



CONTRACT NO. 30510106/2

**SOIL VERIFICATION REPORT FOR A PROPOSED
DEVELOPMENT AT GRAVESEND – ROOFTOP
PLANTERS**

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Client:	Curo Living Ltd
Report Issue No.	1
Report Status:	Final
Date:	September 2025
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Generic List of Acronyms and Abbreviations

µg/kg	micrograms per kilogram
µg/l	micrograms per litre
ACEC	aggressive chemical environment for concrete
ACM	asbestos containing material
AOD	above Ordnance datum
bgl	below ground level
BGS	British Geological Survey
BH	Borehole
BTEX	benzene, toluene, ethylbenzene and xylene compounds
C4SL	Category 4 Screening Level
CBR	California bearing ratio
CH ₄	Methane
CIRIA	Construction Industry Research and Information Association
CO	carbon monoxide
CO ₂	carbon dioxide
COMAH	control of major accident hazards
CPT	cone penetration test
CSM	conceptual site model
DEFRA	Department of Environment, Food and Rural Affairs
DoE	Department of Environment (now part of DEFRA)
DP	dynamic probe
DPSH	dynamic probe super heavy
DQRA	detailed quantitative risk assessment
DS	design sulphate class
DWS	drinking water standard
EA	Environment Agency
EHO	Environmental Health Officer
EQS	environmental quality standard
FRA	flood risk assessment
GAC	generic assessment criteria
GPR	ground penetrating radar
GPS	global positioning systems
GQRA	generic quantitative risk assessment
GW-TV	groundwater threshold value
ha	Hectare
H ₂ S	hydrogen sulphide
HSE	Health and Safety Executive
IPPC	Integrated Pollution Prevention and Control
LAPPC	Local Authority Pollution Prevention and Control
LCRM	Land Contamination Risk Management
LNR	Local Nature Reserve
mb	Millibar

MAGIC	Multi Agency Geographical Information for the Countryside
MCERTS	Monitoring Certification Scheme
mg/kg	milligrams per kilogram
mg/l	milligrams per litre
NIEA	Northern Ireland Environment Agency
NGR	National Grid Reference
O ₂	Oxygen
OS	Ordnance Survey
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyls
PFS	petrol filling station
PID	photo ionisation detector
PHE	Public Health England
PPE	personal protective equipment
PRA	preliminary risk assessment
SAC	Special Area of Conservation
S4UL	Suitable For Use Level
SEPA	Scottish Environment Protection Agency
SGV	soil guideline value
SOM	soil organic matter
SPA	Special Protection Area
SPT	standard penetration test
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
SVOCs	semi-volatile organic compounds
TOC	total organic carbon
TP	trial pit
TPH	total petroleum hydrocarbons
TPO	Tree Preservation Order
UKAS	United Kingdom Accreditation Service
UXO	unexploded ordnance
UST	underground storage tank
VOCs	volatile organic compounds
WAC	Waste Acceptance Criteria
WFD	Water Framework Directive
WHO	World Health Organisation
WS	window sampling borehole



SOIL VERIFICATION REPORT FOR A PROPOSED DEVELOPMENT AT GRAVESEND – ROOFTOP PLANTERS

Executive Summary

Objective	The objective of the works was to verify that imported topsoil used to fill rooftop planters met the required chemical Compliance Criteria detailed in a Remediation Strategy for the site.
Site Description	The site is occupied by a multistorey residential development (under construction) with associated areas of soft landscaping.
Scope of Works	Two samples of imported topsoil were recovered and subjected to a suite of contamination laboratory testing, the results of which were compared to predetermined Compliance Criteria.
Verification Assessment	Concentrations of the tested determinants are below the respective Compliance Criteria, and therefore the imported material is suitable for use within the upper 500mm of landscaped areas.
Limitations	The limitations of this report are detailed in Section 6.0.



1.0 INTRODUCTION

DTS Raeburn Limited t/a Igne were commissioned by Curo Living to undertake validation sampling and laboratory analysis of imported topsoil used to fill rooftop planters, and prepare a verification report. The objective of the works was to verify that topsoil met the required chemical Compliance Criteria specified in a Remediation Strategy for the site.

Additional sampling, testing and reporting is proposed for other areas of the site in due course.

The works were undertaken in accordance with the following documents to discharge the relevant parts of Planning Condition 9 of Planning Ref. 20200343:

- ❖ DTS Raeburn Remediation Strategy (E13343/3-L1), December 2021
- ❖ Igne Verification Plan (30510106-1), June 2025

The above documents include the requirement for validation testing to be undertaken at a rate of not less than one sample per 500m³ of topsoil material, and comparison of the results to Compliance Criteria to verify that the levels of contamination within the soils are suitable for the proposed use.

2.0 SITE DETAILS

The site is located on Bank Street, Gravesend, DA12 2EN and is centred on an approximate National Grid Reference (NGR) 574680, 109370.

The site is irregular in shape, covers an area of 0.8ha and consists of two multistorey residential buildings currently under construction, with associated areas of soft landscaping, as indicated in Figure 1.

Approximately 50m³ of topsoil has been imported to site and has been used/will be used to fill rooftop planters. The topsoil was supplied by in-ex landscapes and their technical specification for the material is included in Appendix 1.

3.0 VERIFICATION SAMPLES

The imported topsoil comprised brown slightly organic slightly clayey fine to medium sand with no visual or olfactory evidence of contamination.

Two soil samples for contamination assessment were recovered by the Igne site engineer in accordance with the guidelines in BS 10175:2011+A2:2017 'Investigation of Potentially Contaminated Sites - Code of Practice'. During sampling all reasonable effort was maintained to prevent cross-contamination or general failure of the sampling strategy. All samples were collected in new, clean bags or jars as appropriate using a stainless-steel trowel, which was cleaned prior to the collection of each sample. The recovered samples were temporarily stored in cool boxes with freeze packs in order to maintain low temperatures during transfer to the laboratory.



4.0 VERIFICATION TESTING

The recovered soil samples were subjected to laboratory analysis for the suite of determinants listed in Appendix 2 of both the Remediation Strategy and Verification plan. These are also listed in Table 5.1 of this report.

The analysis was undertaken by Normec DETS, to UKAS and MCERTS accreditation where applicable. The results are presented in Appendix 2.

5.0 VERIFICATION ASSESSMENT

The results of the testing undertaken have been compared directly to the Compliance Criteria presented in the Remediation Strategy and Verification Plan. This comparison is presented in Table 5.1, with any exceedances of the Compliance Criteria highlighted **bold**.

Table 5-1 Assessment of soil contamination test results

Determinant	Maximum Detected Concentration (mg/kg)	Compliance Criteria (mg/kg)
arsenic	17	79
cadmium	0.1	220
chromium (total)	18	23
copper	10	12,000
lead	22	630
selenium	<0.5	1,100
mercury (inorganic)	<0.05	120
nickel	14	230
zinc	50	81,000
boron	1.2	21,000
phenol ¹	0.7	440
PAH		
acenaphthene	<0.03	15,000
acenaphthylene	<0.03	15,000
anthracene	<0.03	74,000
benzo(a)anthracene	0.04	29
benzo(a)pyrene	<0.03	5.7
benzo(b)fluoranthene	0.05	7.1
benzo(g,h,i)perylene	<0.03	640
benzo(k)fluoranthene	<0.03	190
chrysene	0.04	57
dibenzo(a,h)anthracene	<0.03	0.57
fluoranthene	0.09	3,100
fluorene	<0.03	9,900
indeno(1,2,3-cd)pyrene	<0.03	82
naphthalene	<0.03	4,900
phenanthrene	<0.03	3,100
pyrene	0.07	7,400
TPH and BTEX		
aliphatic C ₅ -C ₆ ²	<0.01	304

aliphatic C ₆ -C ₈	<0.01	60,000
aliphatic C ₈ -C ₁₀	<0.01	13,000
aliphatic C ₁₀ -C ₁₂	1.69	13,000
aliphatic C ₁₂ -C ₁₆	<1.20	13,000
aliphatic C ₁₆ -C ₃₅	9.35	250,000
aliphatic C ₃₅ -C ₄₄	<0.01	250,000
aromatic EC ₅ -EC ₇	<0.01	56,000
aromatic EC ₇ -EC ₈	<0.01	56,000
aromatic EC ₈ -EC ₁₀	<0.90	5,000
aromatic EC ₁₀ -EC ₁₂	<0.50	5,000
aromatic EC ₁₂ -EC ₁₆	10.05	5,100
aromatic EC ₁₆ -EC ₂₁	78.42	3,800
aromatic EC ₂₁ -EC ₃₅	<0.01	3,800
aromatic EC ₃₅ -EC ₄₄	<0.01	3,800
benzene	<0.01	140
toluene ²	<0.01	56,000
ethylbenzene ²	<0.01	24,000
m&p-xylene ²	<0.01	41,000
o-xylene ²	<0.01	41,000
asbestos	None detected	0.001%

¹ Based on a threshold protective of direct skin contact with phenol (most conservative)

² SGV/GAC capped at the lower of the vapour or aqueous saturation limits in soil

As shown within Table 5-1, concentrations of the tested determinants are below the respective Compliance Criteria, and therefore the imported material is suitable for use within the upper 500mm of landscaped areas.

6.0 LIMITATIONS AND USE OF THIS REPORT

IMPORTANT: This section should be read before reliance is placed on any of the opinions, advice, recommendations and conclusions contained in this report.

- This report has been prepared at the request of Curo Living Ltd ('the Client') pursuant to their appointment of Igne in connection with the investigation.
- Except for Curo Living Ltd, no duty is undertaken, or warranty or representation made to any party in respect of the opinions, advice, recommendations, or conclusions contained in this report.
- All work carried out in preparing this report has used and is based upon Igne's professional knowledge and understanding of the current (August 2025) relevant standards, codes, technology, and legislation. Changes in the above may cause the opinion, advice, recommendations, or conclusions set out in this report to become inappropriate or incorrect. However, in giving its opinions, advice, conclusions, and recommendations, Igne have considered pending changes to environmental legislation and regulations of which they are currently aware. Following delivery of this report, Igne will have no obligation to advise the Clients of any such changes or of their repercussions. It may therefore be necessary to review the opinions, advice, recommendations and conclusions of this report following future changes to legislation.
- Some of the information referenced and included in the report has been provided by third parties and whilst Igne has no reason to doubt the accuracy, these items have not been verified.



Igne accepts no responsibility for errors within third party materials referenced and presented in this report.

- e) Igne acknowledge that they are being retained, in part, because of their knowledge and experience with respect to geotechnical and environmental matters. Igne will consider and analyse all information provided in the context of their knowledge and experience and all other relevant information known to Igne. To the extent that the information provided to Igne is not inconsistent and/or incompatible therewith, Igne shall be entitled to rely upon and assume, without independent verification, the accuracy and completeness of all such information and shall have no obligation to verify the accuracy and completeness of such information,
- f) The opinions expressed in this report are based on the ground conditions revealed by investigation, together with an assessment of the site and of laboratory test results. Whilst opinions may be expressed relating to sub-soil conditions in parts of the site not investigated, for example between sampling positions, these are only for guidance and no liability can be accepted for their accuracy.
- g) The content of this report represents the professional opinion of experienced geotechnical and environmental specialists/consultants. Igne does not provide associated legal advice and appropriate legal advice should be sought if required.
- h) The lack of evidence of the presence of hazardous materials, voids or obstructive features at the subject property does not guarantee the absence of such materials, rather it indicates only that none were found as a result of the services provided.

Igne

30510106/2 – August 2025

1. E01 South
2. Retaining Wall
3. Courtyard
4. S278
5. E03
6. E02
7. Follows 278

SITE BOUNDARY

NOTES:
This drawing is the copyright of Hyland Edgar Driver. It must not be copied or reproduced without written permission. Only figured dimensions are to be taken from this drawing. All contractors must visit the site and be responsible for checking and checking all dimensions related to the works shown on this drawing.

- KEY**
- Proposed Site Boundary
 - P1 Hardscape Kellen Silver grey aggregate PCC paving with contrasting tactile paving
 - P1.1 Hardscape Kellen Mid grey paving units 200 x 100
 - P2 Marshalls Model Permeable PCC flag paving
 - P3 Clay paving to match existing
 - P4 Tarmac road surface
 - P5 Tactile paving
 - P6 Tarmac Pavement surface
 - Proposed planting Groundcover and shrubs
 - Proposed planting Lawn
 - Conservation Kerb 100mm height
 - Conservation Kerb 50mm height
 - Kerb edging - flush finish
 - Metal edging
 - Proposed planting Trees
 - Existing Trees Retained
 - Existing Trees Removed
 - Retained Tree
 - Lighting column location
 - Fire Hydrant location
- Scale: 1:250
0 2.5m 5m 10m

C3 Additional parking bay along Bank St 21/02/25 AW
C2 Fire Hydrant locations added 18/03/23 AW
C1 Issue for information / approval 11/03/22 AW
P03 Updates to kerb layout and RSA response 01/03/22 AW
P02 Updates to E02 & E03, lighting columns added 08/10/21 AW
P01 Stage 4 Issue 18/03/21 JSW

REVISIONS

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Hyland Edgar Driver

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PROJECT
THE CHARTER
HORN YARD AND MARKET SQUARE
SUBJECT
General Arrangement Landscape Plan



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Figure 1
Site Plan
Scale as shown
30510106/2: Gravesend
Prepared for: Curo Living Ltd



APPENDIX 1

Topsoil Specification
(4 pages)



The Charter

Topsoil

Technical Submittal for Approval

CC1087-IEX-ZZ-00-TS-X-00005

Rev00

12/08/25

TS6 Topsoil – Manufactured BS3882 Multipurpose Topsoil

Date Tested: 13th May 2025

Report ID: TOHA/25/1811/2/SS

Report Overview

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). The sample was also assessed for compliance with the requirements of the British Standard for Topsoil (BS3882:2015 Specification for Topsoil Multipurpose Topsoil).

Based on visual examination and laboratory analysis, the sample was described as an alkaline (pH 7.7), with moderate salinity (electrical conductivity), indicating soluble salts should not be at harmful levels to plants, slightly calcareous, virtually stone-free sandy loam with a weakly developed, fine to medium granular structure. The saturated hydraulic conductivity result (2 mm/hr) indicates that the material would be slowly permeable, which may be acceptable where slower draining topsoil is required, but not suitable for environments requiring more free-draining topsoil. The organic matter content was adequate to well supplied, and it contained all major plant nutrients. None of the potential contaminants exceeded their respective guideline values.

Based on these findings, the topsoil represented by this sample is considered suitable for landscape environments where a slowly permeable topsoil is required or acceptable, provided the physical condition of the soil is maintained and species with a wide pH tolerance or those known to prefer alkaline conditions are selected. The topsoil was also fully compliant with the requirements of the British Standard for Topsoil (BS3882:2015 - Specification for Topsoil - Table 1, Multipurpose Topsoil).

Parameter	Unit	BS3882:2015 Multipurpose Range	Result	Compliance
Texture:				
Clay (<0.002mm)	% w/w	5 - 30%	12	Yes
Silt (0.002 - 0.05mm)	% w/w	0 - 65%	9	Yes
Sand (0.05 - 2.0mm)	% w/w	20 - 90%	79	Yes
Textual Class:	Sandy Loam			
Stones (2 - 20mm)	% w/w DW	0 - 30%	1	Yes
Stones (20-50mm)	% w/w DW	0 - 10%	0	Yes
Stones (>50mm)	% w/w DW	0%	0	Yes
Sand Fraction (USGA Sieve Sizes):				
Very Fine Sand (0.05 - 0.15mm)	% w/w	n/a	5	--
Fine Sand (0.15 - 0.25mm)	% w/w	n/a	12	--
Medium Sand (0.25 - 0.50mm)	% w/w	n/a	49	--
Coarse Sand (0.50 - 1.0mm)	% w/w	n/a	11	--
Very Coarse Sand (1.0 - 2.0mm)	% w/w	n/a	2	--
Organic Matter (LOI)	% w/w	3.0 - 20.0	4.1	Yes
Ph		5.5 - 8.5	7.7	Yes
Exchangeable Sodium Percentage	%	< 15%	5.3	Yes
Phytotoxic Contaminants:				
Total Zinc (BS3882:2015)	mg/kg	< 300	57	Yes
Total Copper (BS3882:2015)	mg/kg	< 200	10	Yes
Total Nickel (S4UL)	mg/kg	< 180	30	Yes
Available Nutrients:				
Nitrogen	mg/l	>0.15	0.16	Yes
Phosphorus	mg/l	16 - 140	85	Yes
Potassium	mg/l	121 - 1500	1150	Yes
Magnesium	mg/l	51 - 600	134	Yes
Carbon:Nitrogen Ratio	:1	< 20:1	15	Yes
Calcium Carbonate	% m/m	n/a	1.1	--
Additional Analysis:				
Electrical Conductivity (1:2.5 water extract)	µS/cm	1500	1177	Yes
Electrical Conductivity (1:2 CaSO4 extract)	µS/cm	3300	2088	Yes
Saturated Hydraulic Conductivity	mm/hr	--	2	--
Visible Contaminants:				
Plastics (>2.0mm)	% w/w	< 0.5	0	Yes
Sharps (>2.0mm)	% w/w	< 0.25	0	Yes

Parameter	Unit	Guidelines	Value	Result	Compliance
Heavy Metals and Hydrocarbons					
Total Antimony (Sb)	mg/kg	S4UL	<500	3	Yes
Total Arsenic (As)	mg/kg	S4UL	<37	22	Yes
Total Barium (Ba)	mg/kg	S4UL	<1300	34	Yes
Total Beryllium (Be)	mg/kg	S4UL	<1.7	0.9	Yes
Total Cadmium (Cd)	mg/kg	S4UL	<11	<0.2	Yes
Total Chromium III (Cr)	mg/kg	S4UL	<910	55	Yes
Hexavalent Chromium (Cr VI)	mg/kg	S4UL	<6	<1.8	Yes
Total Cyanide (Cn)	mg/kg	Dutch Action Value (DAV)	<20	<1.0	Yes
Total Lead (Pb)	mg/kg	SP1010 (Defra Category 4)	<200	14	Yes
Total Mercury (Hg)	mg/kg	S4UL	<1.2	<0.3	Yes
Total (mono) Phenols	mg/kg	S4UL ^Λ	<550	<1.0	Yes
Total Selenium (Se)	mg/kg	S4UL	<250	<1.0	Yes
Total Vanadium (V)	mg/kg	S4UL	<410	110	Yes
Water Soluble Boron (B)	mg/kg	S4UL	<290	2.2	Yes
Water Soluble Sulphate (SO ₄)	g/l	BRE Special Digest 1:2005 (BRE)	<1.2	210	Yes

Acenaphthylene	mg/kg	S4UL ^Λ	<420	<0.05	Yes
Acenaphthene	mg/kg	S4UL ^Λ	<510	<0.05	Yes
Anthracene	mg/kg	S4UL ^Λ	<5400	<0.05	Yes
Benzo (a) Anthracene	mg/kg	S4UL ^Λ	<11	<0.05	Yes
Benzo (a) Pyrene	mg/kg	S4UL ^Λ	<2.7	<0.05	Yes
Benzo (b) Fluoranthene	mg/kg	S4UL ^Λ	<3.3	<0.05	Yes
Benzo (g,h,i) Perylene	mg/kg	S4UL ^Λ	<340	<0.05	Yes
Benzo (k) Fluoranthene	mg/kg	S4UL ^Λ	<93	<0.05	Yes
Chrysene	mg/kg	S4UL ^Λ	<22	<0.05	Yes
Dibenzo (a,h) Anthracene	mg/kg	S4UL ^Λ	<0.28	<0.05	Yes
Fluoranthene	mg/kg	S4UL ^Λ	<560	<0.05	Yes
Fluorene	mg/kg	S4UL ^Λ	<400	<0.05	Yes
Indeno (1,2,3-cd) Pyrene	mg/kg	S4UL ^Λ	<36	<0.05	Yes
Naphthalene	mg/kg	S4UL ^Λ	<5.6	<0.05	Yes
Phenanthrene	mg/kg	S4UL ^Λ	<220	<0.05	Yes
Pyrene	mg/kg	S4UL ^Λ	<1200	<0.05	Yes
Aliphatic TPH (C5 - C6)	mg/kg	S4UL ^Λ	<78	<0.010	Yes
Aliphatic TPH (C6 - C8)	mg/kg	S4UL ^Λ	<230	<0.010	Yes
Aliphatic TPH (C8 - C10)	mg/kg	S4UL ^Λ	<65	<0.010	Yes
Aliphatic TPH (C10 - C12)	mg/kg	S4UL ^Λ	<330	<1.0	Yes
Aliphatic TPH (C12 - C16)	mg/kg	S4UL ^Λ	<2400	<2.0	Yes
Aliphatic TPH (C16 - C21)	mg/kg	S4UL ^Λ	<92000	<8.0	Yes
Aliphatic TPH (C21 - C35)	mg/kg	S4UL ^Λ	<92000	10	Yes
Aliphatic TPH (C5 - C35)	mg/kg	S4UL ^Λ	<92000	<10	Yes
Aromatic TPH (C5 - C7)	mg/kg	S4UL ^Λ	<140	<0.010	Yes
Aromatic TPH (C7 - C8)	mg/kg	S4UL ^Λ	<290	<0.010	Yes
Aromatic TPH (C8 - C10)	mg/kg	S4UL ^Λ	<83	<0.020	Yes
Aromatic TPH (C10 - C12)	mg/kg	S4UL ^Λ	<180	<1.0	Yes
Aromatic TPH (C12 - C16)	mg/kg	S4UL ^Λ	<330	<2.0	Yes
Aromatic TPH (C16 - C21)	mg/kg	S4UL ^Λ	<540	<10	Yes
Aromatic TPH (C21 - C35)	mg/kg	S4UL ^Λ	<1500	<10	Yes
Aromatic TPH (C5 - C35)	mg/kg	S4UL ^Λ	<1500	<10	Yes

Benzene	mg/kg	S4UL ^Λ	<0.17	<0.005	Yes
Toluene	mg/kg	S4UL ^Λ	<290	<0.005	Yes
Ethylbenzene	mg/kg	S4UL ^Λ	<110	<0.005	Yes
O-xylene	mg/kg	S4UL ^Λ	<140	<0.005	Yes
M-xylene	mg/kg	S4UL ^Λ	<140	<0.008	Yes
P-xylene	mg/kg	S4UL ^Λ	<130	<0.008	Yes
MTBE	mg/kg	Sail Guideline Values	<470	<0.005	Yes
Asbestos	mg/kg	Control of Asbestos Regulations 2006	Absent	Absent	Yes



APPENDIX 2

Contamination Laboratory Test Results (7 pages)

Certificate of Analysis

Certificate Number 25-21427

Issued: 22-Sep-25

Client DTS Raeburn Geotechnical & Environmental Eng
4th Floor
17 Lichfield Street
Walsall
WS1 1TU

Our Reference 25-21427

Client Reference ~ 30510106-1

Order No ~ 34020

Contract Title ~ Gravesend

Description 2 Soil samples.

Date Received 15-Sep-25

Date Started 15-Sep-25

Date Completed 22-Sep-25

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

A handwritten signature in black ink, appearing to read "R. Irfan".

Reyhan Irfan
Operations Manager



Summary of Chemical Analysis Soil Samples

Our Ref 25-21427

Client Ref ~ 30510106-1

Contract Title ~ Gravesend

Lab No	2568974	2568975
	West	West
Sample ID ~	Elevation vl 8 ES01	Elevation vl 8 ES02
Depth ~		
Other ID ~	ES01	ES02
Sample Type ~	ES	ES
Sampling Date ~	11/09/2025	11/09/2025
Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Metals					
Arsenic	DETSC 2301#	0.2	mg/kg	17	12
Boron, Water Soluble (2.5:1)	DETSC 2311#	0.2	mg/kg	1.2	1.0
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	18	17
Copper	DETSC 2301#	0.2	mg/kg	10	6.4
Lead	DETSC 2301#	0.3	mg/kg	22	11
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	14	12
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	50	31
Inorganics					
pH	DETSC 2008#		pH	8.3	8.3
Cyanide, Total	DETSC 2130#	0.1	mg/kg	0.5	0.5
Cyanide, Free	DETSC 2130#	0.1	mg/kg	0.4	0.5
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	120	120
Sulphide	DETSC 2024*	10	mg/kg	< 10	< 10
Sulphur as S, Total	DETSC 2320	0.01	%	0.03	0.02
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.05	0.04
Petroleum Hydrocarbons					
Aliphatic C5-C6: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C6-C8: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic C8-C10: HS_1D_AL	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aliphatic >EC10-EC12: EH_2D_AL	DETSC 3521#	1.5	mg/kg	1.69	< 1.50
Aliphatic >EC12-EC16: EH_2D_AL	DETSC 3521#	1.2	mg/kg	< 1.20	< 1.20
Aliphatic >EC16-EC21: EH_2D_AL	DETSC 3521#	1.5	mg/kg	< 1.50	< 1.50
Aliphatic >EC21-EC35: EH_2D_AL	DETSC 3521#	3.4	mg/kg	9.35	5.44
Aliphatic C5-C35: EH_2D+HS_1D_AL	DETSC 3521*	10	mg/kg	11.04	< 10.00
Aromatic C5-C7: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C7-C8: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic C8-C10: HS_1D_AR	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01
Aromatic >EC10-EC12: EH_2D_AR	DETSC 3521#	0.9	mg/kg	< 0.90	< 0.90
Aromatic >EC12-EC16: EH_2D_AR	DETSC 3521#	0.5	mg/kg	< 0.50	< 0.50
Aromatic >EC16-EC21: EH_2D_AR	DETSC 3521#	0.6	mg/kg	10.05	2.80
Aromatic >EC21-EC35: EH_2D_AR	DETSC 3521#	1.4	mg/kg	78.42	56.76
Aromatic C5-C35: EH_2D+HS_1D_AR	DETSC 3521*	10	mg/kg	88.47	59.56
TPH Ali/Aro Total C5-C35: EH_2D+HS_1D_Total	DETSC 3521*	10	mg/kg	99.51	59.56
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 25-21427

Client Ref ~ 30510106-1

Contract Title ~ Gravesend

Lab No	2568974	2568975
	West	West
Sample ID ~	Elevation vl 8 ES01	Elevation vl 8 ES02
Depth ~		
Other ID ~	ES01	ES02
Sample Type ~	ES	ES
Sampling Date ~	11/09/2025	11/09/2025
Sampling Time ~	n/s	n/s

Test	Method	LOD	Units		
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01
MTBE	DETSC 3321	0.01	mg/kg	< 0.01	< 0.01
PAHs					
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.09	0.05
Pyrene	DETSC 3303#	0.03	mg/kg	0.07	0.04
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.04	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	0.04	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.05	0.05
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	0.29	0.14
Phenols					
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	0.7	< 0.3

Summary of Asbestos Analysis Soil Samples

Our Ref 25-21427

Client Ref ~ 30510106-1

Contract Title ~ Gravesend

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2568974	West Elevation vl 8 ES01 ES01	SOIL	NAD	none	Michael Kay
2568975	West Elevation vl 8 ES02 ES02	SOIL	NAD	none	Michael Kay

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 25-21427
Client Ref ~ 30510106-1
Contract ~ Gravesend

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Incorrect container for tests
2568974	West Elevation v1 8 ES01 SOIL	11/09/25	GJ 250ml, GJ 60ml, PT 1L		
2568975	West Elevation v1 8 ES02 SOIL	11/09/25	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

Normec DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 250µm sieve

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Information in Support of the Analytical Results

List of HWOL Acronyms and Operators

Acronym	Description
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
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#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 eg. EH+HS_Total or EH_CU+HS_Total

Det	Acronym
Aliphatic C5-C6	HS_1D_AL
Aliphatic C6-C8	HS_1D_AL
Aliphatic C8-C10	HS_1D_AL
Aliphatic >EC10-EC12	EH_2D_AL
Aliphatic >EC12-EC16	EH_2D_AL
Aliphatic >EC16-EC21	EH_2D_AL
Aliphatic >EC21-EC35	EH_2D_AL
Aliphatic C5-C35	EH_2D+HS_1D_AL
Aromatic C5-C7	HS_1D_AR
Aromatic C7-C8	HS_1D_AR
Aromatic C8-C10	HS_1D_AR
Aromatic >EC10-EC12	EH_2D_AR
Aromatic >EC12-EC16	EH_2D_AR
Aromatic >EC16-EC21	EH_2D_AR
Aromatic >EC21-EC35	EH_2D_AR
Aromatic C5-C35	EH_2D+HS_1D_AR
TPH Ali/Aro Total C5-C35	EH_2D+HS_1D_Total

Key:

- ~ Sample details are provided by the client and can affect the validity of the results
- * -not accredited.
- # -MCERTS (accreditation only applies if report carries the MCERTS logo).
- \$ -subcontracted.
- n/s -not supplied.
- I/S -insufficient sample.
- U/S -unsuitable sample.
- t/f -to follow.
- nd -not detected.

End of Report Ver 25.09.01