



Tel: 07717155102
W. lindenhouseenv@outlook.com
Linden, Potter St, Spondon
DE21 7LH
LN.136.26.PH2.Let.26.26

46 Barton Road, Market Bosworth – Soil Cap Assessment

Linden House Environmental attended the above site on the 9th June 2026 to complete an assessment of the soil cap laid across the back garden at the above property.

As per the scope of works, 3No hand dug trial pits were excavated across the back garden as illustrated on the enclosed figures. Each trial hole was dug through the soil cap to a depth of 0.6mbgl and samples from each trial hole were taken and scheduled for chemical analysis for a screening suite of typical brownfield contaminants (Metals, PAH's, TPH, Asbestos screen).

Fieldwork

Ground conditions are summarised below:

TP1 – Brown clayey soil with many rootlets.

TP2 – Brown Sandy gravelly soil.

TP3 – Dark brown clayey soil.

The site location and trial pit locations are illustrated on the enclosed figures.

Laboratory Scheduling

The following samples were scheduled for chemical and physical analysis at accredited laboratories.

- 3No screening suites & TPHCWG.

Contamination Assessment

A review of the enclosed chemical analysis data against the enclosed *Generic Assessment Criteria (Residential with Produce model)* Confirms that the topsoil cap across the garden does not pose a risk to human health and is of sufficient thickness to protect end users from the underlying contaminated made ground.

Conclusion

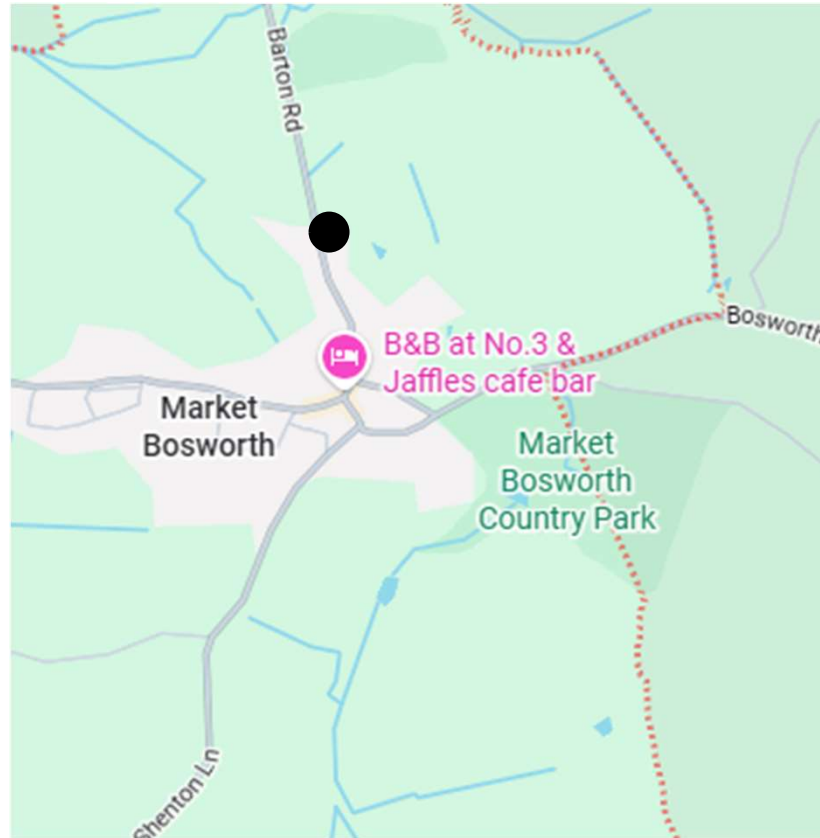
The topsoil cap is fit for purpose and provides a suitable barrier to protect the residents of the property.

I hope that the above and enclosed meets with your approval, if you have any queries, please let me know.

Yours Faithfully

R P Sutton MRICS

Encl.



KEY:

● Approximate Site Location

DO NOT SCALE



Linden
Environmental Ltd

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Linden, Potter Street, Spondon,
Derby DE21 7LH

TITLE:

Site Location Plan

PROJECT:

46 Barton Rd, Mkt Bosworth

PROJECT No:

LN.136.25

DATE:

06.2026

SCALE:

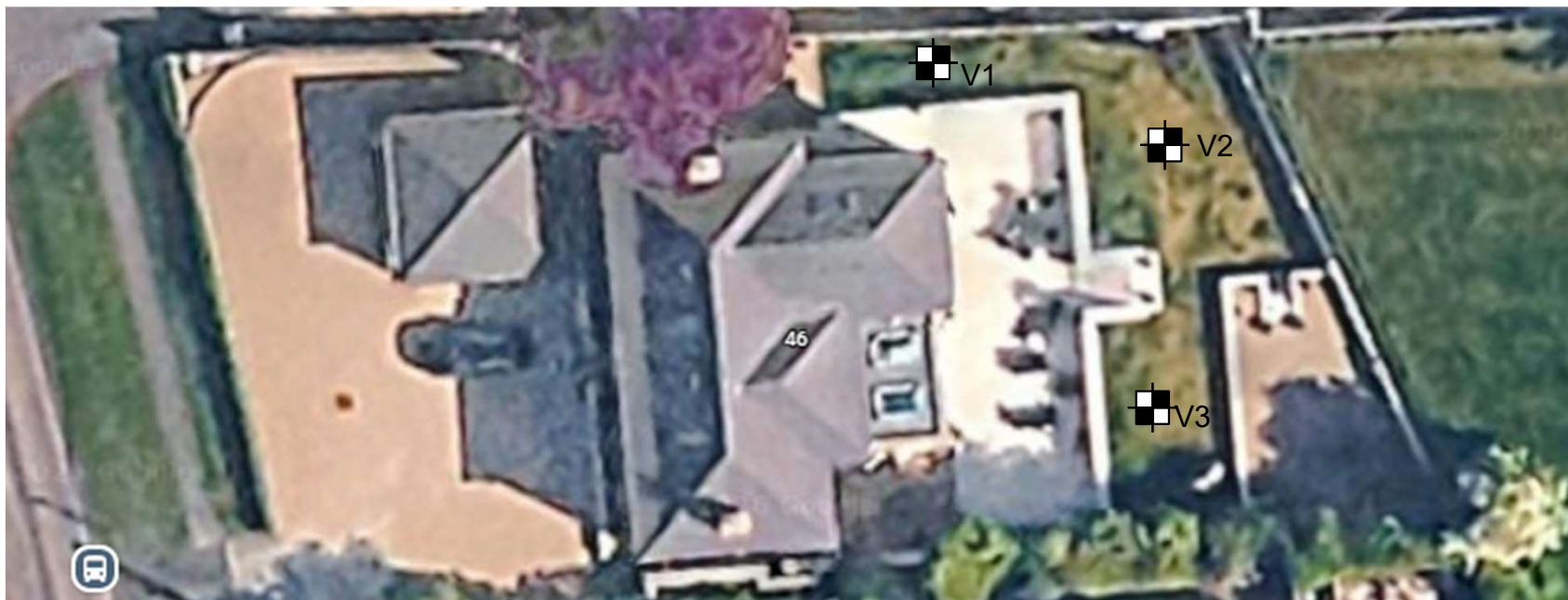
NTS

DRAWN:

RPS

DWG No:

Figure 1



KEY:



Validation Pit

DO NOT SCALE



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Linden, Potter Street, Spondon,
Derby DE21 7LH

TITLE:

Sample Locations

PROJECT:

46 Barton Rd, Mkt Bosworth

PROJECT No:

LN.136.25

DATE:

06.2026

SCALE:

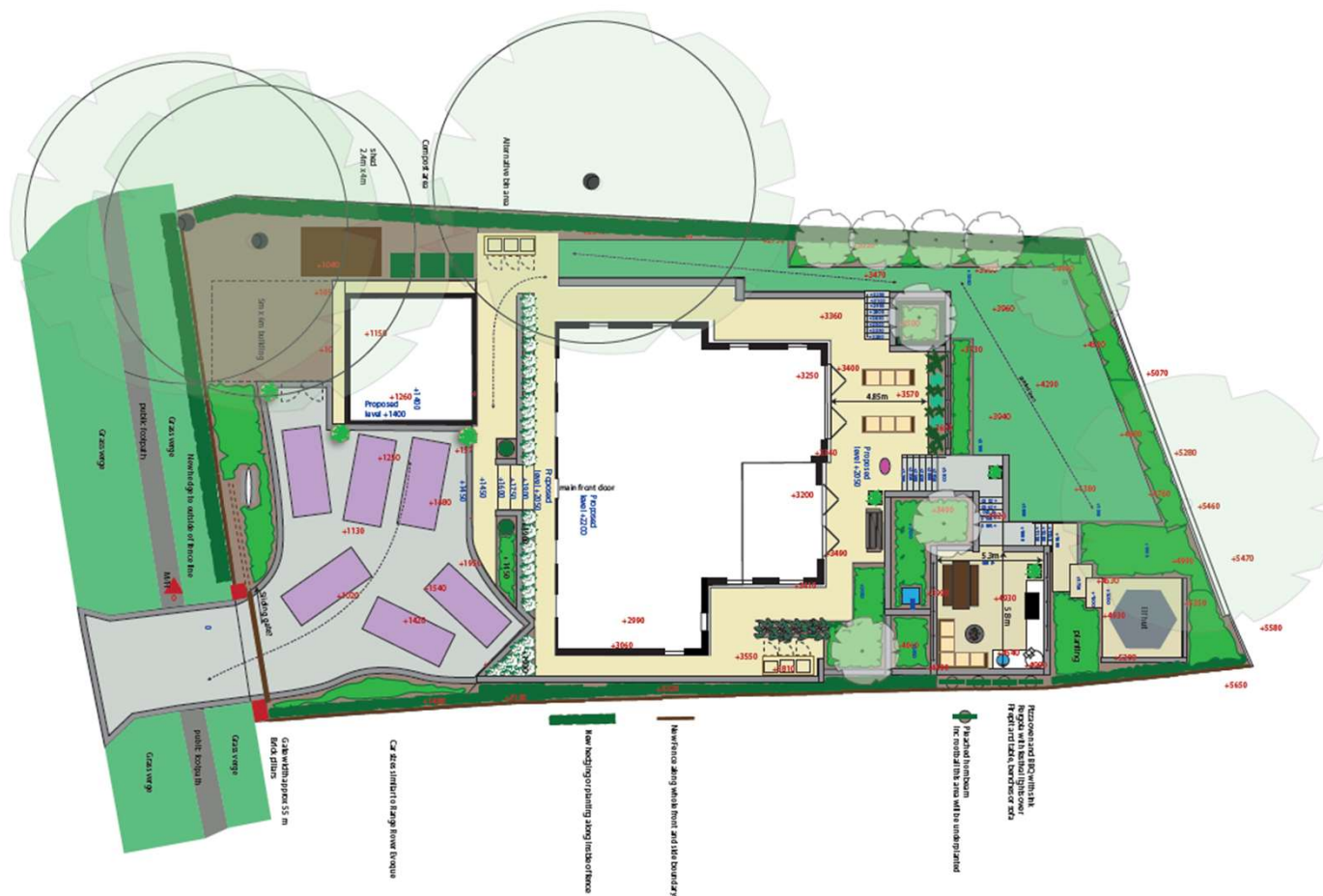
NTS

DRAWN:

RPS

DWG No:

Figure 2



KEY:

DO NOT SCALE



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Derby DE21 7LH

TITLE:

Development Proposal

PROJECT:

46 Barton Rd, Mkt Bosworth

PROJECT No:

LN.136.25

DATE:

06.2026

SCALE:

NTS

DRAWN:

RPS

DWG No:

Figure 4

Certificate of Analysis

Client: Linden Environmental Ltd

Project: 26062201

Quote: BEC260646829 V1.1

Project Ref: L.N.136.26.46 Barton rd, Mkt B

Site: 46 Barton rd, Mkt Bosworth

Contact: Richard Sutton

Address: 143 Tamworth Road
Long Eaton
Nottingham
NG10 1BY

E-Mail: lindenhouseenv@outlook.com

Phone: 07717155102

No. Samples Received: 3

Date Received: 13/06/2026

Analysis Completed: 25/06/2026

Date Issued: 25/06/2026

Report Type: Version 01

This report supersedes any versions previously issued by the laboratory



Reported by Customer Service Co-Ordinator
Julie Dickinson
01283 204 384
Julie.Dickinson@socotec.co.uk



Project Number: 26062201

Client: Linden Environmental Ltd

Date Issued: 25/06/2026

Project Name: L.N.136.26.46 Barton rd, Mkt B - 46 Barton rd, Mkt Bosworth

Samples Analysed

<u>Text ID</u>	<u>Sample Reference</u>	<u>Sampling Date</u>	<u>Sample Type</u>	<u>Sample Description</u>
26062201-001	V1	09/06/2026 00:00:00	SOLID	Silt Sample
26062201-002	V2	09/06/2026 00:00:00	SOLID	Silt Sample
26062201-003	V3	09/06/2026 00:00:00	SOLID	Silt Sample

Analysis Results

SOCOTEC Sample ID:				26062201-001	26062201-002	26062201-003
Sampling Date:				09/06/2026 00:00	09/06/2026 00:00	09/06/2026 00:00
Customer ID:				V1	V2	V3
Method Code	Analysis	MDL	Accred.			
CLANDPREP	Total Moisture at 35°C	0.1 %	N	15.6	10.8	11.9
	Major Constituents	-	N	SILT	SILT	SILT
	Minor Constituents	-	N	Gravel	Gravel	Gravel
	Miscellaneous Constituents	-	N	Miscellaneous	Miscellaneous	Miscellaneous
	Colour of Material	-	N	Brown	Brown	Brown
SUB020	Asbestos Identification	-	N	NAIIS	NAIIS	NAIIS
WSLM59	Soil Organic Matter	0.04 % m/m	U ^A	4.83	5.02	5.45
SFAPI	Total Cyanide	0.5 mg/kg	M ^A	0.6	<0.6	<0.6
ICPACIDS	Acid Soluble Sulphate as SO ₄	20 mg/kg	M ^A	791	629	735
ICPMSS	Arsenic as As	0.3 mg/kg	M ^A	11.5	12.7	13.2
ICPMSS	Cadmium as Cd	0.2 mg/kg	M ^A	1.6	0.5	0.5
ICPMSS	Total Chromium as Cr	1.2 mg/kg	M ^A	64.1	29.6	27.7
KONENS	Chromium (VI) as Cr	0.1 mg/kg	N ^A	<0.1	<0.1	<0.1
ICPMSS	Copper as Cu	1.6 mg/kg	M ^A	38.9	64.7	51.2
ICPMSS	Lead as Pb	0.7 mg/kg	M ^A	69.4	96.1	91.9
ICPMSS	Mercury as Hg	0.5 mg/kg	M ^A	<0.5	<0.5	<0.5
ICPMSS	Nickel as Ni	2 mg/kg	M ^A	24.1	25.8	26.1
ICPMSS	Selenium as Se	0.5 mg/kg	M ^A	3.1	2.9	3.0
ICPMSS	Vanadium as V	0.6 mg/kg	N ^A	35.7	39.9	40.3
ICPMSS	Zinc as Zn	16 mg/kg	M ^A	205.8	169.7	156.5
BTXHSA	Benzene (HS_1D_AR)	10 µg/kg	M ^A	<12	<11	<11
	Toluene (HS_1D_AR)	5 µg/kg	M ^A	<6	<6	<6
	Ethylbenzene (HS_1D_AR)	5 µg/kg	M ^A	<6	<6	<6
	m/p-Xylene (HS_1D_AR)	10 µg/kg	M ^A	<12	<11	<11
	o-Xylene (HS_1D_AR)	5 µg/kg	M ^A	<6	<6	<6
GROHSA/BTEXHSA	Total GRO C5-C10 (HS_1D_Total)	0.2 mg/kg	M ^A	<0.237	<0.224	<0.227
	C5-C6 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.237	<0.224	<0.227
	>C6-C8 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.237	<0.224	<0.227
	>C8-C10 Aliphatic (HS_1D_AL)	0.2 mg/kg	M ^A	<0.237	<0.224	<0.227
	C5-C7 Aromatic (HS_1D_AR)	0.01 mg/kg	M ^A	<0.012	<0.011	<0.011
	>C7-C8 Aromatic (HS_1D_AR)	0.005 mg/kg	M ^A	<0.006	<0.006	<0.006
	>C8-C10 Aromatic (HS_1D_AR)	0.02 mg/kg	M ^A	<0.024	<0.023	<0.023
TPHFIDUS (Aliphatic)	Total TPH >C8-C40 (Aliphatic) (EH_CU_1D_AL)	20 mg/kg	U ^A	<23.7	<22.4	<22.7
	>C10-C12 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.74	<4.48	<4.54
	>C12-C16 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.74	<4.48	<4.54
	>C16-C21 (Aliphatic) (EH_CU_1D_AL)	4 mg/kg	U ^A	<4.74	<4.48	<4.54
	>C21-C35 (Aliphatic) (EH_CU_1D_AL)	10 mg/kg	U ^A	<11.8	12.8	<11.4
	>C35-C44 (Aliphatic) (EH_CU_1D_AL)	6 mg/kg	N ^A	<7.11	<6.73	<6.81
	Total TPH >C8-C40 (Aromatic) (EH_CU_1D_AR)	20 mg/kg	U ^A	46.9	37.5	34.1
TPHFIDUS (Aromatic)	>C10-C12 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.74	<4.48	<4.54
	>C12-C16 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	<4.74	<4.48	<4.54
	>C16-C21 (Aromatic) (EH_CU_1D_AR)	4 mg/kg	U ^A	5.90	<4.48	<4.54
	>C21-C35 (Aromatic) (EH_CU_1D_AR)	10 mg/kg	U ^A	34.5	27.7	25.5
	>C35-C44 (Aromatic) (EH_CU_1D_AR)	6 mg/kg	N ^A	<7.11	<6.73	<6.81
	Acenaphthene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.09
	Acenaphthylene	0.08 mg/kg	U ^A	<0.09	<0.09	<0.09
PAHMSUS	Anthracene	0.08 mg/kg	U ^A	<0.09	<0.09	<0.09
	Benzo[a]anthracene	0.08 mg/kg	M ^A	0.49	0.34	0.30
	Benzo[a]pyrene	0.08 mg/kg	M ^A	0.40	0.42	0.36
	Benzo[b]fluoranthene	0.08 mg/kg	M ^A	0.58	0.53	0.45
	Benzo[g,h,i]perylene	0.08 mg/kg	M ^A	0.29	0.29	0.24
	Benzo[k]fluoranthene	0.08 mg/kg	M ^A	0.22	0.20	0.17
	Chrysene	0.08 mg/kg	M ^A	0.51	0.33	0.30
	Dibenzo[a,h]anthracene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.09
	Fluoranthene	0.08 mg/kg	M ^A	0.86	0.56	0.53
	Fluorene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.09
	Indeno[1,2,3-cd]pyrene	0.08 mg/kg	M ^A	0.32	0.30	0.26
	Naphthalene	0.08 mg/kg	M ^A	<0.09	<0.09	<0.09
	Phenanthrene	0.08 mg/kg	M ^A	0.27	0.16	0.22
	Pyrene	0.08 mg/kg	M ^A	0.74	0.50	0.47
	Total PAH 16	1.28 mg/kg	U ^A	5.25	4.17	3.84

CERTIFICATE OF ANALYSIS

ANALYSIS REQUESTED BY: SOCOTEC UK Ltd
Environmental Chemistry
PO Box 100
Burton upon Trent
Staffordshire
DE15 0XD

CONTRACT NO: S56229-8

DATE OF ISSUE: 24.06.26

DATE SAMPLES RECEIVED: 17.06.26

DATE ANALYSIS COMPLETED: 24.06.26

DESCRIPTION: Three soil/loose aggregate samples each weighing approximately 0.8-0.9kg.

ANALYSIS REQUESTED: Qualitative and quantitative analysis of soil/loose aggregate samples for mass determination of asbestos.

METHODS:

Qualitative – The samples were analysed qualitatively for asbestos by polarised light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative - The analysis was carried out using our documented in-house method based on HSE Contract Research Report No. 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies *et al*, 1996) and HSG 248. Our method includes initial examination of the entire sample, detailed analysis of a representative sub-sample and quantification by hand picking/weighing.

RESULTS:

Initial Screening

No asbestos was detected in any of the soil samples by stereo-binocular and polarised light microscopy.

A summary of the results is given in Table 1.



CONTRACT NO: S56229-8
DATE OF ISSUE: 24.06.26

RESULTS: (cont.)

Table 1: Qualitative Results

SOCOTEC Job I.D: 26062201

IOM sample number	SOCOTEC Sample ID	Client Sample ID	ACM type detected	PLM result
S56229-22	26062201-001	V1	-	No Asbestos Detected
S56229-23	26062201-002	V2	-	No Asbestos Detected
S56229-24	26062201-003	V3	-	No Asbestos Detected

Our detection limit for this method is 0.001%.

COMMENTS:

IOM Consulting cannot accept responsibility for samples that have been incorrectly collected or despatched by external clients.

Any opinions and interpretations expressed herein are out with the scope of our UKAS accreditation.

AUTHORISED BY:

D Third
Laboratory Analyst



Project Number: 26062201

Client: Linden Environmental Ltd

Date Issued: 25/06/2026

Project Name: L.N.136.26.46 Barton rd, Mkt B - 46 Barton rd, Mkt Bosworth

Deviating Sample Report

<u>Sample Reference</u>	<u>Text ID</u>	<u>Method Code</u>	Inadequate Transit Cooling	Incorrect Container	Incorrect Label	Headspace	Incorrect/No Preservative	No Sampling Date	Holding Time
V1	26062201-001	BTEXHSA							✓
V1	26062201-001	GROHSA/BTEXHSA							✓
V2	26062201-002	BTEXHSA							✓
V2	26062201-002	GROHSA/BTEXHSA							✓
V3	26062201-003	BTEXHSA							✓
V3	26062201-003	GROHSA/BTEXHSA							✓

Analysis Method

Method Code

BTEXHSA
CLANDPREP
CLANDPREP
GROHSA/BTEXHSA
ICPACIDS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
ICPMSS
KONENS
PAHMSUS
SFAPI
SUB020
TPHFIDUS (Aliphatic)
TPHFIDUS (Aromatic)
WSLM59

Method Description

BTEX by GCFID
CLand Prep and Dry Weight Correction to 35°C
Solid Material Description
GRO CWG UK (C5-C10) Ali/Aro Split
Sulphate as SO4 (Acid Soluble)
Arsenic in Solids by ICPMS
Cadmium in Solids by ICPMS
Chromium in Solids by ICPMS
Copper in Solids by ICPMS
Lead in Solids by ICPMS
Mercury in Solids by ICPMS
Nickel in Solids by ICPMS
Selenium in Solids by ICPMS
Vanadium in Solids by ICPMS
Zinc in Solids by ICPMS
Chromium VI (Hexavalent) by Colorimetry
16 PAHs by GCMS
Cyanide (Total) by SFA
Asbestos Stage 1 (with Stage 2 Trigger)
TPH (CWG UK) Aliphatic Split with Carbon Banding
TPH (CWG UK) Aromatic Split with Carbon Banding
SOM: Soil Organic Matter (%) (Calc)

Analysis Method

As Received
As Received
As Received
As Received
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
Air Dried & Ground
As Received
As Received
As Received
As Received
Air Dried & Ground



Project Number: 26062201

Client: Linden Environmental Ltd

Date Issued: 25/06/2026

Project Name: L.N.136.26.46 Barton rd, Mkt B - 46 Barton rd, Mkt Bosworth

Result Report Notes

Letters alongside results signify that the result has associated report notes.

The report notes are as follows:

Letter

Note

- | | |
|---|--|
| A | Due to the matrix of the sample the laboratory has had to deviate from our standard protocols to be able to process the sample and provide a result. Where applicable the accreditation has been removed and this should be taken into consideration when utilising the data. |
| B | The QC associated with this result has not wholly met the QMS requirements, the accreditation has therefore been removed. However, the Laboratory has confidence in the performance of the method as a whole and that the integrity of the data has not been significantly compromised. |
| C | Due to matrix interference, the internal standard and/or surrogate has not met the QMS requirements. This should be taken into consideration when utilising the data. |
| D | A non-standard volume or mass has been used for this test which has resulted in a raised detection limit. |
| E | Due to the parameter value being beyond our calibration range (and following the maximum size of dilution allowed, where applicable), the result cannot be quantified and as such the result will appear as a greater than symbol (>) with the accreditation removed. This data should be used for indicative purposes only. |
| F | Based on the sample history, appearance and smell a dilution was applied prior to testing. Unfortunately, the result is either above (>) or below (<) our calibration range. Results above our calibration range have accreditation removed. The data should be used for indicative purposes only. |
| G | The day 5 oxygen reading was below the capability of the instrument to detect, and therefore the calculated BOD has been reported unaccredited for guidance purposes only. |

HWOL Acronym Key

Acronym

Description

HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e everything extracted by the solvent(s)
CU	Clean up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
+	Operator to indicate cumulative e.g. EH_CU+HS_1D_Total



Project Number: 26062201

Client: Linden Environmental Ltd

Date Issued: 25/06/2026

Project Name: L.N.136.26.46 Barton rd, Mkt B - 46 Barton rd, Mkt Bosworth

Additional Information

This report refers to samples as received. SOCOTEC UK Ltd takes no responsibility for accuracy or competence of sampling by others.

Results within this report relate only to the samples tested.

The accreditation codes are as follows:

U = UKAS accredited analysis
M = MCERT accredited analysis
N = Unaccredited analysis

Any accreditation marked with ^ signify results are reported on a dry weight basis of 35 ° c.

All Air Dried and Ground Samples (ADG) are oven dried at less than 35° c.

This report shall not be reproduced except in full, without written approval of the laboratory.

Opinions and interpretations given are outside the scope of our UKAS accreditation.

Any results marked with * are not covered by our scope of UKAS accreditation. If applicable, further report notes have been added.

Any solid samples where the Major Constituents are not one of the following (Sand, Silt, Clay, Made Ground) are not one of our accredited matrix types.

Any samples marked with a tick in the deviant table is deviant for the specific reason.

Any samples reported as IS, NA, ND mean the following:

IS = Insufficient Sample to complete analysis
NA = Sample is not amenable for the required analysis
ND = Results cannot be determined

Items listed with a 'SUB' method code prefix have been carried out by another SOCOTEC department or by an external subcontracted laboratory. Further information is available upon request.

Our deviating sample report does not include deviancy information for Subcontracted analysis. Please see the report from the subcontracted lab for information regarding any deviancies for this analysis.

Summaries of analysis methods are available upon request.

End of Certificate of Analysis

Generic Assessment Criteria					
Land Use Scenario					
Contaminants	Residential With Produce	Residential Without Produce	POS (Resi)	Commercial	Source
	6% SOM	6% SOM	6%SOM	6%SOM	S4UL
Arsenic	37	40	79	635	
Cadmium	11	85	120	230	
Chromium VI	6	6	8	34	
Chromium III	910	910	1500	8840	
Copper	2400	7100	12000	71700	
Lead	200	310	630	2300	
Mercury, elemental	1	1	16	83	
Mercury, inorganic	40	56	120	3640	
Mercury, methyl	11	15	40	409	
Nickel	180	180	230	980	
Vanadium	410	1200	2000	9000	
Zinc	3700	40000	81000	665000	
Selenium	250	430	1100	13000	
Asbestos Fibre	>0.01%	>0.01%	>0.01%	>0.01%	

Note:

All figures are in mg/kg

LQM/CIEH/S4UL Adopted.

Soil type chosen is sandy loam, pH 7



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Publication No. S4UL3278

Contaminants	Residential With Produce						Residential Without Produce						Land Use Scenario						Source
	Residential With Produce			Residential Without Produce			POS (Resi)			Commercial									
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM							
Arsenic			37			40			79			635	S4UL						
Cadmium			11			85			120			190	S4UL						
Chromium VI			6			6			8			33	S4UL						
Chromium III			910			910			1500			8600	S4UL						
Copper			2400			7100			12000			68000	S4UL						
Mercury, elemental			1			1			16			58 ^(25.8)	S4UL						
Mercury, inorganic			40			56			120			3640	S4UL						
Mercury, methyl			11			15			40			407	S4UL						
Nickel			180			180			230			980	S4UL						
Vanadium			410			1200			2000			9000	S4UL						
Zinc			3700			4000		81000	73000			73000	S4UL						
Selenium			250			430		1100	1100			12000	S4UL						
Benzene*	0.087		0.37			1.4		72	73			90	S4UL						
Ethylbenzene*	47	0.17	260	0.38	0.7	440	24000	24000	25000	570 ⁽⁵¹⁸⁾	47	27, 000 ⁽²⁸⁴⁰⁾	S4UL						
Phenol	280		1100	750	1300	2300	760 ⁽¹¹⁰⁰⁰⁾	1500 ⁽¹⁵⁰⁰⁰⁾	3200 ⁽³⁷⁰⁰⁰⁾	760 ⁽³¹⁰⁰⁰⁾	1500 ⁽⁵⁵⁰⁰⁰⁾	3200 ⁽³⁷⁰⁰⁰⁾	S4UL						
*Toluene	130		290	660	1900	3900		56000	56000	56000 ⁽⁸⁶⁹⁾	110, 000 ⁽¹⁹²⁰⁾	180, 000 ⁽⁴³⁶⁰⁾	S4UL						
*Xylene, o	60		140	330	88	480	41000	42000	43000	6600 ⁽⁴⁷⁸⁾	15000 ⁽¹¹²⁰⁾	33000 ⁽¹³⁵⁰⁾	S4UL						
*Xylene, m	59		140	320	82	450	41000	42000	43000	6200 ⁽⁶²⁵⁾	14000 ⁽¹⁴⁷⁰⁾	31000 ⁽¹³⁵⁰⁾	S4UL						
*Xylene, p	56		130	310	79	430	41000	42000	43000	5900 ⁽⁵⁷⁶⁾	14000 ⁽¹³⁵⁰⁾	30000 ⁽¹³⁵⁰⁾	S4UL						
Benzo(a)pyrene*	2		3	3	3	3	5.7	5.7	5.7	35	35	36	S4UL						
Dibenzo(a,h)anthracene*	0		0.3	0.3	0.3	0	0.57	0.57	0.58	4	4	4	S4UL						
Acenaphthene*	210		510	1100	3000	6000	15000	1500	1500	84, 000	97000	100, 000	S4UL						
Acenaphthylene*	170		420	2900	4600	6000	15000	1500	1500	83, 000	97, 000	100000	S4UL						
Anthracene*	2400		5400	11000	31000	35000	74000	74000	74000	52, 000	54, 000	54, 000	S4UL						
Benzo(a)anthracene*	7.2		11	13	11	14	29	29	29	170, 000	170, 000	180, 000	S4UL						
Benzo(b)fluoranthene*	2.6		3.3	3.7	4	4	7.1	7.2	7.2	44	44	45	S4UL						
Benzo(g,h,i)perylene	320		340	350	360	360	640	640	640	3900	4000	4000	S4UL						
Benzo(k)fluoranthene*	77		93	100	110	110	190	190	190	1200	1200	1200	S4UL						
Chrysene*	15		22	27	30	32	57	57	57	350	350	350	S4UL						
Fluoranthene*	280		560	1500	1600	1600	3100	3100	3100	23000	23000	23000	S4UL						
Fluorene*	170		400	860	2800	4500	9900	9900	9900	63000 ^(30.9)	68, 000	71, 000	S4UL						
Indeno(1,2,3-c,d)pyrene*	27		36	41	45	46	82	82	82	500	510	510	S4UL						
Phenathrene*	95		220	440	1300	1500	3100	3100	3100	22, 000	22, 000	23, 000	S4UL						
Pyrene*	620		1200	2000	3700	3800	7400	7400	7400	54, 000	54, 000	54, 000	S4UL						
Napthalene*	2.3		5.6	13	2	13	4900	4900	4900	190 ^(76.4)	460 ⁽¹⁸³⁾	1110 ⁽⁸³²⁾	S4UL						
Aliphatic C5 - C6*	42		78	160	42	78	570 ⁽³⁰⁴⁾	590, 000	600, 000	3200 ⁽³⁰⁴⁾	5900 ⁽⁹⁵⁸⁾	12000 ⁽¹¹⁵⁰⁾	S4UL						
Aliphatic C6 - C8	100		230	530	100	530	600, 000	610, 000	620, 000	7800 ⁽¹⁴⁴⁾	17000 ⁽³²²⁾	40K ⁽⁷³⁶⁾	S4UL						
Aliphatic C8 - C10	27		65	150	27	150	13000	13000	13000	2000 ⁽⁷⁸⁾	4.8K ⁽¹⁹⁰⁾	11K ⁽⁴⁵¹⁾	S4UL						
Aliphatic C10 - C12	130 ⁽⁶⁸⁾		330 ⁽¹¹⁸⁾	760 ⁽²⁸³⁾	130 ⁽⁴⁸⁾	330 ⁽¹¹⁸⁾	13000	13000	13000	9700 ⁽⁴⁸⁾	23K ⁽¹¹⁸⁾	47000 ⁽²⁶³⁾	S4UL						
Aliphatic C12 - C16	1100 ⁽²⁴⁾		2400 ⁽⁵⁹⁾	4300 ⁽¹⁴²⁾	1100 ⁽²⁴⁾	4400 ⁽¹⁴²⁾	13000	13000	13000	59K ⁽⁸⁹⁾	90000 ⁽¹⁴²⁾	90000 ⁽¹⁴²⁾	S4UL						
Aliphatic C16 - C35	65000 ^(8,48)		92, 000 ⁽²¹⁾	110000	65000 ^(8,48)	92000 ⁽²¹⁾	250000	250, 000	250, 000	1600000	1700000	1800000	S4UL						
Aliphatic C35 - C44	65000 ^(8,48)		92, 000 ⁽²¹⁾	110000	65000 ^(8,48)	92000 ⁽²¹⁾	250, 000	250, 000	250, 000	1600000	1700000	1800000	S4UL						
Aromatic C5 - C7 (benzene)	70		140	300	370	1400	56, 000	56, 000	56, 000	26000 ⁽¹²²⁰⁾	46000 ⁽¹²²⁰⁾	86000 ⁽⁴³⁶⁰⁾	S4UL						
Aromatic C7 - C8 (toluene)	130		290	660	1800	3900	56, 000	56, 000	56, 000	56000 ⁽⁸⁶⁹⁾	110000 ⁽¹⁹²⁰⁾	180000 ⁽⁴³⁶⁰⁾	S4UL						
Aromatic C8 - C10	34		83	190	47	270	5000	5000	5000	35000 ⁽¹³⁾	8100 ⁽⁵⁰⁰⁾	17000 ⁽⁵⁸⁰⁾	S4UL						
Aromatic C10 - C12	74		180	380	250	1200	5000	5000	5000	16000 ⁽³⁶⁴⁾	280000 ⁽⁸⁹⁹⁾	34000 ⁽²¹⁵⁰⁾	S4UL						
Aromatic C12 - C16	140		330	660	1800	2500	5100	5100	5000	36, 000 ⁽¹⁶⁹⁾	37, 000	38, 000	S4UL						
Aromatic C16 - C21	260		540	930	1900	1900	3800	3800	3800	28, 000	28, 000	28, 000	S4UL						
Aromatic C21 - C35	1100		1500	1700	1900	1900	3800	3800	3800	28, 000	28, 000	28, 000	S4UL						
Aromatic C35 - C44	1100		1500	1700	1900	1900	3800	3800	3800	28, 000	28, 000	28, 000	S4UL						



Note:
All figures are in mg/kg
LQM/CI/CH/S4UL Adopted.
Soil type chosen is sandy loam, pH 7
All inorganic determinands calculated using 6% SOM
^(SC) Solubility Saturation Limit
^(VAP) Vapour Saturation Limit

Parameter	Concentration	Units
Acrylamide	0.1	µg/l
Aluminium	200	µgAl/l
Ammonium	0.5	mgNH ₄ /l
Antimony	5	µgSb/l
Arsenic	10	µgAs/l
Benzene	1	µg/l
Benzo(a)pyrene	0.01	µg/l
Boron	1	mgB/l
Bromate	10	µgBrO ₃ /l
Cadmium	5	µgCd/l
Chromium	50	µgCr/l
Chloride (i)	250	mgCl/l
Conductivity (i)	2500	µS/cm at 20°C
Copper(ii)	2	mgCu/l
Cyanide	50	µgCN/l
1, 2 dichloroethane	3	µg/l
Epichlorohydrin	0.1	µg/l
Fluoride	1.5	mgF/l
Hydrogen ion	6.5 - 9.5	pH value
Iron	200	µgFe/l
Lead (ii)	10	µgPb/l
Manganese	50	µgMn/l
Mercury	1	µgHg/l
Mineral Oil (TPH) (x)	10	µg/l
Nickel (ii)	20	µgNi/l
Nitrate (iii)	50	mgNO ₃ /l
Nitrite (iii)	0.5	mgNO ₂ /l
Phenol	0.5	µg/l
Polycyclic aromatic hydrocarbons (vii)	0.1	µg/l
Selenium	10	µgSe/l
Sodium	200	mgNa/l
Sulphate (i)	250	mgSO ₄ /l
Tetrachloroethene and Trichloroethene (viii)	10	µg/l
Tetrachloromethane	3	µg/l
Trihalomethanes: Total (ix)	100	µg/l
Vinyl chloride	0.5	µg/l
Zinc	5000	µg/l

Pesticides (iv, v)		
Aldrin	0.03	µg/l
Dieldrin	0.03	µg/l
Heptachlor	0.03	µg/l
Heptachlor epoxide	0.03	µg/l
other pesticides	0.1	µg/l
Pesticides: Total (vi)	0.5	µg/l

Notes:

- i) The parametric value refers to the residual monomer concentration in the water as calculated according to specifications of the maximum release from the corresponding polymer in contact with the water. This is controlled by product specification.
- ii) New level for Lead has been in force since 25/12/2013. See also regulation 6(6)
- iii) See also regulation 4(2)(d)
- iv) See the definition of "pesticides and related products" in regulation 2
- v) The parametric value applies to each individual pesticide.
- vi) "Pesticides: Total" means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring procedure.
- vii) The specified compounds are:
 - benzo(b)fluoranthene
 - benzo(k)fluoranthene
 - benzo(ghi)perylene
 - indeno(1,2,3-cd)pyrene.
- viii) The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.

The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.
- ix) The specified compounds are:
 - chloroform
 - bromoform
 - dibromochloromethane
 - bromodichloromethane.

The parametric value applies to the sum of the concentrations of the individual compounds detected and quantified in the monitoring process.
- x) Revoked

References for UKDWS and EQS

Drinking Water Inspectorate Advice for consumers leaflet. DWS, Jan 2010
Thames Water Drinking Water Standards. TW website, accessed May 2016
Technical Guidance Manual for Licensing Discharges to Water Annex G EQSList, SEPA, Oct 2004
Hydrogeological Risk Assessment for Landfills, Appendix 8: Selected WQS, EA, 2003
Petroleum Products in Drinking-water, Background document for development of WHO Guidelines, (WHO/SDE/WSH/05.08/123)
Water Supply (Water Quality) Regulations 1989 (SI 1989/1147) (as amended)
Water Supply (Water Quality) Regulations 2000 (SI 2000/3184) (as amended). Directive 2008/105/EC

Table 1: Environmental Quality Standards (EQS) for List 1 Dangerous Substances	
Substance	All Freshwater EQS (ug/l)
Mercury	1
Cadmium	5
Hexachlorocyclohexane	0.02
Carbon tetrachloride	12
Total DDT	0.025
pp DDT	0.01
Pentachlorophenol	0.4
Dieldrin	see total
Isodrin	see total
Aldrin	see total
Endrin	see total
Total Drins	0.01
Hexachlorobenzene	0.01
Hexachlorobutadiene	0.1
Chloroform	2.5
1,2-dichloroethane	10
Trichloroethylene	10
Perchloroethylene	10
Trichlorobenzene	0.4

Table 2a: Environmental Quality Standards (EQS) for List 2 Dangerous Substances					
Substance	EQS Type	All Freshwater EQS (ug/l)	Substance	EQS Type	All Freshwater EQS (ug/l)
1,1,1-Trichloroethane	Annual average	100	Fenitrothion	Annual average	0.01
1,1,2-Trichloroethane	Annual average	400	Flucufuron	95 percentile	1
2,4-D (ester)	Annual average	1	Iron (dissolved)	Annual average	1000
2,4-D (non-ester)	Annual average	40	Lead (dissolved)	Annual average	Hardness related (see table 2b for details)
2,4-Dichlorophenol	Annual average	20	Linuron	Annual average	2
2-Chlorophenol	Annual average	50	Malathion	Annual average	0.01
4-Chloro-3-methyl-phenol	Annual average	40	Mecoprop	Annual average	20
Arsenic (dissolved)	Annual average	50	Mevinphos	Maximum concentration	0.02
Atrazine & Simazine	Annual average	2	Naphthalene	Annual average	10
Azinphos-methyl	Annual average	0.01	Nickel (dissolved)	Annual average	Hardness related (see table 2b for details)
Bentazone	Annual average	500	Omethoate	Annual average	0.01
Benzene	Annual average	10	PCSDs	95th percentile	0.05
Biphenyl	Annual average	25	Permethrin	95th percentile	0.01
Boron (dissolved)	Annual average	2000	pH	95th percentile	6 - 9
Chloronitrotoluenes	Annual average	10	Sulcofuron	95th percentile	25
Chromium (dissolved)	Annual average	Hardness related (see table 2b for details)	Toluene	Annual average	50
Copper (dissolved)	Annual average	Hardness related (see table 2b for details)	Triazaphos	Annual average	0.005
Cyfluthrin	95th percentile	0.001	Tributyltin	Maximum concentration	0.02
Demeton	Annual average	0.5	Trifluralin	Annual average	0.1
Dichlorvos	Annual average	0.001	Triphenyltin	Maximum concentration	0.02
Dichlorvos	Maximum concentration	-	Vanadium (dissolved)	Annual average	Hardness related (see table 2b for details)
Dimethoate	Annual average	1	Xylene (m and p, o)	Annual average	30
Endosulphan	Annual average	0.003	Zinc (total)	Annual average	Hardness related (see table 2b for details)
Ammonia (as NH3)		15			

Table 2b: Environmental Quality Standards (EQS) for hardness related List 2 dangerous substances							
Substance	EQS type	EQS (ug/l) for Hardness bands (mg/l CaCO3)					
		0-50	>50-100	>100-150	>150-200	>200-250	>250
Freshwaters, suitable for all fishlife							
Copper (dissolved)	Annual average	0.5	3	3	3	8	12
Nickel (dissolved)	Annual average	8	20	20	40	40	40
Vanadium (dissolved)	Annual average	20	20	20	20	60	60
Chromium (dissolved)	Annual average	2	10	10	20	20	20
Lead (dissolved)	Annual average	4	10	10	20	20	20
Zinc (total)	Annual average	8	15	15	50	50	50

<u>TPHCWG Fraction</u>	<u>Assessment Value (µg/l)</u>
Aliphatic > C5 – C6	15,000
Aliphatic > C6 – C8	15,000
Aliphatic > C8 – C10	300
Aliphatic > C10 – C12	300
Aliphatic > C12 – C16	300
Aliphatic > C16 – C21	300
Aliphatic > C21 – C34	300
Aromatic > C5 - C7 *	10
Aromatic > C7 - C8	700
Aromatic > C8 - C10	300 / 500
Aromatic > C10 – C12	90
Aromatic > C12 – C16	90
Aromatic > C16 – C21	90
Aromatic > C21 – C25	90

Assumed to be 100% Benzene

Assumed to be 100% Toluene

Assumed to be either: Ethylbenzene (300) or Xylenes (500)

Contaminant Thresholds for Subsurface Water Pipes

Contaminant	Material selection Threshold Level (mg/kg dried soil)
Corrosion	
Sulphate (SO ₄)	2000
Sulphur (S)	5000
Sulphide (S)	250
pH	<pH5, >pH8
Toxic Substances	
Antimony (Sb)	10
Arsenic (As)	10*
Cadmium (Cd)	3
Chromium (hexavalent) (Cr)	25
Chromium (total)	600
Cyanide (free) (Cn)	25*
Cyanide (complexed) (Cn)	250*
Lead (Pb)	500
Mercury (Hg)	1
Selenium (Se)	3
Thiocyanate (SCN)	50
Organic Contaminants	
Coal Tar	50
Cyclohexane extractable	50
Phenol	5
Poly Aromatic Hydrocarbons	50
Toluene extractable	50
TPH DRO (diesel, kerosene)	100
Petrol	10
Mineral oils	1000

* It is not recommended that water pipes should be laid in sites where these substances are identified or suspected

Ref: Water Regulations Advisory Scheme (WRAS) (No. 9-04-03 Issue 1)