

WEIGHBRIDGE TICKET

Ticket No. DO652708

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

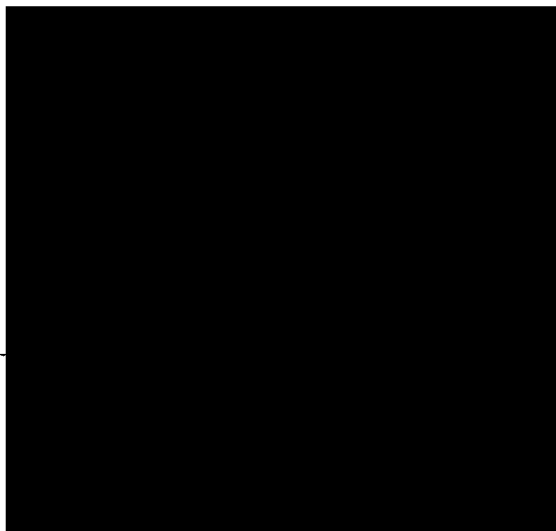
Waste Carrier Licence no: CBDU162145

49293

Time In	13:45
Date In	30/7/2019
Time Out	13:56
Date Out	30/7/2019
Vehicle	OY16UJP
Carrier	Recycle Southern Ltd
License No.	
Client	Blaze Construction Ltd
Address	CRESSWELL PARK, ROUNDSTONE LANE, ANGMERING, , SIC Code:
Permit	
Zone	
Product	Topsoil BS3882 (20MM)
EWC Code	
1st Weight:	13,760.00 Kg NONE
2nd Weight:	32,160.00 Kg NONE
Net Weight:	18,400.00 Kg

Signature waste

Signature waste



Dispatch Note

652708

Bill/Sold To:

Blaze Construction Ltd
93 Leigh Road
Hampshire
Eastleigh
SO50 9DQ

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Quote No.	Job No.	Salesperson	Manager	Ref
32536	49293	-No Sales Employee-		609/15042

DESCRIPTION	QTY / UNIT	UNIT PRICE	EXTENDED PRICE
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30/7/2019

Container

8 Wheel Tipper

1.00 /

Product

Topsoil BS3882 (20MM)

18.40 / Tonnes

86.10

Con

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WEIGHBRIDGE TICKET

Ticket No. DO660102
CONVEYANCE NOTE

WOODHORN GROUP Ltd

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

Time In	08:12
Date In	12/11/2019
Time Out	08:28
Date Out	12/11/2019
Vehicle	V99TJT
Carrier	TJ Transport Ltd
License No.	
Client	Blaze Construction Ltd
Address	CRESSWELL PARK, ROUNDSTONE LANE, ANGMERING, , SIC Code:
Permit	
Zone	
Product	Topsoil BS3882 (20MM)
EWG Code	
1st Weight:	13,060.00 Kg NONE
2nd Weight:	32,260.00 Kg NONE
Net Weight:	19,200.00 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

Dispatch Note

Bill/Sold To:

Blaze Construction Ltd
93 Leigh Road
Hampshire
Eastleigh
SO50 9DQ

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Quote No.	Job No.	Salesperson	Manager	Ref
33991	50864	-No Sales Employee-		609/15042

DESCRIPTION	QTY / UNIT	UNIT PRICE	EXTENDED PRICE
12/11/2019			
Container 8 Wheel Tipper	1.00 /		
Product Topsoil BS3882 (20MM)	19.20 / Tonnes		

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Compa

WOODHORN GROUP

Date: 8/11/2019

Page: 1

Dispatch Note

WOODBRIDGE TICKET
 WOODHORN GROUP LTD
 CONVEYANCE NOTE

Woodhorn Composting Facility
 100 Years Industrial Estate
 Tarpaulins
 Woodhorn
 01206 3300
 EA Permit No: EPR00010000
 Company Reg No: 1629418
 VAT No: 910160744
 SIC Code: 20210
 Waste Carrier Licence No: CR00184116

Time In: 14:00
 Date In: 12/11/2019
 Time Out: 15:00
 Date Out: 12/11/2019
 Vehicle: E111117
 Carrier: T.J. Transport Ltd
 Licence No: 12/11/2019

Client: Blaze Construction Ltd
 Address: CRESSWELL PARK
 ROUNDSTONE LANE
 ANUMERING, SIC Order

Product: Topsoil BS2282 (20MM)
 VC Code: 13000000
 Weight: 13000.00 Kg NONE
 Weight: 11000.00 Kg NONE
 Weight: 12000.00 Kg

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

Waste depositor

Waste receiver

Job Site/Ship To:

Blaze Construction Ltd
 CALA HOMES SITE
 CRESSWELL PARK
 ROUNDSTONE LANE
 ANUMERING

Job No.	Salesperson	Manager	Ref
50859	-No Sales Employee-		609/15042

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
------------	------------	----------------

1.00 /

19.00 / Tonnes

WOODHORN GROUP

Date: 8/11/2019

Page: 1

WEIGHBRIDGE TICKET
Ticket No. DO660161

Dispatch Note

WOODHORN GROUP Ltd

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere

West Sussex
PO20 2FP

EA Permit No: EPR00037 (2019)

Company Reg No: 3429015

VAT No: 418160744

SIC Code: 33219

Waste Carrier Licence No: 08DU162145

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Time in 13:12
Date in 1/21/2019
Time Out 13:29
Date Out 1/21/2019
Vehicle EFTUJ
Carrier TJ Transport Ltd
Licence No
Object

Blaze Construction Ltd

Address CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING, SIC Code:

Permit

Zone

Product

EWK Code

Total 657682 (20MM)

1st Weight 13000.00 Kg NONE
2nd Weight 21500.00 Kg NONE
3rd Weight 18520.00 Kg

No.	Salesperson	Manager	Ref
363	-No Sales Employee-		609/15042
QTY / UNIT		UNIT PRICE	EXTENDED PRICE

1.00 /

19.00 / Tonnes

Signature

Signature

Com

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WEIGHBRIDGE TICKET

Ticket No. DO660208
CONVEYANCE NOTE

WOODHORN GROUP Ltd

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere
West Sussex
PO20 2PP
EA Permit No: PNO0575000
Company Reg No: 3626015
VAT No: 516100744
SIC Code: 38210
Waste Carrier Licence No: CBDU 182145

Time In 08:41
Date In 13/11/2019
Time Out 08:53
Date Out 13/11/2019
Vehicle N46TJT
Carrier TJ Transport Ltd
License No
Client Blaze Construction Ltd
Address CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING, SIC Code:
Permit
Zone
Product Topsoil SS1082 (20MVA)
EWC Code
1st Weight 12.62000 Kg NONE
2nd Weight 31.92500 Kg NONE
Net Weight 19.30500 Kg

THE WOODHORN GROUP

Date: 8/11/2019

Page: 1

Dispatch Note

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

No.	Salesperson	Manager	Ref
0866	-No Sales Employee-		609/15042

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
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1.00 /

19.00 / Tonnes

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

Signature waste depositor

Signature was

Company R

Company R

WEIGHBRIDGE TICKET

Ticket No. D0660203
CONVEYANCE NOTE

WOODHORN GROUP Ltd

To: Angmering Composting Facility
City Fields Industrial Estate
Tangmer
West Sussex
BN20 2FP
EA Permit No EPR083709HG
Company Reg No 3629015
VAT No. 816150744
SIC Code 36210
Waste Carrier Licence no: C850162145

Time in 08:18
Date in 13/11/2019
Time Out 08:29
Date Out 13/11/2019
Vehicle E11TJT
Carrier T J Transport Ltd
Licence No.
Client Blaze Construction Ltd
Address CRESSWELL PARK,
ROUNDSTONE LANE,
ANGMERING. ..SIC Code
Permit
Zone
Product T J Transport Ltd (2019)
EWC Code
Gross Weight 12.36500 kg NONE
2nd Weight 30.84000 kg NONE
Net Weight 17.88500 kg

THE WOODHORN GROUP

Date: 9/11/2019

Page: 1

Dispatch Note

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Job No.	Salesperson	Manager	Ref
10866	-No Sales Employee-		609/15042

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
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1.00 /

19.00 / Tonnes

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

Sig

WEIGHBRIDGE TICKET

Ticket No. D0660200
CONVEYANCE NOTE

WOODHORN GROUP Ltd

THE WOODHORN GROUP

Date: 8/11/2019

Page: 1

Dispatch Note

Tangmere Composting Facility
Cly Field Industrial Estate
Tangmere
West Sussex
PO20 3FP
EA Permit No. EP500370340
Company Reg No. 3929015
VAT No. 818180744
SIC Code 38210
Waste Carrier Licence no. CBDU162182

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Job No.

50867

Salesperson

-No Sales Employee

Manager

Ref

609/15042

QTY / UNIT

UNIT PRICE

EXTENDED PRICE

1.00 /

19.00 / Tonnes

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 w

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IE WOODHORN GROUP

Date: 22/11/2019

Page: 1

WICKHAMBRIDGE TICKET

Ref: No. D0661048
CONVEYANCE NOTE

WOODHORN GROUP Ltd

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere
West Sussex
PO20 2FP
EA Permit No: EP40083700403
Company Reg No: 0129915
VAT No: 919170740
SIC Code: 2061
Website: www.woodhorn.co.uk

Time In: 10:24
Date In: 25/11/2019
Time Out: 10:24
Date Out: 25/11/2019
Vehicle: E11TJT
Carrier: T.J. Transport Ltd
License No:
Client: Blaze Construction Ltd
Address: CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING . SIC Code:
Permit:
Type:
Product: Tonnage 883882 (20MM)
EWG Code:
1st Weight: 13700.00 kg NONE
2nd Weight: 31240.00 kg NONE
Net Weight: 18040.00 kg

Dispatch Note

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Job No.	Salesperson	Manager	Ref
51147	-No Sales Employee-		609/15042

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
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1.00 /

19.00 / Tonnes

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

WEIGHBRIDGE TICKET

Ticket No. D0661026
CONVEYANCE NOTE

WOODHORN GROUP Ltd

E WOODHORN GROUP

Date: 22/11/2019

Page: 1

Dispatch Note

Targisware Composting Facility
City Fields Industrial Estate
Targisware
Wood Clystex
EC20 2PR
EA Permit No. EPRN083703HG
Company Reg No. 3629015
VAT No. 818150744
SIC Code: 36210
Waste Carrier Licence no. C50U162145

Time in 08:30
Date in 25/11/2019
Time Out 08:59
Date Out 25/11/2019
Vehicle E11TJT
Driver TJ Transport Ltd
License No.
Client Blaze Construction Ltd
Address CRESSWELL PARK,
ROUNDSTONE LANE,
ANGMERING, SIC Code:
Permit
Zone
Product Topsoil BS3882 / 2nd class
EWC Code
1st Weight 13200.00 Kg 10.45
2nd Weight 31600.00 Kg 9.25
Net Weight 18400.00 Kg

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

No.	Salesperson	Manager	Ref
1148	-No Sales Employee-		609/15042

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
------------	------------	----------------

1.00 /

19.00 / Tonnes

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

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THE WOODHORN GROUP

Date: 22/11/2019

Page: 1

WEIGHBRIDGE T1
Ticket No. DO6616
CONVEYANCE NO.

Dispatch Note

WOODHORN GROUP LTD

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere
West Sussex
PO20 2FP
EA Permit No EP/R03270340
Company Reg No 29015
VAT No 161 807 44
SIC Code 33219
Waste Carrier Licence No. 080U182145

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Time in 08:11
Date in 25/11/2019
Time out 08:33
Date out 25/11/2019
Vehicle N40LJT
Carrier T.J. Transport Ltd
License No.
Client Blaze Construction Ltd

No.	Salesperson	Manager	Ref
1149	-No Sales Employee-		609/15042
QTY / UNIT		UNIT PRICE	EXTENDED PRICE

Address CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING SIC Code:

Permit 1.00 /

Zone
Product Tipex B2.3832 (20MMA)
EWC Code 19.00 / Tonnes

1st Weight 12,867.00 Kg 19.21E
2nd Weight 32,080.00 Kg NONE
Net Weight 19,220.00 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

Com

Com

WEIGHBRIDGE TICKET

Ticket No. DO661112
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	14:38
Date In	25/11/2019
Time Out	14:50
Date Out	25/11/2019
Vehicle	N40TJT
Carrier	TJ Transport Ltd
License No.	
Client	Blaze Construction Ltd
Address	CRESSWELL PARK, ROUNDSTONE LANE, ANGMERING, , SIC Code:
Permit	
Zone	
Product	Topsoil BS3882 (20MM)
EWC Code	
1st Weight:	12,820.00 Kg NONE
2nd Weight:	31,340.00 Kg NONE
Net Weight:	18,520.00 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



Dispatch Note

Bill/Sold To:

Blaze Construction Ltd
93 Leigh Road
Hampshire
Eastleigh
SO50 9DQ

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Quote No.	Job No.	Salesperson	Manager	Ref
34241	51144	-No Sales Employee-		609/15042

DESCRIPTION	QTY / UNIT	UNIT PRICE	EXTENDED PRICE
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25/11/2019

Container

8 Wheel Tipper

1.00 /

Product

Topsoil BS3882 (20MM)

18.52 / Tonnes

WEIGHBRIDGE TICKET

Ticket No. DO661094
CONVEYANCE NOTE

WOODHORN GROUP Ltd

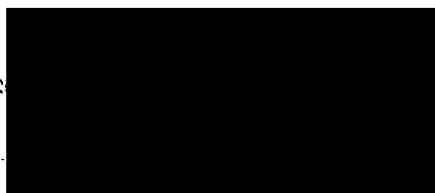
Tangmere Composting Facility
City Fields Industrial Estate
Tangmere
West Sussex
PO20 2FP
EA Permit No:EPR/DB3703HG
Company Reg No.3629015
VAT No.816160744
SIC Code: 38210
Waste Carrier Licence no: CBDU162145

Time In	12:55		
Date In	25/11/2019		
Time Out	13:06		
Date Out	25/11/2019		
Vehicle	N40TJT		
Carrier	TJ Transport Ltd		
License No.			
Client	Blaze Construction Ltd		
Address	CRESSWELL PARK, ROUNDSTONE LANE, ANGMERING, , SIC Code:		
Permit			
Zone			
Product	Topsoil BS3882 (20MM)		
EWC Code			
1st Weight:	12,820.00	Kg	NONE
2nd Weight:	30,740.00	Kg	NONE
Net Weight:	17,920.00	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 rec



Dispatch Note

Bill/Sold To:

Blaze Construction Ltd
93 Leigh Road
Hampshire
Eastleigh
SO50 9DQ

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Quote No.	Job No.	Salesperson	Manager	Ref
34242	51145	No Sales Employee		609/15042

DESCRIPTION	QTY / UNIT	UNIT PRICE	EXTENDED PRICE
25/11/2019			
Container 8 Wheel Tipper	1.00 /		
Product Topsoil BS3882 (20MM)	17.92 / Tonnes		

WEIGHBRIDGE TICKET

Ticket No. DO657568
CONVEYANCE NOTE

E WOODHORN GROUP

Date: 7/10/2019

Page: 1

Dispatch Note

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No EPR/DE3703HG

Company Reg No 3629015

VAT No 816150744

SIC Code 38210

Waste Carrier Licence no: C80U152145

Time In 12:47

Date In 8/10/2019

Time Out 12:57

Date Out 8/10/2019

Vehicle N80TJT

Carrier T.J. Transport Ltd

License No

Client Blaze Construction Ltd

Address CRESSWELL PARK,
ROUNDSTONE LANE,
ANGMERING, . SIC Code:

Permit

Zone

Product Topsoil BS3882 (20MM)

EWC Code

1st Weight: 12,280.00 Kg NONE

2nd Weight: 30,220.00 Kg NONE

Net Weight: 17,940.00 Kg

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Job No.

50386

Salesperson

-No Sales Employee-

Manager

Ref

609/15042

QTY / UNIT

UNIT PRICE

EXTENDED PRICE

1.00 /

18.00 / Tonnes

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 wa

Com

Com

WEIGHBRIDGE TICKET

Ticket No. DO657570

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

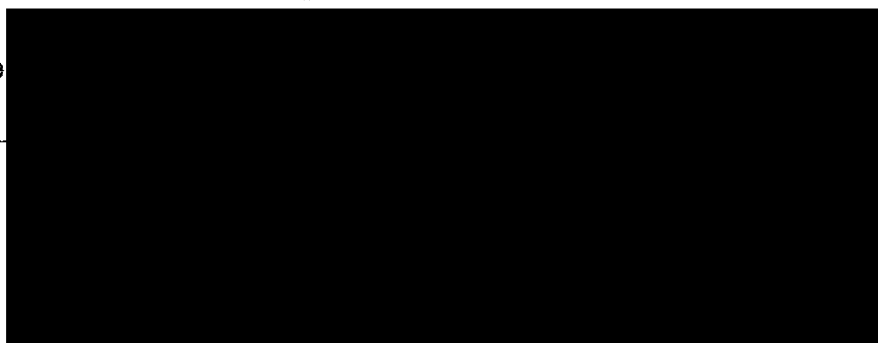
SIC Code: 38210

Waste Carrier Licence no: CBDU162145

Time In	13:00
Date In	8/10/2019
Time Out	13:07
Date Out	8/10/2019
Vehicle	V99TJT
Carrier	TJ Transport Ltd
License No.	
Client	Blaze Construction Ltd
Address	CRESSWELL PARK, ROUNDSTONE LANE, ANGMERING, , SIC Code:
Permit	
Zone	
Product	Topsoil BS3882 (20MM)
EWC Code	
1st Weight:	13,080.00 Kg NONE
2nd Weight:	31,780.00 Kg NONE
Net Weight:	18,700.00 Kg

Signature waste depositer

Signature waste



Dispatch Note

Bill/Sold To:

Blaze Construction Ltd
93 Leigh Road
Hampshire
Eastleigh
SO50 9DQ

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Quote No.	Job No.	Salesperson	Manager	Ref
33565	50387	-No Sales Employee-		609/15042

DESCRIPTION	QTY / UNIT	UNIT PRICE	EXTENDED PRICE
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8/10/2019

Container

8 Wheel Tipper

1.00 /

Product

Topsoil BS3882 (20MM)

18.00 / Tonnes

WEIGHBRIDGE TICKET

THE WOODHORN GROUP

Date: 7/10/2019

Page: 1

Ticket No. DO657539
CONVEYANCE NOTE

Dispatch Note

WOODHORN GROUP Ltd

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere
West Sussex
PO20 3FP
EA Permit No: EPR063703HG
Company Reg No: 3629015
VAT No: 816160744
SIC Code: 38210
Waste Carrier Licence no: CBDU162145

Time In 10:00
Date In 8/10/2019
Time Out 10:15
Date Out 8/10/2019
Vehicle N40TJT

Carrier T.J Transport Ltd

License No.

Client Blaze Construction Ltd

Address CRESSWELL PARK,
ROUNDSTONE LANE,
ANGMERING, . SIC Code:

Permit

Zone

Product Topsoil BS3882 (20MM)

EWC Code

1st Weight: 12,320.00 Kg NONE

2nd Weight: 30,180.00 Kg NONE

Net Weight: 17,860.00 Kg

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

No.

0384

Salesperson

-No Sales Employee-

Manager

Ref

609/15042

QTY / UNIT

UNIT PRICE

EXTENDED PRICE

1.00 /

18.00 / Tonnes

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

Sign

WEIGHBRIDGE TICKET

Ticket No. DO657564
CONVEYANCE NOTE

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No. EPR/D83703HG

Company Reg No. 3629015

VAT No. 816160744

SIC Code: 38210

Waste Carrier Licence no. CBDU162145

Time In 12:04

Date In 8/10/2019

Time Out 12:19

Date Out 8/10/2019

Vehicle S25TJT

Carrier TJ Transport Ltd

License No.

Client Blaze Construction Ltd

Address CRESSWELL PARK,
ROUNDSTONE LANE,
ANGMERING. SIC Code:

Permit

Zone

Product Topsoil BS3882 (20MM)

EWG Code

1st Weight: 12,680.00 Kg NONE

2nd Weight: 30,720.00 Kg NONE

Net Weight: 18,040.00 Kg

E WOODHORN GROUP

Date: 7/10/2019

Page: 1

Dispatch Note

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

b No.

0385

Salesperson

No Sales Employee

Manager

Ref

609/15042

QTY / UNIT

UNIT PRICE

EXTENDED PRICE

1.00 /

18.00 / Tonnes

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

Com

Company Registration Number: 3629015

Company VAT Number: 816160744

WEIGHBRIDGE TICKET

Ticket No. DO657780
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

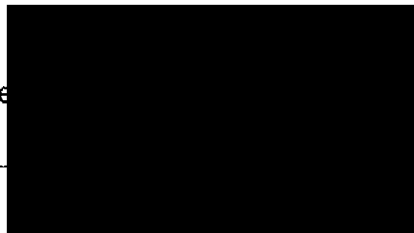
Waste Carrier Licence no: CBDU162145

Time In	08:38
Date In	11/10/2019
Time Out	08:51
Date Out	11/10/2019
Vehicle	V99TJT
Carrier	TJ Transport Ltd
License No.	
Client	Blaze Construction Ltd
Address	CRESSWELL PARK, ROUNDSTONE LANE, ANGMERING, , SIC Code:
Permit	
Zone	
Product	Topsoil BS3882 (20MM)
EWC Code	
1st Weight:	12,960.00 Kg NONE
2nd Weight:	30,880.00 Kg NONE
Net Weight:	17,920.00 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



Dispatch Note

Bill/Sold To:

Blaze Construction Ltd
93 Leigh Road
Hampshire
Eastleigh
SO50 9DQ

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Quote No.	Job No.	Salesperson	Manager	Ref
33630	50461	-No Sales Employee-		609/15042

DESCRIPTION	QTY / UNIT	UNIT PRICE	EXTENDED PRICE
-------------	------------	------------	----------------

11/10/2019

Container

8 Wheel Tipper

1.00 /

Product

Topsoil BS3882 (20MM)

17.92 / Tonnes

WEIGHBRIDGE TICKET**Ticket No. DO657881
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

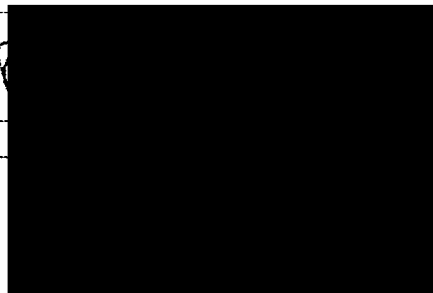
Waste Carrier Licence no: CBDU162145

Time In	09:43
Date In	14/10/2019
Time Out	09:53
Date Out	14/10/2019
Vehicle	V66TJT
Carrier	TJ Transport Ltd
License No.	
Client	Blaze Construction Ltd
Address	CRESSWELL PARK, ROUNDSTONE LANE, ANGMERING, , SIC Code:
Permit	
Zone	
Product	Topsoil BS3882 (20MM)
EWC Code	
1st Weight:	12,940.00 Kg NONE
2nd Weight:	32,040.00 Kg NONE
Net Weight:	19,100.00 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



Page: 1

THORN GROUP

Bill/Sold To: Blaze Construction Ltd 93 Leigh Road Hampshire Eastleigh SO50 9DQ	Job Site/Ship To: Blaze Construction Ltd CALA HOMES SITE CRESSWELL PARK ROUNDSTONE LANE ANGMERING
---	---

Quote No. 33632	Job No. 50463	Salesperson -No Sales Employee-	Manager	Ref 609/15042
--------------------	------------------	------------------------------------	---------	------------------

[illegible]

84.67

WEIGHBRIDGE TICKET

Ticket No. DO657869
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: CBDU162146

Time In	08:10
Date In	14/10/2019
Time Out	08:18
Date Out	14/10/2019
Vehicle	V66TJT
Carrier	TJ Transport Ltd
License No.	
Client	Blaze Construction Ltd
Address	CRESSWELL PARK, ROUNDSTONE LANE, ANGMERING, , SIC Code:
Permit	
Zone	
Product	Topsoil BS3882 (20MM)
EWC Code	
1st Weight:	12,820.00 Kg NONE
2nd Weight:	30,880.00 Kg NONE
Net Weight:	18,060.00 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

THE WOODHORN GROUP

Date: 10/10/2019

Page: 1

Dispatch Note

Bill/Sold To:

Blaze Construction Ltd
93 Leigh Road
Hampshire
Eastleigh
SO50 9DQ

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Quote No.	Job No.	Salesperson	Manager	Ref
33631	50462	-No Sales Employee-		609/15042

DESCRIPTION	QTY / UNIT	UNIT PRICE	EXTENDED PRICE
-------------	------------	------------	----------------

14/10/2019

Container

8 Wheel Tipper

1.00 /

Product

Topsoil BS3882 (20MM)

18.06 / Tonnes

WEIGHBRIDGE TICKET

Ticket No. DO658143
CONVEYANCE NOTE

WOODHORN GROUP Ltd

Tangmere Composting Facility
City Fields Industrial Estate
Tangmere

West Sussex

PC20 2FP

EA Permit No: EPR/D03703HG

Company Reg No: 3629015

VAT No: 616150744

SIC Code: 38210

Waste Carrier Licence no: CBDU162145

Time In 14:09

Date In 16/10/2019

Time Out 14:30

Date Out 16/10/2019

Vehicle E11TJT

Carrier TJ Transport

License No.

Client Blaze Construction Ltd

Address CRESSWELL PARK,
ROUNDSTONE LANE,
ANGMERING, . SIC Code:

Permit

Zone

Product Topsoil BS3882 (20MM)

EWC Code

1st Weight: 13,260.00 Kg NONE

2nd Weight: 32,020.00 Kg NONE

Net Weight: 18,760.00 Kg

WOODHORN GROUP

Date: 15/10/2019

Page: 1

Dispatch Note

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

No.	Salesperson	Manager	Ref
0531	-No Sales Employee-		

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
------------	------------	----------------

1.00 /

19.00 / Tonnes

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 v

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WEIGHBRIDGE TICKET

Ticket No. DO658113
CONVEYANCE NOTE

WOODHORN GROUP Ltd

Tangmere Composting Facility

City Fields Industrial Estate

Tangmere

West Sussex

PO20 2FP

EA Permit No. EPRDB3703HG

Company Reg No. 3629015

VAT No. 816160744

SIC Code: 38210

Waste Carrier Licence no: CBDU162145

Time In	11:03
Date In	16/10/2019
Time Out	11:15
Date Out	16/10/2019
Vehicle	E1 TJT
Carrier	TJ Transport
License No	
Client	Blaze Construction Ltd
Address	CRESSWELL PARK, ROUNDSTONE LANE, ANGMERING, SIC Code:
Permit	
Zone	
Product	Topsoil BS3882 (20MM)
EWC Code	
1st Weight:	13,040.00 Kg NONE
2nd Weight:	31,760.00 Kg NONE
Net Weight:	18,720.00 Kg

Dispatch Note

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

No.	Salesperson	Manager	Ref
532	-No Sales Employee-		

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
------------	------------	----------------

1.00 /

19.00 / Tonnes

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

Con

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WEIGHBRIDGE TICKET

Ticket No. DO659185
CONVEYANCE NOTE

WOODHORN GROUP Ltd

IE WOODHORN GROUP

Date: 22/10/2019

Page: 1

Dispatch Note

Tangmere Composting Facility
 City Fields Industrial Estate
 Tangmere
 West Sussex
 PO20 2FP
 EA Permit No EPR082703HG
 Company Reg No 3629015
 VAT No 816160744
 SIC Code 38210
 Waste Carrier Licence no: CBDU162145

Time in 10:27
 Date in 30/10/2019
 Time Out 10:36
 Date Out 30/10/2019
 Vehicle V99T JT
 Carrier TJ Transport
 License No.
 Client Blaze Construction Ltd
 Address CRESSWELL PARK,
 ROUNDSTONE LANE,
 ANGMERING. SIC Code:
 Permit
 Zone
 Product Topsoil BS3882 (20MM)
 EWC Code
 1st Weight: 13,140.00 Kg NONE
 2nd Weight: 31,980.00 Kg NONE
 Net Weight: 18,840.00 Kg

Job Site/Ship To:

Blaze Construction Ltd
 CALA HOMES SITE
 CRESSWELL PARK
 ROUNDSTONE LANE
 ANGMERING

No.	Salesperson	Manager	Ref
0617	-No Sales Employee-		

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
------------	------------	----------------

1.00 /

19.00 / Tonnes

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

WEIGHBRIDGE TICKET

Ticket No. DO659219
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. 3829015
VAT No. 816160744
SIC Code: 38210
Waste Carrier Licence no: C8DU162146

Time in 1333
Date in 30/10/2019
Time Out 1347
Date Out 30/10/2019
Vehicle V99TJT
Carrier TJ Transport
License No.
Client Blaze Construction Ltd
Address CRESSWELL PARK,
ROUNDSTONE LANE,
ANGMERING. SIC Code:

Permit
Zone
Product Topsoil BS3882 (20MM)
EWC Code
1st Weight: 13,120.00 Kg NONE
2nd Weight: 32,200.00 Kg NONE
Net Weight: 19,080.00 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

IE WOODHORN GROUP

Date: 22/10/2019

Page: 1

Dispatch Note

Job Site/Ship To:

Blaze Construction Ltd
CALA HOMES SITE
CRESSWELL PARK
ROUNDSTONE LANE
ANGMERING

Job No.	Salesperson	Manager	Ref
50618	-No Sales Employee-		

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
------------	------------	----------------

1.00 /

19.00 / Tonnes

WEIGHBRIDGE TICKET

Ticket No: **DO659171**
CONVEYANCE NOTE

WOODHORN GROUP Ltd

THE WOODHORN GROUP

Date: 22/10/2019

Page: 1

Dispatch Note

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: CDBU162145

Job Site/Ship To:

Blaze Construction Ltd
 CALA HOMES SITE
 CRESSWELL PARK
 ROUNDSTONE LANE
 ANGMERING

Time In: 08:40
 Date In: 30/10/2019
 Time Out: 08:51
 Date Out: 30/10/2019
 Vehicle: V99TJT
 Carrier: TJ Transport

License No:
 Client: Blaze Construction Ltd
 Address: CRESSWELL PARK,
 ROUNDSTONE LANE,
 ANGMERING, . SIC Code:

Permit Zone: Topsoil BS3882 (20MM)

Product: EWC Code: 13.140.00 Kg NONE
 1st Weight: 31.480.00 Kg NONE
 2nd Weight: 18.340.00 Kg
 Net Weight:

Salesperson	Manager	Ref
-No Sales Employee-		

QTY / UNIT	UNIT PRICE	EXTENDED PRICE
------------	------------	----------------

1.00 /

19.00 / Tonnes

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

60 TONNES / 2012



APPENDIX E

LABORATORY CERTIFICATES

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 20/06118
Issue Number: 1
Date: 07 August, 2020

Client: RSK Environment Ltd Southampton
Unit 26
Basepoint Abbey Enterprise Centre
Premier Way
Romsey,
Hampshire
UK
SO51 9AQ

Project Manager: Catherine Cussell/Emily Chissel, All RSK Southampt
Project Name: Angmering
Project Ref: 305021
Order No: N/A
Date Samples Received: 23/07/20
Date Instructions Received: 27/07/20
Date Analysis Completed: 07/08/20

Prepared by:

Approved by:

Sophie France
Client Service Manager

Holly Neary-King
Administration & Client Services Supervisor

Envirolab Job Number: 20/06118

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06118/1	20/06118/2	20/06118/3	20/06118/4	20/06118/5	20/06118/6	20/06118/7	Units	Limit of Detection	Method ref
Client Sample No	1									
Client Sample ID	HDP218F	HDP219F	HDP220F	HDP217	HDP223F	HDP224B	HDP225B			
Depth to Top	0.30	0.40	0.40	0.35	0.35	0.50	0.60			
Depth To Bottom										
Date Sampled	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	22-Jul-20			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6ABE	6ABE	5A	6AE	5AB	5AE			
% Stones >10mm _A	<0.1	5.1	9.8	1.4	30.2	35.9	3.2	% w/w	0.1	A-T-044
pH _D ^{M#}	8.33	8.39	8.38	8.23	8.78	8.33	8.16	pH	0.01	A-T-031a
Sulphate (water sol 2:1) _D ^{M#}	0.11	0.09	0.09	0.11	0.08	0.02	0.04	g/l	0.01	A-T-026a
Sulphate (acid soluble) _D ^{M#}	220	330	550	420	450	<200	<200	mg/kg	200	A-T-028a
Arsenic _D ^{M#}	2	3	3	3	3	2	3	mg/kg	1	A-T-024a
Cadmium _D ^{M#}	<0.5	<0.5	<0.5	0.6	<0.5	0.8	0.7	mg/kg	0.5	A-T-024a
Copper _D ^{M#}	14	16	15	18	10	10	15	mg/kg	1	A-T-024a
Chromium _D ^{M#}	17	29	24	33	16	19	31	mg/kg	1	A-T-024a
Chromium (hexavalent) _D	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040a
Lead _D ^{M#}	35	20	17	33	15	10	17	mg/kg	1	A-T-024a
Mercury _D	<0.17	0.18	0.57	<0.17	0.21	<0.17	<0.17	mg/kg	0.17	A-T-024a
Nickel _D ^{M#}	13	20	19	24	10	18	25	mg/kg	1	A-T-024a
Selenium _D ^{M#}	<1	<1	<1	<1	<1	1	<1	mg/kg	1	A-T-024a
Zinc _D ^{M#}	39	55	53	75	31	51	66	mg/kg	5	A-T-024a

Envirolab Job Number: 20/06118

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06118/1	20/06118/2	20/06118/3	20/06118/4	20/06118/5	20/06118/6	20/06118/7	Units	Limit of Detection	Method ref
Client Sample No	1									
Client Sample ID	HDP218F	HDP219F	HDP220F	HDP217	HDP223F	HDP224B	HDP225B			
Depth to Top	0.30	0.40	0.40	0.35	0.35	0.50	0.60			
Depth To Bottom										
Date Sampled	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	22-Jul-20			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6ABE	6ABE	5A	6AE	5AB	5AE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	NAD	NAD	NAD	NAD	NAD	NAD			A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 20/06118

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06118/1	20/06118/2	20/06118/3	20/06118/4	20/06118/5	20/06118/6	20/06118/7	Units	Limit of Detection	Method ref
Client Sample No	1									
Client Sample ID	HDP218F	HDP219F	HDP220F	HDP217	HDP223F	HDP224B	HDP225B			
Depth to Top	0.30	0.40	0.40	0.35	0.35	0.50	0.60			
Depth To Bottom										
Date Sampled	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	22-Jul-20			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6ABE	6ABE	5A	6AE	5AB	5AE			
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.07	<0.04	<0.04	<0.04	0.05	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	0.10	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	0.09	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.09	<0.03	<0.03	<0.03	0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	0.47	<0.08	<0.08	<0.08	0.14	<0.08	<0.08	mg/kg	0.01	A-T-019s

Envirolab Job Number: 20/06118

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06118/1	20/06118/2	20/06118/3	20/06118/4	20/06118/5	20/06118/6	20/06118/7	Units	Limit of Detection	Method ref
Client Sample No	1									
Client Sample ID	HDP218F	HDP219F	HDP220F	HDP217	HDP223F	HDP224B	HDP225B			
Depth to Top	0.30	0.40	0.40	0.35	0.35	0.50	0.60			
Depth To Bottom										
Date Sampled	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	21-Jul-20	22-Jul-20			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	6ABE	6ABE	5A	6AE	5AB	5AE			
TPH CWG										
Ali >C5-C6 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	1	<1	1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35 _A	14	6	20	2	17	1	2	mg/kg	1	A-T-055s
Total Aliphatics _A	15	6	21	2	17	1	2	mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	1	1	1	<1	3	<1	1	mg/kg	1	A-T-055s
Aro >C10-C12 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16 _A	2	1	2	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	5	2	4	<1	2	<1	<1	mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	95	29	72	3	17	1	1	mg/kg	1	A-T-055s
Total Aromatics _A	103	35	79	3	22	2	2	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	118	41	100	6	39	4	4	mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 20/06118

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06118/8	20/06118/10	20/06118/11	20/06118/12				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	HDP225B	HDP226	HDP228F	HDP229B						
Depth to Top	0.30	0.40	0.30	0.40						
Depth To Bottom										
Date Sampled	22-Jul-20	22-Jul-20	22-Jul-20	22-Jul-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	6AE	5A	5AB	5AE						
% Stones >10mm _A	<0.1	5.3	14.2	4.2				% w/w	0.1	A-T-044
pH _D ^{M#}	8.03	8.31	8.37	8.47				pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.05	0.11	0.12	0.05				g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	330	310	510	300				mg/kg	200	A-T-028s
Arsenic _D ^{M#}	3	2	4	4				mg/kg	1	A-T-024s
Cadmium _D ^{M#}	<0.5	0.8	0.5	0.6				mg/kg	0.5	A-T-024s
Copper _D ^{M#}	16	18	17	18				mg/kg	1	A-T-024s
Chromium _D ^{M#}	25	35	23	32				mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	<1				mg/kg	1	A-T-040s
Lead _D ^{M#}	18	17	23	23				mg/kg	1	A-T-024s
Mercury _D	<0.17	<0.17	<0.17	<0.17				mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	19	27	18	24				mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	<1	2				mg/kg	1	A-T-024s
Zinc _D ^{M#}	67	72	63	67				mg/kg	5	A-T-024s

Envirolab Job Number: 20/06118

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06118/8	20/06118/10	20/06118/11	20/06118/12				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	HDP225B	HDP226	HDP228F	HDP229B						
Depth to Top	0.30	0.40	0.30	0.40						
Depth To Bottom										
Date Sampled	22-Jul-20	22-Jul-20	22-Jul-20	22-Jul-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	6AE	5A	5AB	5AE						
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	NAD	NAD	NAD						A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	N/A	N/A	N/A						A-T-045

Envirolab Job Number: 20/06118

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06118/8	20/06118/10	20/06118/11	20/06118/12				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	HDP225B	HDP226	HDP228F	HDP229B						
Depth to Top	0.30	0.40	0.30	0.40						
Depth To Bottom										
Date Sampled	22-Jul-20	22-Jul-20	22-Jul-20	22-Jul-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	6AE	5A	5AB	5AE						
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	<0.02	<0.02	<0.02				mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	<0.04	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	<0.05	<0.05	<0.05	<0.05				mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	<0.05	<0.05	<0.05	<0.05				mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	<0.07	<0.07	<0.07				mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	<0.06	<0.06	<0.06	<0.06				mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	<0.08	<0.08	<0.08	<0.08				mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	<0.03	<0.03	<0.03	<0.03				mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	<0.03	<0.03	<0.03				mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	<0.03	<0.03	<0.03	0.04				mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	<0.07	<0.07	<0.07	<0.07				mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	<0.08	<0.08	<0.08	<0.08				mg/kg	0.01	A-T-019s

Envirolab Job Number: 20/06118

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06118/8	20/06118/10	20/06118/11	20/06118/12				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	HDP225B	HDP226	HDP228F	HDP229B						
Depth to Top	0.30	0.40	0.30	0.40						
Depth To Bottom										
Date Sampled	22-Jul-20	22-Jul-20	22-Jul-20	22-Jul-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	6AE	5A	5AB	5AE						
TPH CWG										
Ali >C5-C6 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C21-C35 _A	23	4	6	1				mg/kg	1	A-T-055s
Total Aliphatics _A	23	4	6	1				mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	1	<1	<1	<1				mg/kg	1	A-T-055s
Aro >C10-C12 _A ^{M#}	3	1	<1	<1				mg/kg	1	A-T-055s
Aro >C12-C16 _A	3	<1	<1	1				mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	4	<1	<1	<1				mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	89	1	3	2				mg/kg	1	A-T-055s
Total Aromatics _A	99	2	5	3				mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	122	6	11	4				mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.

The results reported herein relate only to the material supplied to the laboratory.

The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.

If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.

Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,

E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.

US indicates Unsuitable Sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Superscript "M" indicates method accredited to MCERTS.

Subscript "A" indicates analysis performed on the sample as received.

Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandrite Business Park, Mettram Road, Hyde, SK14 2AP

Client: RSK Environment Ltd
Centre, Premier Way, Romsey,, Hampshire, UK, SO51 9AQ

Date Received: 20/06118
27/07/2020 (am)

Project: Angmering
Clients Project No: 305021

Cool Box Temperatures (°C): 16.2,16.0,15.8

Lab Sample ID	20/06118/4	20/06118/5	20/06118/6	20/06118/7	20/06118/8	20/06118/10	20/06118/11	20/06118/12
Client Sample No								
Client Sample ID/Depth	HDP217 0.35m	HDP223F 0.35m	HDP224B 0.50m	HDP225B 0.60m	HDP225B 0.30m	HDP226 0.40m	HDP228F 0.30m	HDP229B 0.40m
Date Sampled	21/07/20	21/07/20	21/07/20	22/07/20	22/07/20	22/07/20	22/07/20	22/07/20
Deviation Code								
F	✓	✓	✓	✓	✓	✓	✓	✓

Key

F Maximum holding time exceeded between sampling date and analysis for analytes listed below

HOLDING TIME EXCEEDANCES

Lab Sample ID	20/06118/4	20/06118/5	20/06118/6	20/06118/7	20/06118/8	20/06118/10	20/06118/11	20/06118/12
Client Sample No								
Client Sample ID/Depth	HDP217 0.35m	HDP223F 0.35m	HDP224B 0.50m	HDP225B 0.60m	HDP225B 0.30m	HDP226 0.40m	HDP228F 0.30m	HDP229B 0.40m
Date Sampled	21/07/20	21/07/20	21/07/20	22/07/20	22/07/20	22/07/20	22/07/20	22/07/20
PAH-16MS	✓	✓	✓	✓	✓	✓	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 20/06273
Issue Number: 1

Date: 05 August, 2020

Client: RSK Environment Ltd Southampton
Unit 26
Basepoint Abbey Enterprise Centre
Premier Way
Romsey,
Hampshire
UK
SO51 9AQ

Project Manager: Catherine Cussell/Emily Chissel, All RSK Southampt
Project Name: Angmering
Project Ref: 305021
Order No: N/A
Date Samples Received: 30/07/20
Date Instructions Received: 30/07/20
Date Analysis Completed: 05/08/20

Prepared by:

Approved by:

Sophie France
Client Service Manager

Danielle Brierley
Client Manager

Envirolab Job Number: 20/06273

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06273/1	20/06273/2	20/06273/3	20/06273/4	20/06273/5	20/06273/6	20/06273/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	HDP216	HDP221	HDP222	HDP223	HDP224 S1	HDP224 S2	HDP224 S3			
Depth to Top	0.30	0.30	0.30	0.30	0.30	0.30	0.30			
Depth To Bottom	0.40	0.40	0.40	0.40	0.40	0.40	0.40			
Date Sampled	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	5AE	5AB	4AB	6AE	6AE	6AE			
% Stones >10mm _A	3.6	4.2	7.7	13.3	13.1	14.4	4.5	% w/w	0.1	A-T-044
pH _D ^{M#}	8.41	8.54	8.29	8.34	8.27	8.34	8.26	pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.11	0.11	0.13	0.07	0.03	0.02	0.02	g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	530	530	460	360	<200	<200	<200	mg/kg	200	A-T-028s
Arsenic _D ^{M#}	4	2	2	2	2	3	3	mg/kg	1	A-T-024s
Cadmium _D ^{M#}	<0.5	<0.5	0.6	<0.5	0.5	0.7	0.7	mg/kg	0.5	A-T-024s
Copper _D ^{M#}	15	16	14	12	10	12	12	mg/kg	1	A-T-024s
Chromium _D ^{M#}	24	28	28	18	23	25	30	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Lead _D ^{M#}	22	20	14	13	11	12	13	mg/kg	1	A-T-024s
Mercury _D	0.30	<0.17	<0.17	<0.17	<0.17	0.27	<0.17	mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	18	21	20	15	20	21	23	mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	2	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Zinc _D ^{M#}	62	62	63	46	46	58	56	mg/kg	5	A-T-024s

Envirolab Job Number: 20/06273

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06273/1	20/06273/2	20/06273/3	20/06273/4	20/06273/5	20/06273/6	20/06273/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	HDP216	HDP221	HDP222	HDP223	HDP224 S1	HDP224 S2	HDP224 S3			
Depth to Top	0.30	0.30	0.30	0.30	0.30	0.30	0.30			
Depth To Bottom	0.40	0.40	0.40	0.40	0.40	0.40	0.40			
Date Sampled	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	5AE	5AB	4AB	6AE	6AE	6AE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	NAD	NAD	NAD	NAD	NAD	NAD			A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 20/06273

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06273/1	20/06273/2	20/06273/3	20/06273/4	20/06273/5	20/06273/6	20/06273/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	HDP216	HDP221	HDP222	HDP223	HDP224 S1	HDP224 S2	HDP224 S3			
Depth to Top	0.30	0.30	0.30	0.30	0.30	0.30	0.30			
Depth To Bottom	0.40	0.40	0.40	0.40	0.40	0.40	0.40			
Date Sampled	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	5AE	5AB	4AB	6AE	6AE	6AE			
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	<0.04	0.07	<0.04	0.07	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.04	0.07	<0.04	0.08	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	<0.05	0.08	<0.05	0.09	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	<0.05	0.07	<0.05	0.08	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	<0.06	0.08	<0.06	0.10	<0.06	<0.06	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	<0.08	0.11	<0.08	0.10	<0.08	<0.08	<0.08	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.04	0.05	<0.03	0.07	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	<0.07	0.11	<0.07	0.10	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	0.08	0.64	<0.08	0.69	<0.08	<0.08	<0.08	mg/kg	0.01	A-T-019s

Envirolab Job Number: 20/06273

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06273/1	20/06273/2	20/06273/3	20/06273/4	20/06273/5	20/06273/6	20/06273/7	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1	1	1	1			
Client Sample ID	HDP216	HDP221	HDP222	HDP223	HDP224 S1	HDP224 S2	HDP224 S3			
Depth to Top	0.30	0.30	0.30	0.30	0.30	0.30	0.30			
Depth To Bottom	0.40	0.40	0.40	0.40	0.40	0.40	0.40			
Date Sampled	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6AE	5AE	5AB	4AB	6AE	6AE	6AE			
TPH CWG										
Ali >C5-C6 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35 _A	18	4	<1	85	<1	3	4	mg/kg	1	A-T-055s
Total Aliphatics _A	18	4	<1	86	<1	3	4	mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	1	2	<1	2	<1	2	3	mg/kg	1	A-T-055s
Aro >C10-C12 _A ^{M#}	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16 _A	1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	2	1	<1	10	<1	<1	2	mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	26	11	1	88	3	18	24	mg/kg	1	A-T-055s
Total Aromatics _A	30	14	1	101	3	19	29	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	48	18	1	186	3	22	34	mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 20/06273

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06273/8	20/06273/9	20/06273/10	20/06273/11				Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1						
Client Sample ID	HDP225	HDP227 S1	HDP227 S2	HDP229						
Depth to Top	0.30	0.30	0.30	0.30						
Depth To Bottom	0.40	0.40	0.40	0.40						
Date Sampled	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4ABE	6AE	6AE	6AE						
% Stones >10mm _A	3.9	7.3	1.8	1.5				% w/w	0.1	A-T-044
pH _D ^{M#}	8.25	8.54	8.52	8.39				pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.10	0.11	0.14	0.11				g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	450	510	530	490				mg/kg	200	A-T-028s
Arsenic _D ^{M#}	<1	4	2	3				mg/kg	1	A-T-024s
Cadmium _D ^{M#}	<0.5	<0.5	<0.5	<0.5				mg/kg	0.5	A-T-024s
Copper _D ^{M#}	11	19	15	15				mg/kg	1	A-T-024s
Chromium _D ^{M#}	10	22	26	28				mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	<1				mg/kg	1	A-T-040s
Lead _D ^{M#}	12	18	17	19				mg/kg	1	A-T-024s
Mercury _D	<0.17	<0.17	<0.17	<0.17				mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	8	17	19	22				mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	<1	<1				mg/kg	1	A-T-024s
Zinc _D ^{M#}	34	61	54	60				mg/kg	5	A-T-024s

Envirolab Job Number: 20/06273

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06273/8	20/06273/9	20/06273/10	20/06273/11				Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1						
Client Sample ID	HDP225	HDP227 S1	HDP227 S2	HDP229						
Depth to Top	0.30	0.30	0.30	0.30						
Depth To Bottom	0.40	0.40	0.40	0.40						
Date Sampled	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4ABE	6AE	6AE	6AE						
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	NAD	NAD	NAD						A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	N/A	N/A	N/A						A-T-045

Envirolab Job Number: 20/06273

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06273/8	20/06273/9	20/06273/10	20/06273/11				Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1						
Client Sample ID	HDP225	HDP227 S1	HDP227 S2	HDP229						
Depth to Top	0.30	0.30	0.30	0.30						
Depth To Bottom	0.40	0.40	0.40	0.40						
Date Sampled	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4ABE	6AE	6AE	6AE						
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	<0.02	<0.02	<0.02				mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	0.06	<0.04	0.08	<0.04				mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.07	<0.04	0.09	<0.04				mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	0.10	<0.05	0.09	<0.05				mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	0.08	<0.05	0.06	<0.05				mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	<0.07	<0.07	<0.07				mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	0.09	<0.06	0.09	<0.06				mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	<0.08	<0.08	0.12	<0.08				mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.08	0.03	0.06	<0.03				mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	<0.03	<0.03	<0.03				mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	<0.03	<0.03	<0.03	<0.03				mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	<0.07	<0.07	0.14	<0.07				mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	0.48	<0.08	0.73	<0.08				mg/kg	0.01	A-T-019s

Envirolab Job Number: 20/06273

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/06273/8	20/06273/9	20/06273/10	20/06273/11				Units	Limit of Detection	Method ref
Client Sample No	1	1	1	1						
Client Sample ID	HDP225	HDP227 S1	HDP227 S2	HDP229						
Depth to Top	0.30	0.30	0.30	0.30						
Depth To Bottom	0.40	0.40	0.40	0.40						
Date Sampled	28-Jul-20	28-Jul-20	28-Jul-20	28-Jul-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	4ABE	6AE	6AE	6AE						
TPH CWG										
Ali >C5-C6 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C21-C35 _A	12	8	<1	<1				mg/kg	1	A-T-055s
Total Aliphatics _A	13	8	<1	<1				mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	2	1	<1	<1				mg/kg	1	A-T-055s
Aro >C10-C12 _A ^{M#}	1	2	<1	<1				mg/kg	1	A-T-055s
Aro >C12-C16 _A	1	1	<1	<1				mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	2	1	<1	<1				mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	63	14	2	<1				mg/kg	1	A-T-055s
Total Aromatics _A	70	19	2	<1				mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	83	27	2	<1				mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.

The results reported herein relate only to the material supplied to the laboratory.

The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.

If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.

Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,

E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.

US indicates Unsuitable Sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Superscript "M" indicates method accredited to MCERTS.

Subscript "A" indicates analysis performed on the sample as received.

Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR

Client:	RSK Environment Ltd		20/06273
	Centre, Premier Way, Romsey,, Hampshire, UK, SO51 9AQ	Date Received:	30/07/2020 (am)
Project:	Angmering	Cool Box Temperatures (°C):	16.9 & 17.1
Clients Project No:	305021		

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 20/10354
Issue Number: 1

Date: 14 December, 2020

Client: RSK Environment Ltd Southampton
Unit 26
Basepoint Abbey Enterprise Centre
Premier Way
Romsey,
Hampshire
UK
SO51 9AQ

Project Manager: Catherine Cussell; All RSK Southampton/George Andr
Project Name: Angmering
Project Ref: 305021
Order No: N/A
Date Samples Received: 01/12/20
Date Instructions Received: 01/12/20
Date Analysis Completed: 14/12/20

Prepared by:

Approved by:

Melanie Marshall
Laboratory Coordinator

Danielle Brierley
Client Manager

Envirolab Job Number: 20/10354

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/10354/1	20/10354/2	20/10354/3	20/10354/4				Units	Limit of Detection	Method ref
Client Sample No	Subsoil	Subsoil	Subsoil	Topsoil						
Client Sample ID	Plot 245 rear	Plot 246 rear	Plot 247 rear	Plot 248 rear						
Depth to Top	0.45	0.45	0.45	0.20						
Depth To Bottom										
Date Sampled	27-Nov-20	27-Nov-20	27-Nov-20	27-Nov-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	5A	5A	5AE	2AE						
% Stones >10mm _A	11.8	<0.1	<0.1	<0.1				% w/w	0.1	A-T-044
pH _D ^{M#}	8.26	8.17	8.36	8.05				pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.05	0.13	0.04	0.06				g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	<200	440	250	250				mg/kg	200	A-T-028s
Arsenic _D ^{M#}	3	4	2	2				mg/kg	1	A-T-024s
Cadmium _D ^{M#}	1.0	1.0	0.8	0.6				mg/kg	0.5	A-T-024s
Copper _D ^{M#}	15	13	13	15				mg/kg	1	A-T-024s
Chromium _D ^{M#}	28	25	26	21				mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	<1				mg/kg	1	A-T-040s
Lead _D ^{M#}	12	13	14	16				mg/kg	1	A-T-024s
Mercury _D	<0.17	<0.17	<0.17	<0.17				mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	23	24	20	20				mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	<1	<1				mg/kg	1	A-T-024s
Zinc _D ^{M#}	58	50	53	46				mg/kg	5	A-T-024s

Envirolab Job Number: 20/10354

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/10354/1	20/10354/2	20/10354/3	20/10354/4				Units	Limit of Detection	Method ref
Client Sample No	Subsoil	Subsoil	Subsoil	Topsoil						
Client Sample ID	Plot 245 rear	Plot 246 rear	Plot 247 rear	Plot 248 rear						
Depth to Top	0.45	0.45	0.45	0.20						
Depth To Bottom										
Date Sampled	27-Nov-20	27-Nov-20	27-Nov-20	27-Nov-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	5A	5A	5AE	2AE						
Asbestos in Soil (inc. matrix)										
Asbestos in soil [#]	NAD	NAD	NAD	NAD						A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	N/A	N/A	N/A						A-T-045

Envirolab Job Number: 20/10354

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/10354/1	20/10354/2	20/10354/3	20/10354/4				Units	Limit of Detection	Method ref
Client Sample No	Subsoil	Subsoil	Subsoil	Topsoil						
Client Sample ID	Plot 245 rear	Plot 246 rear	Plot 247 rear	Plot 248 rear						
Depth to Top	0.45	0.45	0.45	0.20						
Depth To Bottom										
Date Sampled	27-Nov-20	27-Nov-20	27-Nov-20	27-Nov-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	5A	5A	5AE	2AE						
PAH-16MS										
Acenaphthene _A ^{M#}	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	<0.02	<0.02	<0.02				mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	0.05	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	<0.04	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	0.05	<0.05	<0.05	<0.05				mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	<0.05	<0.05	<0.05	<0.05				mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	<0.07	<0.07	<0.07				mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	<0.06	<0.06	<0.06	<0.06				mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	<0.04	<0.04	<0.04	<0.04				mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	0.09	<0.08	<0.08	0.13				mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	<0.03	<0.03	<0.03	<0.03				mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	<0.03	<0.03	<0.03				mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	0.04	<0.03	<0.03	0.06				mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	0.08	<0.07	0.08	0.10				mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	0.31	<0.08	0.08	0.29				mg/kg	0.01	A-T-019s

Envirolab Job Number: 20/10354

Client Project Name: Angmering

Client Project Ref: 305021

Lab Sample ID	20/10354/1	20/10354/2	20/10354/3	20/10354/4				Units	Limit of Detection	Method ref
Client Sample No	Subsoil	Subsoil	Subsoil	Topsoil						
Client Sample ID	Plot 245 rear	Plot 246 rear	Plot 247 rear	Plot 248 rear						
Depth to Top	0.45	0.45	0.45	0.20						
Depth To Bottom										
Date Sampled	27-Nov-20	27-Nov-20	27-Nov-20	27-Nov-20						
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES						
Sample Matrix Code	5A	5A	5AE	2AE						
TPH CWG										
Ali >C5-C6 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Ali >C6-C8 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Ali >C8-C10 _A	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C10-C12 _A ^{M#}	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C12-C16 _A ^{M#}	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C16-C21 _A ^{M#}	<1	<1	<1	5				mg/kg	1	A-T-055s
Ali >C21-C35 _A ^{M#}	<1	<1	4	47				mg/kg	1	A-T-055s
Total Aliphatics _A	<1	<1	4	52				mg/kg	1	A-T-055s
Aro >C5-C7 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Aro >C7-C8 _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
Aro >C8-C10 _A	<1	<1	<1	<1				mg/kg	1	A-T-055s
Aro >C10-C12 _A	<1	<1	<1	<1				mg/kg	1	A-T-055s
Aro >C12-C16 _A	<1	<1	<1	6				mg/kg	1	A-T-055s
Aro >C16-C21 _A ^{M#}	<1	<1	<1	15				mg/kg	1	A-T-055s
Aro >C21-C35 _A ^{M#}	<1	<1	7	136				mg/kg	1	A-T-055s
Total Aromatics _A	<1	<1	7	157				mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35) _A	<1	<1	11	209				mg/kg	1	A-T-055s
BTEX - Benzene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - Toluene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - m & p Xylene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
BTEX - o Xylene _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s
MTBE _A [#]	<0.01	<0.01	<0.01	<0.01				mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.

The results reported herein relate only to the material supplied to the laboratory.

The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.

If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed.

Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,

E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.

US indicates Unsuitable Sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Superscript "M" indicates method accredited to MCERTS.

Subscript "A" indicates analysis performed on the sample as received.

Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR



Client: RSK Environment Ltd Southampton, Unit 26 , Basepoint Abbey Enterprise
Centre, Premier Way, Romsey,, Hampshire, UK, SO51 9AQ

Project No: 20/10354

Date Received: 01/12/2020 (am)

Project: Angmering

Cool Box Temperatures (°C): 2.1

Clients Project No: 305021

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

APPENDIX F

GENERIC ASSESSMENT CRITERIA

Generic assessment criteria for human health: residential scenario with home-grown produce

Background

RSK's generic assessment criteria (GAC) were initially prepared following the publication by the Environment Agency (EA) of soil guideline value (SGV) and toxicological (TOX) reports, and associated publications in 2009⁽¹⁾. RSK GAC were updated following the publication of GAC by LQM/CIEH in 2009⁽²⁾. RSK GAC are periodically revised when updated information on toxicological, land use or receptor parameters is published.

Updates to the RSK GAC

In 2014, the publication of Category 4 Screening Levels (C4SL)^(3,4), as part of the Defra-funded research project SP1010, included modifications to certain exposure assumptions documented within EA Science Report SC050221/SR3 (herein after referred to as SR3)⁽⁵⁾ used in the generation of SGVs.

C4SL were published for six substances (cadmium, arsenic, benzene, benzo(a)pyrene, chromium VI and lead) for a sandy loam soil type with 6% soil organic matter, based on a low level of toxicological concern (LLTC; see Section 2.3 of research project report SP1010⁽³⁾). Where a C4SL has been published, the RSK GAC duplicates the C4SL published values using all input parameters within the SP1010 final project report⁽³⁾ and associated appendices⁽⁶⁾, and adopts them as GAC for these six substances.

For all other substances the C4SL exposure modifications, with the exception of the "top two" produce type approach taken in the C4SL, have been applied to the current RSK GAC. These include alterations to daily inhalation rates for residential and commercial scenarios, reducing soil adherence factors in children (age classes 1 to 12 only) for residential land use, reducing exposure frequency for dermal contact outdoors for residential land use, and updated produce type consumption rates (90th percentile) based on recent data from the National Diet and Nutrition Survey.

The RSK GAC have also been revised with updated toxicology published by LQM/CIEH in 2015⁽⁷⁾ or by the USEPA⁽¹⁴⁾, where a C4SL has not been published.

RSK GAC derivation for metals and organic compounds

Model selection

Soil assessment criteria (SAC) were calculated using the Contaminated Land Exposure Assessment (CLEA) tool v1.071, supporting EA guidance^(5,8,9) and revised exposure scenarios published for the C4SL⁽³⁾. Groundwater assessment criteria (GrAC) protective of human health via the inhalation pathway were derived using the RBCA 2.51 model with the Johnson and Ettinger model for soil and groundwater volatilisation. RSK has updated the inputs within RBCA to reflect EA guidance^(1,5,8,9). The SAC and GrAC collectively are termed GAC.

Conceptual model

In accordance with SR3⁽⁵⁾, the residential with home-grown produce scenario considers risks to a female child between the ages of 0 and 6 years old as the highest risk scenario. In accordance

with Box 3.1 of SR3⁽⁵⁾, the pathways considered for production of the SAC in the residential with home-grown produce scenario are

- direct soil and dust ingestion
- consumption of home-grown produce
- consumption of soil attached to home-grown produce
- dermal contact with soil and indoor dust
- inhalation of indoor and outdoor dust and vapours.

Figure 1 is a conceptual model illustrating these linkages.

In line with guidance in the EA SGV report for cadmium⁽¹⁾, the RSK GAC for cadmium has been derived based on estimates representative of lifetime exposure. Although young children are generally more likely to have higher exposures to soil contaminants, the renal toxicity of cadmium, and the derivation of the TDI_{oral} and TDI_{inh} , are based on considerations of the kidney burden accumulated over 50 years or so. It is therefore reasonable to consider exposure not just in childhood but averaged over a longer period.

The pathway considered in production of the GrAC is the volatilisation of compounds from groundwater and subsequent vapour inhalation by residents while indoors. Figure 2 illustrates this linkage. Although the outdoor air inhalation pathway is also valid, this contributes little to the overall risks owing to the dilution in outdoor air. Within RBCA, the solubility limit of the chemical restricts the extent of volatilisation, which in turn drives the indoor air inhalation pathway. While the same restriction is not built into the CLEA model, the CLEA model output cells are flagged red where the soil saturation limit has been exceeded.

With respect to volatilisation, the CLEA model assumes a simple linear partitioning of a chemical in the soil between the sorbed, dissolved and vapour phase⁽⁹⁾. The upper boundaries of this partitioning are represented by the maximum aqueous solubility and pure saturated vapour concentration of the chemical. The CLEA model estimates saturated soil concentrations where these limits are reached⁽⁹⁾. The CLEA software uses a traffic light system to identify when individual and/or combined assessment criteria exceed the lower of either the aqueous- or vapour-based soil saturation limits. Model output cells are flagged red where the saturated soil concentration has been exceeded and the contribution of the indoor and outdoor vapour pathway to total exposure is greater than 10%. In this case, further consideration of the following is required⁽⁹⁾:

- Free phase contamination may be present.
- Exposure from the vapour pathways will be over-predicted by the model, as in reality the vapour phase concentration will not increase at concentrations above saturation limits
- Where the vapour pathway contribution is greater than 90%, it is unlikely the relevant health criteria value (HCV) will be exceeded at soil concentrations at least a factor of ten higher than the relevant HCV.

Where the vapour pathway is the predominant pathway (contributes greater than 90% of exposure) or the only exposure route considered and the cell is highlighted red (SAC exceeds saturation limit), the risk based on the assumed conceptual model is likely to be negligible as the vapour risk is assumed to be tolerable at maximum possible soil concentrations. In such circumstances, the vapour pathway exposure should be considered based on the presence of free phase or non-aqueous phase liquid sources and the measured concentrations of volatile organic compounds (VOC) in the vapour phase. Screening could be considered based on setting

the SAC as the modelled soil saturation limits. However, as stated within the CLEA handbook⁽⁹⁾, this is likely to not be practical in many cases because of the very low saturation limits and, in any case, is highly conservative.

It should also be noted that for mixtures of compounds, free phase may be present where soil (or groundwater) concentrations are well below saturation limits for individual compounds.

Where the vapour pathway is only one of the exposure pathways considered, an additional approach can then be utilised as detailed within Section 4.12 of the CLEA model handbook⁽⁹⁾, which explains how to calculate an effective assessment criterion manually.

SR3⁽⁵⁾ states that, as a general rule of thumb, it is recognised that estimating vapour phase concentrations from dissolved and sorbed phase contamination by petroleum hydrocarbons are at least a factor of ten higher than those likely to be measured on-site. RSK has therefore applied an empirical subsurface to indoor air correction factor of 10 into the CLEA model chemical database and to outputs from the RBCA model for all petroleum hydrocarbon fractions (including BTEX, trimethylbenzenes and the polycyclic aromatic hydrocarbons (PAH) naphthalene, acenaphthene and acenaphthylene) to reduce this conservatism.

Input selection

The most up-to-date published chemical and toxicological data was obtained from EA Report SC050021/SR7⁽¹⁰⁾, the EA TOX⁽¹¹⁾ reports, the C4SL SP1010 project report and associated appendices^(3,6), the 2015 LQM/CIEH report⁽⁷⁾ or the USEPA IRIS database⁽¹⁴⁾. Where a C4SL has been published, the RSK GAC have duplicated the C4SL published values using all input parameters within the SP1010 final project report⁽³⁾ and associated appendices⁽⁶⁾, and has adopted them as GAC for these six substances. Toxicological and specific chemical parameters for aromatic hydrocarbon C₈–C₉ (styrene), 1,2,4-trimethylbenzene and methyl tertiary-butyl ether (MTBE) were obtained from the CL:AIRE Soil Generic Assessment Criteria report⁽¹¹⁾.

For TPH, aromatic hydrocarbons C₅–C₈ were not modelled, as this range comprises benzene and toluene, which are modelled separately. The aromatic C₈–C₉ hydrocarbon fraction comprises ethylbenzene, xylene and styrene. As ethylbenzene and xylene are being modelled separately, the physical, chemical and toxicological data for aromatic C₈–C₉ have been taken from styrene.

For the GrAC, the HCV used in the modelling were derived using the toxicological data for the SAC amended as follows:

- A child weighing 13.3kg (average of 0-6 year old female in accordance with Table 4.6 of SR3⁽⁵⁾) and breathing 8.77m³ (average daily inhalation rate for a 0-6yr old female in accordance with SP1010 final project report for the C4SL (Table 3.2⁽³⁾) and USEPA data⁽¹⁴⁾)
- Background inhalation (mean daily intake (MDI)) for a child (Age Classes 1-6)
- Residential amendments to the MDI for younger age groups following Table 3.4 and Section 3.4.1 of SR2⁽⁸⁾; amended to reflect average daily inhalation rates in accordance with SP1010 final project report for the C4SL (Table 3.2⁽³⁾) and USEPA data⁽¹²⁾.

Physical parameters

For the residential with home-grown produce scenario, the CLEA default building is a small, two-storey terrace house with a concrete ground-bearing slab. The house is assumed to have a 100m² private garden consisting of lawn and flowerbeds, incorporating a 20m² plot for growing fruit and vegetables consumed by the residents. SR3⁽⁵⁾ notes this residential building type to be

the most conservative in terms of potential for vapour intrusion. The building parameters used in the production of the RSK GACs are the default CLEA v1.06 inputs presented in Table 3.3 of SR3⁽³⁾, with a dust loading factor detailed in Section 9.3 of SR3⁽⁵⁾. The parameters for a sandy loam soil type were used in line with Table 4.4 of SR3⁽⁵⁾. This includes a value of 6% for the percentage of soil organic matter (SOM) within the soil. In RSK's experience, this is rather high for many sites. To avoid undertaking site-specific risk assessments for SOM, RSK has produced an additional set of GAC for SOM of 1% and 2.5% for all substances using the CLEA tool.

For the GrAC, the depth to groundwater was taken as 2.5m based on RSK's experience of assessing the volatilisation pathway from groundwater. The GrAC were produced using the input parameters in Table 4.

Summary of modifications to the default CLEA SR3⁽⁵⁾ input parameters for residential with home-grown produce land-use scenario

In summary, the RSK GAC were produced using the default input parameters for soil properties, the air dispersion model, building properties and the vapour model detailed in SR3⁽⁵⁾. Modifications to the default SR3⁽⁵⁾ exposure scenarios based on the C4SL exposure scenarios⁽³⁾ are presented in Tables 2 and 3 below.

The final selected GAC are presented by pathway in Table 5 and the combined GAC in Table 6.

Figure 1: Conceptual model for residential scenario with home-grown produce

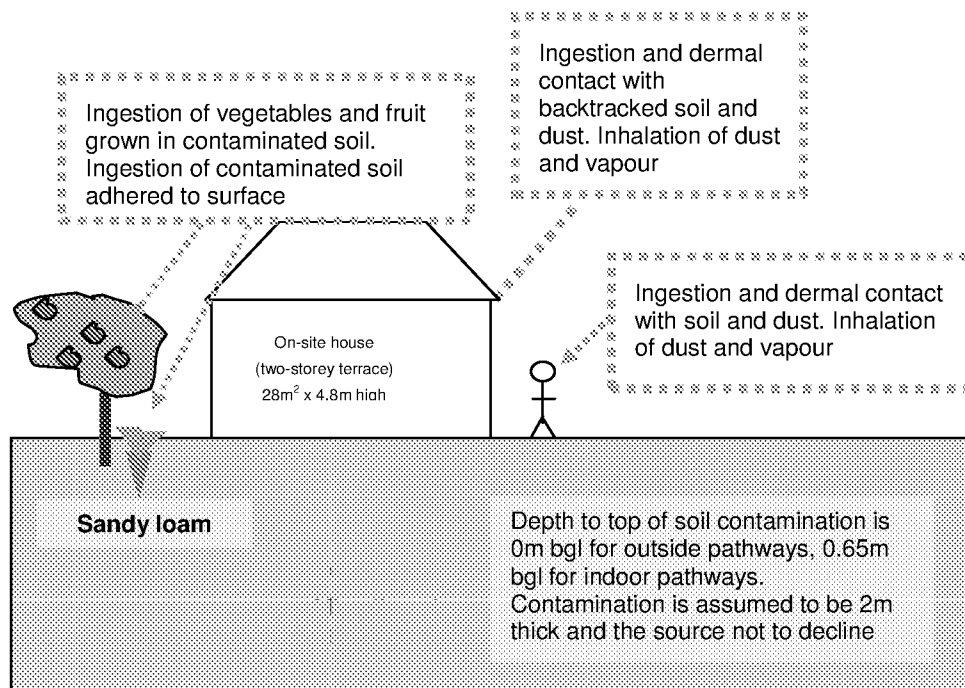


Table 1: Exposure assessment parameters for residential scenario with home-grown produce – inputs for CLEA model

Parameter	Value	Justification
Land use	Residential with homegrown produce	Chosen land use
Receptor	Female child age 1 to 6	Key generic assumption given in Box 3.1, SR3 ⁽⁵⁾
Building	Small terraced house	Key generic assumption given in Box 3.1, SR3. Small, two-storey terraced house chosen, as it is the most conservative residential building type in terms of protection from vapor intrusion (Section 3.4.6, SR3) ⁽⁵⁾
Soil type	Sandy Loam	Most common UK soil type (Section 4.3.1, from Table 3.1, SR3) ⁽⁵⁾
Start AC (age class)	1	Range of age classes corresponding to key generic assumption that the critical receptor is a young female child aged 0–6. From Box 3.1, SR3 ⁽⁵⁾
End AC (age class)	6	
SOM (%)	6	Representative of sandy loamy soil according to EA guidance note dated January 2009 entitled 'Changes We Have Made to the CLEA Framework Documents' ⁽¹³⁾
	1	To provide SAC for sites where SOM <6% as often observed by RSK
	2.5	
pH	7	Model default

Table 2: Residential with home-grown produce – modified home-grown produce data

Name	Consumption rate 90 th percentile (g FW kg ⁻¹ BW day ⁻¹) by age class						Dry weight conversion factor (g DW g ⁻¹ FW)	Home-grown fraction (average)	Home-grown fraction (high end)	Soil loading factor (g g ⁻¹ DW)	Preparation correction factor
	1	2	3	4	5	6					
Green vegetables	7.12	5.87	5.87	5.87	4.53	4.53	0.096	0.05	0.33	1.00E-03	2.00E-01
Root vegetables	10.7	2.83	2.83	2.83	2.14	2.14	0.103	0.06	0.4	1.00E-03	1.00E+00
Tuber vegetables	16	6.6	6.6	6.6	4.95	4.95	0.21	0.02	0.13	1.00E-03	1.00E+00
Herbaceous fruit	1.83	3.39	3.39	3.39	2.24	2.24	0.058	0.06	0.4	1.00E-03	6.00E-01
Shrub fruit	2.23	0.46	0.46	0.46	0.19	0.19	0.166	0.09	0.6	1.00E-03	6.00E-01
Tree fruit	3.82	10.3	10.3	10.3	5.16	5.16	0.157	0.04	0.27	1.00E-03	6.00E-01
Justification	Table 3.4, SP1010 ⁽³⁾						Table 6.3, SR3 ⁽⁵⁾	Table 4.19, SR3 ⁽⁵⁾		Table 6.3, SR3 ⁽⁵⁾	

Table 3: Residential with home-grown produce – modified and use and receptor data

Parameter	Unit	Age class					
		1	2	3	4	5	6
EF (soil and dust ingestion)	day yr ⁻¹	180	365	365	365	365	365
EF (consumption of home-grown produce)	day yr ⁻¹	180	365	365	365	365	365
EF (skin contact, indoor)	day yr ⁻¹	180	365	365	365	365	365
EF (skin contact, outdoor)	day yr ⁻¹	170	170	170	170	170	170
EF (inhalation of dust and vapour, indoor)	day yr ⁻¹	365	365	365	365	365	365
EF (inhalation of dust and vapour, outdoor)	day yr ⁻¹	365	365	365	365	365	365
Justification		Table 3.5, SP1010 ⁽³⁾ ; Table 3.1, SR3 ⁽⁵⁾					
Soil to skin adherence factor (outdoor)	mg cm ⁻² day ⁻¹	0.1	0.1	0.1	0.1	0.1	0.1
Justification		Table 3.5, SP1010 ⁽³⁾					
Inhalation rate	m ³ day ⁻¹	5.4	8.0	8.9/f	10.1	10.1	10.1
Justification		Mean value USEPA, 2011 ⁽¹²⁾ ; Table 3.2, SP1010 ⁽³⁾					
Notes: For cadmium , the exposure assessment for a residential land use is based on estimates representative of lifetime exposure AC1-18. This is because the TDI _{oral} and TDI _{inh} are based on considerations of the kidney burden accumulated over 50 years. It is therefore reasonable to consider exposure not just in childhood but averaged over a longer period. See the Environment Agency Science Report SC05002/ TOX 3 ⁽¹⁾ , Science Report SC050021/Cadmium SGV ⁽¹⁾ and the project report SP1010 ⁽³⁾ for more information.							

Figure 2: GrAC conceptual model for RBCA residential with home-grown produce scenario

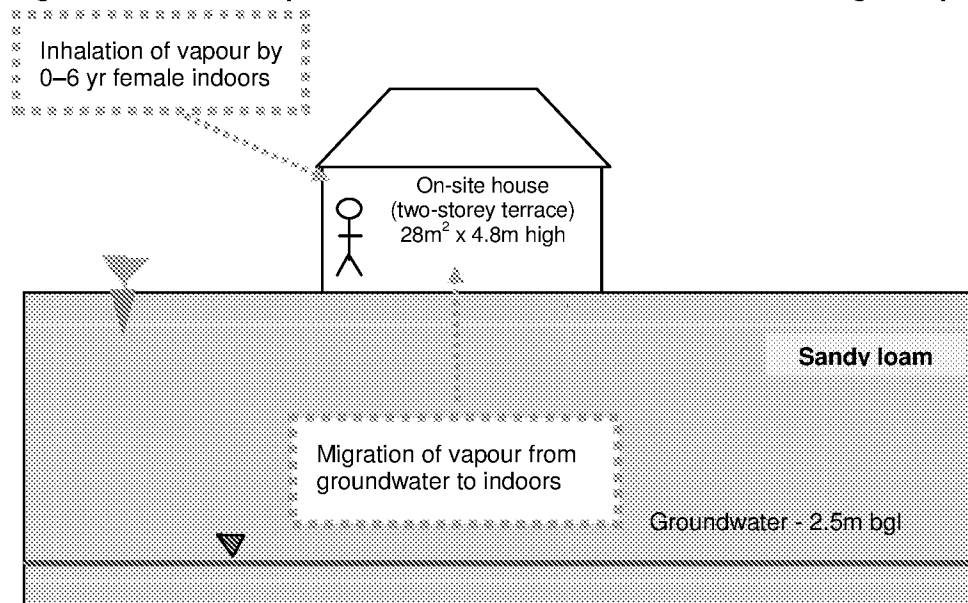


Table 4: Residential with home-grown produce – RBCA inputs

Parameter	Unit	Value	Justification
Receptor			
Averaging time	Years	6	From Box 3.1, SR3 ⁽⁵⁾
Receptor weight	kg	13.3	Average of CLEA 0–6 year old female data, Table 4.6, SR3 ⁽⁵⁾
Exposure duration	Years	6	From Box 3.1, report, SR3 ⁽⁵⁾
Exposure frequency	Days/yr	350	Weighted using occupancy period of 23 hours per day for 365 days of the year
Soil type – sandy loam			
Total porosity	-	0.53	CLEA value for sandy loam. Parameters for sandy loam from Table 4.4, SR3 ⁽⁵⁾
Volumetric water content	-	0.33	
Volumetric air content	-	0.20	
Dry bulk density	g cm ⁻³ or kg/L	1.21	
Vertical hydraulic conductivity	cm s ⁻¹	3.56E-3	CLEA value for saturated conductivity of sandy loam, Table 4.4, SR3 ⁽⁵⁾ equivalent to 307 cm/day
Vapour permeability	m ²	3.05E-12	Calculated for sandy loam using equations in Appendix 1, SR3 ⁽⁵⁾
Capillary zone thickness	m	0.1	Professional judgement
Fraction organic carbon	%	0.0348	Representative of sandy loam according to EA guidance note dated January 2009 entitled 'Changes We Have Made to the CLEA Framework Documents' ⁽¹³⁾
Building			
Building volume/area ratio	m	4.8	Table 3.3, SR3 ⁽⁵⁾
Foundation area	m ²	28	
Foundation perimeter	m	22	Calculated assuming building measures 7m x 4m to give 28m ² foundation area
Building air exchange rate	d ⁻¹	12	Table 3.3, SR3 ⁽⁵⁾ Building air exchange rate equivalent to 1.4E-04 s ⁻¹
Depth to bottom of foundation slab	m	0.15	
Foundation thickness	m	0.15	
Foundation crack fraction	-	0.0151	Calculated from floor crack area of 423 cm ² and building footprint of 28m ² in Table 4.21, SR3 ⁽⁵⁾
Volumetric water content of cracks	-	0.33	Assumed equal to underlying soil type in assumption that cracks become filled with soil over time. Parameters for sandy loam from Table 4.4, SR3 ⁽⁵⁾
Volumetric air content of cracks	-	0.2	
Indoor/outdoor differential pressure	Pa	3.1	From Table 3.3, SR3 ⁽⁵⁾ Equivalent to 31 g/cm/s ²

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GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - RESIDENTIAL WITH HOME-GROWN PRODUCE



Table 5

Human Health Generic Assessment Criteria by Pathway for Residential With Home-Grown Produce Scenario

Compound	Notes	GrAC (µg/l)	SAC Appropriate to Pathway SOM 1% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 2.5% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 6% (mg/kg)			Soil Saturation Limit (mg/kg)
			Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Metals														
Arsenic	(a,b)	-	3.71E-01	5.26E-02	NR	NR	3.71E-01	5.26E-02	NR	NR	3.71E-01	5.26E-02	NR	NR
Cadmium	(a)	-	2.30E-01	4.89E-02	2.21E-01	NR	2.30E-01	4.89E-02	2.21E-01	NR	2.30E-01	4.89E-02	2.21E-01	NR
Chromium (III) - trivalent	(c)	-	1.84E-04	9.07E-02	NR	NR	1.84E-04	9.07E-02	NR	NR	1.84E-04	9.07E-02	NR	NR
Chromium (VI) - hexavalent	(a,d)	-	5.85E-01	2.09E-01	NR	NR	5.85E-01	2.09E-01	NR	NR	5.85E-01	2.09E-01	NR	NR
Copper	-	-	2.72E-03	1.41E-04	2.47E-03	NR	2.72E-03	1.41E-04	2.47E-03	NR	2.72E-03	1.41E-04	2.47E-03	NR
Lead	(a)	-	2.01E-02	NR	NR	NR	2.01E-02	NR	NR	NR	2.01E-02	NR	NR	NR
Elemental Mercury (Hg ⁰)	(d)	1.29E+01	NR	3.96E-01	NR	4.31E+00	NR	5.60E-01	NR	1.07E+01	NR	1.29E+00	NR	2.58E+01
Inorganic Mercury (Hg ²⁺)	-	-	3.99E-01	5.53E-03	3.91E-01	NR	3.99E-01	5.53E-03	3.91E-01	NR	3.99E-01	5.53E-03	3.91E-01	NR
Methyl Mercury (Hg ⁺)	-	2.22E-04	1.26E-01	1.87E-01	7.92E-00	7.33E+01	1.26E-01	5.62E-01	9.34E-00	1.42E+02	1.26E-01	7.86E-01	1.06E-01	3.04E+02
Nickel	(d)	-	1.27E-02	1.81E-02	NR	NR	1.27E-02	1.81E-02	NR	NR	1.27E-02	1.81E-02	NR	NR
Selenium	(b)	-	2.96E-02	NR	NR	NR	2.96E-02	NR	NR	NR	2.96E-02	NR	NR	NR
Zinc	(b)	-	3.86E-03	5.63E-07	NR	NR	3.86E-03	2.63E-07	NR	NR	3.86E-03	5.63E-07	NR	NR
Cyanide (free)	-	-	1.37E-00	1.87E-04	1.37E-00	NR	1.37E-00	1.87E-04	1.37E-00	NR	1.37E-00	1.87E-04	1.37E-00	NR
Volatile Organic Compounds														
Benzene	(a)	2.50E+04	2.62E-01	9.04E-01	2.89E-01	1.22E+03	5.98E-01	1.68E+00	4.98E+01	2.26E+03	1.16E+00	3.49E+00	2.73E-01	4.71E+03
Toluene	-	5.90E+05	1.33E-02	9.06E-02	1.31E-02	8.89E-02	5.43E-03	2.00E-03	2.37E-02	1.92E+03	7.36E-02	4.55E-03	6.77E-02	4.36E+03
Ethylbenzene	-	1.25E+05	1.10E-02	8.54E-01	4.74E-01	5.18E-02	2.61E-02	1.96E-02	1.18E-02	1.22E+03	6.00E-02	4.59E-02	2.80E-02	2.84E+03
Xylene - m	-	1.16E+05	2.10E-02	6.25E-01	5.82E-01	6.25E+02	5.01E-02	1.95E+02	1.40E+02	1.47E+03	1.19E+03	4.59E+02	3.27E+02	3.46E+03
Xylene - o	-	1.41E+05	1.32E-02	8.87E-01	6.07E-01	4.78E-02	4.95E-02	2.96E-02	1.43E-02	1.12E+03	1.05E-03	4.86E-02	2.58E-02	2.62E+03
Xylene - p	-	1.21E+05	1.56E-02	7.83E-01	5.86E-01	5.76E-02	4.70E-02	1.89E-02	1.33E-02	1.35E+03	1.08E-03	4.39E-02	2.10E-02	3.17E+03
Total xylene	-	1.16E+05	1.88E-02	7.83E-01	5.86E-01	6.25E+02	4.58E-02	1.69E+02	1.43E-02	1.47E+03	1.05E+03	4.39E+02	2.10E+02	3.46E+03
Methyl tertiary Butyl ether (MTBE)	-	9.32E+08	1.54E-02	1.04E-03	1.24E-02	2.04E+04	2.87E-02	1.89E+05	2.93E-02	3.31E+04	8.03E-02	3.21E-03	5.68E-02	6.27E+04
Trichloroethene	-	6.44E+01	2.83E-01	1.72E-02	1.82E-02	1.54E+03	6.29E-01	3.53E-02	3.40E-02	3.22E+03	1.41E+00	7.89E-02	7.53E-02	7.14E+03
Tetrachloroethene	-	4.08E-02	4.49E-00	1.79E-01	1.75E-01	4.24E+02	1.04E-01	4.03E-01	3.34E-01	9.51E+02	2.26E-01	3.21E-01	3.94E-01	2.18E+03
1,1,1-Trichloroethene	-	3.59E+04	3.29E-03	9.03E-00	8.77E-00	1.43E+03	7.28E-02	1.84E-01	1.80E-01	2.92E+03	1.88E-03	4.04E-01	3.34E-01	6.39E+03
1,1,1,2-Tetrachloroethane	-	2.84E+03	3.89E-00	1.54E-00	1.20E-00	2.60E+03	1.27E-01	2.59E+00	2.75E-00	6.02E+03	3.32E-01	5.29E-00	6.40E-00	1.40E+04
1,1,2,2-Tetrachloroethane	-	1.85E+04	2.81E-00	3.82E-00	1.94E-00	2.87E+03	5.10E-00	2.94E+00	3.47E-00	5.46E+03	1.36E-01	1.76E-01	1.57E-00	1.20E+04
Carbon Tetrachloride	-	6.10E+01	3.19E-00	2.59E-00	2.57E-02	1.52E+03	7.11E-00	2.69E-02	5.82E-02	3.32E+03	1.62E-01	1.22E-01	1.27E-01	7.54E+03
1,2-Dichloroethane	-	9.70E+01	3.17E-02	6.20E-03	7.13E-03	3.41E+03	5.73E-02	1.83E-02	1.06E-02	4.91E+03	1.68E-01	2.29E-02	1.68E-02	8.43E+03
Vinyl Chloride	-	6.20E+00	3.82E-05	7.73E-04	6.48E-04	1.36E+03	3.82E-03	1.89E-03	6.79E-04	1.76E+03	1.25E-02	1.35E-03	1.36E-03	2.69E+03
1,2,4-Trimethylbenzene	-	5.10E+03	NR	1.78E+00	NR	4.74E+02	NR	4.28E+00	NR	1.16E+03	NR	3.72E+00	NR	2.76E+03
1,3,5-Trimethylbenzene	(e)	-	NR	NR	NR	2.30E+02	NR	NR	NR	5.52E+02	NR	NR	NR	1.30E+03
Semi-Volatile Organic Compounds														
Acenaphthene	-	4.11E+03	2.27E-02	4.86E-04	2.86E-02	5.70E+01	5.41E-02	1.18E-05	5.38E-02	1.41E+02	1.18E-03	2.86E-05	1.17E-03	3.36E+02
Acenaphthylene	-	7.95E+03	1.95E-02	4.59E-04	1.84E-02	8.61E+01	4.48E-02	1.11E-05	4.40E-02	2.12E+02	9.78E-02	2.53E-05	9.74E-02	5.06E+02
Anthracene	-	-	2.43E-03	1.59E-05	2.39E-03	1.17E+00	5.59E-03	3.77E-05	5.45E-03	2.91E+00	1.10E-04	8.78E-05	1.09E-04	6.96E+00
Benz(a)anthracene	-	-	1.01E-01	2.47E-01	7.18E+00	1.71E+00	1.42E-01	4.27E+01	1.07E-01	4.28E+00	1.69E-01	5.26E-01	1.33E-01	1.03E+01
Benz(b)fluoranthene	-	-	2.96E+00	1.93E-01	2.56E+00	1.22E+00	5.89E+00	2.13E-01	3.29E+00	3.04E+00	4.43E+00	2.22E+01	3.89E+00	7.29E+00
Benz(g,h,i)perylene	-	-	3.77E-02	1.87E-02	3.14E-02	1.54E-02	4.09E-02	1.94E-03	3.86E-02	3.85E-02	4.23E-02	1.97E-03	3.48E-02	9.23E-02
Benz(k)fluoranthene	-	-	8.92E-01	5.41E-02	7.86E-01	6.87E-01	1.10E-02	5.79E+02	9.22E-01	1.72E+00	1.21E+02	5.91E-02	1.00E+02	4.12E+00
Chrysene	-	-	1.86E-01	1.19E-02	1.46E-01	4.40E-01	2.54E-01	1.49E-02	2.17E-01	1.10E+00	3.12E-01	1.60E-02	2.67E-01	2.64E+00
Dibenz(a,h)anthracene	-	-	2.90E-01	1.45E-00	2.41E-01	3.93E-03	3.42E-01	1.64E+00	2.64E-01	9.82E-03	3.89E-01	1.74E+00	3.04E-01	2.36E-02
Fluoranthene	-	-	2.67E-02	3.83E-04	2.25E+02	1.89E+01	5.83E-02	8.37E+04	5.80E-02	4.73E+01	9.00E-02	1.83E+05	8.96E-02	1.13E+02
Fluorene	-	-	1.77E-02	6.20E-03	1.72E-02	3.09E+01	4.18E-02	1.53E-04	4.07E-02	7.65E+01	6.88E-02	3.82E-04	8.77E-02	1.83E+02
Indeno(1,2,3-cd)pyrene	-	-	3.09E-01	2.12E-02	2.70E-01	6.13E-02	4.22E-01	2.38E-02	3.59E-01	1.53E+01	4.93E-01	2.50E-02	4.11E-01	3.68E-01
Phenanthrene	-	-	9.85E-01	7.17E-03	9.72E-01	3.60E+01	2.24E-02	1.76E-04	2.22E-02	8.96E+01	4.48E+02	4.07E-04	4.43E+02	2.14E+02
Pyrene	-	-	6.25E+02	6.79E-04	6.80E-02	2.20E+00	1.25E-03	2.04E-05	1.24E-03	5.49E+00	2.05E-03	4.23E-05	2.04E+03	1.32E+01
Benz(a)pyrene	(a)	-	4.96E-00	3.91E-01	NR	9.11E-01	4.96E-00	3.77E-01	NR	2.28E+00	4.96E-00	3.89E-01	NR	5.46E+00
Naphthalene	-	1.90E+04	3.79E-01	2.29E-01	1.27E-01	7.64E+01	5.68E-01	2.68E-01	3.04E-01	1.83E+02	1.53E-02	1.31E-02	7.06E-02	4.32E+02
Phenol	-	-	1.86E-02	4.58E-02	1.29E-02	2.42E+04	2.89E-02	6.96E+02	2.89E-02	3.81E+04	5.89E-02	1.19E-02	5.32E-02	7.03E+04

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - RESIDENTIAL WITH HOME-GROWN PRODUCE



Table 5
Human Health Generic Assessment Criteria by Pathway for Residential With Home-Grown Produce Scenario

Compound	Notes	GrAC (µg/l)	SAC Appropriate to Pathway SOM 1% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 2.5% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 6% (mg/kg)			Soil Saturation Limit (mg/kg)
			Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Total Petroleum Hydrocarbons														
Aliphatic hydrocarbons >EC ₉ -EC ₈		2.05E+04	4.99E+03	4.24E+01	4.28E+01	3.04E+02	1.13E+04	7.79E+01	7.78E+01	5.58E+02	2.50E+04	1.81E+02	1.80E+02	1.15E+03
Aliphatic hydrocarbons >EC ₉ -EC ₈		5.37E+03	1.49E+04	1.04E+02	1.03E+02	1.44E+02	3.43E+04	2.31E+02	2.31E+02	3.22E+02	7.11E+04	5.29E+02	5.29E+02	7.36E+02
Aliphatic hydrocarbons >EC ₉ -EC ₁₀		4.27E+02	1.61E+03	2.68E+01	2.67E+01	7.77E+01	2.91E+03	6.59E+01	6.51E+01	1.90E+02	4.26E+03	1.59E+02	1.54E+02	4.51E+02
Aliphatic hydrocarbons >EC ₁₀ -EC ₁₁		3.39E+01	4.57E+03	1.33E+02	1.32E+02	4.75E+01	5.51E+03	3.31E+02	3.26E+02	1.18E+02	5.98E+03	7.93E+02	7.65E+02	2.83E+02
Aliphatic hydrocarbons >EC ₁₁ -EC ₁₆		7.59E+01	6.27E+03	1.11E+03	1.06E+03	2.37E+01	6.34E+03	2.78E+03	2.41E+03	5.91E+01	6.36E+03	6.67E+03	4.34E+03	1.42E+02
Aliphatic hydrocarbons >EC ₁₈ -EC ₃₅	(b)	-	6.46E+04	NR	NR	8.48E+00	9.17E+04	NR	NR	2.12E+01	1.10E+05	NR	NR	5.09E+01
Aliphatic hydrocarbons >EC ₃₅ -EC ₄₄	(b)	-	6.46E+04	NR	NR	8.48E+00	9.17E+04	NR	NR	2.12E+01	1.10E+05	NR	NR	5.09E+01
Aromatic hydrocarbons >EC ₁₆ -EC ₉ (styrene)		2.90E+05	1.09E+01	5.25E+02	1.89E+01	6.26E+02	2.93E+01	1.36E+03	2.49E+01	1.44E+03	5.61E+01	2.79E+03	5.89E+01	3.35E+03
Aromatic hydrocarbons >EC ₁₆ -EC ₁₅		2.60E+04	5.76E+01	4.74E+01	5.45E+01	6.13E+02	1.39E+02	1.19E+02	8.36E+01	1.50E+03	3.07E+02	2.77E+02	1.94E+02	3.58E+02
Aromatic hydrocarbons >EC ₁₇ -EC ₁₂		2.45E+04	8.89E+01	2.58E+05	7.52E+01	3.64E+02	1.98E+05	6.49E+02	1.79E+02	8.99E+02	4.25E+02	1.68E+03	3.81E+02	2.15E+03
Aromatic hydrocarbons >EC ₁₂ -EC ₁₃		5.75E+03	1.47E+02	2.85E+03	1.45E+02	1.69E+02	3.96E+02	7.07E+03	3.96E+02	4.19E+02	6.81E+02	1.86E+04	8.74E+02	1.00E+03
Aromatic hydrocarbons >EC ₁₂ -EC ₂₁	(b)	-	2.69E+02	NR	NR	5.37E+01	5.45E+02	NR	NR	1.34E+02	3.34E+02	NR	NR	3.21E+02
Aromatic hydrocarbons >EC ₂₁ -EC ₂₂	(b)	-	1.09E+03	NR	NR	4.83E+00	1.47E+02	NR	NR	1.21E+01	1.70E+03	NR	NR	2.90E+01
Aromatic hydrocarbons >EC ₂₂ -EC ₄₄	(b)	-	1.09E+03	NR	NR	4.83E+00	1.47E+02	NR	NR	1.21E+01	1.70E+03	NR	NR	2.90E+01

Notes:

EC - equivalent carbon. GrAC - groundwater assessment criteria. SAC - soil assessment criteria.
The CLEA model output is colour coded depending upon whether the soil saturation limit has been exceeded.

Calculated SAC exceeds soil saturation limit and may significantly effect the interpretation of any exceedances since the contribution of the indoor and outdoor vapour pathway to total exposure is >10%. This shading has also been used for the RSCA output where the theoretical solubility limit has been exceeded.
Calculated SAC exceeds soil saturation limit but will not effect the SSV significantly since the contribution of the indoor and outdoor vapour pathway to total exposure is <10%.
Calculated SAC does not exceed the soil saturation limit.

For consistency where the theoretical solubility limit within RSCA has been exceeded in production of the GrAC, these cells have also been hatched red.

The SAC for organic compounds are dependent upon soil organic matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58. 1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.
SAC for TPH fractions, PAHs naphthalene, acenaphthene and acenaphthylene, MTBE, BTEX and trimethylbenzene compounds were produced using an attenuation factor for the indoor air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway (Section 10.1.1, SR3)
(a) SAC for arsenic, benzerie, benzo(a)pyrene, cadmium, chromium VI and lead are derived using the C4SL toxicology data.
(b) SAC for selenium should not include the inhalation pathway as no expert group HCV has been derived; aliphatic and aromatic hydrocarbons >EC16 should not include inhalation pathway due to their non-volatile nature and inhalation exposure being minimal (oral, dermal and inhalation exposure is compared to the oral HCV); arsenic should only be based on oral contribution (rather than combined) owing to the relative small contribution from inhalation in accordance with the SGV report. The Oral SAC should be adopted for zinc and benzo(a)pyrene.
(c) SAC for CrIII should be based on the lower of the oral and inhalation SAC (see LQM/CIEH 2015 Section 6.8)
(d) SAC for elemental mercury, chromium VI and nickel should be based on the inhalation pathway only.
(e) SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4-trimethylbenzene may be used.

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - RESIDENTIAL WITH HOME-GROWN PRODUCE



Table 6
Human Health Generic Assessment Criteria for Residential with home-grown produce

Compound	GrAC for Groundwater (µg/l)	SAC for Soil SOM 1% (mg/kg)	SAC for Soil SOM 2.5% (mg/kg)	SAC for Soil SOM 6% (mg/kg)
Metals				
Arsenic	-	37	37	37
Cadmium	-	22	22	22
Chromium (III) - trivalent	-	910	910	910
Chromium (VI) - hexavalent	-	21	21	21
Copper	-	2,500	2,500	2,500
Lead	-	200	200	200
Elemental Mercury (Hg ⁰)	12.90	0.2	0.6	1.2
Inorganic Mercury (Hg ²⁺)	-	39	39	39
Methyl Mercury (Hg ⁴⁺)	22180	10	10	10
Nickel	-	130	130	130
Selenium	-	258	258	258
Zinc	-	3,900	3,900	3,900
Cyanide (free)	-	1.4	1.4	1.4
Volatile Organic Compounds				
Benzene	23000	0.20	0.41	0.87
Toluene	590000	130	300	680
Ethylbenzene	124600	50	110	260
Xylene - m	115900	59	140	327
Xylene - o	141400	61	143	332
Xylene - p	121100	57	133	310
Total xylene	115900	57	133	310
Methyl tertiary-Butyl ether (MTBE)	9320000	130	250	510
Trichloroethene	64	0.02	0.03	0.08
Tetrachloroethene	408	0.2	0.4	0.9
1,1,1-Trichloroethane	35900	9	18	39
1,1,1,2-Tetrachloroethane	2800	1.2	2.8	6.5
1,1,2,2-Tetrachloroethane	18500	1.6	3.5	7.7
Carbon Tetrachloride	61	0.026	0.056	0.127
1,2-Dichloroethane	97	0.007	0.011	0.019
Vinyl Chloride	6	0.0006	0.0009	0.0014
1,2,4-Trimethylbenzene	5095	1.8	4.3	9.7
1,3,5-Trimethylbenzene	-	NR	NR	NR
Semi-Volatile Organic Compounds				
Acenaphthene	4110	230	540	1,170
Acenaphthylene	7950	180	440	970
Anthracene	-	2,400	5,500	10,900
Benzo(a)anthracene	-	7	11	13
Benzo(b)fluoranthene	-	2.6	3.3	3.7
Benzo(g,h,i)perylene	-	310	340	350
Benzo(k)fluoranthene	-	77	92	100
Chrysene	-	15	22	27
Dibenzo(a,h)anthracene	-	0.24	0.28	0.30
Fluoranthene	-	290	560	900
Fluorene	-	170	410	880
Indeno(1,2,3-cd)pyrene	-	27	36	41
Phenanthrene	-	100	220	440
Pyrene	-	620	1,240	2,040
Benzo(a)pyrene	-	5	5	5
Naphthalene	19000	13	30	71
Phenol	-	120	210	390
Total Petroleum Hydrocarbons				
Aliphatic hydrocarbons EC ₅ -EC ₈	20000	42	78	160
Aliphatic hydrocarbons >EC ₈ -EC ₈	5370	100	230	530
Aliphatic hydrocarbons >EC ₈ -EC ₁₀	427	27	65	154
Aliphatic hydrocarbons >EC ₁₀ -EC ₁₂	33.9	130 (48)	330 (118)	760 (283)
Aliphatic hydrocarbons >EC ₁₂ -EC ₁₆	0.759	1,100 (24)	2,400 (59)	4,300 (142)
Aliphatic hydrocarbons >EC ₁₆ -EC ₃₅	-	65,000 (8)	92,000 (21)	110,000
Aliphatic hydrocarbons >EC ₃₅ -EC ₄₄	-	65,000 (8)	92,000 (21)	110,000
Aromatic hydrocarbons >EC ₈ -EC ₉ (styrene)	290000	11	25	57
Aromatic hydrocarbons >EC ₉ -EC ₁₀	20000	30	80	190
Aromatic hydrocarbons >EC ₁₀ -EC ₁₂	24500	80	180	390
Aromatic hydrocarbons >EC ₁₂ -EC ₁₆	5750	140	330	670
Aromatic hydrocarbons >EC ₁₆ -EC ₂₁	-	260	540	930
Aromatic hydrocarbons >EC ₂₁ -EC ₃₅	-	1,100	1,500	1,700
Aromatic hydrocarbons >EC ₃₅ -EC ₄₄	-	1,100	1,500	1,700
Minerals				
Asbestos	-	No asbestos detected with ID or <0.001% dry weight ¹		

Notes:

¹ Generic assessment criteria not calculated owing to low volatility of substance and therefore no pathway, or an absence of toxicological data.

NR - SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4-trimethylbenzene may be used

EC - equivalent carbon, GrAC - groundwater assessment criteria, SAC - soil assessment criteria.

¹ LOD for weight of asbestos per unit weight of soil calculated on a dry weight basis using PLM, handpicking and gravimetry.

The SAC for organic compounds are dependent on Soil Organic Matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58.

1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.

SAC and GrAC for TPH fractions, PAHs naphthalene, acenaphthene and acenaphthylene, MTBE, BTEX and trimethylbenzene compounds were produced using an attenuation factor for the indoor air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway, section 10.1.1, SR3.

(VALUE IN BRACKETS) The SAC has been set as the model calculated SAC with the saturation limit shown in brackets.

RSK has adopted an approach for petroleum hydrocarbons in accordance with LQM/CIEH whereby the concentration modelled for each petroleum hydrocarbon fraction has been tabulated as the SAC with the corresponding solubility or vapour saturation limits given in brackets.

For consistency where the GrAC exceeds the solubility limit, GrAC has been set at the solubility limit. The GrAC is conservative since concentrations of the chemical are very unlikely to be at sufficient concentration to result in an exceedance of the health criteria value at the point of exposure (i.e. indoor air) provided free-phase product is absent.

GENERIC ASSESSMENT CRITERIA FOR PHYTOTOXIC EFFECTS

Several compounds can inhibit plant growth; hence it is important to have generic assessment criteria (GAC) to promote healthy plant growth. In the absence of other published GAC, the GAC have been obtained from legislation (UK and European) and guidance related to the use of sewage sludge on agricultural fields.

The Council of European Communities Sewage Sludge Directive (86/278/EEC) dated 1986, has been transposed into UK law by Statutory Instrument No. 1263, The Sludge (use in Agriculture) Regulations 1989 (Public Health England, Wales and Scotland), as amended in 1990 and The Sludge (use in Agriculture) Regulations (Northern Ireland) SR No, 245, 1990. In addition the Department of Environment (DoE) produced a Code of Practice (CoP) (Updated 2nd Edition) in 2006 which provided guidance on the application of sewage sludge on agricultural land (however the status of this document is unclear as it is on the archive section of the Defra website).

The directive seeks to encourage the use of sewage sludge in agriculture and to regulate its use in such a way as to “**prevent harmful effects on soil, vegetation, animals and man**”. To this end, it prohibits the use of untreated sludge on agricultural land unless it is injected or incorporated into the soil. Treated sludge is defined as having undergone “biological, chemical or heat treatment, long-term storage or any other appropriate process so as significantly to reduce its fermentability and the health hazards resulting from its use”. To provide protection against potential health risks from residual pathogens, sludge must not be applied to soil in which fruit and vegetable crops are growing, or less than ten months before fruit and vegetable crops are to be harvested. Grazing animals must not be allowed access to grassland or forage land less than three weeks after the application of sludge.

The specified limits of concentrations of selected elements in soil are presented in Table 4 of the updated 2nd Edition of the DoE Code of Practice and are designed to protect plant growth. It is noted that these values are more stringent than the values set in current UK regulations. However since they were amended following recommendations from the Independent Scientific Committee in 1993. (MAFF/DOE 1993). The GAC are presented in Table 1.

Table 1: Generic assessment criteria

Determinant	Generic assessment criteria (mg/kg)			
	pH 5.0 < 5.5	pH 5.5 < 6.0	pH 6.0 < 7.0	pH >7.0
Zinc	200	200	200	300
Copper	80	100	135	200
Nickel	50	60	75	110
Lead	300	300	300	300
Cadmium	3	3	3	3
Mercury	1	1	1	1
Note: Only compounds with assessment criteria documented within the Directive 86/278/EEC have been included, although criteria for 5 additional compounds have been presented within the 2006 CoP.				