

Mitchell Garrington
Redrow Homes
Faraday Office Park
Basingstoke
Hampshire
RG24 8QQ

RAN/ME/44161-013

4 February 2022

Windmill Views, Barnham

Dear Mitchell,

We write to report on the verification of the capping placed in the gardens of plots 13 to 15 and 38 to 39 at the above site. Eastwood & Partners produced a letter (ref 44161/005, dated 22 September 2020) summarising the remedial requirements for the site following the identification of glass fragments in the topsoil. This letter states that a 450 mm layer of clean soil is required in garden areas over any unsuitable soil (currently deemed to affect plots 3-4, 6-7, 9-15, 33-42 and 47-49), with a geotextile marker layer the base. Asbestos fragments were then later identified in the eastern area of the site and it was recommended that plots in the affected area (plots 12 to 15) should have the capping thickness increased to 600 mm with an anti-dig layer at the base.

Verification of Capping Thickness

We visited site and excavated two verification pits in the rear gardens of plots 14 and 39 on 25 January 2022. Photographs of the verification pits are enclosed. The following materials were encountered:

Plot	Description	Thickness (mm)	Total Depth (mm)
14	TOPSOIL: Dark brown slightly clayey, slightly gravelly sand. Gravel is fine to medium, sub-rounded to rounded of wood fragments and occasional sandstone.	300	700
	SUBSOIL: Orangish brown gravelly CLAY. Gravel is fine to coarse, sub-rounded to rounded flint. Black geotextile marker membrane at base.	350	
39	TOPSOIL: Dark brown slightly clayey, slightly gravelly sand. Gravel is fine to medium, sub-rounded to rounded of wood fragments and occasional sandstone.	200	450
	SUBSOIL: Orangish brown slightly gravelly CLAY. Gravel is fine to coarse, sub-rounded to rounded flint. Black geotextile marker membrane at base.	250	

Directors: P Richardson BSc CEng MICE FStructE S R Ellis BEng CEng MStructE MICE C A Topliss BSc CEng CSci CGeol SiLC MICE FGS
S J English BEng CEng MStructE A R Priest BEng A G Marshall BEng CEng MStructE
Technical Directors: A Allison BEng M P Chappell BEng IEng AMStructE K Edwards MSc CGeol FGS
P A Harrison BEng CEng MStructE C Hodge EngTech MICE A J Kerslake BEng FGS
Senior Associates: S J Mitchell BSc MSc CEng MEI MCIBSE MASHRAE
C A Wood BSc, CEng, MStructE, MICE M Dyson BSc CEng MStructE
Associates: A M Cross MEng CEng MICE A Lavelle MEng CEng MICE S R Jackson MEng CEng MStructE R A Noble BSc FGS
Consultants: S D Preston BEng CEng FICE FStructE K R Pursall BEng CEng MStructE

The required minimum capping thickness has therefore been achieved.

Capping Material – Topsoil

We have been informed that the topsoil used in the capping layer was imported from The Woodhorn Group's Tangmere Composting Site. Import tickets for two loads of topsoil from The Woodhorn Group dated 20 December 2021 are enclosed along with a further nine dated 13 to 19 January 2022.

The material is a manufactured topsoil and was supplied with certification undertaken by Tim O'Hare Associates LLP in their letter referenced TOHA/21/7268/SS, dated 10th December 2021. This letter reports the results of the testing of one sample of topsoil from the Tangmere Composting Site. It includes details of the chemical and physical properties of the topsoil and the results indicate that the material is suitable for re-use as multipurpose topsoil which will not pose a risk to human health.

A sample of the topsoil was also collected from the verification pit of plots 14 and 39 during the site visit. This was dispatched to the chemical testing laboratory and tested for a generic suite of common contaminants. A copy of the results (Chemtest 22-03173) is enclosed. These demonstrate that all determinants were recorded below the relevant assessment concentrations and the material is suitable to remain in place.

It is therefore considered that this demonstrates that the topsoil placed in plots 13 to 15 and 38 to 39 is both chemically and physically suitable.

Capping Material – Subsoil

The subsoil used in the capping layer was site won material. No elevated levels of contaminants were identified during previous rounds of investigation. The natural site-won subsoil was therefore considered suitable for re-use and no further testing of this material was considered necessary.

Conclusion

The material used in the capping is considered to be physically and chemically suitable for use in a residential setting. The capping thickness encountered is also considered to be sufficient and in accordance with the Remediation Strategy. The capping placed in the garden of plots 13 to 15 and 38 to 39 is therefore considered to be satisfactory.

Yours sincerely



Ruth Noble

Associate

Enc. Verification pit photographs
 Import tickets
 Tim O'Hare Associates 'Topsoil Analysis Report' ref TOHA/21/7268/SS
 Chemtest report 22-03173



Verification pit – Plot 14



Capping depth – plot 14 (700 mm)



Rear garden – plot 14



Verification pit – plot 39



Capping depth – plot 39 (450 mm)



Rear Garden – Plot 39

WEIGHBRIDGE TICKET

Ticket No. DO716617

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No:EPR/DB3703HG

Company Reg No.3829015

VAT No.816160744

SIC Code: 38210

Waste Carrier Licence no: CBDU162145

Time In	14:52		
Date In	20/12/2021		
Time Out	15:08		
Date Out	20/12/2021		
Vehicle	V17TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:		
Permit			
Zone	G7		
Product	Topsoil BS3882 (20MM)		
EWG Code			
1st Weight:	12,840.00	Kg	NONE
2nd Weight:	31,320.00	Kg	NONE
Net Weight:	18,480.00	Kg	

Signature waste depositer

Signature waste receiver

WEIGHBRIDGE TICKET

Ticket No. DO716609

WOODHORN GROUP Ltd

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere
West Sussex
PO20 2FP
EA Permit No:EPR/DB3703HG
Company Reg No.3629015
VAT No.816160744
SIC Code: 38210
Waste Carrier Licence no: CBDU162145

Time In	13:50		
Date In	20/12/2021		
Time Out	14:02		
Date Out	20/12/2021		
Vehicle	V27TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:		
Permit			
Zone	G7		
Product	Topsoil BS3882 (20MM)		
EWG Code			
1st Weight:	12,780.00	Kg	NONE
2nd Weight:	31,280.00	Kg	NONE
Net Weight:	18,500.00	Kg	

Signature waste depositer

Signature waste receiver



WEIGHBRIDGE TICKET

Ticket No. DO717233
CONVEYANCE NOTE

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No:EPR/DB3703HG

Company Reg No.3629015

VAT No.816160744

SIC Code: 38210

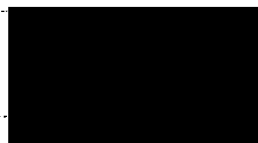
Waste Carrier Licence no: CBDU162145

Time In	08:44		
Date In	13/1/2022		
Time Out	09:00		
Date Out	13/1/2022		
Vehicle	V9TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:		
Permit			
Zone	G7		
Product	Topsoil BS3882 (20MM)		
EWG Code			
1st Weight:	12,900.00	Kg	NONE
2nd Weight:	32,820.00	Kg	NONE
Net Weight:	19,920.00	Kg	

By Signing this document I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the waste (England and Wales) Regulations 2011

Signature waste depositer

Signature waste receiver



WEIGHBRIDGE TICKET

Ticket No. DO717267
CONVEYANCE NOTE

WOODHORN GROUP Ltd

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere
West Sussex
PO20 2FP
EA Permit No:EPR/DB3703HG
Company Reg No.3629015
VAT No.816160744
SIC Code: 38210
Waste Carrier Licence no: CBDU162145

Time In	13:43		
Date In	13/1/2022		
Time Out	13:55		
Date Out	13/1/2022		
Vehicle	M50TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:		
Permit			
Zone	G7		
Product	Topsoil BS3882 (20MM)		
EWG Code			
1st Weight:	13,080.00	Kg	NONE
2nd Weight:	32,380.00	Kg	NONE
Net Weight:	19,300.00	Kg	

By Signing this document I confirm that I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the waste (England and Wales) Regulations 2011

Signature waste depositor

Signature waste receiver

WEIGHBRIDGE TICKET

Ticket No. DO717294

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No:EPR/DB3703HG

Company Reg No.3629015

VAT No.816160744

SIC Code: 38210

Waste Carrier Licence no: CBDU162145

Time In	08:36		
Date In	14/1/2022		
Time Out	08:50		
Date Out	14/1/2022		
Vehicle	E11TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:		
Permit			
Zone	G7		
Product	Topsoil BS3882 (20MM)		
EWG Code			
1st Weight:	13,300.00	Kg	NONE
2nd Weight:	32,380.00	Kg	NONE
Net Weight:	19,080.00	Kg	

Signature waste depositer

Signature waste receiver

WEIGHBRIDGE TICKET

Ticket No. DO717321

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No:EPR/DB3703HG

Company Reg No.3629015

VAT No.816160744

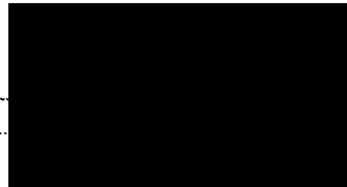
SIC Code: 38210

Waste Carrier Licence no: CBDU162145

Time In	09:38
Date In	14/1/2022
Time Out	09:48
Date Out	14/1/2022
Vehicle	E11TJT
Carrier	TJ Transport Ltd
License No.	
Client	Blaze Construction Ltd
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:
Permit	
Zone	G7
Product	Topsoil BS3882 (20MM)
EWC Code	
1st Weight:	13,280.00 Kg NONE
2nd Weight:	31,920.00 Kg NONE
Net Weight:	18,640.00 Kg

Signature waste depositer

Signature waste receiver



WEIGHBRIDGE TICKET

Ticket No. DO717389

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No:EPR/DB3703HG

Company Reg No.3629015

VAT No.816160744

SIC Code: 38210

Waste Carrier Licence no: CBDU162145

Time In	10:46		
Date In	17/1/2022		
Time Out	10:56		
Date Out	17/1/2022		
Vehicle	V17TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:		
Permit			
Zone	G7		
Product	Topsoil BS3882 (20MM)		
EWC Code			
1st Weight:	12,840.00	Kg	NONE
2nd Weight:	31,560.00	Kg	NONE
Net Weight:	18,720.00	Kg	

Signature waste depositer

Signature waste receiver



WEIGHBRIDGE TICKET

Ticket No. DO717403

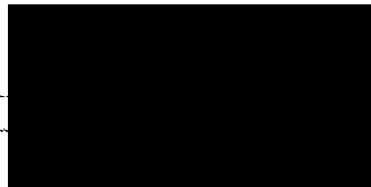
WOODHORN GROUP Ltd

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere
West Sussex
PO20 2FP
EA Permit No:EPR/DB3703HG
Company Reg No.3629015
VAT No.816160744
SIC Code: 38210
Waste Carrier Licence no: CBDU162145

Time In	11:53		
Date In	17/1/2022		
Time Out	12:00		
Date Out	17/1/2022		
Vehicle	V17TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:		
Permit			
Zone	G7		
Product	Topsoil BS3882 (20MM)		
EWG Code			
1st Weight:	12,840.00	Kg	NONE
2nd Weight:	31,340.00	Kg	NONE
Net Weight:	18,500.00	Kg	

Signature waste depositer

Signature waste receiver



WEIGHBRIDGE TICKET

Ticket No. DO717499

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No:EPR/DB3703HG

Company Reg No.3629015

VAT No.816160744

SIC Code: 38210

Waste Carrier Licence no: CBDU162145

Time In	13:26		
Date In	18/1/2022		
Time Out	13:35		
Date Out	18/1/2022		
Vehicle	E11TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:		
Permit			
Zone	G7		
Product	Topsoil BS3882 (20MM)		
EWC Code			
1st Weight:	13,240.00	Kg	NONE
2nd Weight:	32,120.00	Kg	NONE
Net Weight:	18,880.00	Kg	

Signature waste depositer

Signature waste receiver

WEIGHBRIDGE TICKET

Ticket No. DO717502

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No:EPR/DB3703HG

Company Reg No.3629015

VAT No.816160744

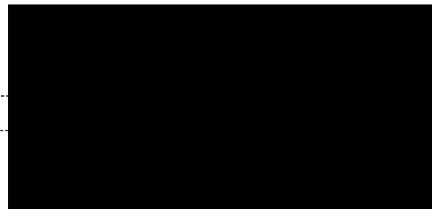
SIC Code: 38210

Waste Carrier Licence no: CBDU162145

Time In	14:24		
Date In	18/1/2022		
Time Out	14:34		
Date Out	18/1/2022		
Vehicle	V17TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:		
Permit			
Zone	G7		
Product	Topsoil BS3882 (20MM)		
EWG Code			
1st Weight:	12,820.00	Kg	NONE
2nd Weight:	31,080.00	Kg	NONE
Net Weight:	18,260.00	Kg	

Signature waste depositer

Signature waste receiver



WEIGHBRIDGE TICKET

Ticket No. DO717526

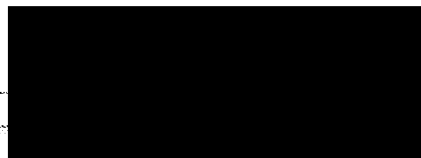
WOODHORN GROUP Ltd

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere
West Sussex
PO20 2FP
EA Permit No:EPR/DB3703HG
Company Reg No.3629015
VAT No.816160744
SIC Code: 38210
Waste Carrier Licence no: CBDU162145

Time In	08:53
Date In	19/1/2022
Time Out	09:01
Date Out	19/1/2022
Vehicle	V21TJT
Carrier	TJ Transport Ltd
License No.	
Client	Blaze Construction Ltd
Address	Blaze Site, Yapton Road, BARNHAM, po22 0ay, SIC Code:
Permit	
Zone	G7
Product	Topsoil BS3882 (20MM)
EWC Code	
1st Weight:	13,060.00 Kg NONE
2nd Weight:	31,620.00 Kg NONE
Net Weight:	18,560.00 Kg

Signature waste depositer

Signature waste receiver





Final Report

Report No.: 22-03173-1
Initial Date of Issue: 03-Feb-2022
Client Eastwood & Partners
Client Address: St. Andrews House
23 Kingfield Road
Sheffield
South Yorkshire
S11 9AS
Contact(s): Geo
Ruth Noble
Project 44161 Windmill Views, Barnham
Quotation No.:
Order No.: 44161/04
No. of Samples: 2
Turnaround (Wkdays): 5
Date Approved: 03-Feb-2022
Approved By:

Date Received: 28-Jan-2022
Date Instructed: 28-Jan-2022
Results Due: 03-Feb-2022

Details: Stuart Henderson, Technical
Manager

Results - Soil

Project: 44161 Windmill Views, Barnham

Client: Eastwood & Partners		Chemtest Job No.:			22-03173	22-03173
Quotation No.:		Chemtest Sample ID.:			1361442	1361443
Order No.: 44161/04		Client Sample Ref.:			TS	TS
		Sample Location:			Plot 14	Plot 39
		Sample Type:			SOIL	SOIL
		Date Sampled:			25-Jan-2022	25-Jan-2022
		Asbestos Lab:			NEW-ASB	NEW-ASB
Determinand	Accred.	SOP	Units	LOD		
ACM Type	U	2192		N/A	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	24	31
Soil Colour	N	2040		N/A	Brown	Brown
Other Material	N	2040		N/A	Stones and Roots	Stones and Roots
Soil Texture	N	2040		N/A	Sand	Clay
pH	M	2010		4.0	8.7	8.4
Arsenic	M	2450	mg/kg	1.0	3.5	10
Cadmium	M	2450	mg/kg	0.10	< 0.10	0.13
Chromium	M	2450	mg/kg	1.0	4.8	17
Copper	M	2450	mg/kg	0.50	7.6	23
Mercury	M	2450	mg/kg	0.10	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	2.5	12
Lead	M	2450	mg/kg	0.50	8.7	31
Selenium	M	2450	mg/kg	0.20	< 0.20	0.24
Zinc	M	2450	mg/kg	0.50	21	68
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0

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
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
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-diphenylcarbazide.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenzo[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS

Report Information

Key

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

- 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

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:

