



Ruddlesden geotechnical

Validation Report



Former Westbury and District Hospital, The Butts, Westbury, Wiltshire

Backhouse (Westbury) JV Limited

December 2018

TN/SR/17497/VR/01

REPORT CONTROL SHEET

Site Address	Former Westbury and District Hospital, The Butts, Westbury, Wiltshire
Client	Backhouse (Westbury) JV Limited
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Prepared by	Tim New
Signature	 Digitally signed by Tim New Date: 2018.12.05 12:45:31 Z
Position	Senior Engineering Geologist
Qualifications	BSc (Hons). MSc. CGeol. FGS.

Checked by	Simon Ruddlesden
Signature	 Digitally signed by Simon Ruddlesden Date: 2018.12.05 12:46:29 Z
Position	Director
Qualifications	BSc (Hons). MSc. DIC. CGeol. FGS. EurGeol.

Approved by	Simon Ruddlesden
Signature	 Digitally signed by Simon Ruddlesden Date: 2018.12.05 12:46:50 Z
Position	Director
Qualifications	BSc (Hons). MSc. DIC. CGeol. FGS. EurGeol.

Ruddlesden geotechnical
The Stables, 65 Langaton Lane,
Pinhoe, Exeter, EX1 3SP

01392 678082
mail@ruddlesden.co.uk
www.ruddlesden.co.uk



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1 INTRODUCTION

It is proposed to redevelop land at the former Westbury and District Hospital, The Butts, Westbury, Wiltshire, with the construction of fifty-eight residential dwellings with private gardens, public open space and associated infrastructure. A plan showing the proposed layout is included within Appendix D of this report.

At the time of the investigation, the site had been cleared of the former hospital buildings and associated infrastructure, including the former fuel storage tank bund identified during the previous investigation.

A Geotechnical Investigation and Contamination Assessment Report has previously been undertaken at the site by Ruddlesden geotechnical. A contamination risk assessment found detectable levels of total petroleum hydrocarbons (TPH) and polycyclic aromatic hydrocarbons (PAH) in the area adjacent to the former fuel storage tank bund, but the levels were found not to exceed the Generic Assessment Criteria (GAC) for a residential with home grown produce land use.

However, based on the potential for unidentified contamination to be present beneath the location of the former tank bund, it was recommended that the demolition/ removal of the structure be supervised by a suitably qualified engineer to confirm the extent of contamination and provide recommendations for remediation, if required.

During demolition at the site, the tank bund was removed. Subsequently, Ruddlesden geotechnical attended site in order to excavate trial pits in the area of the former tank bund, recover samples for laboratory testing, and determine whether the tank bund removal had been undertaken satisfactorily.

2 FIELDWORK

2.1 General

The fieldwork was undertaken on 06 November 2018. The siting and setting out of all the exploratory holes was the responsibility of Ruddlesden geotechnical, who also determined the extent of testing and sampling.

The exploratory holes were located on-site using a hand-held GPS, typically accurate to 4m.

All fieldwork was undertaken in general accordance with the principles outlined in BS 5930 (2015): Code of Practice for Ground Investigations and BS 10175 (2011): Investigation of Potentially Contaminated Sites – Code of Practice.

2.2 Trial Pits

Two trial pits were excavated to depths of 1.00m and 1.20m using a JCB 3CX (seven-tonne wheeled excavator) in the area of the former tank bund. No evidence of the former tank bund was observed during the investigation.

Samples and observations were made from inside the pit, where safe to do so, from the surface and from samples recovered from the excavator bucket. The supervising geologist provided a detailed description of the ground and conditions, and also obtained samples at representative locations, which were placed into suitable containers. The trial pits were not shored.

Details of ground and groundwater conditions encountered can be found on the trial pit logs (Appendix A) and photographs (Appendix B). The trial pit locations are shown on the trial pit location plan (Dwg. No. 17497/02, Appendix D).

3 LABORATORY TESTING

All laboratory testing was scheduled by Ruddlesden geotechnical and the results are presented in Appendix C of this report.

In total, six soil samples, recovered from made ground and underlying natural material, were tested for the following suites of tests; the testing was MCERTS accredited:

Speciated Total Petroleum Hydrocarbons (TPH)

TPH aliphatic >C5-C6; TPH aliphatic >C6-C8; TPH aliphatic >C8-C10; TPH aliphatic >C10-C12; TPH aliphatic >C12-C16; TPH aliphatic >C16-C21; TPH aliphatic >C21-C35; TPH aromatic >C5-C7; TPH aromatic >C7-C8; TPH aromatic >C8-C10; TPH aromatic >C10-C12; TPH aromatic >C12-C16; TPH aromatic >C16-C21; TPH aromatic >C21-C35.

Monoaromatics

Benzene, toluene, ethylbenzene, p & m-xylene, o-xylene, MTBE.



4 GROUND AND GROUNDWATER CONDITIONS

4.1 General

The following sections provide a summary of ground and groundwater conditions encountered. Further details are provided on the trial pit logs presented Appendix A and photographs presented in Appendix B of this report.

4.2 Ground Conditions Encountered

4.2.1 Made Ground

Purplish brown, purplish grey, yellowish brown or grey sandy gravel, greenish grey or yellowish brown slightly gravelly sand or brown or greyish brown sandy gravelly silty clay was encountered to depths of 0.70m and 0.80m.

Within the made ground, some pieces of metal, brick, concrete, plastic, bitmac and wood were recorded.

4.2.2 Natural Geology

Upper Greensand Formation

Beneath the made ground, (loose) greenish brown sand was encountered to the base of both trial pits (1.00m and 1.20m).

The density of the granular deposits was estimated from a visual assessment only, i.e. ease of excavation and stability of trial pit sides.

4.3 Groundwater

No groundwater was encountered in either of the trial pits during the investigation.



5 CONTAMINATION TESTING RESULTS

5.1 Generic Assessment Criteria

A Generic Qualitative Risk Assessment (GQRA) has been undertaken to assist in the assessment of whether the former fuel tanks and bund have been removed satisfactorily (i.e. to confirm that no significant levels of contamination remain), to assess the level of risk posed to human health by soil contamination.

The results of the contamination laboratory testing have been compared to Generic Assessment Criteria (GAC) to aid the evaluation of the extent of contamination at the site. If any of the GAC are exceeded, this may be indicative of an unacceptable risk to the health of site users and that further investigation and/ or remediation is required.

All the laboratory testing results, together with the Generic Assessment Criteria to which they have been compared, are presented in Appendix B of this report.

As the site is to be redeveloped for a residential land use, the risk assessment has been based on a residential with homegrown produce land use.

Suitable 4 Use Levels (S4ULs), published by Land Quality Management (LQM) and the Chartered Institute of Environmental Health (CIEH), have been used for comparison. The S4ULs have been derived in accordance with UK legislation and Environment Agency guidance using a modified version of the Environment Agency CLEA software. They are fully based on the concept of minimal or tolerable risk as described in SR2 (Environment Agency (2009): Human Health Toxicological Assessment of Contaminants in Soil). The S4ULs have adopted Defra's (2014) revised exposure assumptions and so are considered to be more applicable and up-to-date than the Soil Guideline Values (SGVs), published by Environment Agency (2009) and also derived from the CLEA model. The S4ULs are therefore considered to be applicable under the planning regime in demonstrating whether a site is safe and suitable for use.

5.2 Comparison of Testing Results to GAC

Of six soil samples tested, none of the Generic Assessment Criteria were exceeded for a residential with homegrown produce land use.

6 CONCLUSIONS

This report has demonstrated that the tank bund has been removed from the site satisfactorily.

Contamination laboratory testing undertaken on samples recovered from the made ground and underlying natural materials in the area of the former tank bund has indicated that no unacceptable levels of contamination are present and no additional remedial measures are therefore required.

However, if any unexpected discoveries are encountered during construction activities (i.e. anything substantially different from the findings of this investigation), Ruddlesden geotechnical Ltd should be contacted so that appropriate recommendations may be provided.



7 TERMS AND CONDITIONS

1. This report has been prepared for the sole use of the specified client in response to an agreed brief and for the stated purpose. The recommendations used in this report should not be used for any other schemes on or adjacent to this site without further reference to this company.
2. The copyright of this report is owned by Ruddlesden geotechnical Ltd. With the exception of the named client, who may copy and distribute the report to deal with matters directly relating to its commission, this report may not be reproduced, published or adapted without written consent of the company.
3. New information, improved practices and legislation may necessitate an alteration to the report in whole or in part after its submission. Therefore, with any change in circumstances, this report should be referred to Ruddlesden geotechnical Ltd for reassessment and, if necessary, reappraisal.
4. The comments given in this report assume that ground conditions do not vary beyond the range revealed by the investigation. There may, however, be conditions at or adjacent to the site that have not been disclosed by the investigation and which, therefore, have not been considered in this report. Accordingly, a careful watch should be maintained during any future groundworks and the recommendations of this report reviewed as necessary.
5. Whilst confident in the findings of the report, the recommendations may not necessarily be accepted by other authorities without question. It is advisable that, where appropriate, the report be submitted to the relevant statutory authorities and approval obtained before detailed design, site works or other irrevocable action is undertaken.
6. All comments and recommendations are based on groundwater conditions encountered at the time of investigation. It should be noted that groundwater levels might fluctuate according to the season and from year to year. This may have implications on other recommendations, including foundations and excavations.



APPENDICES



APPENDIX A

TRIAL PIT LOGS

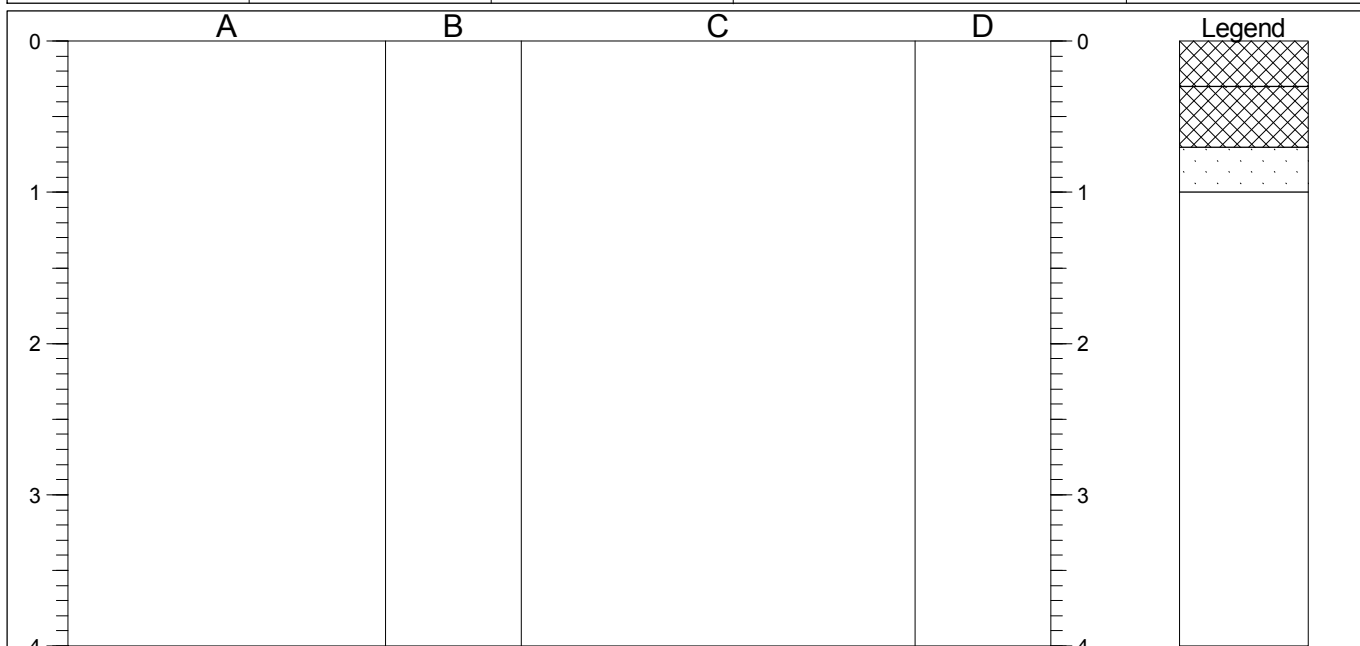




Ruddlesden geotechnical
The Stables, 65 Langaton Lane
Pinhoe, Exeter EX1 3SP
Telephone: 01392 678082

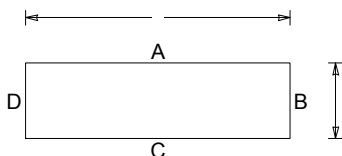
TRIAL PIT LOG

Project Former Westbury and District Hospital, The Butts, Westbury				TRIAL PIT No TP101
Job No 17497	Date 06-11-18	Ground Level (m)	Co-Ordinates (BNG) E 387354 N 150707	
Contractor	Method/ Plant JCB 3CX			Sheet 1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.30		MADE GROUND: Purplish grey or grey sandy fine to coarse subangular to subrounded gravel of limestone with some pieces of metal, brick, concrete, plastic, bitmac and wood.	0.20	J	
0.30-0.70		MADE GROUND: Greenish or yellowish brown slightly gravelly sand with occasional pockets of purplish grey sandy gravel and occasional pieces of brick and bitmac. Gravel is fine to coarse subangular to subrounded of limestone.	0.50	J	
0.70-1.00		(Loose) greenish brown SAND. (Upper Greensand Formation).	1.00	J	

Shoring/Support: None.
Stability: Stable.
Groundwater: None encountered.



GENERAL REMARKS

1. Density of granular deposits estimated from visual assessment only.

All dimensions in metres
Scale 1:50

Client:

Backhouse (Westbury) JV Limited

Logged By TN

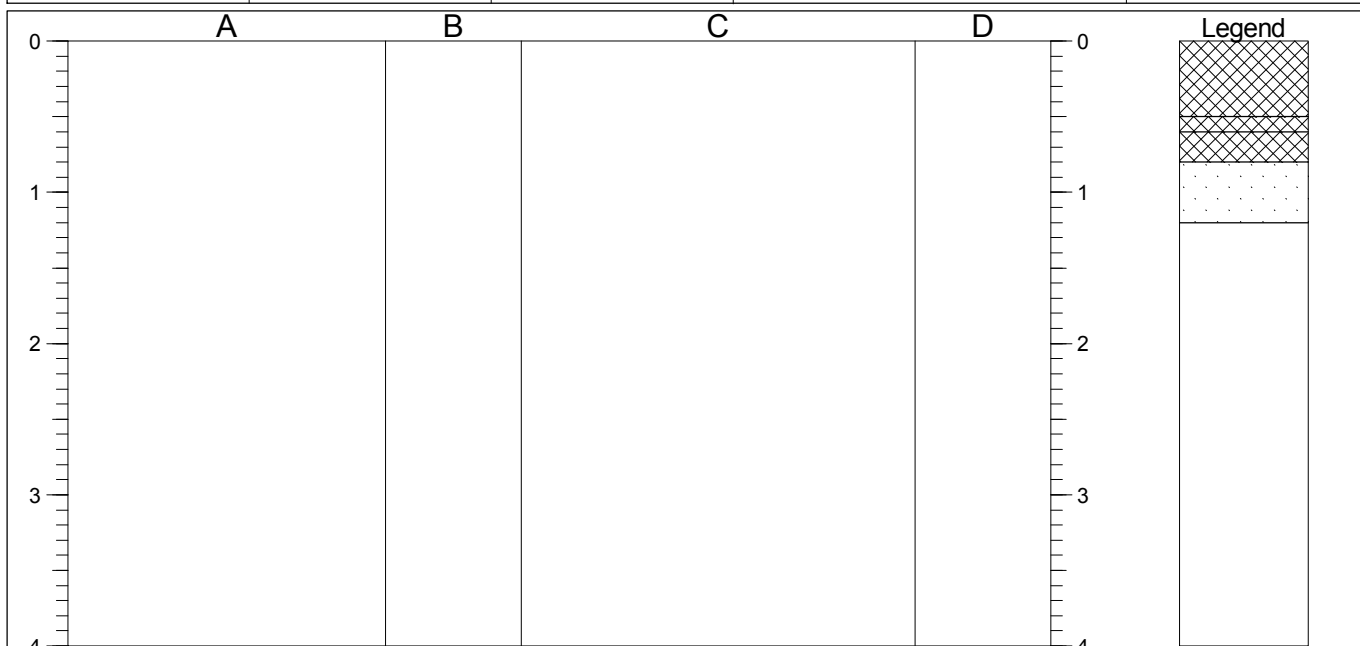
AGS3 UK TP 17497 - FORMER WESTBURY & DISTRICT HOSPITAL, THE BUTTS, WESTBURY.GPJ AGS 3.1.GDT 5/12/18



Ruddlesden geotechnical
The Stables, 65 Langaton Lane
Pinhoe, Exeter EX1 3SP
Telephone: 01392 678082

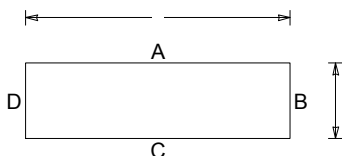
TRIAL PIT LOG

Project Former Westbury and District Hospital, The Butts, Westbury				TRIAL PIT No TP102
Job No 17497	Date 06-11-18	Ground Level (m)	Co-Ordinates (BNG) E 387358 N 150711	
Contractor	Method/ Plant JCB 3CX			Sheet 1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.50		MADE GROUND: Brown or greyish brown sandy gravelly silty clay or sandy fine to coarse subangular to subrounded gravel of limestone with some pieces of brick, concrete, bitmac and plastic.	0.30	J	
0.50-0.60		MADE GROUND: Yellowish brown or purplish brown sandy fine to coarse subangular to subrounded gravel of limestone underlain by a blue plastic membrane.	0.70	J	
0.60-0.80		MADE GROUND: Pinkish brown sandy fine to coarse subangular to subrounded gravel of limestone. (Loose) greenish brown SAND. (Upper Greensand Formation).	1.00	J	
0.80-1.20					

Shoring/Support: None.
Stability: Stable.
Groundwater: None encountered.



GENERAL REMARKS

1. Density of granular deposits estimated from visual assessment only.

All dimensions in metres
Scale 1:50

Client:

Backhouse (Westbury) JV Limited

Logged By TN

AGS3 UK TP 17497 - FORMER WESTBURY & DISTRICT HOSPITAL, THE BUTTS, WESTBURY.GPJ AGS 3.1.GDT 5/12/18

APPENDIX B

PHOTOGRAPHS



**Plate 1**

The area of the former tank, viewed from the southeast.

**Plate 2**

The area of the former tank, viewed from the northwest.

**Plate 3**

Ground conditions encountered in TP101.

**Plate 4**

Ground conditions encountered in TP102.

APPENDIX C

LABORATORY TESTING RESULTS



CONTAMINATION LABORATORY TESTING



**Tim New**

Ruddlesden Geotechnical Ltd
The Stables
65 Langaton Lane
Pinhoe
Exeter
EX1 3SP

t: 01392 678082

e: Ruddlesden -

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 18-17535

Project / Site name:	Former Westbury And District Hospital	Samples received on:	08/11/2018
Your job number:	17497	Samples instructed on:	08/11/2018
Your order number:	17497	Analysis completed by:	16/11/2018
Report Issue Number:	1	Report issued on:	16/11/2018
Samples Analysed:	6 soil samples		

Signed

Jordan Hill
Reporting Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 18-17535

Project / Site name: Former Westbury And District Hospital

Your Order No: 17497

Lab Sample Number				1086321	1086322	1086323	1086324	1086325
Sample Reference				TP101	TP101	TP101	TP102	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.50	1.00	0.30	0.70
Date Sampled				06/11/2018	06/11/2018	06/11/2018	06/11/2018	06/11/2018
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	7.8	6.2	14	12	3.3
Total mass of sample received	kg	0.001	NONE	0.50	0.54	0.50	0.50	0.52

Monoaromatics

Benzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	ug/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	39	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	47	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	3.6	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	13	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	92	< 10	< 10	25	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	110	< 10	< 10	30	< 10

Analytical Report Number: 18-17535

Project / Site name: Former Westbury And District Hospital

Your Order No: 17497

Lab Sample Number				1086326				
Sample Reference				TP102				
Sample Number				None Supplied				
Depth (m)				1.00				
Date Sampled				06/11/2018				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	9.4				
Total mass of sample received	kg	0.001	NONE	0.48				

Monoaromatics

Benzene	ug/kg	1	MCERTS	< 1.0				
Toluene	ug/kg	1	MCERTS	< 1.0				
Ethylbenzene	ug/kg	1	MCERTS	< 1.0				
p & m-xylene	ug/kg	1	MCERTS	< 1.0				
o-xylene	ug/kg	1	MCERTS	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	ug/kg	1	MCERTS	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0				
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001				
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0				
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0				
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10				
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10				



Analytical Report Number : 18-17535

Project / Site name: Former Westbury And District Hospital

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1086321	TP101	None Supplied	0.20	Brown loam and sand with rubble and brick.
1086322	TP101	None Supplied	0.50	Brown sandy clay with gravel.
1086323	TP101	None Supplied	1.00	Brown sand.
1086324	TP102	None Supplied	0.30	Brown clay and sand with gravel.
1086325	TP102	None Supplied	0.70	Brown clay and sand with gravel.
1086326	TP102	None Supplied	1.00	Light brown sand.

Analytical Report Number : 18-17535

Project / Site name: Former Westbury And District Hospital

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

GENERIC ASSESSMENT CRITERIA



Residential with Home Grown Produce Land Use Generic Assessment Criteria (GAC)

Determinand	Unit	GAC			Highest Recorded Value	Location of Highest Recorded Value	No. of values exceeding GAC	Source of GAC
Benzene	µg/kg	1% SOM 87	2.5% SOM 170	6% SOM 370	<1.0	ALL	0 of 6	S4UL
Ethylbenzene	µg/kg	1% SOM 47000	2.5% SOM 110000	6% SOM 260000	<1.0	ALL	0 of 6	S4UL
Toluene	µg/kg	1% SOM 130000	2.5% SOM 290000	6% SOM 660000	<1.0	ALL	0 of 6	S4UL
m- & p-xylene	µg/kg	1% SOM 115000	2.5% SOM 270000	6% SOM 630000	<1.0	ALL	0 of 6	S4UL
o-xylene	µg/kg	1% SOM 60000	2.5% SOM 140000	6% SOM 330000	<1.0	ALL	0 of 6	S4UL
TPH (Aliphatic EC 5-6)	mg/kg	1% SOM 42	2.5% SOM 78	6% SOM 160	<0.001	ALL	0 of 6	S4UL
TPH (Aliphatic EC >6-8)	mg/kg	1% SOM 100	2.5% SOM 230	6% SOM 530	<0.001	ALL	0 of 6	S4UL
TPH (Aliphatic EC >8-10)	mg/kg	1% SOM 27	2.5% SOM 65	6% SOM 150	<0.001	ALL	0 of 6	S4UL
TPH (Aliphatic EC >10-12)	mg/kg	1% SOM 130	2.5% SOM 330	6% SOM 760	<1.0	ALL	0 of 6	S4UL
TPH (Aliphatic EC >12-16)	mg/kg	1% SOM 1100	2.5% SOM 2400	6% SOM 4300	<2.0	ALL	0 of 6	S4UL
TPH (Aliphatic EC >16-35)	mg/kg	1% SOM 65000	2.5% SOM 92000	6% SOM 110000	39	TP101 0.20	0 of 6	S4UL
TPH (Aromatic EC 5-7)	mg/kg	1% SOM 70	2.5% SOM 140	6% SOM 300	<0.001	ALL	0 of 6	S4UL
TPH (Aromatic EC >7-8)	mg/kg	1% SOM 130	2.5% SOM 290	6% SOM 660	<0.001	ALL	0 of 6	S4UL
TPH (Aromatic EC >8-10)	mg/kg	1% SOM 34	2.5% SOM 83	6% SOM 190	<0.001	ALL	0 of 6	S4UL
TPH (Aromatic EC >10-12)	mg/kg	1% SOM 74	2.5% SOM 180	6% SOM 380	<1.0	ALL	0 of 6	S4UL
TPH (Aromatic EC >12-16)	mg/kg	1% SOM 140	2.5% SOM 330	6% SOM 660	3.6	TP101 0.20	0 of 6	S4UL
TPH (Aromatic EC >16-21)	mg/kg	1% SOM 260	2.5% SOM 540	6% SOM 930	13	TP101 0.20	0 of 6	S4UL
TPH (Aromatic EC >21-35)	mg/kg	1% SOM 1100	2.5% SOM 1500	6% SOM 1700	92	TP101 0.20	0 of 6	S4UL

Key:

1. S4UL = Suitable for Use Level

Notes:

1. *Italic* entries indicate GAC exceeded.
2. Based on a sandy loam soil, as defined in SR3 (Environment Agency (2009): Updated Technical background to the CLEA Model) and 6% SOM (unless otherwise stated).
3. S4ULs for phenols, polyaromatic hydrocarbons and total petroleum hydrocarbons will vary according to SOM for all land uses.
4. Values are rounded to two significant figures.
5. S4ULs assume that free phase contamination is not present.
6. S4ULs are based on a sub-surface soil to indoor air correction factor of 1.
7. Exposure to all xylene isomers should be considered together, because the HCV is based on the intake of total xylene and not an individual isomer in isolation.



APPENDIX D

SITE PLANS



PROPOSED LAYOUT PLAN





NOTES

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This drawing has been produced for NHS Property Services Ltd. for the proposed development at Westbury Hospital, Westbury and is not intended for use by any other person or for any other purpose.

Responsibility is not accepted for errors made by others in scaling from this drawing.

All construction information should be taken from figured dimensions only.

All omissions and discrepancies to be reported to Keep immediately.

- Site Boundary
- a.** Principal Vehicular Access
 - b.** Secondary pedestrian and cyclist access
 - c.** Pedestrian link to Leighton Recreation Ground
 - d.** Proposed childrens play area
 - e.** Infiltration basin area for flood storage
 - f.** Balancing ponds

Total No. of Houses: 58

Layout amended	NS	-	15/07/16	K
Layout amended	NS	-	13/07/16	J
Layout amended to account for tree T12	NS	-	08/07/16	I
Attenuation ammended	KS	NA	20/04/16	H
Affordable Homes Extended	KS	NA	07/03/16	G
Amendments to road and badger mitigation	KS	NA	07/03/16	F
Issue	KS	NA	04/03/16	E
Amendments to parking	KS	SC	10/02/16	D
Amendments to layout	KS	SC	09/02/16	C
Issue as draft	KS	SC	29/01/16	B
Issue as draft	KS	SC	27/01/16	A

Notes DR CH Date Rev



Keep Architecture Limited,
1.3 Temple Studios,
Bristol, BS1 6QA
t: 0117 325 0359
e: info@keeparchitecture.co.uk
w: keeparchitecture.co.uk
twitter: @keeparchitect

Project
Westbury Hospital, Westbury

Drawing

Illustrative Masterplan

Drawing number
1134.P.001

Scale
1:1000

Revision number
K

Original drawing size A3

TRIAL PIT LOCATION PLAN





LEGEND:

 Trial Pit

Job Title:	Former Westbury and District Hospital
Drawing Title:	Trial Pit Location Plan
Client:	Backhouse (Westbury) JV Limited
 Ruddlesden geotechnical Ltd The Stables 65 Langaton Lane Pinhoe Exeter EX1 3SP www.ruddlesden.co.uk	
Dwg. No:	17497/02
Date:	Dec-18
Scale:	Not to scale