

Permitting Office Coal Authority 200, Lichfield Lane, Mansfield Nottinghamshire NG18 4RG

17 January 2024

Your Ref: 27136

Our Ref: OE/1702/1057/LR01/LS/17-01-2024

FAO Mr Jake Morris

RE: 22, Alexander Road, Frampton Cotteril, South Gloucestershire, BS36 2PZ – Phase II Geoenvironmental Assessment – Shallow Mining Investigation – Permit 27136

On 19 December 2023 a preliminary Phase II intrusive site investigation, by the use of a window sampler rig, was used to assess the Superficial deposits at the site and to establish rock head levels if shallow. Following this, over the 11/12 January 2024 a rotary rig was mobilised at the site to allow a shallow mining investigation to be completed. See Figure OE/1702/1057/R1/F01 – Site Location Plan. In compliance with the Planning Consent P23/00067/F.

Three boreholes were drilled, under Permit No. 27136 (copy attached in Appendix A) issued by the Coal Authority on 07 August 2023. Three holes were required to be drilled to circa 30 to 35m bgl to investigate if the site was underlain with any shallow voids/worked seams.

Detailed below in Table A is a summary of the findings of the rotary drilling works, completed in accordance with the agreed Coal Mining Risk Assessment and Methodology, Ref OE/1702/1057/R1, dated June 2023. Following the submission of this document and an online application for a drilling permit - Permit 27136 was granted - as detailed above. The positions of the completed window sample and rotary boreholes are detailed on Figure OE/1702/1057/R3/F01.

A copy of the rotary borehole logs for RBH1, RBH2 and RBH3 are collated within Appendix B.



Obsidian Environmental Ltd (part of the Beech Group)

The Foundry Business Centre, Marcus Street, Birkenhead, Wirral, CH41 1EU

Tel: +44 (0) 1516457571

 $\hbox{E-mail:} \ \underline{ {\it info@obsidianenvironmental.co.uk}}, \ web: \underline{ www.obsidianenvironmental.co.uk}$

Directors: C Wainwright, L. Stanger



Table A – Summary of open hole rotary drilling works

Location	Depth of Stratum	Description of Statum
	encountered (m bgl)	
RBH1	0.0 to 1.7	Fill - Made Ground
	1.7 to 16.0	MUDSTONE/SANDSTONE Bands
	16.0 to 16.6	Void
	16.6 to 17.1	Backfill – Made Ground
	17.1 to 22.0	MUDSTONE/SANDSTONE Bands – end of borehole
RBH2	0.0 to 0.7	Fill – Made Ground
	0.7 to 2.6	Natural CLAY
	2.6 to 19.8	MUDSTONE/SANDSTONE Bands
	19.8 to 20.2	Coal seam - unworked
	20.2 to 32.0	MUDSTONE/SANDSTONE Bands – end of borehole
RBH	1.0 to 1.7	Fill – Made Ground
	1.7 to 2.4	Natural CLAY
	2.4 to 2.7	Coal seam - unworked
	2.7 to 20.0	MUDSTONE/SANDSTONE Bands
	20.0 to 20.5	Coal seam - unworked
	20.5 to 32.0	MUDSTONE/SANDSTONE Bands – end of borehole

Comments

Location RBH1 – The Made Ground and Superficial deposits were circa 1.7m deep. There was then 14.3m of intact MUDSTONE/SANDSTONE interbedded bands. There was then a void – presumed worked coal of 0.6m and thence a further 0.5 m of backfilled void assumed also to be the same worked coal seam. The drillers considered that some or all of the void could have occurred during the drill passing through the worked seam – within backfilled material. At 22.0m bgl the drill bit became intermittently stuck (30.0 minutes), preventing further progress and it was agreed to abandon drilling at that location.

Location RBH2 – The Made Ground and Superficial deposits were circa 2.6m bgl. Below this was 17.2m of intact MUDSTONE with SANDSTONE interbedded bands before an unworked coal seam was intercepted at 19.8m bgl – 0.4m thick. As the borehole was progressed, it went back into intact MUDSTONE with SANDSTONE interbedded bands to 32.0 – end of borehole. It should be noted that the drill bit, during retrieval, at circa 12.0m bgl, became stuck in the borehole. It took four hours to retrieve it.

Location RBH3 - The Made Ground and Superficial deposits were circa 2.4m bgl. Below this was a discrete unworked coal seam (2.4 to 2.7m bgl). Below this, was 17.3m of intact MUDSTONE with SANDSTONE interbedded bands At 20.0 to 20.5m was a second unworked coal seam. It then went back into intact MUDSTONE with SANDSTONE interbedded bands - 20.5 and 32.0m bgl – end of borehole.

In accordance with *Ciria Report C758D (London 2019) – Abandoned Mine Workings Manual,* calculations have been completed to assess the depth of intact rock wit respect to the ratio t – see Table B below:



Table B - Calculated Ratios of intact rock below the Superficial deposits

Location	Rock levels (x)	t - Calculated Ratios x/10
RBH1	1.7 to 16.0m bgl	t = 14.3/10 = 1.43
RBH2	2.6 to 32.0	t = 29.4/10 = 2.94
RBH3	2.7 to 32.0m bgl	t = 29.3/10 = 2.93

Note: x = depth of intact bedrock

Hence, at all locations the ratio t was greater than the minimum requirement of 1.0, (between 1.43 and 2.93). It is therefore ,considered based on the results of the rotary drilling works and the above assessment of values for t, that further intrusive site investigation and/or grouting of voids is not required at the site. The development is for traditional ground/first floor houses.

We trust you are in agreement with the above assessment and conclusions, and that they satisfy your immediate requirements. Consequently, the Permit Closure Surrender Form as been completed and a copy collated within Appendix C.

Yours faithfully,



Leon Stanger BSc. CEng MICE. MIEnvSc FGS

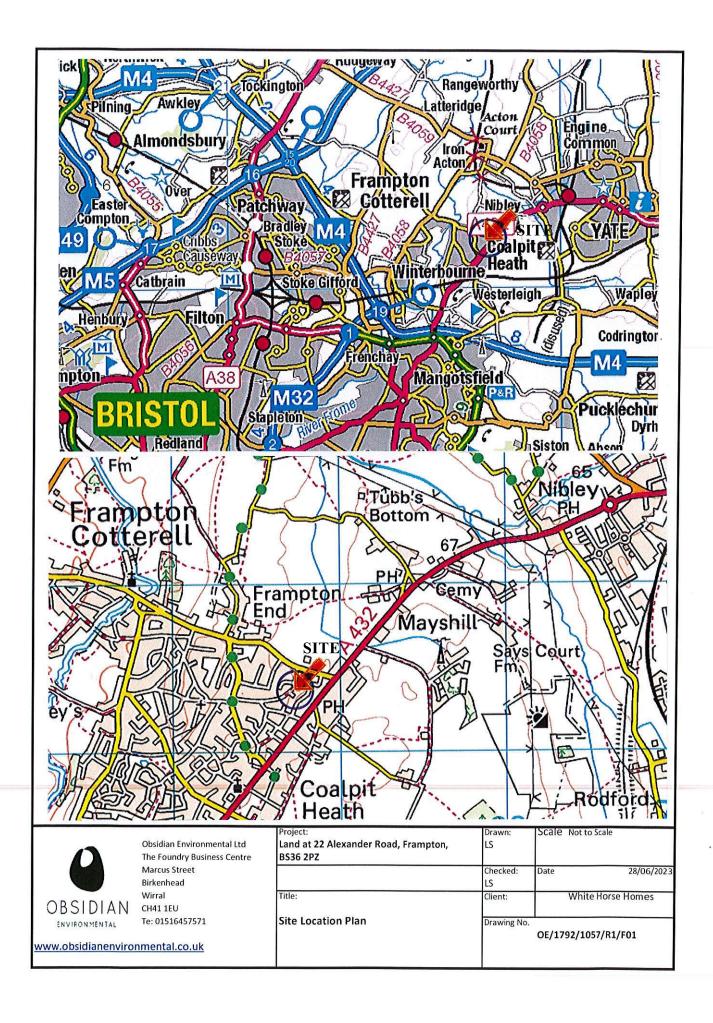
Managing Director

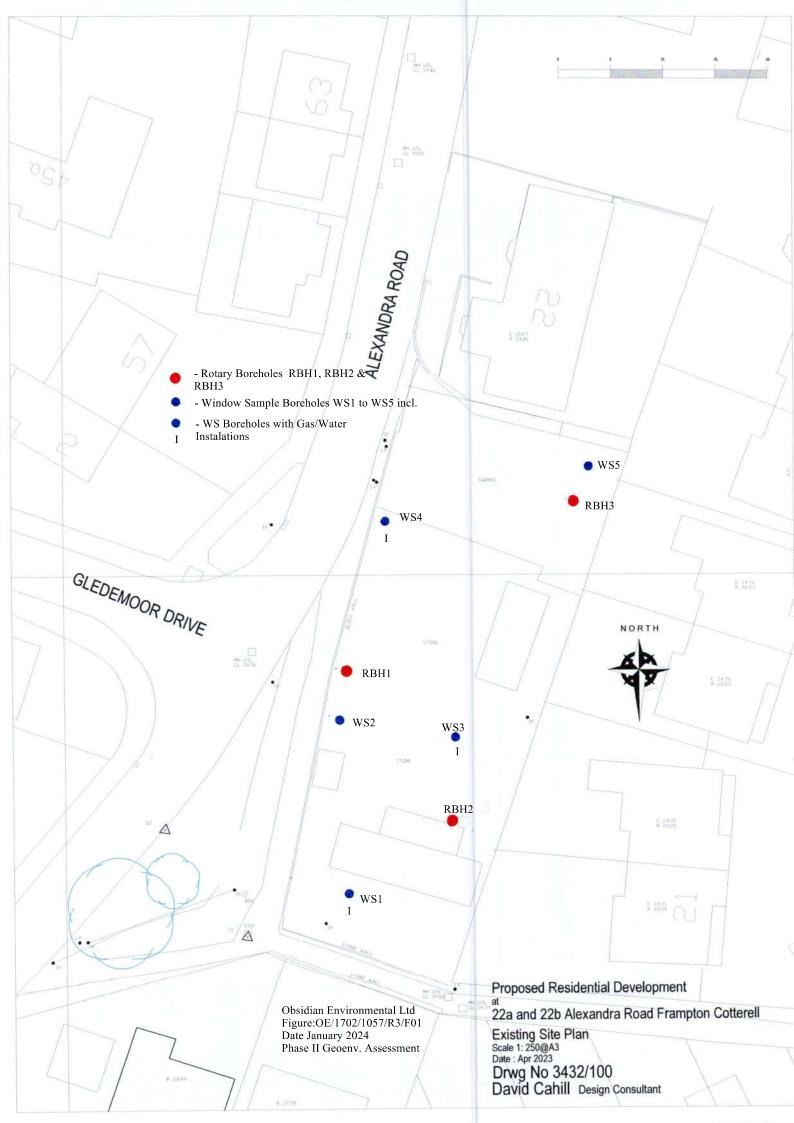
E-mail: leonstanger@obsidianenvironmental.co.uk

(M): 07818189108



Appendix A – Figures







APPENDICES

Appendix A Copy of Coal Authority Permit 27136

Appendix B Rotary Borehole Logs – RBH1, RBH2 & RBH3

Appendix C Permit Closure Surrender Form – Rotary Drilling



Appendix A – Copy of Coal Authority Permit 27136



Permit to Enter or Disturb Coal Authority Interests

Permit 27136

Name and Address of Permit Holder:

White Horse Homes Ltd, Bristol 8 Bath Street Redcliffe Bristol BS1 6HL

Site Location:

Depot
Bungalow 22a & 22b
Alexander Road
Frampton
South Gloucestershire
BS36 2PZ

This certificate hereby grants the above named Permit Holder a Permit to carry out:-

Ground investigation by three boreholes to 35m to determine presence of shallow mine workings within the Authority's interests at the identified site location above as shown on the Grant Permit Boundary (overleaf) for the period of 12 months from the granted date shown below. The granting of this Permit does not constitute advice given by the Authority in relation to the proposed operations. It is the Permit Holder's responsibility to obtain appropriate health, safety, environmental, technical and legal advice.

Conditions:

- Manned entry (i.e.) into mine entries/workings) is <u>strictly prohibited</u>.
- Water flush
- Gas Monitoring CO, CH4, CO2, O2, H2S at borehole and rig

Tel: 01623 637450; E-Mail: permissions@coal.gov.uk

- Operators undertaking the work must be in possession of this certificate and the Permit boundary plan at the time of works
- Appropriate borehole sealing without delay and to withstand site level changes

. 4545. 545. 655. 65.			g.
Signed:		Granted Date:	07/08/2023
For and on behalf of The	e Coal Authority		
Nominated Representation The Coal Authority, Period	,	o o ,	Notts, NG18 4RG



Granted Permit Boundary

Permit Ref: 27136

Permit Boundary:



These maps are reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationary Office. © Crown Copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. The Coal Authority. Licence No: 100020315. [216]



Appendix B Rotary Borehole Logs – RBH1, RBH2 & RBH3

Obsidian Environmental Limited The Foundry Business Centre Marcus Street, Birkenhead Wirral, CH41 1EU **BORE HOLE LOG** OBSIDIAN TEL: 01516457571 info@obsidianenvironmental.co.uk Project 22, Alexander Road, Frampton Cotteril, South Gloucestershire, BS36 2PZ Borehole No Job No Date Ground Coordinates E OE/1702/1057 11/01/2024 Level m 19.5m AOD RBH1 Sheet Contractor Apex Drilling Services 1 of 3 SAMPLES & TESTS STRATA Instrument/ Backfill Depth Water Туре Test Reduced Depth Legend (Thick-**DESCRIPTION** No Level Result ness) 19.50 Made Ground (MG) - Rock fill and dark brown clay Last 1.0m bentonite & cement 1.70 Arisings MUDSTONE with SANDSTONE bands 10.0 Rotary Borehole RBH1 continues to 22.0m bgl - Page 13of 3 9.50 GENERAL REMARKS

No water strikes.

All dimensions in metres | Client | White Horse Homes Limited | Method/ Plant used | Rotary Rig | Logged by LS

Obsidian				ted						
The Found										
Marcus St					D 0 D					
Wirral, CH							LE LOG		OBSII	
TEL: 0151	645757	1		info@ob	<u>sidiane</u>	nviron	mental.co.uk		ENVIRON	MENTAL
Project	22,	Alexano	der	Road, Fr	amptor	n Cotte	eril, South Gloucestershin	re, BS36 2PZ		Borehole No
Job No	OE/1	1702/10	57	Date	11/01/	2024	Ground Level m 19.5m AOD	Coordinates E N		RBH1
Contractor	Ape:	x Drilli	ng S	Services					Sheet	2 of 3
SAMPLE	S & TE	STS					STRATA			Jt.
			1			Depth			gy	
Depth	Type No	Test Result	Water	Reduced Level	Legend	(Thick- ness)	DESCR	IPTION	Geology	Instrument/ Backfill
10.0				10.50		,	MUDSTONE with SANDSTONE b	ands		Arisings
12.0										
12.0										
									2 Jan 16	
13.0										
						14.30				
14.0										
									1 1 1 1 1 1	
15.0									1-1-	
16.0										
				3.50			Void		, ,	
						0.60				
				2.90			 Backfill material - rockfill - mudst	one		
17.0						0.50			$\otimes\!$	
				2,40			MUDSTONE with SANDSTONE b	ande	XX	
				2.40			Intact rock	urius		
18.0									<u> </u>	
									中	
						4.90				
19.0										
									بالب	
20.0				-0.50			Rotary Borehole RBH1 continues to			
								GENERAL REMARKS	3	
							No water strikes.			

All dimensions in metres Scale 1:10	Client	White Horse Homes Lim	nited	Method/ Plant used	Rotary Rig	Logged by	LS

Obsidian The Four	ndry Busi	iness Cei	ntre	ted					0	
Wirral, C	H41 1EU	J					LE LOG		OBSI	NAIC
TEL: 015 Project							mental.co.uk		ENVIRON	ENTAL
,	22,	Alexan	der	Road, Fr	amptor	n Cotte	eril, South Gloucestershir	e, BS36 2PZ		Borehole No
Job No	OE/:	1702/10)57	Date	11/01/	2024	Ground Level m 19.5m AOD	Coordinates E N	i	RBH1
Contract	or Ape	x Drilli	ng S	Services					Sheet	3 of 3
SAMPL	ES & TE	STS					ant/			
Depth	Type No	Test Result	Water	Reduced Level	Legend	Geology	Instrument/ Backfill			
				-0.50	<u>. []</u>	Arisings				
1.0						4.90				
2.0									- 1	
2.0				250		TT				
				-2.50			End of Rotary Borehole RBH1 at 22	c.Um bgi		
3.0										
5.0										
5.0										
6.0										
7.0										
8.0										
9.0										
10.0								OFNESA: ETT.		
								GENERAL REMARI	KS	
							No water strikes.			

10.0											
									GENERAL REMARKS	S	
							No wat	er strikes.			
		_									
All dimensions Scale 1:10	n metres	Clie	nt	White !	Horse H	Homes Li		Method/ Plant used	Rotary Rig	Logged	
Scale 1.10				Wille	101361	1011103 211	IIIII	Plant used		by	LS
-											

Obsidiar The Found				₋imited				Δ
Marcus St Wirral, CH TEL: 0151	141 1EU			info@ob			LE LOG mental.co.uk	OBSIDIAN
Project	22,	Alexan	der				ril, South Gloucestershire, BS36 2PZ	Bore Hole No
Job No	OE/1	1702/10	57	Date	11/01/	2024	Ground Level m Site Datum 19.4m Coordinates E N	RBH2
Contractor	r Ape:	x Drilli	ng S	Services			,	Sheet 1 of 4
SAMPLE	S & TE	STS					STRATA	<u>4</u>
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION	Geology Instrument/ Backfill
				19.40		0.70	Made Ground (MG) - Rock fill	Last 1.0m bentonite cement
2.0						1.90	Natural soil - soft orange CLAY	mix
3.0							MUDSTONE with SANDSTONE bands	
4.0								
5.0								
6.0						17.20		
7.0								
8.0								
9.0								
10.0				9.40			Rotary Borehole RBH2 continues to 32.0m bgl	
	ı	,		<u>, </u>		,	GENERAL REMARK No water strikes.	S
All dimens Scale 1:10		metres	Clie	nt	White	Horse 1	Homes Limited Method/ Rotary Rig	Logged by LS

Obsidian Environmental Limited The Foundry Business Centre Marcus Street, Birkenhead Wirral, CH41 1EU **BORE HOLE LOG** OBSIDIAN TEL: 01516457571 info@obsidianenvironmental.co.uk Project 22, Alexander Road, Frampton Cotteril, South Gloucestershire, BS36 2PZ Bore Hole No Job No Date Ground Coordinates E Level m Site Datum 19.4m OE/1702/1057 11/01/2024 RBH2 Contractor Sheet Apex Drilling Services 2 of 4 SAMPLES & TESTS STRATA Geology Depth Туре Test Reduced Depth (Thick-**DESCRIPTION** Legend Result Level No ness) Arisings MUDSTONE with SANDSTONE bands 10.0 9.40 17.20 Rotary Borehole RBH2 continues to 32.0m bgl -0.40 MUDSTONE with SANDSTONE bands 20.0 0.40

No water strikes.

GENERAL REMARKS

All dimensions in metres | Client | White Horse Homes Limited | Method/ Plant used | Rotary Rig | Logged by LS

Obsidian The Found				imited				0					
Marcus Str													
					DODI		E100						
Wirral, CH									NAIC				
TEL: 0151	645/5/	1		info@ob	sidiane	nviron	mental.co.uk	ENVIRON	1ENTAL				
Project	22, /	Alexan	der	Road, Fr	amptor	n Cotte	ril, South Gloucestershire, BS36 2PZ	Bore	Hole No				
Job No	OE/1	702/10)57	Date	11/01/	2024	Ground Level m Site Datum 19.4m Coordinates E N	R	BH2				
Contractor	Ape	k Drilli	ng S	Services			•	Sheet	3 of 4				
SAMPLES	S & TE	STS			STRATA Depth								
Depth	Type No	Test Result	Water	Reduced Level	Geology	Instrument/ Backfill							
20.0				-0.60		0.40	Coal contd.		Arisings				
				-0.80			MUDSTONE with SANDSTONE bands						
21.0													
			1										
								. 120.1					
22.0													
						11.80		1					
23.0						11.60							
24.0								ТŢ					
								-					
								i kedi					
25.0													
								i ken					
26.0													
27.0													
								7					
28.0			1					- XV.					
20.0			1										
			1										
29.0			1										
			1										
			1										
			1				MUDSTONE with SANDSTONE bands						
30.0			<u> </u>	-10.60			Rotary Borehole RBH2 continues to 32.0m bgl						
							GENERAL REMARKS No water strikes.						
All dimens		metres	Clie	nt	White	Horse H	Homes Limited Method/ Rotary Rig Lower Limited Plant used by	gged	1 6				

Obsidian Environmental Limited
The Foundry Business Centre

Marcus Street, Birkenhead

All dimensions in metres

Scale 1:10

Client



Logged

LS

by

Wirral, CH41 1EU **BORE HOLE LOG** OBSIDIAN TEL: 01516457571 info@obsidianenvironmental.co.uk Project 22, Alexander Road, Frampton Cotteril, South Gloucestershire, BS36 2PZ Bore Hole No Job No Date Ground Coordinates E Level m Site Datum 19.4m OE/1702/1057 11/01/2024 RBH2 Contractor Sheet Apex Drilling Services 4 of 4 SAMPLES & TESTS STRATA Geology Depth Туре Test Reduced Depth **DESCRIPTION** Legend (Thick-Result Level No ness) Arisings -10.60 MUDSTONE with SANDSTONE bands 30.00 11.80 MUDSTONE with SANDSTONE bands -12.60 End of Rotary Borehole RBH2 at 32.0m bgl 40.0 GENERAL REMARKS No water strikes.

Method/

Plant used

White Horse Homes Limited

Rotary Rig

The Foundry Business Centre Marcus Street, Birkenhead

Wirral, CH41 1EU

BORE HOLE LOG



TEL: 01516457571 <u>info@obsidianenvironmental.co.uk</u>

Project	22, 4	Alexano	der	Road, Fr	E	Bore Hole No							
Job No	OE/1	702/10	57	Date	12/01/	′2024	Ground Level m	Site Da	tum 19.25m	Coordinates E N		R	внз
Contractor	Apex	k Drillii	ng S	iervices							SI	neet	1 of 4
SAMPLES	& TE	STS						S	TRATA				nt/
	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)			DE	ESCRIPTION		Geology	Instrument/ Backfill
				19.25		0.70	Made Grou	und (MG) -	Tarmac over r	rock fill and clay		X\r	ast 1.0m entonite & ement
1.0				18.55		1.70	Natural so	il - soft o	range CLAY		The second secon		Arisings
2.0											-	II.	
				1/ 05		0.00					+	- T	
				16.85 16.55		0.30	Coal MUDSTO	NE with S	ANDSTONE 6	ands	7		
3.0											-		
											-		
											<u> </u>		
4.0											-		
											2		
											2		
5.0						17.30					-		
											<u> </u>	i i	
											-		
6.0													
											-		
7.0											-		
7.0											·		
											7	ш	
											_		
8.0												1	
9.0													
									ANDSTONE b		-		
10.0				9.25			Rotary Boi	enole RBI	13 continues t	o 32.0m bgl - sheet 4 of 4	140	1 I	
										GENERAL REMAR	(NS		
								No wat	er strikes.				
All dimensio Scale 1:10	ns in r	netres	Clie	nt	White	Horse H	Homes Li	mited	Method/ Plant used	Rotary Rig	Loggo		_S

The Foundry Business Centre

Marcus Street, Birkenhead

BORE HOLE LOG Wirral, CH41 1EU info@obsidianenvironmental.co.uk TEL: 01516457571



Project	22, 4	2, Alexander Road, Frampton Cotteril, South Gloucestershire, BS36 2PZ												
Job No	OE/1	702/10	57	Date	12/01/	′2024	Ground Coordinates E Level m Site Datum 19.25m N	RBH3						
Contractor	Apex	(Drilli	ng S	Services			•	Sheet 2 of	4					
SAMPLES	& TE	STS					STRATA	nt/						
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION	Geology Instrument/	במכניייי					
10.0				9.25			MUDSTONE with SANDSTONE bands	Arisings	;					
11.0														
12.0														
13.0														
14.0														
						17.30								
15.0						17.30								
16.0														
17.0														
18.0														
								#						
19.0														
							MUDSTONE with SANDSTONE bands							
20.0				-0.75			Rotary Borehole RBH3 continues to 32.0m bgl - sheet 4 of 4	1 1	=					
							GENERAL REMARKS No water strikes.							
All dimensio	ons in r	netres	Clie	nt			Method/ Patary Dia Log	ıged	=					
Scale 1:10					White	Horse F	Homes Limited Plant used Rotary Rig by	LS						

The Foundry Business Centre
Marcus Street Birkenhead

Marcus Street, Birkenhead Wirral, CH41 1EU

TEL: 01516457571

BORE HOLE LOG info@obsidianenvironmental.co.uk



Project	22, Alexander Road, Frampton Cotteril, South Gloucestershire, BS36 2PZ												
Job No	OE/1	702/10)57	Date	12/01/	/2024	Ground Level m	Site Da	tum 19.25m	n	Coordinates E N	R	вн3
Contractor	Apex	k Drilli	ng S	Services			•			•		Sheet	3 of 4
SAMPLES	& TE	STS						S	TRATA				nt/
Depth	Type No	Test Result	Water	Reduced Level	Legend	ness)			С	DES	CRIPTION	Geology	Instrument/ Backfill
20.0				-0.75		0.50	Coal - unw	orked					Arisings
22.0 23.0 24.0 25.0 26.0 27.0						11.50	MUDSTO	NE with S	ANDSTONE				
30.0			<u></u>	-10.25			Rotary Bo		H3 continues		2.0m bgl - sheet 4 of 4 GENERAL REMARKS	1 1	
All dimension Scale 1:10	ons in r	metres	Clie	nt	White	——— Horse l	-lomes Li	mited	Method/ Plant used	R	otary Rig	Logged by	LS

The Foundry Business Centre Marcus Street, Birkenhead

Wirral, CH41 1EU

TEL: 01516457571

info@obsidianen



BORE HOLE LOG

info@obsidianenvironmental.co.uk Project 22, Alexander Road, Frampton Cotteril, South Gloucestershire, BS36 2PZ Bore Hole No Job No Date Ground Coordinates E Level m Site Datum 19.25m OE/1702/1057 12/01/2024 RBH3 Contractor Sheet Apex Drilling Services 4 of 4 SAMPLES & TESTS STRATA Geology Depth Туре Test Reduced **DESCRIPTION** Depth Legend (Thick-Result Level No ness) Arisings -10.50 MUDSTONE with SANDSTONE bands 30.0 11.50 MUDSTONE with SANDSTONE bands End of Rotary Borehole RBH3 at 32.0m bgl -12.50 17.30 40.0 9.25 GENERAL REMARKS No water strikes. Client All dimensions in metres Method/ Logged Rotary Rig White Horse Homes Limited Plant used Scale 1:10 by LS



Appendix C Permit Closure Surrender Form – Rotary Drilling



Company: Obsidian Environmental Ltd.

Permit Closure Summary Form

Permit Ref.	27136	Project / Site Location	Frampton, South Gloucestershire, BS36 2PZ
Please supply a works being co		uments, including this com	pleted form within 3 months of the permitted
out (incl. enginee	ring drawings, gr	include; borehole logs and de out takes etc.) and a scaled sit I seams, voids and broken grou	tails of mine or mine entry treatment works carried e layout plan (correlated to O.S N' Grid) showing all nd proved by the works.
Summary of v		Start date // Jan 20	
Have any variat	ions occurred?	No ☐ Yes If so was t	ne Authority notified? ☐ No ☐ Yes
Please describe	from ro: holes - n	tary drill become so issues.	ing stuck in two out of
Did if any of the	following incid	lents occur?	
☐ Spontaneous	s combustion	☐ Water emission ☐ Gas em	ssion (elevated or above action levels)
☐ Geotechnica	l instability 🛮 l	egal issues incl. damage or p	ootential claims None
If yes, please detail each item;			
\\/	fallanda ana	Diago give a brid	of summary of the works undertaken
		round Backfilled ground	ef summary of the works undertaken.
Description;	illy Lablokelig	Tourid	a wanted and antend
Discret	e coal se	ame unworked	and worked encountered and later 17 fanuary 2024. Ly boneholes RBH 2 and RBH3. 20 to 16.66 bel - possible created
- see la	onehole lo	gs and letter repo	A daler 1) familiary 1024.
Intact c	oul sean	is noted in rota	ery boneboles RBH 2 and ROHS.
Vail net	interrest	ed in RBH1 - 16	o to 16.66gl - possible created
during	falling		
Backfell	void RBH	1, velouvered ale	ve/6.6-17./m lg(.
,			
Will further wo	rks be necessar	y that require a Permit? 🗓	No □Yes
If yes, please de	escribe, including o t valu	any recommendations;	-3 to 2.94.
Name:		Email:	