

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



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SAMPLING RECORD

Client	Enzo Homes	Project Number	223255
Project Address	Malthouse Lane, Cwnbran	Date	11/07/2022
AAE Operative	S.Philp	Weather	Sunny

Scope of works				
Description of works completed	Inspection and sampling of soil stockpile (topsoil/subsoil)		Grid Squares Worked	NA
OBSERVATIONS	There's no clear divide between the topsoil and subsoil in the stockpile. The stockpile is observed to be mixed, and is generated from a cut, or strip, of the site. There is some delineation though, subsoil to the north, topsoil to the south. There is some anthropogenic 'waste' material butted against the topsoil / subsoil stockpile. (Tyres, wood, brick, plastic – see photo plates.) Composite samples of topsoil and subsoil were taken. <u>Topsoil</u> Brown slightly sandy slightly gravelly CLAY. Many rootlets. Gravels are subangular sandstone. No visual or olfactory evidence of contamination <u>Subsoil</u> Reddish brown slightly sandy slightly gravelly SILT. Occasional cobbles. Gravels and Cobbles are subangular sandstone. No visual or olfactory evidence of contamination			
Sample Locations	Reference	X Co-ordinate	Y Co-ordinate	Comments
	Topsoil (S1, S2, S3) Composite Samples			See Photo Plates
	Subsoil (S1, S2, S3) Composite Samples			See Photo Plates
Comments	Analysis: AAE Soil Suite 1, BS3882, BS8601			



Comment Topsoil / Subsoil	Project 223255 – Enzo Homes
	Photo Plate 1
	Date 11/07/22
	Originator SP
	 Environmental Consultants AA Environmental Limited Units 4-8 Cholswell Court Shippon, Abingdon OX13 6HX T: (01235) 536042 F: (01235) 523849 info@aae-ltd.co.uk www.aae-ltd.co.uk



Comment Topsoil / Subsoil Stockpile	Project 223255 – Enzo Homes
	Photo Plate 2
	Date 11/07/22
	Originator SP
	 Environmental Consultants AA Environmental Limited Units 4-8 Cholswell Court Shippon, Abingdon OX13 6HX T: (01235) 536042 F: (01235) 523849 info@aae-ltd.co.uk www.aae-ltd.co.uk



Comment
Topsoil / Subsoil Stockpile

Project
223255 – Enzo Homes

Photo Plate
3

Date
11/07/22

Originator
SP



**AA
Environmental
Limited**
Units 4-8
Cholswell Court
Shippon, Abingdon
OX13 6HX
T: (01235) 536042
F: (01235) 523849
info@aae-ltd.co.uk
www.aae-ltd.co.uk



Comment
Topsoil / Subsoil Stockpile

Project
223255 – Enzo Homes

Photo Plate
4

Date
11/07/22

Originator
SP



AA Environmental Limited
Units 4-8 Cholswell Court
Shippon, Abingdon
OX13 6HX
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F: (01235) 523849
info@aae-ltd.co.uk
www.aae-ltd.co.uk



Comment
Subsoil

Project
223255 – Enzo Homes

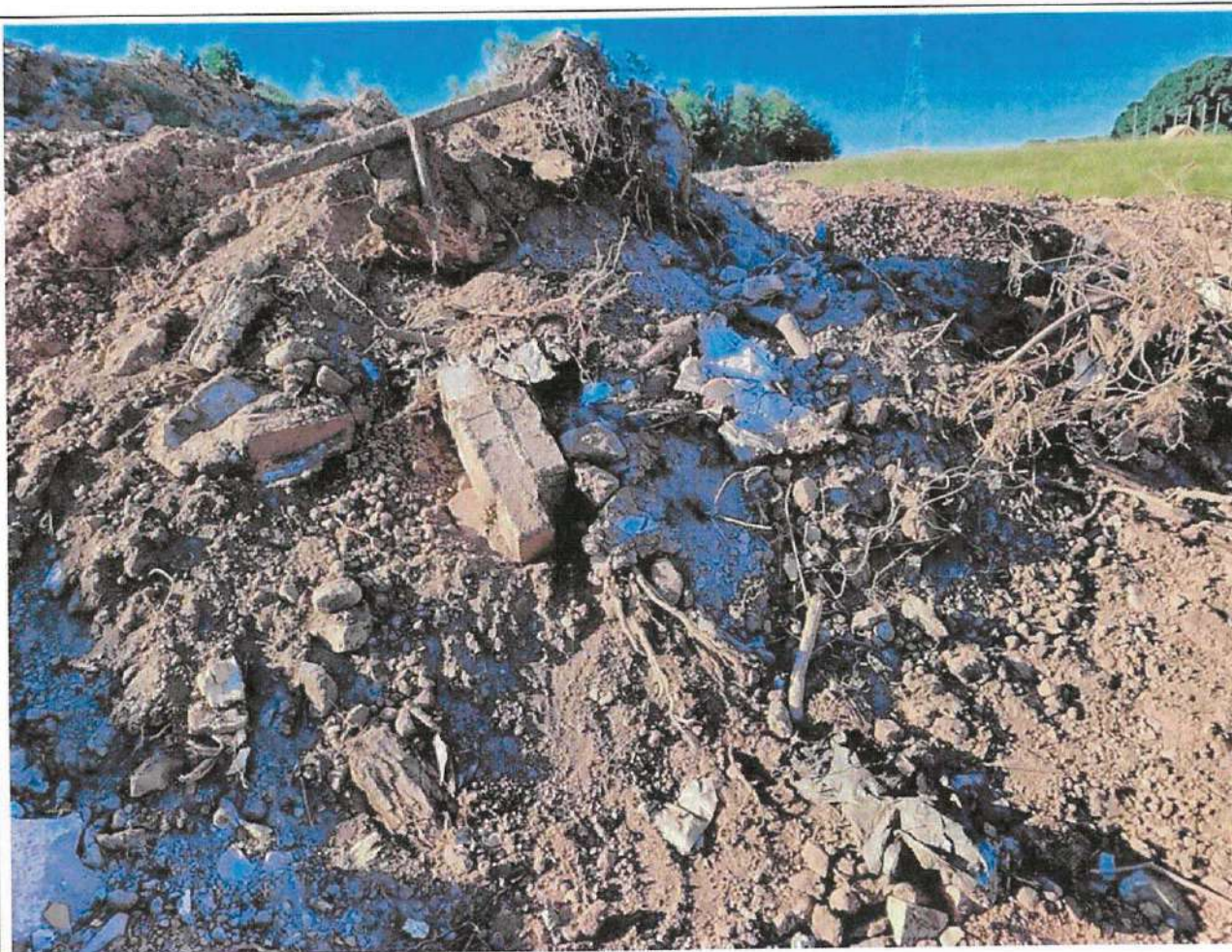
Photo Plate
5

Date
11/07/22

Originator
SP



AA Environmental Limited
Units 4-8 Cholswell Court
Shippon, Abingdon
OX13 6HX
T: (01235) 536042
F: (01235) 523849
info@aae-ltd.co.uk
www.aae-ltd.co.uk



Comment

'Waste Material' butted against Topsoil / Subsoil stockpile.

Project

223255 – Enzo Homes

Photo Plate

6

Date

11/07/22

Originator

SP



AA Environmental Limited

Units 4-8 Cholswell Court
Shippon, Abingdon
OX13 6HX

T: (01235) 536042

F: (01235) 523849

info@aae-ltd.co.uk

www.aae-ltd.co.uk



Comment

'Waste Material' butted against Topsoil / Subsoil stockpile.

Project

223255 – Enzo Homes

Photo Plate

7

Date

11/07/22

Originator

SP



AA Environmental Limited
Units 4-8 Cholswell Court
Shippon, Abingdon
OX13 6HX
T: (01235) 536042
F: (01235) 523849
info@aae-ltd.co.uk
www.aae-ltd.co.uk

NP44 3GB

Malthouse Lane

Llantarnam.

● 'Waste' Material

● 'Subsoil'

● 'Topsoil'



APPENDIX B

RESULTS OF THE LABORATORY IN-SITU SOIL ANALYSIS



Integral Geotechnique
Integral House
7 Beddau Way
Castlegate Business Park
CF83 2AX

t: 02920807991

e: roger@integralgeotec.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 24-042016

Project / Site name:	Bellway - Alder Grove	Samples received on:	16/09/2024
Your job number:	14197	Samples instructed on/ Analysis started on:	16/09/2024
Your order number:	14197 RJH	Analysis completed by:	23/09/2024
Report Issue Number:	1	Report issued on:	25/09/2024
Samples Analysed:	4 soil samples		


Signed:

Charlotte Andrew
Key Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-042016
Project / Site name: Bellway - Alder Grove
Your Order No: 14197 RJH

Lab Sample Number				316134	316135	316136	316137
Sample Reference				Plot 184 Topsoil	Plot 184 Subsoil	Plot 186 Topsoil	Plot 186 Subsoil
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00	0.50	2.00	0.50
Date Sampled				12/09/2024	12/09/2024	12/09/2024	12/09/2024
Time Taken				1000	1005	1030	1035
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	20.9
Moisture Content	%	0.01	NONE	14	14	14	14
Total mass of sample received	kg	0.1	NONE	0.9	1	1.1	1.2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MBI	MBI	MBI	MBI

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.2	8.2	7.5	10.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	270	930	210	1400
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	76	410	17	460
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0381	0.206	0.00868	0.228
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	38.1	206	8.68	228
Sulphide	mg/kg	1	MCERTS	< 1.0	22	< 1.0	9.2
Total Sulphur	mg/kg	50	MCERTS	110	340	82	640
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.5	0.6	0.6	0.8
Loss on Ignition @ 450°C	%	0.2	MCERTS	2	2.3	2	3.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.09	< 0.05	0.26
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.11	< 0.05	0.36
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.07
Fluoranthene	mg/kg	0.05	MCERTS	0.06	0.24	< 0.05	0.6
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.22	< 0.05	0.47
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.16	< 0.05	0.29
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.15	< 0.05	0.37
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.22	< 0.05	0.47
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.07	< 0.05	0.19
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.15	< 0.05	0.35
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.1	< 0.05	0.2
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.11	< 0.05	0.24

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	1.62	< 0.80	3.98
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.2	3.8	3.6	8.9
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.49	0.96	0.43	1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	1.5	0.4	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.5	< 0.2	0.4

Analytical Report Number: 24-042016
Project / Site name: Bellway - Alder Grove
Your Order No: 14197 RJH

Lab Sample Number				316134	316135	316136	316137
Sample Reference				Plot 184 Topsoil	Plot 184 Subsoil	Plot 186 Topsoil	Plot 186 Subsoil
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.00	0.50	2.00	0.50
Date Sampled				12/09/2024	12/09/2024	12/09/2024	12/09/2024
Time Taken				1000	1005	1030	1035
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status				
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	32	14	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.5	19	8	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	17	21	15	41
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15	30	13	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23	34	20	41
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	56	94	50	110

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_ID_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_ID_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC16 - EC35 _{EH_CU_ID_AL}	mg/kg	10	MCERTS	< 10	< 10	< 10	15
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	15
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_ID_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_ID_AL}	mg/kg	10	NONE	< 10	< 10	< 10	15
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_ID_AL}	mg/kg	10	NONE	< 10	< 10	< 10	15

TPHCWG - Aromatic >EC5 - EC7 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_ID_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_ID_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_ID_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_ID_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_ID_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC35 - EC40 _{EH_CU_ID_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_ID_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_ID_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_ID_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10

TPH Total >EC5 - EC44 _{EH_CU+HS_ID_TOTAL}	mg/kg	10	NONE	< 10	< 10	< 10	15
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-042016

Project / Site name: Bellway - Alder Grove

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
316134	Plot 184 Topsoil	None Supplied	2	Brown loam and clay with vegetation
316135	Plot 184 Subsoil	None Supplied	0.5	Brown clay and loam with gravel
316136	Plot 186 Topsoil	None Supplied	2	Brown clay and loam with gravel and vegetation
316137	Plot 186 Subsoil	None Supplied	0.5	Brown clay and loam with stones

Analytical Report Number : 24-042016
Project / Site name: Bellway - Alder Grove

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS



Analytical Report Number : 24-042016
Project / Site name: Bellway - Alder Grove

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

APPENDIX C

SUMMARY SHEETS OF THE IN-SITU SOIL ANALYSIS RESULTS

SUMMARY OF LABORATORY SOIL TEST RESULTS

METALS AND SEMI-METALS

Job No.: 14197
 Site: Llanwern Phase 4 (Alder Grove)
 Soil Type: Capping Soils
 Soil Organic Matter: 1%

No.	Location	Depth (m)	Arsenic (mg/kg)	Boron (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (Elemental) (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)
1	Plot 184 Topsoil	2.00	4.2	0.5	0.49	< 0.2	16	< 1.8	8.5	17	< 0.3	15	< 1.0	23	56
2	Plot 184 Subsoil	0.50	3.8	1.5	0.96	0.5	32	< 1.8	19	21	< 0.3	30	< 1.0	34	94
3	Plot 186 Topsoil	2.00	3.6	0.4	0.43	< 0.2	14	< 1.8	8	15	< 0.3	13	< 1.0	20	50
4	Plot 186 Subsoil	0.50	8.9	0.9	1	0.4	34	< 1.8	19	41	< 0.3	26	< 1.0	41	110
Screening Criteria Value			37.0	290.0	1.7	11.0	-	6.0	2400.0	200.0	1.2	130.0	250.0	410.0	3700.0
Source of Screening Criteria Value			S4UL	S4UL	S4UL	S4UL	-	S4UL	S4UL	C4SL	S4UL	S4UL	S4UL	S4UL	S4UL

SUMMARY OF LABORATORY SOIL TEST RESULTS

INORGANIC CHEMICALS & OTHERS

Job No.: 14197
 Site: Llanwern Phase 4 (Alder Grove)
 Soil Type: Capping Soils
 Soil Organic Matter: 1%

No.	Location	Depth (m)	Cyanide (mg/kg)	Loss on ignition, dried solids (%)	Moisture content at 30 C (%)	Phenol (mg/kg)	pH (pH units)	Water Soluble Sulphate (g/l)	Sulphate Total as SO4 (mg/kg)	Sulphide (mg/kg)	Total Sulphur (mg/kg)	TOC by Ignition in O2 (%)	Equivalent SOM (%)	Asbestos in Soil
1	Plot 184 Topsoil	2.00	< 1.0	2.00	14.00	< 1.0	7.20	0.04	270.00	< 1.0	110.00	0.50	0.86	Not-detected
2	Plot 184 Subsoil	0.50	< 1.0	2.30	14.00	< 1.0	8.20	0.21	930.00	22.00	340.00	0.60	1.03	Not-detected
3	Plot 186 Topsoil	2.00	< 1.0	2.00	14.00	< 1.0	7.50	0.01	210.00	< 1.0	82.00	0.60	1.03	Not-detected
4	Plot 186 Subsoil	0.50	< 1.0	3.20	14.00	< 1.0	10.40	0.23	1400.00	9.20	640.00	0.80	1.38	Not-detected
Screening Criteria Value			34.0	-	-	120.0	-	-	-	-	-	-	-	-
Source of Screening Criteria Value			ATRISK	-	-	S4UL	-	-	-	-	-	-	-	-

SUMMARY OF LABORATORY SOIL TEST RESULTS

POLYAROMATIC HYDROCARBONS (PAH)

Job No.: 14197
 Site: Llanwern Phase 4 (Alder Grove)
 Soil Type: Capping Soils
 Soil Organic Matter: 1%

No.	Location	Depth (m)	Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(ghi)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo(ah)anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(123cd)pyrene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)
1	Plot 184 Topsoil	2.00	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2	Plot 184 Subsoil	0.50	< 0.05	< 0.05	< 0.05	0.16	0.15	0.22	0.11	0.07	0.15	< 0.05	0.24	< 0.05	0.1	0.09	0.11	0.22
3	Plot 186 Topsoil	2.00	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
4	Plot 186 Subsoil	0.50	< 0.05	0.05	0.07	0.29	0.35	0.47	0.24	0.19	0.37	< 0.05	0.6	0.05	0.2	0.26	0.36	0.47
Screening Criteria Value			210.0	170.0	2400.0	7.2	2.2	2.6	320.0	77.0	15.0	0.24	280.0	170.0	27.0	2.3	95.0	620.0
Source of Screening Criteria Value			S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL

SUMMARY OF LABORATORY SOIL TEST RESULTS

PETROLEUM HYDROCARBONS

Job No.: 14197
 Site: Llanwern Phase 4 (Alder Grove)
 Soil Type: Capping Soils
 Soil Organic Matter: 1%

No.	Location	Depth (m)	Aliphatic C6-C6 (mg/kg)	Aliphatic C6-C8 (mg/kg)	Aliphatic C8-C10 (mg/kg)	Aliphatic C10- C12 EPH (mg/kg)	Aliphatic C12- C16 EPH (mg/kg)	Aliphatic C16-C35 EPH (mg/kg)	Aliphatic C35- C44 EPH (mg/kg)	Aromatic C5-C7 (mg/kg)	Aromatic C7-C8 (mg/kg)	Aromatic C8-C10 (mg/kg)	Aromatic C10- C12 EPH (mg/kg)	Aromatic C12- C16 EPH (mg/kg)	Aromatic C16- C21 EPH (mg/kg)	Aromatic C21- C35 EPH (mg/kg)	Aromatic C35- C40 EPH (mg/kg)
1	Plot 184 Topsoil	2.00	< 0.010	< 0.010	< 0.010	< 1.0	< 2.0	< 10	< 8.4	< 0.010	< 0.010	< 0.020	< 1.0	< 2.0	< 10	< 10	< 10
2	Plot 184 Subsoil	0.50	< 0.010	< 0.010	< 0.010	< 1.0	< 2.0	< 10	< 8.4	< 0.010	< 0.010	< 0.020	< 1.0	< 2.0	< 10	< 10	< 10
3	Plot 186 Topsoil	2.00	< 0.010	< 0.010	< 0.010	< 1.0	< 2.0	< 10	< 8.4	< 0.010	< 0.010	< 0.020	< 1.0	< 2.0	< 10	< 10	< 10
4	Plot 186 Subsoil	0.50	< 0.010	< 0.010	< 0.010	< 1.0	< 2.0	15	< 8.4	< 0.010	< 0.010	< 0.020	< 1.0	< 2.0	< 10	< 10	< 10
Screening Criteria Value			42.0	100.0	27.0	130.0	1100.0	65000.0	65000.0	0.1	130.0	34.0	74.0	140.0	260.0	1100.0	1100.0
Source of Screening Criteria Value			S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL	S4UL

FIGURES



Plot 184 Capping validation Depth Check



Plot 184 Trial Pit Excavation Profile

14197: Llanwern Phase 4 Alder Grove

Figure 3: Capping Validation Photographic Evidence

Intégral
Géotechnique

Integral House
Castlegate Business Park
Caerphilly
CF83 2AX
Tel: 029 20807991
Fax: 029 20862176



Plot 184 Trial Pit Excavation



Plot 186 Capping Validation Depth Check

14197: Llanwern Phase 4 Alder Grove

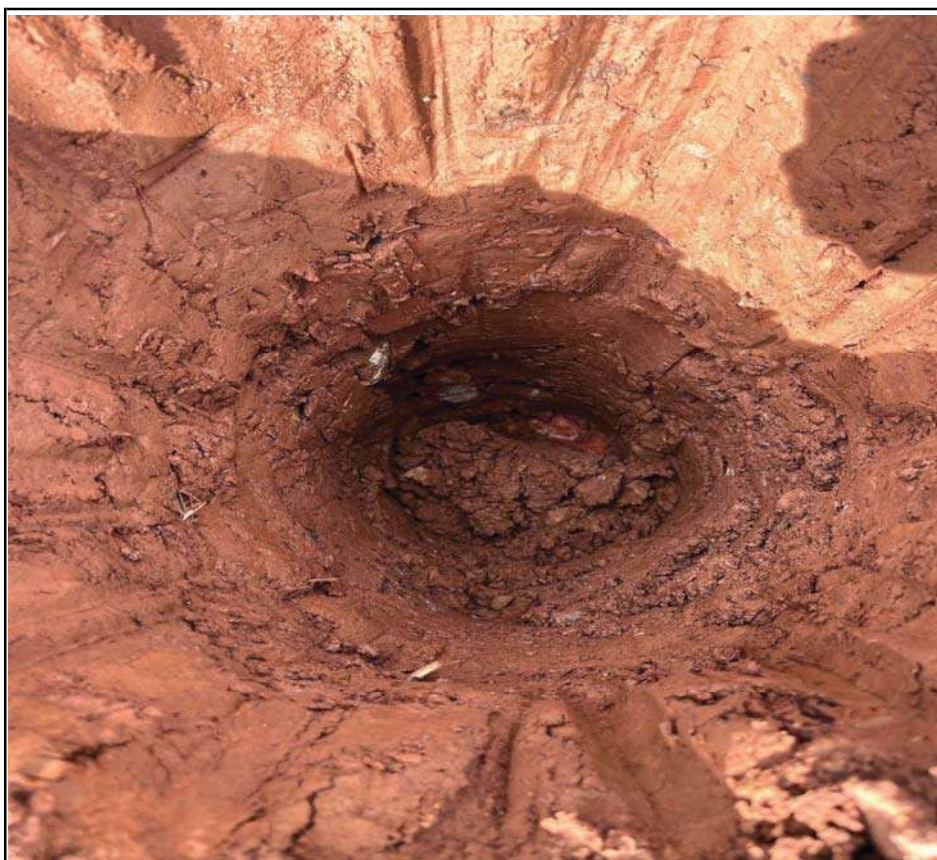
Figure 3: Capping Validation Photographic Evendence

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Plot 186 Trial Pit Excavation Profile



Plot 186 Trial Pit

14197: Llanwern Phase 4 Alder Grove

Figure 3: Capping Validation Photographic Evendence

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Géotechnique

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Plot 187 Infilled Rear Garden



Plot 188 Infilled Rear Garden

14197: Llanwern Phase 4 Alder Grove

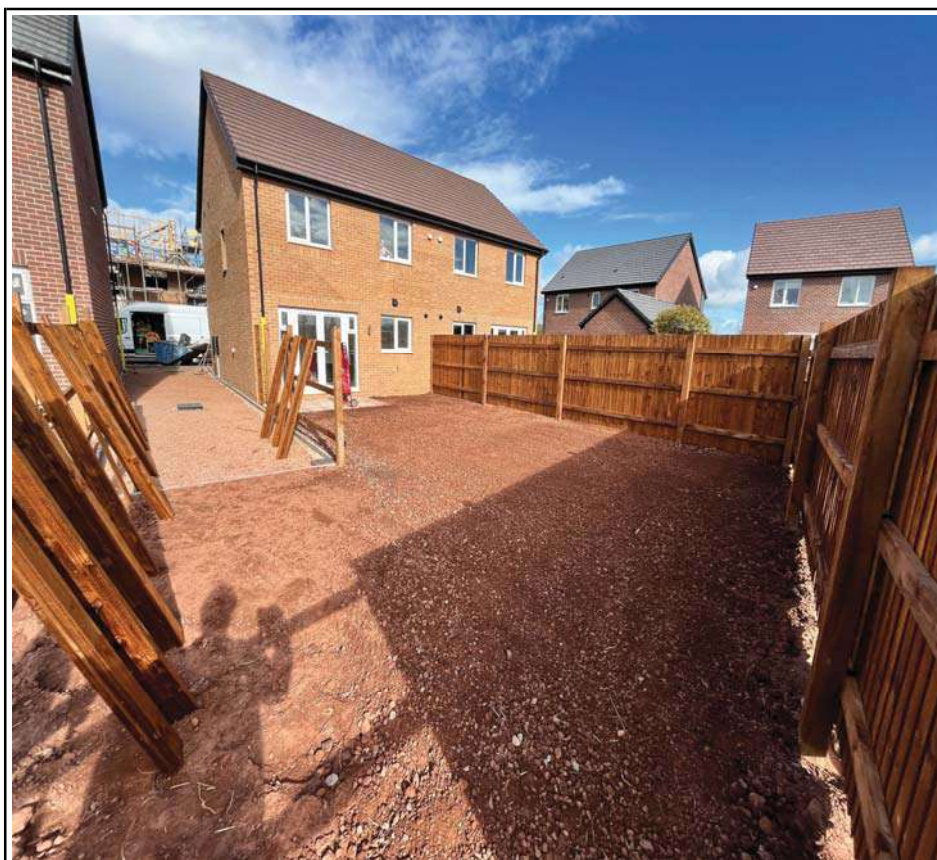
Figure 3: Capping Validation Photographic Evendence

Intégral
Géotechnique

Integral House
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CF83 2AX
Tel: 029 20807991
Fax: 029 20862176



Plot 186/187 Front Aspect



Plot 185 Infilled Rear Garden

14197: Llanwern Phase 4 Alder Grove

Figure 3: Capping Validation Photographic Evidencence

Intégral
Géotechnique

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CF83 2AX
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