Appendix **C**



As		n Ber sts and environn 🕿 🕵	INC.	tt	Ashton Bennett Consultancy Tel: 01484689531 email: geoenviro@ashton-bennett.co.uk www.ashton-bennett.com								
Proj 54 S	ject Na Shirloo	ame ck Road			Pr 32	oject No.	Co-ords: -	Hole Type WLS	•				
Loc	ation:	Londor	า		-	Level: -	Scale 1:50						
Clie	nt:	Mr & N	Irs Ka	y			Dates: 14/05/2015	Logged By T Bennett					
Well	Water Strikes	Sample Depth (m)	es & In Type	Results	Depth (m)	Level (m AOD) Legend	Stratum Description						
		0.10 0.35	ES ES		0.08 0.15 0.45		CONCRETE MADE GROUND - Red brick gravel with concrete and to coal	opsoil and	-				
		0.70	D				MADE GROUND - Brown clay with red brick and coal g	ravel	-				
		0.90 1.00	ES SPT	N=4	1 10		Brown orange mottled silty CLAY		-1				
		1.30 1.20-1.60	ES D	(1,0,1,1,1,1)	1.10		Brown silty CLAY (with selenite at 1.5 -2.0m)		-				
		1.70-2.00 2.00	D SPT	N=4 (1,1,1,1,1)	2.00		Brown very silty CLAY with selenite						
		2.20	ES	,		××			-				
		2.50-3.00	D		2.60	× × ×	Brown gre very silty CLAY with blue veins		-				
		3.00	SPT	N=4 (1 2 1 1 1 1)		××			-3				
		3.00-4.00		(',_,',',',',')					-				
		4.00	SPT	N=4 (1,2,1,1,1,1)		× × ×			- - 4 -				
					4.45	××-	End of Borehole at 5.45 m		-				
昌									-5				
									-				
									-				
									- -7 - -				
									-				
									- 8 				
									-				
									-9				
									-				
									-				
Rem	l harks:	Monitori	Type	Results									
. Ken		Drilling t	hroug	h wooden deck	ing 18ı	m above ground	level.	AGS	S				

Ask		n Ben sts and Environd		t _{TIS}	Ashton Bennett Consultancy Tel: 01484689531 email: geoenviro@ashton-bennett.co.uk www.ashton-bennett.com						
Proje 54 S	ect Na Shirloo	ame ck Road			Pr 32	oject N	lo.	Co-ords: -	Hole Type WLS		
Loca	ation:	Londor	٦				Scale 1:50				
Clie	nt:	Mr & N	Irs Kay		1			Dates: 14/05/2015	Logged By T Bennett		
Well	Water Strikes	Sample Depth (m)	es & In S	Situ Testing Results	Depth (m)	Level (m AOD)	Legend	Stratum Descripti	on		
		0.15 0.30	ES D					MADE GROUND - Topsoil with coal and potte brick gravel.	ry and glass and red		
		0.50	ES		0.45			MADE GROUND - Brown clay with red brick a	and coal and roots		
		0.90 1.00	D SPT	N=3 (1,0,1,1,0,1)	1.00			Brown orange very silty CLAY			
		1.60-1.90	D								
		2.00	SPT	N=3 (1,1,1,1,0,1)	2.30				-2		
		2.60 2.50-3.00	ES D				× × ×	Brown very silty CLAY with blue veins			
		3.00	SPT	N=4 (1 1 1 1 1 1)			× × ×		-3		
		3.00-3.50	D	(.,.,.,.,.,.)							
		3.60-4.00	D								
		4.00	SPT	N=4 (1,2,1,1,1,1)					-4		
MUMU 1					4.45	8	××-	End of Borehole at 4.45 n			
									- - 5 - 5		
									-		
									- 6		
									7		
									- 8		
									- - - 9		
			Туре	Results					-		
Rem	arks:	Drilling t	hrough	wooden deck	ing 320	cm abo	ve grou	nd level.	AGS		



STRUCTURAL SOILS LTD

TEST REPORT



1774

Report No.	781707 - R1			1774
Date	12-June-2015	Contract		
Client Address	Ashton Bennett Unit K Bridge Mills Huddersfield Ro Holmfirth HD9	Consultancy Dad 3TW		
For the Atter	ntion of	Frances Bennett		
Samples sub Testing Start Testing Com	mitted by client ed pleted	27/05/2015 28/05/2015 12/06/2015	Client Reference Client Order No. Instruction Type	Written
UKAS Accre	edited Tests Unde	ertaken	I	
	Moisture Conter Liquid Limit (de Plastic Limit BS Plasticity Index	nt (oven drying method) BS1 efinitive method) BS1377:Pa S1377:Part 2:1990,clause 5.3 Derivation BS1377:Part 2:19	377:Part 2:1990,clause 3.2 rt 2:1990,clause 4.3 990,clause 5.4	
Please Note: F	Remaining samples	will be retained for a period of c	one month from today and will then be di	sposed of
	Approved sig	natories: Mark Athorne (Lab	oratory Manager) Steven Athorne (Se	enior Technician) Page 2 of
	Structural Soils Lto	d The Potteries Pottery Street Castle	ford WF10 1NJ Tel: 01977 552255 e-mail ma	rk.athorne@soils.co.uk

SUMMARY OF SOIL CLASSIFICATION TESTS

In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

Exploratory Position ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity Index %	% <425um	Description of Sample
WS1	1	D	1.70	28	70	23	47	91	Brown slightly sandy slightly gravelly CLAY
WS2	1	D	2.50	32	74	26	48	100	Brown slightly sandy slightly gravelly CLAY
				Contra	act:				Contract Ref.
	STR S(RUCT	URAI LTD		ιτι.				· 781701

					AST in acco Testi	TCI rdance ng in ac	TY CH with clause cordance w	ART 42.3 of vith BS1	- PI BS5930 377-2:19	Vs L 1999 990	L			
								U - Up	oper Plas	ticity Ra	inge			
-		L - Lo	w Plastic	ity	Intermediate H - High V - Very High]	E - Extren	nely High	
70									C	/		CE		
50							СН							
- PI (%)						СІ						ME		
ty Index				:L)										
Plastici									M	/				
10														
0			20	IL)		80		100		120
			20				Liquid Lim	; it - LL (%	%)			100		120
		Sample I Exploratory Position ID	Identificat Sample	Depth	BS Met	Test hod #	Preparation Method +	MC %	Ll %	L i	PL %	PI %	<425um %	
		WS1 WS2	1D 1D	1.70 2.50	3.2/4.3 3.2/4.3	3/5.3/5.4 3/5.3/5.4	4.2.4 4.2.4	28 32	70) 4	23 26	47 48	91 100	
	# 3. 4. 4. 5.	Tested in acco 2 - Moisture (3 - Cone Pene 4 - One Point 6 - One Point 3 - Plastic Lin 4 - Plasticity 1	ordance with Content crometer Me Cone Penetrr Casagrande I nit Method Index	the follow thod ometer Me Method	ring claus	es of BS1	377-2:1990.	+ Tested 4.2.3 - Na 4.2.4 - W	in accordan atural State et Sieved Non standa	ace with the	followir	ng clauses of l	BS1377-2:199	90.
		Approved Si	gnatories: J	.BARRE	TT M.A	THORN	E A.FROST N	M.RANDE	RSON R.	CLARKS	DN M.I	FISHER C.C	COLE M.ST	OKES
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	2	STRU	JCTUR	AL SC	DILS		A . C .		Compil	ed By	MATT		FD	Date
	Ì	) ] W. Yo	The Pot Pottery S Castlet orkshire	teries Street Ford WF1(	) 1NJ	Contrac	M. fusl t	ىھى .			Contra	act Ref: <b>78</b>	ER 1701	12/06/15

GINT LIBRARY V8 05.GLB LibVersion: v8 05 - Lib0004 PiJVersion: v8 05 - Core+Geotech Lab-Castleford - 0002 | Graph L - ALINE STANDARD - EC7 | 781701 - UNKNOWN GPJ - v8 05 | 12/06/15 - 14:33 | MF. Structural Soils Lid, Branch Office - Castleford: The Potteries, Pottery Street, Castleford, West Yorkshire, WF10 1NJ. Tel: 01977-552255, Fax: 01977-552299, Web: www.soils.co.uk, Email: ask@soils.co.uk.



Ashton Bennett Consultancy Unit K Bridge Mills Huddersfield Road Holmfirth HD9 3TW Attention: Frances Bennett

# **Post Certification Report**

Date: Customer: Your Reference: [SDG] and Samples: 11392366,11392367,11392377,113

25/06/2015 H ABCON HMF 3207 and 3209

Location: No. Of Samples Received: Samples Scheduled:

17 Sulgrave Rd. and 54 Shirlock Rd.

12 10

Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

## **Post Certification Report**

Customer : H_ABCON_HMF Case :

А

Client Reference: 3207 and 3209

Location: 17 Sulgrave Rd. and 54 Shirlock Rd.

Received Sample Overview										
Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date						
11392386	54SR WS1		0.10							
11392387	54SR WS1		0.35							
11392398	54SR WS1		0.70	14/05/2015						
11392388	54SR WS1		0.90							
11392399	54SR WS1		1.20 - 1.60	14/05/2015						
11392389	54SR WS1		1.30							
11392390	54SR WS1		2.20							
11392401	54SR WS1		2.50 - 3.00	14/05/2015						
11392366	54SR WS2		0.15							
11392377	54SR WS2		0.30							
11392367	54SR WS2		0.50							
11392380	54SR WS2		0.90	14/05/2015						

Only received samples which have had analysis scheduled will be shown on the following pages.

Customer : H_ABCON_HMF Case :	Client	Client Reference : 3207 and 3209										
Results Legend	Lab Sample No(s)	11392399 11392399 11392398 11392388 11392388 11392387 11392386	11392380 11392377 11392367 11392367 11392366									
No Determination Possible	Customer Sample Reference	54SR WS1 54SR WS1 54SR WS1 54SR WS1 54SR WS1 54SR WS1	54SR WS2 54SR WS2 54SR WS2 54SR WS2 54SR WS2									

Post	Certification	Report
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Results Legend	Lab Sample	No(s)	9238	9238	9238	9239	9239	924(	9236	9236	923	9238
X Test			36 0	37	88	88	96	2	မိ	57	7	8
No Determination Possible	Custome Sample Refe	54SR WS1	54SR WS1	54SR WS1	54SR WS1	54SR WS1	54SR WS1	54SR WS2	54SR WS2	54SR WS2	54SR WS2	
	AGS Refere	ence										
	Depth (n	ו)	0.10	0.35	0.90	0.70	1.20 - 1.60	2.50 - 3.00	0.15	0.50	0.30	0.90
	Containe	60g VOC (ALE215)	60g VOC (ALE215)	60g VOC (ALE215)	1kg TUB	1kg TUB	1kg TUB	60g VOC (ALE215)	60g VOC (ALE215)	1kg TUB	1ka TUB	
Anions by Kone (soil)	All	NDPs: 0 Tests: 2	x								x	
Anions by Kone (w)	All	NDPs: 0 Tests: 1						X				
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2				X					x	
CEN Readings	All	NDPs: 0 Tests: 1						x				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1						x				
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 1						x				
Fluoride	All	NDPs: 0 Tests: 1						x				
GRO by GC-FID (S)	All	NDPs: 0 Tests: 1						x				
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 2					x					x
Mercury Dissolved	All	NDPs: 0 Tests: 1						x				
Metals in solid samples by OES	All	NDPs: 0 Tests: 2					x					x
Mineral Oil	All	NDPs: 0 Tests: 1						x				
PAH Value of soil	All	NDPs: 0 Tests: 3		x				x		x		
PCBs by GCMS	All	NDPs: 0 Tests: 1						x				
рН	All	NDPs: 0 Tests: 2	x								x	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 1						x				
Sample description	All	NDPs: 0 Tests: 10	x	x	x	x	x	x	x	x	x	x
Total Dissolved Solids	All	NDPs: 0 Tests: 1						x				

Customer : H_ABCON_HM Case :	IF	Client	Re	fe	re	nc	e	:	32	207	7 a	nd
Results Legend	Lab Sample	11392386	11392387	11392388	11392398	11392399	11392401	11392366	11392367	11392377	11392380	
No Determination Possible	Custome Sample Refe	54SR WS1	54SR WS1	54SR WS1	54SR WS1	54SR WS1	54SR WS1	54SR WS2	54SR WS2	54SR WS2	54SR WS2	
	AGS Refere	ence										
	Depth (n	0.10	0.35	0.90	0.70	1.20 - 1.60	2.50 - 3.00	0.15	0.50	0.30	0.90	
	Containe	ər	60g VOC (ALE215)	60g VOC (ALE215)	60g VOC (ALE215)	1kg TUB	1kg TUB	1kg TUB	60g VOC (ALE215)	60g VOC (ALE215)	1kg TUB	1kg TUB
Total Organic Carbon	All	NDPs: 0 Tests: 1						x				
TPH c6-40 Value of soil	All	NDPs: 0 Tests: 2			x				x			

## **Post Certification Report**

Customer : H_ABC Case :

H_ABCON_HMF

Client Reference : 3207 and 3209

**Post Certification Report** 

Results Legend	(	Customer Sample Ref.	54SR WS1	54SR WS1	54SR WS1	54SR WS1	54SR WS1	54SR WS1
#         ISO17025 accredited.           M         mCERTS accredited.           aq         Aqueous / settled sample.           diss.filt         Dissolved / filtered sample.           *         subcontracted test.           **         % recovery of the surrogate str check the efficiency of the met results of the individual compo within the samples are not corr	andard to hod. The unds rected for	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.10 Soii/Solid - 19/05/2015 150520-14 11392386	0.35 Soil/Solid 	0.70 Soii/Solid 14/05/2015 19/05/2015 150520-14 11392398	0.90 Soil/Solid - 1905/2015 150520-14 11392388	1.20 - 1.60 Soii/Solid 14/05/2015 19/05/2015 150520-14 11392399	2.50 - 3.00 Soiil/Solid 14/05/2015 19/05/2015 150520-14 11392401
this recovery. 1-5&+§@ Sample deviation (see appendi	x)	Add Reference						
Component Moisture Content Ratio (% of as	LOD/Un %	its Method PM024	15	26	14	25	23	21
received sample) Mineral oil >C10-C40	<1 mg/k	kg TM061	§_	§_		§		14.8
Mineral Oil Surrogate %	%	TM061						
Organic Carbon, Total	<0.2 %	6 TM132						<0.2 M
рН	1 pH Un	iits TM133	11 8 м					
Chromium, Hexavalent	<0.6 mg	/kg TM151	y m				<0.6	
TPH >C6-C40	<10 mg/	/kg TM154				35.4 §		
PCB congener 28	<3 µg/k	kg TM168						<3 M
PCB congener 52	<3 µg/k	kg TM168						<3 M
PCB congener 101	<3 µg/k	(g TM168						<3 M
PCB congener 118	<3 µg/k	(g TM168						<3 M
PCB congener 138	<3 µg/k	(g TM168						<3 M
PCB congener 153	<3 µg/k	(g 1M168						<3 M
PCB congener 180	<3 µg/k	(g 1M168						<3 M
Sum of detected PCB 7 Congeners	<21 µg/	Kg IM168						<21
Arsenic	<0.6 mg/	/kg TM181					14.7 M	
Cadmium	<0.02 ma/ka	TM181					1.62 M	
Copper	<1.4 mg/	/kg TM181					23.2 M	
Lead	<0.7 mg/	/kg TM181					23.3 M	
Mercury	<0.14 mg/kg	TM181					<0.14 M	
Nickel	<0.2 mg	/kg TM181					52.1 M	
Selenium	<1 mg/ł	kg TM181					<1 #	
Zinc	<1.9 mg/	/kg TM181					84.1 M	
Polyaromatic hydrocarbons, Total USEPA 16	<10 mg/	/kg TM213		<10 §				
Polyaromatic hydrocarbons, Total 17	<10 mg/	/kg TM213						<10
Soluble Sulphate 2:1 extract as SO4 BRE	<0.004	g/I TM243	1.32 § M					
		_						

Customer : H_ABC Case :

: H_ABCON_HMF

Client Reference: 3207 and 3209

**Post Certification Report** 

Results Legend	(	Customor Sample Pof	549D W/92	5/10D W/02	5/00 W/02	549D W92	1
# ISO17025 accredited.	ľ	Sustomer Sample Rei.	04011 W02	0401\ W02	0401V W02	34311 1132	
M mCERTS accredited. ag Agueous / settled sample.		Donth (m)	0.15	0.30	0.50	0.90	
diss.filt Dissolved / filtered sample.		Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	
* subcontracted test.		Date Sampled	-	-	-	14/05/2015	
** % recovery of the surrogate sta check the efficiency of the met	ndard to hod. The	SDG Ref	150520-14	150520-14	150520-14	150520-14	
results of the individual compo within the samples are not corr	unds rected for	Lab Sample No.(s)	11392366	11392377	11392367	11392380	
this recovery. 1-5&+\$@ Sample deviation (see appendi	x)	AG5 Reference					
Component	LOD/Un	its Method					
Moisture Content Ratio (% of as	%	PM024	22	20	24	23	
received sample)			§	ş	§		 
pH	1 pH Un	iits TM133		7.78			
Chromium Hexavalent	<0.6 mg	/kg TM151		Ş M		<0.6	
	-0.0 mg/					#	
TPH >C6-C40	<10 mg/	kg TM154	426				
Amonio	<0.6 mg	/kg TM191	§			17.5	
Arsenic	<0.0 mg/	ng minor				17.5 M	
Cadmium	<0.02	TM181				1.33	
	mg/kg					M	
Copper	<1.4 mg/	/kg 1M181				44.5 M	
Lead	<0.7 ma	/kg TM181				136	
	- J.	<b>J</b>				М	
Mercury	<0.14	TM181				0.315	
Nickel	mg/kg <0.2 mg	/kg TM181				21.1	
INICKEI	<0.2 mg/	ng ninton				21.1 M	
Selenium	<1 mg/ł	kg TM181				<1	
7:	(1.0					#	
ZINC	<1.9 mg/	rkg TM181				82.6 M	
Polyaromatic hydrocarbons,	<10 mg/	kg TM213			13.2	111	
Total USEPA 16					§		
Soluble Sulphate 2:1 extract as	<0.004	g/l TM243		0.0375			
504 BRE				<u>\$ IVI</u>			
		_					

Customer : H_ABCON_HMF

Case :

## **Post Certification Report**

And the set of t							
Burner water	Results Legend # ISO17025 accredited. M mCERTS accredited	Cu	istomer Sample Ref.	54SR WS1			
Martin Statistics         Martin Statistics         Martine Statistics         Martin St	aq Aqueous / settled sample.		Depth (m)	2.50 - 3.00			
Image: Construction of the construction of	tot.unfilt Total / unfiltered sample.		Sample Type	Soil/Solid			
Normal Section of Weilling Weilli	* subcontracted test. ** % recovery of the surrogate sta	andard to	Date Received	19/05/2015			
Adv series           Adv series           Comparent         Market           Comparent          Comparent	check the efficiency of the met results of the individual compo	hod. The ounds	SDG Ref Lab Sample No.(s)	150520-14 11392401			
Display         Openal Market         Market <th< td=""><td>within the samples are not corr this recovery.</td><td>rected for</td><td>AGS Reference</td><td>11002101</td><td></td><td></td><td></td></th<>	within the samples are not corr this recovery.	rected for	AGS Reference	11002101			
Mathy large loop of Upsig     7009     -2     -2     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     -     - <td>Component</td> <td>x)</td> <td>s Method</td> <td></td> <td></td> <td></td> <td></td>	Component	x)	s Method				
Attribution         Control         Contro         Control <thcontrol< th=""></thcontrol<>	Methyl tertiary butyl ether	<5 µg/kg	TM089	<5			
Calcard         Original         Total         Control         Control <thcontrol< th=""> <thcontrol< th=""> <thc< td=""><td>(MTBE) Benzene</td><td>&lt;10 ua/ka</td><td>a TM089</td><td>2 N &lt;10</td><td></td><td></td><td></td></thc<></thcontrol<></thcontrol<>	(MTBE) Benzene	<10 ua/ka	a TM089	2 N <10			
Note $j = j_0$ $j_0 = j_0$ Emploration $d j_0 j_0$ TMB8 $d j_0 j_0$ $MB8$ $d j_0 j_0$ $MB8$ $d j_0 j_0$ $MB8$ $d j_0 j_0$ $a j_0 j_0 a j_0$ $MB8$ $d j j_0 a j_0$ $MB8$ $d j j_0 a j_0$ $MB8$ $d j j_0 a j_0$ $a j_0 d j_0 a j_0$ $MB8$ $d j j_0 a j_0$ $MB8$ $d j j_0 a j_0$ $MB8$ $MB8$ $a j_0 d j_0 a $		<2 µg/kg	TM089	2 N			
Layound     Supe     Take     Layound     Supe     Take     Layound       mp cyllen     Supe     Take     Supe     Take     Supe     Sup     Sup     Sup<	Ethylbenzene	<2 µg/kg		2 N			
mix.yere     < bysic     Nose     21       oXylere     3/uNg     Nose     21       sum deteded mo sylere V     3/uNg     Nose     24       GC     24/uS     Nose     24       M     I     I     I       GC     24/uS     Nose     24/uS     I       M     I     I     I     I       GC     24/uS     I     I     I       M     I     I     I     I     I       GC     34/uS     I     I     I     I       M     I     I     I     I     I       GC     I     I     I     I     I       M     I     I     I     I     I       I     I     I     I     I     I       I     I     I     I     I     I       I     I     I     I     I     I       I     I     I     I     I     I       I     I     I     I     I     I       I     I     I     I     I     I       I     I     I     I     I     I       I     I     I		<0 µg/kg	TM003	2 N			
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aun diedend moxyments4 yugingTMU894 a 2 2aunor (Adecaded BTEX by CC)4 yugingTMU894 a 2 2aunor (Adecaded BTEX by CC)aunor (Adeca	o-Xylene	<3 µg/kg	I 1M089	<3 2 N			
sum dietered STEX by C<24 27408<24 2 </td <td>sum of detected mpo xylene by GC</td> <td>&lt;9 µg/kg</td> <td>TM089</td> <td>&lt;9</td> <td></td> <td></td> <td></td>	sum of detected mpo xylene by GC	<9 µg/kg	TM089	<9			
Image: sector of the sector	sum of detected BTEX by GC	<24 µg/kg	g TM089	<24			
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Case :

**Post Certification Report** 

Location: 17 Sulgrave Rd. and 54 Shirlock Rd.

### Asbestos Identification Asbestos Identification - Soil

			- AJ	063103		incation	I - 301				
		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthrophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	54SR WS1 NS Z 0.70 SOLID 14/05/2015 00:00:00 27/05/2015 12:26:20 150520-14 11,392,398 TM048	28/5/15	Rebecca Rawlings	-	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receivered SDG Original Sample Method Number	54SR WS2 NS Z 0.30 SOLID 28/05/2015 08:45:02 150520-14 11,392.377 TM048	1/6/15	Kevin Gill	-	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

H ABCON HMF Customer : Case :

Client Reference: 3207 and 3209

### **Post Certification Report**

Location: 17 Sulgrave Rd. and 54 Shirlock Rd.

### **CEN 10:1 SINGLE STAGE LEACHATE TEST**

### WAC ANALYTICAL RESULTS

### **REF : BS EN 12457/2**

Client	Reference	
Maaa	0	(1)

Lab Sample Number(s)

Customer Sample Ref.

**Sampled Date** 

Depth (m)

Case

SDG

Mass Sample taken (kg)	0.117
Mass of dry sample (kg)	0.090
Particle Size <4mm	>95%

150520-14

11392401

54SR WS1 2.50 - 3.00

14-May-2015

#### **Site Location Natural Moisture Content (%)** 3 **Dry Matter Content (%)** 7

7	Sulgrave Rd	and	54	Shirlock
30	.2			
76	8			

# Landfill Waste Acceptance **Criteria Limits**

• • •	
Solid Waste Analysis	Result
Total Organic Carbon (%)	<0.200
Loss on Ignition (%)	-
Sum of BTEX (mg/kg)	<0.024
Sum of 7 PCBs (mg/kg)	<0.021
Mineral Oil (mg/kg)	14.8
PAH Sum of 17 (mg/kg)	<10.0
pH (pH Units)	-
ANC to pH 6 (mol/kg)	-
ANC to pH 4 (mol/kg)	-

Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non- Hazardous Landfill	Hazardous Waste Landfill
3	5	6
-	-	-
6	-	-
1	-	-
500	-	-
100	-	-
-	-	-
-	-	-
-	-	-

Eluate Analysis	C ₂ Conc ⁿ in 1	0:1 eluate (mg/l)	<b>A</b> ₂ 10:1 conc ^r	leached (mg/kg)	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg			
	Result	Limit of Detection	Result	Limit of Detection			_	
Arsenic	0.000161	<0.00012	0.00161	<0.0012	0.5	2	25	
Barium	0.0453	<0.00003	0.453	<0.0003	20	100	300	
Cadmium	<0.0001	<0.0001	<0.001	<0.001	0.04	1	5	
Chromium	0.000386	<0.00022	0.00386	<0.0022	0.5	10	70	
Copper	0.00342	<0.00085	0.0342	<0.0085	2	50	100	
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2	
Molybdenum	0.000458	<0.00024	0.00458	<0.0024	0.5	10	30	
Nickel	0.00314	<0.00015	0.0314	<0.0015	0.4	10	40	
Lead	0.000174	<0.00002	0.00174	<0.0002	0.5	10	50	
Antimony	<0.00016	<0.00016	<0.0016	<0.0016	0.06	0.7	5	
Selenium	0.000407	<0.00039	0.00407	<0.0039	0.1	0.5	7	
Zinc	0.00229	<0.00041	0.0229	<0.0041	4	50	200	
Chloride	4.9	<2	49	<20	800	15000	25000	
Fluoride	0.505	<0.5	5.05	<5	10	150	500	
Sulphate (soluble)	907	<10	9070	<100	1000	20000	50000	
Total Dissolved Solids	982	<5	9820	<50	4000	60000	100000	
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-	
Dissolved Organic Carbon	<3	<3	<30	<30	500	800	1000	

### **Leach Test Information**

Date Prepared	26-May-2015
pH (pH Units)	7.87
Conductivity (µS/cm)	1490
Temperature (°C)	20.00
Volume Leachant (Litres)	0.873

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation Mcerts Certification does not apply to leachates

25/06/2015 16:21:23

Customer : H_ABCON_HMF Case :

Client Reference: 3207 and 3209

## **Post Certification Report**

Location: 17 Sulgrave Rd. and 54 Shirlock Rd.

	CEN 10	:1 SINGLE	STAGE LEA	CHATE TES	БТ				
WAC ANALYTICAL RES	SULTS					REF : BS E	N 12457/2		
Client Reference			Site Location		17 Su	ılqrave Rd. ar	nd 54 Shirlock		
Mass Sample taken (kg)	0.117		Natural Moist	ure Content (%	<b>30.2</b>	5			
Mass of dry sample (kg)	0.090		Dry Matter Co	ntent (%)	, 76.8				
Particle Size <4mm	>95%		•	. ,					
Case					Landfil	I Waste Acce	eptance		
SDG	150520-14				(	Criteria Limit	S		
Lab Sample Number(s)	11392401								
Sampled Date	14-May-2015					Stable Non-reactive			
Customer Sample Ref.	54SR WS1				Inert Waste Landfill	Hazardous	Hazardous Waste Landfill		
Depth (m)	2.50 - 3.00					Hazardous			
Solid Waste Analysis	Result								
Total Organic Carbon (%)	<0.200		•		3	5	6		
Loss on Ignition (%)	-				-	-	-		
Sum of BTEX (mg/kg) Sum of 7 PCBs (mg/kg)	<0.024				6	-	-		
Mineral Oil (mg/kg)	14.8				500	-	-		
PAH Sum of 17 (mg/kg)	<10.0				100	-	-		
pH (pH Units)	-				-	-	-		
ANC to pH 4 (mol/kg)	-				-	-	-		
Eluate Analysis	<b>C</b> ₂ Conc ⁿ in 10	):1 eluate (mg/l)	eluate (mg/l) A2 10:1 conc ⁿ leached (mg/kg)			Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg			
Motal Prop	Result	Limit of Detection	Result	Limit of Detection					
Metal Prep	U	<0	U	<0	-	-	-		
Longh Tost Information	1	1	1						
Leach Test Information									

Date Prepared	26-May-2015
pH (pH Units)	7.87
Conductivity (µS/cm)	1490
Temperature (°C)	20.00
Volume Leachant (Litres)	0.873

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation Mcerts Certification does not apply to leachates

Customer : H_ABCON_HMF Case :

(

Client Reference : 3207 and 3209

**Post Certification Report** 

Location: 17 Sulgrave Rd. and 54 Shirlock Rd.

## Table of Results - Appendix

REPO	RT KEY						Results expressed as (e.g.)	1.03E-07 is equival	ent to 1.03x10-7
NDP	No Determination	on Possible	#	ISO 17025 Accredited	*	Subcontracted Test	м	MCERTS Accr	edited
NFD	No Fibres Detec	Detected PFD Possible Fibres Detected		»	Result previously reported (Incremental reports only)	EC	Equivalent Ca (Aromatics Ca	rbon 3-C35)	
Note: Metho	d detection limits are	not always achievable due	to various o	ircumstances beyond our control				Wet/Drv	Surrogate
Me	ethod No		Refer	rence		Description		Sample ¹	Corrected
AS	BLAGA								
	PM001				Preparation of Samp	bles for Metals Analysis			
	PM024	Modified BS 1377			Soil preparation incl Asbestos Containing	uding homogenisation, moisture s g Material	creens of soils for		
	PM115				Leaching Procedure	for CEN One Stage Leach Test 2	::1 & 10:1 1 Step		
	TM048	HSG 248, Asbestos: analysis and clearan	The analyce proced	ysts' guide for sampling, lures	Identification of Asbe	estos in Bulk Material			
	TM061	Method for the Deter Dept.of EP, 1998	mination	of EPH,Massachusetts	Determination of Ex	tractable Petroleum Hydrocarbons	by GC-FID (C10-C40)		
	TM089	Modified: US EPA M	ethods 80	20 & 602	Determination of Ga compounds by Head	soline Range Hydrocarbons (GRC Ispace GC-FID (C4-C12)	0) and BTEX (MTBE)		
	TM090	Method 5310, AWWA EPA Method 415.1 &	A/APHA, 2 9060	20th Ed., 1999 / Modified: US	Determination of Tot Waste Water	tal Organic Carbon/Total Inorganic	c Carbon in Water and		
	TM104	Method 4500F, AWW	VA/APHA	, 20th Ed., 1999	Determination of Flu	oride using the Kone Analyser			
	TM123	BS 2690: Part 121:19	981		The Determination of	f Total Dissolved Solids in Water			
	TM132	In - house Method			ELTRA CS800 Oper	ators Guide			
	TM133	BS 1377: Part 3 1990	);BS 6068	3-2.5	Determination of pH	in Soil and Water using the GLpH	I pH Meter		
	TM151	Method 3500D, AWV	VA/APHA	, 20th Ed., 1999	Determination of He	xavalent Chromium using Kone ar	nalyser		
	TM152	Method 3125B, AWV	VA/APHA	, 20th Ed., 1999	Analysis of Aqueous	Samples by ICP-MS			
	TM154	In - house Method			Determination of Per Carbon range C6- C	troleum Hydrocarbons by EZ Flas 40	h GC-FID in the		
	TM168	EPA Method 8082, P Chromatography	olychlorir	nated Biphenyls by Gas	Determination of WH GC-MS in Soils	HO12 and EC7 Polychlorinated Bip	phenyl Congeners by		
	TM181	US EPA Method 601	0B		Determination of Ro	utine Metals in Soil by iCap 6500	Duo ICP-OES		
	TM183	BS EN 23506:2002, 38924 3	(BS 6068	-2.74:2002) ISBN 0 580	Determination of Tra Vapour Atomic Fluor	ace Level Mercury in Waters and L rescence Spectrometry	eachates by PSA Cold	l	
	TM184	EPA Methods 325.1	& 325.2,		The Determination of Spectrophotometric	f Anions in Aqueous Matrices usir Analysers	ng the Kone		
	TM213	In-house Method			Rapid Determination	of PAHs by GC-FID			
	TM243				Mixed Anions In Soi	ls By Kone			
	TM259	by HPLC			Determination of Ph	enols in Waters and Leachates by	HPLC		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

## **Post Certification Report**

Location: 17 Sulgrave Rd. and 54 Shirlock Rd.

## **Test Completion Dates**

Lab Sample No(s)	11392386	11392387	11392388	11392398	11392399	11392401	11392366	11392367	11392377	11392380
Customer Sample Ref.	54SR WS1	54SR WS2	54SR WS2	54SR WS2	54SR WS2					
AGS Ref.										
Depth	0.10	0.35	0.90	0.70	1.20 - 1.60	2.50 - 3.00	0.15	0.50	0.30	0.90
Туре	SOLID									
Anions by Kone (soil)	04-Jun-2015								04-Jun-2015	
Anions by Kone (w)						28-May-2015				
Asbestos ID in Solid Samples				29-May-2015					02-Jun-2015	
CEN 10:1 Leachate (1 Stage)						26-May-2015				
CEN Readings						29-May-2015				
Dissolved Metals by ICP-MS						29-May-2015				
Dissolved Organic/Inorganic Carbon						01-Jun-2015				
Fluoride						29-May-2015				
GRO by GC-FID (S)						07-Jun-2015				
Hexavalent Chromium (s)					03-Jun-2015					03-Jun-2015
Mercury Dissolved						29-May-2015				
Metals in solid samples by OES					01-Jun-2015					01-Jun-2015
Mineral Oil						02-Jun-2015				
PAH Value of soil		02-Jun-2015				29-May-2015		02-Jun-2015		
PCBs by GCMS						30-May-2015				
pН	03-Jun-2015								04-Jun-2015	
Phenols by HPLC (W)						01-Jun-2015				
Sample description	28-May-2015	28-May-2015	28-May-2015	27-May-2015	28-May-2015	26-May-2015	28-May-2015	28-May-2015	28-May-2015	27-May-2015
Total Dissolved Solids						29-May-2015				
Total Organic Carbon						01-Jun-2015				
TPH c6-40 Value of soil			04-Jun-2015				04-Jun-2015			

H ABCON HMF

Client Reference: 3207 and 3209

Location: 17 Sulgrave Rd. and 54 Shirlock Rd.

Customer : Case :

## Appendix General

for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9 NDP -No determination possible due to insufficient/unsuitable sample

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately

11. Results relate only to the items tested

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. Surrogate recoveries -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. Product analyses -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol)

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except 20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

> 21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

> 22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample

> 23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

### Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
•	Sample holding time exceeded in laboratory
0	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

### Asbestos

#### Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name	
Chrysof le	White Asbestos	
Amosite	Brow n Asbestos	
Cro a dolite	Blue Asbe stos	
Fibrous Act nolite	-	
Fib to us Anthop hyll ite	-	
Fibrous Tremol ite	-	

### Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation

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### STRUCTURAL SOILS LTD

### **TEST REPORT**



Report No.	781779 R1					1774
Date	01-September-2	2015 Contra	act 54SR Lond	on		
Client Address	Ashton Bennett Unit K Bridge Mills Huddersfield Ro Holmfirth HD9	Consultancy oad 3TW				
For the Atter	tion of	Tristan Bennett				
Samples sub Testing Start Testing Com	nitted by client ed pleted	14/08/2015 17/08/2015 01/09/2015		Client Reference Client Order No. Instruction Type	Written	
UKAS Accre	dited Tests Unde	ertaken		•		
	Moisture Conter Liquid Limit (de Plastic Limit BS Plasticity Index	nt (oven drying meth efinitive method) BS S1377:Part 2:1990,cla Derivation BS1377:	od) BS1377:Part 2: 1377:Part 2:1990,cl ause 5.3 Part 2:1990,clause 5	1990,clause 3.2 ause 4.3 5.4		
Please Note: R	emaining samples	will be retained for a p	eriod of one month fro	om today and will then b	be disposed of	
	Approved sig	gnatories: Mark Athor	rne (Laboratory Ma	nager) Steven Athorne	e (Senior Technicia Page	nn) e 2 of

Structural Soils Ltd The Potteries Pottery Street Castleford WF10 1NJ Tel: 01977 552255 e-mail mark.athorne@soils.co.uk

## SUMMARY OF SOIL CLASSIFICATION TESTS

In accordance with clauses 3.2,4.3,4.4,5.3,5.4,7.2,8.2,8.3 of BS1377:Part 2:1990

ploratory sition ID	Sample Ref	Sample Type	Depth (m)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity Index %	% <425um	Description of Sample	
54SR	1	D	0.45	38	68	24	44	83	Brown slightly sandy slightly gravelly CLAY	
54SR	2	D	0.55	34	69	25	44	95	Brown slightly sandy slightly gravelly CLAY	
I		1	1		1	1	1			
2	a==	TT CT		Contra	ICT:				Contract Ref:	
Ú,	STR S(	NUCT	URAI LTD					54SR London 7817'		81779

