

Our ref: R1742B-L07
Your ref:

07th August 2018

Andy Walker
Urban Regen
23 Springvale
Bolton
BL7 0FS

by e-mail: andy.walker@urbanregen.co.uk

Dear Andy

Upper Heyford – Dorchester Phase 9 – Basketball Pitch Supplementary Site Investigation

SGP have been instructed to produce a validation report for a parcel of land formerly occupied by a baseball pitch associated with RAF Heyford which is currently utilised as a public open space for recreational use. This parcel of land forms the north-west corner of the wider Phase 9 area (see Drawing D01).

The site is part of a wider area covered by a Hydrock Remediation Strategy (ref. HPW-HYD-PX-REM-RP-GE-3000-P1-S2, April 2017) which states that a site wide engineered cover system is required to comprise of a 200mm hard dig layer, geotextile and 400mm clean soil cover. At present it is unknown whether the Strategy has been approved, however it is proposed that a revised Strategy to cover the Phase 9 area is appropriate given the absence of made ground in some locations and that the made ground consists largely of placed uncontaminated natural soils. These remedial recommendations are consistent with those made with the approved Remediation Strategy (R1742-R01-v3) which covers other phases of the Heyford Park New Settlement Area. This report has therefore been produced to satisfy the proposed remedial recommendations.

No potential contaminative activities such as the storage of fuels (ASTs, USTs, boiler house etc.) was identified within previous reporting with historical mapping confirming the site remained undeveloped until the construction of a baseball pitch sometime between 1979 and 1992.

Given the effective Greenfield history of the site it may be underlain by natural soils or made ground comprising of reworked natural soils, negating the requirement for an engineered cover system.

In-situ sampling was therefore completed to ascertain whether the natural soils were suitable for retention within shallow garden soils and to also determine the extent and chemistry of shallow made ground soils present across the site.

In-situ Topsoil Testing

It is a requirement under the Hydrock Strategy that site won soils are sampled at a minimum test frequency of 1 sample per 250m³, however proposed recommendations under a revised Strategy and in line with previous remedial works within the Heyford development specify testing of site won soils at a frequency of 1 per 500m³.

Assuming an approximate site area of 14,650m² and a nominal topsoil thickness of 0.3m, this equates to an approximate volume of 4,395m³. Sampling was carried out in-situ with the proposed

sampling frequency of 1 sample per 500m³ resulting in the collection of 9 samples (achieving a frequency of 1 per 488m³) to assess the potential for recovery and reuse within the development.

Samples were collected by SGP and were placed in appropriate laboratory-provided containers and stored in cooled boxes. Samples submitted for chemical analysis were delivered to Exova-Jones Environmental Ltd (EJEL) within 24 hours of collection and samples for asbestos screen were sent to Chemtest within 48 hours of collection. SGP retains chain of custody documentation.

The results of the soil analyses are compared to human health critical values (CVs) for initial screening purposes. The CVs adopted are appropriate to the environmental setting and proposed future residential use of the site and are taken primarily from the LQM / CIEH Suitable for Use Levels (S4ULs) which are used to define land that is 'not contaminated'. These are derived for a sandy loam soil; reference is initially made to the S4ULs derived for a soil with 1% organic matter as a conservative assumption for screening purposes.

The Defra Category 4 Screening Level (C4SL) for lead in soils under residential land-use has been utilised to allow an initial screening for risk to human health. This is intended to demonstrate that land is definitely not Contaminated Land as defined under Part IIA of the Environmental Protection Act. The adoption of the C4SL in a planning scenario has not been universally accepted, however in the absence of other generic screening criteria for lead following the withdrawal of the SGV by the EA it is considered appropriate to utilise the screening criterion.

Chemical laboratory certificate (18-7823) and asbestos laboratory certificate (18-14613) are attached. Results are summarised in the table below and are compared to assessment criteria for garden cover soils as per above.

It is noted that published criteria have been utilised to reflect those proposed within a revised Strategy with some values differing slightly from those within the current Hydrock Strategy.

Table 2. Analysis Summary for in-situ Topsoil

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Residential Use	
			Screening criteria (mg/kg unless stated)	Exceedances
SOM	9	1.5-3.8	-	None
pH	9	7.74-8.25	-	None
asbestos fibre*	9	NAD	<0.001%	None
antimony	9	2-5	550 (GAC)	None
arsenic	9	15.2-52.1	37 (S4UL)	(1): Ph9-S9A
barium	9	59-107	1300 (GAC)	None
beryllium	9	0.9-3.0	1.7 (S4UL)	(1): Ph9-S9A
cadmium	9	0.1-0.2	11 (S4UL)	None
chromium	9	36.9-82.2	910 (S4UL)	None
chromium IV	9	<0.3	6 (S4UL)	None
cobalt	9	7.6-13.6	-	None
copper	9	10-29	2400 (S4UL)	None
lead	9	17-88	200 (C4SL)	None
mercury	9	<0.1	170 (S4UL)	None
molybdenum	9	1.5-2.3	670 (GAC)	None
nickel	9	18.3-51.50	180 (S4UL)	None

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Residential Use	
			Screening criteria (mg/kg unless stated)	Exceedances
selenium	9	<1-2	250 (S4UL)	None
vanadium	9	52-119	410 (S4UL)	None
water soluble boron	9	0.9-2.9	290 (S4UL)	None
zinc	9	64-174	3700 (S4UL)	None
naphthalene	9	<0.04	2.3 (S4UL)	None
acenaphthylene	9	<0.03	170 (S4UL)	None
acenaphthene	9	<0.05	210 (S4UL)	None
fluorene	9	<0.04	170 (S4UL)	None
phenanthrene	9	<0.03-0.26	95(S4UL)	None
anthracene	9	<0.04-0.09	280 (S4UL)	None
fluoranthene	9	0.09-0.95	2400 (S4UL)	None
pyrene	9	0.09-0.87	620 (S4UL)	None
benzo(a)anthracene	9	0.06-0.59	7.2 (S4UL)	None
chrysene	9	0.06-0.46	15 (S4UL)	None
benzo(bk)fluoranthene	9	0.11-1.09	-	-
benzo(a)pyrene	9	0.06-0.59	2.2 (S4UL)	None
indeno(123cd)pyrene	9	0.04-0.44	27 (S4UL)	None
dibenzo(ah)anthracene	9	0.04-0.09	0.24(S4UL)	None
benzo(ghi)perylene	9	0.04-0.4	320 (S4UL)	None
aliphatic C5-C6	9	<0.1	42 (S4UL)	None
aliphatic C6-C8	9	<0.1	100 (S4UL)	None
aliphatic C8-C10	9	<0.1	27 (S4UL)	None
aliphatic C10-C12	9	<0.2	130 (S4UL)	None
aliphatic C12-C16	9	<4	1100 (S4UL)	None
aliphatic C16-C21	9	<7	5000 (S4UL)	None
aliphatic C21-C35	9	<7	5000 (S4UL)	None
aromatic C5-C7	9	<0.1	70 (S4UL)	None
aromatic C7-C8	9	<0.1	130 (S4UL)	None
aromatic C8-C10	9	<0.1	34 (S4UL)	None
aromatic C10-C12	9	<0.2	74 (S4UL)	None
aromatic C12-C16	9	<4	140 (S4UL)	None
aromatic C16-C21	9	<7	260 (S4UL)	None
aromatic C21-C35	9	<7	1100 (S4UL)	None
benzene	9	<0.005	0.08 (S4UL)	None
toluene	9	<0.005	130 (S4UL)	None
ethylbenzene	9	<0.005	47 (S4UL)	None
o-xylene	9	<0.005	60 (S4UL)	None
m-xylene	9	<0.005	56 (S4UL)	None
p-xylene	9	<0.005	56 (S4UL)	None
methyl tert butyl ether	9	<0.005		None



Notes to table:

- S4UL: Suitable For Use Levels published by Chartered Institute of Environmental Health and Land Quality Management Ltd, residential with plant uptake scenario (1% SOM); copyright Land Quality Management Ltd reproduced with permission publication number S4UL3102. All rights reserved.
- GAC: Generic Assessment Criteria published by CL:AIRE for human health risk assessment for a residential scenario with consumption of homegrown produce (1% SOM).
- C4SL: Category 4 Screening Levels published by CL:AIRE (C4SLs); 'residential without home grown produce land use' (at 1% SOM)

Two minor exceedances were reported and were limited to a single sample (Ph9-S9A). Arsenic was recorded at 52.1 mg/kg (criteria of 37 mg/kg), and beryllium at 3 mg/kg (criteria of 1.7 mg/kg). In the absence of anthropogenic material, statistical analysis has been carried out on the sample mean, the results are tabulated in the table below:

Table 3. Statistical Analysis of Arsenic and

statistic	arsenic (mg/kg)	beryllium (mg/kg)
criterion	37	1.7
no. of samples	9	9
Grubbs outlier test for highest value (P0.05)	Ph9-S9A (max value 52.1 mg/kg) is an outlier	Ph9-S9A (max value 3.0 mg/kg) is an outlier
arithmetic mean, including outlier	22.42	1.36
upper confidence limit (UCL 0.95) including outlier	39.09 (fail)	2.28 (fail)
arithmetic mean, excluding Ph9-S9A outlier	18.71	1.15
upper confidence limit (UCL 0.95) excluding Ph9-S9A outlier	23.26 (pass)	1.25 (pass)

Statistical analysis confirms that both exceedances are outliers of the dataset and are not representative of the soil concentrations and can therefore be excluded from the dataset. When these exceedances are removed, the UCL (0.95) for arsenic is 23.26 mg/kg and 1.25 mg/kg for beryllium resulting in no exceedances.

In-Situ Future Formation Soil Validation

Under a revised Strategy and in accordance with validation works within the wider Heyford Park development, sampling of the underlying 400mm subsoil beneath any topsoil or removed hardstanding would be sampled to determine its retention as part of the 600mm garden cover providing that it is uncontaminated and suitable for such use.

In-situ sampling of subsoils below the topsoil cover was completed through the excavation and sampling of the top 400mm of soil. Sampling was completed at a test frequency of 1 sample per 500m³, the residual depth of 400mm equating to 1 sample per 1,250m² plan area of development.

Twelve in-situ samples were collected from the underlying soil with depth validation photos showing the extent of the 400mm depth range appended to this report with sampling locations reproduced in Drawing D01. Assuming an approximate site area of 14,650m², the volume of validated soils is effectively 5,860m³, exceeding the specified sampling rate of 1 sample per 500m³ (1 per 488m³ achieved).

Sampled soils generally comprised of a dark brown clay soil with coarse gravel of limestone although inclusions of brick fragments (S5, S6, S11 and S12) and tarmac (S7 and S11) were observed. No inclusions of ash, slag or clinker were observed but it is noted that Hydrock reported ash within 2 locations. A plan detailing the validation entries with Hydrock's trial-pits is provided in Drawing D01.

Table 4. Analysis Summary of Formation Soils

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Residential Use	
			Screening criteria (mg/kg unless stated)	Exceedances
SOM	12		-	None
pH	12	7.53-8.47	-	None
asbestos fibre*	12	NAD	<0.001%	None
antimony	12	1-3	550 (GAC)	None
arsenic	12	14.3-25.1	37 (S4UL)	None
barium	12	49.119	1300 (GAC)	None
beryllium	12	0.9-1.4	1.7 (S4UL)	None
cadmium	12	<0.1-0.2	11 (S4UL)	None
chromium	12	32.3-47	910 (S4UL)	None
chromium IV	12	<0.3	6 (S4UL)	None
cobalt	12	6.3-12.5	-	None
copper	12	9-57	2400 (S4UL)	None
lead	12	11-59	200 (C4SL)	None
mercury	12	<0.1	170 (S4UL)	None
molybdenum	12	1.2-2.6	670 (GAC)	None
nickel	12	16.3-31.6	180 (S4UL)	None
selenium	12	<1	250 (S4UL)	None
vanadium	12	42-69	410 (S4UL)	None
water soluble boron	12	0.7-3.4	290 (S4UL)	None
zinc	12	52-204	3700 (S4UL)	None
naphthalene	12	<0.04-0.06	2.3 (S4UL)	None
acenaphthylene	12	<0.03-0.08	170 (S4UL)	None
acenaphthene	12	<0.05-0.23	210 (S4UL)	None
fluorene	12	<0.04-0.15	170 (S4UL)	None
phenanthrene	12	<0.03-2.93	95(S4UL)	None
anthracene	12	<0.04-0.87	280 (S4UL)	None
fluoranthene	12	<0.03-6.08	2400 (S4UL)	None
pyrene	12	<0.03-6.08	620 (S4UL)	None
benzo(a)anthracene	12	<0.06-2.15	7.2 (S4UL)	None
chrysene	12	<0.02-2.15	15 (S4UL)	None
benzo(bk)fluoranthene	12	<0.07-3.83	-	-
benzo(a)pyrene	12	<0.04-2.22	2.2 (S4UL)	(2) Ph9-S4
indeno(123cd)pyrene	12	<0.04-1.60	27 (S4UL)	None
dibenzo(ah)anthracene	12	<0.04-0.28	0.24(S4UL)	(2) Ph9-S4 & Ph9-S11
benzo(ghi)perylene	12	<0.04-1.51	320 (S4UL)	None
aliphatic C5-C6	12	<0.1	42 (S4UL)	None
aliphatic C6-C8	12	<0.1	100 (S4UL)	None
aliphatic C8-C10	12	<0.1	27 (S4UL)	None

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Residential Use	
			Screening criteria (mg/kg unless stated)	Exceedances
aliphatic C10-C12	12	<0.2	130 (S4UL)	None
aliphatic C12-C16	12	<4	1100 (S4UL)	None
aliphatic C16-C21	12	<7	5000 (S4UL)	None
aliphatic C21-C35	12	<7-11	5000 (S4UL)	None
aromatic C5-C7	12	<0.1	70 (S4UL)	None
aromatic C7-C8	12	<0.1	130 (S4UL)	None
aromatic C8-C10	12	<0.1	34 (S4UL)	None
aromatic C10-C12	12	<0.2-0.3	74 (S4UL)	None
aromatic C12-C16	12	<4	140 (S4UL)	None
aromatic C16-C21	12	<7-20	260 (S4UL)	None
aromatic C21-C35	12	<7-97	1100 (S4UL)	None
benzene	12	<0.005	0.08 (S4UL)	None
toluene	12	<0.005	130 (S4UL)	None
ethylbenzene	12	<0.005	47 (S4UL)	None
o-xylene	12	<0.005	60 (S4UL)	None
m-xylene	12	<0.005	56 (S4UL)	None
p-xylene	12	<0.005	56 (S4UL)	None
methyl tert butyl ether	12	<0.005	-	None

Notes to table:

- S4UL: Suitable For Use Levels published by Chartered Institute of Environmental Health and Land Quality Management Ltd, residential with plant uptake scenario (1% SOM); copyright Land Quality Management Ltd reproduced with permission publication number S4UL3102. All rights reserved.
- GAC: Generic Assessment Criteria published by CL:AIRE for human health risk assessment for a residential scenario with consumption of homegrown produce (1% SOM).
- C4SL: Category 4 Screening Levels published by CL:AIRE (C4SLs); 'residential without home grown produce land use' (at 1% SOM)

Exceedances were limited to a very minor elevated concentrations of benzo(a)pyrene within sample Ph9-S4 with a concentration of 2.22 mg/kg compared to the criteria of 2.2 mg/kg, and dibenzo(ah)anthracene with concentrations of 0.28 mg/kg (criteria of 0.24 mg/kg) with both Ph9-S4 and Ph9-S11.

PAH ratio analysis was completed on the exceeded samples to determine the source of the elevated PAHs, a copy of the plot is attached to this report. Source identification confirms a coal signature, no anthropogenic material such as ash or clinker were observed within Ph9-S4 whilst fragments of tarmac were recorded within Ph9-S11. Source identification indicates a likely low bio-availability due to the sequestration of PAHs within a carbon or vitrified matrix, with B(a)P concentrations below the DEFRA C4SL criteria of 5 mg/kg for garden soils. The minor PAH exceedances are unlikely to represent an unacceptable risk to human health.

Conclusions

Topsoil cover was present across the site (with exception of entry S29) extending to depths of 0.2 and 0.3m bgl. Minor exceedances of site topsoil were initially recorded for both arsenic and beryllium within sample Ph9-S9A, however further statistical analysis confirmed the exceedances are not

Andy Walker
Urban Regen



representative of the dataset and when removed the UCL (0.95) did not result in any exceedances. It is concluded that the topsoil is suitable for recovery and reuse within the development.

The 0.4m of soils present beneath the topsoil layer were a brown clay with frequent limestone gravel (possible weathered bedrock) and rare inclusions of brick and tarmac, tarmac fragments were limited to entries S7 and S11. It is anticipated that the clay layer may have been placed in part during construction of the baseball pitch where soils from the wider Heyford area may have been placed.

Concentrations of determinants were below the assessment criteria except with 3 minor exceedances for the PAHs benzo(a)pyrene (no 1) and dibenzo(ah)anthracene (no 2) in entries S4 and S11. Further assessment has confirmed a coal signature, possibly associated with minor tarmac inclusions and concluded that the identified sources are likely to be below significant in terms of solubility and bioavailability due to the sequestration within coal / tarmac.

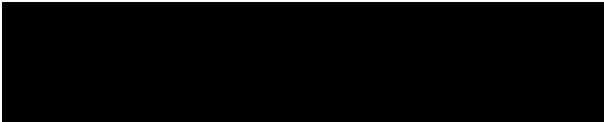
SGP considers that the risk associated to future site occupants to concentrations to be negligible and that the site soils (topsoil and subsoil) are suitable for retention in future garden areas. The recommended remedial measures (i.e. engineered cover system) may be revised to be consistent with those applied to other similar areas i.e. no specific requirement for cover soils.

Recommendations

It is recommended that in the absence of a revised Strategy being produced and issued for the Phase 9 area that this report be submitted to CDC for approval, however further justification to the deviation from the submitted Strategy may be required.

Assessment of risks associated with occasional exceedances and conclusions regarding suitability for retention at shallow depths should be provided to CDC for approval.

Yours sincerely
for: Smith Grant LLP



D Wayland BSc MSc MCIWEM

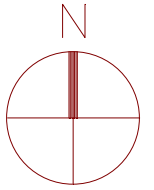
Attached:

- Drawing D01
- App A: Entry Logs & Photo Record
- App B: Lab Certificate: 18-7823 & 18-14613
- App C: PAH Ratio Plot & Arsenic and Beryllium CLR7 Statistics

Andy Walker
Urban Regen



DRAWING



Reproduced with the permission of the Ordnance Survey © Crown Copyright Licence No. 100005799



Smith Grant LLP
Station House, Station Road
Ruabon, Wrexham LL14 6DL

Tel: 01978 822367
Fax: 01978 8247182

www.smithgrant.co.uk
email: consult@smithgrant.co.uk

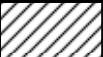
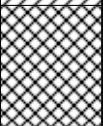
Project: Heyford Park, Upper Heyford	
Drawing: Phase 9 - Basketball Pitch Insitu Validation Samples	
Drawn: DW	Checked: BJT
Date: 06.08.18	Scale: 1:500 @ A3
Job No: R1742b	Dwg No: R1742b-L07-D01


Andy Walker
Urban Regen




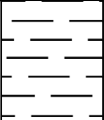

APPENDIX A

SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S1
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	

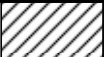

DEPTH (m)	SAMPLES	Lab testing	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
0.2	Ph9-S1A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.6		Heyford Suite	0.2	MADE GROUND: Dark brown CLAY with coarse gravel (relict gas pipe at base)	
	Ph9-S1B			Base at 0.6m bgl	


 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>	GROUND WATER: No groundwater encountered	
	REMARKS: Sidewalls stable PID <0.1 ppm	
	SCALE: 1:250	LOGGED BY: DW

D: small disturbed sample
 B: bulk disturbed sample
 PP: pocket penetrometer

SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S2
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	
DEPTH (m)	SAMPLES	Lab testing	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
0.3	Ph9-S2A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.7		Heyford Suite	0.3	Dark brown to red CLAY with frequent gravel of angular limestone	
	Ph9-S2B			Base at 0.7m bgl	
 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>		GROUND WATER: No groundwater encountered			
		REMARKS: Sidewalls stable PID <0.1 ppm			
		SCALE: 1:250	LOGGED BY: DW	FIGURE NO. 1	
		D: small disturbed sample B: bulk disturbed sample PP: pocket penetrometer			

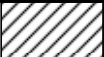

SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S3
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	


DEPTH (m)	SAMPLES	Lab testing	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
0.2	Ph9-S3A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.6		Heyford Suite	0.2	Dark brown CLAY with frequent gravel of angular limestone	
	Ph9-S3B			Base at 0.6m bgl	

 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>	GROUND WATER: No groundwater encountered	
	REMARKS: Sidewalls stable PID <0.1 ppm	
	SCALE: 1:250	LOGGED BY: DW

D: small disturbed sample
B: bulk disturbed sample
PP: pocket penetrometer


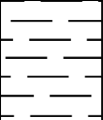
SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S4
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	


DEPTH (m)	SAMPLES	Lab testing	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
0.2	Ph9-S4A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.6		Heyford Suite	0.2	Dark brown CLAY with frequent gravel of angular limestone	
	Ph9-S4B			Base at 0.6m bgl	

 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>	GROUND WATER: No groundwater encountered	
	REMARKS: Sidewalls stable PID <0.1 ppm	
	SCALE: 1:250	LOGGED BY: DW

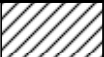

D: small disturbed sample
 B: bulk disturbed sample
 PP: pocket penetrometer


SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S5
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	

DEPTH (m)	SAMPLES	Lab testing	DEPTH (E)	DESCRIPTION OF STRATA	LEGEND
0.3	Ph9-S5A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.7		Heyford Suite	0.3	Dark brown CLAY with frequent gravel of angular limestone and rare brick fragments	
	Ph9-S5B			Base at 0.7m bgl	

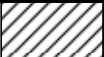

 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>	GROUND WATER: No groundwater encountered	
	REMARKS: Sidewalls stable PID <0.1 ppm	
	SCALE: 1:250	LOGGED BY: DW


D: small disturbed sample
B: bulk disturbed sample
PP: pocket penetrometer

SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S6
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	
DEPTH (m)	SAMPLES	Lab testing	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
0.2	Ph9-S6A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.6		Heyford Suite	0.2	Dark brown CLAY with frequent gravel of angular limestone and rare brick fragments	
	Ph9-S6B			Base at 0.6m bgl	

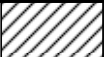


 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>	GROUND WATER: No groundwater encountered	
	REMARKS: Sidewalls stable PID <0.1 ppm	
	SCALE: 1:250	LOGGED BY: DW

D: small disturbed sample
B: bulk disturbed sample
PP: pocket penetrometer

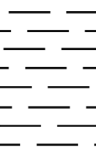
SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S7
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	
DEPTH (m)	SAMPLES	Lab testing	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
0.2	Ph9-S7A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.6		Heyford Suite	0.2	Dark brown CLAY with frequent gravel of angular limestone and rare brick and tarmac fragments	
	Ph9-S7B			Base at 0.6m bgl	


 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>	GROUND WATER: No groundwater encountered	
	REMARKS: Sidewalls stable PID <0.1 ppm	
	SCALE: 1:250	LOGGED BY: DW

D: small disturbed sample
 B: bulk disturbed sample
 PP: pocket penetrometer

SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S8
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	
DEPTH (m)	SAMPLES	Lab testing	DEPTH (m)	DESCRIPTION OF STRATA	LEGEND
0.2	Ph9-S8A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.6		Heyford Suite	0.2	Dark brown CLAY with frequent gravel of angular limestone	
	Ph9-S8B			Base at 0.6m bgl	
 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>		GROUND WATER: No groundwater encountered			
		REMARKS: Sidewalls stable PID <0.1 ppm			
		SCALE: 1:250	LOGGED BY: DW	FIGURE NO. 1	
		D: small disturbed sample B: bulk disturbed sample PP: pocket penetrometer			


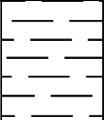
SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S9
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	


DEPTH (m)	SAMPLES	Lab testing	DEPTH (E)	DESCRIPTION OF STRATA	LEGEND
0.6	Ph9-S9A	Heyford Suite	0	Light brown CLAY becoming darker with frequent gravel of angular limestone	
				Base at 0.6m bgl	

 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>	GROUND WATER: No groundwater encountered	
	REMARKS: Sidewalls stable PID <0.1 ppm	
	SCALE: 1:250	
LOGGED BY: DW		FIGURE NO. 1

D: small disturbed sample
B: bulk disturbed sample
PP: pocket penetrometer



SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S10
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	


DEPTH (m)	SAMPLES	Lab testing	DEPTH (E)	DESCRIPTION OF STRATA	LEGEND
	Ph9-S10A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.7			0.3	Dark brown CLAY with frequent gravel of angular limestone	
				Base at 0.7m bgl	

 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>	GROUND WATER: No groundwater encountered	
	REMARKS: Sidewalls stable PID <0.1 ppm	
	SCALE: 1:250	LOGGED BY: DW


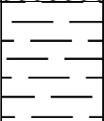

D: small disturbed sample
 B: bulk disturbed sample
 PP: pocket penetrometer

SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S11
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	

DEPTH (m)	SAMPLES	Lab testing	DEPTH (E)	DESCRIPTION OF STRATA	LEGEND
	Ph9-S11A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.7			0.3	Light brown CLAY with coarse gravel of limestone and rare brick and tarmac fragments	
				Base at 0.7m bgl	

 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>	GROUND WATER: No groundwater encountered	
	REMARKS: Sidewalls stable PID <0.1 ppm	
	SCALE: 1:250	LOGGED BY: DW

D: small disturbed sample
B: bulk disturbed sample
PP: pocket penetrometer

SHEET: 1 of 1	LOCATION: See Plan	PROJECT: Heyford Dorchester	ENGINEER: DW	JOB NO. R1742b	TRIAL PIT NO. Ph9-S12
		EXCAVATED BY: Tracked 360	CLIENT: Urban Regen Ltd.	DATE: 1st May	
DEPTH (m)	SAMPLES	Lab testing	DEPTH (E)	DESCRIPTION OF STRATA	LEGEND
	Ph9-S12A	Heyford Suite	0	Dark brown CLAY topsoil with rootlets	
0.7			0.3	Light brown CLAY with coarse gravel of limestone and rare brick fragments	
				Base at 0.7m bgl	
 <p>Smith Grant LLP Station House, Station Road, Ruabon, Wrexham LL146DL</p> <p>Tel: 01978822367 Fax: 019788247182</p> <p>www.smithgrant.co.uk email: consult@smithgrant.co.uk</p>		GROUND WATER: No groundwater encountered			
		REMARKS: Sidewalls stable PID <0.1 ppm			
		SCALE: 1:250	LOGGED BY: DW	FIGURE NO. 1	
		<small>D: small disturbed sample B: bulk disturbed sample PP: pocket penetrometer</small>			