

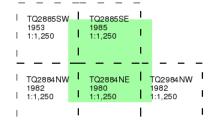


### **Additional SIMs**

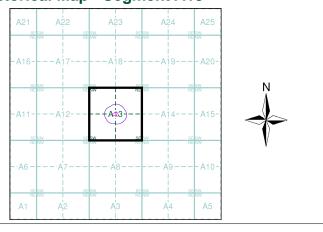
## **Published 1953 - 1985** Source map scale - 1:1,250

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

## Map Name(s) and Date(s)



### **Historical Map - Segment A13**



#### **Order Details**

Order Number:

68567198\_1\_1 GSI 0457 IW EC 110615 Customer Ref:

National Grid Reference: 528750, 185020

Site Area (Ha): Search Buffer (m): 0.24

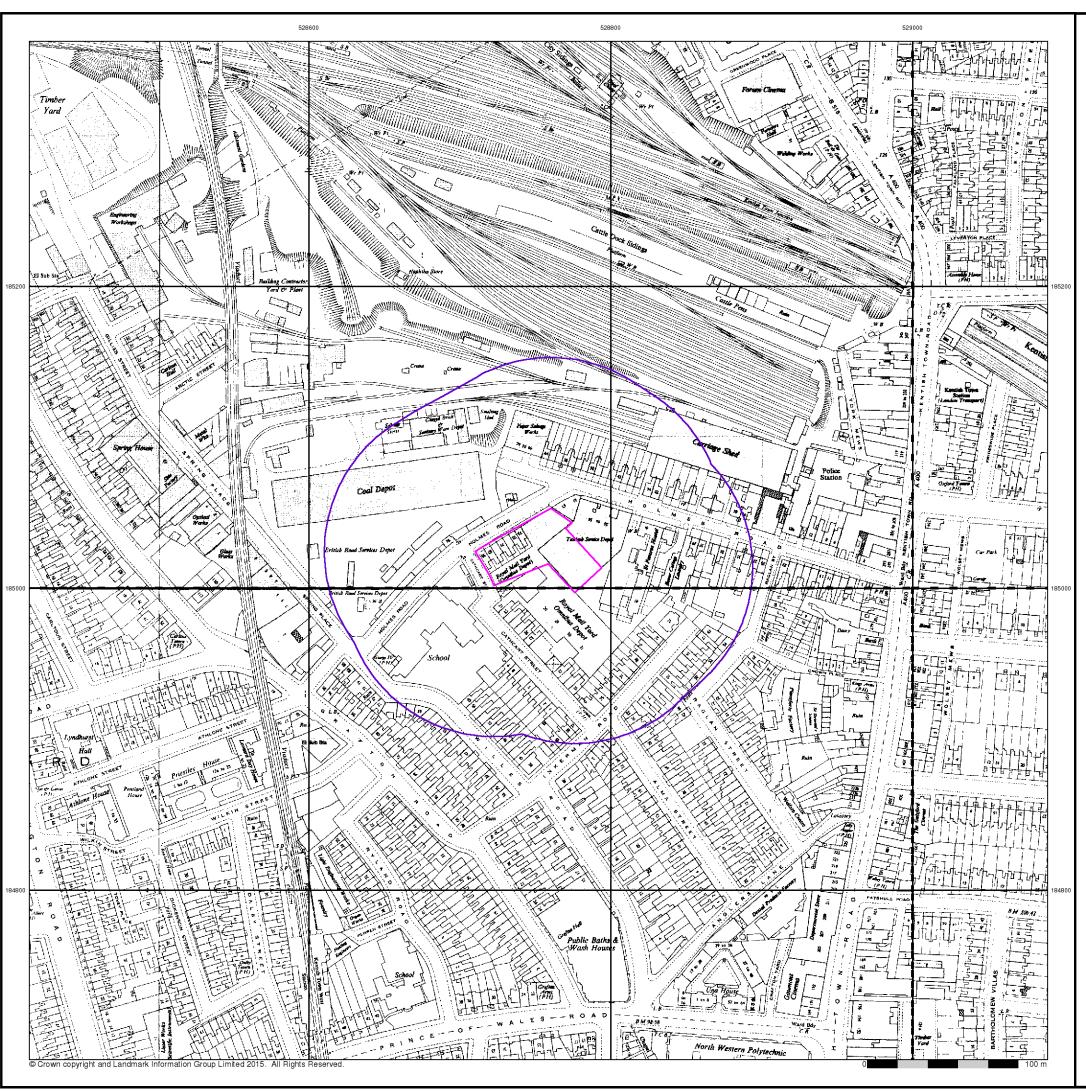
**Site Details** 

65-67 Holmes Road, LONDON, NW5 3AN



0844 844 9952 0844 844 9951

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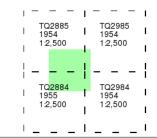




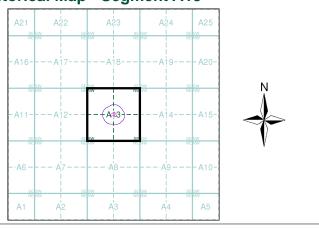
## Ordnance Survey Plan Published 1954 - 1955 Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

### Map Name(s) and Date(s)



### **Historical Map - Segment A13**



#### **Order Details**

Order Number: 68567198\_1\_1 Customer Ref: GSI 0457 IW EC 110615

National Grid Reference: 528750, 185020

ational Grid Reference: 528750, 18502

Site Area (Ha): 0.24 Search Buffer (m): 100

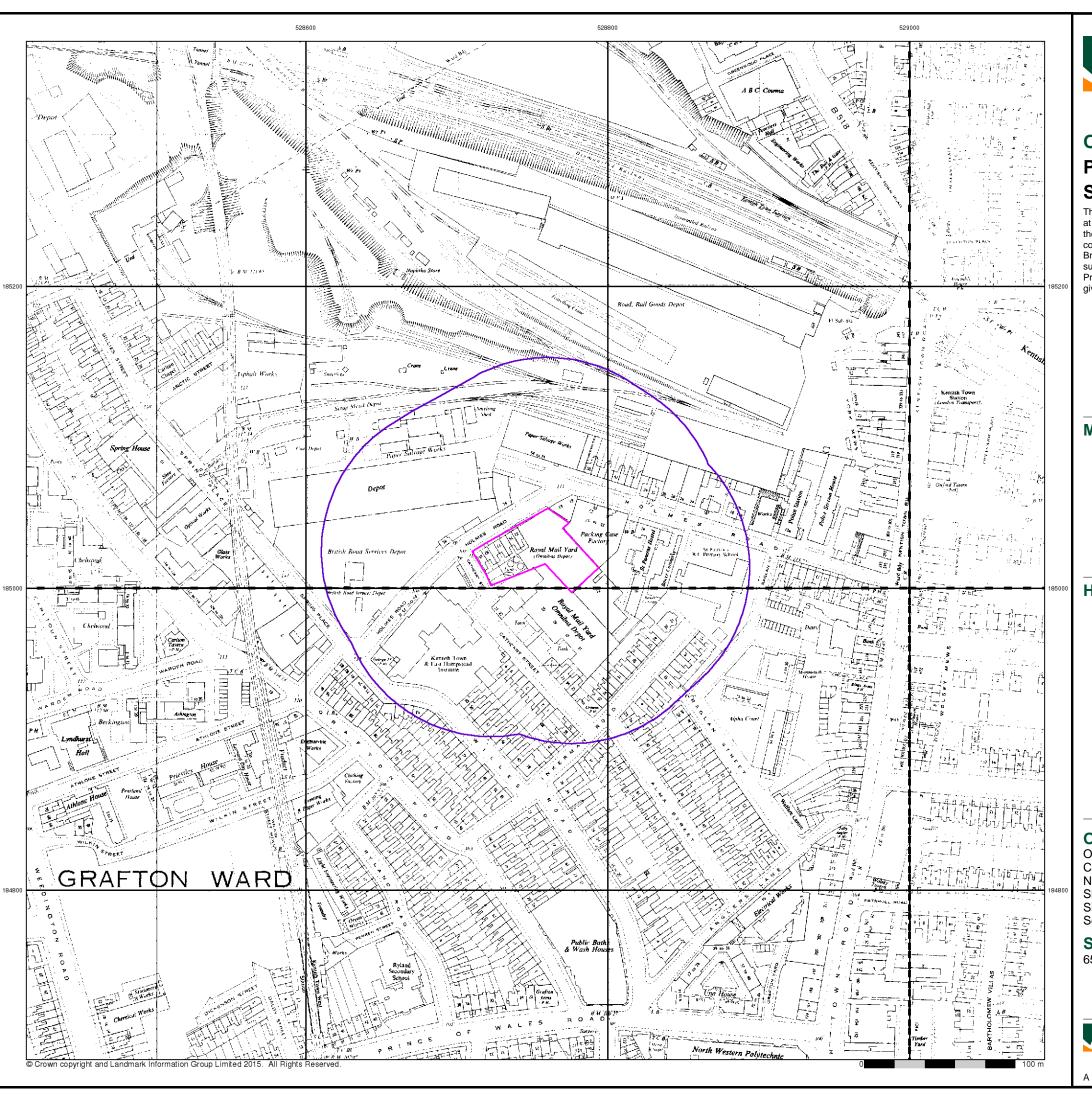
#### **Site Details**

65-67 Holmes Road, LONDON, NW5 3AN



el: 0844 844 9952 ax: 0844 844 9951

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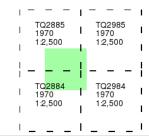




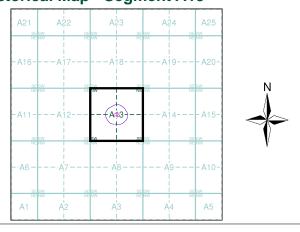
## **Ordnance Survey Plan Published 1970** Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

## Map Name(s) and Date(s)



### **Historical Map - Segment A13**



#### **Order Details**

Order Number:

68567198\_1\_1 GSI 0457 IW EC 110615 Customer Ref:

National Grid Reference: 528750, 185020

0.24

Site Area (Ha): Search Buffer (m):

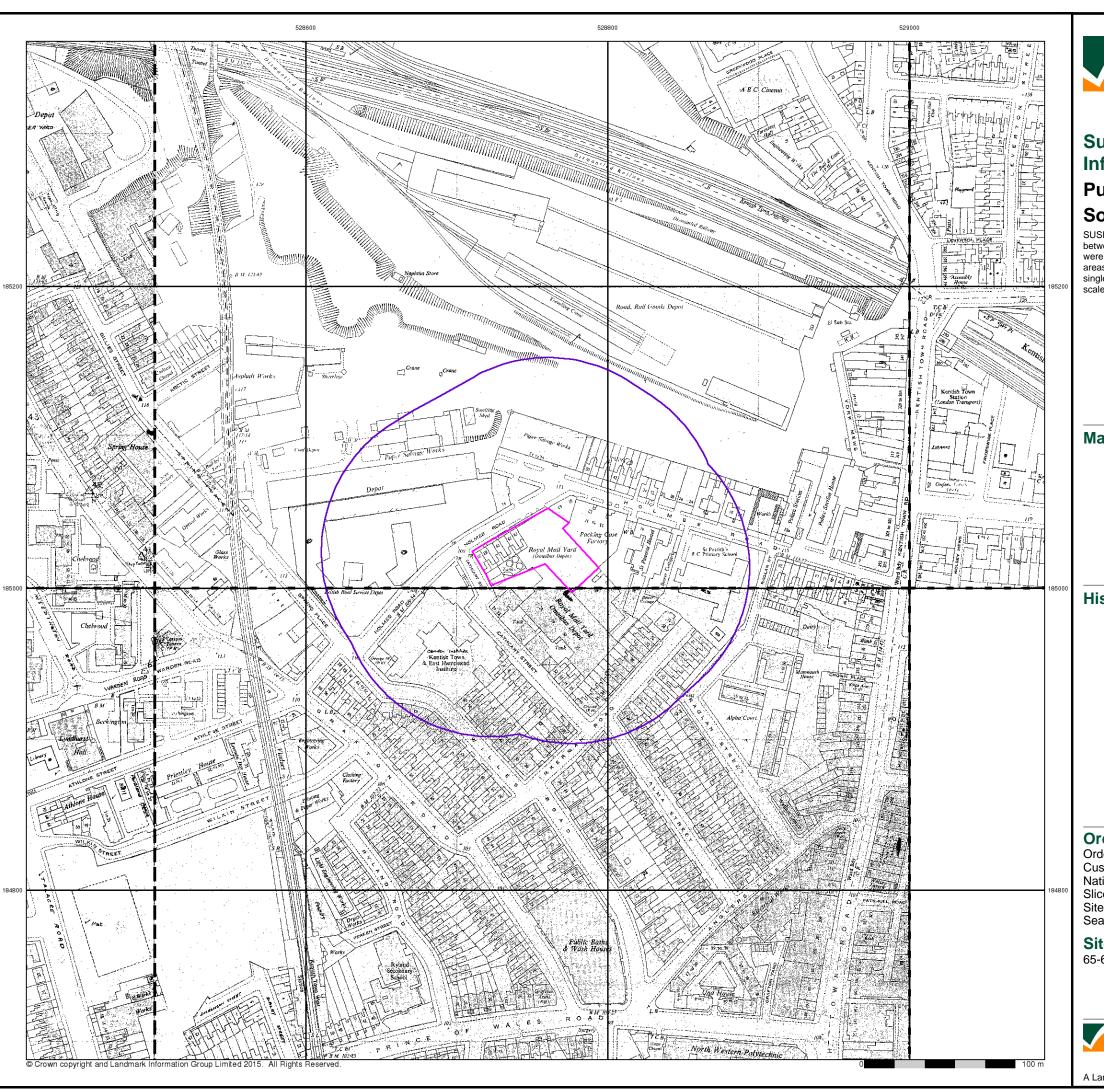
#### **Site Details**

65-67 Holmes Road, LONDON, NW5 3AN



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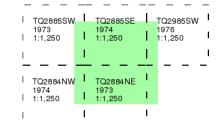


## **Supply of Unpublished Survey** Information

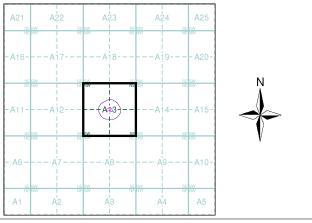
## **Published 1973 - 1976** Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a `work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250

## Map Name(s) and Date(s)



### **Historical Map - Segment A13**



#### **Order Details**

Order Number:

68567198\_1\_1 GSI 0457 IW EC 110615 Customer Ref:

National Grid Reference: 528750, 185020

Site Area (Ha): Search Buffer (m): 0.24

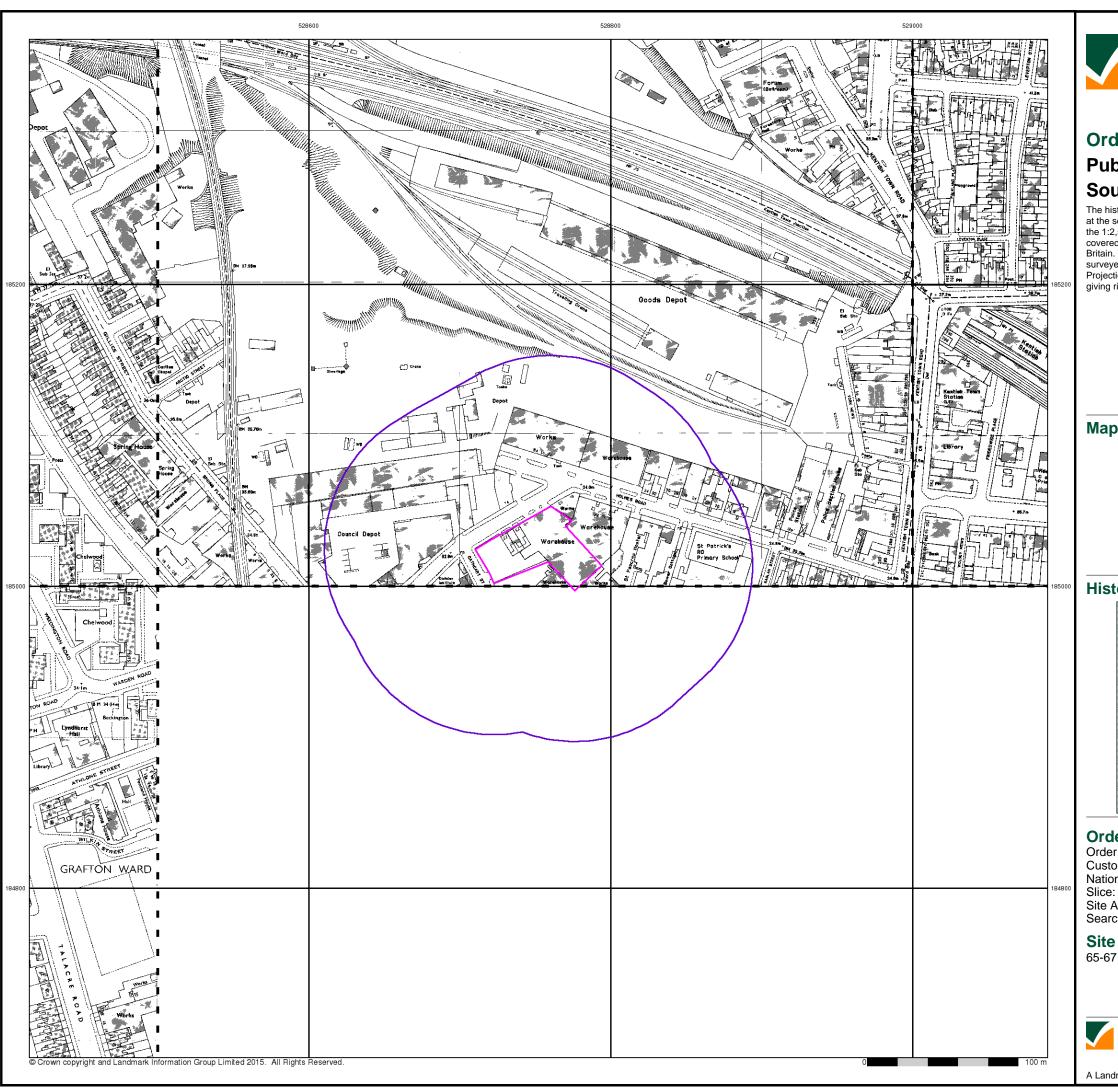
#### **Site Details**

65-67 Holmes Road, LONDON, NW5 3AN



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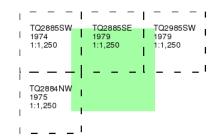




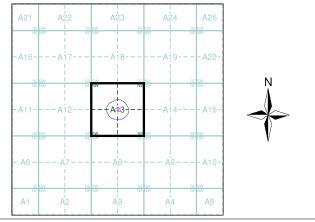
## **Ordnance Survey Plan Published 1974 - 1979** Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

### Map Name(s) and Date(s)



## **Historical Map - Segment A13**



#### **Order Details**

Order Number:

68567198\_1\_1 GSI 0457 IW EC 110615 Customer Ref:

National Grid Reference: 528750, 185020

Site Area (Ha): Search Buffer (m): 0.24

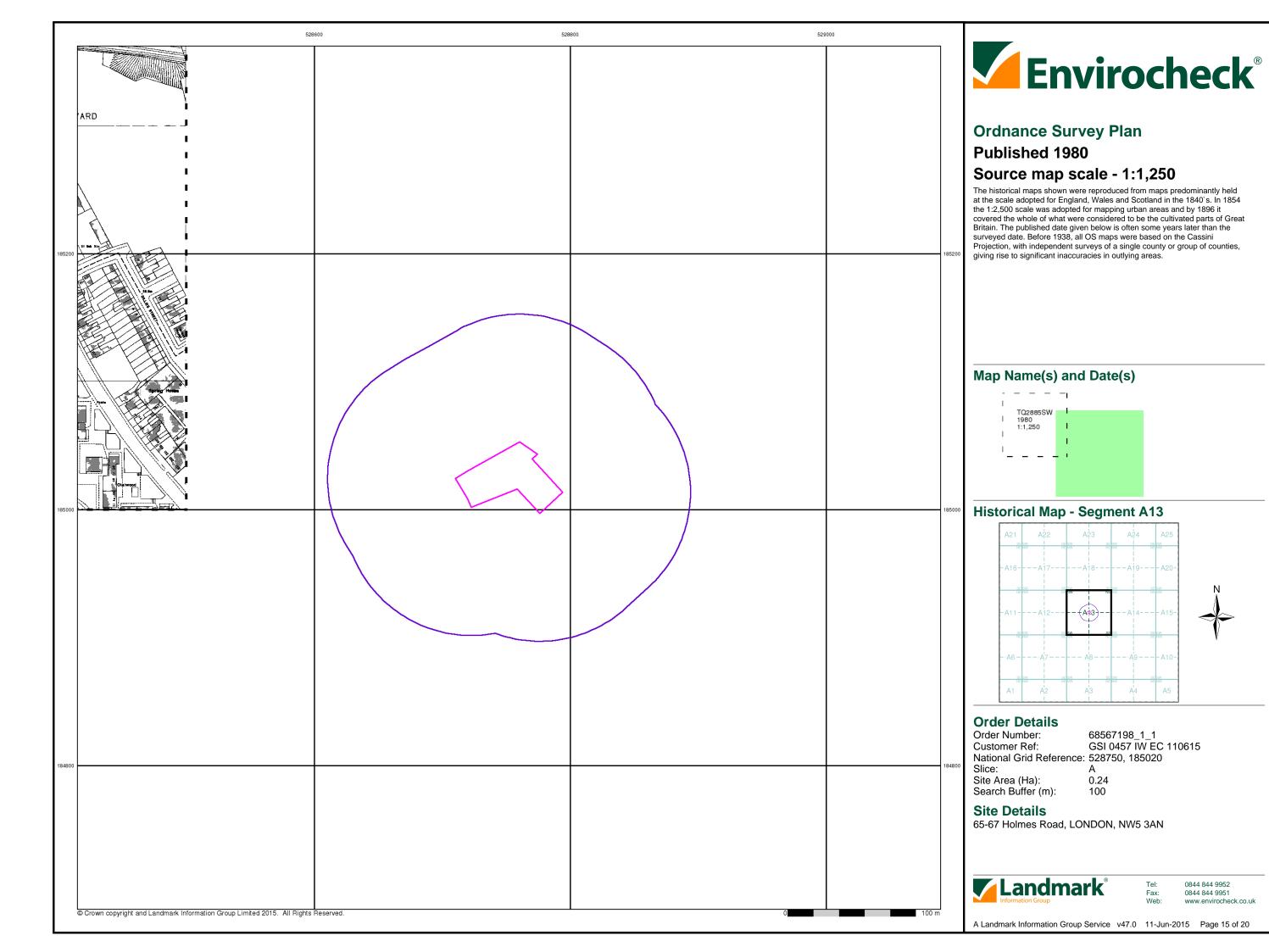
#### **Site Details**

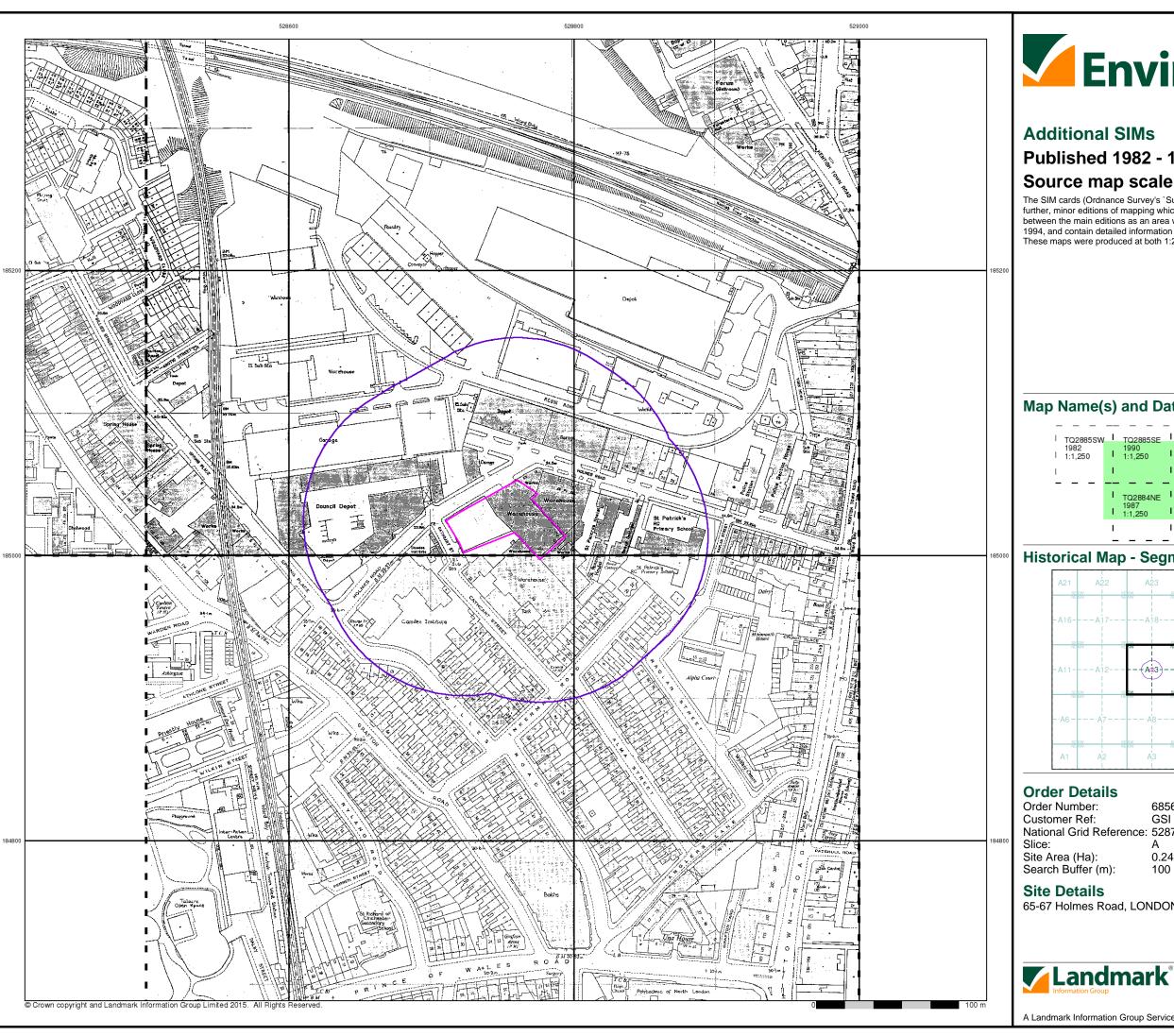
65-67 Holmes Road, LONDON, NW5 3AN



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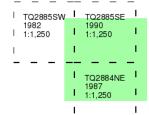




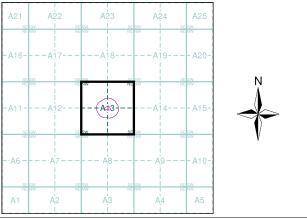
## Published 1982 - 1990 Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

## Map Name(s) and Date(s)



## **Historical Map - Segment A13**



68567198\_1\_1 GSI 0457 IW EC 110615

National Grid Reference: 528750, 185020

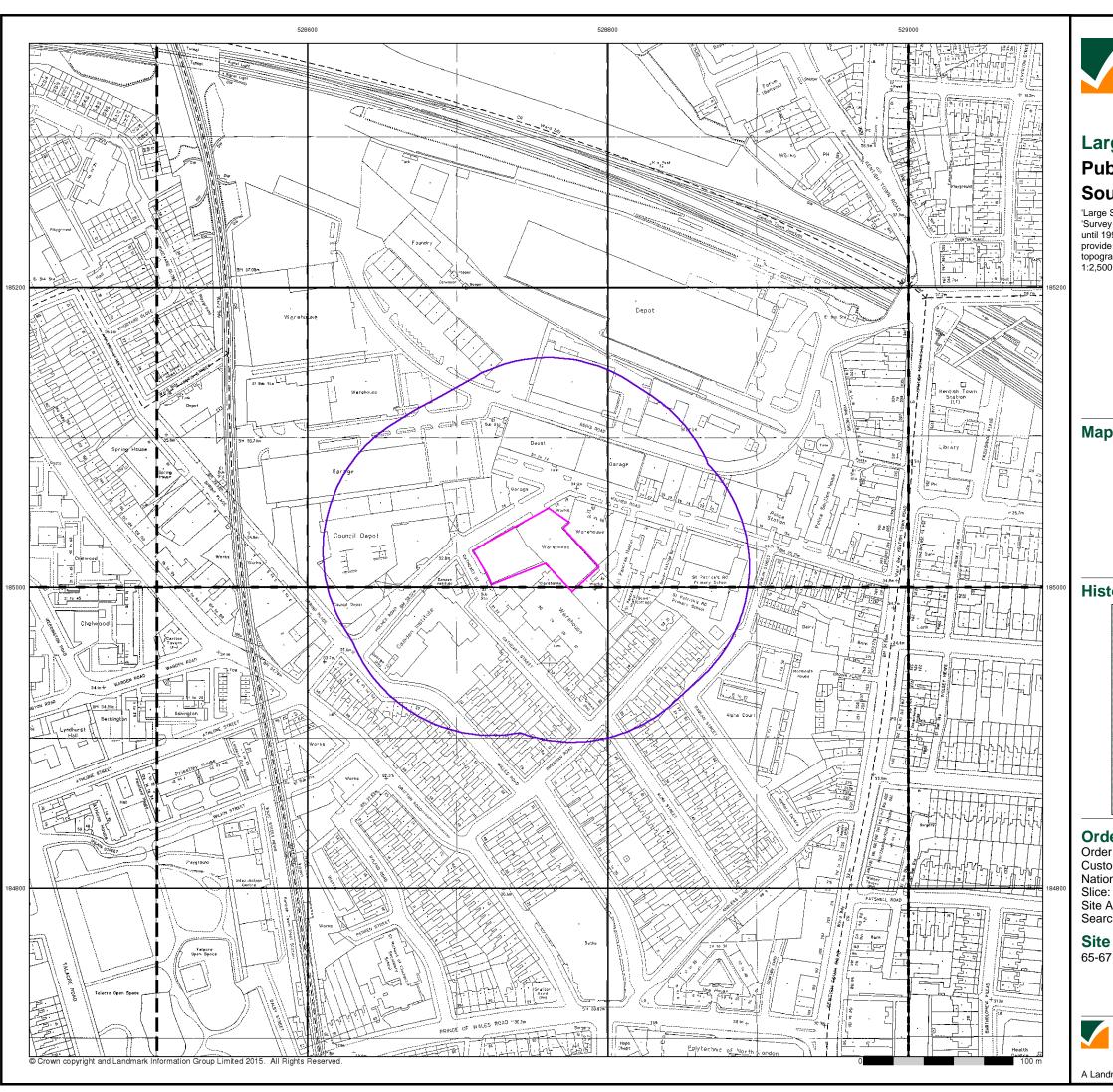
0.24

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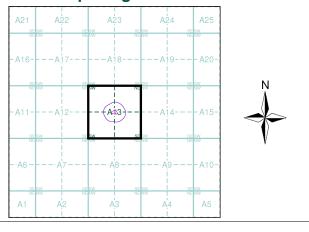
## **Large-Scale National Grid Data Published 1991** Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

## Map Name(s) and Date(s)

TQ2885SW	TQ2885SE	TQ2985SW I
1991	1991	1991
1 1:1,250	1:1,250	1:1,250
<u> </u>	<u> </u>	'
TQ2884NW	I TQ2884NE	TQ2984NW I
1991	1991	1991
1 1:1,250	I 1:1,250	1:1,250 I
I	1	

#### **Historical Map - Segment A13**



#### **Order Details**

Order Number: 68567198\_1\_1 GSI 0457 IW EC 110615 Customer Ref:

National Grid Reference: 528750, 185020

Site Area (Ha): Search Buffer (m): 0.24

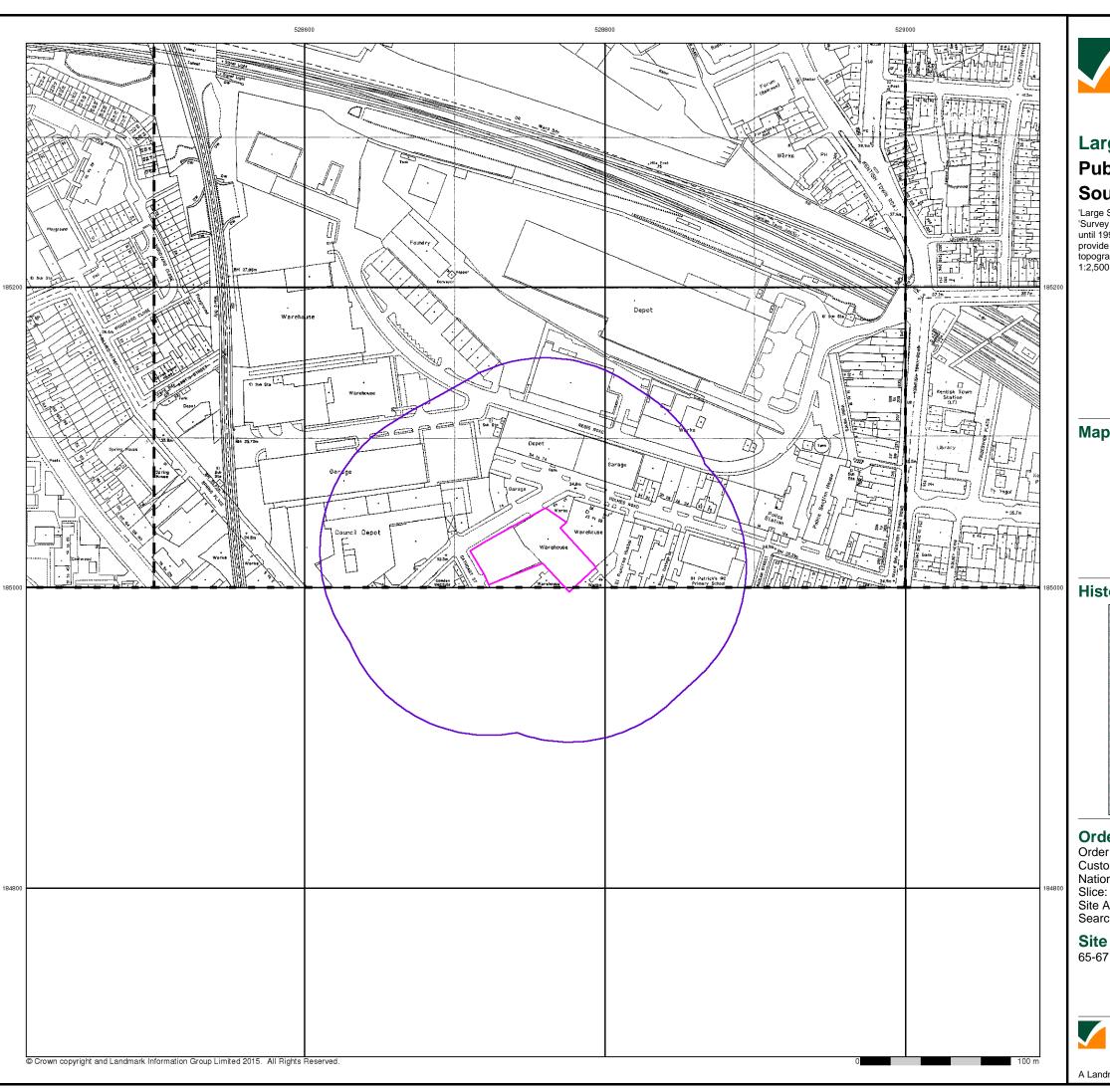
**Site Details** 

65-67 Holmes Road, LONDON, NW5 3AN



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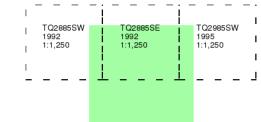




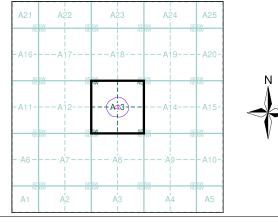
## **Large-Scale National Grid Data Published 1992 - 1995** Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

## Map Name(s) and Date(s)



#### **Historical Map - Segment A13**



#### **Order Details**

Order Number:

68567198\_1\_1 GSI 0457 IW EC 110615 Customer Ref:

National Grid Reference: 528750, 185020

Site Area (Ha): Search Buffer (m): 0.24 100

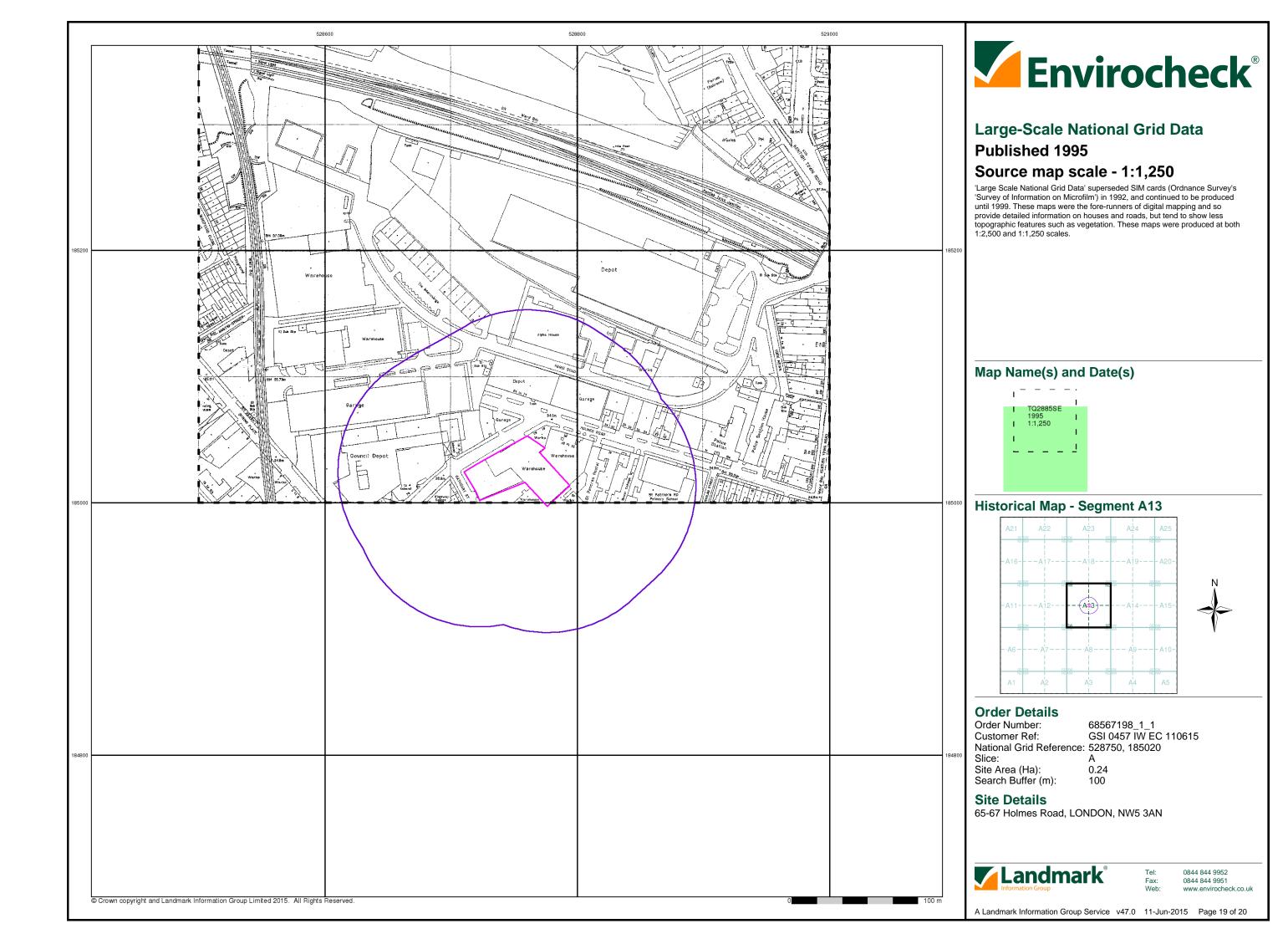
#### **Site Details**

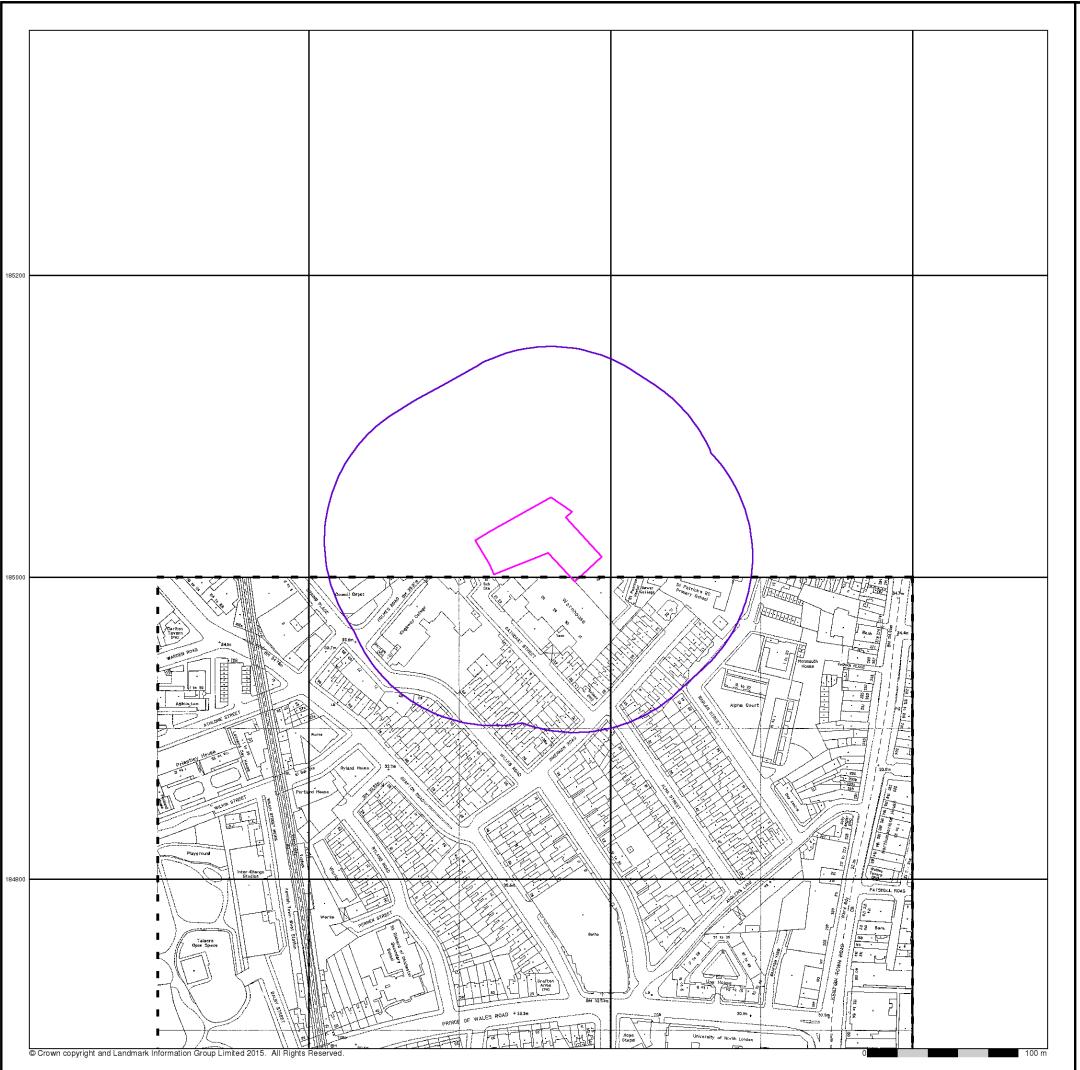
65-67 Holmes Road, LONDON, NW5 3AN



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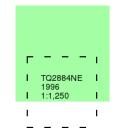


## **Large-Scale National Grid Data Published 1996**

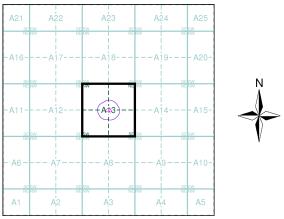
## Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

## Map Name(s) and Date(s)



#### **Historical Map - Segment A13**





#### **Order Details** Order Number: 68567198\_1\_1

Customer Ref: GSI 0457 IW EC 110615

National Grid Reference: 528750, 185020 Slice:

Site Area (Ha): Search Buffer (m): 0.24 100

#### **Site Details**

65-67 Holmes Road, LONDON, NW5 3AN



0844 844 9952 0844 844 9951

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# APPENDIX C CABLE PERCUSSION BOREHOLE LOGS

## LITHOLOGIC SYMBOLS (Unified Soil Classification System)

MADE GROUND: MADE GROUND

**CONCRETE: CONCRETE** 

CLAY: CLAY

CLAY sa: Sandy CLAY



CLAY sa gr: Sandy gravelly CLAY

### **BACKFILL / WELL SYMBOLS**



Bentonite Seal: 1 pipe group, 1 pipe



Bentonite: Bottom of hole



Cement Seal: 1 pipe group, 1 pipe



Slotted Pipe: 1 pipe group, 1 pipe



Slough at bottom of hole

#### **SOIL & ROCK DESCRIPTIONS**

All soils and rock descriptions were undertaken in accordance with BS5930 Amendment 1; EN ISO 14688 -1; EN ISO 14688 -2; and EN ISO 14689.

#### **ABBREVIATIONS**

D - Small Disturbed Sample

ES Environmental Sample

- Soil

B - Bulk Disturbed Sample

BD - Bulk & Small Disturbed Sample EW

**Environmental Sample** 

S - Standard Penetration Test

- Undisturbed Sample

- Water

Water Level After 24 Hours,

Water Level at Time of Strike

or as Shown

GeoCon Site Investigations Ltd

U

15 Belmont Drive, Marple Bridge, Stockport. SK6 5EA

Tel: 08445043901 Fax: 08445043902 Web: www.geoconsiteinvestigations.com Email: info@.geoconsiteinvestigations.com

#### **KEY TO SYMBOLS**

Client: Hallmark Property Group

Project: Holmes Road, Kentish Town, London.

Number: GSI0457



Project	BOREHOLE No			
Holmes Road, I	Kentish Town, London.			
Project ID	Date 04-06-15	Ground Level (m)	Co-Ordinates ()	BH01
GSI0457	06-06-15			
Contractor	•			Sheet
Hallmark Prope	1 of 3			

SAMPLI		crc					STRATA		T
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION	Geology	Instrument & Backfill
_						0.15	MADE GROUND: Black TARMAC.	MG	VA K
0.30-0.60 0.30	B ES					0.60	MADE GROUND: Light greyish brown sandy GRAVEL. Gravel is angular to subrounded fine to coarse of flint brick and concrete.	MG	
- 0.50 - 0.60-1.10	D B					0.90	MADE GROUND: Brown slightly clayey sandy GRAVEL. Gravel is angular to subrounded fine to coarse of flint slate brick concrete and ceramic.	MG	
- 0.80 - 1.00 - 1.20-1.65 - 1.50	D ES SDB ES	N4				(1.30)	MADE GROUND: Soft dark brown sandy gravelly CLAY. Gravel is angular to subangular fine to medium of brick clinker flint and slate. (POSSIBLE REWORKED MATERIAL)	MG	
2.00-2.45	U100	18 blows				2.20	Firm brown mottled grey sandy CLAY.		:
- 2.50 -	D					-	(WEATHERED LONDON CLAY FORMATION)		
- 3.00-3.45 - - - - - -	SB	N6				(2.30)		LC	
4.00-4.45	U100	21 blows				4.50			
4.50	D					-	Firm to stiff brown mottled bluish green slightly sandy fissured CLAY. (LONDON CLAY FORMATION)		
4.80 - 5.00 - 5.00-5.45	D ES SB	N12				-	(LONDON CLATTONIVATION)		
 6.00-6.45	U100	29 blows				_(3.00)		LC	
- - 6.50 - -	D					- - - -			
- 7.00 - -	D					7.50			
7.50-7.95	SB	N25				-	Firm to stiff brown mottled bluish green slightly sandy fissured CLAY. (LONDON CLAY FORMATION)		
8.00 - - - -	D					(2.20)		LC	
- - 9.00-9.45 -	U100	52 blows				-			
9.50	D					9.70	Chiff death areas franceed CLAV		
- - 10.00	D					-	Stiff dark grey fissured CLAY. (LONDON CLAY FORMATION)	LC	
10.50- 10.95	SB	N29				- - - - -			
	•	•		•				•	

Bori	ng Progi	ress and	nd Water Observations			(	Chiselling Water Added				GENERAL REMARKS
Date	Time	Depth	Casing Depth   Dia. mm		Water Depth	From	То	Hours	From	То	Exploratory hole cleared of buried
04-06-15	08.00	0.00	6.00	200.00	Dry						services. Hand pit excavated to 1.20mbgl. No groundwater encountered.
All dimon	scions in n	otros Cli	ent			Met	hod / Plan	t I Isad			Logged By

All dimensions in metres	Client	Method / Plant Used	Logged By
Scale 1:68.75	Hallmark Property Group	Dando 2000	Zsuzsa Bella



Project				BOREHOLE No
Holmes Road, k	Kentish Town, London.			
Project ID	Date 04-06-15	Ground Level (m)	Co-Ordinates ()	BH01
GSI0457	06-06-15			
Contractor			•	Sheet
Hallmark Prope	2 of 3			

SAMPLE		STS		•			STRATA		٠,
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION	Geology	Instrument & Backfill
11.00	D					-	Stiff dark grey fissured CLAY. (LONDON CLAY FORMATION) (continued)		
_ - 12.00- - 12.45	U100	61 blows				- - -			
12.50	D					-			
13.00	D					- - - -			
13.50- 13.95	SB	N35				- - - -			
14.00	D					- - - -			
- - - 15.00- - 15.45	U100	79 blows				- - - - - -			
15.45 - 15.50	D					- - - -			
- 16.00	D					- - - -			
- 16.50- - 16.95 - 16.95	SB	N36				- - - - - - - - - - - - - - - - - - -		LC	
-						- - - - - - -			
18.00- 18.45 - 18.50	U100 D	82 blows				- - - -	18.00 - 18.20 Brownish grey extremely weak CLAYSTONE. 18.20 Becomes very stiff below 18.20mbgl.		
- 19.00	D					- - - -			
19.50- 19.95	SB	N37				† - -			
19.95 - - - - - -						(20.75)			
21.00 21.00- 21.45	D U100	90 blows							

Bori	ing Progi	ress and	Water C	bservat	ions	Chiselling Water Added			GENERAL REMARKS		
Date	Time	Depth	Cas Depth	ing   Dia. mm	Water Depth	From	То	Hours	From	То	Exploratory hole cleared of buried
04-06-15 05-06-15	17.00 08.00	13.50 13.50			Dry Dry						services. Hand pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres	Client	Method / Plant Used	Logged By
Scale 1:68.75	Hallmark Property Group	Dando 2000	Zsuzsa Bella



Project	BOREHOLE No		
Holmes Road, k	Centish Town, London.		
Project ID	BH01		
GSI0457	04-06-15 06-06-15		
Contractor			Sheet
Hallmark Prope	3 of 3		

SAMPLE		ESTS					STRATA		ıt
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION	Geology	Instrument & Backfill
22.00	D				===	-	Stiff dark grey fissured CLAY. (LONDON CLAY FORMATION) (continued)		
- - 23.00- 23.45	SB	N41					(LONDON CEAT TOWNATION) (Continued)		
24.00	D					-			
- 24.50- - 24.95	SB	N42				-			
	D					-			
- - 26.00- - 26.45	U100	71 blows				- - - - - - - - -		LC	
26.50	D					-			
- - 27.00	D					- - - -			
- 27.50- - 27.95 - 27.95	SDB	N44							
29.00	D								
- 29.50- - 29.95	U100	83 blows				- - - -			
- 30.00- - 30.45	SDB	N50				30.45			

Bori	ng Progi	ess and	Water C	bservat	ions	(	Chisellin	3	Water	Added	GENERAL REMARKS
Date	Time	Depth	Cas Depth	Casing Depth   Dia. mm		From	То	Hours	From	То	Exploratory hole cleared of buried
05-06-15 06-06-15 06-06-15	17.00 08.00 14.00	28.00 28.00 30.45			Depth Dry Dry Dry						services. Hand pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres	Client	Method / Plant Used	Logged By
Scale 1:68.75	Hallmark Property Group	Dando 2000	Zsuzsa Bella



Project	BOREHOLE No			
Holmes Road,				
Project ID	BH02			
GSI0457	02-06-15 03-06-15			
Contractor	Sheet			
Hallmark Prope	1 of 3			

SAMPLE	SAMPLES & TESTS						STRATA							
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION	Geology	Instrument 					
0.18-0.30	В				9 4 7 9	0.30	MADE GROUND: Dark grey reinforced CONCRETE.	MG	X/ X/					
- 0.20 - 0.30-0.60 - 0.50 - 0.60-0.90 - 0.60	D B D B D ES					(0.90)	MADE GROUND: Brown SAND and GRAVEL. Gravel is angular to subangular fine to coarse of brick concrete flint clinker and ceramic.	MG						
- 0.60 - 0.90-1.10 - 1.00 - 1.20 - 1.20-1.65 - 1.50 - 2.00-2.45	B ES D SB ES U100	N2 17 blows					MADE GROUND: Soft brownish orange sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of brick concrete ceramic clinker flint and slate.							
2.50 2.50	D ES													
3.00-3.45	SB	N8						MG						
- 4.00-4.45	U100	48 blows												
4.50	D					5.00								
5.00-5.45	SB	N15				(1.00)	Soft brown mottled bluish green sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint. (WEATHERED LONDON CLAY FORMATION)	LC						
6.00-6.45	U100	52 blows				- 6.00	Firm brown mottled blue slighty sandy slightly sandy fissured CLAY.							
- - 6.50	D						(LONDON CLAY FORMATION)							
- 7.00 - 7.50-7.95	D SB	N18				(3.70)		LC						
- 8.00 	D													
- - - 9.00-9.45	U100	82 blows				-								
9.50	D					- 9.70 -	Stiff dark brownish grey fissured thinly laminated CLAY.							
_ - 10.00	D						(LONDON CLAY FORMATION)	LC						
- 10.50- - 10.95	SB	N19												

Bori	ing Prog	ress and	l Water C	Dbservat	ions	Chiselling Water Added			GENERAL REMARKS		
Date	Time	Depth	Cas Depth	sing   Dia. mm	Water Depth	From	То	Hours	From	То	Exploratory hole cleared of buried
02-06-15	08.00	0.00	10.00	200.00	Dry						services. Hand pit excavated to 1.20mbgl. No groundwater encountered.
		-									

All dimensions in metres	Client	Method / Plant Used	Logged By
Scale 1:68.75	Hallmark Property Group	Dando 2000	Zsuzsa Bella



Project				BOREHOLE No
Holmes Road, k	Centish Town, London.			
Project ID	Date 02-06-15	Ground Level (m)	Co-Ordinates ()	BH02
GSI0457	03-06-15			
Contractor				Sheet
Hallmark Prope	rty Group			2 of 3

- Tiulii	ilaik i i	operty c	J1 0 4	۲				 	
SAMPLE	ES & TI	ESTS					STRATA		ent
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION	Geology	Instrument & Backfill
11.00	D					-	Stiff dark brownish grey fissured thinly laminated CLAY. (LONDON CLAY FORMATION) (continued)		
					<del></del>	[	(LONDON CLAY FORMATION) (Continueu)		
						Į			
- 12.00	U100	68 blows			<del></del>	-			
12.00- 12.45	0100	68 DIOWS				[			503
12.50	D					<b>E</b>			603
	_					<u> </u>			65%
13.00	D				<del></del>	-			
						Ę I			
13.50- 13.95	SB	N28				ŧ l			
_					<del></del>	ŧ l			
14.00	D				<u> </u>	F			
						[			
						ŧ			903
. 15.00	U100	89 blows				-			603
15.00- 15.45	0100	69 DIOWS				[			600
15.50	D					[			
	_					<u> </u>			2005
16.00	D					-			
						£			
16.50- 16.95	SB	N26				[		LC	
. 10.95						Ł			
					===	ŧ			
					<u> —                                   </u>	ļ			93
						[			
18 00-	U100	57 blows				-			603
18.00- 18.45	0100	37 5.0 1.3			<u> —</u>	ŧ l			
18.50	D				<del></del>	-			
					<del></del>	[			2005
19.00	D					Ē I			
					<del> </del>	ŧ l			
19.50- 19.95	SB	N30			<del></del>	ŧ l			
					<u> </u>	[ - (20.75)			200
20.00	D				<del> </del>	[ (20./3)			903
					<u> </u>	<u> </u>			
					<u> </u>	<u> </u>			
21.00- 21.45	U100	78 blows			<del> </del>	<u> </u>			
21.45					<u> </u>	[			<b>665</b>
21.50	D					Į			

Borin	g Progr	ess and		bservat		Chiselling Water Added			GENERAL REMARKS		
Date	Time	Depth	Cas Depth	sing   Dia. mm	Water Depth	From	То	Hours	From	То	Exploratory hole cleared of buried
02-06-15 03-06-15	17.00 08.00	15.50 15.50			Dry 4.00						services. Hand pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres	Client	Method / Plant Used	Logged By
Scale 1:68.75	Hallmark Property Group	Dando 2000	Zsuzsa Bella



Project				BOREHOLE No
Holmes Road, k				
Project ID	Date 02-06-15	Ground Level (m)	Co-Ordinates ()	BH02
GSI0457	03-06-15			
Contractor				Sheet
Hallmark Prope	3 of 3			

SAMPLI		FSTS		•			STRATA	3 0		±
Depth	Type No	Test Result	Water	Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		Geology	Instrument & Backfill
22.00	D				===	-	Stiff dark brownish grey fissured thinly laminated CLAY. (LONDON CLAY FORMATION) (continued)			
- 22.50- - 22.95	SB	N37				- - - -	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
23.00	D					-				
- - - - -						-				
24.00- 24.45	U100	71 blows					24.00 Becomes very stiff below 24.00 mbgl.			
24.50	D					[- -				
_ - 25.00 -	D					<u>-</u> - -				
- - 25.50- - 25.95	SB	N46				- - - - -				
-						- - - - - -			LC	
_ - 27.00- - 27.45	U100	90 blows				† † †				
27.50	D					-				
	D					-  -  -				
28.50- 28.95	SB	N50/ 182 mm				-				
-						- - - - - - -				
- 30.00- - 30.45	U100	70 blows				30.45				
<u>-</u>						-				
<u>-</u>										
- - - -						<u>-</u> -				
-										
_	<u> </u>					tl				

Bori	ng Progi	ress and	Water C	Dbservat	ions	(	Chisellin	g	Water	Added	GENERAL REMARKS
Date	Time	Depth	Cas Depth	sing   Dia. mm	Water Depth	From	То	Hours	From	То	Exploratory hole cleared of buried
03-06-15	17.00	30.45			Dry						services. Hand pit excavated to 1.20mbgl. No groundwater encountered.

All dimensions in metres	Client	Method / Plant Used	Logged By
Scale 1:68.75	Hallmark Property Group	Dando 2000	Zsuzsa Bella

# APPENDIX D GEOTECHNICAL TESTING RESULTS





## **Contract Number: 27191**

Client's Reference: **GSI 0457 PO 15/0230** Report Date: **03-07-2015** 

**Client GeoCon Site Investigation Limited** 

15 Belmont Drive Marple Bridge Stockport England SK6 5EA

Contract Title: Holmes Road, Kentish Town, London

For the attention of: Ian Walker

Date Received: 10-06-2015

Date Commenced: 10-06-2015

Date Completed: 03-07-2015

Test Description	Qty
Moisture Content 1377 : 1990 Part 2 : 3.2 - * UKAS	8
4 Point Liquid & Plastic Limit (LL/PL) 1377: 1990 Part 2: 4.3 & 5.3 - * UKAS	8
(GI) BRE SD1 Reduced Suite pH, Acid Soluble Sulphate, Water Soluble Sulphate and Total Sulphur 1377: 1990 Part 3 & BRE CP2/79 - @ Non Accredited Test	8
Quick Undrained Triaxial Compression test - single specimen at one confining pressure (100mm or 38mm diameter)  1377: 1990 Part 7: 8 - * UKAS	3
One-dimensional Consolidation 75mm or 50mm diameter specimens (5 days) 1377: 1990 Part 5: 3 - * UKAS	6
Disposal of Samples on Project	1

Notes: Observations and Interpretations are outside the UKAS Accreditation

- \* denotes test included in laboratory scope of accreditation
- # denotes test carried out by approved contractor
- @ denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced in full, without the prior written approval of the laboratory.

#### **Approved Signatories:**

Alex Wynn (Associate Director) - Benjamin Sharp (Contracts Manager) - D V Edwards (Managing Director) Emma Sharp (Office Manager) - Paul Evans (Quality/Technical Manager)

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, Luton

Contract Number: 27191-100615

Hole	Sample								
Number		Tyne	Depth (m)	Description of Sample*					
Number	Number	Турс	Deptii (iii)	2000 ipiloti di dampio					
BH01		В	3.00 - 3.45	Brown fine to medium gravelly sandy silty CLAY.					
BH01		В		Brown fine sandy silty CLAY.					
BH01		В		Brown fine sandy silty CLAY.					
BH01		В		Brown fine sandy silty CLAY.					
BH02		В		Brown fine sandy silty CLAY.					
BH02		В		Brown fine sandy silty CLAY.					
BH02		В	19.50 - 19.95	Brown fine sandy silty CLAY.					
BH02		В		Brown fine sandy silty CLAY.					

Note: Results on this table are in summary format and may not meet the requirements of the relevant standards, additional information is held by the laboratory



For and behalf of GEO Site & Testing Services Ltd

Authorised By: Emma Williams (Office Manager)

Date: 30.6.15



Test Report: Method of the Determination of the plastic limit and plasticity index

BS 1377: Part 2: 1990 Method 5

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, Luton

Contract Number: 27191-100615

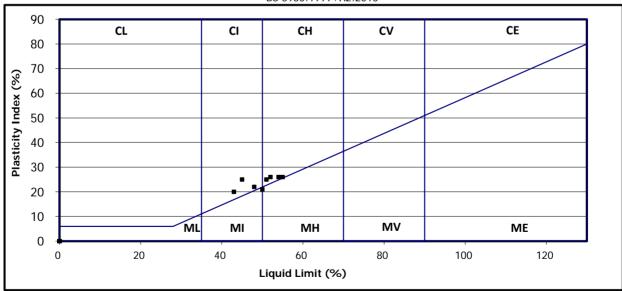
Hole/			Moisture	Liquid	Plastic	Plasticity	%	
Sample	Sample	Depth	Content	Limit	Limit	Index	Passing	Remarks
Number	Туре	m	%	%	%	%	.425mm	
			CI. 3.2	CI. 4.3/4.4	CI. 5.	CI. 6.		
BH01	В	3.00 - 3.45	21	43	23	20	77	CI Intermediate Plasticity
BH01	В	7.50 - 7.95	33	50	29	21	100	MI/H Inter/High Plasticity
BH01	В	13.50 - 13.95	33	55	29	26	100	CH High Plasticity
BH01	В	19.50 - 19.95	30	52	26	26	100	CH High Plasticity
BH02	В	7.50 - 7.95	31	51	26	25	100	CH High Plasticity
BH02	В	13.50 - 13.95	31	54	28	26	100	CH High Plasticity
BH02	В	19.50 - 19.95	28	48	26	22	100	CI Intermediate Plasticity
BH02	В	25.50 - 25.95	27	45	20	25	100	CI Intermediate Plasticity

Symbols: NP : Non Plastic # : Liquid Li

#: Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

BS 5930:1999+A2:2010





For and behalf of GEO Site & Testing Services Ltd

Authorised By:

Paul Evans (Quality/Technical Manager)

Date: 30.6.15







Unit 4 Heol Aur Dafen Ind EstateDafen Carmarthenshire SA14 8QN Tel: 01554 784040 01554 750752 Fax: 01554 770529 01554 784041

Web: www.geo.uk.com

## Certificate of Analysis

Date:	27/06/2015
Client:	Geocon
Our Reference:	27191-100615
Client Reference:	GSI 0457
Contract Title:	Holmes Road, Kentish Town, London
Description: (Total Samples)	8
Date Received:	10/06/2015
Date Started:	24/06/2015
Date Completed:	27/06/2015
Test Procedures:	(B.S. 1377 : PART 3 : 1990 AND BRE CP2/79)
Notes:	
	Solid samples will be disposed 1 month and liquids 2 weeks after the date of issue of this test certificate

Authorised Signatories:

Approved By:

Emma Williams Laboratory Office Manager Dafydd Simon Laboratory Team Leader Paul Evans Quality Manager

DP Gons

Contract No: 27191-100615

Client Ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Date: 27/06/2015

## Summary of Chemical Analysis

(B.S. 1377: PART 3: 1990 AND BRE CP2/79)

			Sulphate	e Content SO3 (as	SO <sub>4</sub> )	Chloride Content						
			Acid	Aqueous	Ground-	Soluble	Ground-	pН	Total	Magnesium	Nitrate	Organic
Hole	Sample	Depth	Soluble	Extract	water	Chloride as	water	Value	Sulphur			%
Number	Number	m	Sulphate	Sulphate		% equiv.		@ 25°C	%	g/l	mg/l	
			as % SO <sub>4</sub>	as g/l SO₄	g/l	NaCl	g/l					
BH01		1 20 1 65	Clause 5.5. 0.19 ( 0.23 )	Clause 5.5. 0.58 ( 0.69 )	Clause 5.4.	Clause 7.3	Clause 7.2	7.98	0.01			
BH01			0.09 ( 0.10 )					7.56	< 0.01			
BH01			0.39 ( 0.47 )	0.01 ( 0.02 )				7.82	0.03			
BH01		16.50-16.95		0.05 ( 0.07 )				7.02	0.03			
BH02			0.07 ( 0.08 )	0.03 ( 0.07 )				7.24	0.01			
BH02			0.12 ( 0.14 )					6.97	0.01			
BH02			0.05 ( 0.06 )	0.01 ( 0.01 )				7.35	< 0.01			
BH02		28.50-28.93	0.74 ( 0.88 )	0.12 ( 0.14 )				7.60	0.03			
		ido procont		1			1			1		

NCP - No Chloride present

BS1377: Part 5: 1990

Client ref: GSI 0457

Location: Homles Road, Kentish Town, London

**Contract Number: 27191-100615** 

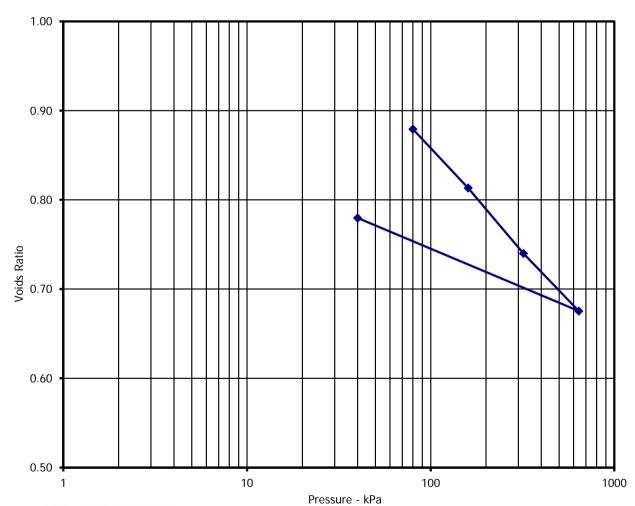
Hole/Sample Number: BH01

Depth (m): 4.00 - 4.45

Sample Type: U

Description : Brown silty CLAY

Initial Conditions		Pressure Range		Mv	Cv	Method of time fitting used	
Moisture Content (%):	31		kPa		m2/MN	m2/yr	Cv Calculated using t90
Bulk Density (Mg/m3):	1.82	0	-	80	0.20	32	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.39	80	-	160	0.44	4.2	
Voids Ratio:	0.9091	160	-	320	0.25	16	Location of specimen with sample
Degree of saturation:	91.6	320	-	640	0.12	1.3	top
Height (mm):	19.77	640	-	40	0.10	2.8	Remarks:
Diameter (mm)	75.02						
Particle Density (Mg/m3)	2.65						
Assumed							





Checked by:

Approved by:

Watan

DP Grons

Date approved: 03/07/15



GEO/011 11-Jun-14 Issue No 1.2

BS1377: Part 5: 1990

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

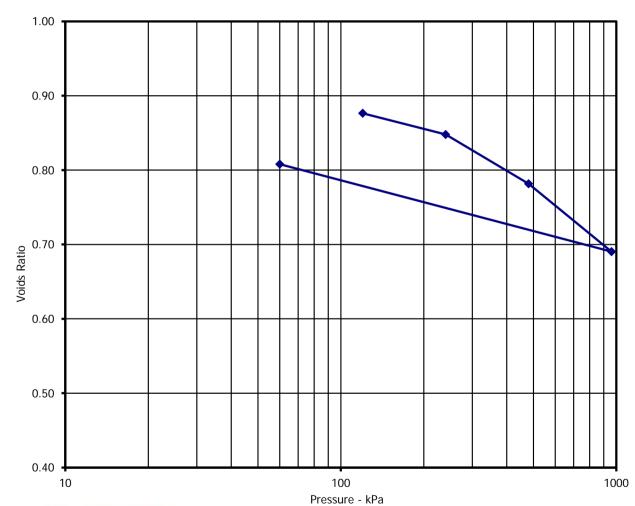
Hole/Sample Number: BH01

Depth (m): 6.00 - 6.45

Sample Type: U

Description: Brown silty CLAY.

Initial Conditions		Pressure Range		Mv	Cv	Method of time fitting used	
Moisture Content (%):	34		kPa		m2/MN	m2/yr	Cv Calculated using t90
Bulk Density (Mg/m3):	1.88	0	-	120	0.065	42	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.40	120	-	240	0.13	6.4	
Voids Ratio:	0.8911	240	-	480	0.15	2.3	Location of specimen with sample
Degree of saturation:	101.7	480	-	960	0.11	1.30	top
Height (mm):	18.73	960	-	60	0.077	0.9	Remarks:
Diameter (mm)	74.95						
Particle Density (Mg/m3)	2.65						
Assumed							





Lud

DP Grons

Checked by

GEO SITE & TESTING SERVICES LTD

Emma Williams (Office Manager)

Date approved:

Approved by
Paul Evans (Quailty Manager)
29/06/15



BS1377: Part 5: 1990

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

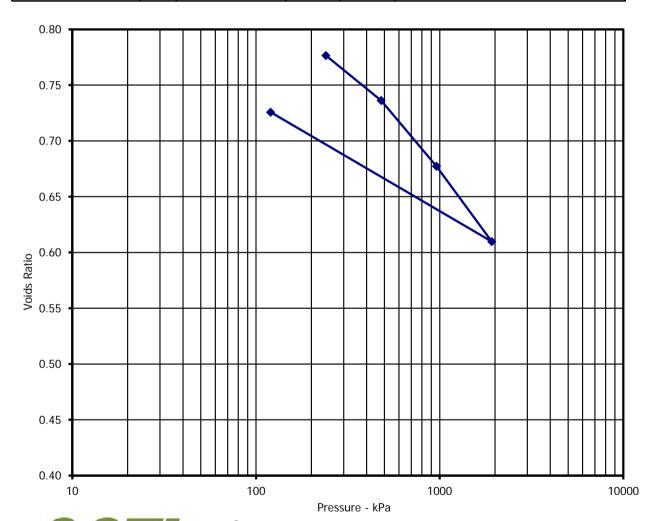
Hole/Sample Number: BH01

Depth (m): 12.00 - 12.45

Sample Type: U

Description: Brown silty CLAY.

Initial Conditions		Pressure Range		Mv	Cv	Method of time fitting used	
Moisture Content (%):	30		kPa		m2/MN	m2/yr	Cv Calculated using t90
Bulk Density (Mg/m3):	1.93	0	-	240	0.031	45	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.48	240	-	480	0.094	4.9	
Voids Ratio:	0.7900	480	-	960	0.071	1.2	Location of specimen with sample
Degree of saturation:	101.3	960	-	1920	0.042	0.76	top
Height (mm):	20.04	1920	-	120	0.04	0.83	Remarks:
Diameter (mm)	50.02						
Particle Density (Mg/m3)	2.65						
Assumed							





Lud

DP Grons

Checked by

GEO SITE & TESTING SERVICES LTD Emma Williams (Office Manager)

Date approved:

Approved by
Paul Evans (Quailty Manager)
29/06/15



BS1377: Part 5: 1990

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

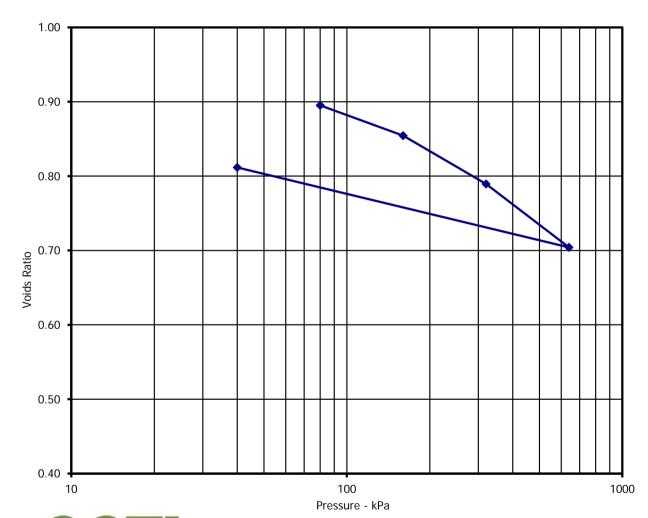
Hole/Sample Number: BH02

Depth (m): 4.00 - 4.45

Sample Type: U

Description : Brown silty CLAY.

Initial Conditions		Pressure Range		Mv	Cv	Method of time fitting used	
Moisture Content (%):	35		kPa		m2/MN	m2/yr	Cv Calculated using t90
Bulk Density (Mg/m3):	1.86	0	-	80	0.14	46	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.38	80	-	160	0.27	10	
Voids Ratio:	0.9168	160	-	320	0.22	9.9	Location of specimen with sample
Degree of saturation:	100.4	320	-	640	0.15	9.10	top
Height (mm):	19.76	640	-	40	0.11	1.5	Remarks:
Diameter (mm)	74.91						
Particle Density (Mg/m3)	2.65						
Assumed							





Lud

DP Grons

Checked by

GEO SITE & TESTING SERVICES LTD Emma Williams (Office Manager)

Date approved:

Approved by
Paul Evans (Quailty Manager)
29/06/15



BS1377: Part 5: 1990

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

27191-100615 **Contract Number:** 

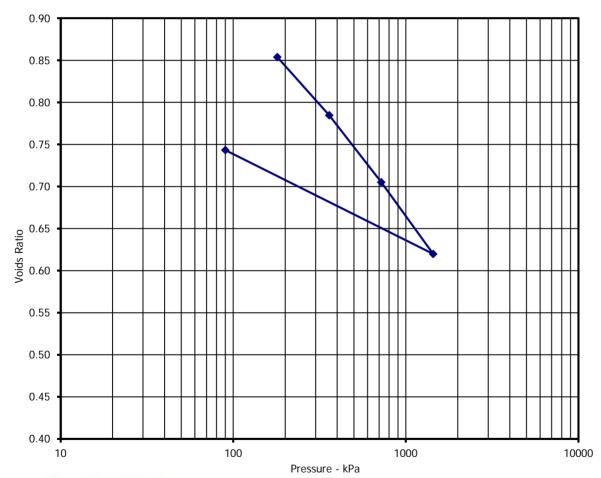
Hole/Sample Number: **BH02** 

9.00 - 9.45 Depth (m):

Sample Type: U

**Description:** Brown silty CLAY.

Initial Conditions		Pressure Range			Mv	Cv	Method of time fitting used
Moisture Content (%):	32		kPa		m2/MN	m2/yr	Cv Calculated using t90
Bulk Density (Mg/m3):	1.83	0	-	180	0.17	46	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.39	180	-	360	0.21	4.1	
Voids Ratio:	0.9124	360	-	720	0.12	0.78	Location of specimen with sample
Degree of saturation:	93.8	720	-	1440	0.07	0.52	top
Height (mm):	19.88	1440	-	90	0.056	1.4	Remarks:
Diameter (mm)	75						
Particle Density (Mg/m3)	2.65						
Assumed							





Checked by GEO SITE & TESTING SERVICES LTD Emma Williams (Office Manager) Date approved:

DP Gronz

Approved by Paul Evans (Quailty Manager) 30/06/15



BS1377: Part 5: 1990

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

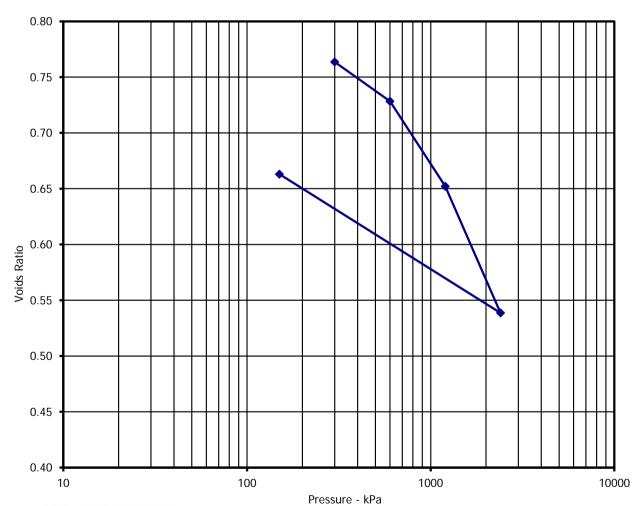
Hole/Sample Number: BH02

Depth (m): 15.00 - 15.45

Sample Type: U

Description : Brown silty CLAY.

Initial Conditions		Pressure Range		Mv	Cv	Method of time fitting used	
Moisture Content (%):	29		kPa		m2/MN	m2/yr	Cv Calculated using t90
Bulk Density (Mg/m3):	1.93	0	-	300	0.023	46	Nominal Laboratory Temperature
Dry Density (Mg/m3):	1.49	300	-	600	0.067	3.7	
Voids Ratio:	0.7760	600	-	1200	0.074	0.82	Location of specimen with sample
Degree of saturation:	100.1	1200	-	2400	0.057	0.36	top
Height (mm):	20.13	2400	-	150	0.036	0.26	Remarks:
Diameter (mm)	50.01						
Particle Density (Mg/m3)	2.65						
Assumed							





Lud

DP Grons

Checked by

GEO SITE & TESTING SERVICES LTD Emma Williams (Office Manager)

Date approved:

Approved by
Paul Evans (Quailty Manager)
07/07/15



BS 1377: Part7: Clause 8: 1990 Single Stage Test

without measurement of Pore Pressure

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

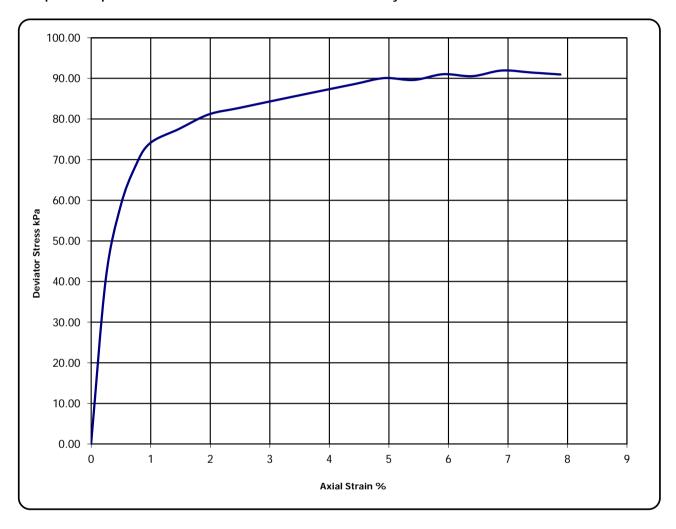
Hole Number BH01

Sample Number:

Depth (m): 4.00 - 4.45

Sample Type: U

Sample Description: Firm brown silty CLAY



Diameter (mm):		102	Height (mm):		203	Test:	U 102 mm Single Stage.		
	Moisture	Bulk	Dry	Cell	Deviator	Cohesion	Failure	Mode	Remarks
Specimen	Content	Density	Density	Pressure	Stress		Strain	of	Sample taken from Top of tube
	(%)	(Mg/m3)	(Mg/m3)	(kPa)	(kPa)	(kPa)	(%)	Failure	Rate of strain = 2 %/min
A	30	1.92	1.48	80	92	46	6.9	Compound	Latex Membrane used 0.2 mm thickness

GEO Site & Texting Services Limited

Checked By:

Approved By:

DP Gons



BS 1377: Part7: Clause 8: 1990 Single Stage Test

without measurement of Pore Pressure

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

Hole Number BH01

Sample Number:

Depth (m): 4.00 - 4.45

Sample Type: U





Post Test Specimen

Specimen Split

Diamete	Diameter (mm): 102		Height (mm):		203	Test:	U 102 mm Single Stage.		
	Moisture	Bulk	Dry	Cell	Deviator	Cohesion	Failure	Mode	Remarks
Specimen	Content	Density	Density	Pressure	Stress		Strain	of	Sample taken from Top of tube
	(%)	(Mg/m3)	(Mg/m3)	(kPa)	(kPa)	(kPa)	(%)	Failure	Rate of strain = 2 %/min
Α	30	1.92	1.48	80	92	46	6.9	Compound	Latex Membrane used 0.2 mm thickness



Checked By:

Approved By:

0

DP Grons



BS 1377: Part7: Clause 8: 1990 Single Stage Test

without measurement of Pore Pressure

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

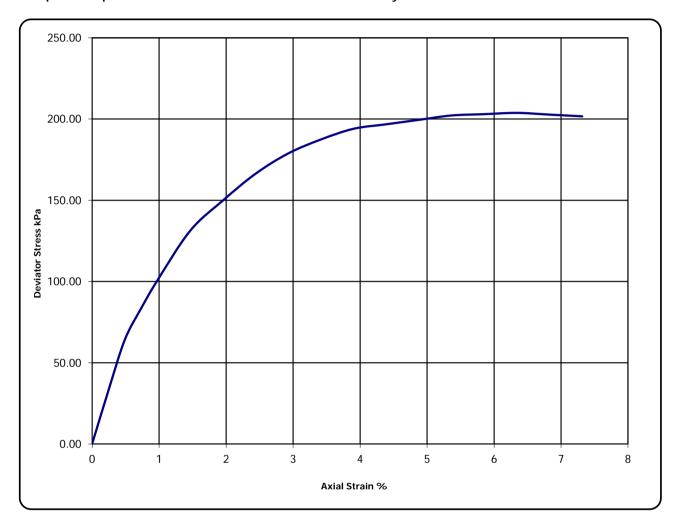
Hole Number BH01

Sample Number:

Depth (m): 6.00 - 6.45

Sample Type: U

Sample Description: Stiff brown silty CLAY



Diameter (mm):		103	Height (mm):		205	Test:	U 103 mm Single Stage.		
	Moisture	Bulk	Dry	Cell	Deviator	Cohesion	Failure	Mode	Remarks
Specimen	Content	Density	Density	Pressure	Stress		Strain	of	Sample taken from Top of tube
	(%)	(Mg/m3)	(Mg/m3)	(kPa)	(kPa)	(kPa)	(%)	Failure	Rate of strain = 2 %/min
Α	35	1.91	1.41	120	204	102	6.3	Compound	Latex Membrane used 0.2 mm thickness

GEO Site & Texting Services Limited

Checked By:

Approved By:

Watan

DP Rans



BS 1377: Part7: Clause 8: 1990 Single Stage Test

without measurement of Pore Pressure

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

Hole Number BH01

Sample Number:

Depth (m): 6.00 - 6.45

Sample Type: U





Post Test Specimen

Specimen Split

Diamete	Diameter (mm): 103		Height (mm):		205	Test:	U 103 mm Single Stage.		
	Moisture	Bulk	Dry	Cell	Deviator	Cohesion	Failure	Mode	Remarks
Specimen	Content	Density	Density	Pressure	Stress		Strain	of	Sample taken from Top of tube
	(%)	(Mg/m3)	(Mg/m3)	(kPa)	(kPa)	(kPa)	(%)	Failure	Rate of strain = 2 %/min
Α	35	1.91	1.41	120	204	102	6.3	Compound	Latex Membrane used 0.2 mm thickness



Checked By:

Approved By:

DP Glons



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BS 1377: Part7: Clause 8: 1990 Single Stage Test

without measurement of Pore Pressure

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

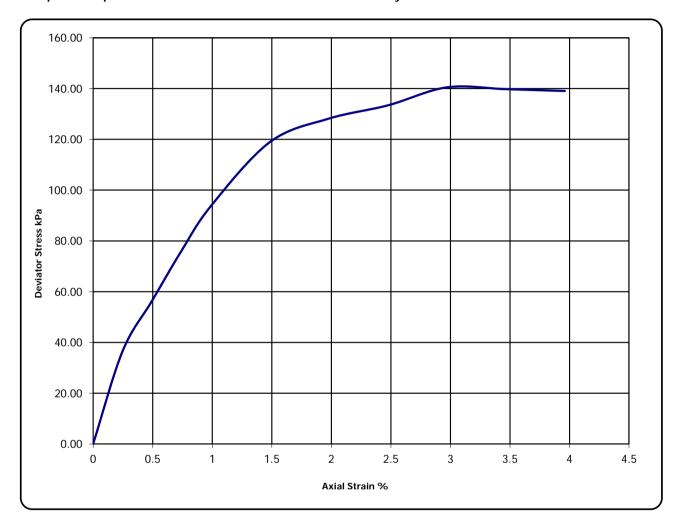
Hole Number BH01

Sample Number:

Depth (m): 12.00 - 12.45

Sample Type : U

Sample Description: Firm brown silty CLAY



Diamete	Diameter (mm): 102		Height (mm):		202	Test:	U 102 mm Single Stage.		
	Moisture	Bulk	Dry	Cell	Deviator	Cohesion	Failure	Mode	Remarks
Specimen	Content	Density	Density	Pressure	Stress		Strain	of	Sample taken from Top of tube
	(%)	(Mg/m3)	(Mg/m3)	(kPa)	(kPa)	(kPa)	(%)	Failure	Rate of strain = 2 %/min
Α	31	1.97	1.51	240	140	70	3.0	Compound	Latex Membrane used 0.2 mm thickness

GEO Site & Teeting Services United

Checked By:

Approved By:

DP Rons



Test Report: Undrained Shear Strength in Triaxial Compression

BS 1377: Part7: Clause 8: 1990 Single Stage Test

without measurement of Pore Pressure

Client ref: GSI 0457

Location: Holmes Road, Kentish Town, London

Contract Number: 27191-100615

Hole Number BH01

Sample Number:

Depth (m): 12.00 - 12.45

Sample Type: U





Post Test Specimen

Specimen Split

Diamete	Diameter (mm): 102			Height (mm):		Test:		U 102	mm Single Stage.
	Moisture	oisture Bulk Dry		Cell	Deviator	Cohesion	Failure	Mode	Remarks
Specimen	Content	Density	Density	Pressure	Stress		Strain	of	Sample taken from Top of tube
	(%)	(Mg/m3)	(Mg/m3)	(kPa)	(kPa)	(kPa)	(%)	Failure	Rate of strain = 2 %/min
Α	31	1.97	1.51	240	140	70	3.0	Compound	Latex Membrane used 0.2 mm thickness



Checked By:

Approved By:

tan

DP Grons



Date Approved: 3.7.15

# APPENDIX E CHEMICAL TESTING RESULTS



## FINAL ANALYTICAL TEST REPORT

**Envirolab Job Number:** 15/03836

**Issue Number:** 1 **Date:** 17 June, 2015

Client: Geocon Site Investigations Ltd

15 Belmont Drive Marple Bridge Stockport

UK

SK6 5EA

Project Manager: lan Walker

Project Name: Holmes Road, Kentish Town, London

Project Ref: GSI0457
Order No: PO 15/0229
Date Samples Received: 08/06/15
Date Instructions Received: 11/06/15
Date Analysis Completed: 17/06/15

Prepared by: Approved by:

Danielle Brierley Iain Haslock

Administrative Assistant Analytical Consultant



Envirolab Job Number: 15/03836 Client Project Name: Holmes Road, Kentish Town, London

Client Project Ref: GSI0457

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Lab Sample ID	15/03836/1	15/03836/5						
Client Sample No	1	1						
Client Sample ID	BH01	BH02						
Depth to Top	0.30	0.60						
Depth To Bottom								
Date Sampled	05-Jun-15	02-Jun-15						*
Sample Type	Soil - ES	Soil - ES					,	Method ref
MCERTS Sample Matrix Code	1A	5A					Units	Meth
% Stones >10mm <sub>A</sub> #	52.8	4.0					% w/w	A-T-044
pH <sub>D</sub> <sup>M#</sup>	11.61	8.40					pН	A-T-031s
Sulphate (water sol 2:1) <sub>D</sub> <sup>M#</sup>	0.21	0.47					g/I	A-T-026s
Cyanide (total) <sub>A</sub> <sup>M#</sup>	<1	<1					mg/kg	A-T-042sTCN
Phenois - Total by HPLC <sub>A</sub>	<0.2	<0.2					mg/kg	A-T-050s
Arsenic <sub>D</sub> <sup>M#</sup>	6	14					mg/kg	A-T-024s
Cadmium <sub>D</sub> <sup>M#</sup>	<0.5	<0.5					mg/kg	A-T-024s
Copper <sub>D</sub> <sup>M#</sup>	15	75					mg/kg	A-T-024s
Chromium <sub>D</sub> <sup>M#</sup>	10	20					mg/kg	A-T-024s
Lead <sub>D</sub> <sup>M#</sup>	79	401					mg/kg	A-T-024s
Mercury <sub>D</sub>	0.33	1.12					mg/kg	A-T-024s
Nickel <sub>D</sub> <sup>M#</sup>	8	21					mg/kg	A-T-024s
Selenium <sub>D</sub> <sup>M#</sup>	<1	<1					mg/kg	A-T-024s
Zinc <sub>D</sub> <sup>M#</sup>	32	69					 mg/kg	A-T-024s



Envirolab Job Number: 15/03836 Client Project Name: Holmes Road, Kentish Town, London

Client Project Ref: GSI0457

-				 ject her. G			
Lab Sample ID	15/03836/1	15/03836/5					
Client Sample No	1	1					
Client Sample ID	BH01	BH02					
Depth to Top	0.30	0.60					
Depth To Bottom							
Date Sampled	05-Jun-15	02-Jun-15					
Sample Type	Soil - ES	Soil - ES					od re
MCERTS Sample Matrix Code	1A	5A				Units	Method ref
TPH CWG							
Ali >C5-C6 <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
Ali >C6-C8 <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
Ali >C8-C10 <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
Ali >C10-C12 <sub>A</sub> #	<0.1	<0.1				mg/kg	A-T-023s
Ali >C12-C16 <sub>A</sub> #	<0.1	<0.1				mg/kg	A-T-023s
Ali >C16-C21 <sub>A</sub> #	<0.1	<0.1				mg/kg	A-T-023s
Ali >C21-C35 <sub>A</sub> #	0.9	<0.1				mg/kg	A-T-023s
Total Aliphatics <sub>A</sub>	0.9	<0.1				mg/kg	A-T-022+23s
Aro >C5-C7 <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
Aro >C7-C8 <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
Aro >C8-C9 <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
Aro >C9-C10 <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
Aro >C10-C12 <sub>A</sub> #	<0.1	<0.1				mg/kg	A-T-023s
Aro >C12-C16 <sub>A</sub> #	<0.1	<0.1				mg/kg	A-T-023s
Aro >C16-C21 <sub>A</sub> #	1.9	<0.1				mg/kg	A-T-023s
Aro >C21-C35 <sub>A</sub> #	5.8	<0.1				mg/kg	A-T-023s
Total Aromatics <sub>A</sub>	7.6	<0.1				mg/kg	A-T-022+23s
TPH (Ali & Aro) <sub>A</sub>	8.4	<0.1				mg/kg	A-T-022+23s
BTEX - Benzene <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
BTEX - Toluene <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
BTEX - Ethyl Benzene <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
BTEX - m & p Xylene <sub>A</sub> #	<0.01	<0.01		_		mg/kg	A-T-022s
BTEX - o Xylene <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s
MTBE <sub>A</sub> #	<0.01	<0.01				mg/kg	A-T-022s



Envirolab Job Number: 15/03836 Client Project Name: Holmes Road, Kentish Town, London

Client Project Ref: GSI0457

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Lab Sample ID	15/03836/1	15/03836/5						
Client Sample No	1	1						
Client Sample ID	BH01	BH02						
Depth to Top	0.30	0.60						
Depth To Bottom								
Date Sampled	05-Jun-15	02-Jun-15						<b>+</b>
Sample Type	Soil - ES	Soil - ES						Method ref
MCERTS Sample Matrix Code	1A	5A					Units	Meth
PAH 16								
Acenaphthene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01					mg/kg	A-T-019s
Acenaphthylene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01					mg/kg	A-T-019s
Anthracene <sub>A</sub> <sup>M#</sup>	0.03	0.02					mg/kg	A-T-019s
Benzo(a)anthracene <sub>A</sub> <sup>M#</sup>	0.08	<0.04					mg/kg	A-T-019s
Benzo(a)pyrene <sub>A</sub> <sup>M#</sup>	0.08	<0.04					mg/kg	A-T-019s
Benzo(b)fluoranthene <sub>A</sub> <sup>M#</sup>	0.07	<0.05					mg/kg	A-T-019s
Benzo(ghi)perylene <sub>A</sub> <sup>M#</sup>	0.07	<0.05					mg/kg	A-T-019s
Benzo(k)fluoranthene <sub>A</sub> <sup>M#</sup>	0.09	<0.07					mg/kg	A-T-019s
Chrysene <sub>A</sub> <sup>M#</sup>	0.11	<0.06					mg/kg	A-T-019s
Dibenzo(ah)anthracene <sub>A</sub> <sup>M#</sup>	<0.04	<0.04					mg/kg	A-T-019s
Fluoranthene <sub>A</sub> <sup>M#</sup>	0.20	<0.08					mg/kg	A-T-019s
Fluorene <sub>A</sub> <sup>M#</sup>	<0.01	<0.01					mg/kg	A-T-019s
Indeno(123-cd)pyrene <sub>A</sub> <sup>M#</sup>	0.06	<0.03					mg/kg	A-T-019s
Naphthalene <sub>A</sub> <sup>M#</sup>	<0.03	<0.03					mg/kg	A-T-019s
Phenanthrene <sub>A</sub> <sup>M#</sup>	0.10	0.10					mg/kg	A-T-019s
Pyrene <sub>A</sub> <sup>M#</sup>	0.17	<0.07					mg/kg	A-T-019s
PAH (total 16) <sub>A</sub> M#	1.04	0.13					mg/kg	A-T-019s



### **REPORT NOTES**

## Notes - Soil chemical analysis

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

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis. For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

#### Notes - General

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

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts.

Superscript "M" indicates method accredited to MCERTS.

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.

#### 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.

#### Asbestos in soil

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if present as discrete fibres/fragments. 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 a 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. Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations.

## Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient 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.

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.

Please contact us if you need any further information.



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

## **Final Test Report**

Envirolab Job Number: 15/03836

Issue Number: 2 Date: 23-Jul-15

Client: Geocon Site Investigations Ltd

15 Belmont Drive Marple Bridge Stockport UK SK6 5EA

Project Manager: Ian Walker

Proiect Name: Holmes Road, Kentish Town, London

Project Ref: GSI0457 Order No: PO 15/0229

Date Samples Received: 8-Jun-15
Date Instructions Received: 11-Jun-15
Date Analysis Completed: 23-Jul-15

#### Notes - Soil analysis

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

For samples with Matrix Codes 1 - 6 natural stones > 10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

#### Notes - Genera

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

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

Superscript "M" indicates method accredited to MCERTS.

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

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER.

Samples with Matrix Code 7 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations.

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Superscript # indicates method accredited to ISO 17025.

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.

Please contact us if you need any further information.

Prepared by:

MMarshall

Melanie Marshall Laboratory Coordinator

Iain Haslock Analytical Consultant

faslock

Approved by:







	Sample Details									
Lab Sample ID	Method	ISO17025	MCERTS	15/03836/2	!			Landfill Wa	aste Acceptance Crit	teria Limits
Client Sample Number				2						
Client Sample ID				BH01				1		
Depth to Top				1				1	Stable Non-reactive	
Depth to Bottom								Inert Waste Landfill	Hazardous Waste in Non-Hazardous	Hazardous Waste Landfill
Date Sampled				05/06/2015	)				Landfill	Lanum
Sample Type				Soil - ES				1	Landini	
Sample Matrix Code				6A				1		
Solid Waste Analysi	is								•	
pH (pH Units) <sub>D</sub>	A-T-031	Υ	Υ	9.74				-	>6	-
ANC to pH 4 (mol/kg) <sub>D</sub>	A-T-ANC	N	Ν	1.41				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg) <sub>D</sub>	A-T-ANC	N	N	0.22				-	to be evaluated	to be evaluated
Loss on Ignition (%) <sub>D</sub>	A-T-030	Υ	N	4.9				-	-	10
Total Organic Carbon (%) <sub>D</sub>	A-T-032	Y	Υ	2.8				3	5	6
PAH Sum of 17 (mg/kg) <sub>A</sub>	A-T-019	_	N	5.3				100	-	-
Mineral Oil (mg/kg) <sub>A</sub>	A-T-007	N	N	<10				500	_	
Sum of 7 PCBs (mg/kg) <sub>D</sub>	A-T-004	N	N	<0.007				1	_	-
Sum of BTEX (mg/kg) <sub>A</sub>	A-T-004	N	N	<0.01				6	_	
Cull of BTEX (mg/kg)A	A-1-022	IN	IN				Cumulative	-		
Eluate Analysis				2:1	8:1	2:1	10:1		for compliance leaching	•
	1	ļ.,			g/l		/kg		12457-3 at L/S 10 l/kg (	
Arsenic	A-T-025	Υ		0.014	0.015	0.029	0.150	0.5	2	25
Barium	A-T-025	Υ	N	0.015	0.006	0.031	0.070	20	100	300
Cadmium	A-T-025	Υ	N	<0.001	<0.001	<0.002	<0.01	0.04	1	5
Chromium	A-T-025	Υ	N	0.018	0.004	0.038	0.050	0.5	10	70
Copper	A-T-025	Υ	N	0.016 <0.0001	0.008	0.035	0.090	2 0.01	50 0.2	100
14							< 0.001			9
Mercury	A-T-025	Υ	N		<0.0001	<0.0002			-	
Molybdenum	A-T-025	Υ	N	0.044	0.007	0.093	0.100	0.5	10	30
Molybdenum Nickel	A-T-025 A-T-025	Y	N N	0.044 0.001	0.007 <0.001	0.093 0.003	0.100 <0.01	0.5 0.4	10	30 40
Molybdenum Nickel Lead	A-T-025 A-T-025 A-T-025	Υ Υ Υ	N N N	0.044 0.001 <0.001	0.007 <0.001 0.002	0.093 0.003 <0.002	0.100 <0.01 <0.01	0.5 0.4 0.5	10 10 10	30 40 50
Molybdenum Nickel Lead Antimony	A-T-025 A-T-025 A-T-025 A-T-025	Υ Υ Υ Υ	N N N	0.044 0.001 <0.001 0.006	0.007 <0.001 0.002 0.004	0.093 0.003 <0.002 0.012	0.100 <0.01 <0.01 0.040	0.5 0.4 0.5 0.06	10 10 10 0.7	30 40 50 5
Molybdenum Nickel Lead Antimony Selenium	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025	Υ Υ Υ Υ	N N N N	0.044 0.001 <0.001 0.006 0.004	0.007 <0.001 0.002 0.004 0.002	0.093 0.003 <0.002 0.012 0.008	0.100 <0.01 <0.01 0.040 0.020	0.5 0.4 0.5 0.06 0.1	10 10 10 0.7 0.5	30 40 50 5 7
Molybdenum Nickel Lead Antimony Selenium Zinc	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-025	Y Y Y Y Y	N N N N	0.044 0.001 <0.001 0.006 0.004	0.007 <0.001 0.002 0.004 0.002 0.002	0.093 0.003 <0.002 0.012 0.008 0.010	0.100 <0.01 <0.01 0.040 0.020 0.020	0.5 0.4 0.5 0.06 0.1 4	10 10 10 0.7 0.5 50	30 40 50 5 7 200
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026	Y Y Y Y Y	N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62	0.007 <0.001 0.002 0.004 0.002 0.002 7	0.093 0.003 <0.002 0.012 0.008 0.010	0.100 <0.01 <0.01 0.040 0.020 0.020 117	0.5 0.4 0.5 0.06 0.1 4 800	10 10 10 0.7 0.5 50 15000	30 40 50 5 7 200 25000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026	Y Y Y Y Y Y	N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1	0.5 0.4 0.5 0.06 0.1 4 800	10 10 10 0.7 0.5 50 15000	30 40 50 5 7 200 25000 500
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub>	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026	Y Y Y Y Y Y	N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221	0.5 0.4 0.5 0.06 0.1 4 800 10	10 10 10 0.7 0.5 50 15000 150 20000	30 40 50 5 7 200 25000 500 5000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-035	Y Y Y Y Y Y N	N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000	30 40 50 5 7 200 25000 500
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-035 A-T-050	Y Y Y Y Y Y Y N N	N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-035	Y Y Y Y Y Y N	N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000	30 40 50 5 7 200 25000 500 5000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon Leach Test Information	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026 A-T-035 A-T-032	Y Y Y Y Y Y Y N N	N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01 <20.0	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01 <20.0	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon Leach Test Information pH (pH Units)	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026 A-T-035 A-T-030 A-T-031	Y Y Y Y Y Y Y N N N N	N N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01 <20.0	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01 <20.0	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon Leach Test Information pH (pH Units)	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026 A-T-035 A-T-032	Y Y Y Y Y Y Y N N	N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01 <20.0	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01 <20.0	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon Leach Test Information pH (pH Units) Conductivity (µS/cm) Mass Sample (kg)	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026 A-T-035 A-T-030 A-T-031 A-T-037	Y Y Y Y Y Y N N N N	N N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01 <20.0 9.5 1387	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01 <20.0	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon Leach Test Information pH (pH Units) Conductivity (µS/cm)  Mass Sample (kg) Dry Matter (%)	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026 A-T-035 A-T-030 A-T-031	Y Y Y Y Y Y Y N N N N	N N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01 <20.0	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01 <20.0	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon Leach Test Information pH (pH Units) Conductivity (µS/cm)  Mass Sample (kg) Dry Matter (%) Stage 1	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026 A-T-035 A-T-030 A-T-031 A-T-037	Y Y Y Y Y Y N N N N	N N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01 <20.0 9.5 1387 0.200 87.9	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01 <20.0	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon Leach Test Information pH (pH Units) Conductivity (µS/cm)  Mass Sample (kg) Dry Matter (%) Stage 1 Volume Leachant, L <sub>2</sub> (I)	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026 A-T-035 A-T-037 A-T-037 A-T-037 A-T-037	Y Y Y Y Y Y N N N N	N N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01 <20.0 9.5 1387	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01 <20.0	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon Leach Test Information pH (pH Units) Conductivity (μS/cm) Mass Sample (kg) Dry Matter (%) Stage 1 Volume Leachant, L <sub>2</sub> (I) Filtered Eluate Volume, VE <sub>1</sub> (I)	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026 A-T-035 A-T-030 A-T-031 A-T-037	Y Y Y Y Y Y N N N N	N N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01 <20.0 9.5 1387 0.200 87.9	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01 <20.0	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000
Molybdenum Nickel Lead Antimony Selenium Zinc Chloride Fluoride Sulphate as SO <sub>4</sub> Total Dissolved Solids Phenol Index Dissolved Organic Carbon Leach Test Information pH (pH Units) Conductivity (µS/cm)  Mass Sample (kg) Dry Matter (%) Stage 1 Volume Leachant, L <sub>2</sub> (I)	A-T-025 A-T-025 A-T-025 A-T-025 A-T-025 A-T-026 A-T-026 A-T-026 A-T-026 A-T-035 A-T-037 A-T-037 A-T-037 A-T-037	Y Y Y Y Y Y N N N N	N N N N N N N N	0.044 0.001 <0.001 0.006 0.004 0.004 62 <0.10 519 694 <0.01 <20.0 9.5 1387 0.200 87.9	0.007 <0.001 0.002 0.004 0.002 0.002 7 0.2 84 165 <0.01 <20.0	0.093 0.003 <0.002 0.012 0.008 0.010 132 <0.2 1107 1480 <0.02	0.100 <0.01 <0.01 0.040 0.020 0.020 117 <1 1221 2124 <0.1	0.5 0.4 0.5 0.06 0.1 4 800 10 1000 4000	10 10 10 0.7 0.5 50 15000 150 20000 60000	30 40 50 5 7 200 25000 500 5000 100000



	Sample Details											
Lab Sample ID	Method	ISO17025	MCERTS	15/03836/6	<b>i</b>			Landfill Wa	aste Acceptance Cri	teria Limits		
Client Sample Number				2								
Client Sample ID				BH02								
Depth to Top				1					Stable Non-reactive			
Depth to Bottom								Inert Waste Landfill	Hazardous Waste in Non-Hazardous	Hazardous Waste Landfill		
Date Sampled				02/06/2015	5				Landfill	Landini		
Sample Type				Soil - ES								
Sample Matrix Code				6A								
Solid Waste Analysis	s											
pH (pH Units) <sub>D</sub>	A-T-031	Υ	Υ	8.16				-	>6	-		
ANC to pH 4 (mol/kg) <sub>D</sub>	A-T-ANC	N	Ν	0.61				-	to be evaluated	to be evaluated		
ANC to pH 6 (mol/kg) <sub>D</sub>	A-T-ANC	N	N	0.13				-	to be evaluated	to be evaluated		
Loss on Ignition (%) <sub>D</sub>	A-T-030	Υ	N	20.6				-	-	10		
Total Organic Carbon (%) <sub>D</sub>	A-T-032	Y	Υ	17.1				3	5	6		
PAH Sum of 17 (mg/kg) A	A-T-019		N	1.61				100	-	-		
Mineral Oil (mg/kg) <sub>A</sub>	A-T-007	N	N	<10				500	_	-		
Sum of 7 PCBs (mg/kg) <sub>D</sub>	A-T-007	_	N	<0.007				1	_	_		
Sum of BTEX (mg/kg) <sub>A</sub>		_	_					6	-	-		
Sum of BTEX (mg/kg)A	A-T-022	N	N	<0.01			Cumulative	6	-	-		
Eluate Analysis				2:1	8:1	2:1	10:1	Limit values	for compliance leaching	ching test using		
Lidato raidiyolo				m	g/l	mg	/kg	BS EN	12457-3 at L/S 10 I/kg (	mg/kg)		
Arsenic	A-T-025	Υ	Ν	0.016	0.023	0.041	0.230	0.5	2	25		
Barium	A-T-025	Υ	Ν	0.032	0.017	0.082	0.200	20	100	300		
Cadmium	A-T-025	Υ	Ν	< 0.001	< 0.001	<0.002	<0.01	0.04	1	5		
Chromium	A-T-025	Υ	N	0.003	0.001	0.007	0.010	0.5	10	70		
Copper	A-T-025	Υ	N	0.005	0.009	0.014	0.090	2	50	100		
Mercury	A-T-025	Υ	N	< 0.0001	<0.0001	<0.0002	<0.001	0.01	0.2	2		
Molybdenum	A-T-025	Υ	N	0.068	0.016	0.174	0.220	0.5	10	30		
Nickel	A-T-025	Υ	N	< 0.001	< 0.001	<0.002	<0.01	0.4	10	40		
Lead	A-T-025	Υ	Ν	< 0.001	0.013	<0.002	<0.01	0.5	10	50		
Antimony	A-T-025	Υ	N	0.004	0.003	0.011	0.030	0.06	0.7	5		
Selenium	A-T-025	Υ	Ν	0.007	0.002	0.019	0.020	0.1	0.5	7		
Zinc	A-T-025	Υ	N	0.003	0.005	0.009	0.050	4	50	200		
Chloride	A-T-026	Υ	N	15	2	38	32	800	15000	25000		
Fluoride	A-T-026	Υ	N	0.4	0.5	1.0	5.0	10	150	500		
Sulphate as SO <sub>4</sub>	A-T-026	Υ	N	216	38	556	576	1000	20000	50000		
Total Dissolved Solids	A-T-035	N	N	348	89	897	1194	4000	60000	100000		
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	<0.1	1	-	-		
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	<200	500	800	1000		
Leach Test Information	•					•		•				
pH (pH Units)	A-T-031	N	Υ	7.7	8.1							
Conductivity (µS/cm)	A-T-037		N	695	179							
Mass Sample (kg)				0.199								
Dry Matter (%)	A-T-044	N	N	77								
Stage 1												
Volume Leachant, L <sub>2</sub> (I)	A-T-046	L	L	<1								
Filtered Eluate Volume, VE <sub>1</sub> (I)	A-T-046			<1								
Stage 2												
Volume Leachant, L <sub>8</sub> (I)	A-T-046			1.000								

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

# APPENDIX F CHEMICAL SCREENING CRITERIA



# GENERIC SCREENING CRITERIA

### **FOR**

## GENERIC QUANTITATIVE RISK ASSESSMENT

**GeoCon Screening Values For a Residential End Use With Consumption of Home Grown Vegetables at 1% SOM** 

August 2013

Compound	SSV's Resider Consumption Grown Veg	of Home	WSV's Res	idential	DV	WS	EQS	
	mg/kg	Ref	mg/l	Ref	μg/l	Ref	μg/l	Ref
Metals								
Antimnoy	113	E	-	-	-	-	-	-
Arsenic	32	E	-	-	10	F	50	G
Barium	43.4	E	-	-	-	-	-	-
Beryllium	60.3	E	-	-	-	-	-	-
Boron	291	В	-	-	-	-	-	-
Cadmium (pH 6, 7, 8)	10	Е	-	-	5	F	5	G
Chromium III	627	В	-	-	-	-	-	-
Chromium VI	4.3	В	-	-	50	F	5	G
Copper	3970	Е	-	-	2000	F	1	G
Lead	276	Е	-	-	25	F	4	G
Mercury (elemental)	0.0607	Е	0.00463	E	-	-	-	-
Mercury (Inorganic)	170	Е	-	-	-	-	-	-
Mercury (methyl)	6.28	Е	45.5	E	1	F	1	G
Molybdenum	74.6	Е	-	-	-	-	-	-
Nickel	130	Е	-	-	20	F	50	G
Selenium	350	E	-	_	10	F	-	-
Vanadium	113	Е	-	-	-	-	-	-
Zinc	16900	E	-	_	5000	F	75	G
Non-Metals			<u></u>			<u> </u>		
Free-Cyanide (Total)	34	Е	-	_	50	F	_	_
Phenol and Chlorophenols	-		<u> </u>	<u>I</u>		<u>l</u>	<u> </u>	<u> </u>
Phenol	162	Е	1690	Е	0.5	F	-	-
Chlorophenols	0.87	В	-	_	-	-	-	-
Pentachlorophenol	0.55	В	-	_	_	-	-	-
Poly Aromatic Hydrocarbons (PAH) (1.0% SOM)								
Acenapthene	588	Е	-	-	_	-	-	-
Acenapthylene	170	В	-	-	-	-	-	-
Anthracene	8270	Е	-	-	-	-	-	-
Benzo(a)anthracene	4.52	Е	-	-	-	-	-	-
Benzo(a)pyrene	0.818	Е	-	-	-	-	-	-
Benzo(b)fluoranthene	7.72	E	-	-	-	-	-	-
Benzo(ghi)perylene	96.2	E	-	-	0.01	F	-	-
Benzo(k)fluoranthene	84.4	E	-	-	-	-	-	-
Chrysene	585	E	-	-	-	_	-	-
Dibenzo(ah)anthracene	0.838	E	-	_	_	_	-	-
Fluoranthene	822	E	-	-	_	-	0.02	G
Fluorene	615	E	_	_	_	_	-	-
Indeno(123-cd)pyrene	7.31	E	_	_	_	_	_	-
Napthalene	0.585	E	0.952	E	_	_	_	_
Phenanthrene	92	В	-	-	_	_	_	_
Pyrene	563	E	-	_	_	_	_	_



# GENERIC SCREENING CRITERIA

## **FOR**

## GENERIC QUANTITATIVE RISK ASSESSMENT

Compound	SSV's Resident Consumption of Grown Veget	of Home	WSV's Res	idential	D\	WS	EQS	
	mg/kg	Ref	mg/l	Ref	μg/l	Ref	μg/l	Ref
Total PAH	-		-	-	0.2	F	-	-
Petroleum Hydrocarbons (TPH CWG)								
MTBE	20	E	-	-	-	-	-	-
Bezene	0.0493	E	0.0888	Е	-	-	-	-
Toluene	86.9	E	96.4	Е	-	-	-	-
Ethylbenzene	38.2	E	13.4	Е	-	-	-	-
o-Xylene	18.9	E	5	Е	-	-	-	-
m-Xylene	17.9	E	4.1	Е	-	-	-	-
p-Xylene	17.2	Е	4.29	Е	-	-	-	-
TPH Aliphatic EC5-6	30.1	E	1.93	Е	-	-	-	-
TPH Aliphatic EC6-8	69.8	Е	1.4	Е	-	-	_	-
TPH Aliphatic EC8-10	9.79	E	0.0296	Е	-	-	_	-
TPH Aliphatic EC10-12	1390	E	0.0228	Е	-	-	_	-
TPH Aliphatic EC12-16	5100	Е	0.00547	Е	-	=	-	-
TPH Aliphatic EC16-35	145000	E	-	-	-	-	-	-
TPH Aliphatic EC35-44	45000	В	-	-	_	-	-	-
TPH Aromatic EC5-7	0.0493	E	0.888	E	_	_	_	_
TPH Aromatic EC7-8	86.9	E	96.4	E	_	_	_	_
TPH Aromatic EC8-10	14.8	E	0.985	E	_	_	_	-
TPH Aromatic EC10-12	57.3	E	3.87	E	_	_	_	_
TPH Aromatic EC12-16	142	E	10.5	E	_	_	_	-
TPH Aromatic EC16-21	272	E	-	_		_	_	_
TPH Aromatic EC21-35	888	E	_	_	_	_	_	_
VOC and SVOC	888							
1,1,1-Trichloroethane	2.23	Е	13.1	Е	-	-	-	-
1,1,1,2-Tetrachloroethane	0.353	E	1.05	Е	_	_	_	_
1,1,2,2-Tetrachloroethane	0.695	E	6.89	E	_	_	_	_
1,2-Dichloroethane	0.00190	E	0.0373	E	_	_	_	_
1,1,2 Trichloroethane	0.258	E	2.23	E	_	_	_	_
1,1-Dichloroethane	0.827	E	11.4	E	_	_	_	_
1,1-Dichloroethene	0.0857	E	0.683	E	_	_	_	_
1,2,4-Trimethylbenzene	0.906	E	0.11	E	_	_	_	_
1,2-Dichloropropane	0.00784	E	0.0969	E	_	_	_	_
2-Chloronaphthalene	1.42	E	0.695	E	_	_	_	_
2-Methylphenol	78.1	E	11000	E	-	-	_	-
2,4-Dichloro-o-cresol	31.1	E	1960	E				_
2,4-Dictiloro-o-cresol 2,4-Dimethylphenol	17.2	E	291	E				_
2,4-Dinitrotoluene	1.41	E	3250	E	-			
2,4,6-Trinitrotoluene	1.41	В	3230	-	-	_		-
2,6-Dinitrotoluene	0.751	E	921	E	-			_
2,6-bis(1,1-dimethyl)-4-(1-methylpropyl)-					_	_		_
phenol	21.7	E	13.2	E	-	=	-	-
3-Methylphenol	77.4	E	17900	-	-	-	_	-
4-Methylphenol	76.8	E	12000	-	_	-	_	-
Biphenyl	82.8	E	64.4	-	_	-	_	-
Bis (2-ethylhexyl) phthalate	282	E	-	-	-	-	_	-



# GENERIC SCREENING CRITERIA

## **FOR**

## GENERIC QUANTITATIVE RISK ASSESSMENT

Compound	SSV's Residen Consumption	of Home	WSV's Res	idential	D\	NS	EQS	
	Grown Vege	tables						
	mg/kg	Ref	mg/l	Ref	μg/l	Ref	μg/l	Ref
Bromobenzene	0.319	E	0.941	E	-	-	-	-
Bromodichloromethane	0.00598	E	0.0725	E	-	-	-	-
Bromoform	1.4	E	15.9	E	-	-	-	-
Butyl benzyl phthalate	1410	E	-	-	-	-	-	-
Carbon disulphide	0.0739	E	-	-	-	-	-	-
Carbon tetrachloride	0.00656	E	0.0229	E	-	-	-	-
Chlorobenzene	3.49	E	13.7	-	-	-	-	-
Chloroethane	3.05	E	41.5	E	-	-	-	-
Chloroform / Trichloromethane	0.307	Е	3.88	Е	-	-	-	-
Chloromethane	0.00301	Е	0.0531	E	-	-	-	-
Cis 1,2 Dichloroethene	0.0393	Е	0.548	E	-	-	-	-
DDD	26.3	Е	7.18	Е	-	-	-	-
Dibromochloromethane	0.0623	Е	0.394	Е	-	-	-	-
Dichloromethane	0.382	Е	13.6	E	-	-	-	-
Diethyl Phthalate	108	Е	-	-	-	-	-	-
Di-n-butyl phthalate	12.9	Е	-	-	-	-	-	-
Di-n-octyl phthalate	2250	Е	-	-	-		-	-
Dinoseb	0.0477	Е	0.11	E	-	-	-	-
Formaldehyde	1.89	Е	21.6	E	-	-	-	-
Hexachlorobutadiene	0.21	В	-	-	-	-	-	-
Hexachloroethane	0.0735	Е	0.0388	E	-	-	-	-
НМХ	5.7	В	-	-	-	-	-	-
Isopropylbenzene	34.4	Е	3.89	E	-	-	-	-
Methyl tert-butyl ether	20	Е	352	E	-	-	-	-
Nicotine	0.0916	Е	573	Е	-	-	-	-
Prochloraz	8.49	Е	-	-	-	-	-	-
Propylbenzene	85.6	Е	12.3	E	-	-	-	-
RDX	3.5	В	-	-	-	-	-	-
Styrene	9.42	Е	38.6	E	-	-	-	-
Tetrachloroethene	0.455	Е	1.66	Е	-	-	-	-
Total Cresols (2-, 3- and 4-methylphenol)	80	D	-	-	-	-	-	-
Trans 1,2 Dichloroethene	0.0671	Е	0.676	Е	-	-	-	-
Tributyl tin oxide	0.248	Е	0.423	Е	-	-	-	-
Trichloroethene	0.0382	Е	0.222	Е	-	-	-	-
Trichloromethane	0.018	В	-	-	-	-	-	-
Trichloromethylbenzene	0.000157	Е	-	-	-	-	-	-
Vinyl chloride	0.000202	Е	0.00248	Е	-	-	-	-
Pesticides								
Aldrin	1.7	В	-	-	-	-	-	-
Dieldrin	0.69	В	-	-	-	-	-	-
Atrazine	0.24	В	-	-	-	-	-	-
Dichlorvos	0.29	В	-	-	-	-	-	-
Alpha-Endosulfans	2.9	В	-	-	-	-	-	-
Beta-Endosulfans	2.8	В	-	-	-	-	-	-
Alpha-Hexachlorocyclohexane	19	В	-	-	-	-	-	-
Beta-Hexachlorocyclohexane	1.7	В	-	-	-	-	-	-



# GENERIC SCREENING CRITERIA

## **FOR**

## GENERIC QUANTITATIVE RISK ASSESSMENT

Compound	SSV's Residen Consumption Grown Vego	of Home	WSV's Res	idential	D\	WS	E	QS
	mg/kg	Ref	mg/l	Ref	μg/l	Ref	μg/l	Ref
Polychlorinated Biphenols (PCB)							_	
Sum of PCDDs, PCDFs and dioxin-like PCBs	8	Α	-	-	-	-	-	-
Chlorobenzenes								
Chlorobenzene	0.33	В	-	-	-	-	-	-
1,2-Dichlorobenzene	16	В	-	-	-	-	-	-
1,3-Dichlorobenzene	0.29	В	-	-	-	-	-	-
1,4-Dichlorobenzene	30	В	-	-	-	-	-	-
Hexachlorobenzene	0.59	В	-	-	-	-	-	-
Pentachlorobenzene	5.2	В	-	-	-	-	-	-
1,2,3-Trichlorobenzene	1.0	В	-	-	-	-	-	-
1,2,4-Trichlorobenzene	1.8	В						
1,3,5-Trichlorobenzene	0.23	В						
1,2,3,4-Tetrachlorobenzene	12	В						
1,2,3,5-Tetrachlorobenzene	0.49	В	-	-	-	-	-	-
1,2,4,5-Tetrachlorobenzene	0.3	В	-	-	-	-	-	-



# GENERIC SCREENING CRITERIA

FOR

GENERIC QUANTITATIVE RISK ASSESSMENT

## **Screening Criteria Reference Guide:**

Soil GA	C Source Reference
Α	UK (CLEA) Soil Guideline Value 2009
В	LQM GAC Values July 2009
С	UK (CLEA) Soil Guideline Value 2002
D	CL:AIRE GAC Values December 2009
E	AtRisk Soil Screening Values and Water Screening Values Produces by Atkins 2011
F	UK Drinking Water Standards (DWS)
G	Environment Agency, Environmental Quality Standards (EQS)
<b>Abbrev</b>	iations Control of the Control of th
SOM	Soil Organic Matter
N/P	No pathway - no risk is posed by this substance under the specific land-use scenario
MTBE	Methyl Tertiary Butyl Ether - a petroleum fuel additive which is a common groundwater contaminant