

GROUNDTECH
CONSULTING

123 BARLOW MOOR ROAD

COVER SYSTEM VALIDATION REPORT

MARCO UK

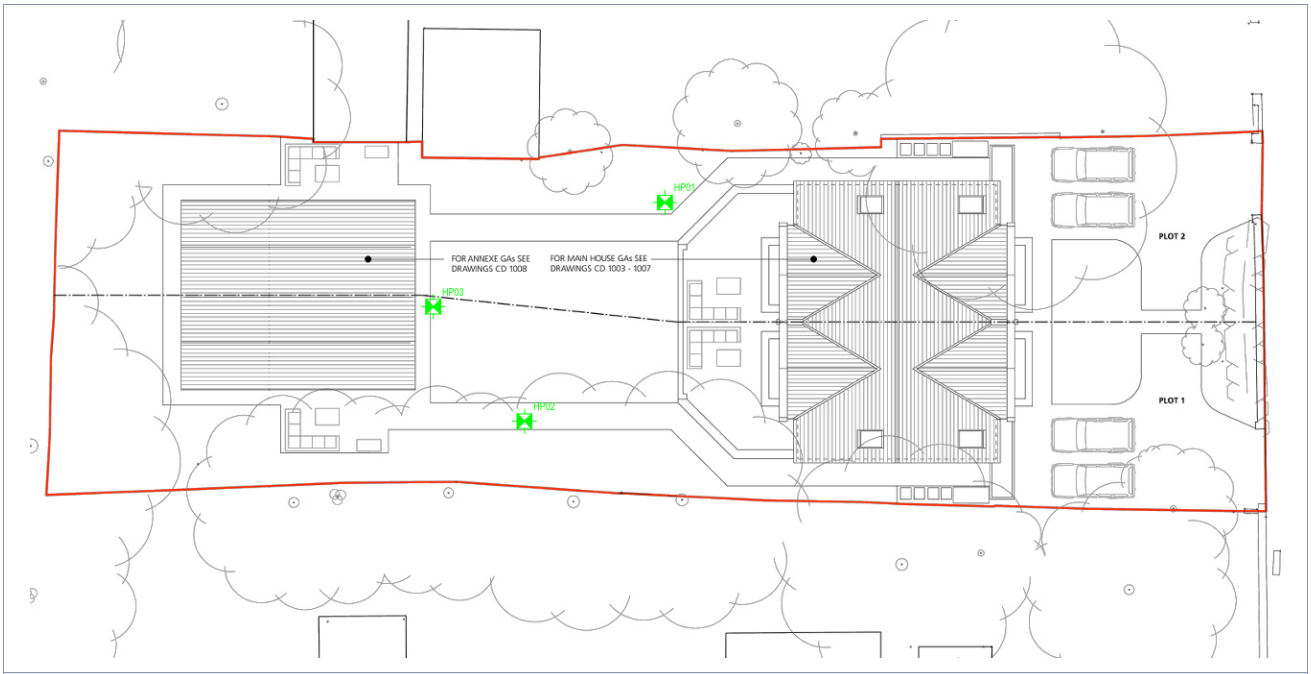
APRIL 2026

Document Control Form	
PROJECT	*123 BARLOW MOOR ROAD*
REPORT NAME	*COVER SYSTEM VALIDATION REPORT*
REPORT REFERENCE	*GRO-23382-6514*
STATUS	*FINAL*
ISSUE DATE	*07 APRIL 2026*
REVISION	
CLIENT	*MARCO UK*
CLIENT CONTACT	*TAHIR AHMED*
For and Behalf of Groundtech Consulting	
SIGNATURE	[redacted]
AUTHOR	
SIGNATURE	
CHECKED	
SIGNATURE	
REVIEWED	James Doyle BSc (Hons) CGeol FGS

Introduction

Groundtech Consulting visited the development at 123 Barlow Moor Road, Didsbury to validate the depth of the cover system placed in the front and back garden as outlined in the Remediation Specification referenced *GRO-23382-5652_1.1* and dated April 2025.

A summary of the Cover System Validation in accordance with the agreed scope of works is presented below.



123 Barlow Moor Road

Site Works

Groundtech Consulting carried out the following site visits:

- *11 November 2025 – to obtain samples of topsoil and subsoil for environmental testing*
- *25 March 2026 - to validate the depth and placement of the cover system in the rear gardens*

Geo-Environmental Testing

The material use in the cover system of the rear garden areas was clean imported topsoil and subsoil, obtained from a commercial supplier. Four samples of the imported topsoil and four samples of the imported subsoil were tested once imported. These were tested at the frequency specified in the remedial specification before being compared to remedial target values (RTVs). The Geo-Environmental testing results for both the topsoil and subsoil (EMT 25/18548) are appended. No elevated Contaminants of Concern have been reported when screened against the RTVs.

Based on the results of testing, the topsoil and subsoil materials used in the cover system are suitably clean for the intended residential with plant uptake end use.

Cover System Depth Validation

The depth of cover required within the proposed gardens is presented within Groundtech Consulting's Remedial Specification. All plots require a minimum of 600mm of clean cover comprising a minimum of 150mm of topsoil and 450mm of subsoil.

The agreed frequency of the inspection pits is outlined in the Remedial Specification as 'spacing of 1 hole per rear garden of every 1 plots.' The depth validation tests were undertaken in accordance with the specification at a frequency of 1 hole per 1 plot.

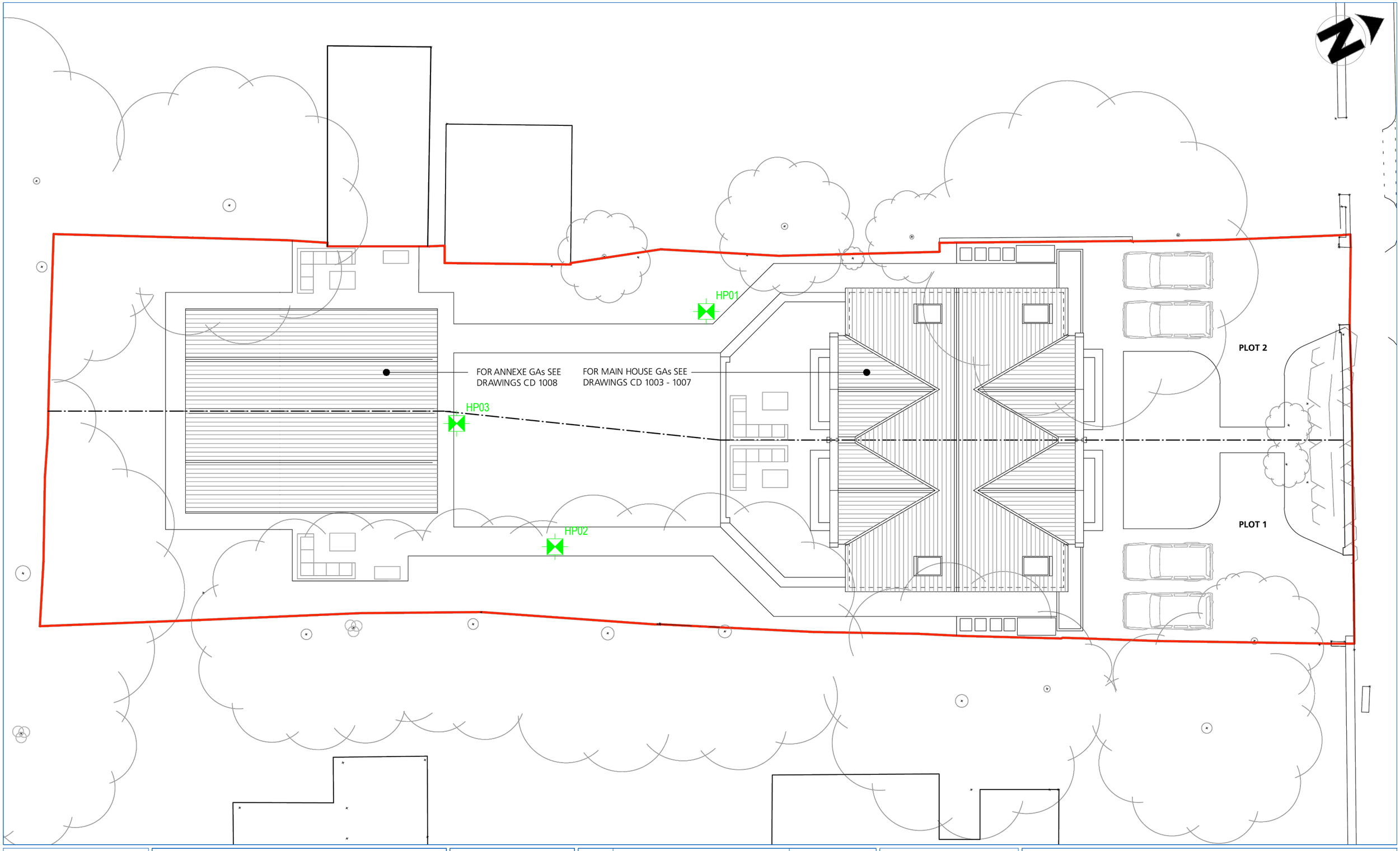
Three inspection pits were excavated to confirm the placement of the cover system in the rear garden areas of the two plots. Photographs are appended to this report which verify the presence of at least 600mm of cover system comprising a minimum of 150mm of topsoil and 450mm of subsoil.

The materials used within the cover system of these plots comprised brown slightly clayey slightly silty sandy topsoil with minor constituent of chert. The subsoil comprised red brown slightly clayey sand with minor constituents of chert. No anthropogenic materials were encountered in the topsoil or subsoil.

Conclusions

Testing has confirmed that the topsoil materials used for the cover system in the garden areas is suitably clean for the residential with plant uptake end use. In addition, a sufficient thickness of cover has been placed, i.e. at least 600mm of clean cover in the rear garden areas, comprising minimum of 150mm topsoil and 450mm subsoil.

Plans



GROUNDTECH CONSULTING

CLIENT	TAHIR AHMED
PROJECT TITLE	123 BARLOW MOOR ROAD, DIDSBURY
PLAN TITLE	EXPLORATORY HOLE LOCATION PLAN
DATE	MARCH 2026
SCALE	NTS
PLAN NUMBER	GRO-23382-P04

Rev.	Details	Date

Status	
Preliminary	
Draft	
Issued	●
For Comment	
Approved	

Notes

Approximate verification pit location

Geo-Environmental Testing Results

Element Materials Technology
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Zone 3
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Groundtech Consulting Limited
PO Box 499
Manchester
United Kingdom
M28 8EE

Attention :	Ellie Gash
Date :	13th November, 2025
Your reference :	N/A
Our reference :	Test Report 25/18548 Batch 1
Location :	123 Barlow Moore Road
Date samples received :	7th November, 2025
Status :	Final Report
Issue :	202511131352

Eight samples were received for analysis on 7th November, 2025 of which eight were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 24.906 kg of CO2

Scope 1&2&3 emissions - 58.858 kg of CO2

Authorised By:

[redacted]

Sean Anglish
Project Coordinator

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: N/A
Location: 123 Barlow Moore Road
Contact: Ellie Gash
EMT Job No: 25/18548

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24			LOD/LOR	Units	Method No.
Sample ID	PLOT 1	PLOT 1	PLOT 1 (2)	PLOT 1 (2)	PLOT 2	PLOT 2	PLOT 2 (2)	PLOT 2 (2)					
Depth	0.10	0.60	0.10	0.60	0.10	0.60	0.10	0.60					
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T					
Sample Date	06/11/2025	06/11/2025	06/11/2025	06/11/2025	06/11/2025	06/11/2025	06/11/2025	06/11/2025					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025					
Arsenic #	5.1	0.7	4.8	1.1	4.8	0.8	5.3	0.6			<0.5	mg/kg	TM30/PM15
Cadmium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3			<0.3	mg/kg	TM30/PM15
Chromium #	43.6	68.7	44.3	66.9	81.4	65.2	47.2	67.8			<0.5	mg/kg	TM30/PM15
Copper #	18	10	19	9	22	10	27	8			<1	mg/kg	TM30/PM15
Lead #	39	9	41	11	40	13	42	9			<5	mg/kg	TM30/PM15
Mercury #	0.5	<0.1	0.2	<0.1	0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM30/PM15
Nickel #	16.3	24.1	11.9	21.5	14.7	21.3	13.9	19.9			<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	1	<1	1	<1	<1	<1			<1	mg/kg	TM30/PM15
Zinc #	112	67	104	58	114	58	105	56			<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.04	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	0.08	<0.05			<0.05	mg/kg	TM4/PM8
Fluorene #	0.06	<0.04	0.06	<0.04	0.05	<0.04	0.07	<0.04			<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.37	0.05	0.40	0.12	0.37	0.07	0.36	0.06			<0.03	mg/kg	TM4/PM8
Anthracene #	0.11	<0.04	0.10	<0.04	0.12	<0.04	0.11	<0.04			<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.54	0.04	0.58	0.11	0.67	0.04	0.60	<0.03			<0.03	mg/kg	TM4/PM8
Pyrene #	0.47	0.03	0.48	0.09	0.58	0.03	0.53	<0.03			<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.29	<0.06	0.26	0.09	0.38	0.09	0.25	<0.06			<0.06	mg/kg	TM4/PM8
Chrysene #	0.30	0.03	0.27	0.06	0.42	0.04	0.25	0.03			<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.57	<0.07	0.43	0.08	0.74	<0.07	0.40	<0.07			<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.30	<0.04	0.23	0.06	0.37	<0.04	0.25	<0.04			<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.25	<0.04	0.20	<0.04	0.33	<0.04	0.17	<0.04			<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.10	<0.04	0.07	<0.04	0.22	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.23	<0.04	0.17	<0.04	0.29	<0.04	0.16	<0.04			<0.04	mg/kg	TM4/PM8
PAH 16 Total	3.6	<0.6	3.3	0.6	4.5	<0.6	3.2	<0.6			<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.41	<0.05	0.31	0.06	0.53	<0.05	0.29	<0.05			<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.16	<0.02	0.12	0.02	0.21	<0.02	0.11	<0.02			<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	95	91	93	93	92	95	94	94			<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	<4			<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	<7			<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	31	<7	39	<7	41	<7	30	<7			<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH_CU+HS_1D_AL)	31	<19	39	<19	41	<19	30	<19			<19	mg/kg	TM5/TM36/PM8/PM12/PM16

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: N/A
Location: 123 Barlow Moore Road
Contact: Ellie Gash
EMT Job No: 25/18548

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24			LOD/LOR	Units	Method No.
Sample ID	PLOT 1	PLOT 1	PLOT 1 (2)	PLOT 1 (2)	PLOT 2	PLOT 2	PLOT 2 (2)	PLOT 2 (2)					
Depth	0.10	0.60	0.10	0.60	0.10	0.60	0.10	0.60					
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T					
Sample Date	06/11/2025	06/11/2025	06/11/2025	06/11/2025	06/11/2025	06/11/2025	06/11/2025	06/11/2025					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1	1					
Date of Receipt	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025					
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	5	<4	5	<4	5	<4			<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	22	<7	31	<7	24	<7	28	<7			<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	137	<7	176	<7	156	<7	176	<7			<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	159	<19	212	<19	185	<19	209	<19			<19	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total)	190	<38	251	<38	226	<38	239	<38			<38	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM36/PM12
Toluene #	11	<5	11	<5	8	<5	8	<5			<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	7	<5	<5	<5	<5	<5			<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5	<5			<5	ug/kg	TM36/PM12
Natural Moisture Content	20.5	9.8	22.4	10.3	28.0	10.4	32.4	10.4			<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3			<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.1712	0.0118	0.2392	0.0199	0.2036	0.0233	0.1415	0.0082			<0.0015	g/l	TM38/PM20
Organic Matter	6.2	0.7	6.8	0.6	6.9	0.7	6.5	0.6			<0.2	%	TM21/PM24
pH #	8.10	8.20	8.05	8.36	8.00	8.37	8.14	8.07			<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Groundtech Consulting Limited

Reference: N/A

Location: 123 Barlow Moore Road

Contact: Ellie Gash

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
25/18548	1	PLOT 1	0.10	1-3	Naturally occurring compounds
25/18548	1	PLOT 1	0.60	4-6	No interpretation possible
25/18548	1	PLOT 1 (2)	0.10	7-9	Naturally occurring compounds
25/18548	1	PLOT 1 (2)	0.60	10-12	No interpretation possible
25/18548	1	PLOT 2	0.10	13-15	Naturally occurring compounds
25/18548	1	PLOT 2	0.60	16-18	No interpretation possible
25/18548	1	PLOT 2 (2)	0.10	19-21	Naturally occurring compounds
25/18548	1	PLOT 2 (2)	0.60	22-24	No interpretation possible

Client Name: Groundtech Consulting Limited
Reference: N/A
Location: 123 Barlow Moore Road
Contact: Ellie Gash

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/18548	1	PLOT 1	0.10	3	Kieran Hubbard	12/11/2025	**General Description (Bulk Analysis)**	brown soil
					Kieran Hubbard	12/11/2025	**Asbestos Fibres**	NAD
					Kieran Hubbard	12/11/2025	**Asbestos Fibres (2)**	NAD
					Kieran Hubbard	12/11/2025	**Asbestos ACM**	NAD
					Kieran Hubbard	12/11/2025	**Asbestos ACM (2)**	NAD
					Kieran Hubbard	12/11/2025	**Asbestos Type**	NAD
					Kieran Hubbard	12/11/2025	**Asbestos Type (2)**	NAD
25/18548	1	PLOT 1	0.60	6	Michael Reilly	12/11/2025	**General Description (Bulk Analysis)**	Brown soil, stones
					Michael Reilly	12/11/2025	**Asbestos Fibres**	NAD
					Michael Reilly	12/11/2025	**Asbestos ACM**	NAD
					Michael Reilly	12/11/2025	**Asbestos Type**	NAD
25/18548	1	PLOT 1 (2)	0.10	9	Matthew Turner	12/11/2025	**General Description (Bulk Analysis)**	Brown soil/Stone/Plant matter
					Matthew Turner	12/11/2025	**Asbestos Fibres**	NAD
					Matthew Turner	12/11/2025	**Asbestos ACM**	NAD
					Matthew Turner	12/11/2025	**Asbestos Type**	NAD
25/18548	1	PLOT 1 (2)	0.60	12	Simon Postlewhite	12/11/2025	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	12/11/2025	**Asbestos Fibres**	NAD
					Simon Postlewhite	12/11/2025	**Asbestos ACM**	NAD
					Simon Postlewhite	12/11/2025	**Asbestos Type**	NAD
25/18548	1	PLOT 2	0.10	15	Matthew Turner	12/11/2025	**General Description (Bulk Analysis)**	Brown soil/Stone/Plant matter
					Matthew Turner	12/11/2025	**Asbestos Fibres**	NAD
					Matthew Turner	12/11/2025	**Asbestos ACM**	NAD
					Matthew Turner	12/11/2025	**Asbestos Type**	NAD
25/18548	1	PLOT 2	0.60	18	Catherine Coles	12/11/2025	**General Description (Bulk Analysis)**	brown soil,stone
					Catherine Coles	12/11/2025	**Asbestos Fibres**	NAD
					Catherine Coles	12/11/2025	**Asbestos ACM**	NAD
					Catherine Coles	12/11/2025	**Asbestos Type**	NAD
25/18548	1	PLOT 2 (2)	0.10	21	Mathew Day	12/11/2025	**General Description (Bulk Analysis)**	Brown sandy soil, stones, plant matter
					Mathew Day	12/11/2025	**Asbestos Fibres**	NAD
					Mathew Day	12/11/2025	**Asbestos ACM**	NAD
					Mathew Day	12/11/2025	**Asbestos Type**	NAD

Client Name: Groundtech Consulting Limited
Reference: N/A
Location: 123 Barlow Moore Road
Contact: Ellie Gash

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
25/18548	1	PLOT 2 (2)	0.60	24	Catherine Coles	12/11/2025	**General Description (Bulk Analysis)**	brown soil,stone
					Catherine Coles	12/11/2025	**Asbestos Fibres**	NAD
					Catherine Coles	12/11/2025	**Asbestos ACM**	NAD
					Catherine Coles	12/11/2025	**Asbestos Type**	NAD

Client Name: Groundtech Consulting Limited
Reference: N/A
Location: 123 Barlow Moore Road
Contact: Ellie Gash

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 25/18548						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 25/18548

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_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
MS	Mass Spectrometry.

EMT Job No: 25/18548

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

EMT Job No: 25/18548

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No

Screening Values

Generic Assessment Criteria (GAC)

GROUNDTECH CONSULTING

Proposed End Use	Unit	Residential with Plant Uptake			Commercial			Source
SOM	%	1	2.5	6	1	2.5	6	
Arsenic	mg/kg	37	37	37	640	640	640	LQM S4ULs
Beryllium	mg/kg	1.7	1.7	1.7	12	12	12	LQM S4ULs
Boron (water soluble)	mg/kg	290	290	290	240000	240000	240000	LQM S4ULs
Cadmium	mg/kg	11	11	11	190	190	190	LQM S4ULs
Chromium (Total)	mg/kg	910	910	910	8600	8600	8600	LQM S4ULs
Chromium (VI)	mg/kg	6	6	6	33	33	33	LQM S4ULs
Copper	mg/kg	2400	2400	2400	68000	68000	68000	LQM S4ULs
Lead	mg/kg	200	200	200	2300	2300	2300	DEFRA C4SLs
Organic Mercury	mg/kg	1.2	1.2	1.2	26	26	26	LQM S4ULs
Nickel	mg/kg	130	130	130	980	980	980	LQM S4ULs
Selenium	mg/kg	250	250	250	12000	12000	12000	LQM S4ULs
Vanadium	mg/kg	410	410	410	9000	9000	9000	LQM S4ULs
Zinc	mg/kg	3700	3700	3700	730000	730000	730000	LQM S4ULs
Aliphatic EC 5 - 6	mg/kg	42	78	160	3200 (304) sol	5900 (558) sol	12000 (1150) sol	LQM S4ULs
Aliphatic EC 6 - 8	mg/kg	100	230	530	7800 (144) sol	17000 (322) sol	40000 (736) sol	LQM S4ULs
Aliphatic EC 8 - 10	mg/kg	27	65	150	2000 (78) sol	4800 (190) sol	11000 (451) vap	LQM S4ULs
Aliphatic EC 10 - 12	mg/kg	130 (48) vap	330 (118) vap	760 (283) vap	9700 (48) sol	23000 (118) vap	47000 (283) vap	LQM S4ULs
Aliphatic EC 12 - 16	mg/kg	1100 (24) sol	2400 (59) sol	4300 (142) sol	59000 (24) sol	82000 (59) sol	90000 (142) sol	LQM S4ULs
Aliphatic EC 16 - 35	mg/kg	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	1600000 f	1700000 f	1800000 f	LQM S4ULs
Aliphatic EC 35 - 44	mg/kg	65000 (8.48) f,sol	92000 (21) f,sol	110000 f	1600000 f	1700000 f	1800000 f	LQM S4ULs
Aromatic EC 5 - 7	mg/kg	70	140	300	26000 (1220) sol	46000 (2260) sol	86000 (4710) sol	LQM S4ULs
Aromatic EC 7 - 8	mg/kg	130	290	660	56000 (869) vap	110000 (1920)	180000 (4360)	LQM S4ULs
Aromatic EC 8 - 10	mg/kg	34	83	190	3500 (613) vap	8100 (1500) vap	17000 (3580)	LQM S4ULs
Aromatic EC 10 - 12	mg/kg	74	180	380	16000 (364) sol	28000 (899) sol	34000 (2150) sol	LQM S4ULs
Aromatic EC 12 -16	mg/kg	140	330	660	36000 (169) sol	37000	38000	LQM S4ULs
Aromatic EC 16 - 21	mg/kg	260 f	540 f	930 f	28000 f	28000 f	28000 f	LQM S4ULs
Aromatic EC 21 - 35	mg/kg	1100 f	1500 f	1700 f	28000 f	28000 f	28000 f	LQM S4ULs
Aromatic EC 35 - 44	mg/kg	1100 f	1500 f	1700 f	28000 f	28000 f	28000 f	LQM S4ULs
Benzene	mg/kg	0.087	0.17	0.37	27	47	90	LQM S4ULs
Toluene	mg/kg	130	130	130	56000 (869)	110000 (1920)	180000 (4360)	LQM S4ULs
Ethyl Benzene	mg/kg	47	110	260	5700	13000	27000	LQM S4ULs
Xylene - o	mg/kg	60	140	330	6600	15000	33000	LQM S4ULs
Xylene - m	mg/kg	59	140	320	6200	14000	31000	LQM S4ULs
Xylene - p	mg/kg	56	130	310	5900	14000	30000	LQM S4ULs
MTBE (methyl tert-butyl ether)	mg/kg	49	84	160	7900	13000	24000	CL:AIRE 2010
Acenaphthene	mg/kg	210	510	1100	84000 (57) sol	97000 (141) sol	100000	LQM SAULs
Acenaphthylene	mg/kg	170	420	920	83000 (86.1) sol	97000 (212) sol	100000	LQM S4ULs
Anthracene	mg/kg	2400	5400	11000	520000	540000	540000	LQM S4ULs
Benz(a)anthracene	mg/kg	7.2	11	13	170	170	180	LQM S4ULs
Benzo(a)pyrene	mg/kg	2.2	2.7	3	35	35	36	LQM S4ULs
Benzo(b)fluoranthene	mg/kg	2.6	3.3	3.7	44	44	45	LQM S4ULs
Benzo(ghi)perylene	mg/kg	320	340	350	3900	4000	4000	LQM S4ULs
Benzo(k)fluoranthene	mg/kg	77	93	100	1200	1200	1200	LQM S4ULs
Chrysene	mg/kg	15	22	27	350	350	350	LQM S4ULs
Dibenz(ah)anthracene	mg/kg	0.24	0.28	0.3	3.5	3.6	3.6	LQM S4ULs
Fluoranthene	mg/kg	280	560	890	23000	23000	23000	LQM S4ULs
Fluorene	mg/kg	170	400	860	63000 (30.9) sol	68000	71000	LQM S4ULs
Indeno(123-cd)pyrene	mg/kg	27	36	41	500	510	510	LQM S4ULs
Naphthalene	mg/kg	15 f	36 f	85 f	1600 f	3700 f	8400 f	LQM S4ULs
Phenanthrene	mg/kg	95	220	440	22000	22000	23000	LQM S4ULs
Pyrene	mg/kg	620	1200	2000	54000	54000	54000	LQM S4ULs

Generic Assessment Criteria (GAC)

GROUNDTECH CONSULTING

Proposed End Use	Unit	Residential with Plant Uptake			Commercial			Source
SOM	%	1	2.5	6	1	2.5	6	
Phenol	*mg/kg*	*120*	*200*	*380*	*440*	*690*	*1300*	*LQM S4ULs*
Chlorophenols	*mg/kg*	*0.87* [g]	*2*	*4.5*	*3500*	*4000*	*4300*	*LQM S4ULs*
Pentachlorophenol	*mg/kg*	*0.22*	*0.52*	*1.2*	*400*	*400*	*400*	*LQM S4ULs*
Carbon disulphide	*mg/kg*	*0.14*	*0.29*	*0.62*	*11*	*22*	*47*	*LQM S4ULs*
Hexachlorobutadiene	*mg/kg*	*0.29*	*0.7*	*1.6*	*31*	*66*	*120*	*LQM S4ULs*
1,1,1,2 Tetrachloroethane	*mg/kg*	*1.6*	*3.4*	*7.5*	*270*	*550*	*1100*	*LQM S4ULs*
1,1,1 Trichloroethane	*mg/kg*	*8.8*	*18*	*39*	*660*	*1300*	*3000*	*LQM S4ULs*
Trichloroethene	*mg/kg*	*0.016*	*0.034*	*0.075*	*1.2*	*2.6*	*5.7*	*LQM S4ULs*
Tetrachoromethane (Carbon Tetrachloride)	*mg/kg*	*0.026*	*0.056*	*0.13*	*2.9*	*6.3*	*14*	*LQM S4ULs*
1,2-Dichloroethane	*mg/kg*	*0.0071*	*0.011*	*0.019*	*0.67*	*0.97*	*1.7*	*LQM S4ULs*
Chloroethene (Vinyl chloride)	*mg/kg*	*0.00064*	*0.00087*	*0.0014*	*0.059*	*0.077*	*0.12*	*LQM S4ULs*
Trichloromethane (Chloroform)	*mg/kg*	*0.91*	*1.7*	*3.4*	*99*	*170*	*350*	*LQM S4ULs*
Tetrachloroethene	*mg/kg*	*0.18*	*0.39*	*0.9*	*19*	*42*	*95*	*LQM S4ULs*
Hexachlorobenzene	*mg/kg*	*1.8 (0.2)* [vap]	*3.3 (0.5)* [vap]	*4.9*	*110 (0.2)* [vap]	*120*	*120*	*LQM S4ULs*
Pentachlorobenzene	*mg/kg*	*5.8*	*12*	*22*	*640 (43)* [sol]	*770 (107)* [sol]	*830*	*LQM S4ULs*
1,2,4,5-Tetrachlorobenzene	*mg/kg*	*0.33*	*0.77*	*1.6*	*42 (19.7)* [sol]	*72 (49.1)* [sol]	*96*	*LQM S4ULs*
1,2,3,5-Tetrachlorobenzene	*mg/kg*	*0.66*	*1.69*	*3.7*	*49 (39.4)* [vap]	*120 (98.1)* [vap]	*240 (235)* [vap]	*LQM S4ULs*
1,2,3,4-Tetrachlorobenzene	*mg/kg*	*15*	*36*	*78*	*1700 (122)* [vap]	*3080 (304)* [vap]	*4400 (728)* [vap]	*LQM S4ULs*
1,3,5-Trichlorobenzene	*mg/kg*	*0.33*	*0.81*	*1.9*	*23*	*55*	*130*	*LQM S4ULs*
1,2,4-Trichlorobenzene	*mg/kg*	*2.6*	*6.4*	*15*	*220*	*530*	*1300*	*LQM S4ULs*
1,2,3-Trichlorobenzene	*mg/kg*	*1.5*	*3.6*	*8.6*	*102*	*250*	*590*	*LQM S4ULs*
1,4-dichlorobenzene	*mg/kg*	*61* [f]	*150* [f]	*350* [f]	*4400* [f] *(224)* [vap]	*10000* [f] *(540)*	*25000* [f] *(1280)*	*LQM S4ULs*
1,3-dichlorobenzene	*mg/kg*	*0.4*	*1*	*2.3*	*30*	*73*	*170*	*LQM S4ULs*
1,2-Dichlorobenzene	*mg/kg*	*23*	*55*	*130*	*2000 (571)* [sol]	*4800 (1370)* [sol]	*11000 (3240)* [sol]	*LQM S4ULs*
Chlorobenzene	*mg/kg*	*0.46*	*1*	*2.4*	*56*	*130*	*290*	*LQM S4ULs*
Gamma-Hexachlorocyclohexane	*mg/kg*	*0.06*	*0.14*	*0.33*	*67*	*69*	*70*	*LQM S4ULs*
Beta-Hexachlorocyclohexane	*mg/kg*	*0.085*	*0.2*	*0.46*	*65*	*65*	*65*	*LQM S4ULs*
Alpha -Hexachlorocyclohexane	*mg/kg*	*0.23*	*0.55*	*1.2*	*170*	*180*	*180*	*LQM S4ULs*
Beta -Endosulfan	*mg/kg*	*7*	*17*	*39*	*6300 (0.00007)*	*7800 (0.0002)*	*8700*	*LQM S4ULs*
Alpha-Endosulfan	*mg/kg*	*7.4*	*18*	*41*	*5600 (0.003)* [vap]	*7400 (0.007)* [vap]	*8400 (0.016)* [vap]	*LQM S4ULs*
Dichlorvos	*mg/kg*	*0.032*	*0.066*	*0.14*	*140*	*140*	*140*	*LQM S4ULs*
Atrazine	*mg/kg*	*3.3*	*7.6*	*17.4*	*9300*	*9400*	*9400*	*LQM S4ULs*
Dieldrin	*mg/kg*	*0.97*	*2*	*3.5*	*170*	*170*	*170*	*LQM S4ULs*
Aldrin	*mg/kg*	*5.7*	*6.6*	*7.1*	*170*	*170*	*170*	*LQM S4ULs*
HMX	*mg/kg*	*5.7*	*13*	*26*	*110000*	*110000*	*110000*	*LQM S4ULs*
2,4,6-Trinitrotoulene	*mg/kg*	*1.6*	*3.7*	*8.1*	*1000*	*1000*	*1000*	*LQM S4ULs*
RDX	*mg/kg*	*120*	*250*	*540*	*210000*	*210000*	*210000*	*LQM S4ULs*

[sol] S4UL exceeds the solubility saturation limit (which is presented in brackets)

[vap] S4ULS presented exceeds the vapour saturation limit, which is presented in brackets

[f] For naphthalene, the S4UL is based on a comparison of inhalation exposure with the TDI_{inhal} for localised affects

[f] S4UL based on comparison of inhalation exposure with inhalation TDI for localised effects

[dir] S4ULs based on a threshold protecive direct skin contact with phenol (guideline in brackets based on health effects following long term exposure provided for illustation only

Depth Validation Photographs



Photograph 1 – Rear garden area



Photograph 2 – HP01



Photograph 3 – HP01



Photograph 4 – HP02



Photograph 5 – HP02



Photograph 6 – HP03



Photograph 7 – HP03



Photograph 8 – HP03

Limitations

Limitations

This report (Report) forms part of the Services and if applicable Additional Services undertaken by Groundtech Consulting Ltd pursuant to a written contract (Agreement) which contains detailed provisions including express limitations of the liability of Groundtech Consulting Ltd.

This Report was prepared using reasonable skill and care as stated in the Agreement for the purpose including intended end use stated by the Client (Purpose) and the liability of Groundtech Consulting Ltd in respect of the form and content of this Report is no greater than its liability under the Agreement. All records, measurements notes, or any other data (Data) obtained by or for the benefit of the Consultant were obtained at a specific point in time and it may not be assumed by the Client or any person relying on this Report that the Data will remain unaffected by the passage of time, the seasons, weather conditions, changes in the water table or the carrying out and completion of works at the Site.

Unless otherwise agreed this Report has been prepared exclusively for the use and reliance of the Client and may not be relied upon, by any other party except as provided for in the Agreement. A third party who relies on this Report, does so at their own and sole risk and Groundtech Consulting Ltd has no liability to such parties.

Groundtech Consulting Ltd that this Report is to be used for the Purpose. The Purpose was instrumental in determining the scope and of the Services provided. If the Purpose should change, the Client may not be able to rely on the Report without the separate agreement of Groundtech Consulting Ltd.

Since the Report was written, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change (see below) and should be investigated if there is any significant delay in acting on the findings of this Report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the Report inaccurate or unreliable. The information and conclusions in this Report should not be relied upon in the future without written confirmation from Groundtech Consulting Ltd that it is safe to do so.

The observations and conclusions outlined in this Report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting Ltd.

Groundtech Consulting Ltd is not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The Report is based upon Groundtech Consulting Ltd's observations of existing physical conditions at the Site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the Client on the history and usage of the Site. The findings and recommendations contained in this Report are based in part upon information provided by third parties, and Groundtech Consulting Ltd have relied upon such information assuming it to be correct.

Groundtech Consulting Ltd accepts no responsibility for errors or inaccuracies in third party information presented in this Report. Groundtech Consulting Ltd was not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the Services or Additional Services. Groundtech Consulting Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting Ltd and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions may also vary due to the ground's heterogeneous

properties and because investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered

in this Report, particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. If so stipulated in the Agreement, geo-environmental testing was carried out for a limited number of parameters based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

Any groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and groundwater levels may occur at other times of the year which are higher than were recorded during this investigation.

Any site drawings provided in this Report are preliminary and used to present the general relative locations of features on, and surrounding, the Site.

