partings of pale grey silt. Locally silty with rare pyrite nodules	
	D	16.05						
	SPT/S	16.05	N=32 N60=32					
	D	17.00						
	U	17.55						
				18.00	8.75		Very stiff grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty with rare pyrite nodules	
	D	18.50						
	SPT/S	19.05	N=38					
	D	19.05	N60=38					
Pressuremeter test at 20.00m depth				20.00	6.75		Continued on next sheet	

Key: U = Undisturbed B = Bulk D = Small disturbed W = Water E = glass jar & plastic tub SPT/S = split spoon SPT/C = solid cone HV = Hand Vane [kPa]

PP = Pocket Penetrometer [kg/cm2] PID = Photo Ionisation Detector [ppmv] | Borehole type: Cable Percussion

Remarks :- Self-boring pressuremeter tests carried out by Cambridge Insitu at at 9.80m, 15.30m, 20.00m and 25.00m

Borehole No: **BH1**

[* = full SPT penetration not achieved - see summary sheet]

Site & Location:	**One Bedford Avenue** **Bedford Avenue, Camden, London WC1B 3AU**	Borehole No:	**BH1**
Client:	**Exemplar Properties (Bedford) Ltd**	Coords (E/N): 529772.00 - 181542.00	Sheet 3 of 3
Engineer:	**Waterman Structures Ltd**	Ground Level (m): 26.75	Report No: 9661/JRCB

Progress & Observations	Samples & Tests Type	Samples & Tests Depth (m)	Field Test Results	Strata Depth (m)	Strata Level (m)	Legend	Strata Description	Backfill / Installation
Water inflow at 20.00m ['seepage']; not sealed								
	D	20.50					Very stiff grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty with rare pyrite nodules	
	U	21.05						
	D	22.00		22.00	4.75		Very stiff grey fissured silty CLAY occasional partings of pale grey silt. Locally sandy with pockets/bands of fine grey sand	
	D	22.55						
	SPT/S	22.55	N=44 N60=44					
	D	23.50						
	D	23.90		23.80	2.95		Very stiff brown, blue/grey and red/brown mottled slightly silty CLAY with occasional partings of silt	
Pressuremeter test at 25.00m depth	D	24.50						
	U	24.55						
BH complete: 16/09/2014 BH depth: 25.00m Casing depth: 7.90m Water depth: Dry				25.00	1.75		End of borehole at 25.00 m	

Key: U = Undisturbed B = Bulk D = Small disturbed W = Water E = glass jar & plastic tub SPT/S = split spoon SPT/C = solid cone HV = Hand Vane [kPa]

PP = Pocket Penetrometer [kg/cm2] PID = Photo Ionisation Detector [ppmv] | Borehole type: Cable Percussion

Remarks :- Self-boring pressuremeter tests carried out by Cambridge Insitu at at 9.80m, 15.30m, 20.00m and 25.00m

Borehole No: **BH1**

[* = full SPT penetration not achieved - see summary sheet]

Site & Location:	**One Bedford Avenue** **Bedford Avenue, Camden, London WC1B 3AU**	Borehole No:	**BH2**
Client:	**Exemplar Properties (Bedford) Ltd**	Coords (E/N): 529788.00 - 181515.00	Sheet 1 of 3
Engineer:	**Waterman Structures Ltd**	Ground Level (m): 26.80	Report No: 9661/JRCB

Progress & Observations	Samples & Tests Type	Samples & Tests Depth (m)	Field Test Results	Strata Depth (m)	Strata Level (m)	Legend	Strata Description	Backfill / Installation
BH commenced: 23/09/2014				0.03	26.77		Steel GRID/MESH Basement VOID	
BH/casing dia: 150mm								
				3.35	23.45		CONCRETE	
	E	3.55		3.55	23.25		MADE GROUND: soft brown/orange slightly silty sandy gravelly to very gravelly clay with brick fragments and occasional ash	
	D	3.75						
	D	4.00						
	SPT/S	4.00	N>50*					
Chiselling on claystone from 4.35m to 4.55m for 1hrs Water added to assist drilling from 4.55m to 7.00m				4.35	22.45		CONCRETE	
				4.55	22.25		Very dense becoming medium dense brown and brown/orange sandy to very sandy fine to coarse, subangular to subrounded flint GRAVEL. Locally grades to gravelly sand	
	B	5.00						
	SPT/C	5.00	N>50*					
	E	5.00						
Water added to assist drilling between 4.55m and 7.00m								
	B	6.00						
	SPT/C	6.00	N>50*					
Water inflow at 6.50m ['fast']; sealed at 7.90m								
	SPT/C	7.00	N=17 N60=17					
				7.25	19.55		Stiff brown becoming grey fissured slightly silty CLAY with orange/ brown staining in upper levels. Occasional partings of pale grey silt and small pockets of grey fine sand. Rare pyrite nodules, selenite crystals and shell fragments	
	D	7.45						
	D	7.65						
	SPT/S	7.65	N=21 N60=21					
BH cased to 7.90m								
	D	8.50						
	U	9.05						
	D	10.00		10.00	16.80		Continued on next sheet	

Key: U = Undisturbed B = Bulk D = Small disturbed W = Water E = glass jar & plastic tub SPT/S = split spoon SPT/C = solid cone HV = Hand Vane [kPa]

PP = Pocket Penetrometer [kg/cm2] PID = Photo Ionisation Detector [ppmv] | Borehole type: Cable Percussion

Remarks :-

Borehole No: **BH2**

[* = full SPT penetration not achieved - see summary sheet]

Site & Location:	**One Bedford Avenue** **Bedford Avenue, Camden, London WC1B 3AU**	Borehole No:	**BH2**
Client:	**Exemplar Properties (Bedford) Ltd**	Coords (E/N): 529788.00 - 181515.00	Sheet 2 of 3
Engineer:	**Waterman Structures Ltd**	Ground Level (m): 26.80	Report No: 9661/JRCB

Progress & Observations	Samples & Tests Type	Samples & Tests Depth (m)	Field Test Results	Strata Depth (m)	Strata Level (m)	Legend	Strata Description	Backfill / Installation
	SPT/S D	10.55 10.55	N=26 N60=26				Stiff grey fissured slightly silty CLAY with occasional partings of pale grey silt and small pockets of fine sand. Rare pyrite nodules and shell fragments	
End of shift: 23/09/2014 BH depth: 11.00m Casing depth: 7.90m Water depth: Dry Start of shift: 24/09/2014 Water depth: Dry Chiselling on claystone from 11.70m to 11.85m for 0.5hrs	D	11.50					*....claystone nodule between 11.70m and 11.85m*	
	U	12.05						
	D	13.00		13.00	13.80		Very stiff grey fissured slightly silty CLAY occasional partings of pale grey silt and silty fine sand. Locally silty with rare pyrite nodules	
	SPT/S D	13.55 13.55	N=31 N60=31					
	D	14.50						
	U	15.05						
	D	16.00						
	SPT/S D	16.55 16.55	N=35 N60=35					
Water inflow at 17.00m ['seepage']; not sealed				16.90	9.90		Very stiff grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty with rare pyrite nodules	
	D	17.50						
	U	18.05						
	D	19.00						
	D SPT/S	19.55 19.55	N=40 N60=40					
				20.00	6.80		Continued on next sheet	

Key: U = Undisturbed B = Bulk D = Small disturbed W = Water E = glass jar & plastic tub SPT/S = split spoon SPT/C = solid cone HV = Hand Vane [kPa]

PP = Pocket Penetrometer [kg/cm2] PID = Photo Ionisation Detector [ppmv] | Borehole type: Cable Percussion

Remarks :-

Borehole No: **BH2**

[* = full SPT penetration not achieved - see summary sheet]

Site & Location:	**One Bedford Avenue** **Bedford Avenue, Camden, London WC1B 3AU**	Borehole No:	**BH2**
Client:	**Exemplar Properties (Bedford) Ltd**	Coords (E/N): 529788.00 - 181515.00	Sheet 3 of 3
Engineer:	**Waterman Structures Ltd**	Ground Level (m): 26.80	Report No: 9661/JRCB

Progress & Observations	Samples & Tests Type	Samples & Tests Depth (m)	Field Test Results	Strata Depth (m)	Strata Level (m)	Legend	Strata Description	Backfill / Installation
	D	20.50					Very stiff grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty with rare pyrite nodules	
	U	21.05						
	D	22.00		21.90	4.90		Very stiff grey fissured silty CLAY occasional partings of pale grey silt. Locally very silty and sandy with pockets/bands of fine grey sand	
	SPT/S	22.55	N=42					
	D	22.55	N60=42					
	D	23.75						
	D	24.45		24.35	2.45		Very stiff brown, blue/grey and red/brown mottled slightly silty CLAY with partings of silt	
	D	24.55						
End of shift: 24/09/2014 BH depth: 25.00m Casing depth: 7.90m Water depth: Dry Start of shift: 25/09/2014 Water depth: Dry	SPT/S	24.55	N=60 N60=59					
	D	25.75						
	D	26.30		26.25	0.55		Very stiff grey and brown silty locally sandy CLAY with occasional bands/pockets of grey silty fine sand	
	SPT/S	26.55	N>50*					
	D	26.55						
Water inflow at 27.75m ['fast']; not sealed	D	27.80						
	D	28.25						
	SPT/S	28.55	N=71					
	D	28.55	N60=70					
BH complete: 25/09/2014 BH depth: 29.00m Casing depth: 7.90m Water depth: 27.00m				29.00	-2.20		End of borehole at 29.00 m	

Key: U = Undisturbed B = Bulk D = Small disturbed W = Water E = glass jar & plastic tub SPT/S = split spoon SPT/C = solid cone HV = Hand Vane [kPa]

PP = Pocket Penetrometer [kg/cm2] PID = Photo Ionisation Detector [ppmv] | Borehole type: Cable Percussion

Remarks :-

Borehole No: **BH2**

[* = full SPT penetration not achieved - see summary sheet]

Site & Location	**One Bedford Avenue** **Bedford Avenue, Camden, London WC1B 3AU**	Report No:	**9661/JRCB**

STANDARD PENETRATION TEST SUMMARY

BH ID	Depth [m]	Test type	'N' value and blow-counts [Seating blows/Test blows]	N_{60}	N_{60} - ext	Casing depth [m]	Water depth [m]	Remarks
BH1	4.05	S	N = 4 :1 1/ 1 0 1 2	4		4.05	Dry	
BH1	5.05	S	N = 3 :1 0/ 0 0 1 2	3		5.05	Dry	
BH1	6.05	C	N = 31 :5 6/ 7 7 8 9	31		6.05	5.50	Water added
BH1	7.05	C	N = 21 :4 4/ 7 6 4 4	21		7.06	5.50	Water added
BH1	8.05	S	N = 25 :3 4/ 5 6 7 7	25		7.90	Dry	
BH1	12.05	S	N = 26 :2 2/ 5 6 7 8	26		7.90	Dry	
BH1	16.05	S	N = 32 :3 4/ 7 8 8 9	32		7.90	Dry	
BH1	19.05	S	N = 38 :4 5/ 8 9 10 11	38		7.90	Dry	
BH1	22.55	S	N = 44 :5 6/ 9 10 12 13	44		7.90	Dry	
BH2	4.00	S	67 :2 3/ 7 10 50	>50*	90**	4.00	Dry	
BH2	5.00	C	57 :15 14/ 25 32	>50*	115**	5.00	Dry	
BH2	6.00	C	57 :6 6/ 13 19 25	>50*	75**	6.00	Dry	
BH2	7.00	C	N = 17 :3 3/ 5 4 4 4	17		7.00	6.50	Water added
BH2	7.65	S	N = 21 :2 3/ 4 5 5 7	21		7.90	Dry	
BH2	10.55	S	N = 26 :3 3/ 5 6 7 8	26		7.90	Dry	
BH2	13.55	S	N = 31 :3 3/ 6 7 9 9	31		7.90	Dry	
BH2	16.55	S	N = 35 :3 4/ 8 8 9 10	35		7.90	Dry	
BH2	19.55	S	N = 40 :4 5/ 9 9 10 12	40		7.90	Dry	
BH2	22.55	S	N = 42 :4 5/ 8 10 12 12	42		7.90	Dry	
BH2	24.55	S	N = 60 :7 8/ 12 13 16 19	59		7.90	Dry	
BH2	26.55	S	77 :9 9/ 20 25 32	>50*	105**	7.90	Dry	
BH2	28.55	S	N = 71 :7 8/ 15 17 18 21	70		7.90	27.00	

Standard Penetration Test : BS EN ISO 22476:2005 Part 3 Hammer Energy Ratio, Er = 59.4%

* where full penetration not achieved, the reported N_{60} is based on maximum uncorrected blow-counts of 50

** extrapolated N_{60} value where full penetration not achieved - this is indicative only and should be used with caution

Soil Consultants

Site Location:	**One Bedford Avenue, London, WC1B 3AU**	Ref: **9661/JRCB**

Results of Ground Gas/Groundwater Monitoring

Date:	02 Oct 14		
Time [24hr]:	10:20		
Barometric pressure:	1030		
a] Trend [24hrs]:	Falling		
b] At start [mB]:	1030		
c] At end [mB]:	1029		
Recorded by:	MR		
Surface ground conditions:	Dry		
Weather conditions:	Mild, Cloudy		
Ambient air temp [°C]:	16		

Monitoring equipment

Instrument: GA2000 Plus MC08/0126/00

Calibration check details: Within monitor tolerance

Next calibration date: 17/10/2014

Notes:

1] Barometric pressure trend and ambient air temperature is recorded from BBC weather website on the day of the monitoring visit

2] Calibration check is performed at start of monitoring against ambient air and also periodically with a 5% CH4, 5% CO2 and 6% O2 gas mixture

3] CH4 = methane; CO2 = carbon dioxide; CO = carbon monoxide; O2 = oxygen; H2S = hydrogen sulphide

Results

Date	Time [24hr]	Borehole	GW Depth	Depth to Base	CH4 [%]		CO2 [%]		O2 [%]		Highest [ppm]		Emission Rate	Relative Pressure
			[m]	[m]	Max	Steady	Max	Steady	Min	Steady	CO	H_2S	[l/hr]	[mb]
02/10/2014	11:15	BH1	3.30	4.29	0	0	0.8	0.7	19.3	19.6	0	0	0.00	0.00
		BH2 (50mm)	3.46	4.50	0	0	0	0	20.5	20.5	0	0	0.00	0.00
		BH2 (19mm)	21.89	25.37	-	-	-	-	-	-	-	-	-	-

Soil Consultants

Site & Location: **One Bedford Avenue, Bedford Avenue, Camden, London WC1B 3AU**

Report No: **9661/JRCB**

SUMMARY OF CLASSIFICATION TEST RESULTS

BH ID	Depth (m)	Type	w (%)	w_L (%)	w_P (%)	Pass 425 (%)	I_P (%)	Mod I_P (%)	I_L (%)	LOI (%)	Description
BH1	7.95	D	27								Brown fissured slightly silty CLAY with orange/brown staining in upper levels and occasional partings of pale grey silt
BH1	9.00	D	26								Grey fissured slightly silty CLAY with orange/brown staining in upper levels and occasional partings of pale grey silt
BH1	11.50	D	27								Grey fissured slightly silty CLAY with occasional partings of pale grey silt and small pockets of fine sand
BH1	13.00	D	23								Grey fissured slightly silty CLAY with occasional partings of pale grey silt and small pockets of fine sand
BH1	13.55	U	25	71	27	>95	44		-0.06		Grey fissured slightly silty CLAY with occasional partings of pale grey silt and small pockets of fine sand
BH1	17.00	D	29								Grey fissured slightly silty CLAY occasional partings of pale grey silt. Locally silty
BH1	17.55	U	24	71	26	>95	45		-0.05		Grey fissured slightly silty CLAY occasional partings of pale grey silt. Locally silty
BH1	18.50	D	20								Grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty
BH1	20.50	D	25								Grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty
BH1	21.05	U	22	61	24	>95	37		-0.05		Grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty
BH1	22.00	D	24	67	25	>95	42		-0.04		Grey fissured silty CLAY occasional partings of pale grey silt. Locally sandy with pockets/bands of fine grey sand
BH1	23.50	D	19	68	18	>95	50		0.03		Grey fissured silty CLAY occasional partings of pale grey silt. Locally sandy with pockets/bands of fine grey sand
BH1	24.55	U	20	53	16	>95	37		0.10		Brown, blue/grey and red/brown mottled slightly silty CLAY with occasional partings of silt
BH2	10.00	D	22								Grey fissured slightly silty CLAY with occasional partings of pale grey silt and small pockets of fine sand
BH2	11.50	D	24								Grey fissured slightly silty CLAY with occasional partings of pale grey silt and small pockets of fine sand
BH2	12.05	U	28	68	29	>95	39		-0.03		Grey fissured slightly silty CLAY with occasional partings of pale grey silt and small pockets of fine sand
BH2	13.00	D	20								Grey fissured slightly silty CLAY occasional partings of pale grey silt and silty fine sand. Locally silty
BH2	14.50	D	20								Grey fissured slightly silty CLAY occasional partings of pale grey silt and silty fine sand. Locally silty
BH2	15.05	U	25	72	26	>95	46		-0.03		Grey fissured slightly silty CLAY occasional partings of pale grey silt and silty fine sand. Locally silty

Testing in accordance with BS EN ISO 17892 unless specified otherwise

Date: 25 Feb 14

Modified Plasticity Index calculated in accordance with NHBC Standards Chapter 4.2 (reported if %passing 425mm <95%)

Percent passing 425μm: by estimation, by hand* or by sieving**

Soil Consultants

Site & Location	**One Bedford Avenue** **Bedford Avenue, Camden, London WC1B 3AU**	Report No:	**9661/JRCB**

SUMMARY OF CLASSIFICATION TEST RESULTS

BH ID	Depth (m)	Type	w (%)	w_L (%)	w_P (%)	Pass 425 (%)	I_P (%)	Mod I_P (%)	I_L (%)	LOI (%)	Description
BH2	16.00	D	20								Grey fissured slightly silty CLAY occasional partings of pale grey silt and silty fine sand. Locally silty
BH2	17.50	D	22								Grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty
BH2	18.05	U	23								Grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty
BH2	19.00	D	18								Grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty
BH2	20.50	D	19	79	26	>95	53		-0.13		Grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty
BH2	21.05	U	25	76	29	>95	47		-0.10		Grey fissured slightly silty CLAY occasional pockets of pale grey silty fine sand and silt partings. Locally silty
BH2	22.00	D	20	71	21	>95	50		-0.02		Grey fissured silty CLAY occasional partings of pale grey silt. Locally very silty and sandy with pockets/bands of fine grey sand
BH2	23.75	D	18	69	19	>95	50		-0.03		Grey fissured silty CLAY occasional partings of pale grey silt. Locally very silty and sandy with pockets/bands of fine grey sand
BH2	24.45	D	15	59	20	>95	39		-0.15		Brown, blue/grey and red/brown mottled slightly silty CLAY with partings of silt
BH2	25.75	D	16	62	21	>95	41		-0.13		Brown, blue/grey and red/brown mottled slightly silty CLAY with partings of silt
BH2	26.30	D	9	26	11	>95	15		-0.14		Grey and brown silty sandy CLAY/very silty fine SAND [interbedded]
BH2	28.25	D	16	54	19	>95	35		-0.10		Grey and brown silty locally sandy CLAY with occasional bands/pockets of grey silty fine sand

Testing in accordance with BS EN ISO 17892 unless specified otherwise

Date: 25 Feb 14

Modified Plasticity Index calculated in accordance with NHBC Standards Chapter 4.2 (reported if %passing 425mm <95%)

Percent passing 425μm: by estimation, by hand* or by sieving**

Site	One Bedford Avenue	Report No:	9661/JRCB
Location	Bedford Avenue, Camden, London WC1B 3AU		

SUMMARY OF UNDRAINED SHEAR STRENGTH TEST RESULTS

BH ID	Depth [m]	Moisture content [%]	Bulk density [Mg/m^3]	Dry density [Mg/m^3]	Cell pressure [kPa]	$(\sigma_1-\sigma_3)_f$ [kPa]	Failure strain [%]	Failure mode	Undrained cohesion [kPa]	Remarks
BH1	13.55	25	2.03	1.63	270	498	3.00	B	249	
BH1	17.55	24	2.03	1.64	350	421	3.00	B	211	
BH1	21.05	22	2.09	1.71	420	778	4.50	B	389	
BH2	12.05	28	1.99	1.56	240	226	2.50	I	113	
BH2	15.05	25	2.01	1.61	300	295	2.50	B	148	
BH2	18.05	23	2.05	1.66	360	402	2.50	B	201	
BH2	21.05	25	2.04	1.64	420	347	2.00	B	174	

Testing in accordance with BS EN ISO 17892 UU = unconsolidated, undrained; MUU = multistage, unconsolidated, ur Date: 06 October 14

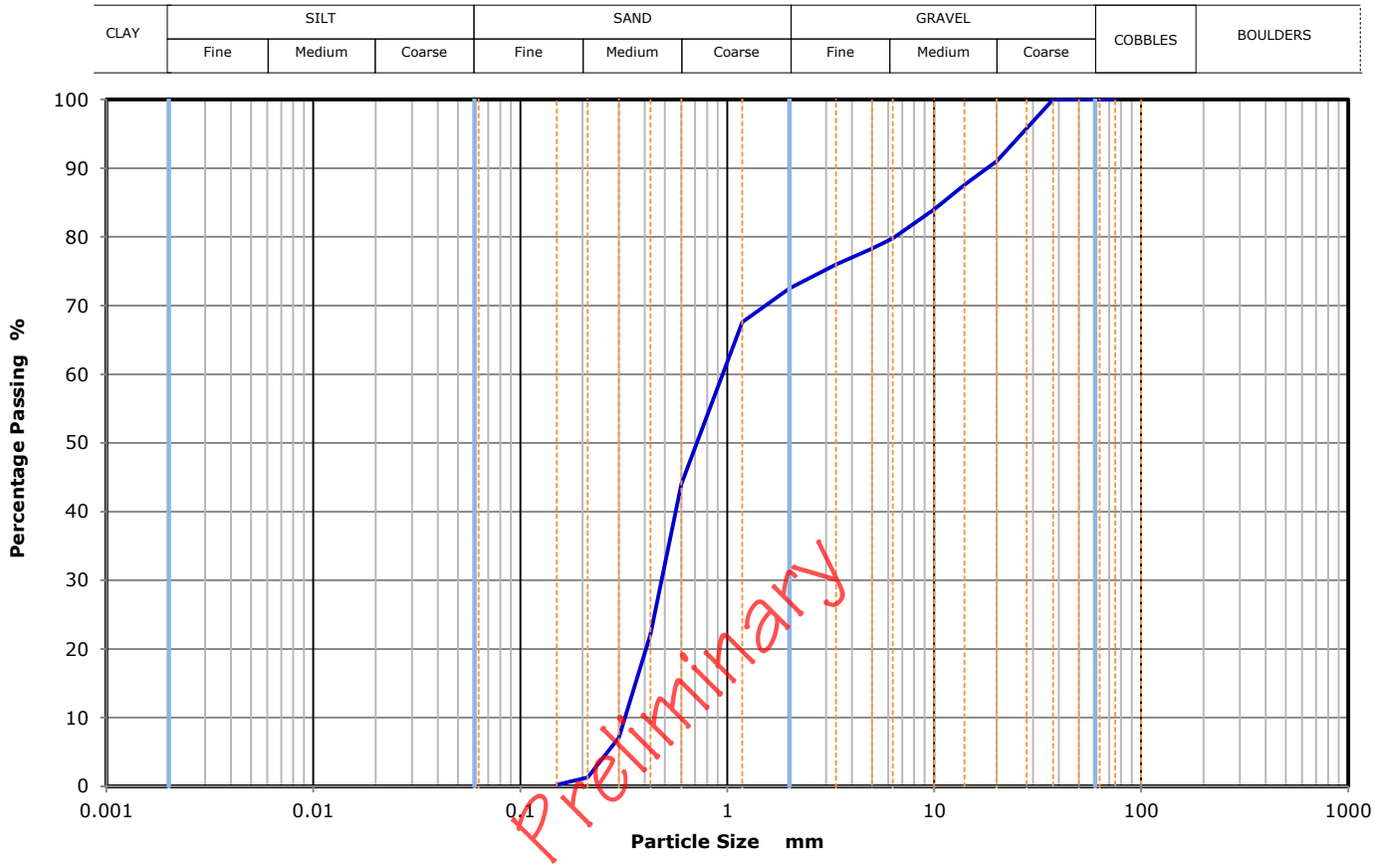
Unless stated otherwise: Rate of strain = 2mm/min, Standard latex membrame used with thickness = 0.5mm

Failure modes: B = brittle, I = intermediate, P = plastic

Site	**One Bedford Avenue**	Report No:	**9661/JRCB**
Location	**Bedford Avenue, Camden, London WC1B 3AU**		

PARTICLE SIZE DISTRIBUTION

Hole ID: **BH1** Depth [m]: **6.05**	Description: **Brown/orange gravelly fine to coarse SAND**



Sieving	
Size [mm]	% passing
75	100
63	100
50	100
37.5	100
28	95.8
20	91
14	87.6
10	84
6.3	79.8
5	78.3
3.35	76
2	72.5
1.18	67.6
0.6	44
0.425	22.1
0.3	7.1
0.212	1.3
0.15	0.2
0.063	#N/A

Sample proportions	%
Cobbles	0
Gravel	28
Sand	73
Fines <0.063mm	0

Grading analysis		
D60	mm	0.9
D30	mm	0.5
D10	mm	0.3
Uniformity Coefficient		3.0
Curvature Coefficient		0.8

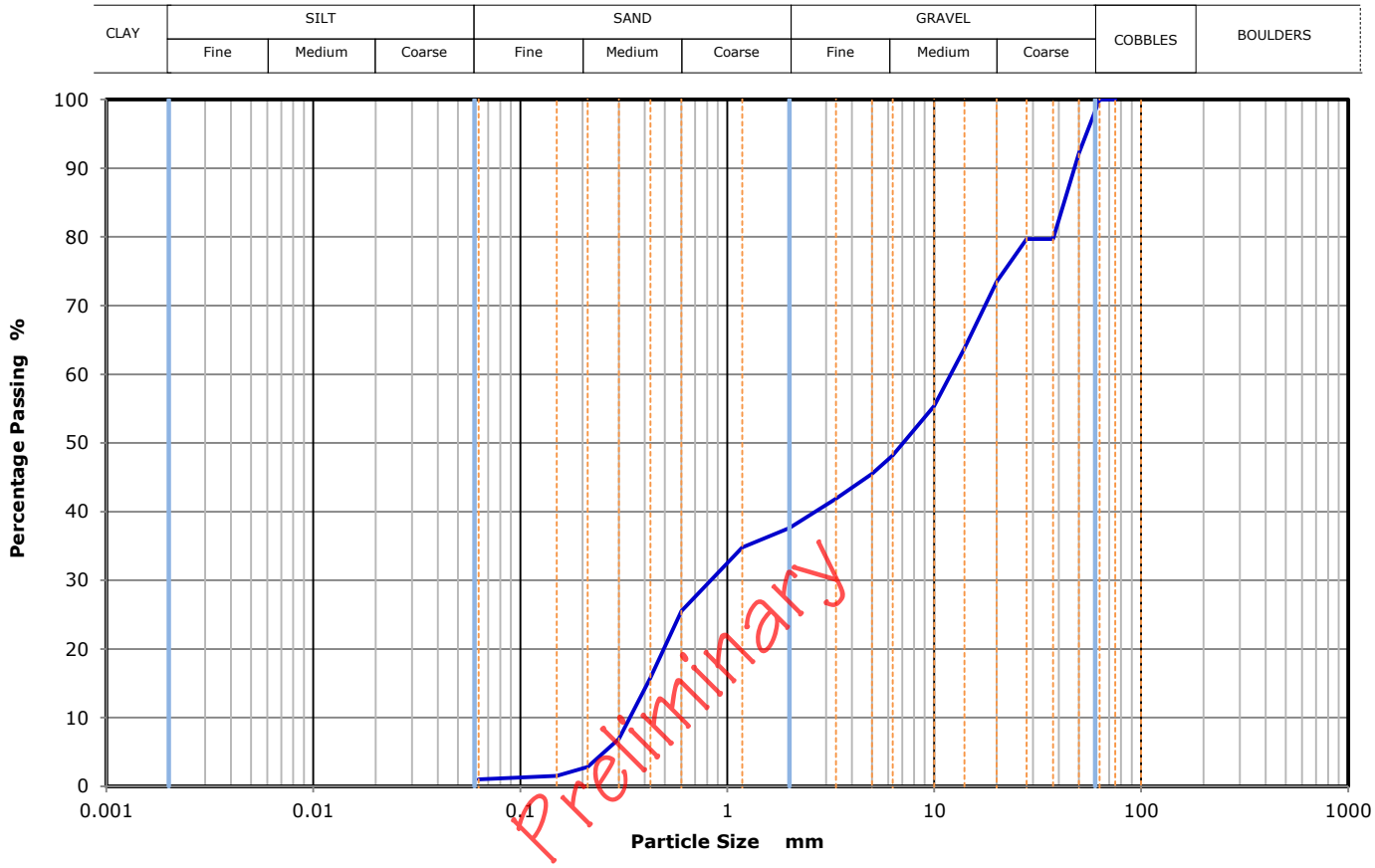
Test method and date	
Testing in accordance with BS EN ISO 17892:	
Wet sieving method	
Reporting date:	01 Oct 14

Soil Consultants

Site	**One Bedford Avenue**	Report No:	**9661/JRCB**
Location	**Bedford Avenue, Camden, London WC1B 3AU**		

PARTICLE SIZE DISTRIBUTION

Hole ID: **BH1** Depth [m]: **7.05**	Description: **Brown/oranfe very sandy fine to coarse flint GRAVEL**



Sieving	
Size [mm]	% passing
75	100
63	100
50	92.2
37.5	79.7
28	79.7
20	73.5
14	63.8
10	55.4
6.3	48.2
5	45.5
3.35	41.9
2	37.6
1.18	34.8
0.6	25.5
0.425	15.8
0.3	6.9
0.212	2.8
0.15	1.5
0.063	1

Sample proportions	%
Cobbles	0
Gravel	62
Sand	37
Fines <0.063mm	1

Grading analysis		
D60	mm	12.0
D30	mm	0.8
D10	mm	0.3
Uniformity Coefficient		35.5
Curvature Coefficient		0.2

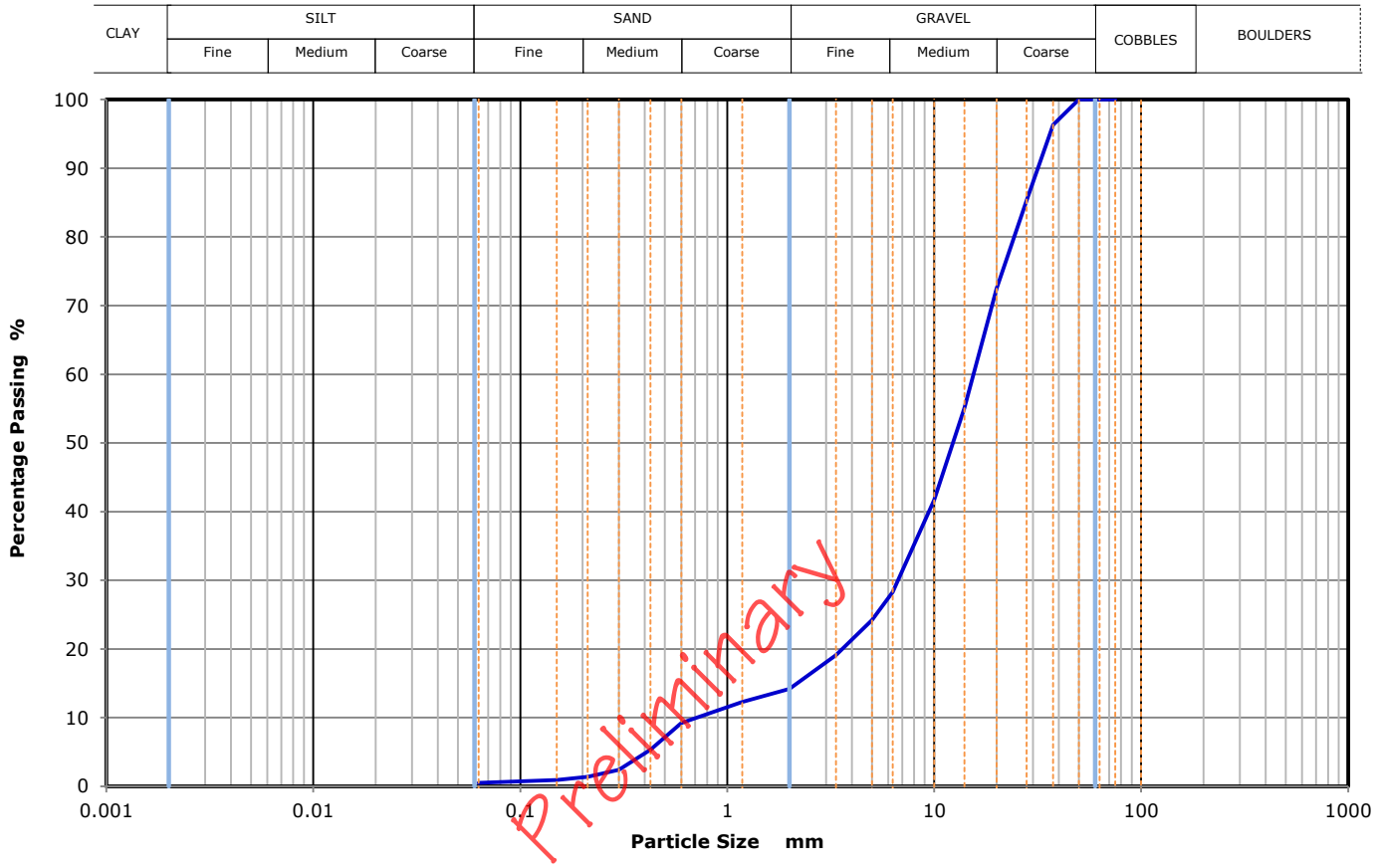
Test method and date	
Testing in accordance with BS EN ISO 17892:	
Wet sieving method	
Reporting date:	01 Oct 14

Soil Consultants

Site	**One Bedford Avenue**	Report No:	**9661/JRCB**
Location	**Bedford Avenue, Camden, London WC1B 3AU**		

PARTICLE SIZE DISTRIBUTION

Hole ID: **BH2** Depth [m]: **5.00**	Description: **Brown/orange sandy fine to coarse flint GRAVEL**



Sieving	
Size [mm]	% passing
75	100
63	100
50	100
37.5	96.3
28	85.3
20	72.5
14	55.1
10	41.7
6.3	28.3
5	24.2
3.35	19.1
2	14.2
1.18	12.3
0.6	9.2
0.425	5.3
0.3	2.4
0.212	1.4
0.15	0.9
0.063	0.5

Sample proportions	%
Cobbles	0
Gravel	86
Sand	14
Fines <0.063mm	1

Grading analysis		
D60	mm	15.5
D30	mm	6.7
D10	mm	0.7
Uniformity Coefficient		21.7
Curvature Coefficient		4.0

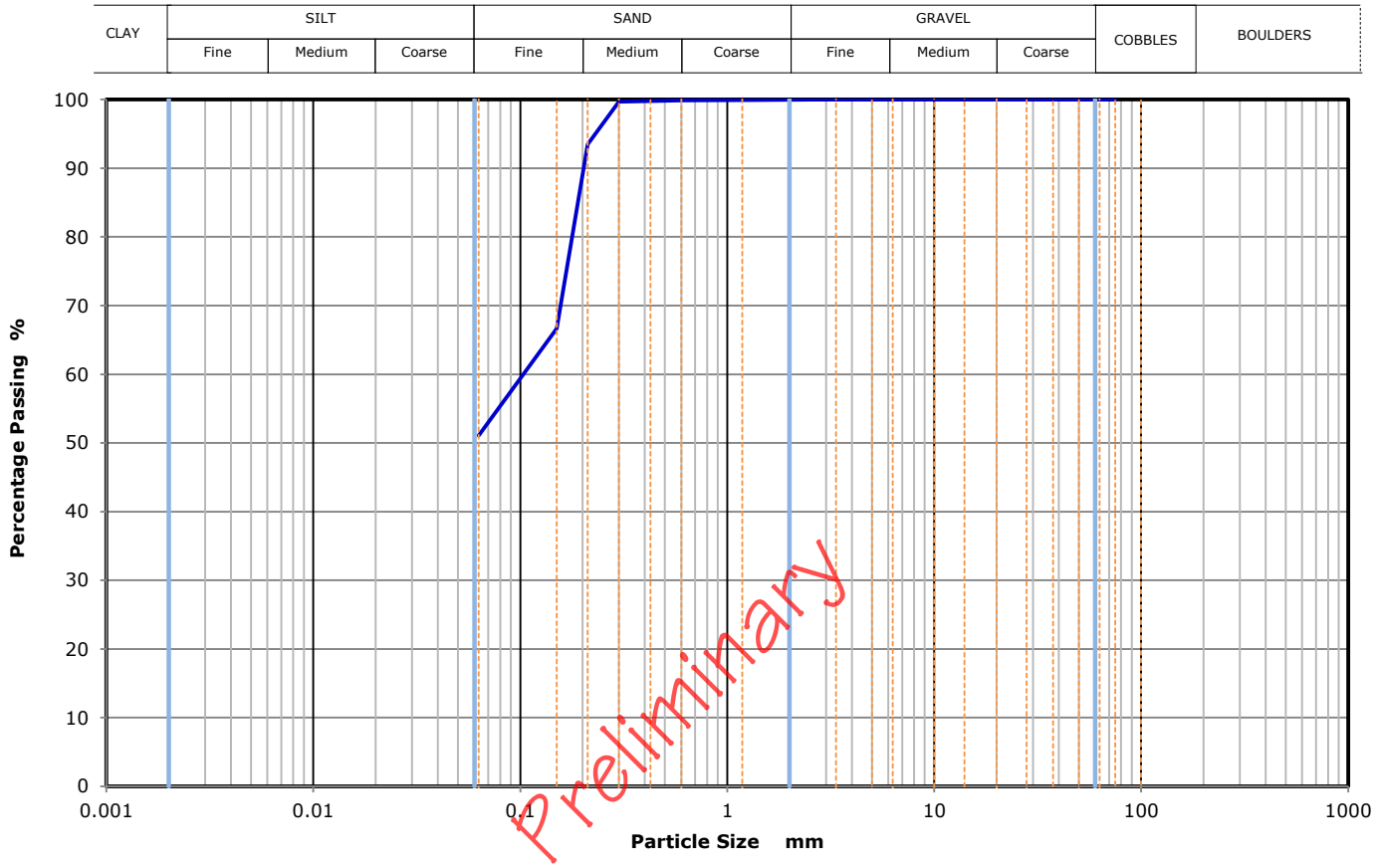
Test method and date	
Testing in accordance with BS EN ISO 17892:	
Wet sieving method	
Reporting date:	01 Oct 14

Soil Consultants

Site	**One Bedford Avenue**	Report No:	**9661/JRCB**
Location	**Bedford Avenue, Camden, London WC1B 3AU**		

PARTICLE SIZE DISTRIBUTION

Hole ID: **BH2** Depth [m]: **27.80**	Description: **Brown/grey silty sandy CLAY with bands/pockets of silty fine sand**



Sieving	
Size [mm]	% passing
75	100
63	100
50	100
37.5	100
28	100
20	100
14	100
10	100
6.3	100
5	100
3.35	100
2	99.98
1.18	99.92
0.6	99.86
0.425	99.78
0.3	99.68
0.212	93.48
0.15	66.68
0.063	51.08

Sample proportions	%
Cobbles	0
Gravel	0
Sand	49
Fines <0.063mm	51

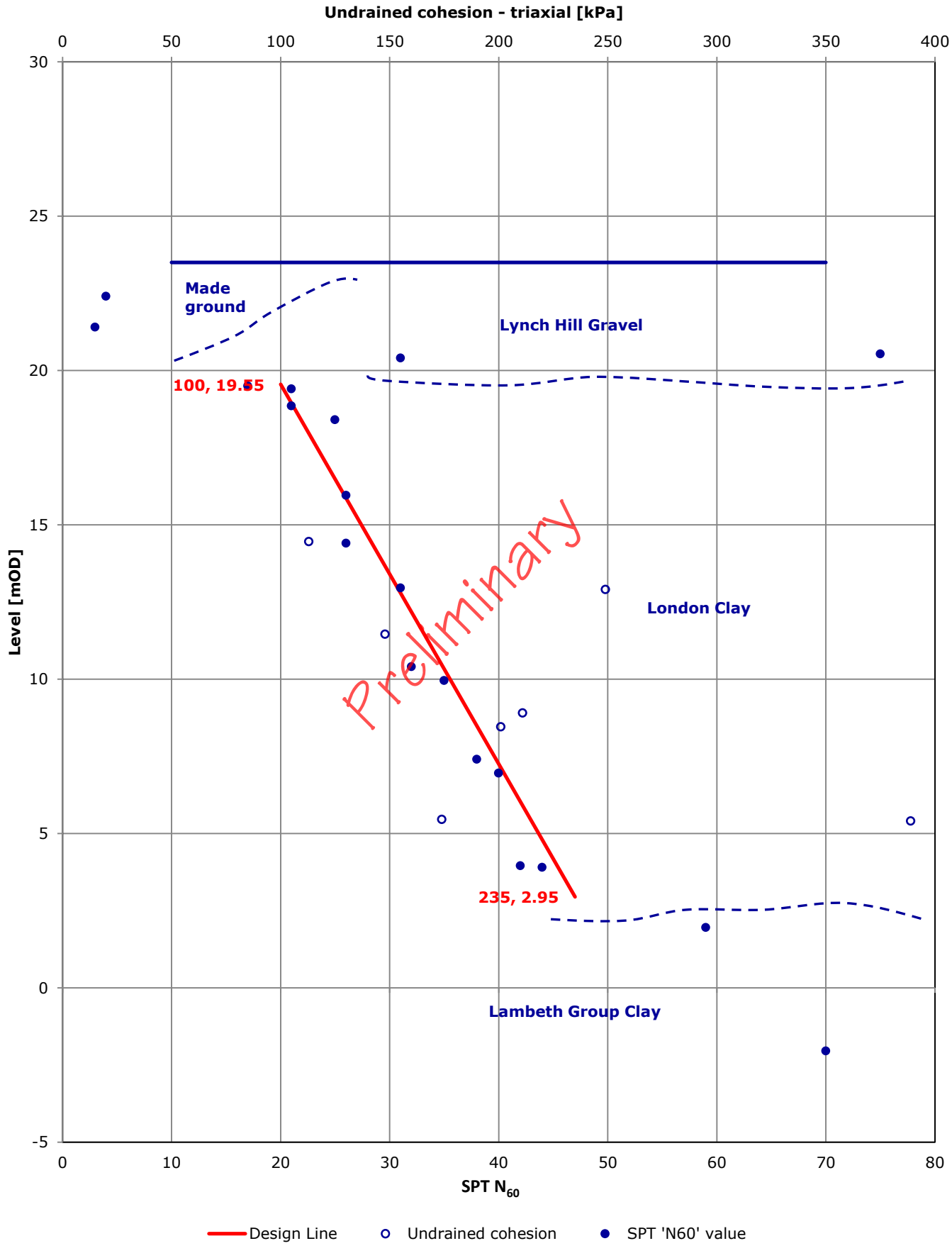
Grading analysis		
D60	mm	0.1
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Test method and date	
Testing in accordance with BS EN ISO 17892:	
Wet sieving method	
Reporting date:	01 Oct 14

Soil Consultants

Site & Location	One Bedford Avenue Bedford Avenue, Camden, London WC1B 3AU	Report No:	9661/JRCB

Undrained cohesion and SPT [N60] vs level



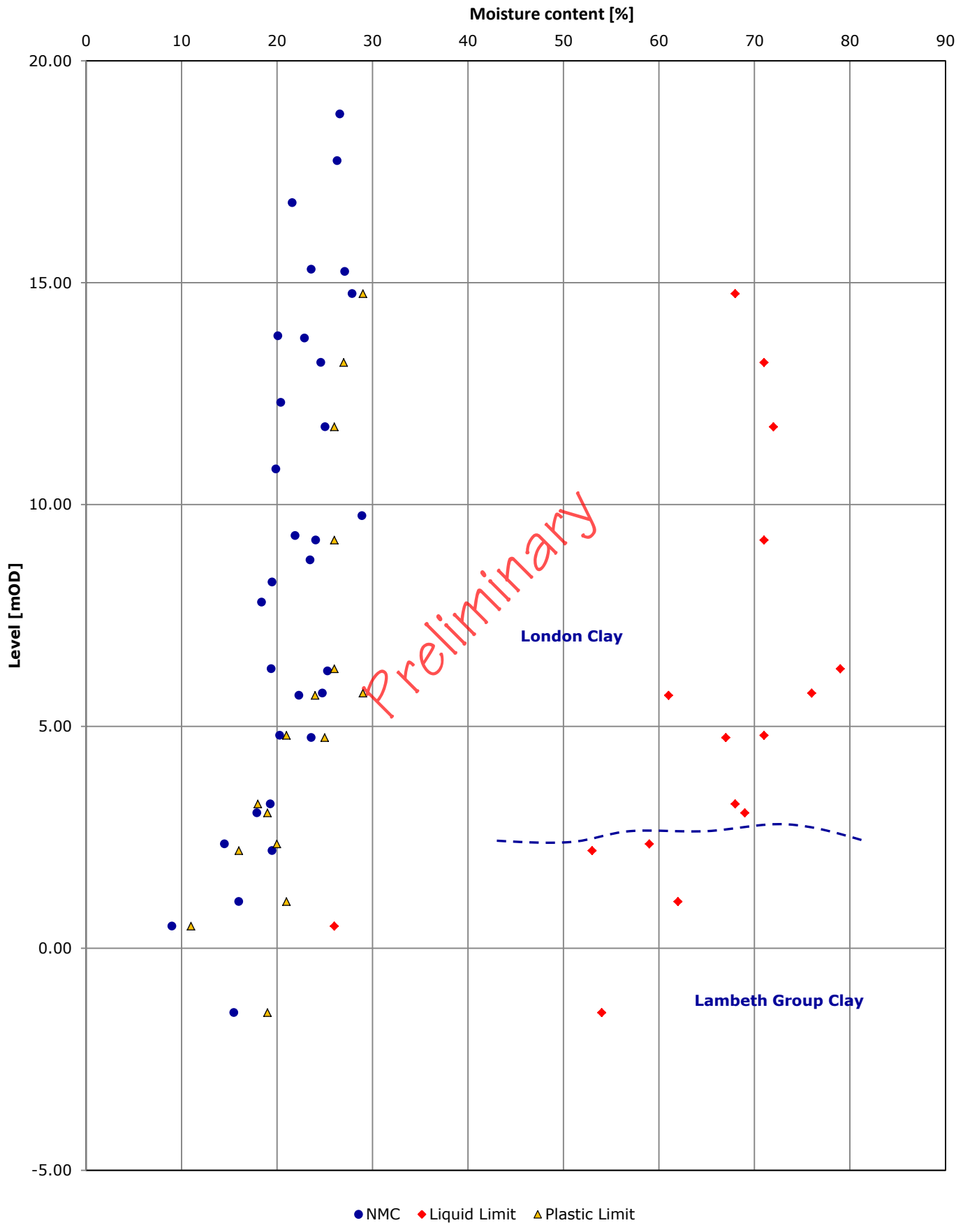
Design Line Δcu = 8.13kPa/m

Note: this plot may incorporate extrapolated results, generally where 'N' >50 - these are indicative only and should be used with caution

Soil Consultants

Site & Location	One Bedford Avenue Bedford Avenue, Camden, London WC1B 3AU	Report No:	9661/JRCB

Natural Moisture Content and Index Properties vs level



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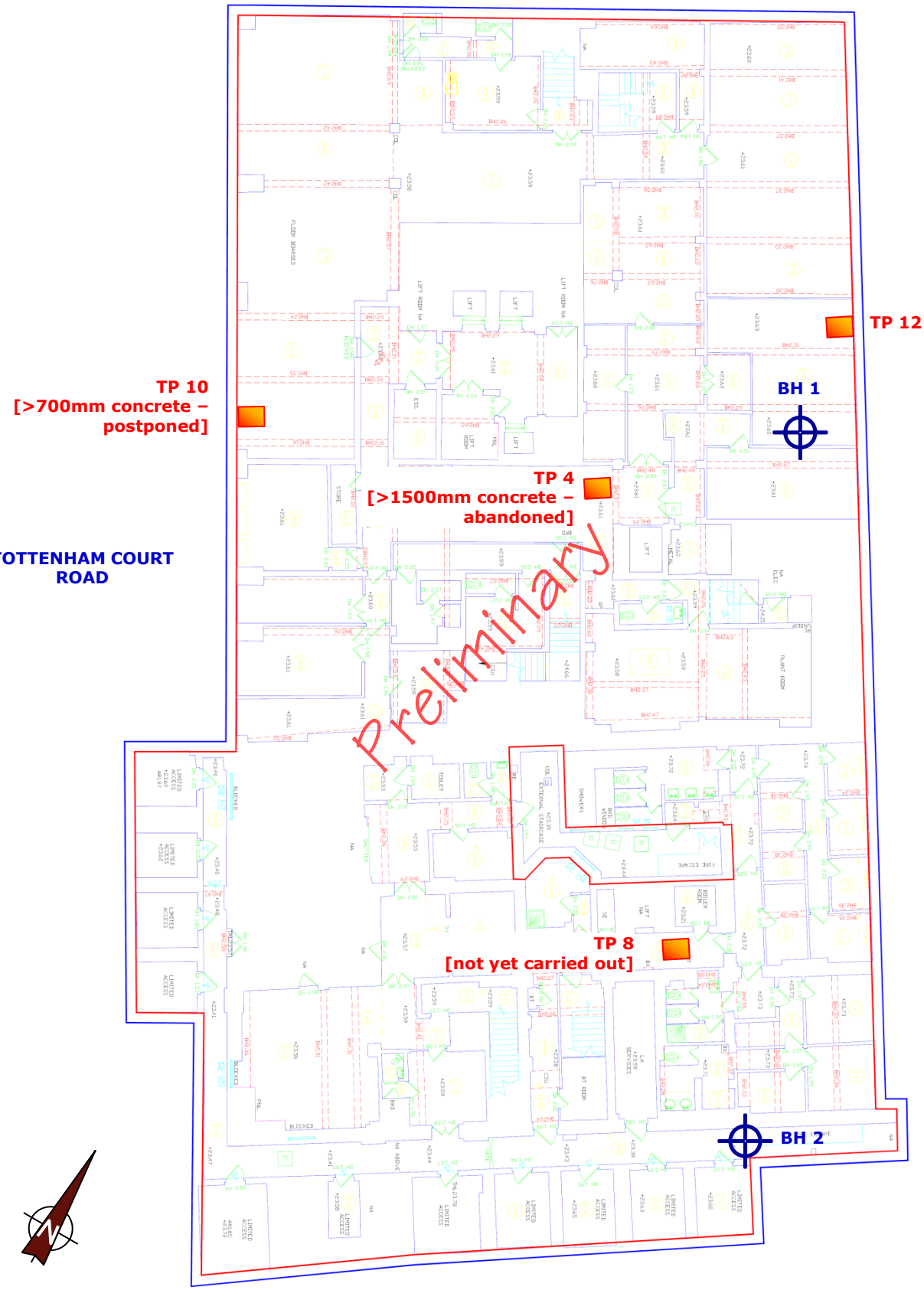
Site Location	One Bedford Avenue Bedford Avenue, Camden, London WC1B 3AU	Report No: 9661/JRCB

Site Plan [at basement level]

[Fieldwork: Sep/Oct 2014]



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QTS Environmental Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
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Kent
ME17 2JN
t: 01622 850410
russell.jarvis@qtsenvironmental.com

QTS Environmental Report No: 14-24916

Site Reference:	Bedford Avenue
Project / Job Ref:	None Supplied
Order No:	None Supplied
Sample Receipt Date:	15/09/2014
Sample Scheduled Date:	17/09/2014
Report Issue Number:	1
Reporting Date:	24/09/2014

Authorised by:

Russell Jarvis
Director
On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Director
On behalf of QTS Environmental Ltd

QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate						
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied	None Supplied	None Supplied		
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Bedford Avenue	**TP / BH No**	BH1	BH1	BH1		
Project / Job Ref: None Supplied	**Additional Refs**	D1	D2	None Supplied		
Order No: None Supplied	**Depth (m)**	3.70	4.05	6.05		
Reporting Date: 24/09/2014	**QTSE Sample No**	118337	118338	118339		

Determinand	Unit	RL	Accreditation					
Asbestos Screen	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected		
pH	pH Units	N/a	MCERTS	7.4	7.9	8.0		
W/S Sulphate as SO4 (2:1)	g/l	< 0.01	MCERTS	1.54	0.25	0.02		
Elemental Sulphur	mg/kg	< 10	NONE	< 10	< 10	< 10		
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5		
Total Organic Carbon (TOC)	%	< 0.1	NONE	0.8	0.6	< 0.1		
Arsenic (As)	mg/kg	< 2	MCERTS	12	8	< 2		
Beryllium (Be)	mg/kg	< 0.5	NONE	0.5	< 0.5	< 0.5		
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1		
Cadmium (Cd)	mg/kg	< 0.5	MCERTS	< 0.5	< 0.5	< 0.5		
Chromium (Cr)	mg/kg	< 2	MCERTS	35	25	6		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2		
Copper (Cu)	mg/kg	< 4	MCERTS	52	33	< 4		
Lead (Pb)	mg/kg	< 3	MCERTS	91	92	6		
Mercury (Hg)	mg/kg	< 1	NONE	1.6	1.2	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	46	24	6		
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3	< 3		
Vanadium (V)	mg/kg	< 2	NONE	61	46	12		
Zinc (Zn)	mg/kg	< 3	MCERTS	62	50	15		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2		

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{O}C

Analysis carried out on the dried sample is corrected for the stone content

The samples have been examined to identify the presence of asbestiform minerals by polarising light microscopy and dispersion staining technique to In-House Procedures QTSE600 Determination of Asbestos in Bulk Materials; Asbestos in Soils/Sediments (fibre screening and identification)

This report refers to samples as received, and QTS Environmental Ltd, takes no responsibility for the accuracy or competence of sampling by others.

The material description shall be regarded as tentative and is not included in our scope of UKAS Accreditation.

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

Asbestos Analyst: Graham Revell

RL: Reporting Limit

Pinch Test: Where pinch test is positive it is reported "Loose Fibres - PT" with type(s).

Subcontracted analysis $^{(S)}$

QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Speciated PAHs						
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied	None Supplied	None Supplied		
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Bedford Avenue	**TP / BH No**	BH1	BH1	BH1		
Project / Job Ref: None Supplied	**Additional Refs**	D1	D2	None Supplied		
Order No: None Supplied	**Depth (m)**	3.70	4.05	6.05		
Reporting Date: 24/09/2014	**QTSE Sample No**	118337	118338	118339		

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Coronene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6		
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	< 1.7	< 1.7	< 1.7		

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{o}C

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Soil Analysis Certificate - EPH Oily Waste Banded						
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied	None Supplied	None Supplied		
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Bedford Avenue	**TP / BH No**	BH1	BH1	BH1		
Project / Job Ref: None Supplied	**Additional Refs**	D1	D2	None Supplied		
Order No: None Supplied	**Depth (m)**	3.70	4.05	6.05		
Reporting Date: 24/09/2014	**QTSE Sample No**	118337	118338	118339		

Determinand	Unit	RL	Accreditation					
Oily Waste (C6 - C10)	mg/kg	< 1	NONE	< 1	< 1	< 1		
Oily Waste (>C10 - C25)	mg/kg	< 1	MCERTS	23	< 1	< 1		
Oily Waste (>C25 - C40)	mg/kg	< 6	MCERTS	46	< 6	< 6		
Oily Waste (C6 - C40)	mg/kg	< 6	NONE	69	< 6	< 6		

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{o}C

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Soil Analysis Certificate - TPH CWG Banded						
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied	None Supplied	None Supplied		
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Bedford Avenue	**TP / BH No**	BH1	BH1	BH1		
Project / Job Ref: None Supplied	**Additional Refs**	D1	D2	None Supplied		
Order No: None Supplied	**Depth (m)**	3.70	4.05	6.05		
Reporting Date: 24/09/2014	**QTSE Sample No**	118337	118338	118339		

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aliphatic >C8 - C10	mg/kg	< 1	NONE	< 1	< 1	< 1		
Aliphatic >C10 - C12	mg/kg	< 1	NONE	< 1	< 1	< 1		
Aliphatic >C12 - C16	mg/kg	< 1	NONE	< 1	< 1	< 1		
Aliphatic >C16 - C21	mg/kg	< 1	NONE	2	< 1	< 1		
Aliphatic >C21 - C34	mg/kg	< 6	NONE	15	< 6	< 6		
Aliphatic (C5 - C34)	mg/kg	< 12	NONE	17	< 12	< 12		
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01		
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
Aromatic >C8 - C10	mg/kg	< 1	NONE	< 1	< 1	< 1		
Aromatic >C10 - C12	mg/kg	< 1	NONE	< 1	< 1	< 1		
Aromatic >C12 - C16	mg/kg	< 1	NONE	< 1	< 1	< 1		
Aromatic >C16 - C21	mg/kg	< 1	NONE	2	< 1	< 1		
Aromatic >C21 - C35	mg/kg	< 6	NONE	14	< 6	< 6		
Aromatic (C5 - C35)	mg/kg	< 12	NONE	17	< 12	< 12		
Total >C5 - C35	mg/kg	< 24	NONE	34	< 24	< 24		

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{0}C

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Soil Analysis Certificate - BTEX / MTBE						
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied	None Supplied	None Supplied		
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Bedford Avenue	**TP / BH No**	BH1	BH1	BH1		
Project / Job Ref: None Supplied	**Additional Refs**	D1	D2	None Supplied		
Order No: None Supplied	**Depth (m)**	3.70	4.05	6.05		
Reporting Date: 24/09/2014	**QTSE Sample No**	118337	118338	118339		

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Ethylbenzene	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
p & m-xylene	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
o-xylene	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5		

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{o}C

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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied	None Supplied	None Supplied		
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Bedford Avenue	**TP / BH No**	BH1	BH1	BH1		
Project / Job Ref: None Supplied	**Additional Refs**	D1	D2	None Supplied		
Order No: None Supplied	**Depth (m)**	3.70	4.05	6.05		
Reporting Date: 24/09/2014	**QTSE Sample No**	118337	118338	118339		

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,1-Dichloroethene	ug/kg	< 5	ISO17025	< 5	< 5	< 5		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Ethyl Benzene	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
m,p-Xylene	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
o-Xylene	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10		
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{o}C

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Soil Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH1
Project / Job Ref: None Supplied	**Additional Refs**	D1
Order No: None Supplied	**Depth (m)**	3.70
Reporting Date: 24/09/2014	**QTSE Sample No**	118337

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/kg	< 10	< 10
2	N/a	N/a	µg/kg	< 10	< 10
3	N/a	N/a	µg/kg	< 10	< 10
4	N/a	N/a	µg/kg	< 10	< 10
5	N/a	N/a	µg/kg	< 10	< 10

There were no / other compounds identified with a match of >90%

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Soil Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH1
Project / Job Ref: None Supplied	**Additional Refs**	D2
Order No: None Supplied	**Depth (m)**	4.05
Reporting Date: 24/09/2014	**QTSE Sample No**	118338

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/kg	< 10	< 10
2	N/a	N/a	µg/kg	< 10	< 10
3	N/a	N/a	µg/kg	< 10	< 10
4	N/a	N/a	µg/kg	< 10	< 10
5	N/a	N/a	µg/kg	< 10	< 10

There were no / other compounds identified with a match of >90%

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Soil Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH1
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied
Order No: None Supplied	**Depth (m)**	6.05
Reporting Date: 24/09/2014	**QTSE Sample No**	118339

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/kg	< 10	< 10
2	N/a	N/a	µg/kg	< 10	< 10
3	N/a	N/a	µg/kg	< 10	< 10
4	N/a	N/a	µg/kg	< 10	< 10
5	N/a	N/a	µg/kg	< 10	< 10

There were no / other compounds identified with a match of >90%

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Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied	None Supplied	None Supplied		
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied		
Site Reference: Bedford Avenue	**TP / BH No**	BH1	BH1	BH1		
Project / Job Ref: None Supplied	**Additional Refs**	D1	D2	None Supplied		
Order No: None Supplied	**Depth (m)**	3.70	4.05	6.05		
Reporting Date: 24/09/2014	**QTSE Sample No**	118337	118338	118339		

Determinand	Unit	RL	Accreditation					
Phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1		
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
0-Cresol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1		
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1		
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1		
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1		
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15		
Isophorone	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15	< 0.15	< 0.15		
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
2,4,5-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1		
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
4-Chloroanaline	mg/kg	< 0.2	NONE	< 0.2	< 0.2	< 0.2		
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Dibenzofuran	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Azobenzene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		
Dibutyl phthalate	mg/kg	< 0.15	ISO17025	< 0.15	< 0.15	< 0.15		
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1	< 0.1	< 0.1		
bis(2-ethylhexyl)phthalate	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2		
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		

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Soil Analysis Certificate - Semi Volatile Organic Compounds TIC (SVOC)		
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH1
Project / Job Ref: None Supplied	**Additional Refs**	D1
Order No: None Supplied	**Depth (m)**	3.70
Reporting Date: 24/09/2014	**QTSE Sample No**	118337

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	mg/kg	< 0.1	< 0.1
2	N/a	N/a	mg/kg	< 0.1	< 0.1
3	N/a	N/a	mg/kg	< 0.1	< 0.1
4	N/a	N/a	mg/kg	< 0.1	< 0.1
5	N/a	N/a	mg/kg	< 0.1	< 0.1

There were no / other compounds identified with a match of >90%

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Soil Analysis Certificate - Semi Volatile Organic Compounds TIC (SVOC)		
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH1
Project / Job Ref: None Supplied	**Additional Refs**	D2
Order No: None Supplied	**Depth (m)**	4.05
Reporting Date: 24/09/2014	**QTSE Sample No**	118338

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	mg/kg	< 0.1	< 0.1
2	N/a	N/a	mg/kg	< 0.1	< 0.1
3	N/a	N/a	mg/kg	< 0.1	< 0.1
4	N/a	N/a	mg/kg	< 0.1	< 0.1
5	N/a	N/a	mg/kg	< 0.1	< 0.1

There were no / other compounds identified with a match of >90%

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Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Semi Volatile Organic Compounds TIC (SVOC)		
QTS Environmental Report No: 14-24916	**Date Sampled**	None Supplied
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH1
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied
Order No: None Supplied	**Depth (m)**	6.05
Reporting Date: 24/09/2014	**QTSE Sample No**	118339

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	mg/kg	< 0.1	< 0.1
2	N/a	N/a	mg/kg	< 0.1	< 0.1
3	N/a	N/a	mg/kg	< 0.1	< 0.1
4	N/a	N/a	mg/kg	< 0.1	< 0.1
5	N/a	N/a	mg/kg	< 0.1	< 0.1

There were no / other compounds identified with a match of >90%

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Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Sample Descriptions	
QTS Environmental Report No: 14-24916	
Soil Consultants Ltd	
Site Reference: Bedford Avenue	
Project / Job Ref: None Supplied	
Order No: None Supplied	
Reporting Date: 24/09/2014	

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 118337	BH1	D1	3.70	13	Brown loamy clay with rubble
^ 118338	BH1	D2	4.05	11.5	Brown clayey gravel with stones
^ 118339	BH1	None Supplied	6.05	15.9	Brown sandy gravel with stones

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S
^ no sampling date provided; unable to confirm if samples are within acceptable holding times

QTS Environmental Ltd
Unit 1, Rose Lane Industrial Estate
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4480

Soil Analysis Certificate - Methodology & Miscellaneous Information
QTS Environmental Report No: 14-24916
Soil Consultants Ltd
Site Reference: Bedford Avenue
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 24/09/2014

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	TPH LQM	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6 - C10)	Determination of hydrocarbons C6-C10 by headspace GC-MS	E001

D Dried
AR As Received

John Bartley
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QTS Environmental Report No: 14-25327

Site Reference:	Bedford Avenue
Project / Job Ref:	None Supplied
Order No:	None Supplied
Sample Receipt Date:	01/10/2014
Sample Scheduled Date:	02/10/2014
Report Issue Number:	1
Reporting Date:	08/10/2014

Authorised by:

Russell Jarvis
Director
On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Director
On behalf of QTS Environmental Ltd

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Soil Analysis Certificate						
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14	23/09/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	BH2	BH2			
Project / Job Ref: None Supplied	**Additional Refs**	2/D	2/B			
Order No: None Supplied	**Depth (m)**	3.55	5.00 - 5.45			
Reporting Date: 08/10/2014	**QTSE Sample No**	120311	120312			

Determinand	Unit	RL	Accreditation					
Asbestos Screen	N/a	N/a	ISO17025	Not Detected	Not Detected			
pH	pH Units	N/a	MCERTS	7.7	8.6			
W/S Sulphate as SO4 (2:1)	g/l	< 0.01	MCERTS	0.18	0.36			
Elemental Sulphur	mg/kg	< 10	NONE	< 10	< 10			
Sulphide	mg/kg	< 5	NONE	< 5	< 5			
Total Organic Carbon (TOC)	%	< 0.1	NONE	0.3	0.5			
Arsenic (As)	mg/kg	< 2	MCERTS	6	14			
Beryllium (Be)	mg/kg	< 0.5	NONE	< 0.5	< 0.5			
W/S Boron	mg/kg	< 1	NONE	< 1	< 1			
Cadmium (Cd)	mg/kg	< 0.5	MCERTS	0.8	< 0.5			
Chromium (Cr)	mg/kg	< 2	MCERTS	12	11			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	20	5			
Lead (Pb)	mg/kg	< 3	MCERTS	147	25			
Mercury (Hg)	mg/kg	< 1	NONE	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	16	12			
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3			
Vanadium (V)	mg/kg	< 2	NONE	20	16			
Zinc (Zn)	mg/kg	< 3	MCERTS	199	42			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{O}C

Analysis carried out on the dried sample is corrected for the stone content

The samples have been examined to identify the presence of asbestiform minerals by polarising light microscopy and dispersion staining technique to In-House Procedures QTSE600 Determination of Asbestos in Bulk Materials; Asbestos in Soils/Sediments (fibre screening and identification)

This report refers to samples as received, and QTS Environmental Ltd, takes no responsibility for the accuracy or competence of sampling by others.

The material description shall be regarded as tentative and is not included in our scope of UKAS Accreditation.

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

Asbestos Analyst: Graham Revell

RL: Reporting Limit

Pinch Test: Where pinch test is positive it is reported "Loose Fibres - PT" with type(s).

Subcontracted analysis $^{(S)}$

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Soil Analysis Certificate - Speciated PAHs						
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14	23/09/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	BH2	BH2			
Project / Job Ref: None Supplied	**Additional Refs**	2/D	2/B			
Order No: None Supplied	**Depth (m)**	3.55	5.00 - 5.45			
Reporting Date: 08/10/2014	**QTSE Sample No**	120311	120312			

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	1.32	< 0.1			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	1.71	< 0.1			
Fluorene	mg/kg	< 0.1	MCERTS	1.77	< 0.1			
Phenanthrene	mg/kg	< 0.1	MCERTS	11.70	< 0.1			
Anthracene	mg/kg	< 0.1	MCERTS	3.09	< 0.1			
Fluoranthene	mg/kg	< 0.1	MCERTS	9.35	< 0.1			
Pyrene	mg/kg	< 0.1	MCERTS	7.16	< 0.1			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	3.64	< 0.1			
Chrysene	mg/kg	< 0.1	MCERTS	2.95	< 0.1			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	2.60	< 0.1			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	1.07	< 0.1			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	2.18	< 0.1			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.87	< 0.1			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.13	< 0.1			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.67	< 0.1			
Coronene	mg/kg	< 0.1	NONE	0.40	< 0.1			
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	13.4	< 1			
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	36.8	< 1			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	50.2	< 1.6			
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	50.6	< 1.7			

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{o}C

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Soil Analysis Certificate - EPH Oily Waste Banded						
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14	23/09/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	BH2	BH2			
Project / Job Ref: None Supplied	**Additional Refs**	2/D	2/B			
Order No: None Supplied	**Depth (m)**	3.55	5.00 - 5.45			
Reporting Date: 08/10/2014	**QTSE Sample No**	120311	120312			

Determinand	Unit	RL	Accreditation					
Oily Waste (C6 - C10)	mg/kg	< 1	NONE	< 1	< 1			
Oily Waste (>C10 - C25)	mg/kg	< 1	MCERTS	70	< 1			
Oily Waste (>C25 - C40)	mg/kg	< 6	MCERTS	65	< 6			
Oily Waste (C6 - C40)	mg/kg	< 6	NONE	135	< 6			

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Soil Analysis Certificate - TPH CWG Banded						
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14	23/09/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	BH2	BH2			
Project / Job Ref: None Supplied	**Additional Refs**	2/D	2/B			
Order No: None Supplied	**Depth (m)**	3.55	5.00 - 5.45			
Reporting Date: 08/10/2014	**QTSE Sample No**	120311	120312			

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01			
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05			
Aliphatic >C8 - C10	mg/kg	< 1	NONE	< 1	< 1			
Aliphatic >C10 - C12	mg/kg	< 1	NONE	< 1	< 1			
Aliphatic >C12 - C16	mg/kg	< 1	NONE	< 1	< 1			
Aliphatic >C16 - C21	mg/kg	< 1	NONE	< 1	< 1			
Aliphatic >C21 - C34	mg/kg	< 6	NONE	28	< 6			
Aliphatic (C5 - C34)	mg/kg	< 12	NONE		< 12			
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01			
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05			
Aromatic >C8 - C10	mg/kg	< 1	NONE	< 1	< 1			
Aromatic >C10 - C12	mg/kg	< 1	NONE	2	< 1			
Aromatic >C12 - C16	mg/kg	< 1	NONE	10	< 1			
Aromatic >C16 - C21	mg/kg	< 1	NONE	26	< 1			
Aromatic >C21 - C35	mg/kg	< 6	NONE	44	< 6			
Aromatic (C5 - C35)	mg/kg	< 12	NONE	83	< 12			
Total >C5 - C35	mg/kg	< 24	NONE	121	< 24			

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Soil Analysis Certificate - BTEX / MTBE						
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14	23/09/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	BH2	BH2			
Project / Job Ref: None Supplied	**Additional Refs**	2/D	2/B			
Order No: None Supplied	**Depth (m)**	3.55	5.00 - 5.45			
Reporting Date: 08/10/2014	**QTSE Sample No**	120311	120312			

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2			
Toluene	ug/kg	< 5	MCERTS	< 5	< 5			
Ethylbenzene	ug/kg	< 10	MCERTS	< 10	< 10			
p & m-xylene	ug/kg	< 10	MCERTS	< 10	< 10			
o-xylene	ug/kg	< 10	MCERTS	< 10	< 10			
MTBE	ug/kg	< 5	MCERTS	< 5	< 5			

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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14	23/09/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	BH2	BH2			
Project / Job Ref: None Supplied	**Additional Refs**	2/D	2/B			
Order No: None Supplied	**Depth (m)**	3.55	5.00 - 5.45			
Reporting Date: 08/10/2014	**QTSE Sample No**	120311	120312			

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5			
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5			
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10			
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5			
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10			
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5			
1,1-Dichloroethene	ug/kg	< 5	ISO17025	< 5	< 5			
MTBE	ug/kg	< 5	MCERTS	< 5	< 5			
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5			
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5			
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5			
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5			
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5			
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5			
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5			
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10			
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5			
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5			
Benzene	ug/kg	< 2	MCERTS	< 2	< 2			
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5			
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5			
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5			
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5			
TAME	ug/kg	< 5	MCERTS	< 5	< 5			
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5			
Toluene	ug/kg	< 5	MCERTS	< 5	< 5			
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5			
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10			
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5			
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5			
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5			
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5			
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5			
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5			
Ethyl Benzene	ug/kg	< 10	MCERTS	< 10	< 10			
m,p-Xylene	ug/kg	< 10	MCERTS	< 10	< 10			
o-Xylene	ug/kg	< 10	MCERTS	< 10	< 10			
Styrene	ug/kg	< 5	MCERTS	< 5	< 5			
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10			
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5			
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5			
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5			
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5			
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5			
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5			
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5			
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5			
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5			
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5			
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5			
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5			
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5			
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5			
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5			
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5			
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10			
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5			

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{o}C

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Soil Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH2
Project / Job Ref: None Supplied	**Additional Refs**	2/D
Order No: None Supplied	**Depth (m)**	3.55
Reporting Date: 08/10/2014	**QTSE Sample No**	120311

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/kg	< 10	< 10
2	N/a	N/a	µg/kg	< 10	< 10
3	N/a	N/a	µg/kg	< 10	< 10
4	N/a	N/a	µg/kg	< 10	< 10
5	N/a	N/a	µg/kg	< 10	< 10

There were no / other compounds identified with a match of >90%

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Soil Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH2
Project / Job Ref: None Supplied	**Additional Refs**	2/B
Order No: None Supplied	**Depth (m)**	5.00 - 5.45
Reporting Date: 08/10/2014	**QTSE Sample No**	120312

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/kg	< 10	< 10
2	N/a	N/a	µg/kg	< 10	< 10
3	N/a	N/a	µg/kg	< 10	< 10
4	N/a	N/a	µg/kg	< 10	< 10
5	N/a	N/a	µg/kg	< 10	< 10

There were no / other compounds identified with a match of >90%

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Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14	23/09/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	BH2	BH2			
Project / Job Ref: None Supplied	**Additional Refs**	2/D	2/B			
Order No: None Supplied	**Depth (m)**	3.55	5.00 - 5.45			
Reporting Date: 08/10/2014	**QTSE Sample No**	120311	120312			

Determinand	Unit	RL	Accreditation					
Phenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
1,2,4-Trichlorobenzene	mg/kg	< 0.1	**ISO17025**	< 0.1	< 0.1			
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
Nitrobenzene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
0-Cresol	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
bis(2-chloroethoxy)methane	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
bis(2-chloroethyl)ether	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
2,4-Dichlorophenol	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
2-Chlorophenol	mg/kg	< 0.1	**ISO17025**	< 0.1	< 0.1			
1,3-Dichlorobenzene	mg/kg	< 0.1	**ISO17025**	< 0.1	< 0.1			
1,4-Dichlorobenzene	mg/kg	< 0.1	**ISO17025**	< 0.1	< 0.1			
1,2-Dichlorobenzene	mg/kg	< 0.1	**ISO17025**	< 0.1	< 0.1			
2,4-Dimethylphenol	mg/kg	< 0.15	**ISO17025**	< 0.15	< 0.15			
Isophorone	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
Hexachloroethane	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
p-Cresol	mg/kg	< 0.15	**MCERTS**	< 0.15	< 0.15			
2,4,6-Trichlorophenol	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
2,4,5-Trichlorophenol	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
2-Methylnaphthalene	mg/kg	< 0.1	**MCERTS**	0.2	< 0.1			
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
Hexachlorobutadiene	mg/kg	< 0.1	**ISO17025**	< 0.1	< 0.1			
2,6-Dinitrotoluene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
2-Chloronaphthalene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
4-Chloroanaline	mg/kg	< 0.2	NONE	< 0.2	< 0.2			
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
4-Bromophenyl phenyl ether	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
Hexachlorobenzene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
2,4-Dinitrotoluene	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
Diethyl phthalate	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
Dibenzofuran	mg/kg	< 0.1	**MCERTS**	0.5	< 0.1			
Azobenzene	mg/kg	< 0.1	NONE	< 0.1	< 0.1			
Dibutyl phthalate	mg/kg	< 0.15	**ISO17025**	< 0.15	< 0.15			
Carbazole	mg/kg	< 0.1	**ISO17025**	0.7	< 0.1			
bis(2-ethylhexyl)phthalate	mg/kg	< 0.2	**MCERTS**	0.2	< 0.2			
Benzyl butyl phthalate	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			
Di-n-octyl phthalate	mg/kg	< 0.1	**MCERTS**	< 0.1	< 0.1			

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{0}C

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Soil Analysis Certificate - Semi Volatile Organic Compounds TIC (SVOC)		
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH2
Project / Job Ref: None Supplied	**Additional Refs**	2/D
Order No: None Supplied	**Depth (m)**	3.55
Reporting Date: 08/10/2014	**QTSE Sample No**	120311

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	mg/kg	< 0.1	< 0.1
2	N/a	N/a	mg/kg	< 0.1	< 0.1
3	N/a	N/a	mg/kg	< 0.1	< 0.1
4	N/a	N/a	mg/kg	< 0.1	< 0.1
5	N/a	N/a	mg/kg	< 0.1	< 0.1

There were no / other compounds identified with a match of >90%

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Soil Analysis Certificate - Semi Volatile Organic Compounds TIC (SVOC)		
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	BH2
Project / Job Ref: None Supplied	**Additional Refs**	2/B
Order No: None Supplied	**Depth (m)**	5.00 - 5.45
Reporting Date: 08/10/2014	**QTSE Sample No**	120312

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	mg/kg	< 0.1	< 0.1
2	N/a	N/a	mg/kg	< 0.1	< 0.1
3	N/a	N/a	mg/kg	< 0.1	< 0.1
4	N/a	N/a	mg/kg	< 0.1	< 0.1
5	N/a	N/a	mg/kg	< 0.1	< 0.1

There were no / other compounds identified with a match of >90%

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Soil Analysis Certificate - PCB (7 Congeners)						
QTS Environmental Report No: 14-25327	**Date Sampled**	23/09/14	23/09/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	BH2	BH2			
Project / Job Ref: None Supplied	**Additional Refs**	2/D	2/B			
Order No: None Supplied	**Depth (m)**	3.55	5.00 - 5.45			
Reporting Date: 08/10/2014	**QTSE Sample No**	120311	120312			

Determinand	Unit	RL	Accreditation					
PCB Congener 28	mg/kg	< 0.008	NONE	< 0.008	< 0.008			
PCB Congener 52	mg/kg	< 0.008	NONE	< 0.008	< 0.008			
PCB Congener 101	mg/kg	< 0.008	NONE	< 0.008	< 0.008			
PCB Congener 118	mg/kg	< 0.008	NONE	< 0.008	< 0.008			
PCB Congener 138	mg/kg	< 0.008	NONE	< 0.008	< 0.008			
PCB Congener 153	mg/kg	< 0.008	NONE	< 0.008	< 0.008			
PCB Congener 180	mg/kg	< 0.008	NONE	< 0.008	< 0.008			
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1			

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{O}C

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Soil Analysis Certificate - Sample Descriptions	
QTS Environmental Report No: 14-25327	
Soil Consultants Ltd	
Site Reference: Bedford Avenue	
Project / Job Ref: None Supplied	
Order No: None Supplied	
Reporting Date: 08/10/2014	

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
120311	BH2	2/D	3.55	6.8	Brown clayey gravel with stones
120312	BH2	2/B	5.00 - 5.45	5.2	Brown sandy gravel with stones

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S

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Soil Analysis Certificate - Methodology & Miscellaneous Information
QTS Environmental Report No: 14-25327
Soil Consultants Ltd
Site Reference: Bedford Avenue
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 08/10/2014

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	TPH LQM	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6 - C10)	Determination of hydrocarbons C6-C10 by headspace GC-MS	E001

D Dried
AR As Received

John Bartley
Soil Consultants Ltd
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QTS Environmental Report No: 14-25397

Site Reference:	Bedford Avenue
Project / Job Ref:	None Supplied
Order No:	None Supplied
Sample Receipt Date:	03/10/2014
Sample Scheduled Date:	06/10/2014
Report Issue Number:	1
Reporting Date:	10/10/2014

Authorised by:

Russell Jarvis
Director
On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Director
On behalf of QTS Environmental Ltd

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Soil Analysis Certificate						
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied				
Soil Consultants Ltd	**Time Sampled**	None Supplied				
Site Reference: Bedford Avenue	**TP / BH No**	TP12				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	6.50				
Reporting Date: 10/10/2014	**QTSE Sample No**	120671				

Determinand	Unit	RL	Accreditation					
Asbestos Screen	N/a	N/a	ISO17025	Not Detected				
pH	pH Units	N/a	MCERTS	8.2				
W/S Sulphate as SO4 (2:1)	g/l	< 0.01	MCERTS	0.08				
Elemental Sulphur	mg/kg	< 10	NONE	< 10				
Sulphide	mg/kg	< 5	NONE	< 5				
Total Organic Carbon (TOC)	%	< 0.1	NONE	0.3				
Arsenic (As)	mg/kg	< 2	MCERTS	5				
Beryllium (Be)	mg/kg	< 0.5	NONE	< 0.5				
W/S Boron	mg/kg	< 1	NONE	< 1				
Cadmium (Cd)	mg/kg	< 0.5	MCERTS	< 0.5				
Chromium (Cr)	mg/kg	< 2	MCERTS	16				
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2				
Copper (Cu)	mg/kg	< 4	MCERTS	20				
Lead (Pb)	mg/kg	< 3	MCERTS	13				
Mercury (Hg)	mg/kg	< 1	NONE	< 1				
Nickel (Ni)	mg/kg	< 3	MCERTS	16				
Selenium (Se)	mg/kg	< 3	NONE	< 3				
Vanadium (V)	mg/kg	< 2	NONE	23				
Zinc (Zn)	mg/kg	< 3	MCERTS	38				
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2				

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{O}C

Analysis carried out on the dried sample is corrected for the stone content

The samples have been examined to identify the presence of asbestiform minerals by polarising light microscopy and dispersion staining technique to In-House Procedures QTSE600 Determination of Asbestos in Bulk Materials; Asbestos in Soils/Sediments (fibre screening and identification)

This report refers to samples as received, and QTS Environmental Ltd, takes no responsibility for the accuracy or competence of sampling by others.

The material description shall be regarded as tentative and is not included in our scope of UKAS Accreditation.

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

Asbestos Analyst: Javeed Malik

RL: Reporting Limit

Pinch Test: Where pinch test is positive it is reported "Loose Fibres - PT" with type(s).

Subcontracted analysis $^{(S)}$

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Soil Analysis Certificate - Speciated PAHs						
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied				
Soil Consultants Ltd	**Time Sampled**	None Supplied				
Site Reference: Bedford Avenue	**TP / BH No**	TP12				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	6.50				
Reporting Date: 10/10/2014	**QTSE Sample No**	120671				

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1				
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1				
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1				
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1				
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1				
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1				
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1				
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1				
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1				
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1				
Coronene	mg/kg	< 0.1	NONE	< 0.1				
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	< 1				
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	< 1				
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6				
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	< 1.7				

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{o}C

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Soil Analysis Certificate - EPH Oily Waste Banded						
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied				
Soil Consultants Ltd	**Time Sampled**	None Supplied				
Site Reference: Bedford Avenue	**TP / BH No**	TP12				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	6.50				
Reporting Date: 10/10/2014	**QTSE Sample No**	120671				

Determinand	Unit	RL	Accreditation					
Oily Waste (C6 - C10)	mg/kg	< 1	NONE	< 1				
Oily Waste (>C10 - C25)	mg/kg	< 1	MCERTS	< 1				
Oily Waste (>C25 - C40)	mg/kg	< 6	MCERTS	< 6				
Oily Waste (C6 - C40)	mg/kg	< 6	NONE	< 6				

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Soil Analysis Certificate - TPH CWG Banded							
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied					
Soil Consultants Ltd	**Time Sampled**	None Supplied					
Site Reference: Bedford Avenue	**TP / BH No**	TP12					
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied					
Order No: None Supplied	**Depth (m)**	6.50					
Reporting Date: 10/10/2014	**QTSE Sample No**	120671					

Determinand	**Unit**	**RL**	**Accreditation**					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01				
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05				
Aliphatic >C8 - C10	mg/kg	< 1	NONE	< 1				
Aliphatic >C10 - C12	mg/kg	< 1	NONE	< 1				
Aliphatic >C12 - C16	mg/kg	< 1	NONE	< 1				
Aliphatic >C16 - C21	mg/kg	< 1	NONE	< 1				
Aliphatic >C21 - C34	mg/kg	< 6	NONE	< 6				
Aliphatic (C5 - C34)	mg/kg	< 12	NONE	< 12				
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01				
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05				
Aromatic >C8 - C10	mg/kg	< 1	NONE	< 1				
Aromatic >C10 - C12	mg/kg	< 1	NONE	< 1				
Aromatic >C12 - C16	mg/kg	< 1	NONE	< 1				
Aromatic >C16 - C21	mg/kg	< 1	NONE	< 1				
Aromatic >C21 - C35	mg/kg	< 6	NONE	< 6				
Aromatic (C5 - C35)	mg/kg	< 12	NONE	< 12				
Total >C5 - C35	mg/kg	< 24	NONE	< 24				

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{0}C

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Soil Analysis Certificate - BTEX / MTBE						
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied				
Soil Consultants Ltd	**Time Sampled**	None Supplied				
Site Reference: Bedford Avenue	**TP / BH No**	TP12				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	6.50				
Reporting Date: 10/10/2014	**QTSE Sample No**	120671				

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2				
Toluene	ug/kg	< 5	MCERTS	< 5				
Ethylbenzene	ug/kg	< 10	MCERTS	< 10				
p & m-xylene	ug/kg	< 10	MCERTS	< 10				
o-xylene	ug/kg	< 10	MCERTS	< 10				
MTBE	ug/kg	< 5	MCERTS	< 5				

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{o}C

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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied				
Soil Consultants Ltd	**Time Sampled**	None Supplied				
Site Reference: Bedford Avenue	**TP / BH No**	TP12				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	6.50				
Reporting Date: 10/10/2014	**QTSE Sample No**	120671				

Determinand	**Unit**	**RL**	**Accreditation**					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5				
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5				
Chloromethane	ug/kg	< 10	MCERTS	< 10				
Chloroethane	ug/kg	< 5	MCERTS	< 5				
Bromomethane	ug/kg	< 10	MCERTS	< 10				
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5				
1,1-Dichloroethene	ug/kg	< 5	ISO17025	< 5				
MTBE	ug/kg	< 5	MCERTS	< 5				
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5				
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5				
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5				
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5				
Chloroform	ug/kg	< 5	MCERTS	< 5				
Bromochloromethane	ug/kg	< 5	MCERTS	< 5				
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5				
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10				
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5				
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5				
Benzene	ug/kg	< 2	MCERTS	< 2				
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5				
Trichloroethene	ug/kg	< 5	MCERTS	< 5				
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5				
Dibromomethane	ug/kg	< 5	MCERTS	< 5				
TAME	ug/kg	< 5	MCERTS	< 5				
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5				
Toluene	ug/kg	< 5	MCERTS	< 5				
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5				
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10				
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5				
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5				
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5				
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5				
Chlorobenzene	ug/kg	< 5	MCERTS	< 5				
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5				
Ethyl Benzene	ug/kg	< 10	MCERTS	< 10				
m,p-Xylene	ug/kg	< 10	MCERTS	< 10				
o-Xylene	ug/kg	< 10	MCERTS	< 10				
Styrene	ug/kg	< 5	MCERTS	< 5				
Bromoform	ug/kg	< 10	MCERTS	< 10				
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5				
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5				
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5				
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5				
Bromobenzene	ug/kg	< 5	MCERTS	< 5				
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5				
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5				
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5				
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5				
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5				
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5				
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5				
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5				
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5				
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5				
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5				
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10				
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5				

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{O}C

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Soil Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	TP12
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied
Order No: None Supplied	**Depth (m)**	6.50
Reporting Date: 10/10/2014	**QTSE Sample No**	120671

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/kg	< 10	< 10
2	N/a	N/a	µg/kg	< 10	< 10
3	N/a	N/a	µg/kg	< 10	< 10
4	N/a	N/a	µg/kg	< 10	< 10
5	N/a	N/a	µg/kg	< 10	< 10

There were no / other compounds identified with a match of >90%

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Tel : 01622 850410

Soil Analysis Certificate - Semi Volatile Organic Compounds (SVOC)						
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied				
Soil Consultants Ltd	**Time Sampled**	None Supplied				
Site Reference: Bedford Avenue	**TP / BH No**	TP12				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	6.50				
Reporting Date: 10/10/2014	**QTSE Sample No**	120671				

Determinand	Unit	RL	Accreditation					
Phenol	mg/kg	< 0.1	NONE	< 0.1				
1,2,4-Trichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1				
2-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1				
Nitrobenzene	mg/kg	< 0.1	MCERTS	< 0.1				
0-Cresol	mg/kg	< 0.1	NONE	< 0.1				
bis(2-chloroethoxy)methane	mg/kg	< 0.1	MCERTS	< 0.1				
bis(2-chloroethyl)ether	mg/kg	< 0.1	MCERTS	< 0.1				
2,4-Dichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1				
2-Chlorophenol	mg/kg	< 0.1	ISO17025	< 0.1				
1,3-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1				
1,4-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1				
1,2-Dichlorobenzene	mg/kg	< 0.1	ISO17025	< 0.1				
2,4-Dimethylphenol	mg/kg	< 0.15	ISO17025	< 0.15				
Isophorone	mg/kg	< 0.1	NONE	< 0.1				
Hexachloroethane	mg/kg	< 0.1	MCERTS	< 0.1				
p-Cresol	mg/kg	< 0.15	MCERTS	< 0.15				
2,4,6-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1				
2,4,5-Trichlorophenol	mg/kg	< 0.1	MCERTS	< 0.1				
2-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1				
4-Chloro-3-methylphenol	mg/kg	< 0.1	NONE	< 0.1				
2-Methylnaphthalene	mg/kg	< 0.1	MCERTS	< 0.1				
Hexachlorocyclopentadiene	mg/kg	< 0.1	NONE	< 0.1				
Hexachlorobutadiene	mg/kg	< 0.1	ISO17025	< 0.1				
2,6-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1				
Dimethyl phthalate	mg/kg	< 0.1	NONE	< 0.1				
2-Chloronaphthalene	mg/kg	< 0.1	MCERTS	< 0.1				
4-Chloroanaline	mg/kg	< 0.2	NONE	< 0.2				
4-Nitrophenol	mg/kg	< 0.1	NONE	< 0.1				
4-Chlorophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1				
3-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1				
4-Nitroaniline	mg/kg	< 0.1	NONE	< 0.1				
4-Bromophenyl phenyl ether	mg/kg	< 0.1	MCERTS	< 0.1				
Hexachlorobenzene	mg/kg	< 0.1	MCERTS	< 0.1				
2,4-Dinitrotoluene	mg/kg	< 0.1	MCERTS	< 0.1				
Diethyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1				
Dibenzofuran	mg/kg	< 0.1	MCERTS	< 0.1				
Azobenzene	mg/kg	< 0.1	NONE	< 0.1				
Dibutyl phthalate	mg/kg	< 0.15	ISO17025	< 0.15				
Carbazole	mg/kg	< 0.1	ISO17025	< 0.1				
bis(2-ethylhexyl)phthalate	mg/kg	< 0.2	MCERTS	< 0.2				
Benzyl butyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1				
Di-n-octyl phthalate	mg/kg	< 0.1	MCERTS	< 0.1				

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{0}C

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Soil Analysis Certificate - Semi Volatile Organic Compounds TIC (SVOC)		
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	TP12
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied
Order No: None Supplied	**Depth (m)**	6.50
Reporting Date: 10/10/2014	**QTSE Sample No**	120671

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	mg/kg	< 0.1	< 0.1
2	N/a	N/a	mg/kg	< 0.1	< 0.1
3	N/a	N/a	mg/kg	< 0.1	< 0.1
4	N/a	N/a	mg/kg	< 0.1	< 0.1
5	N/a	N/a	mg/kg	< 0.1	< 0.1

There were no / other compounds identified with a match of >90%

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Soil Analysis Certificate - PCB (7 Congeners)						
QTS Environmental Report No: 14-25397	**Date Sampled**	None Supplied				
Soil Consultants Ltd	**Time Sampled**	None Supplied				
Site Reference: Bedford Avenue	**TP / BH No**	TP12				
Project / Job Ref: None Supplied	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	6.50				
Reporting Date: 10/10/2014	**QTSE Sample No**	120671				

Determinand	**Unit**	**RL**	**Accreditation**					
PCB Congener 28	mg/kg	< 0.008	NONE	< 0.008				
PCB Congener 52	mg/kg	< 0.008	NONE	< 0.008				
PCB Congener 101	mg/kg	< 0.008	NONE	< 0.008				
PCB Congener 118	mg/kg	< 0.008	NONE	< 0.008				
PCB Congener 138	mg/kg	< 0.008	NONE	< 0.008				
PCB Congener 153	mg/kg	< 0.008	NONE	< 0.008				
PCB Congener 180	mg/kg	< 0.008	NONE	< 0.008				
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1				

Analytical results are expressed on a dry weight basis where samples are dried at less than 30^{O}C

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Soil Analysis Certificate - Sample Descriptions	
QTS Environmental Report No: 14-25397	
Soil Consultants Ltd	
Site Reference: Bedford Avenue	
Project / Job Ref: None Supplied	
Order No: None Supplied	
Reporting Date: 10/10/2014	

QTSE Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
^ 120671	TP12	None Supplied	6.50	6.7	Light brown clayey gravel with stones

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S
^ no sampling date provided; unable to confirm if samples are within acceptable holding times

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Soil Analysis Certificate - Methodology & Miscellaneous Information
QTS Environmental Report No: 14-25397
Soil Consultants Ltd
Site Reference: Bedford Avenue
Project / Job Ref: None Supplied
Order No: None Supplied
Reporting Date: 10/10/2014

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	TPH LQM	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6 - C10)	Determination of hydrocarbons C6-C10 by headspace GC-MS	E001

D Dried
AR As Received

4480

John Bartley
Soil Consultants Ltd
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t: 01622 850410
russell.jarvis@qtsenvironmental.com

QTS Environmental Report No: 14-25909

Site Reference: Bedford Avenue

Project / Job Ref: 9661

Order No: None Supplied

Sample Receipt Date: 23/10/2014

Sample Scheduled Date: 23/10/2014

Report Issue Number: 1

Reporting Date: 31/10/2014

Authorised by:

Russell Jarvis
Director
On behalf of QTS Environmental Ltd

Authorised by:

Kevin Old
Director
On behalf of QTS Environmental Ltd

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Water Analysis Certificate								
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14	22/10/14					
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied					
Site Reference: Bedford Avenue	**TP / BH No**	WS1	WS2					
Project / Job Ref: 9661	**Additional Refs**	None Supplied	None Supplied					
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied					
Reporting Date: 31/10/2014	**QTSE Sample No**	123063	123064					

Determinand	Unit	RL	Accreditation					
pH	pH Units	N/a	**ISO17025**	7.4	7.4			
Sulphate as SO_4	mg/l	< 1	**ISO17025**	152	149			
Sulphide	mg/l	< 0.1	NONE	< 0.1	< 0.1			
Ammonium as NH_4	ug/l	< 50	NONE	60	< 50			
Chloride	mg/l	< 1	**ISO17025**	65	85			
Nitrate as NO_3	mg/l	< 0.5	**ISO17025**	32.4	97.1			
Hardness - Total	mgCaCO3/l	< 1	NONE	564	496			
Arsenic (dissolved)	ug/l	< 10	NONE	< 10	< 10			
Barium (dissolved)	ug/l	< 20	NONE	95	127			
Beryllium (dissolved)	ug/l	< 1	NONE	< 1	< 1			
Boron (dissolved)	ug/l	< 50	NONE	132	110			
Cadmium (dissolved)	ug/l	< 0.5	NONE	< 0.5	< 0.5			
Chromium (dissolved)	ug/l	< 5	NONE	< 5	< 5			
Copper (dissolved)	ug/l	< 10	NONE	< 10	< 10			
Iron (dissolved)	ug/l	< 25	NONE	299	150			
Lead (dissolved)	ug/l	< 5	NONE	< 5	< 5			
Mercury (dissolved)	ug/l	< 0.05	NONE	< 0.05	< 0.05			
Nickel (dissolved)	ug/l	< 7	NONE	< 7	< 7			
Selenium (dissolved)	ug/l	< 5	NONE	< 5	< 5			
Vanadium (dissolved)	ug/l	< 5	NONE	< 5	< 5			
Zinc (dissolved)	ug/l	< 5	NONE	< 5	< 5			

Subcontracted analysis (S)
Insufficient sample I/S
Unsuitable Sample U/S

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Water Analysis Certificate - Speciated PAH							
QTS Environmental Report No: 14-2	**Date Sampled**	22/10/14	22/10/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	WS1	WS2			
Project / Job Ref: 9661	**Additional Refs**	None Supplied	None Supplied			
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied			
Reporting Date: 31/10/2014	**QTSE Sample No**	123063	123064			

Determinand	**Unit**	**RL**	**Accreditation**					
Naphthalene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Acenaphthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Fluorene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Phenanthrene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Benzo(ghi)perylene	ug/l	< 0.01	NONE	< 0.01	< 0.01			
Total EPA-16 PAHs	ug/l	< 0.01	NONE	< 0.01	< 0.01			

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Water Analysis Certificate - TPH CWG Banded								
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14	22/10/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	WS1	WS2			
Project / Job Ref: 9661	**Additional Refs**	None Supplied	None Supplied			
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied			
Reporting Date: 31/10/2014	**QTSE Sample No**	123063	123064			

Determinand	**Unit**	**RL**	**Accreditation**					
Aliphatic >C5 - C6	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C6 - C8	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C8 - C10	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C10 - C12	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C12 - C16	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C16 - C21	ug/l	< 10	NONE	< 10	< 10			
Aliphatic >C21 - C34	ug/l	< 10	NONE	< 10	< 10			
Aliphatic (C5 - C34)	ug/l	< 70	NONE	< 70	< 70			
Aromatic >C5 - C7	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C7 - C8	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C8 - C10	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C10 - C12	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C12 - C16	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C16 - C21	ug/l	< 10	NONE	< 10	< 10			
Aromatic >C21 - C35	ug/l	< 10	NONE	< 10	< 10			
Aromatic (C5 - C35)	ug/l	< 70	NONE	< 70	< 70			
Total >C5 - C35	ug/l	< 140	NONE	< 140	< 140			

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Water Analysis Certificate - BTEX / MTBE							
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14	22/10/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	WS1	WS2			
Project / Job Ref: 9661	**Additional Refs**	None Supplied	None Supplied			
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied			
Reporting Date: 31/10/2014	**QTSE Sample No**	123063	123064			

Determinand	**Unit**	**RL**	**Accreditation**					
Benzene	ug/l	< 1	**ISO17025**	< 1	< 1			
Toluene	ug/l	< 5	**ISO17025**	< 5	< 5			
Ethylbenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
p & m-xylene	ug/l	< 10	**ISO17025**	< 10	< 10			
o-xylene	ug/l	< 5	**ISO17025**	< 5	< 5			
MTBE	ug/l	< 10	**ISO17025**	< 10	< 10			

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UKAS TESTING
4480

Water Analysis Certificate - Volatile Organic Compounds (VOC)								
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14	22/10/14					
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied					
Site Reference: Bedford Avenue	**TP / BH No**	WS1	WS2					
Project / Job Ref: 9661	**Additional Refs**	None Supplied	None Supplied					
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied					
Reporting Date: 31/10/2014	**QTSE Sample No**	123063	123064					

Determinand	**Unit**	**RL**	**Accreditation**					
Dichlorodifluoromethane	ug/l	< 5	**ISO17025**	< 5	< 5			
Vinyl Chloride	ug/l	< 5	**ISO17025**	< 5	< 5			
Chloromethane	ug/l	< 5	**ISO17025**	< 5	< 5			
Chloroethane	ug/l	< 5	**ISO17025**	< 5	< 5			
Bromomethane	ug/l	< 5	**ISO17025**	< 5	< 5			
Trichlorofluoromethane	ug/l	< 5	**ISO17025**	< 5	< 5			
1,1-Dichloroethene	ug/l	< 5	**ISO17025**	< 5	< 5			
MTBE	ug/l	< 10	**ISO17025**	< 10	< 10			
trans-1,2-Dichloroethene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,1-Dichloroethane	ug/l	< 5	**ISO17025**	< 5	< 5			
cis-1,2-Dichloroethene	ug/l	< 5	**ISO17025**	< 5	< 5			
2,2-Dichloropropane	ug/l	< 5	**ISO17025**	< 5	< 5			
Chloroform	ug/l	< 5	**ISO17025**	< 5	< 5			
Bromochloromethane	ug/l	< 10	**ISO17025**	< 10	< 10			
1,1,1-Trichloroethane	ug/l	< 5	**ISO17025**	< 5	< 5			
1,1-Dichloropropene	ug/l	< 5	**ISO17025**	< 5	< 5			
Carbon Tetrachloride	ug/l	< 5	**ISO17025**	< 5	< 5			
1,2-Dichloroethane	ug/l	< 10	**ISO17025**	< 10	< 10			
Benzene	ug/l	< 1	**ISO17025**	< 1	< 1			
1,2-Dichloropropane	ug/l	< 5	**ISO17025**	< 5	< 5			
Trichloroethene	ug/l	< 5	**ISO17025**	< 5	< 5			
Bromodichloromethane	ug/l	< 5	**ISO17025**	< 5	< 5			
Dibromomethane	ug/l	< 5	**ISO17025**	< 5	< 5			
TAME	ug/l	< 5	**ISO17025**	< 5	< 5			
cis-1,3-Dichloropropene	ug/l	< 5	**ISO17025**	< 5	< 5			
Toluene	ug/l	< 5	**ISO17025**	< 5	< 5			
trans-1,3-Dichloropropene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,1,2-Trichloroethane	ug/l	< 10	**ISO17025**	< 10	< 10			
1,3-Dichloropropane	ug/l	< 5	**ISO17025**	< 5	< 5			
Tetrachloroethene	ug/l	< 5	**ISO17025**	< 5	< 5			
Dibromochloromethane	ug/l	< 5	**ISO17025**	< 5	< 5			
1,2-Dibromoethane	ug/l	< 5	**ISO17025**	< 5	< 5			
Chlorobenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,1,1,2-Tetrachloroethane	ug/l	< 5	**ISO17025**	< 5	< 5			
Ethyl Benzene	ug/l	< 5	**ISO17025**	< 5	< 5			
m,p-Xylene	ug/l	< 10	**ISO17025**	< 10	< 10			
o-Xylene	ug/l	< 5	**ISO17025**	< 5	< 5			
Styrene	ug/l	< 5	**ISO17025**	< 5	< 5			
Bromoform	ug/l	< 10	**ISO17025**	< 10	< 10			
Isopropylbenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,1,2,2-Tetrachloroethane	ug/l	< 10	**ISO17025**	< 10	< 10			
1,2,3-Trichloropropane	ug/l	< 5	**ISO17025**	< 5	< 5			
n-Propylbenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
Bromobenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
2-Chlorotoluene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,3,5-Trimethylbenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
4-Chlorotoluene	ug/l	< 5	**ISO17025**	< 5	< 5			
tert-Butylbenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,2,4-Trimethylbenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
sec-Butylbenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
p-Isopropyltoluene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,3-Dichlorobenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,4-Dichlorobenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
n-Butylbenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,2-Dichlorobenzene	ug/l	< 5	**ISO17025**	< 5	< 5			
1,2-Dibromo-3-chloropropane	ug/l	< 10	**ISO17025**	< 10	< 10			
Hexachlorobutadiene	ug/l	< 5	**ISO17025**	< 5	< 5			

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Water Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	WS1
Project / Job Ref: 9661	**Additional Refs**	None Supplied
Order No: None Supplied	**Depth (m)**	None Supplied
Reporting Date: 31/10/2014	**QTSE Sample No**	123063

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 5	< 5
2	N/a	N/a	µg/l	< 5	< 5
3	N/a	N/a	µg/l	< 5	< 5
4	N/a	N/a	µg/l	< 5	< 5
5	N/a	N/a	µg/l	< 5	< 5

There were no / other compounds identified with a match of >90%

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Water Analysis Certificate - Volatile Organic Compounds TIC (VOC)		
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	WS2
Project / Job Ref: 9661	**Additional Refs**	None Supplied
Order No: None Supplied	**Depth (m)**	None Supplied
Reporting Date: 31/10/2014	**QTSE Sample No**	123064

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 5	< 5
2	N/a	N/a	µg/l	< 5	< 5
3	N/a	N/a	µg/l	< 5	< 5
4	N/a	N/a	µg/l	< 5	< 5
5	N/a	N/a	µg/l	< 5	< 5

There were no / other compounds identified with a match of >90%

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Water Analysis Certificate - Semi Volatile Organic Compounds (SVOC)								
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14	22/10/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	WS1	WS2			
Project / Job Ref: 9661	**Additional Refs**	None Supplied	None Supplied			
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied			
Reporting Date: 31/10/2014	**QTSE Sample No**	123063	123064			

Determinand	**Unit**	**RL**	**Accreditation**					
Phenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
1,2,4-Trichlorobenzene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2-Nitrophenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Nitrobenzene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
0-Cresol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
bis(2-chloroethoxy)methane	ug/l	< 0.1	NONE	< 0.1	< 0.1			
bis(2-chloroethyl)ether	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2,4-Dichlorophenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2-Chlorophenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
1,3-Dichlorobenzene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
1,4-Dichlorobenzene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
1,2-Dichlorobenzene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2,4-Dimethylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Isophorone	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Hexachloroethane	ug/l	< 0.1	NONE	< 0.1	< 0.1			
p-Cresol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2,4,6-Trichlorophenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2,4,5-Trichlorophenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2-Nitroaniline	ug/l	< 0.1	NONE	< 0.1	< 0.1			
4-Chloro-3-methylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2-Methylnaphthalene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Hexachlorocyclopentadiene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Hexachlorobutadiene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2,6-Dinitrotoluene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Dimethyl phthalate	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2-Chloronaphthalene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
4-Chloroanaline	ug/l	< 0.1	NONE	< 0.1	< 0.1			
4-Nitrophenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
4-Chlorophenyl phenyl ether	ug/l	< 0.1	NONE	< 0.1	< 0.1			
3-Nitroaniline	ug/l	< 0.1	NONE	< 0.1	< 0.1			
4-Nitroaniline	ug/l	< 0.1	NONE	< 0.1	< 0.1			
4-Bromophenyl phenyl ether	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Hexachlorobenzene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2,4-Dinitrotoluene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Diethyl phthalate	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Dibenzofuran	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Azobenzene	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Dibutyl phthalate	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Carbazole	ug/l	< 0.1	NONE	< 0.1	< 0.1			
bis(2-ethylhexyl)phthalate	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Benzyl butyl phthalate	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Di-n-octyl phthalate	ug/l	< 0.1	NONE	< 0.1	< 0.1			

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Water Analysis Certificate - Semi Volatile Organic Compounds TIC (SVOC)		
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	WS1
Project / Job Ref: 9661	**Additional Refs**	None Supplied
Order No: None Supplied	**Depth (m)**	None Supplied
Reporting Date: 31/10/2014	**QTSE Sample No**	123063

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 0.1	< 0.1
2	N/a	N/a	µg/l	< 0.1	< 0.1
3	N/a	N/a	µg/l	< 0.1	< 0.1
4	N/a	N/a	µg/l	< 0.1	< 0.1
5	N/a	N/a	µg/l	< 0.1	< 0.1

There were no / other compounds identified with a match of >90%

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Water Analysis Certificate - Semi Volatile Organic Compounds TIC (SVOC)		
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14
Soil Consultants Ltd	**Time Sampled**	None Supplied
Site Reference: Bedford Avenue	**TP / BH No**	WS2
Project / Job Ref: 9661	**Additional Refs**	None Supplied
Order No: None Supplied	**Depth (m)**	None Supplied
Reporting Date: 31/10/2014	**QTSE Sample No**	123064

Compound No	Compound Name	% Match	Units	RL	Estimated Concentration
1	N/a	N/a	µg/l	< 0.1	< 0.1
2	N/a	N/a	µg/l	< 0.1	< 0.1
3	N/a	N/a	µg/l	< 0.1	< 0.1
4	N/a	N/a	µg/l	< 0.1	< 0.1
5	N/a	N/a	µg/l	< 0.1	< 0.1

There were no / other compounds identified with a match of >90%

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Water Analysis Certificate - PCB (7 Congeners)								
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14	22/10/14			
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Bedford Avenue	**TP / BH No**	WS1	WS2			
Project / Job Ref: 9661	**Additional Refs**	None Supplied	None Supplied			
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied			
Reporting Date: 31/10/2014	**QTSE Sample No**	123063	123064			

Determinand	**Unit**	**RL**	**Accreditation**					
PCB Congener 28	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 52	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 101	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 118	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 138	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 153	ug/l	< 0.1	NONE	< 0.1	< 0.1			
PCB Congener 180	ug/l	< 0.1	NONE	< 0.1	< 0.1			
Total PCB (7 Congeners)	ug/l	< 0.7	NONE	< 0.7	< 0.7			

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Water Analysis Certificate - Speciated Phenols								
QTS Environmental Report No: 14-25909	**Date Sampled**	22/10/14	22/10/14					
Soil Consultants Ltd	**Time Sampled**	None Supplied	None Supplied					
Site Reference: Bedford Avenue	**TP / BH No**	WS1	WS2					
Project / Job Ref: 9661	**Additional Refs**	None Supplied	None Supplied					
Order No: None Supplied	**Depth (m)**	None Supplied	None Supplied					
Reporting Date: 31/10/2014	**QTSE Sample No**	123063	123064					

Determinand	**Unit**	**RL**	**Accreditation**					
2, 3, 5-trimethylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2, 3, 6-trimethylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2, 3-xylenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2, 4, 6-trimethylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2, 4-xylenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2, 5-xylenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2, 6-xylenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2-ethylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
2-isopropylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
3, 4, 5-trimethylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
3, 4-xylenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
3, 5-xylenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
3-ethylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
3-isopropylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
4-ethylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
4-isopropylphenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			
m-cresol (3-methylphenol)	ug/l	< 0.1	NONE	< 0.1	< 0.1			
o-cresol (2-methylphenol)	ug/l	< 0.1	NONE	< 0.1	< 0.1			
p-cresol (4-methylphenol)	ug/l	< 0.1	NONE	< 0.1	< 0.1			
phenol	ug/l	< 0.1	NONE	< 0.1	< 0.1			

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Soil Analysis Certificate - Methodology & Miscellaneous Information
QTS Environmental Report No: 14-25909
Soil Consultants Ltd
Site Reference: Bedford Avenue
Project / Job Ref: 9661
Order No: None Supplied
Reporting Date: 31/10/2014

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by colo	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 – C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	EPH TEXAS	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane fo	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID	E104
Water	F	TPH LQM	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6 - C10)	Determination of hydrocarbons C6-C10 by headspace GC-MS	E101

Key

F Filtered
UF Unfiltered