

Our ref: R1742B-L13  
10<sup>th</sup> May 2022

Brett Carter  
Urban Regen  
Langley Road  
Pendlebury  
Salford  
M6 6FG

by e-mail: [brett.carter@urbanregen.co.uk](mailto:brett.carter@urbanregen.co.uk)

Dear Brett

### **Upper Heyford – Dorchester Phase 7a Validation Completion Report**

SGP has been instructed to produce a validation report for Dorchester Phase 7a following the demolition of a former building and the breaking out and removal of hardstanding across the site. A site location plan including the approximate location of validation entries is provide within Drawing D01.

The area was previously occupied by hardstanding (car parking, roads and pavements), a large building in the centre/ south of the site and areas of soft landscaping / verges in the east. Details of the former building on the site as provided in the Oxford Archaeology 'Written scheme of investigation for recording of buildings to be demolished' (June 2012) is made below:

**Table 1. Summary of former Buildings within Phase 7a area**

<b>Building</b>	<b>Date</b>	<b>Use</b>
86	1981	Tyre Depot QEK

Building 86 if of a moderately recent construction when compared to other buildings within the former RAF Upper Heyford site. It is understood through anecdotal information that the site was most recently occupied by Prot tyre which operated a tyre depot from the site until its recent closure.

The site was investigated by Jomas in 2012 as part of a wider site investigation of the surrounding area. A single trial-pit (TP-NSA-236) was excavated in the southwest of the site. Ground conditions were recorded as made ground of a brown to black sandy gravelly clay with gravel of limestone and occasional fragments of brick down to a depth of 0.6m bgl. Natural sandy clayey gravel of limestone (weathered bedrock) was present immediately below the made ground down to 1.2m where limestone bedrock was present. Arisings were screened with a PID at 0.5, 1 and 1.3m with readings failing to exceed detection limits in all instances.

Two former underground fuel tanks (UG-NSA-24 and -25) were located to the immediate west of the site and were removed as part of remediation works undertaken by Urban Regen in 2014. The validation reporting of the remediation of these tanks were reported within the SGP UST Verification Report (ref. R1742-R06-v2) which concluded that following removal there were no fuel impacted soils present.

Preparatory works undertaken by URL on the site were undertaken and completed in April 2022 and consisted of the demolition of Building 86, breaking out and removal of the underlying hardstanding (concrete slabs and areas of tarmac) and trimming the area to -200mm.

Approximately 1,045m<sup>3</sup> of hardstanding / masonry was recovered from the site and relocated to the Phase 9 area to undergo processing at a later date. Recovered materials consisted of approximately 918m<sup>3</sup> of masonry and concrete from the former building and slabs, and 127m<sup>3</sup> of tarmac from the road and areas surrounding the former building. Testing of the generated aggregates will form part of the overall validation works within the final Phase 9 completion reporting or be subject to separate reporting to determine the suitability for reuse.

During the removal of hardstanding and relict drainage / manhole chambers, two brick interceptors were encountered in the southwest of the site and were filled with a black oily water. Upon identification, URL ceased works within this area and instructed specialist sub-contractor Cleaning Service Group (CSG) to collect a representative sample to advise on disposal. CSG confirmed an oil with >20% water. CSG re-attended site on 20<sup>th</sup> April 2022 and removed approximately 2,500 litres of oily water by vacuum tanker. A copy of the CSG consignment note and certificate of works is appended to this letter.

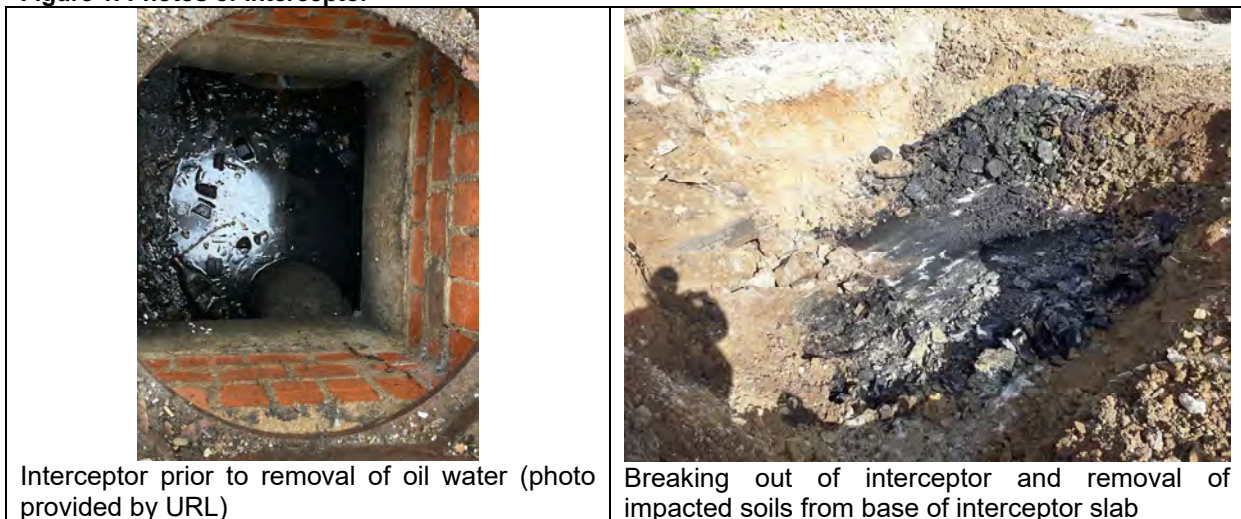
#### Interceptor Hotspot (HS1)

Following the removal of impacted water by CSG, SGP attended site on 25<sup>th</sup> April 2022 to inspect the removal of the interceptor and to permit the inspection of surrounding soils and collection of validation samples.

Natural or reworked natural soils of a clayey limestone gravel were present from the surface down to 2.0m bgl where a concrete slab at the base of the interceptor was present. Black stained soils around the concrete slab were present down to a depth of approximately 2m bgl where a firm grey clay was present.

Visually impacted soils at a depth of 2.0-2.4m bgl were removed laterally until no stained materials remained, the remediation excavation extended over an area of approximately 4.2m x 2.8m with approximately 3m<sup>3</sup> of impacted soils removed. Removed soils were temporarily placed on a concrete slab before relocation into a quarantine holding area.

**Figure 1. Photos of interceptor**



Interceptor prior to removal of oil water (photo provided by URL)

Breaking out of interceptor and removal of impacted soils from base of interceptor slab

The remediation excavation sidewalls and base were screened with a PID to confirm the visual efficiency of remediation works with readings between <0.1 ppm and 4.7 ppm recorded. Validation samples were collected in accordance with the approved Strategy with 1 composite sample per 15m<sup>2</sup> exposed sidewall / base with 1 composite sample collected per sidewall and base. The location and



extent of the remediation excavation and location of validation samples are provided in the attached drawing (D01). Representative photos are provided in Appendix A.

Samples were collected at the depth in which impacted soils were encountered and removed (2.0-2.4m bgl) and submitted for fractionated hydrocarbon analysis (lab ref. 22-15513). Concentrations are compared to the assessment criteria for hydrocarbon remediation as set out in Table 6.1 of the Remediation Strategy (adopted from Table B3 of the Watermans Control Waters DQRA, ref. EED10658-14.1.7\_FA) and the garden soils criteria in Table 6.2 of the Strategy.

**Table 1. Interceptor Remediation Validation Data**

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Hotspot Criteria (Table 3.4)	Garden Soils Criteria (Table 3.3)	Exceedance Concentration & location
			Screening criteria (mg/kg unless stated)	Screening criteria (mg/kg unless stated)	
Aliphatic C5-C6	5	<1	-	42	None
Aliphatic C6-C8	5	<1	-	100	None
Aliphatic C8-C10	5	<1-41	80	27	None
Aliphatic C10-C12	5	<1-340	1000	130	None
Aliphatic C12-C16	5	<1	1000	1100	None
Aliphatic C16-C21	5	<1	1000	65,000	None
Aliphatic C21-C35	5	<1	1000	65,000	None
Aromatic C5-C7	5	<1	-	42	None
Aromatic C7-C8	5	<1	-	130	None
Aromatic C8-C10	5	<1	-	34	None
Aromatic C10-C12	5	<1	7	74	None
Aromatic C12-C16	5	<1-13	120	140	None
Aromatic C16-C21	5	<1-68	440	260	None
Aromatic C21-C35	5	<1	1000	1100	None
Benzene	5	<0.001	0.08 (Table 3.3)		None
Toluene	5	<0.001	120 (Table 3.3)		None
Ethylbenzene	5	<0.001	65 (Table 3.3)		None
m/p-Xylene	5	<0.001	42 (Table 3.3)		None
o-xylene	5	<0.001	44 (Table 3.3)		None

No exceedances of the validation criteria were reported with most concentrations below analytical detection limits.

**In-Situ Formation Soil Validation**

It is a requirement under the Remediation Strategy that a 600mm cover of clean soils over made ground is placed in garden areas, however due to the contractual requirement to trim development areas by -200mm below previous ground levels, made ground was absent due to the shallowness of natural strata following the preparatory works or the made ground consisted of reworked natural soils with occasional incidences of brick. This meant that a 400mm depth of subsoil will be left in-situ which could form part of the full 600mm of garden soil cover after replacement of garden topsoil providing that it is uncontaminated and suitable for such use.

SGP samples formation soils on 25.04.22 through the sampling of the top 400mm at a test frequency of 1 sample per 500m<sup>3</sup>, the residual depth 400mm depth equating to 1 sample per 1,250m<sup>2</sup> plan area



of development. Four in-situ formation samples were collected from the exposed formation level soils where accessible with depth validation photos showing the extent of the 0-400mm depth range appended to this report and sampling locations reproduced in Drawing D01. Assuming an approximate area of 2,000m<sup>2</sup>, the volume of validated soils is effectively 800m<sup>3</sup>, exceeding the specified sampling rate of 1 sampler per 500m<sup>3</sup> (1 per 200m<sup>3</sup> achieved).

Sampled soils comprised a dark to light brown clayey sandy soil with gravel of limestone cobbles, typical of the natural soils encountered across the wider Heyford development. No inclusions of anthropogenic material such as ash or clinker were observed although occasional incidences of brick were present.

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 Chemtest Ltd.) within 48 hours of collection. SGP retains chain of custody documentation.

Chemical laboratory certificate (22-15513) is attached. Results are summarised in the table below and are compared to assessment criteria for garden cover soils in accordance with Table 6.2 of the Strategy.

**Table 2. Analysis Summary for Formation Level Soils**

Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Residential Use	
			Screening criteria (mg/kg unless stated)	Exceedances
SOM	4	3.8-11	-	None
pH	4	8.6-8.8	WRAS <5>8	All
asbestos fibre*	4	NAD	<0.001%	None
arsenic	4	4.3-19	32	None
cadmium	4	<0.1-0.15	10	None
chromium	4	3.5-26	3000	None
chromium IV	4	<0.5	4.3	None
copper	4	1.6-11	300	None
lead	4	2.8-23	450	None
mercury	4	<0.05	1	None
nickel	4	2.8-23	130	None
zinc	4	6.5-47	300	None
naphthalene	4	<0.1	1.5	None
acenaphthylene	4	<0.1	210	None
acenaphthene	4	<0.1	170	None
fluorene	4	<0.1	160	None
phenanthrene	4	<0.1	92	None
anthracene	4	<0.1	2300	None
fluoranthene	4	<0.1-0.61	260	None
pyrene	4	<0.1-0.75	560	None
benzo(a)anthracene	4	<0.1	3.1	None
chrysene	4	<0.1	6	None
benzo(bk)fluoranthene	4	<0.2	-	-
benzo(a)pyrene	4	<0.1	0.83	None



Contaminant	Samples	Range of Concentrations (mg/kg unless stated)	Residential Use	
			Screening criteria (mg/kg unless stated)	Exceedances
indeno(123cd)pyrene	4	<0.1	3.2	None
dibenzo(ah)anthracene	4	<0.1	0.76	None
benzo(ghi)perylene	4	<0.1	44	None
aliphatic C5-C6	4	<1	30	None
aliphatic C6-C8	4	<1	73	None
aliphatic C8-C10	4	<1	19	None
aliphatic C10-C12	4	<1	93	None
aliphatic C12-C16	4	<1	740	None
aliphatic C16-C21	4	<1	1000	None
aliphatic C21-C35	4	<1	1000	None
aromatic C5-C7	4	<1	30	None
aromatic C7-C8	4	<1	120	None
aromatic C8-C10	4	<1	27	None
aromatic C10-C12	4	<1	69	None
aromatic C12-C16	4	<1	140	None
aromatic C16-C21	4	<1	250	None
aromatic C21-C35	4	<1	890	None
benzene	4	<0.001	0.08	None
toluene	4	<0.001	120	None
ethylbenzene	4	<0.001-0.001	65	None
o-xylene	4	<0.001-0.048	45	None
m/p-xylene	4	<0.001-0.021	44	None

Elevated pH in excess of the former WRAS trigger pH value of >8 was reported within all four samples with concentrations ranging between 8.6 and 8.80. Alkaline soil pH is likely to be attributed to the ubiquitous presence of carbonate limestone identified across the New Settlement Area (NSA) and is consistent with concentrations reported across the wider development area.

No exceedances of the other determinants were reported which confirms that formation soils can be retained within garden areas.

### Conclusions

SGP conclude that site preparatory works have been completed within the Dorchester Phase 7a area.

The site appears to have always been used as a tyre depot until its recent closure where it is likely that limited stores of fuels or oils may have been used. A single contamination hotspot was encountered during preparatory works relating to oily water within an interceptor in the southwest of the site, located immediately adjacent to the former tyre depot building.

Removal of oily water and residues within the interceptor were completed by specialist subcontractor CSG. Breaking out of the interceptor was carried out during attendance by SGP where oil impacted soils at the base of the interceptor were encountered and removed. Validation samples were collected by SGP from the base and sidewalls of the remediation which confirmed no exceedances remained.

Brett Carter  
Urban Regen



The removed soils have been temporarily relocated to a quarantine holding area pending further testing which will be reported under separate cover at a later date.

No further potential hotspots were encountered with a walkover of formation soils undertaken by SGP which did not identify any visual or olfactory contamination indicators.

In-situ validation of formation soils has been completed at the specified sampling frequency with minor elevated pH attributed to the natural geology. No exceedances of the garden cover system criteria were reported, and it is concluded that the soils are suitable for retention within garden areas.

Recommendations

No further remedial works are required within Phase 7a. The developer is required to place a minimum of 150-200mm topsoil within gardens and areas of landscaping.

With the adoption of the above normal practice for Brownfield development, and on the information available to it, SGP concludes that the preparatory remedial works have been completed in accordance with the agreed strategy. In the event that any previously undisclosed contamination or suspect materials are identified then this should be assessed by an appropriately qualified and experienced person

Yours sincerely  
for: Smith Grant LLP

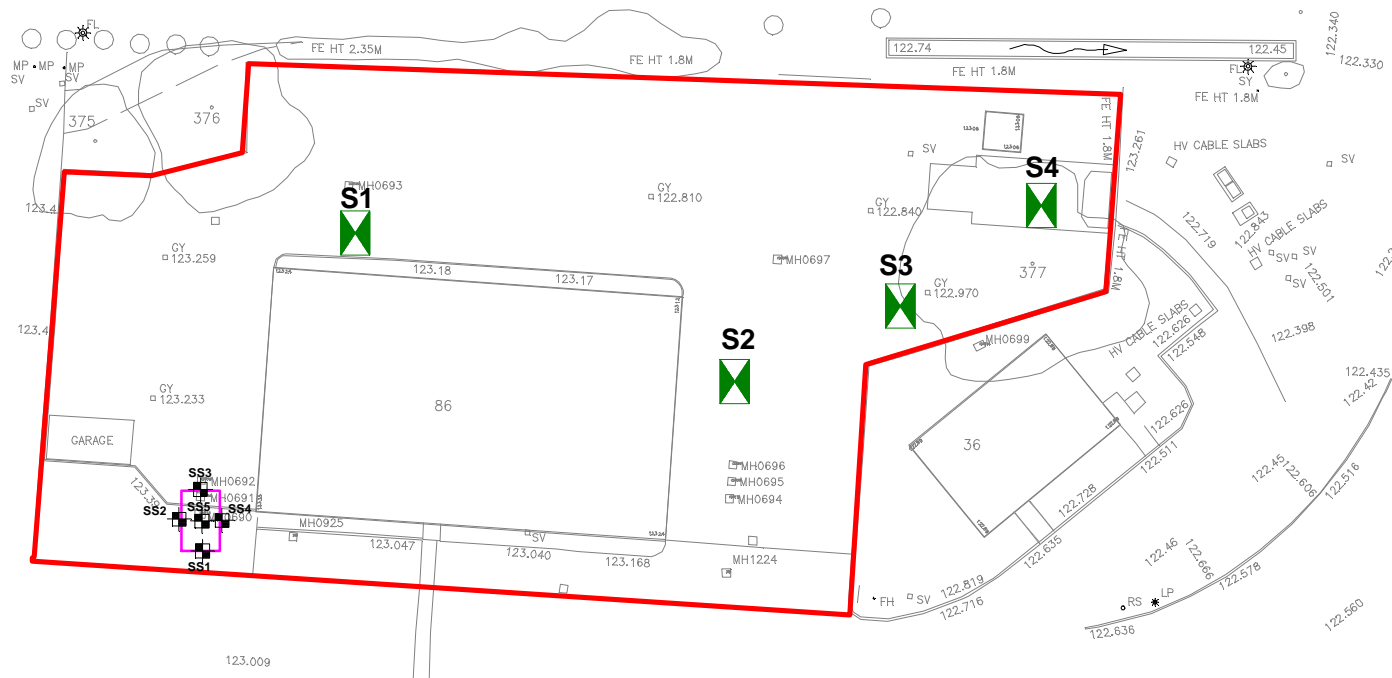
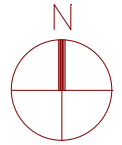





D Wayland BSc MSc AssocCIWM MCIWEM C.WEM

Brett Carter  
Urban Regen



## Drawings



-  In-Situ Formation Sample
-  Hotspot Validation Sample
-  Extent of Hotspot Remediation



Station House  
Station Road, Ruabon  
Wrexham, LL14 6DL  
Tel: 01978 822367  
Fax: 01978 824718

[www.smithgrant.co.uk](http://www.smithgrant.co.uk)  
email: [info@smithgrant.co.uk](mailto:info@smithgrant.co.uk)

Project:  
Heyford Park: Building 86

Drawing:  
Site Location & Validation Samples

Drawn: DW	Checked: SM
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Date: 03.05.22	Scale: 1:500 @ A4
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Job No: R1742b	Drg No: D01
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Brett Carter  
Urban Regen



## Appendix A

### Photographic Record

**Interceptor (HS1)**



25.04.22 – Removal of soils around interceptor prior to breaking out. Black stained soils visible in base of excavation



25.04.22 – Breaking out of slab at base of interceptor



25.04.22 – Black stained soils around broken out slab



25.04.22 – Remediation excavation following removal of impacted soils

**Formation Sampling**



25.04.22 – S1 Soil Profile



25.04.22 – S1 Excavation



25.04.22 – S2 Soil Profile



25.04.22 – S2 Excavation



25.04.22 – S3 Soil Profile



25.04.22 – S3 Soil Excavation



25.04.22 – S4 Soil Profile



25.04.22 – S4 Soil Excavation

**General Walkover**



25.04.22 – Northern view from the southern boundary



25.04.22 – Eastern view. Natural / reworked natural formation soil present across site surface



25.04.22 – View to the northwest corner where remedial works of HS1 completed



25.04.22 – Breaking out of relict drainage at a central location near the southern boundary



25.04.22 – Eastern view along the northern boundary

No Photo

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## **Appendix B**

### **CSG Certificates**

**Part A: Notification Details**

**1. Consignment Note Code**  
URBANR/60250

**2. The Waste described below is to be removed from**  
Urban Regen Ltd  
Unit 86, Heyford Park, Bicester, Oxford  
OX25 5HD  
Email: josh.forrest@urbanregen.co.uk

**3. The Waste will be taken to**  
Cleansing Service Group Ltd  
Colliery Lane, Exhall, COVENTRY, Warks  
CV7 9NW  
Tel: 02476 369977

**4. The Waste Producer (if different from A2) was**

**Part B: Description of the Waste**

**1. The process giving rise to the Waste was**  
surface water drainage

**2. SIC Code for the process giving rise to the Waste**  
43.11/0

**3. Waste details for each EWC identified**

Desc. of Waste	EWC Code	Quantity	The Chemical/Biological components in the Waste and their concentrations are:	Physical Form	Hazard Code(s)	Container Type, Num & Size
oil/water/sludge	13 01 11*	2500 Litres	oil >20% with water	Liquid	HP5, HP7, HP10, HP11, HP14	Tanker

**4. EWC Handling Information**

EWC Code	UN Identification Number(s)	Proper Shipping Name(s)	UN Class(es)	Packing Group(s)	Tunnel Code(s)	EAC	Special Handling Requirements
13 01 11*	UN1202	Waste Diesel fuel	3	III			PPE

**Part C: Carrier's Certificate**

I certify that I today collected the Consignment and that the details in A2, A3 & B3 are correct and I have been advised of any special handling requirements.

Where this note comprises part of a multiple collection, the round number and collection number is

**Carrier Name** D TURNER  
**On behalf of** CSG Coventry  
Colliery Lane, Exhall, COVENTRY,  
CV7 9NW  
Tel: 02476 644416  
Email: 034.pda@csg.co.uk  
**Carrier Reg No./Reason for Exemption** CBDU89037  
**Vehicle Registration** WX64GVJ  
**Signature**

**Date/Time** 20/04/2022 @ 11:10

**Part D: Consignor's Certificate**

I certify that the information in A, B & C has been completed and is correct, that the Carrier is registered or exempt and was advised of the appropriate precautionary measures. All of the Waste is packaged and labelled correctly and the Carrier has been advised of any special handling requirements.

I confirm that I have fulfilled my duty to apply the Waste hierarchy as required by Regulation 12 of the Waste (England & Wales) Regulations 2011.

**Consignor Name** Daniel  
**On behalf of** As A2  
**Signature**

**Date/Time** 20/04/2022 @ 11:10

**Part E: Consignee's Certificate**

EWC Code Received	Quantity of each EWC Code received	Accepted/Rejected	Waste Management Operation (R or D Code)
13 01 11*			

13 01 11\*

**1. I received this Waste at the Address given in A4 on**  
**2. Vehicle Registration**  
**3. Where Waste is rejected, details are**

**Ticket Num Name**  
**On behalf of** Cleansing Service Group Ltd  
Colliery Lane, Exhall, COVENTRY, Warks  
CV7 9NW  
Tel: 02476 369977

I certify that Waste Permit/Exempt Waste Operation Number  
HP3331SW authorises the management of the Waste described in B at the Address given in A3.

**Signature**

Where the Consignment forms part of a multiple collection as identified in Part C, I certify that the total number of Consignments forming the collection are

**Date/Time**



**Cleansing Service Group**  
Waste Solution Specialists

**THIS IS TO CERTIFY  
that the Petroleum Interceptor System  
situated at**

Urban Regen Ltd  
Unit 86, Heyford Park, Bicester, Oxford  
OX25 5HD

was cleaned and emptied on

**20 April 2022**

This service was carried out in accordance with Petroleum Licensing Authority recommendations. Further, the resulting waste effluents were collected, transported and disposed of in accordance with the Environmental Protection Act 1990 - Section 34 (The Duty of Care).

**Carrier Registration Num**      CBDU89037

**CLEANSING SERVICE GROUP  
National Operations**

5 Barnes Wallis Rd  
Segensworth East  
Fareham  
Hampshire  
PO15 5TT

**Tel**      01489 782232  
**Fax**      01489 881369  
**Web**      [www.csg.co.uk](http://www.csg.co.uk)  
**Email**     [enquiries@csg.co.uk](mailto:enquiries@csg.co.uk)

**Account**    UR0025  
**Job**        13440  
**Ticket**     60250



<b>Account</b>	UR0025	<b>Cust Order No</b>	019982/224	<b>EWC Code</b>	13 01 11*
<b>Customer</b>	Urban Regen Ltd	<b>SIC Code</b>	43.11/0	<b>Waste Desc</b>	synthetic hydraulic oils
<b>Site</b>	Urban Regen Ltd Unit 86, Heyford Park, Bicester, Oxford OX25 5HD Email: josh.forrest@urbanregen.co.uk	<b>The Waste is contained in</b>	ROAD TANKER		
		<b>Completed Date</b>	20/04/2022		
		<b>Time on Site</b>	From 09:43 to 11:10 (01:27)		

<b>Description</b>	<b>Notes</b>
Transport of Oil/Sludge/Water from Interceptor Demurrage after 1 hour on site Disposal of Oil/Sludge/Water <5% min #120 Disposal of Oil/Sludge/Water 6-10% min #120 Disposal of Oil/Sludge/Water 11-15% min #120 Disposal of Oil/Sludge/Water 16-20% min #120 Disposal of Oil/Sludge/Water 21-25% min #120 Disposal of Oil/Sludge/Water 26-30% min #120 Disposal of Oil/Sludge/Water 31-35% min #120 Wash out of Oil/Sludge/Water from tanker <300kg	Contact Daniel Grant 07384 543698 24 hours notice access 0800-1700 HIGH OIL CONTENT IN SAMPLE Plate for ADR if necessary

**REPORT ON WORK CARRIED OUT AND DEFECTS (IF ANY) FOUND**

1. Brick Interceptor (Fuel)	<b>2</b>	9. Foul Drain Unblocked?	<b>No</b>	17. Jet Wash Pits	<b>0</b>
2. Brick Interceptor (Car Wash)	<b>0</b>	10. Gully Pots	<b>0</b>	18. IBC's	<b>0</b>
3. Car Wash Catchpit	<b>0</b>	11. Inspection Chambers	<b>0</b>	19. Spray Booths	<b>0</b>
4. Car Wash Drainage Channels	<b>0</b>	12. Coalescent Filter	<b>0</b>	20. Fuel Spill?	<b>No</b>
5. Car Wash Bucket Trap	<b>0</b>	13. Bund	<b>0</b>	21. Sand Bins	<b>0</b>
6. GRP Interceptor (Fuel)	<b>0</b>	14. Tank Tops	<b>0</b>	22. Litres of Degreaser Used	<b>0</b>
7. GRP Interceptor (Car Wash)	<b>0</b>	15. Drainage Runs - Approx Metres	<b>0</b>	23. Liquid Waste - Approx Litres	<b>1500</b>
8. Channels (Crossovers) - Approx Metres	<b>0</b>	16. Canopy Drains	<b>0</b>	24. Solids - Approx KG	<b>1000</b>

**Extra Work to Normal**

**Record of any Work not Completed**

**DEFECTS: The following items were found to be defective and will require remedial work**

Please note this is not a GAS FREE CERTIFICATE, which must be obtained from a Qualified Independent Chemist

**THIS WORK HAS BEEN CARRIED OUT TO MY SATISFACTION**

**Transferee** CSG Coventry  
Colliery Lane, Exhall, COVENTRY,  
CV7 9NW  
Tel: 02476 644416  
Email: 034.pda@csg.co.uk

**Vehicle** WX64GVJ  
**Operative** D TURNER


**Signature**  


**Date** 20/04/2022 @ 11:10

**Producer Declaration**

I certify that the Waste collected is as described and that the work has been carried out to my satisfaction.  
I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England & Wales) Regulations 2011.

**Name** Daniel

**Signature**  


**Date** 20/04/2022 @ 11:10

(CSG Standard Terms & Conditions available at [www.csg.co.uk](http://www.csg.co.uk))

**ANY INTERCEPTORS SHOULD BE RESEALED BY FILLING WITH WATER AS SOON AS POSSIBLE**



**Disposal Details**

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**Disposal Site** Cleansing Service Group Ltd  
Colliery Lane, Exhall, COVENTRY, Warks  
CV7 9NW  
Tel: 02476 369977

**License / Exemption No** HP3331SW

**Issued By**

**Disposed**

***Person Receiving Waste at Site (Transferee)***

---

**Name**

**Representing**

**Signature**



***Person Delivering Waste to Site (Transferor)***

---

**Operative**

**Name**

**Representing** CSG

**Signature**



(CSG Standard Terms & Conditions available at [www.csg.co.uk](http://www.csg.co.uk))

**ANY INTERCEPTORS SHOULD BE RESEALED BY FILLING WITH WATER AS SOON AS POSSIBLE**

Brett Carter  
Urban Regen



## **Appendix C**

### **Laboratory Certificate**

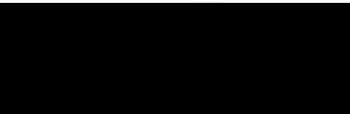


# Final Report

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**Report No.:** 22-15513-1  
**Initial Date of Issue:** 04-May-2022  
**Client** Smith Grant LLP  
**Client Address:** Station House, Station Road  
Ruabon  
Wrexham  
LL14 6DL  
**Contact(s):** Dan Wayland  
**Project** R1742b Heyford - Building St  
**Quotation No.:**  
**Order No.:**  
**No. of Samples:** 9  
**Turnaround (Wkdays):** 5  
**Date Approved:** 04-May-2022  
**Approved By:**

**Date Received:** 27-Apr-2022  
**Date Instructed:** 27-Apr-2022  
**Results Due:** 04-May-2022



**Details:** Stuart Henderson, Technical  
Manager

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## Results - Soil

**Project: R1742b Heyford - Building St**

Client: Smith Grant LLP		Chemtest Job No.:		22-15513	22-15513	22-15513	22-15513	22-15513	22-15513	22-15513	22-15513	22-15513
Quotation No.:		Chemtest Sample ID.:		1418256	1418257	1418258	1418259	1418260	1418261	1418262	1418263	1418264
Sample Location:		Bld86-HS1-SS1	Bld86-HS1-SS2	Bld86-HS1-SS3	Bld86-HS1-SS4	Bld86-HS1-SS5	Bld86-S1	Bld86-S2	Bld86-S3	Bld86-S4		
Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Top Depth (m):		2	2	2	2	2.4	0	0	0	0		
Bottom Depth (m):		2.4	2.4	2.4	2.4	2.4	0.4	0.4	0.4	0.4		
Date Sampled:		25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022
Asbestos Lab:							DURHAM	DURHAM	DURHAM	DURHAM		
Determinand	Accred.	SOP	Units	LOD								
ACM Type	U	2192		N/A						-	-	-
Asbestos Identification	U	2192		N/A						No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	12	17	19	24	18	8.6	8.7	12
pH	U	2010		4.0						8.8	8.7	8.6
Arsenic	U	2455	mg/kg	0.5						4.3	6.2	19
Cadmium	U	2455	mg/kg	0.10						< 0.10	< 0.10	0.15
Chromium	U	2455	mg/kg	0.5						3.5	6.5	26
Copper	U	2455	mg/kg	0.50						1.6	3.0	11
Mercury	U	2455	mg/kg	0.05						< 0.05	< 0.05	< 0.05
Nickel	U	2455	mg/kg	0.50						2.8	5.9	23
Lead	U	2455	mg/kg	0.50						2.8	3.0	23
Selenium	U	2455	mg/kg	0.25						0.36	< 0.25	1.0
Zinc	U	2455	mg/kg	0.50						6.5	9.4	47
Chromium (Hexavalent)	N	2490	mg/kg	0.50						< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40						8.8	11	3.8
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	41	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	340	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	390	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	13	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	68	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	81	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	< 10	470	< 10	< 10	< 10	< 10
Naphthalene	U	2700	mg/kg	0.10						< 0.10	< 0.10	< 0.10
Acenaphthylene	U	2700	mg/kg	0.10						< 0.10	< 0.10	< 0.10

## Results - Soil

**Project: R1742b Heyford - Building St**

Client: Smith Grant LLP		Chemtest Job No.:		22-15513	22-15513	22-15513	22-15513	22-15513	22-15513	22-15513	22-15513	22-15513
Quotation No.:		Chemtest Sample ID.:		1418256	1418257	1418258	1418259	1418260	1418261	1418262	1418263	1418264
Sample Location:		Bld86-HS1-SS1	Bld86-HS1-SS2	Bld86-HS1-SS3	Bld86-HS1-SS4	Bld86-HS1-SS5	Bld86-S1	Bld86-S2	Bld86-S3	Bld86-S4		
Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Top Depth (m):		2	2	2	2	2.4	0	0	0	0		
Bottom Depth (m):		2.4	2.4	2.4	2.4	2.4	0.4	0.4	0.4	0.4		
Date Sampled:		25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022	25-Apr-2022
Asbestos Lab:							DURHAM	DURHAM	DURHAM	DURHAM		
Determinand	Accred.	SOP	Units	LOD								
Acenaphthene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	U	2700	mg/kg	0.10					< 0.10	< 0.10	0.61	< 0.10
Pyrene	U	2700	mg/kg	0.10					< 0.10	< 0.10	0.75	< 0.10
Benzo[a]anthracene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	2700	mg/kg	0.10					< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	U	2700	mg/kg	2.0					< 2.0	< 2.0	< 2.0	< 2.0
Benzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.9
m & p-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	21
o-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	48

## Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'AquaKem 600' Discrete Analyser using 1,5-diphenylcarbazine.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5-C6, >C6-C8,>C8-C10, >C10-C12, >C12-C16, >C16-C21, >C21-C35, >C35- C44Aromatics: >C5-C7, >C7-C8, >C8- C10, >C10-C12, >C12-C16, >C16- C21, >C21- C35, >C35- C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.

## **Report Information**

### **Key**

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

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

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

All Asbestos testing is performed at the indicated laboratory

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

### **Sample Deviation Codes**

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- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

### **Sample Retention and Disposal**

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All soil samples will be retained for a period of 30 days from the date of receipt

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

Charges may apply to extended sample storage

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

[customerservices@chemtest.com](mailto:customerservices@chemtest.com)