1 Forest Park Way
Pease Pottage
West Sussex
RH11 9ZG
UK

Telephone: +44 (0) 1306 866160

07 August 2026

Our ref. 3751255

CALA Homes (South Home Counties)
The Dorking Business Park,
Station Road,
Dorking,
RH4 1HJ

For the attention of: Scott Edington

Re: Parcels RM5 & RM6, North Horsham - Additional Intrusive Investigation

1. Introduction

RSK Geosciences was appointed by CALA Homes (South Home Counties) (hereafter referred to as 'the Client') to undertake an additional intrusive site investigation within development phases RM5 and RM6 at your North Horsham site.

The works were undertaken by means of RSK's fee proposal dated 11 May 2026, with reference 3751255 T01, including RSK's Standard Terms and Conditions [Issue No.13.2 July 2025] which forms the appointment between RSK and the Client. Leap Environmental was a former trading name of RSK Environment Limited, and any references to Leap should be taken to mean RSK Environment Limited.

References in this report to 'we', 'us' or 'our' shall mean RSK Environment Limited (company no.SC115530) at registered address 65 Sussex Street Glasgow G41 1DX.

The report should be read and used in accordance with the limitations and constraints identified in the report text, and at **Appendix A** – Service Constraints.

1.1 Objectives

This additional investigation was required since Horsham District Council did not accept that the testing completed during the previous investigations within parcels RM5 and RM6 was sufficient to enable a satisfactory human health risks assessment for the site, since where made ground was encountered with visual evidence of contamination, the made ground was not sampled and did not undergo any chemical analysis. Therefore, Condition 18, for Planning Permission DC/16/1677, has not been discharged. As a result, further intrusive investigation was considered necessary to sample and subsequently assess whether the made ground soils present onsite present a human health risk to the residential occupants of the proposed residential properties.

1.2 Proposed Development

The site is owned by CALA Homes (South Home Counties) and is currently under development with houses under construction in the southeastern region of development, phase RM6. The proposed development is

being carried out under Horsham District Council planning application DC/16/1677. The wider development comprises residential properties (up to 2,750 dwellings), a business park (up to 46,450 m2), retail, community centre, leisure facilities, education facilities, public open space, landscaping and related infrastructure and has reserved matters except for access. Client provided figures which illustrate the proposed development design are included in **Appendix B**, Drawing No. 890878-RSK-XX-ZZ-DR-C-7000-P06 for development phase RM5 and Drawing No. 890878-RSK-XX-ZZ-DR-C-7001-P06 for development phase RM6.

1.3 Previous Reports

The site has been the subject of previous investigations by others and RSK Geosciences. The reader is referred to these previous reports which should be read in conjunction with this report:

- Contaminated Land Desk Study 'Land North of Horsham' dated February 2016, by BAE Systems Environmental on behalf of Liberty Property Trust UK (ref: A1129-00-R1-2).
- Ground Investigation Report (Factual), Phase 1 – Land North of Horsham dated March 2020, by Endeavour Drilling on behalf of Stantec UK Limited (ref: END20-007).
- Hydrock Letter Report dated July 2021, by Hydrock (ref: 11746-HYD-XX-XX-RP-G-1001).
- Phase 1, Land North of Horsham, West Sussex dated October 2021, by Stantec (ref: 25216/3503/R003/Rev1).
- Phase 2, Ground Condition Assessment, Remediation Strategy and Verification Plan dated June 2022, by Stantec (ref: 25216/3511/R012/Rev02).
- Phase 2 Site Investigation at RM5, 6 and 11 Moat Road, Horsham dated September 2024, by Leap Environmental (ref: LP3655).
- Phase II Site Investigation & Combined Interpretative Report at RM5 / RM6 North Horsham, Moat Road, Horsham, UK, RH12 4QR dated January 2025, by Leap Environmental (ref: LP3765/3750717)
- Trench Stability Assessment, North Horsham, RM5 and RM6 dated February 2026, by Leap Environmental (ref: 3750857)
- Trial Pits and Soaked CBRs, Area 5 and 6 North Horsham, West Sussex dated June 2026, by RSK Geosciences (ref: 3751186 R01 (00)).

2. Site Location and Description

The site, development parcels RM5 and RM6, are located in the southwestern region of the wider North Horsham Development, Moat Road, Horsham, RH12 4QR. The approximate National Grid Reference of the site is TQ 18742 33965, and the site lies at an estimated elevation of 57 m Above Ordnance Datum (m AOD) in the north sloping down to 55 m AOD in the south.

The site comprises two development phases, RM5 and RM6, with a combined area of 6.9 Ha. Site location plans are included in **Appendix B**, in Drawing ref: 3751255-CR-111-XX-D-G-11101-C01 and 3751255-CR-111-XX-D-G-11201-C01

The site is situated north of the town of Horsham, approximately 3 km north of Horsham Town Centre. The site is located between two roads, Old Holbrook Road to the west and Rusper Road to the east. The wider

Horsham development site comprises arable fields in different phases of development with the Moated Farm House present in the centre of the site. There is a pond associated with Moated Farm House, located to the north, which lies outside the boundaries of RM5 and RM6.

The additional area of investigation comprised RM5 and RM6 which comprised of former agricultural fields, now relevelled (based on observations onsite, changes in ground conditions between this and previous investigations and anecdotal evidence). Hedges and mature trees were also noted along field boundaries onsite during the site walkover, specifically along the western boundary of RM6. A new access road, Lancet Drive, has also been constructed and runs through the western half of RM6 and along the southern and eastern border of RM6. Additionally, a new recreational area has been constructed directly to the south of Moated Farm House.

The site is bounded by Moat Road to the north, with a construction site beyond, Rusper Road to the east, with Bohunt secondary school and open fields beyond, agricultural fields and Old Holbrook road to the west of the site, and the A264 dual carriageway to the south with thew town of Horsham beyond.

3. Geology

The geology of the site has been ascertained by reference to the BGS website (www.bgs.ac.uk) and the previous investigation reports. The site is predominantly mapped as being underlain by the Weald Clay Formation. However, according to the BGS website, the Weald Clay Formation differs onsite, with Mudstone occupying the majority of the site and a strip of Clay-ironstone running east to west within the northern central and eastern region of development phase RM6.

4. Previous Investigation Findings

The site has previously been investigated by RSK Geosciences (incorporating Leap Environmental) and others. Below is a summary of the Phase II Site Investigation & Combined Interpretative Report which summaries the geoenvironmental findings of the investigations which have taken place onsite historically.

4.1 Leap Environmental Phase II Site Investigation & Combined Interpretive Report

The site has a history of use as agricultural land, associated with Moated House Farm, since the early 1870s, with the surrounding area also predominantly agricultural land, including sporadic farmhouses to the south of the site. The previous desk study identified potential sources of contamination associated with the site's former use, including made ground associated with relevelling, fuel spills from the site's former agricultural use, and offsite made ground associated with past and present farm buildings.

The ground conditions previously identified within RM5 and RM6 comprise topsoil / reworked topsoil, to a maximum depth of 0.40 m bgl, occasionally over made ground to a maximum depth of 1.50m bgl, over the clay of the Weald Clay Formation to a maximum depth of 3.05m bgl. The topsoil generally comprised sandy, silty clay or gravelly, clayey silt. Whilst the made ground generally comprised gravelly, sandy clay or silt.

The made ground encountered across RM5 and RM6 comprised of a gravelly, sandy clay or silt and typically contained anthropogenic inclusions including brick fragments, concrete, blacktop, occasional tile fragments, clinker, and wood. Visual evidence of contamination within the made ground included clinker and greyish black staining, identified in WS2, as well as an occasional organic odour in TP05, TP06, and TP08,

A geo-environmental risk assessment has been carried out. Contamination testing of the soils identified no contaminants above the selected screening criteria; however, contamination testing of the adjacent watercourse, The Holbrook, did identify contamination above the selected screening criteria. However the exceedances are considered negligible, and the receptor is not considered particularly sensitive. Previously as part of the intrusive investigation reported in the Endeavour 2020 report, soil samples were selected to ensure that near-surface exposure of human health via direct contact was targeted, as well as to spatially and vertically delineate possible sources of contamination. As with any redevelopment site, there is always the risk of hitherto undetected contamination, and any suspected contamination encountered during the development of the site should be handled accordingly.

5. Fieldwork

RSK attended the site on 13th July 2026 to undertake trial pitting within development phases RM5 and RM6 at CALA Homes' North Horsham site. The weather was dry and sunny.

12 No. trial pits were excavated as part of this investigation and a figure illustrating the location of the of the excavated trial pits is provided in **Appendix B**, Drawing Ref: 3751255-CR-222-XX-D-G-22201-C02. Photographs of the trial pits and the recovered arisings are provided in **Appendix C**.

3 No. trial pits (TP308, TP312, and TP316) were positioned to target locations where made ground was previously identified (WS2, TP03, and TP05). The remaining trial pits were added to provide general coverage across accessible areas in RM5 and RM6.

The GPS setting out, GPR surveys, and trial pitting were carried out by approved RSK subcontractors, MCD Ground Solutions and Spillane Plant Services, respectively. The work was supervised by RSK, and the recovered arisings were logged in general accordance with BS5930[1].

5.1 Constraints

Due to access constraints, such as existing stockpiles, piling operations, and existing construction site infrastructure (site compound & car park), proposed trial pits TP301, TP302, TP304, TP307, TP311, TP318 could not be completed However, all three areas where made ground was located in the previous investigations, were accessible during the recent investigation (WS2, TP03, and TP05).

In addition, on the 21st of April 2026, the Client sent a plan of the site which highlighted where intrusive investigation was not possible due to the area being under construction. This area is in the southeast corner of RM6 and is highlighted yellow in Drawing Ref: 3751255-CR-222-XX-D-G-22201-C02, **Appendix B**.

[1] BS5930:2015+A1:2020 – Code of Practice for Ground Investigations

6. Ground Conditions

The ground conditions encountered during this additional investigation were fairly consistent with the findings from the previous intrusive investigations carried out onsite to date. The shallow ground conditions encountered onsite to date (excluding the underlying rock associated with the Weald Clay Formation) are summarised in **Table 1** below.

Table 1: Summary of Soils encountered

Depth From (m)	Depth To (m)	Soil Type	Description
0.00	0.10 / 0.40	**TOPSOIL**	Light brown/brown occasionally silty, sandy CLAY with occasional rootlets (TOPSOIL) or brown sandy, gravelly SILT with gravels of flint (REWORKED TOPSOIL). *Excluding TP303, TP305, TP306, TP313
0.00 / 0.20	0.25 / 1.50	**MADE GROUND**	MADE GROUND: Brown gravelly, sandy CLAY or SILT. Sand is fine to coarse. Gravel is fine to coarse, angular chert with brick, concrete, clinker, pea shingle, occasional wood, occasional ceramic fragments, occasional canvas bag fragment and rare tile (REWORKED WEALD CLAY FORMATION)
0.20 / 1.30	0.25 / 3.05	**CLAY**	Stiff to very stiff orangish brown mottled light grey slightly gravelly, slightly sandy, silty CLAY with occasional clayey SILT. Sand is fine to coarse. Gravel is fine to coarse, angular to sub-angular extremely weak mudstone, siltstone, and ironstone (WEALD CLAY FORMATION).

The ground conditions onsite, based on all the intrusive locations carried out to date, generally consist of topsoil or reworked topsoil, to a maximum depth of 0.40 m bgl, occasionally over made ground to a maximum depth of 1.50m bgl, over the clay of the Weald Clay Formation to a maximum depth of 3.05 m bgl.

Some of the reworked topsoil and made ground is believed to be linked to relevelling activities carried out across the development phases using a bulldozer, during the early construction works.

The made ground encountered across RM5 and RM6 comprised of a gravelly, sandy clay or silt and typically contained anthropogenic inclusions including brick fragments, concrete, blacktop, occasional tile fragments, and wood. Rare inclusions of plastic fragments, plastic pipe, ceramic, glass, geotextile membrane and canvas bags were encountered within the made ground. In addition, the recent investigation noted in TP313 had large amounts of crush material to a depth of 0.50 m, underlain by a geotextile membrane

Underlaying the topsoil and made ground, slightly gravelly, slightly sandy, silty clays or occasionally clayey silts were encountered, associated with the Weald Clay Formation.

6.1 Visual Evidence of Contamination

Visual and olfactory evidence of contamination noted in all the investigations in RM5 and RM6 carried out to date is summarised in the **Table 2** below.

Table 2: Visual and olfactory evidence of contamination.

Location	Depth (m bgl)	Olfactory evidence	Visual evidence
WS02	0.00 – 1.20	Occasional organic odour	Occasional greyish black staining. Clinker.
TP03	0.30 – 1.20	n.a	Occasional wood fragments.
TP04	0.20 – 0.30	n.a	Occasional wood fragments.
TP05	0.40 – 1.50	Organic odour	Occasional wood.
TP06	0.00 – 0.60	Organic odour	Occasional wood.
TP08	0.00 – 0.70	organic odour	Occasional wood.
TP305	0.30	n.a	Black staining.
TP308	0.80	Hydrocarbon odour	Black staining.
TP310	0.70	Hydrocarbon odour	Black staining.

The findings show that visual and olfactory evidence of contamination was noted within the made ground during the previous investigations and the most recent investigation.

6.2 Chemical Laboratory Analysis

12 No. soil samples which were retrieved during this investigation were sent to Chemtech Environmental laboratory in Durham, and were scheduled for the following chemical analysis based on historical contamination onsite and general contaminants of concern:

- 12 No. Heavy metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn)
- 12 No. Speciated polyaromatic hydrocarbons (PAH-16).
- 12 No. Asbestos identification.
- 12 No. Total organic carbon (TOC).
- 12 No. pH

Additional testing was scheduled for TP305, TP308 and TP310 due to the identified black staining within the made ground in all these pits and the hydrocarbon odour noted in the made ground in TP308 and TP310:

- 3 No. Total Petroleum Hydrocarbons (TPH).

The laboratory certificates are provided in **Appendix F**.

7. Human Health Risk Assessment

7.1 Rationale and Approach

The generic quantitative risk assessment (GQRA) for human health was conducted in line with the CLEA methodology by comparing the soil analytical results from the ground investigation with Generic Assessment Criteria (GAC). Laboratory results have been compared to Tier 1 Site Assessment Criteria based on a Residential with Homegrown Produce (HGP) end use scenario. This is consistent with the assessments undertaken during the previous investigations. The RSK Generic Assessment Criteria (Residential with HGP) is included within **Appendix G**.

7.2 Evaluation of Potential Risks to Future Residents

The soils that were analysed during the recent investigation comprised 1 No. samples of topsoil and 11 No. made ground. The Leap Environmental combined interpretive report notes that 3 No. samples of topsoil and 3 No. samples of the underlying Weald Clay Formation were analysed for common contaminants. The laboratory analytical results were assessed to determine the potential risks to future site users under a generic residential land use scenario assuming that homegrown produce is consumed (Resi HGP). A summary table for the chemical testing results compared against the RSK GAC for Residential with Homegrown Produce is provided in **Appendix E** and the results are also summarised in **Table 3** below.

Table 3: Summary of soil contamination results

Determinand	No. of samples tested	GAC (mg/kg)	No of exceedances	Maximum concentration (mg/kg)	
				Value	Location / depth of exceedance (m bgl)
METALS					
Arsenic	12 (6)	37	0 (0)	15.8 (14.8)	n/a
Cadmium	12 (6)	22	0 (0)	0 (0.56)	n/a
Chromium	12 (6)	910	0 (0)	31.9 (30.3)	n/a
Hexavalent Chromium	12 (6)	21	0 (0)	0 (<0.6)	n/a
Copper	12 (6)	2400	0 (0)	24.2 (53.7)	n/a
Lead	12 (6)	200	0 (0)	57.1 (50.5)	n/a

Determinand	No. of samples tested	GAC (mg/kg)	No of exceedances	Maximum concentration (mg/kg)	
				Value	Location / depth of exceedance (m bgl)
Mercury[1]	12 (6)	40	0 (0)	1.6 (<0.14)	n/a
Nickel	12 (6)	130	0 (0)	35.3 (27.4)	n/a
Selenium	12 (6)	250	0 (0)	0 (2.12)	n/a
Zinc	12 (6)	3900	0 (0)	99.3 (162)	n/a
ASBESTOS					
Asbestos	12 (6)	Presence	NAD (NAD)	NAD (NAD)	n/a
POLYAROMATIC HYDROCARBONS					
Naphthalene	12 (6)	13	0 (0)	0.035	n/a
Acenaphthylene	12 (6)	180	0 (0)	0.024	n/a
Acenaphthene	12 (6)	230	0 (0)	0.407	n/a
Fluorene	12 (6)	170	0 (0)	0.641	n/a
Phenanthrene	12 (6)	100	0 (0)	5.28	n/a
Anthracene	12 (6)	2400	0 (0)	1.81	n/a
Fluoranthene	12 (6)	290	0 (0)	5.45	n/a
Pyrene	12 (6)	620	0 (0)	4.18	n/a
Benzo(a)anthracene	12 (6)	7	0 (0)	2.1	n/a
Chrysene	12 (6)	15	0 (0)	1.62	n/a
Benzo(b)fluoranthene	12 (6)	2.6	0 (0)	1.98	n/a
Benzo(k)fluoranthene	12 (6)	77	0 (0)	0.778	n/a
Benzo(a)pyrene	12 (6)	5	0 (0)	1.93	n/a
Indeno(1,2,3-cd)pyrene	12 (6)	13	0 (0)	1.64	n/a
Dibenzo(a,h)anthracene	12 (6)	0.24	**1 (0)**	0.275	**TP310 / 0.40**
Benzo(g,h,i)perylene	12 (6)	310	0 (0)	1.09	n/a

Determinand	No. of samples tested	GAC (mg/kg)	No of exceedances	Maximum concentration (mg/kg)	
				Value	Location / depth of exceedance (m bgl)
Total PAH(16)	12 (6)	n.v.	0 (0)	29.2	n/a
TOTAL PETROELUM HYDROCARBONS					
Total TPH	3 (6)	n.v	-	<10 (<10)	n/a

Notes:
(data) = Results from previous 2025 investigation
< = Below limit of detection
n/a = Not applicable
NAD = No asbestos detected

During the previous investigations carried to date, where the topsoil and subsoil were sampled and tested, no exceedances were identified against the Residential with Homegrown Produce Generic Assessment Criteria (GAC).

In the recent investigation, where 12 No. samples of made ground and one ample of topsoil were sampled, there were also no exceedances against the Residential with Homegrown Produce Generic Assessment Criteria (GAC) for metals, and no asbestos was detected in any of the samples analysed. Only one minor exceedance was identified in the made ground sample retrieved at 0.40 m bgl, from TP310, for the polyaromatic hydrocarbon Dibenzo(a,h)anthracene, with a concentration of 0.275 mg/kg against the GAC of 0.24 mg/kg. However, the exceedance is minor and the two polyaromatic hydrocarbon surrogate marker compounds (Benzo(a)pyrene and Naphthalene) are below their respective GAC acceptable limits. Therefore, we do not consider this exceedance to pose an unacceptable risk to human health.

8. Conclusion

Following the additional intrusive investigation carried out in development phases RM5 and RM6 of the North Horsham development, the chemical laboratory testing indicates that there are no contaminants in the topsoil, made ground, or subsoil which poses an unacceptable risk to human health receptors associated with the proposed residential development.

Please do not hesitate to contact the undersigned if you require any further information.

Author	Technical Review	QA/QC
[redacted]	[redacted]	[redacted]
Lucy Bugler	Mark Steward	Terri Hocken
Graduate Engineer	Director	Administrator

Yours sincerely,
for **RSK Environment Limited – Geosciences**

Enc.

Appendix A	Service Constraints
Appendix B	Figures
Appendix C	Photographic Record
Appendix D	Exploratory Logs
Appendix E	Summary table
Appendix F	Chemical Laboratory Report
Appendix G	RSK Assessment Criteria

APPENDIX A – SERVICE CONSTRAINTS

APPENDIX A
SERVICE CONSTRAINTS

1. Service Constraints

1.1. This Report (the “Report”) and any study, inspection, investigation, sampling, testing and or interpretation carried out in connection with the Report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) trading as RSK Geosciences, for the Client named in the first paragraph of the Report (the "Client") in accordance with the terms of an RSK Fee Proposal including RSK Environment Standard Terms and Conditions (the “Appointment”) between RSK and the Client, unless otherwise stated in the first paragraph of the Report. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by a geo-environmental consultant at the time the Services were performed. Nothing in this Report shall be construed as imposing any fitness for purpose obligation. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the Client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.

1.2 Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services. RSK shall not be liable in respect of any action or proceedings arising out of or in connection with this Report whether in contract, in tort, for breach of statutory duty or otherwise after the expiry of six (6) years from either (i) the date of the Report or (ii) such earlier date as prescribed by law, unless varied in the terms of the Appointment.

1.3 Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent, or condone any party, other than the Client relying upon the Services. Should this Report or any part of this Report, or details of the Services or any part of the Services, be made known to any such party, and such party relies thereon, that party does so wholly at its own and sole risk, and RSK disclaims any liability to such parties. Any such party would be well advised to seek independent advice from a competent geo-environmental consultant and/or lawyer.

1.4 The Client shall not, without the prior written consent of RSK, assign, transfer, charge, mortgage, subcontract, or deal in any other manner with all or any of the benefits provided in this Report. Unless specified in the Appointment, RSK shall not be obliged to assign the benefit of the Report whether by collateral warranty, third party rights pursuant to the Contracts (Rights of Third Parties) Act 1999, letter of reliance or otherwise. If RSK agrees to any assignment of the benefit of this Report, in whatever form, benefits to third parties through collateral warranties, third party rights or letters of reliance shall not be provided unless a fee for each right, warranty or letter is agreed. The form of wording used in the warranty or letter shall be provided by RSK for agreement by the Client. Any reasonable changes to the form of wording will be implemented by mutual agreement, however the terms in the warranty or letter cannot offer the third party any greater benefit than the Appointment offered to the Client.

1.5 It is the understanding of RSK that this Report is to be used for the purpose described in the introduction to the Report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the Report is used, or the proposed use of the site change, this Report may no longer be valid and any further use of or reliance upon the Report in those circumstances by the Client without the review and advice of RSK shall be at the Client's sole and own risk. RSK shall not be liable for any use of this Report for any purpose other than that for which it was provided.

1.6 The passage 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 contained in this Report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the Report in the future shall be at the Client's own and sole risk.

1.7 The observations and conclusions described in this Report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out, or required by the Appointment between the Client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this Report, RSK did not seek to evaluate the presence on or off site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas, fuel storage, persistent bio-accumulative or toxic chemicals (including PFAS and related compounds) or other radioactive or hazardous materials, unless specifically identified in the Services.

1.8 The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of desk based publicly available information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services and the limitations below:

a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.

b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.

c. The Services did not attempt 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.

d. The Client has identified in writing to RSK, the information, reports, findings, surveys and preliminary works RSK may not rely upon when providing the Services.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK, and including the doing of any independent investigation of the information provided to RSK, save as otherwise provided in the terms of the Appointment between the Client and RSK.

1.9 Any site drawing(s) provided in this Report is (are) not meant to be an accurate base plan for scale measurement but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for accurate setting out and should be considered indicative only.

1.10 Should RSK be requested to review the Report after the date of issue of this Report, RSK shall be entitled to additional payment at the existing rates, or such other terms as agreed between RSK and the Client.

2. Service Constraints where the Report provides an intrusive assessment of ground conditions:

2.1 The intrusive environmental ground investigation aspects of the Services are a limited sampling of soil from the site, at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this Report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent

of the limited area depends on the properties of the materials adjacent and local conditions, together with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope agreed between the Client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species (not tested) are not present.

2.2 The comments given in this Report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development, site usage, timescales or the Client's specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an indicative assessment of ground conditions on site. There may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

2.3 Where the Services include Investigation of an exploratory nature or relating to physical ground works, any costings and prices provided in the Report are estimated and provided for guidance purposes only. The actual cost and time quantities shall be remeasured and shall be dependent upon the ground or other conditions, constraints present, and number and depth of the investigation locations, which shall influence the number of samples and tests required, and the quantities of soil being classified.

2.4 Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works. However, this Report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

2.5 Unless stated otherwise, only preliminary geotechnical recommendations are presented in this Report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed. Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this Report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7, although this is subject to the restrictions imposed on the investigation, as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this Report will not meet the requirements of a Geotechnical Design Report (GDR) and should therefore be used for preliminary guidance only.

3. Service Constraints where the Report relates to Surface Water Management:

3.1 The Surface Water Management Inspection (SWMI) Report, documents provided, observations, actions, and recommendations, with respect to the management of potential pollution issues to surface waters, made during the site Inspection visit, are those present at the time of the visit, and may not represent those recorded by others on the same day.

3.2 The comments given in this Report and the opinions expressed are based on the weather, ground and ground water conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the inspection and therefore could not be taken into account. In addition, groundwater levels and flows, may vary from those Reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

3.3 RSK places a degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this Report was prepared.

3.4 This Report is a live document, to be continually reviewed and updated as the development progresses or other changes occur on site. RSK can only maintain the currency of this Report through the Client requesting support with supplementary site visits or attendance at meetings ahead of key stages of the development in relation to surface water management. Our risk rating assesses a number of risk factors in line with the source-pathway- receptor model and is therefore subject to constant change.

3.5 Standard design drawings are indicative. Material types, dimensions and construction details will need to be adjusted by the Client to suit the specific conditions / flows on Site.

3.6 The full responsibly for implementing the site-specific protection and maintenance measures to protect the surface water system as stated in this Report, remains with the Client and their site management team. Additional control measures may be required to achieve the objectives set out in the Surface Water Management Plan to be implemented and financed by the Client.

4. Service Constraints where the Report relates to Waste Management:

4.1 In accordance with the definition provided in the Waste Framework Directive (WFD), materials are only considered waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not considered waste if re-used on the site of origin for the purposes of development. Soils such as made ground that are not of clean and natural origin (irrespective of whether they are contaminated or not) and other materials such as recycled aggregate, do not necessarily become waste until the criteria above are met. Excavation arisings from the development may therefore be classified as waste if surplus to requirements and/or unsuitable for re-use.

4.2 It is the duty of the waste producer, to ensure that all waste is accurately classified prior to waste disposal. Technical Guidance WM3 (EA, 2018) sets out in its Appendix D requirements for waste sampling. It is a legal requirement to correctly assess and classify waste. The level of sampling should be proportionate to the volume of waste and its heterogeneity. Unless otherwise stated, the waste assessment presented in this Report should be considered as preliminary and further testing and assessment of the waste under the provisions of a Waste Sampling Plan may be required to obtain the necessary level of data required for basic characterisation of the waste in support of disposal.

4.3 Unless stated otherwise in the Report, information relating to historical operations at the site was not reviewed as part of the assessment by RSK. In addition, unless otherwise stated in the Services, RSK was not present during the collection of the samples nor had any input on the chemical testing suite. Therefore, the waste assessment and classification detailed in this Report are based solely on any information that were provided to RSK (e.g., laboratory chemical data, exploratory hole records) and were completed without prejudice for our Client.

4.4 RSK's assumes that any ground investigation data, chemical testing results etc., that were provided by the Client to inform the waste assessment and supporting review were carried out in accordance with current best practice and relevant guidance/ standards, where applicable. Thus, the

comments given in this Report and the opinions expressed are based solely on the information provided by the Client. However, it is noted that there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account as part of the RSK assessment.

5. Service Constraints for Construction Environmental Management Plan Reports:

5.1 This Report should be considered in the light of any changes in legislation, statutory requirement or industry practices that may have occurred subsequent to the date of issue.

5.2 The measures and comments outlined in this Report and any opinions expressed are based on the plans provided at the time and discussions with relevant parties. However, there may be conditions pertaining to the site that have not been disclosed by investigations and therefore could not be taken into account.

5.3 This CEMP is a live document and is subject to change throughout the project, as and when necessary, to ensure management of environmental aspects remains relevant, and to ensure continued compliance with legislation and commitments as they may change. RSK understands that this CEMP will be reviewed by the Client every six months and updated as and when necessary.

5.4 It is the full responsibility of the Principal Contractor/ Client to ensure that their works do not contravene legal requirements, and adherence to this CEMP alone cannot be a full defence regarding legal action against the Principal Contractor.

6. Service Constraints where the Report relates to Ground Gas Membrane Verification:

6.1 This Report is limited to the verification of the gas resistant membrane/vapour membrane/ radon barrier after installation and no inspections were undertaken of the substrate (i.e. prepared ground). The Report therefore does not constitute as a full verification of ground gas protection system.

6.2 The comments given in this Report and the opinions expressed, are based on the condition of the ground gas membrane as encountered at the time of inspection by suitably qualified personnel. RSK cannot accept liability for any subsequent change to the status of the gas membrane by follow-on trades or other construction activity.

6.3 Where not designed by RSK, the verification of protection measures is carried out with reference to the gas protection design provided by the Client. RSK assume the scope of gas protection measures as determined by third parties to be correct and to have achieved any required approval from authorities.

6.4 The Ground Gas Design Report/Remediation Strategy and Verification Plan contains details of the procedures to be adopted for inspection and validation of the works. However, it should be noted that responsibility for the correct implementation of the strategy lies with the appointed contractor. RSK cannot be held responsible for any remedial works that are carried out without the agreed procedures involving either direct supervision by RSK, or inspection and validation of the works by a representative from RSK.

7. Service Constraints for Environmental Due Diligence (EDD)Reports:

7.1 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the site, therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information.

7.2 This Report describes the results of the EDD exercise. The scope of this EDD Report, where appropriate, covers legal or regulatory compliance with respect to UK or international regulations associated with environmental matters.

7.3 As with any EDD exercise, there is a certain degree of dependence upon information provided by the target company. The EDD does not include a site walkover / visit or liaison with site representatives unless identified in the Services. Therefore, the assessment is based on the available desk study information. Also, there is a certain degree of dependence upon oral information provided by site representatives, which is not readily verifiable through visual inspection, or supported by any available written documentation. RSK shall not be held responsible for conditions or consequences arising from relevant facts that were not fully disclosed by facility or site representatives at the time this EDD exercise was performed.

7.4 This Report, including all supporting data and notes (collectively referred to hereinafter as "information"), was prepared or collected by RSK for the benefit of its Client.

7.5 The comments given in this Report and the opinions expressed are based on the information obtained and reviewed as part of the desk-based assessment and the site inspection visit. However, there may be conditions pertaining to the Site that have not been disclosed by the assessment and therefore could not be taken into account. Furthermore, no intrusive investigations, monitoring or sampling have been undertaken to confirm the environmental status of the Site therefore any comments relating to ground conditions and subsurface contamination are based solely on a review of desk-based information and observations collected during the site inspection visit.

8. Service Constraints for Ground source heat energy Reports:

8.1 It is understood that this is a desktop survey only and that there are no requirements for a site walkover, service utility survey, or provision of service plans. These services can be provided upon request if required.

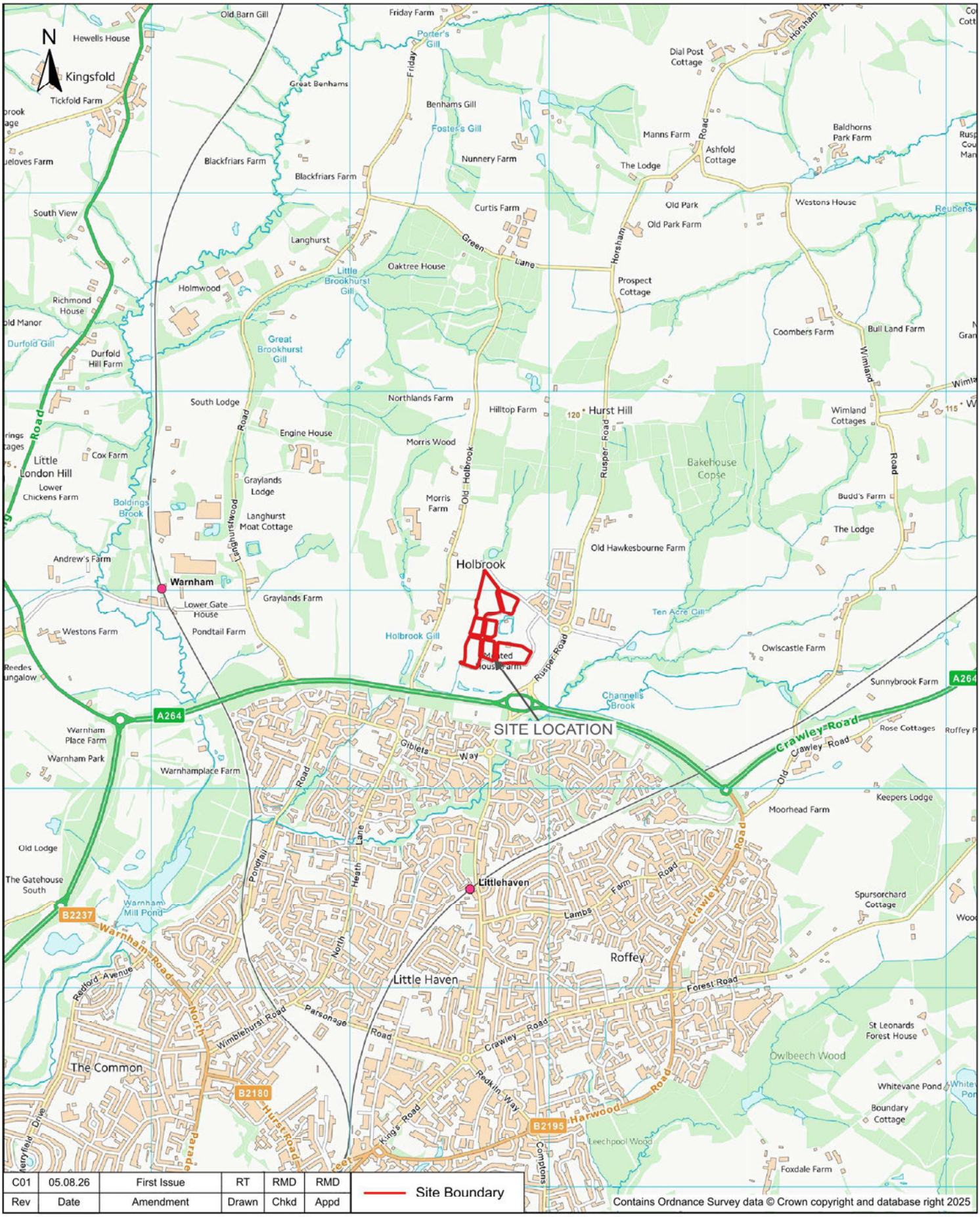
8.2 At a later stage, it is possible that a thermal response test (TRT) will need to be completed, for which a test borehole will have to be drilled, and these would be costed at the time. RSK can provide all aspects of subsequent site work for a GSHP system if required.

9. Service Constraints for Water Abstraction Borehole Reports:

9.1 The Report aims principally to only identify and assess the suitability of the site for a water abstraction borehole. This Report should be considered in the light of any changes in legislation, statutory requirements, and industry practices, that have occurred subsequent to the date of the Report.

9.2 Unless stated in the Report, the opinions expressed in this Report including all comments and recommendations provided are on the basis of the information obtained from a desk-based assessment.

APPENDIX B – FIGURES



Rev	Date	Amendment	Drawn	Chkd	Appd
C01	05.08.26	First Issue	RT	RMD	RMD

Site Boundary

Contains Ordnance Survey data © Crown copyright and database right 2025

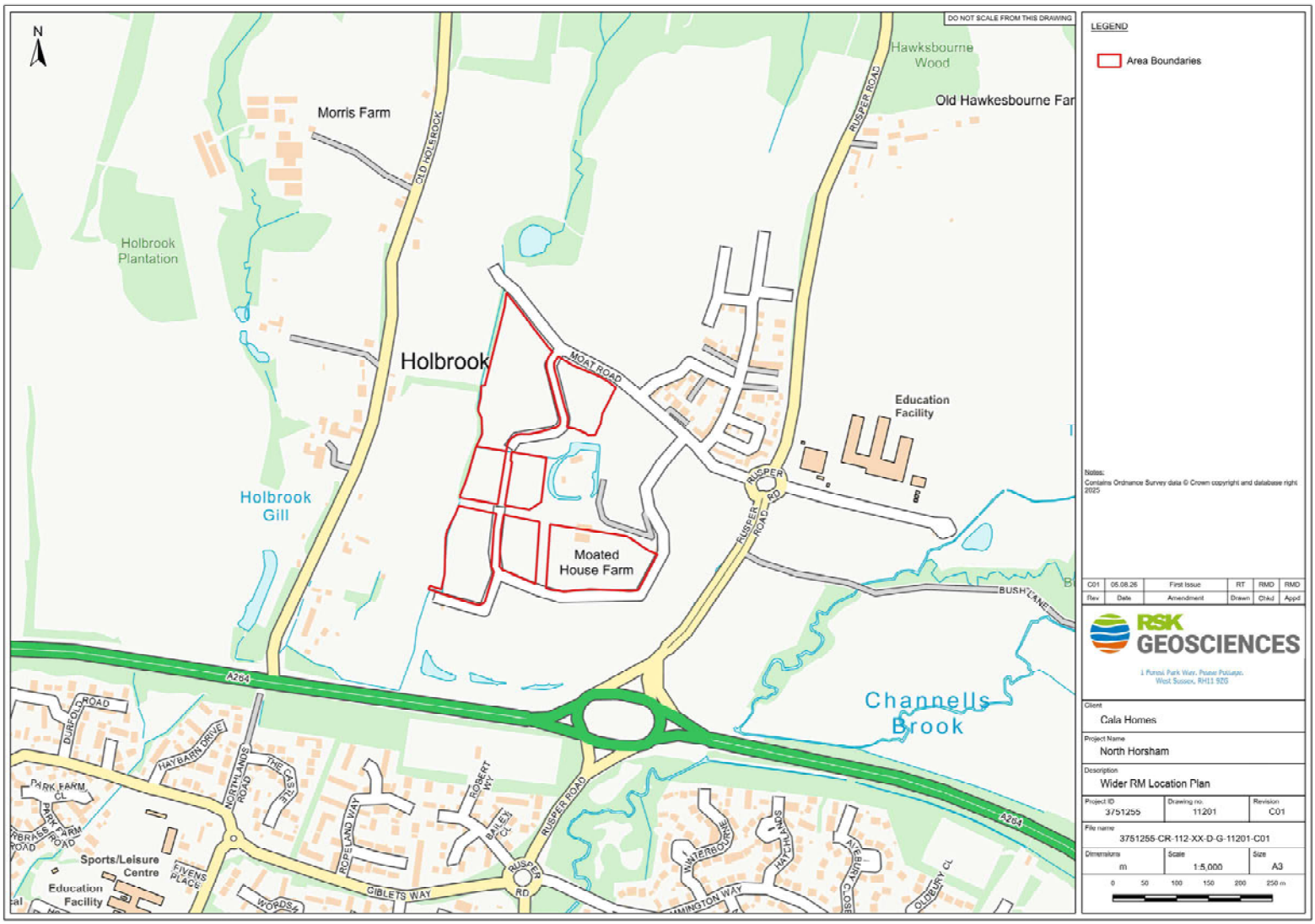
RSK GEOSCIENCES
1 Forest Park Way, Pease Pottage,
West Sussex, RH11 9ZG

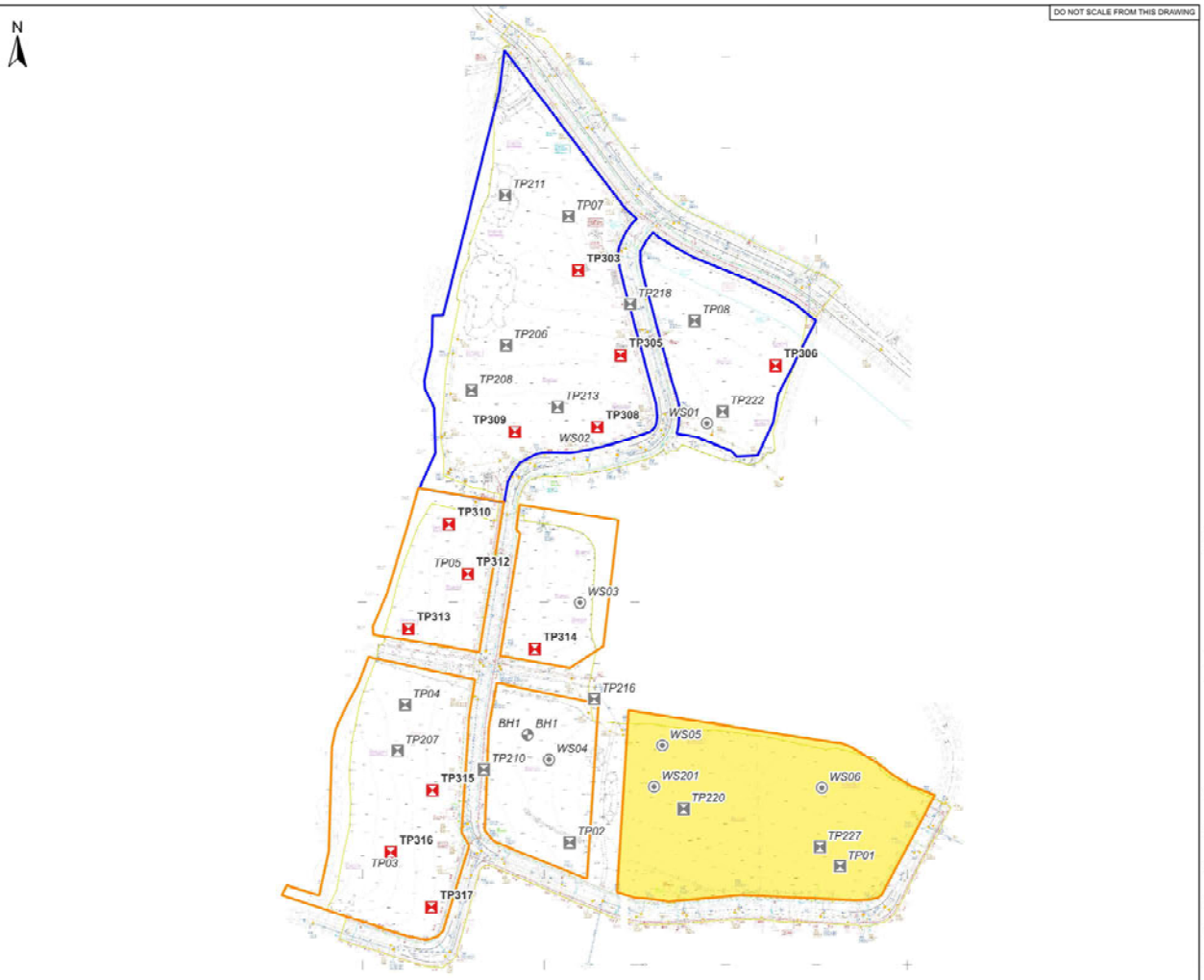
Client: Cala Homes

Project Name: North Horsham

Description: Site Location Plan

Dimension	Size	Scale	Geolocation	Project ID	Drawing no	Rev	File name
m	A4	1:25,000	518671,133806	3751255	11101	C01	3751255-CR-111-XX-D-G-11101-C01


DO NOT SCALE FROM THIS DRAWING
N
Morris Farm
Old Holbrook
Holbrook Plantation
Holbrook
Holbrook Gill
Moated House Farm
Hawksbourne Wood
Old Hawksbourne Farm
Rusper Road
Moat Road
Education Facility
Bush Lane
A264
Channells Brook
Dorking Road
Hay Barn Drive
Park Farm Cl
Park Farm Road
Northlands Road
The Castle
Rope Land Way
Robert Wy
Baker Cl
Giblets Way
Sports/Leisure Centre
Education Facility
Fivens Place
Wordsworth
Whitehorse Drive
Wimblington Way
Alverstone Close
Oldbury Cl
LEGEND
Area Boundaries
Notes:
Contains Ordnance Survey data © Crown copyright and database right 2025
C01 | 05.08.26 | First Issue | RT | RMD | RMD
Rev | Date | Amendment | Drawn | Chkd | Appd
RSK GEOSCIENCES
1 Pynsal Park Way, Pound Pslcage, West Sussex, RH11 9ZG
Client
Cala Homes
Project Name
North Horsham
Description
Wider RM Location Plan
Project ID
3751255
Drawing no.
11201
Revision
C01
File name
3751255-CR-112-XX-D-G-11201-C01
Dimensions
m
Scale
1:5,000
Size
A3
0 50 100 150 200 250 m



LEGEND

- RM Area 5
- RM Area 6
- Inaccesible / Under Construction
- Trial Pit Location

Historic Intrusive Locations

- Window Sample
- Borehole
- Trial Pit

Notes:
Base plan provided by the client
Drawing Ref. Topographical and PAS 128:2022 Utility Survey

Rev	Date	Amendment	Drawn	Chkd	Appd
C02	20.07.26	First Issue	RT	RMD	RMD

RSK GEOSCIENCES
65 Sussex Street
Glasgow
G41 1DX
Tel: +44(0)1414 180471
Email: info@rsk.co.uk
Web: www.rskgeosciences.co.uk

Client: CALA Homes

Project Name: North Horsham

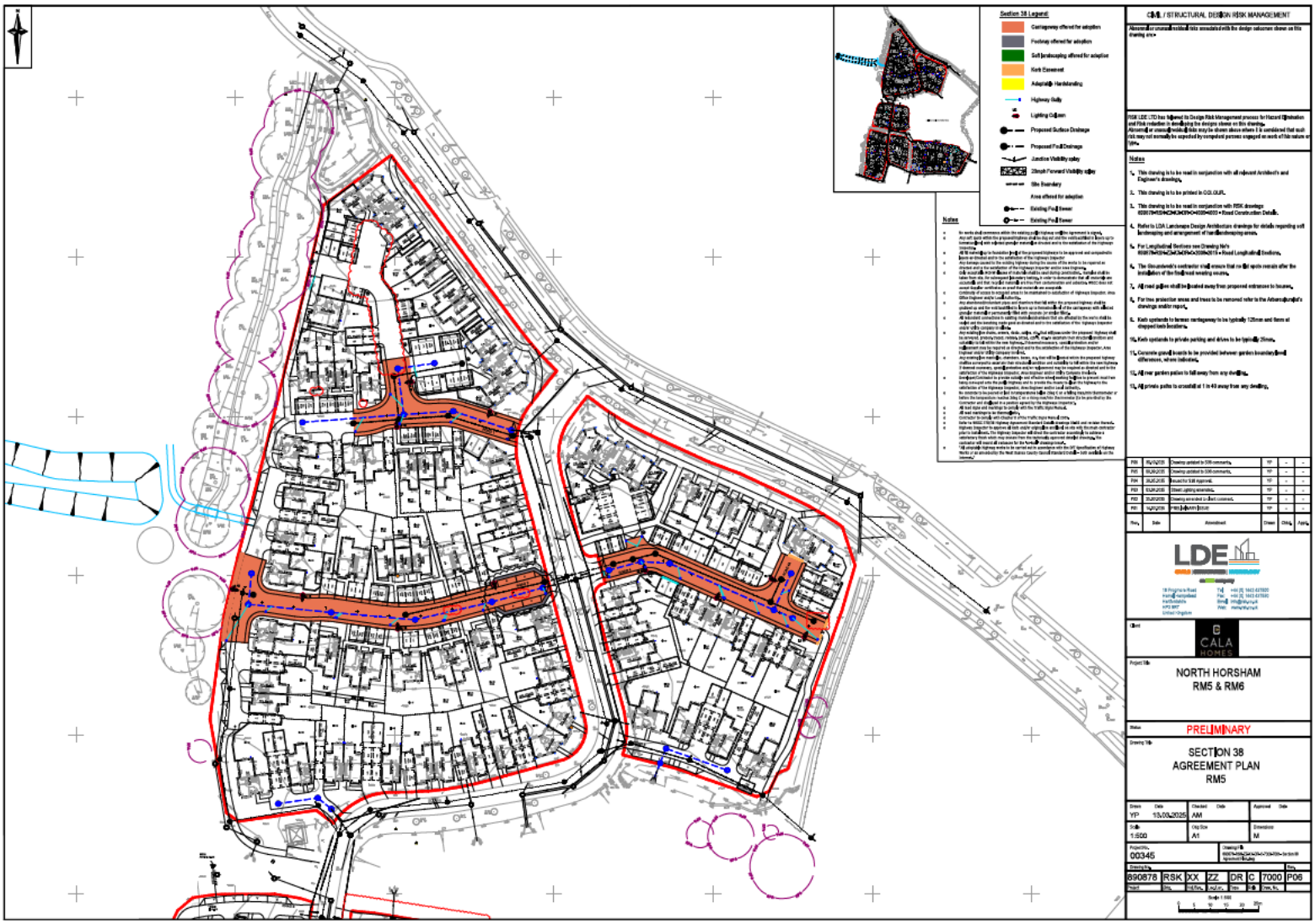
Description: SI Location & Constraints Plan

Project ID	Drawing no.	Revision
3751255	22201	C02

File name: 3751255-CR-222-XX-D-G-22201-C02

Dimensions	Scale	Size
m	1:2,000	A3

0 20 40 60 80 100 m


Section 38 Legend
Carriageway offered for adoption
Footway offered for adoption
Soft landscaping offered for adoption
Kerb Easement
Adoptable Hardstanding
Highway Gully
Lighting Column
Proposed Surface Drainage
Proposed Foul Drainage
Junction Visibility splay
25mph Forward Visibility splay
Site Boundary
Area offered for adoption
Existing Foul Sewer
Existing Foul Sewer
Notes
CDM / STRUCTURAL DESIGN RISK MANAGEMENT
Abnormal or unusual residual risks associated with the design outcomes shown on this drawing are:-
RSK LDE LTD has followed its Design Risk Management process for Hazard Elimination and Risk reduction in developing the designs shown on this drawing.
Abnormal or unusual residual risks may be shown above where it is considered that such risks may not normally be expected by competent persons engaged on work of this nature or type.
Notes
1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings.
2. This drawing is to be printed in COLOUR.
3. This drawing is to be read in conjunction with RSK drawings 6890876-RSK-XX-ZZ-DR-C-7000 • Road Construction Details.
4. Refer to LDA Landscape Design Architectural drawings for details regarding soft landscaping and arrangement of tree/landscaping areas.
5. For Longitudinal Sections see Drawing No's 6890876-RSK-XX-ZZ-DR-C-7010 • Road Longitudinal Sections.
6. The Groundwork's contractor shall ensure that no dirt spots remain after the installation of the final road wearing course.
7. All road gullies shall be located away from proposed entrances to houses.
8. For tree protection areas and trees to be removed refer to the Arboriculturalist's drawings and/or report.
9. Kerb upstands to tarmac carriageway to be typically 125mm and form of dropped kerb location.
10. Kerb upstands to private parking and drives to be typically 25mm.
11. Concrete gravel boards to be provided between garden boundary and differences, where indicated.
12. All rear garden gates to fall away from any dwelling.
13. All private paths to crossfall at 1 in 40 away from any dwelling.
P05 15/07/25 Drawing updated to S38 comments. YP - -
P04 03/07/25 Drawing updated to S38 comments. YP - -
P03 30/06/25 Issued for S38 Approval. YP - -
P02 23/06/25 Street Lighting amended. YP - -
P01 13/06/25 Drawing amended as Client comment. YP - -
P00 14/05/25 First Submission Issue YP - -
Rev. Date Amendment Drawn Chkd. Appd.
LDE
19 Progress Road
Hemel Hempstead
Hertfordshire
HP3 9RT
United Kingdom
Tel +44 (0) 1442 437600
Fax +44 (0) 1442 437680
Email info@lde.co.uk
Web www.lde.co.uk
Client
CALA HOMES
Project Title
NORTH HORSHAM
RM5 & RM6
Status
PRELIMINARY
Drawing Title
SECTION 38
AGREEMENT PLAN
RM5
Drawn YP Date 15/05/2025
Checked AM Date
Approved Date
Scale 1:500
Orig Size A1
Dimensions M
Project No. 00345
Drawing No. 6890876 RSK XX ZZ DR C 7000 P06
Scale 1:500
0 5 10 15 20 25m


ALL VIS SPLAY ARE 2.4 X 25M FOR 20MPH SPEED
REDUCED VIS SPLAY ARE 1MX FOR 10MPH AROUND THE LOOP ROAD
Section 38 Legend:
Carriageway offered for adoption
Footway offered for adoption
Soft landscaping offered for adoption
Kerb Casement
Adoptable Hardstanding
Highway Gully
Lighting Column
Proposed Surface Drainage
Proposed Foul Drainage
Junction Visibility splay
20mph Forward Visibility splay
Site Boundary
Area offered for adoption
Existing Foul Sewer
Existing Foul Sewer
Notes
CDM / STRUCTURAL DESIGN RISK MANAGEMENT
Abnormal or unusual residual risks associated with the design outcomes shown on this drawing are:-
RISK LDE LTD has followed its Design Risk Management process for Hazard Elimination and Risk reduction in developing the designs shown on this drawing.
Abnormal or unusual residual risks may be shown above where it is considered that such risks may not normally be expected by competent persons engaged on work of this nature or type.
Notes
1. This drawing is to be read in conjunction with all relevant Architect's and Engineer's drawings.
2. This drawing is to be printed in COLOUR.
3. This drawing is to be read in conjunction with RSK drawings 6890784SRKDR0001 • Road Construction Details.
4. Refer to LDA Landscape Design Architectural drawings for details regarding soft landscaping and arrangement of tree/landscaping areas.
5. For Longitudinal Sections see Drawing No's 6890784SRKDR0002 • Road Longitudinal Sections.
6. The Groundwork's contractor shall ensure that no fill spoils remain after the installation of the final road wearing course.
7. All road gullies shall be located away from proposed entrances to houses.
8. For tree protection areas and trees to be removed refer to the Arboriculturalist's drawings and/or report.
9. Kerb upstands to forman carriageway to be typically 125mm and form of dropped kerb location.
10. Kerb upstands to private parking and drives to be typically 25mm.
11. Concrete gravel boards to be provided between garden boundary and differences, where indicated.
12. All rear garden gates to fall away from any dwelling.
13. All private paths to crossfall at 1 in 40 away from any dwelling.
14. All Visibility Spays are 2.4 x 25m for 20mph roads.
P05 30/10/25 Drawing updated to RSK comments. TP - -
P04 30/07/25 Drawing updated to RSK comments. TP - -
P03 25/07/25 Issued for S38 Approval. TP - -
P02 23/07/25 Street Lighting amended. TP - -
P01 21/07/25 Drawing amended as Client comment. TP - -
P00 14/07/25 First Submission Issue TP - -
Rev. Date Amendment Drawn Chkd. Appd.
LDE
CALA HOMES
Client
Project Title
NORTH HORSHAM
RM5 & RM6
Status
PRELIMINARY
Drawing Title
SECTION 38
AGREEMENT PLAN
RM6
Drawn YP Date 15.09.2025
Checked AM Date
Approved Date
Scale 1:500
Orig Size A1
Dimensions M
Projection 00345
Drawing No 6890784 RSK XX ZZ DR C 7001 P06
Scale 1:500
0 5 10 15 20 25m

APPENDIX C – SITE PHOTOGRAPHS



Plate 1 – Overview of trial pit TP303.



Plate 2 – Recovered arisings from trial pit TP303.



Plate 3 – Overview of trial pit TP305.



Plate 4 – Made ground with black staining recovered from trial pit TP305



Plate 5 – Overview of trial pit TP306.



Plate 6 – Recovered arisings from trial pit TP306.



Plate 7 – Overview of trial pit TP308.



Plate 8 – Black staining noted within the recovered arisngs from trial pit TP308.



Plate 9 – Overview of trial pit TP309.



Plate 10 – Natural subsoil (Weald Clay Formation) recovered arisings from TP309.



Plate 11 - Overview of trial pit TP310.



Plate 12 – Recovered arisings from trial pit TP311.



Plate 13 – Overview of trial pit TP312.



Plate 14 – Recovered arisings from trial pit TP312 (left), wood and ceramic within the arisings (right).



Plate 15 – Overview of trial pit TP313.



Plate 16 – Overview of recovered made ground arisings from trial pit TP313



Plate 17 – Overview of trial pit TP315.



Plate 18 – Overview of recovered arisings from trial pit TP315.



Plate 19 – Overview of trial pit TP316.



Plate 20 – Overview of recovered arisings from trial pit TP317.



Plate 21 – Overview of trial pit TP317.



Plate 22 – Recovered arisings from trial pit TP317.

APPENDIX D – EXPLORATORY LOGS

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP303

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	58.776	E: 518 718.91 N: 133 982.45	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			MADE GROUND: Light brown GRAVEL. Gravel is medium to coarse, subangular to subrounded flint.	0.05	58.83			0
			0.05 m					
			MADE GROUND: Dark brown slightly gravelly silty CLAY. Gravel is fine to medium, angular flint with rare ceramic, coarse fine to medium brick , plastic, blacktop, coarse concrete,clay tile (REWORKED WEALD CLAY FORMATION)					
0.30	ES ES						BACKFILL	
			0.40 m	0.40	59.18			0.5
			Firm orangish brown mottled light brown silty CLAY. (WEALD CLAY FORMATION)					
			0.60 m	0.60	59.38			0.6

End of Trial Pit at 0.60 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 0.60 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit**	Plant Used: **JCB-3CX**	Dug by: **Spillane Plant Services**	Logged by: [redacted]	Checked by: [redacted]

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP305

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	57.311	E: 518 742.14 N: 133 935.83	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
0.30	ES		MADE GROUND: Dark brown slightly gravelly, slightly sandy silty CLAY. Sand is fine. Gravel is medium to coarse, angular flint with rare brick and ceramic.					0
			0.30m: Black staining identified.				BACKFILL	
			0.60 m	0.60	57.91			0.5
			Orangish brown mottled light grey silty CLAY. (WEALD CLAY FORMATION)					
			0.70 m	0.70	58.01			0.7

End of Trial Pit at 0.70 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 0.70 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit**	Plant Used: **JCB-3CX**	Dug by: **Spillane Plant Services**	Logged by: [redacted]	Checked by: [redacted]

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP306

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	57.997	E: 518 827.53 N: 133 930.20	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			MADE GROUND: Light brown gravelly slightly sandy SILT. Sand is fine. Gravel is fine to coarse, angular flint and siltstone. Rare brick and wood.					0
			0.30 m	0.30	58.30			
0.50	ES		Very stiff grey mottled orange silty CLAY. (WEALD CLAY FORMATION)				BACKFILL	0.5
			0.55m: Hand Penetrometer UCS = 513 KPa					
			0.90 m	0.90	58.90			0.9

End of Trial Pit at 0.90 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 0.90 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit**	Plant Used: **JCB-3CX**	Dug by: **Spillane Plant Services**	Logged by: [redacted]	Checked by: [redacted]

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP308

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	56.347	E: 518 720.09 N: 133 891.20	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			Light brown gravelly SILT. Gravel is fine to coarse, angular flint with rare brick. (TOPSOIL)					0
			0.15 m	0.15	56.50			
			MADE GROUND: Light grey slightly sandy, gravelly SILT. Sand is fine. Gravel is fine to coarse, angular siltstone and flint with rare brick.					
			0.30 m	0.30	56.65			
0.50	ES		MADE GROUND: Brown gravelly, sandy CLAY. Sand is fine to medium. Gravel is fine to coarse, angular flint with rare fine to coarse brick, ceramic and wood.				BACKFILL	0.5
0.80	ES		*0.80m: Black staining identified with hydrocarbon odour. Geotextile membrane identified.*					1
			1.30 m	1.30	57.65			
			Firm brown silty CLAY. (WEALD CLAY FORMATION)					
			1.50 m	1.50	57.85			1.5

End of Trial Pit at 1.50 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with CAT, genny and GPR prior to excavation. Trial pit excavated to 1.50 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit**	Plant Used: **JCB-3CX**	Dug by: **Spillane Plant Services**	Logged by: [redacted]	Checked by: [redacted]

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP309

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	56.126	E: 518 683.93 N: 133 893.58	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			Light grey very gravelly SILT. Gravel is fine to coarse, angular siltstone. (TOPSOIL)					0
			0.20 m	0.20	56.33			
0.30	ES		MADE GROUND: Brown slightly gravelly, slightly sandy, clayey SILT. Sand is fine to medium. Gravel is fine to coarse, angular siltstone and flint with rare brick. (REWORKED WEALD CLAY FORMATION)				BACKFILL	
			0.40 m	0.40	56.53			0.5
			Stiff light brown mottled orangish brown silty CLAY. (WEALD CLAY FORMATION)					
			0.50m: Hand Penetrometer UCS = 220 Kpa					
			0.60 m	0.60	56.73			0.6

End of Trial Pit at 0.60 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 0.60 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit**	Plant Used: **JCB-3CX**	Dug by: **Spillane Plant Services**	Logged by: [redacted]	Checked by: [redacted]

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP310

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	54.869	E: 518 640.50 N: 133 842.28	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			Light brown slightly gravelly SILT, gravel is fine to coarse, angular siltstone. (TOPSOIL)					0
			0.10 m	0.10	54.97			
			MADE GROUND: light brown slightly gravelly, slightly sandy SILT. Sand is fine. Gravel is fine to coarse, angular siltstone and flint with rare ceramic, plastic , clinker, and brick.					
0.40	ES							
			0.50 m	0.50	55.37		BACKFILL	0.5
			MADE GROUND: light brown silty CLAY. (REWORKED WEALD CLAY FORMATION)					
0.70	ES		*0.70m: Black staining and faint hydrocarbon odour identified.*					
			0.80 m	0.80	55.67			
			Stiff light brown mottled orangish brown silty CLAY (WEALD CLAY FORMATION)					
			0.90m: Hand Penetrometer UCS = 260 KPa					
			1.00 m	1.00	55.37			1

End of Trial Pit at 1.00 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 1.00 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit**	Plant Used: **JCB-3CX**	Dug by: **Spillane Plant Services**	Logged by: [redacted]	Checked by: [redacted] GS

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP312

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	56.251	E: 518 659.93 N: 133 805.90	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			A light grey slightly sandy SILT. Sand is fine. (TOPSOIL)					0
			0.15 m	0.15	56.40			
0.40	ES		MADE GROUND: Light brown slightly gravelly, SILT. Sand is fine to medium. Gravel is fine to coarse. Subangular to subrounded flint with rare ceramic, wood, and brick. (REWORKED WEALD CLAY FORMATION)				BACKFILL	0.5
			0.60 m	0.60	56.85			
			Light brown clayey SILT. (WEALD CLAY FORMATION)					
			0.70 m	0.70	56.95			0.7

End of Trial Pit at 0.70 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 0.70 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit**	Plant Used: **JCB-3CX**	Dug by: **Spillane Plant Services**	Logged by: [redacted]	Checked by: [redacted]

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP313

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	54.621	E: 518 625.33 N: 133 785.20	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			MADE GROUND: Light grey very gravelly, sandy SILT. Sand is fine to coarse. Gravel is fine to coarse, angular to subrounded flint with abundant fine to cobble size concrete, occasional fine to cobble size brick, rare ceramic.					0
0.50	ES		*0.50m: Geotextile membrane identified.*	0.50	55.12		BACKFILL	0.5
			0.50 m Stiff orangish brown mottled brown silty CLAY. (WEALD CLAY FORMATION)					
			0.70m: Hand Penetrometer UCS = 266 KPa.					
			0.80 m	0.80	55.42			0.8

End of Trial Pit at 0.80 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 0.80 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit** | Plant Used: **JCB-3CX** | Dug by: **JCB-3CX** | Logged by: [redacted] | Checked by: [redacted] AGS

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP314

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	56.258	E: 518 694.98 N: 133 774.15	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
0.10	ES		Light grey very gravelly SILT. Gravel is fine to coarse, angular siltstone. (TOPSOIL)					0
			0.20 m	0.20	56.46			
			Light grey SILTSTONE recovered as a silty gravel. Gravel is fine to coarse, angular siltstone. (WEALD CLAY FORMATION)					
			0.50 m	0.50	56.76			0.5
			Orangish brown mottled light brown silty CLAY. (WEALD CLAY FORMATION)					
			0.60 m	0.60	56.86			0.6

End of Trial Pit at 0.60 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 0.60 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions:	—
		Stability:	
		Weather:	
		Remarks:	

Method Used: Machine Excavated Trial Pit	Plant Used: JCB-3CX	Dug by: Spillane Plant Services	Logged by: [redacted]	Checked by: [redacted]

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP315

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	55.971	E: 518 638.52 N: 133 696.16	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			Light grey slightly sandy SILT. Sand is fine. Occasional rootlets. (TOPSOIL)					0
			0.20 m	0.20	56.17			
0.40	ES		MADE GROUND: light brown gravelly, slightly sandy SILT. Sand is fine. Gravel is medium, subangular flint with occasional concrete, rare brick, and ceramic. (REWORKED WEALD CLAY FORMATION)				BACKFILL	0.5
			0.65 m	0.65	56.62			
			Light brown SILT with lenses of orangish brown mottled brown clay. (WEALD CLAY FORMATION)					
			0.90 m	0.90	56.87			0.9

End of Trial Pit at 0.90 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 0.90 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit**	Plant Used: **JCB-3CX**	Dug by: **Spillane Plant Services**	Logged by: [redacted]	Checked by: [redacted]

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP316

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	55.586	E: 518 628.01 N: 133 672.98	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) S$_u$ (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			Light grey slightly sandy SILT. Sand is fine. Occasional rootlets. (TOPSOIL)					0
			0.20 m	0.20	55.79			
			MADE GROUND: Light brown gravelly, slightly sandy SILT. Sand is fine. Gravel is medium, subangular flint with occasional concrete, rare brick, and ceramic. (REWORKED WEALD CLAY FORMATION)				BACKFILL	0.5
			0.65 m	0.65	56.24			
			Light brown SILT with lenses of orangish brown mottled brown clay. (WEALD CLAY FORMATION)					
			0.90 m	0.90	56.49			
1.00	ES							1
								1.3

End of Trial Pit at 1.30 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 1.30 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit** Plant Used: **JCB-3cx** Dug by: **Spillane Plant Services** Logged by: [redacted] Checked by: [redacted]

RSK GEOSCIENCES

TRIAL PIT LOG

Contract:	Client:	Trial pit:
North Horsham	CALA Homes (South Home Counties)	TP317

Contract Ref:	Start:	Ground Level (m aOD):	National Grid Co-ordinates:	Sheet:
3751255	13/07/2026	55.969	E: 518 637.83 N: 133 631.71	1 / 1

Sample Depth (m)	Sample Type	Insitu Tests HP (kPa) s_u (kPa)	Stratum Description	Depth (m)	Level (mAOD)	Legend	Backfill	depth [m]
			Light brown slightly gravelly SILT. Gravel fine to coarse, angular siltstone with rare plastic and geotextile membrane. (TOPSOIL)					0
			0.20 m	0.20	56.17			
			MADE GROUND: light brown slightly gravelly, slightly sandy SILT. Sand is fine. Gravel is fine to coarse, angular to rounded flint and siltstone with rare glass, tile, ceramic . (REWORKED WEALD CLAY FORMATION)				BACKFILL	0.5
			0.80m: Recovered as gravelly with occasional brick, rare geotextile from 0.80 m.					
0.90	ES							1
			1.05 m	1.05	57.02			
			Stiff brown mottled orangish brown silty CLAY. (WEALD CLAY FORMATION)					
			1.25 m	1.25	57.22			1.25

End of Trial Pit at 1.25 m

Remarks	Ground Water (m)	Excavation Details	Orientation
Position scanned with a CAT, Genny and GPR prior to excavation. Trial pit excavated to 1.25 m and remained dry and stable. Trial pit backfilled with recovered arisings.	Depth strike	Dimensions: Stability: Weather: Remarks:	—

Method Used: **Machine Excavated Trial Pit**	Plant Used: **JCB-3CX**	Dug by: **Spillane Plant Services**	Logged by: [redacted]	Checked by: [redacted] AGS

APPENDIX E – SUMMARY TABLE

3751255 - North Horsham Additional Investigation
Table 1: Soil Analytical Results and Human Health QRA.

			Sample Location:	TP303	TP305	TP306	TP308	TP309	TP310	TP310	TP312	TP313	TP314	TP315	TP316	TP317
			Depth (m):	0.30	0.30	0.50	0.80	0.30	0.40	0.70	0.40	0.50	0.10	0.40	1.00	0.80
			Matrix:	MG	MG	MG	MG	MG	MG	MG	MG	MG	TS	MG	MG	MG
			Date Sampled:	13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026
Determinand	**Units**	**Assessment Criteria Value* (1.0% SOM)**	**Maximum Detected**													
Miscellaneous																
pH	pH units		8.70	8.7	6.9	7.5	8.5	7.8	7.7	7.7	7.0	7.3	7.9	7.5	7.4	7.9
Total Organic Carbon	%		1.88	1.88	0.56	1.07	1.12	0.97	1.06	0.78	2.93	0.47	1.64	1.15	0.75	0.97
Soil Organic Matter (calculated)**	%		3.23	3.2336	0.9632	1.8404	1.9264	1.6684	1.8232	1.3416	5.0396	0.8084	2.8208	1.978	1.29	1.6684
Metals																
Arsenic	mg/kg	37	15.8	9.8	15.8	9.9	11.3	9.5	8.2	11.1	9.9	10.2	8.4	9.0	5.9	8.0
Cadmium	mg/kg	22	0	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1
Chromium	mg/kg	910	31.9	21.2	31.9	26.8	26.9	29.1	26.5	31.4	26.6	31.9	24.2	26.6	26.2	30.9
Chromium VI	mg/kg	21	0	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Copper	mg/kg	2,500	24.2	24.2	20.8	18.7	23.8	21.1	17.8	18.4	13.7	19.2	14.6	15.7	15.3	17.3
Lead	mg/kg	200	57.1	57.1	20.4	26.6	42.9	26.5	30.0	29.2	27.6	21.1	25.8	30.7	22.3	45.6
Mercury	mg/kg	39	1.6	0.8	0.8	0.9	1.0	1.3	1.6	< 0.6	1.4	1.1	1.4	0.9	1.1	1.3
Nickel	mg/kg	130	35.3	14.9	35.3	22.2	18.2	24.1	19.8	22.0	19.3	16.1	16.8	20.3	20.5	16.8
Selenium	mg/kg	258	0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Zinc	mg/kg	3,900	99.3	99.3	69.8	62.1	76.4	72.8	62.6	60.3	64.6	33.3	59.7	65.9	55.3	61.7
Asbestos																
Asbestos Identificat on	-	Presence	0	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD	NAD
Polycyclic Aromatic Hydrocarbons (USEPA 16)																
Naphthalene	mg/kg	13	0.035	< 0.016	< 0.016	< 0.016	0.025	< 0.016	0.035	< 0.016	< 0.016	< 0.016	< 0.016	0.023	< 0.016	< 0.016
Acenaphthylene	mg/kg	180	0.024	0.024	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.052	0.062	0.020
Acenaphthene	mg/kg	230	0.407	0.059	0.101	< 0.013	0.041	< 0.013	0.407	0.016	< 0.013	< 0.013	< 0.013	0.015	< 0.013	< 0.013
Fluorene	mg/kg	170	0.641	0.066	0.122	< 0.013	0.037	< 0.013	0.641	< 0.013	< 0.013	< 0.013	< 0.013	0.016	< 0.013	< 0.013
Phenanthrene	mg/kg	100	5.28	0.630	0.955	0.072	0.266	< 0.014	5.280	0.040	< 0.014	0.016	0.025	0.288	0.014	0.140
Anthracene	mg/kg	2400	1.81	0.169	0.286	0.017	0.091	< 0.017	1.810	< 0.017	< 0.017	< 0.017	< 0.017	0.091	0.017	0.041
Fluoranthene	mg/kg	290	5.45	1.430	1.010	0.203	0.512	< 0.017	5.450	0.083	0.027	0.051	0.065	0.861	0.129	0.501
Pyrene	mg/kg	620	4.18	1.250	0.746	0.173	0.447	< 0.016	4.180	0.075	0.024	0.054	0.058	0.721	0.163	0.439
Benzo(a)anthracene	mg/kg	7	2.1	0.739	0.360	0.114	0.241	< 0.012	2.100	0.053	0.015	0.044	0.047	0.442	0.118	0.285
Chrysene	mg/kg	15	1.62	0.664	0.289	0.103	0.208	< 0.028	1.620	0.036	< 0.028	0.032	0.040	0.365	0.094	0.232
Benzo(b)fluoranthene	mg/kg	2.6	1.98	0.988	0.292	0.161	0.310	< 0.020	1.980	0.071	0.023	0.045	0.082	0.559	0.078	0.382
Benzo(k)fluoranthene	mg/kg	77	0.778	0.384	0.134	0.076	0.127	< 0.025	0.778	< 0.025	< 0.025	< 0.025	< 0.025	0.230	0.043	0.178
Benzo(a)pyrene	mg/kg	5	1.93	0.779	0.232	0.115	0.226	< 0.019	1.930	0.039	< 0.019	0.024	< 0.019	0.456	0.083	0.303
Indeno(1,2,3-cd)pyrene	mg/kg	13	1.64	0.789	0.208	0.137	0.221	< 0.019	1.640	0.050	< 0.019	< 0.019	0.050	0.425	0.043	0.307
Dibenzo(a,h)anthracene	mg/kg	0.24	0.275	0.124	< 0.017	< 0.017	< 0.017	< 0.017	0.275	< 0.017	< 0.017	< 0.017	< 0.017	0.081	< 0.017	0.039
Benzo(g,h,i)perylene	mg/kg	310	1.09	0.551	0.129	0.087	0.158	< 0.019	1.090	0.034	< 0.019	< 0.019	0.032	0.261	0.037	0.203
Total PAH(16)	mg/kg	n.v.	29.2	8.640	4.860	1.260	2.910	< 0.280	29.200	0.497	< 0.280	< 0.280	0.399	4.890	0.881	3.070
TPH CWG																
>C5-C6 Aliphat c (HS_1D_AL)	mg/kg	42	< 0.10		< 0.10		< 0.10			< 0.10						
>C6-C8 Aliphat c (HS_1D_AL)	mg/kg	100	< 0.10		< 0.10		< 0.10			< 0.10						
>C8-C10 Aliphat c (HS_1D_AL)	mg/kg	27	< 0.10		< 0.10		< 0.10			< 0.10						
>C5-C7 Aromatic (HS_1D_AR)	mg/kg	70	< 1.0		< 0.010		< 0.010			< 0.010						
>C7-C8 Aromatic (HS_1D_AR)	mg/kg	130	< 0.5		< 0.010		< 0.010			< 0.010						
>C8-C10 Aromatic (HS_1D_AR)	mg/kg	30	< 0.7		< 0.010		< 0.010			< 0.010						
>C10-C12 Aliphatic (EH_CU_1D_AL)	mg/kg	130	< 4.0		< 2.5		< 2.5			< 2.5						
>C12-C16 Aliphatic (EH_CU_1D_AL)	mg/kg	1,100	< 0.5		< 4.3		< 4.3			< 4.3						
>C16-C21 Aliphatic (EH_CU_1D_AL)	mg/kg	65000	< 0.010		7.1		< 2.5			< 2.5						
>C21-C35 Aliphatic (EH_CU_1D_AL)	mg/kg	65000	< 0.010		26.1		< 5.2			18.3						
>C35-C44 Aliphatic (EH_CU_1D_AL)	mg/kg	65000	< 0.010		4.8		< 2.6			23.3						
>C10-C12 Aromatic (EH_CU_1D_AR)	mg/kg	80	< 0.6		< 5.0		8.6			< 5.0						
>C12-C16 Aromatic (EH_CU_1D_AR)	mg/kg	140	< 1.0		19.7		13.4			9.7						
>C16-C21 Aromatic (EH_CU_1D_AR)	mg/kg	260	< 2.0		99.4		9.2			8.5						
>C21-C35 Aromatic (EH_CU_1D_AR)	mg/kg	1100	< 4.5		215.0		< 11.0			34.2						
>C35-C44 Aromatic (EH_CU_1D_AR)	mg/kg	1100	< 1.5		78.2		10.0			84.6						
>C5-C44 Total (EH_CU+HS_1D_Total)	mg/kg	n.v	< 0.10		459.00		55.40			184.00						

Exceedances against the Residential with Homegrown Produce Criteria,

SOM = Soil Organic Matter (Total Organic Carbon x 1.72)
NAD = No asbestos detected
MG = Made Ground
- = not tested
n.a = not applicable
n.v = no published value available
NIV = Netherlands Intervention Value
B.LoD = Below Lim t of Detection

APPENDIX F – CHEMICAL LABORATORY REPORT

ANALYTICAL TEST REPORT

Report Number	26-08454, issue number 1
Contract name:	North Horsham
Client reference:	3751255
Clients name:	RSK Environment Ltd (Leap Environmental)
Clients address:	RSK Environment Ltd (Leap Environmental) Spring Lodge 172 Chester Road West Sussex WA6 0DT
Samples received:	15/07/2026
Analysis started:	16/07/2026
Analysis completed:	22/07/2026
Report issued:	22/07/2026

Key

U UKAS accredited test
M MCERTS & UKAS accredited test
(B) Analysis performed at Southampton Site
I/S Insufficient sample to carry out test
U/S Sample not suitable for testing
NAD No Asbestos Detected
Full key available on Information page

[redacted]

Approved by:

Sam Rogerson
Receipt and Reporting Manager

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB

Telephone: (01207) 528578, Email supportsquad@chemtech-env.co.uk

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
% Moisture reported as MCERTS drying at 30°C

Lab ref	Sample ID	Depth (m)	Sample description	Material removed	% Removed	% Moisture
119020	TP303	0.30	Brown Sandy Clay with Gravel and Vegetation.	-	-	8.5
119021	TP305	0.30	Brown Sandy Clay with Gravel and Vegetation.	-	-	13.6
119022	TP306	0.50	Brown Sandy Clay with Gravel and Vegetation.	-	-	10.3
119023	TP308	0.80	Brown Sandy Clay with Gravel and Vegetation.	-	-	13.9
119024	TP309	0.30	Brown Sandy Clay with Gravel and Vegetation.	-	-	12.7
119025	TP310	0.40	Brown Sandy Clay with Gravel and Vegetation.	-	-	12.5
119026	TP310	0.70	Brown Sandy Clay with Gravel and Vegetation.	-	-	13.2
119027	TP312	0.40	Brown Sandy Clay with Gravel and Vegetation.	-	-	11.0
119028	TP313	0.50	Brown Sandy Clay with Gravel and Vegetation.	-	-	16.1
119029	TP314	0.10	Brown Sandy Clay with Gravel and Vegetation.	-	-	5.7
119030	TP315	0.40	Brown Sandy Clay with Gravel and Vegetation.	-	-	7.1
119031	TP316	1.00	Brown Sandy Clay with Gravel and Vegetation.	-	-	11.3
119032	TP317	0.80	Brown Sandy Clay with Gravel and Vegetation.	-	-	8.8
119033	TP308	0.50	-	-	-	-

SOILS

Lab Number					119020	119021	119022	119023	119024
Sample ID					TP303	TP305	TP306	TP308	TP309
Depth (m)					0.30	0.30	0.50	0.80	0.30
Sampling Date					13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Asbestos									
Asbestos Identification	SUBCON	SU	0	-	NAD	NAD	NAD	NAD	NAD
Metals									
Arsenic	CE264	M	2.3	mg/kg	9.8	15.8	9.9	11.3	9.5
Cadmium	CE264	M	1.1	mg/kg	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1
Chromium	CE264	U	1.3	mg/kg	21.2	31.9	26.8	26.9	29.1
Copper	CE264	M	1.2	mg/kg	24.2	20.8	18.7	23.8	21.1
Lead	CE264	U	2.4	mg/kg	57.1	20.4	26.6	42.9	26.5
Mercury	CE264	M	0.6	mg/kg	0.8	0.8	0.9	1.0	1.3
Nickel	CE264	M	1.6	mg/kg	14.9	35.3	22.2	18.2	24.1
Selenium	CE264	M	3	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Zinc	CE264	M	2.4	mg/kg	99.3	69.8	62.1	76.4	72.8
Colourimetric									
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Combustion									
Moisture Content	CE001	N	0.1	%	8.5	13.6	10.3	13.9	12.7
Total Organic Carbon	CE197	M	0.1	%	1.88	0.56	1.07	1.12	0.97
Miscellaneous									
Stone content > 10 mm	CE001	N	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	< 0.016	< 0.016	0.025	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	0.024	< 0.015	< 0.015	< 0.015	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	0.059	0.101	< 0.013	0.041	< 0.013
Fluorene	CE087	U	0.013	mg/kg	0.066	0.122	< 0.013	0.037	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	0.630	0.955	0.072	0.266	< 0.014
Anthracene	CE087	U	0.017	mg/kg	0.169	0.286	0.017	0.091	< 0.017
Fluoranthene	CE087	M	0.017	mg/kg	1.43	1.01	0.203	0.512	< 0.017
Pyrene	CE087	M	0.016	mg/kg	1.25	0.746	0.173	0.447	< 0.016
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.739	0.360	0.114	0.241	< 0.012
Chrysene	CE087	M	0.028	mg/kg	0.664	0.289	0.103	0.208	< 0.028
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.988	0.292	0.161	0.310	< 0.020

SOILS

Lab Number					119020	119021	119022	119023	119024
Sample ID					TP303	TP305	TP306	TP308	TP309
Depth (m)					0.30	0.30	0.50	0.80	0.30
Sampling Date					13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	0.384	0.134	0.076	0.127	< 0.025
Benzo(a)pyrene	CE087	U	0.019	mg/kg	0.779	0.232	0.115	0.226	< 0.019
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.789	0.208	0.137	0.221	< 0.019
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	0.124	< 0.017	< 0.017	< 0.017	< 0.017
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	0.551	0.129	0.087	0.158	< 0.019
Total PAH(16)	CE087	N	0.28	mg/kg	8.64	4.86	1.26	2.91	< 0.280
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	< 0.10	n/t	< 0.10	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	< 0.10	n/t	< 0.10	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	< 0.10	n/t	< 0.10	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	< 0.010	n/t	< 0.010	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	< 0.010	n/t	< 0.010	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	< 0.010	n/t	< 0.010	n/t
>C10-C12 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	n/t	< 2.5	n/t	< 2.5	n/t
>C12-C16 Aliphatic (EH_CU_1D_AL)	CE286	N	4.3	mg/kg	n/t	< 4.3	n/t	< 4.3	n/t
>C16-C21 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	n/t	7.1	n/t	< 2.5	n/t
>C21-C35 Aliphatic (EH_CU_1D_AL)	CE286	N	5.2	mg/kg	n/t	26.1	n/t	< 5.2	n/t
>C35-C44 Aliphatic (EH_CU_1D_AL)	CE286	N	2.6	mg/kg	n/t	4.8	n/t	< 2.6	n/t
>C10-C12 Aromatic (EH_CU_1D_AR)	CE286	N	5	mg/kg	n/t	< 5.0	n/t	8.6	n/t
>C12-C16 Aromatic (EH_CU_1D_AR)	CE286	N	5.5	mg/kg	n/t	19.7	n/t	13.4	n/t
>C16-C21 Aromatic (EH_CU_1D_AR)	CE286	N	4.5	mg/kg	n/t	99.4	n/t	9.2	n/t
>C21-C35 Aromatic (EH_CU_1D_AR)	CE286	N	11	mg/kg	n/t	215	n/t	< 11.0	n/t
>C35-C44 Aromatic (EH_CU_1D_AR)	CE286	N	5.2	mg/kg	n/t	78.2	n/t	10.0	n/t
>C5-C44 Total (EH_CU+HS_1D_Total)	CE286	N	21.4	mg/kg	n/t	459	n/t	55.4	n/t
Wet Chem									
pH	CE004	M	0.1	pH units	8.7	6.9	7.5	8.5	7.8

SOILS

Lab Number					119025	119026	119027	119028	119029
Sample ID					TP310	TP310	TP312	TP313	TP314
Depth (m)					0.40	0.70	0.40	0.50	0.10
Sampling Date					13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Asbestos									
Asbestos Identification	SUBCON	SU	0	-	NAD	NAD	NAD	NAD	NAD
Metals									
Arsenic	CE264	M	2.3	mg/kg	8.2	11.1	9.9	10.2	8.4
Cadmium	CE264	M	1.1	mg/kg	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1
Chromium	CE264	U	1.3	mg/kg	26.5	31.4	26.6	31.9	24.2
Copper	CE264	M	1.2	mg/kg	17.8	18.4	13.7	19.2	14.6
Lead	CE264	U	2.4	mg/kg	30.0	29.2	27.6	21.1	25.8
Mercury	CE264	M	0.6	mg/kg	1.6	< 0.6	1.4	1.1	1.4
Nickel	CE264	M	1.6	mg/kg	19.8	22.0	19.3	16.1	16.8
Selenium	CE264	M	3	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Zinc	CE264	M	2.4	mg/kg	62.6	60.3	64.6	33.3	59.7
Colourimetric									
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Combustion									
Moisture Content	CE001	N	0.1	%	12.5	13.2	11.0	16.1	5.7
Total Organic Carbon	CE197	M	0.1	%	1.06	0.78	2.93	0.47	1.64
Miscellaneous									
Stone content > 10 mm	CE001	N	0.1	%	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	0.035	< 0.016	< 0.016	< 0.016	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	0.407	0.016	< 0.013	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	0.641	< 0.013	< 0.013	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	5.28	0.040	< 0.014	0.016	0.025
Anthracene	CE087	U	0.017	mg/kg	1.81	< 0.017	< 0.017	< 0.017	< 0.017
Fluoranthene	CE087	M	0.017	mg/kg	5.45	0.083	0.027	0.051	0.065
Pyrene	CE087	M	0.016	mg/kg	4.18	0.075	0.024	0.054	0.058
Benzo(a)anthracene	CE087	U	0.012	mg/kg	2.10	0.053	0.015	0.044	0.047
Chrysene	CE087	M	0.028	mg/kg	1.62	0.036	< 0.028	0.032	0.040
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	1.98	0.071	0.023	0.045	0.082

SOILS

Lab Number					119025	119026	119027	119028	119029
Sample ID					TP310	TP310	TP312	TP313	TP314
Depth (m)					0.40	0.70	0.40	0.50	0.10
Sampling Date					13/07/2026	13/07/2026	13/07/2026	13/07/2026	13/07/2026
Test	**Method**	**Accred**	**LoD**	**Units**					
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	0.778	< 0.025	< 0.025	< 0.025	< 0.025
Benzo(a)pyrene	CE087	U	0.019	mg/kg	1.93	0.039	< 0.019	0.024	< 0.019
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	1.64	0.050	< 0.019	< 0.019	0.050
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	0.275	< 0.017	< 0.017	< 0.017	< 0.017
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	1.09	0.034	< 0.019	< 0.019	0.032
Total PAH(16)	CE087	N	0.28	mg/kg	29.2	0.497	< 0.280	< 0.280	0.399
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	< 0.10	n/t	n/t	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	< 0.10	n/t	n/t	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	< 0.10	n/t	n/t	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	< 0.010	n/t	n/t	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	< 0.010	n/t	n/t	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	< 0.010	n/t	n/t	n/t
>C10-C12 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	n/t	< 2.5	n/t	n/t	n/t
>C12-C16 Aliphatic (EH_CU_1D_AL)	CE286	N	4.3	mg/kg	n/t	< 4.3	n/t	n/t	n/t
>C16-C21 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	n/t	< 2.5	n/t	n/t	n/t
>C21-C35 Aliphatic (EH_CU_1D_AL)	CE286	N	5.2	mg/kg	n/t	18.3	n/t	n/t	n/t
>C35-C44 Aliphatic (EH_CU_1D_AL)	CE286	N	2.6	mg/kg	n/t	23.3	n/t	n/t	n/t
>C10-C12 Aromatic (EH_CU_1D_AR)	CE286	N	5	mg/kg	n/t	< 5.0	n/t	n/t	n/t
>C12-C16 Aromatic (EH_CU_1D_AR)	CE286	N	5.5	mg/kg	n/t	9.7	n/t	n/t	n/t
>C16-C21 Aromatic (EH_CU_1D_AR)	CE286	N	4.5	mg/kg	n/t	8.5	n/t	n/t	n/t
>C21-C35 Aromatic (EH_CU_1D_AR)	CE286	N	11	mg/kg	n/t	34.2	n/t	n/t	n/t
>C35-C44 Aromatic (EH_CU_1D_AR)	CE286	N	5.2	mg/kg	n/t	84.6	n/t	n/t	n/t
>C5-C44 Total (EH_CU+HS_1D_Total)	CE286	N	21.4	mg/kg	n/t	184	n/t	n/t	n/t
Wet Chem									
pH	CE004	M	0.1	pH units	7.7	7.7	7.0	7.3	7.9

SOILS

Lab Number					119030	119031	119032
Sample ID					TP315	TP316	TP317
Depth (m)					0.40	1.00	0.80
Sampling Date					13/07/2026	13/07/2026	13/07/2026
Test	**Method**	**Accred**	**LoD**	**Units**			
Asbestos							
Asbestos Identification	SUBCON	SU	0	-	NAD	NAD	NAD
Metals							
Arsenic	CE264	M	2.3	mg/kg	9.0	5.9	8.0
Cadmium	CE264	M	1.1	mg/kg	< 1.1	< 1.1	< 1.1
Chromium	CE264	U	1.3	mg/kg	26.6	26.2	30.9
Copper	CE264	M	1.2	mg/kg	15.7	15.3	17.3
Lead	CE264	U	2.4	mg/kg	30.7	22.3	45.6
Mercury	CE264	M	0.6	mg/kg	0.9	1.1	1.3
Nickel	CE264	M	1.6	mg/kg	20.3	20.5	16.8
Selenium	CE264	M	3	mg/kg	< 3.0	< 3.0	< 3.0
Zinc	CE264	M	2.4	mg/kg	65.9	55.3	61.7
Colourimetric							
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040
Combustion							
Moisture Content	CE001	N	0.1	%	7.1	11.3	8.8
Total Organic Carbon	CE197	M	0.1	%	1.15	0.75	0.97
Miscellaneous							
Stone content > 10 mm	CE001	N	0.1	%	< 0.1	< 0.1	< 0.1
Polyaromatic hydrocarbons							
Naphthalene	CE087	M	0.016	mg/kg	0.023	< 0.016	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	0.052	0.062	0.020
Acenaphthene	CE087	M	0.013	mg/kg	0.015	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	0.016	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	0.288	0.014	0.140
Anthracene	CE087	U	0.017	mg/kg	0.091	0.017	0.041
Fluoranthene	CE087	M	0.017	mg/kg	0.861	0.129	0.501
Pyrene	CE087	M	0.016	mg/kg	0.721	0.163	0.439
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.442	0.118	0.285
Chrysene	CE087	M	0.028	mg/kg	0.365	0.094	0.232
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.559	0.078	0.382

SOILS

Lab Number					119030	119031	119032
Sample ID					TP315	TP316	TP317
Depth (m)					0.40	1.00	0.80
Sampling Date					13/07/2026	13/07/2026	13/07/2026
Test	**Method**	**Accred**	**LoD**	**Units**			
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	0.230	0.043	0.178
Benzo(a)pyrene	CE087	U	0.019	mg/kg	0.456	0.083	0.303
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.425	0.043	0.307
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	0.081	< 0.017	0.039
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	0.261	0.037	0.203
Total PAH(16)	CE087	N	0.28	mg/kg	4.89	0.881	3.07
Total Petroleum Hydrocarbons							
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	n/t	n/t
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	n/t	n/t
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	n/t	n/t	n/t
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	n/t	n/t
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	n/t	n/t
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	n/t	n/t	n/t
>C10-C12 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	n/t	n/t	n/t
>C12-C16 Aliphatic (EH_CU_1D_AL)	CE286	N	4.3	mg/kg	n/t	n/t	n/t
>C16-C21 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	n/t	n/t	n/t
>C21-C35 Aliphatic (EH_CU_1D_AL)	CE286	N	5.2	mg/kg	n/t	n/t	n/t
>C35-C44 Aliphatic (EH_CU_1D_AL)	CE286	N	2.6	mg/kg	n/t	n/t	n/t
>C10-C12 Aromatic (EH_CU_1D_AR)	CE286	N	5	mg/kg	n/t	n/t	n/t
>C12-C16 Aromatic (EH_CU_1D_AR)	CE286	N	5.5	mg/kg	n/t	n/t	n/t
>C16-C21 Aromatic (EH_CU_1D_AR)	CE286	N	4.5	mg/kg	n/t	n/t	n/t
>C21-C35 Aromatic (EH_CU_1D_AR)	CE286	N	11	mg/kg	n/t	n/t	n/t
>C35-C44 Aromatic (EH_CU_1D_AR)	CE286	N	5.2	mg/kg	n/t	n/t	n/t
>C5-C44 Total (EH_CU+HS_1D_Total)	CE286	N	21.4	mg/kg	n/t	n/t	n/t
Wet Chem							
pH	CE004	M	0.1	pH units	7.5	7.4	7.9

METHOD DETAILS

METHOD	TESTNAME	METHOD SUMMARY	ANALYSIS BASIS
CE267	VPH in Soil	HS-GCFID	As submitted sample
SUBCON	Asbestos Soil	HSG248	Air Dried Sample
CE264	Metals by ICP in Soil	ICPOES	Air dried sample
CE263	ChromiumVI by Discrete Analyser in Soil	Gallery	Air dried sample
CE087	PAH in Soil	DCM Extraction and GCMS	As submitted sample
CE197	TOC In Soil	PRIMACS Combustion Analyser	Air dried sample
CE286	TPHCWG in Soil	Acetone:Hexane Extraction, SPE and GCFID	As submitted sample

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

a	Sampling date not provided
b	Sampling time not provided (waters only)
c	Sample not received in appropriate containers
d	Storage Temperature
e	Headspace present in sample container
f	Sample exceeded sampling to receipt
g	Sample exceeded holding time(s)

Lab ref	Sample ID	Depth (m)	Deviating	Tests (Reason for deviation)
119020	TP303	0.30	N	
119021	TP305	0.30	N	
119022	TP306	0.50	N	
119023	TP308	0.80	N	
119024	TP309	0.30	N	
119025	TP310	0.40	N	
119026	TP310	0.70	N	
119027	TP312	0.40	N	
119028	TP313	0.50	N	
119029	TP314	0.10	N	
119030	TP315	0.40	N	
119031	TP316	1.00	N	
119032	TP317	0.80	N	

REPORT INFORMATION

Report No.:26-08454, issue number 1

Key

U	ISO17025 Accredited Result
M	ISO17025 and MCERTS Accredited Result
N	Do not currently hold accreditation
^	MCERTS accreditation not applicable for sample matrix
*	ISO17025 accreditation not applicable for sample matrix
S	Subcontracted
I/S	Insufficient Sample
U/S	Unsuitable sample
N/T	Not tested
<	Means "less than"
>	Means "greater than"

LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.

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

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

The results relate only to the sample received.

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Moisture Content Calculated on a Wet Weight basis (at 30°C)

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

Where sampling was undertaken by Chemtech Environmental Limited it is outside the UKAS accreditation scope.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

For soils and solids, all results are reported on a dry basis (30°C). Samples dried at no more than 30°C in a drying cabinet.

For soils and solids, analytical results are inclusive of stones and 'inert' material, where applicable.

'Client Reference', 'Sample ID', 'Sample Location', 'Sample Type', 'Depth', 'Sample Date' and 'Sample Time' information is provided by the customer

Sample Retention and Disposal

All soil samples will be retained for a period of 4 weeks from the point of receipt

All water samples will be retained for a period of 2 weeks from the point of Reporting

Charges may apply to extended sample storage

TPH Classification - HWOL Acronym System

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	EH_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

Unless specifically identified (noted as "(B)" in analyte name) all internal analysis performed at Durham site

APPENDIX G – RSK ASSESSMENT CRITERIA

Generic assessment criteria for human health: residential scenario with home-grown produce

Background

RSK's generic assessment criteria (GAC) were initially prepared following the publication by the Environment Agency (EA) of soil guideline value (SGV) and toxicological (TOX) reports, and associated publications in 2009[1]. RSK GAC were updated following the publication of GAC by LQM/CIEH in 2009[2]. RSK GAC are periodically revised when updated information on toxicological, land use or receptor parameters is published.

Updates to the RSK GAC

In 2014, the publication of Category 4 Screening Levels (C4SL)[3,4], as part of the Defra-funded research project SP1010, included modifications to certain exposure assumptions documented within EA Science Report SC050221/SR3 (herein after referred to as SR3)[5] used in the generation of SGVs.

C4SL were initially published for six substances (cadmium, arsenic, benzene, benzo(a)pyrene, chromium VI and lead) for a sandy loam soil type with 6% soil organic matter, based on a low level of toxicological concern (LLTC; see Section 2.3 of research project report SP1010[3]). Further C4SL were published in 2021 for vinyl chloride, tetrachloroethene (PCE) and trichloroethene (TCE). Where a C4SL has been published, the RSK GAC duplicates the C4SL using all input parameters within the SP1010 final project report[3] and associated chemical specific reports[6], and adopts them as GAC for these substances. Due to the use of decimal places rather than significant figures applied to the Contaminated Land Exposure Assessment (CLEA) tool outputs, the GAC presented may be marginally differently to the C4SL values, however any differences between the values are minimal and would not equate to an unacceptable risk.

For all other substances the C4SL exposure modifications, with the exception of the "top two" produce type approach taken in the C4SL, have been applied to the current RSK GAC. These include alterations to daily inhalation rates for residential and commercial scenarios, reducing soil adherence factors in children (age classes 1 to 12 only) for residential land use, reducing exposure frequency for dermal contact outdoors for residential land use, and updated produce type consumption rates (90th percentile) based on recent data from the National Diet and Nutrition Survey.

The RSK GAC have also been revised with updated toxicology published by LQM/CIEH in 2015[7] or by the USEPA[14], where a C4SL has not been published.

RSK GAC derivation for metals and organic compounds

Model selection

Soil assessment criteria (SAC) were calculated using the CLEA tool v1.071, supporting EA guidance[5,8,9] and revised exposure scenarios published for the C4SL[3]. The SAC are also termed GAC.

Conceptual model

In accordance with SR3[5], the residential with home-grown produce scenario considers risks to a female child between the ages of 0 and 6 years old as the highest risk scenario. In accordance with Box 3.1 of SR3[5], the pathways considered for production of the SAC in the residential with home-grown produce scenario are

- direct soil and dust ingestion
- consumption of home-grown produce
- consumption of soil attached to home-grown produce
- dermal contact with soil and indoor dust
- inhalation of indoor and outdoor dust and vapours.

Figure 1 is a conceptual model illustrating these linkages.

In line with guidance in the EA SGV report for cadmium[1], the RSK GAC for cadmium has been derived based on estimates representative of lifetime exposure. Although young children are generally more likely to have higher exposures to soil contaminants, the renal toxicity of cadmium, and the derivation of the TDI_{oral} and TDI_{inh}, are based on considerations of the kidney burden accumulated over 50 years or so. It is therefore reasonable to consider exposure not just in childhood but averaged over a longer period.

With respect to volatilisation, the CLEA model assumes a simple linear partitioning of a chemical in the soil between the sorbed, dissolved and vapour phase[9]. The upper boundaries of this partitioning are represented by the maximum aqueous solubility and pure saturated vapour concentration of the chemical. The CLEA model estimates saturated soil concentrations where these limits are reached[9]. The CLEA software uses a traffic light system to identify when individual and/or combined assessment criteria exceed the lower of either the aqueous- or vapour-based soil saturation limits. Model output cells are flagged red where the saturated soil concentration has been exceeded and the contribution of the indoor and outdoor vapour pathway to total exposure is greater than 10%. In this case, further consideration of the following is required[9]:

- Free phase contamination may be present.
- Exposure from the vapour pathways will be over-predicted by the model, as in reality the vapour phase concentration will not increase at concentrations above saturation limits
- Where the vapour pathway contribution is greater than 90%, it is unlikely the relevant health criteria value (HCV) will be exceeded at soil concentrations at least a factor of ten higher than the relevant HCV.

Where the vapour pathway is the predominant pathway (contributes greater than 90% of exposure) or the only exposure route considered and the cell is highlighted red (SAC exceeds saturation limit), the risk based on the assumed conceptual model is likely to be negligible as the vapour risk is assumed to be tolerable at maximum possible soil concentrations. In such circumstances, the vapour pathway exposure should be considered based on the presence of free phase or non-aqueous phase liquid sources and the measured concentrations of volatile organic compounds (VOC) in the vapour phase. Screening could be considered based on setting the SAC as the modelled soil saturation limits. However, as stated within the CLEA handbook[9], this is likely to not be practical in many cases because of the very low saturation limits and, in any case, is highly conservative.

It should also be noted that for mixtures of compounds, free phase may be present where soil (or groundwater) concentrations are well below saturation limits for individual compounds.

Where the vapour pathway is only one of the exposure pathways considered, an additional approach can then be utilised as detailed within Section 4.12 of the CLEA model handbook[9], which explains how to calculate an effective assessment criterion manually.

SR3[5] states that, as a general rule of thumb, it is recognised that estimating vapour phase concentrations from dissolved and sorbed phase contamination by petroleum hydrocarbons are at least a factor of ten higher than those likely to be measured on-site. RSK has therefore applied an empirical subsurface to indoor air correction factor of 10 into the CLEA model chemical database for all petroleum hydrocarbon fractions (including BTEX, trimethylbenzenes and the polycyclic aromatic hydrocarbons (PAH) naphthalene, acenaphthene and acenaphthylene) to reduce this conservatism.

Input selection

The most up-to-date published chemical and toxicological data was obtained from EA Report SC050021/SR7[10], the EA TOX[1] reports, the C4SL SP1010 project report and associated appendices[3,6], the 2015 LQM/CIEH report[7] or the USEPA IRIS database[14]. Where a LLTC[3,6] has been published for a substance, RSK has used these input parameters to derive the RSK GAC. Toxicological and specific chemical parameters for 1,2,4-trimethylbenzene, barium, methyl tertiary-butyl ether (MTBE), 1,1,2-trichlorethane, 1,1-dichloroethene, 1,2-dichloropropane, 2-chloronaphthalene, chloroethane, chloromethane, cis 1,2-dichloroethene, dichloromethane, hexachloroethane and trans 1,2-dichloroethene were obtained from the CL:AIRE Soil Generic Assessment Criteria report[11].

For TPH, aromatic hydrocarbons C_5–C_8 were not modelled, as this range comprises benzene (>EC5-EC7) and toluene (>EC7-EC8), which are modelled separately.

Physical parameters

For the residential with home-grown produce scenario, the CLEA default building is a small, two-storey terrace house with a concrete ground-bearing slab. The house is assumed to have a 100m^2 private garden consisting of lawn and flowerbeds, incorporating a 20m^2 plot for growing fruit and vegetables consumed by the residents. SR3[5] notes this residential building type to be the most conservative in terms of potential for vapour intrusion. The building parameters used in the production of the RSK GACs are the default CLEA v1.06 inputs presented in Table 3.3 of SR3[3], with a dust loading factor detailed in Section 9.3 of SR3[5]. The parameters for a sandy loam soil type were used in line with Table 4.4 of SR3[5]. This includes a value of 6% for the percentage of soil organic matter (SOM) within the soil. In RSK's experience, this is rather high for many sites. To avoid undertaking site-specific risk assessments for SOM, RSK has produced an additional set of GAC for SOM of 1% and 2.5% for all substances using the CLEA tool.

Summary of modifications to the default CLEA SR3[5] input parameters for residential with home-grown produce land-use scenario

In summary, the RSK GAC were produced using the default input parameters for soil properties, the air dispersion model, building properties and the vapour model detailed in SR3[5]. Modifications to the default SR3[5] exposure scenarios based on the C4SL exposure scenarios[3] are presented in Tables 2 and 3 below.

The final selected GAC are presented by pathway in Table 4 and the combined GAC in Table 5.

Figure 1: Conceptual model for residential scenario with home-grown produce

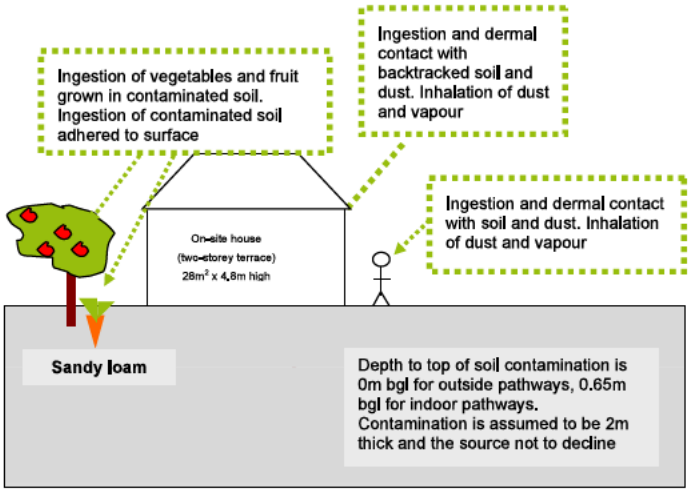


Table 1: Exposure assessment parameters for residential scenario with home-grown produce – inputs for CLEA model

Parameter	Value	Justification
Land use	Residential with homegrown produce	Chosen land use
Receptor	Female child age 1 to 6	Key generic assumption given in Box 3.1, SR3[5]
Building	Small terraced house	Key generic assumption given in Box 3.1, SR3. Small, two-storey terraced house chosen, as it is the most conservative residential building type in terms of protection from vapor intrusion (Section 3.4.6, SR3)[5]
Soil type	Sandy Loam	Most common UK soil type (Section 4.3.1, from Table 3.1, SR3)[5]
Start AC (age class)	1	Range of age classes corresponding to key generic assumption that the critical receptor is a young female child aged 0–6. From Box 3.1, SR3[5]
End AC (age class)	6	
SOM (%)	6	Representative of sandy loamy soil according to EA guidance note dated January 2009 entitled 'Changes We Have Made to the CLEA Framework Documents'[13]
	1	To provide SAC for sites where SOM <6% as often observed by RSK
	2.5	
pH	7	Model default

Table 2: Residential with home-grown produce – modified home-grown produce data

Name	Consumption rate 90th percentile (g FW kg^{-1} BW day^{-1}) by age class						Dry weight conversion factor (g DW g^{-1} FW)	Home-grown fraction (average)	Home-grown fraction (high end)	Soil loading factor (g g^{-1} DW)	Preparation correction factor
	1	2	3	4	5	6					
Green vegetables	7.12	5.87	5.87	5.87	4.53	4.53	0.096	0.05	0.33	1.00E-03	2.00E-01
Root vegetables	10.7	2.83	2.83	2.83	2.14	2.14	0.103	0.06	0.4	1.00E-03	1.00E+00
Tuber vegetables	16	6.6	6.6	6.6	4.95	4.95	0.21	0.02	0.13	1.00E-03	1.00E+00
Herbaceous fruit	1.83	3.39	3.39	3.39	2.24	2.24	0.058	0.06	0.4	1.00E-03	6.00E-01
Shrub fruit	2.23	0.46	0.46	0.46	0.19	0.19	0.166	0.09	0.6	1.00E-03	6.00E-01
Tree fruit	3.82	10.3	10.3	10.3	5.16	5.16	0.157	0.04	0.27	1.00E-03	6.00E-01
Justification	Table 3.4, SP1010 (3)						Table 6.3, SR3(5)	Table 4.19, SR3(5)		Table 6.3, SR3(5)	

Table 3: Residential with home-grown produce – modified and use and receptor data

Parameter	Unit	Age class					
		1	2	3	4	5	6
EF (soil and dust ingestion)	day yr^{-1}	180	365	365	365	365	365
EF (consumption of home-grown produce)	day yr^{-1}	180	365	365	365	365	365
EF (skin contact, indoor)	day yr^{-1}	180	365	365	365	365	365
EF (skin contact, outdoor)	day yr^{-1}	170	170	170	170	170	170
EF (inhalation of dust and vapour, indoor)	day yr^{-1}	365	365	365	365	365	365
EF (inhalation of dust and vapour, outdoor)	day yr^{-1}	365	365	365	365	365	365
Justification		Table 3.5, SP1010(3); Table 3.1, SR3(5)					
Soil to skin adherence factor (outdoor)	mg cm^{-2} day^{-1}	0.1	0.1	0.1	0.1	0.1	0.1
Justification		Table 3.5, SP1010(3)					
Inhalation rate	m^3 day^{-1}	5.4	8.0	8.9/f	10.1	10.1	10.1
Justification		Mean value USEPA, 2011(12); Table 3.2, SP1010(3)					
Notes: For **cadmium**, the exposure assessment for a residential land use is based on estimates representative of lifetime exposure AC1-18. This is because the TDI_{oral} and TDI_{inh} are based on considerations of the kidney burden accumulated over 50 years. It is therefore reasonable to consider exposure not just in childhood but averaged over a longer period. See the Environment Agency Science Report SC05002/ TOX 3(1), Science Report SC050021/Cadmium SGV(1) and the project report SP1010(3) for more information.							

References

1. Environment Agency (2009), 'Science Reports SC050021 - SGV and TOX reports for: benzene, toluene, ethylbenzene, xylene, mercury, selenium, nickel, arsenic, cadmium, phenol, dioxins, furans and dioxin-like PCBs'; 'Supplementary information for the derivation of SGV for: benzene, toluene, ethylbenzene, xylene, mercury, selenium, nickel, arsenic, cadmium, phenol, dioxins, furans and dioxin-like PCBs', and 'Contaminants in soil: updated collation of toxicological data and intake values for humans: benzene, toluene, ethylbenzene, xylene, mercury, selenium, nickel, arsenic, cadmium, phenol, dioxins, furans and dioxin-like PCBs'. Available at: https://www.gov.uk/government/publications/contaminants-in-soil-updated-collation-of-toxicological-data-and-intake-values-for-humans and https://www.gov.uk/government/publications/land-contamination-soil-guideline-values-sgvs (accessed 4 February 2015)

2. Nathanial, C. P., McCaffrey, C., Ashmore, M., Cheng, Y., Gillet, A. G., Ogden, R. C. and Scott, D. (2009), *LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment*, second edition (Nottingham: Land Quality Press).

3. Contaminated Land: Applications in Real Environment (CL:AIRE) (2014). 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010.

4. Department for Environment, Food and Rural Affairs (Defra) (2014), 'SP1010: Development of Category 4 Screening Levels for assessment of land affected by contamination – Policy Companion Document', Revision 2.

5. Environment Agency (2009), *Science Report – SC050021/SR3. Updated technical background to the CLEA model* (Bristol: Environment Agency).

6. Contaminated Land: Applications in Real Environment (CL:AIRE) (2014). 'Appendices C to H). DEFRA research project SP1010'. CL:AIRE (2021). Category 4 Screening Levels: Trichloroethene (TCE). CL:AIRE, London. ISBN 978-1-905046-38-6. CL:AIRE (2021). Category 4 Screening Levels: Vinyl Chloride. CL:AIRE, London. ISBN 978-1-905046-36-2. CL:AIRE (2021). Category 4 Screening Levels: Tetrachloroethene (PCE). CL:AIRE, London. ISBN 978-1-905046-37-9.

7. Nathanial, C. P., McCaffrey, C., Gillet, A. G., Ogden, R. C. and Nathanial, J. F. (2015), *The LQM/CIEH S4ULs for Human Health Risk Assessment* (Nottingham: Land Quality Press).

8. Environment Agency (2009), *Human health toxicological assessment of contaminants in soil. Science Report – Final SC050021/SR2* (Bristol: Environment Agency).

9. Environment Agency (2009), *Science Report – SC050021/SR4 CLEA Software (version 1.05) Handbook* (Bristol: Environment Agency).

10. Environment Agency (2008), *Science Report SC050021/SR7. Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values* (Bristol: Environment Agency).

11. CL:AIRE (2010), *Soil Generic Assessment Criteria for Human Health Risk Assessment* (London: CL:AIRE).

12. USEPA (2011), *Exposure factors handbook*, EPA/600/R-090/052F (Washington, DC: Office of Research and Development).

13. Environment Agency (2009), 'Changes made to the CLEA framework documents after the three-month evaluation period in 2008', released January 2009.

14. USEPA (2010). Hydrogen cyanide and cyanide salts. Integrated Risk Information Systems (IRIS) Chemical Assessment Summary. September 2010. https://www.epa.gov/iris (accessed 9 December 2015)

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - RESIDENTIAL WITH HOME-GROWN PRODUCE

Table 4

Human Health Generic Assessment Criteria by Pathway for Residential With Home-Grown Produce Scenario

Compound	Notes	SAC Appropriate to Pathway SOM 1% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 2.5% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 6% (mg/kg)			Soil Saturation Limit (mg/kg)
		Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Metals													
Arsenic	(a,b)	3,71E+01	5,26E+02	NR	NR	3,71E+01	5,26E+02	NR	NR	3,71E+01	5,26E+02	NR	NR
Barium	(b)	1,34E+03	NR	NR	NR	1,34E+03	NR	NR	NR	1,34E+03	NR	NR	NR
Beryllium		1,13E+02	1,72E+00	NR	NR	1,13E+02	1,72E+00	NR	NR	1,13E+02	1,72E+00	NR	NR
Boron		3,00E+02	5,20E+06	NR	NR	3,00E+02	5,20E+06	NR	NR	3,00E+02	5,20E+06	NR	NR
Cadmium	(a)	2,30E+01	4,88E+02	2,21E+01	NR	2,30E+01	4,88E+02	2,21E+01	NR	2,30E+01	4,88E+02	2,21E+01	NR
Chromium (III) = trivalent	(c)	1,84E+04	9,07E+02	NR	NR	1,84E+04	9,07E+02	NR	NR	1,84E+04	9,07E+02	NR	NR
Chromium (VI) = hexavalent	(a,d)	5,85E+01	2,06E+01	NR	NR	5,85E+01	2,06E+01	NR	NR	5,85E+01	2,06E+01	NR	NR
Copper		2,72E+03	1,41E+04	2,47E+03	NR	2,72E+03	1,41E+04	2,47E+03	NR	2,72E+03	1,41E+04	2,47E+03	NR
Lead	(e)	2,01E+02	NR	NR	NR	2,01E+02	NR	NR	NR	2,01E+02	NR	NR	NR
Elemental Mercury (Hg^0)	(d)	NR	2,35E-01	NR	4,31E+00	NR	5,60E-01	NR	1,07E+01	NR	1,22E+00	NR	2,58E+01
Inorganic Mercury (Hg^{2+})		3,95E+01	3,63E+03	3,91E+01	NR	3,95E+01	3,63E+03	3,91E+01	NR	3,95E+01	3,63E+03	3,91E+01	NR
Methyl Mercury (Hg^{4+})		1,26E+01	1,87E+01	7,52E+00	7,33E+01	1,26E+01	3,62E+01	9,34E+00	1,42E+02	1,26E+01	7,68E+01	1,08E+01	3,04E+02
Nickel	(d)	1,27E+02	1,81E+02	NR	NR	1,27E+02	1,81E+02	NR	NR	1,27E+02	1,81E+02	NR	NR
Selenium	(b)	2,58E+02	NR	NR	NR	2,58E+02	NR	NR	NR	2,58E+02	NR	NR	NR
Vanadium		4,13E+02	1,46E+03	NR	NR	4,13E+02	1,46E+03	NR	NR	4,13E+02	1,46E+03	NR	NR
Zinc	(b)	3,66E+03	3,63E+07	NR	NR	3,66E+03	3,63E+07	NR	NR	3,66E+03	3,63E+07	NR	NR
Cyanide (free)		1,37E+00	1,37E+04	1,37E+00	NR	1,37E+00	1,37E+04	1,37E+00	NR	1,37E+00	1,37E+04	1,37E+00	NR
Volatile Organic Compounds													
Benzene	(a)	2,62E-01	9,01E-01	2,03E-01	1,22E+03	5,39E-01	1,65E+00	4,08E-01	2,26E+03	1,16E+00	3,48E+00	8,72E-01	4,71E+03
Toluene		1,53E+02	9,08E+02	1,31E+02	8,69E+02	3,48E+02	2,00E+03	2,97E+02	1,92E+03	7,95E+02	4,55E+03	6,77E+02	4,36E+03
Ethylbenzene		1,10E+02	8,34E+01	4,74E+01	5,18E+02	2,61E+02	1,99E+02	1,12E+02	1,22E+03	6,00E+02	4,58E+02	2,60E+02	2,84E+03
Xylene - m		2,10E+02	8,25E+01	5,92E+01	6,25E+02	5,01E+02	1,95E+02	1,40E+02	1,47E+03	1,15E+03	4,59E+02	3,27E+02	3,46E+03
Xylene - o		1,92E+02	8,87E+01	6,07E+01	4,78E+02	4,58E+02	2,08E+02	1,45E+02	1,12E+03	1,05E+03	4,88E+02	3,32E+02	2,62E+03
Xylene - p		1,98E+02	7,83E+01	5,66E+01	5,76E+02	4,70E+02	1,86E+02	1,33E+02	1,35E+03	1,08E+03	4,38E+02	3,10E+02	3,17E+03
Total xylene		1,92E+02	7,93E+01	5,86E+01	6,25E+02	4,56E+02	1,86E+02	1,33E+02	1,47E+03	1,05E+03	4,36E+02	3,10E+02	3,46E+03
Methyl tertiary-Butyl ether (MTBE)		1,54E+02	1,04E+02	6,22E+01	2,04E+04	2,97E+02	1,69E+02	1,08E+02	3,31E+04	6,03E+02	3,21E+02	2,10E+02	6,27E+04
1,1,1,2 Tetrachloroethane		5,39E+00	1,54E+00	1,20E+00	2,80E+03	1,27E+01	3,56E+00	2,78E+00	6,02E+03	2,92E+01	8,29E+00	6,46E+00	1,40E+04
1,1,2,2-Tetrachloroethane		2,81E+00	3,92E+00	1,84E+00	2,87E+03	6,10E+00	8,04E+00	3,47E+00	5,46E+03	1,36E+01	1,78E+01	7,87E+00	1,20E+04
1,1,1-Trichloroethane		3,33E+02	9,01E+00	8,77E+00	1,43E+03	7,26E+02	1,84E+01	1,80E+01	2,92E+03	1,62E+03	4,04E+01	3,94E+01	6,39E+03
1,1,2 Trichloroethane		1,95E+00	1,25E+00	7,62E-01	4,03E+03	4,21E+00	2,55E+00	1,59E+00	8,21E+03	9,35E+00	5,59E+00	3,50E+00	1,80E+04
1,1-Dichloroethene		1,93E+01	3,29E-01	3,23E-01	2,23E+03	3,85E+01	5,82E-01	5,74E-01	3,94E+03	8,15E+01	1,17E+00	1,16E+00	7,94E+03
1,2-Dichloroethane		3,17E-02	9,20E-03	7,13E-03	3,41E+03	5,73E-02	1,33E-02	1,08E-02	4,91E+03	1,09E-01	2,28E-02	1,88E-02	8,43E+03
1,2,4-Trimethylbenzene		NR	1,76E+00	NR	4,74E+02	NR	4,26E+00	NR	1,16E+03	NR	9,72E+00	NR	2,76E+03
1,3,5-Trimethylbenzene	(e)	NR	NR	NR	2,30E+02	NR	NR	NR	5,52E+02	NR	NR	NR	1,30E+03
1,2-Dichloropropane		4,28E+00	3,40E-02	3,37E-02	1,19E+03	8,44E+00	6,00E-02	5,86E-02	2,11E+03	1,77E+01	1,21E-01	1,20E-01	4,24E+03
Carbon Tetrachloride (tetrachloromethane)		3,10E+00	2,58E-02	2,57E-02	1,52E+03	7,11E+00	5,65E-02	5,62E-02	3,32E+03	1,62E+01	1,28E-01	1,27E-01	7,54E+03
Chloroethane		NR	1,17E+01	NR	2,81E+03	NR	1,59E+01	NR	3,54E+03	NR	2,57E+01	NR	5,71E+03
Chloromethane		NR	1,17E-02	NR	1,81E+03	NR	1,38E-02	NR	2,24E+03	NR	1,85E-02	NR	2,99E+03
Cis 1,2 Dichloroethene		1,56E-01	NR	NR	3,84E+03	2,66E-01	NR	NR	6,61E+03	5,18E-01	NR	NR	1,29E+04
Dichloromethane		7,04E-01	3,05E+00	6,24E-01	7,27E+03	1,27E+00	4,06E+00	1,08E+00	8,68E+03	2,33E+00	6,42E+00	1,82E+00	1,53E+04
Tetrachloroethene (PCE)		1,33E+01	3,19E-01	3,11E-01	4,24E+02	3,11E+01	7,15E-01	6,99E-01	9,51E+02	7,12E+01	1,64E+00	1,60E+00	2,18E+03
Trans 1,2 Dichloroethene		6,45E+00	2,78E-01	NR	3,42E+03	1,29E+01	4,99E-01	NR	6,17E+03	2,74E+01	1,02E+00		1,28E+04
Trichloroethene (TCE)		9,30E-03	3,61E-02	NR	1,54E+03	1,95E-02	7,57E-02	NR	3,22E+03	4,34E-02	1,68E-01	NR	7,14E+03
Vinyl Chloride (chloroethene)		1,13E-02	1,47E-02	6,38E-03	1,36E+03	2,09E-02	1,90E-02	9,97E-03	1,76E+03	3,88E-02	2,91E-02	1,66E-02	2,69E+03
Semi-Volatile Organic Compounds													
2-Chlorornaphthalene		2,78E+02	5,39E+00	5,29E+00	1,14E+02	6,59E+02	1,33E+01	1,30E+01	2,80E+02	1,45E+03	3,17E+01	3,10E+01	6,89E+02

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH - RESIDENTIAL WITH HOME-GROWN PRODUCE

Table 4

Human Health Generic Assessment Criteria by Pathway for Residential With Home-Grown Produce Scenario

Compound	Notes	SAC Appropriate to Pathway SOM 1% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 2.5% (mg/kg)			Soil Saturation Limit (mg/kg)	SAC Appropriate to Pathway SOM 6% (mg/kg)			Soil Saturation Limit (mg/kg)
		Oral	Inhalation	Combined		Oral	Inhalation	Combined		Oral	Inhalation	Combined	
Acenaphthene		2.27E+02	4.86E+04	2.26E+02	5.70E+01	5.41E+02	1.18E+05	5.38E+02	1.41E+02	1.18E+03	2.68E+05	1.17E+03	3.36E+02
Acenaphthylene		1.85E+02	4.59E+04	1.84E+02	8.61E+01	4.42E+02	1.11E+05	4.40E+02	2.12E+02	9.78E+02	2.53E+05	9.74E+02	5.06E+02
Anthracene		2.43E+03	1.53E+05	2.39E+03	1.17E+00	5.53E+03	3.77E+05	5.45E+03	2.91E+00	1.10E+04	8.76E+05	1.09E+04	6.96E+00
Benzo(a)anthracene		1.01E+01	2.47E+01	7.16E+00	1.71E+00	1.42E+01	4.37E+01	1.07E+01	4.28E+00	1.69E+01	6.26E+01	1.33E+01	1.03E+01
Benzo(a)pyrene	(a)	4.96E+00	3.51E+01	NR	9.11E-01	4.96E+00	3.77E+01	NR	2.28E+00	4.96E+00	3.89E+01	NR	5.48E+00
Benzo(b)fluoranthene		2.96E+00	1.93E+01	2.56E+00	1.22E+00	3.89E+00	2.13E+01	3.29E+00	3.04E+00	4.43E+00	2.22E+01	3.69E+00	7.29E+00
Benzo(g,h,i)perylene		3.77E+02	1.87E+03	3.14E+02	1.54E-02	4.09E+02	1.94E+03	3.38E+02	3.85E-02	4.23E+02	1.97E+03	3.48E+02	9.23E-02
Benzo(k)fluoranthene		8.92E+01	5.41E+02	7.66E+01	6.87E-01	1.10E+02	5.76E+02	9.22E+01	1.72E+00	1.21E+02	5.91E+02	1.00E+02	4.12E+00
Chrysene		1.66E+01	1.19E+02	1.46E+01	4.40E-01	2.54E+01	1.49E+02	2.17E+01	1.10E+00	3.19E+01	1.66E+02	2.67E+01	2.64E+00
Dibenzo(a,h)anthracene		2.90E-01	1.45E+00	2.41E-01	3.93E-03	3.43E-01	1.64E+00	2.84E-01	9.82E-03	3.69E-01	1.74E+00	3.04E-01	2.36E-02
Fluoranthene		2.87E+02	3.83E+04	2.85E+02	1.89E+01	5.63E+02	8.87E+04	5.60E+02	4.73E+01	9.00E+02	1.83E+05	8.96E+02	1.13E+02
Fluorene		1.77E+02	6.20E+03	1.72E+02	3.09E+01	4.19E+02	1.53E+04	4.07E+02	7.65E+01	8.98E+02	3.62E+04	8.77E+02	1.83E+02
Hexachloroethane		2.68E-01	NR	NR	8.17E+00	6.57E-01	NR	NR	2.01E+01	1.55E+00	NR	NR	4.81E+01
Indeno(1,2,3-cd)pyrene		3.09E+01	2.12E+02	2.70E+01	6.13E-02	4.22E+01	2.38E+02	3.59E+01	1.53E-01	4.92E+01	2.50E+02	4.11E+01	3.68E-01
Naphthalene		2.78E+01	2.33E+01	1.27E+01	7.84E+01	6.88E+01	5.58E+01	3.04E+01	1.83E+02	1.53E+02	1.31E+02	7.09E+01	4.32E+02
Phenanthrene		9.85E+01	7.17E+03	9.72E+01	3.80E+01	2.24E+02	1.76E+04	2.22E+02	8.96E+01	4.48E+02	4.07E+04	4.43E+02	2.14E+02
Pyrene		6.25E+02	8.79E+04	6.20E+02	2.20E+00	1.25E+03	2.04E+05	1.24E+03	5.49E+00	2.05E+03	4.23E+05	2.04E+03	1.32E+01
Phenol		1.60E+02	4.58E+02	1.20E+02	2.42E+04	2.86E+02	6.95E+02	2.09E+02	3.81E+04	5.86E+02	1.19E+03	3.83E+02	7.03E+04
Total Petroleum Hydrocarbons													
Aliphatic hydrocarbons EC_5-EC_6		4.99E+03	4.24E+01	4.23E+01	3.04E+02	1.13E+04	7.79E+01	7.78E+01	5.58E+02	2.50E+04	1.61E+02	1.60E+02	1.15E+03
Aliphatic hydrocarbons >EC_6-EC_8		1.49E+04	1.04E+02	1.03E+02	1.44E+02	3.43E+04	2.31E+02	2.31E+02	3.22E+02	7.11E+04	5.29E+02	5.26E+02	7.36E+02
Aliphatic hydrocarbons >EC_8-EC_{10}		1.61E+03	2.68E+01	2.67E+01	7.77E+01	2.91E+03	6.55E+01	6.51E+01	1.90E+02	4.26E+03	1.58E+02	1.54E+02	4.51E+02
Aliphatic hydrocarbons >EC_{10}-EC_{12}		4.57E+03	1.33E+02	1.32E+02	4.75E+01	5.51E+03	3.31E+02	3.26E+02	1.18E+02	5.98E+03	7.93E+02	7.85E+02	2.83E+02
Aliphatic hydrocarbons >EC_{12}-EC_{16}		6.27E+03	1.11E+03	1.09E+03	2.37E+01	6.34E+03	2.78E+03	2.41E+03	5.91E+01	6.36E+03	6.67E+03	4.34E+03	1.42E+02
Aliphatic hydrocarbons >EC_{16}-EC_{35}	(b)	6.46E+04	NR	NR	8.48E+00	9.17E+04	NR	NR	2.12E+01	1.10E+05	NR	NR	5.09E+01
Aliphatic hydrocarbons >EC_{35}-EC_{44}	(b)	6.46E+04	NR	NR	8.48E+00	9.17E+04	NR	NR	2.12E+01	1.10E+05	NR	NR	5.09E+01
Aromatic hydrocarbons >EC8-EC_{10}		5.76E+01	4.74E+01	3.45E+01	6.13E+02	1.38E+02	1.16E+02	8.38E+01	1.50E+03	3.07E+02	2.77E+02	1.94E+02	3.58E+02
Aromatic hydrocarbons >EC_{10}-EC_{12}		8.29E+01	2.58E+02	7.52E+01	3.84E+02	1.96E+02	6.39E+02	1.79E+02	8.99E+02	4.25E+02	1.52E+03	3.91E+02	2.15E+03
Aromatic hydrocarbons >EC_{12}-EC_{16}		1.47E+02	2.85E+03	1.45E+02	1.89E+02	3.38E+02	7.07E+03	3.32E+02	4.19E+02	6.81E+02	1.68E+04	6.74E+02	1.00E+03
Aromatic hydrocarbons >EC_{16}-EC_{21}	(b)	2.83E+02	NR	NR	5.37E+01	5.45E+02	NR	NR	1.34E+02	9.34E+02	NR	NR	3.21E+02
Aromatic hydrocarbons >EC_{21}-EC_{35}	(b)	1.09E+03	NR	NR	4.83E+00	1.47E+03	NR	NR	1.21E+01	1.70E+03	NR	NR	2.90E+01
Aromatic hydrocarbons >EC_{35}-EC_{44}	(b)	1.09E+03	NR	NR	4.83E+00	1.47E+03	NR	NR	1.21E+01	1.70E+03	NR	NR	2.90E+01

Notes:

EC - equivalent carbon. SAC - soil assessment criteria.

The CLEA model output is colour coded depending upon whether the soil saturation limit has been exceeded.

Calculated SAC exceeds soil saturation limit and may significantly affect the interpretation of any exceedances as the contribution of the indoor and outdoor vapour pathway to total exposure is >10%.

Calculated SAC exceeds soil saturation limit but the exceedance will not affect the SAC significantly as the contribution of the indoor and outdoor vapour pathway to total exposure is <10%.

Calculated SAC does not exceed the soil saturation limit.

The SAC for organic compounds are dependant upon soil organic matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58. 1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.

SAC for TPH fractions, PAHs napthalene, acenaphthene and acenaphthylene, BTEX and trimethylbenzene compounds were produced using an attenuation factor for the indoor air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway (Section 10.1.1, SR3)

(a) SAC for arsenic, benzene, benzo(a)pyrene, cadmium, chromium VI and lead are derived using the C4SL toxicology data.

(b) SAC for boron and selenium should not include the inhalation pathway as no expert group HCV has been derived; aliphatic and aromatic hydrocarbons >EC16 should not include inhalation pathway due to their non-volatile nature and inhalation exposure being minimal (oral, dermal and inhalation exposure is compared to the oral HCV); arsenic should only be based on oral contribution (rather than combined) owing to the relative small contribution from inhalation in accordance with the SGV report. The Oral SAC should be adopted for zinc and benzo(a)pyrene.

(c) SAC for CrIII should be based on the lower of the oral and inhalation SAC (see LQM/CIEH 2015 Section 6.8)

(d) SAC for elemental mercury, chromium VI and nickel should be based on the inhalation pathway only.

(e) SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4 trimethylbenzene may be used.

Table 5
Human Health Generic Assessment Criteria for Residential with home-grown produce

Compound	SAC for Soil SOM 1% (mg/kg)	SAC for Soil SOM 2.5% (mg/kg)	SAC for Soil SOM 6% (mg/kg)
Metals			
Arsenic	37	37	37
Barium	1,300	1,300	1,300
Beryllium	1.7	1.7	1.7
Boron	300	300	300
Cadmium	22	22	22
Chromium (III) - trivalent	910	910	910
Chromium (VI) - hexavalent	21	21	21
Copper	2,500	2,500	2,500
Lead	200	200	200
Elemental Mercury (Hg^0)	0.2	0.6	1.2
Inorganic Mercury (Hg^{2+})	39	39	39
Methyl Mercury (Hg^{4-})	10	10	10
Nickel	130	130	130
Selenium	258	258	258
Vanadium	410	410	410
Zinc	3,900	3,900	3,900
Cyanide (free)	1.4	1.4	1.4
Volatile Organic Compounds			
Benzene	0.20	0.41	0.87
Toluene	130	300	680
Ethylbenzene	50	110	260
Xylene - m	59	140	327
Xylene - o	61	143	332
Xylene - p	57	133	310
Total xylene	57	133	310
Methyl tertiary-Butyl ether (MTBE)	60	110	210
1,1,1,2 Tetrachloroethane	1.20	2.78	6.46
1,1,2,2-Tetrachloroethane	1.6	3.5	7.7
1,1,1-Trichloroethane	9	18	39
1,1,2 Trichloroethane	0.8	1.6	3.5
1,1-Dichloroethene	0.32	0.57	1.16
1,2-Dichloroethene	0.007	0.011	0.019
1,2,4-Trimethylbenzene	1.8	4.3	9.7
1,3,5-Trimethylbenzene	NR	NR	NR
1,2-Dichloropropane	0.034	0.060	0.120
Carbon Tetrachloride (tetrachloromethane)	0.026	0.056	0.127
Chloroethane	11.7	15.9	25.7
Chloromethane	0.012	0.014	0.019
Cis 1,2 Dichloroethene	0.16	0.27	0.52
Dichloromethane	0.62	1.08	1.92
Tetrachloroethene (PCE)	0.31	0.70	1.60
Trans 1,2 Dichloroethene	0.28	0.50	1.02
Trichloroethene (TCE)	0.009	0.020	0.043
Vinyl Chloride (chloroethene)	0.006	0.010	0.017
Semi-Volatile Organic Compounds			
2-Chloronaphthalene	5	13	31
Acenaphthene	230	540	1,170
Acenaphthylene	180	440	970
Anthracene	2,400	5,500	10,900
Benzo(a)anthracene	7	11	13
Benzo(a)pyrene	5	5	5
Benzo(b)fluoranthene	2.6	3.3	3.7
Benzo(g,h,i)perylene	310	340	350
Benzo(k)fluoranthene	77	92	100
Chrysene	15	22	27
Dibenzo(a,h)anthracene	0.24	0.28	0.30
Fluoranthene	290	560	900
Fluorene	170	410	880
Hexachloroethane	0.27	0.66	1.55
Indeno(1,2,3-cd)pyrene	13	30	71
Naphthalene	13	30	71
Phenanthrene	100	220	440
Pyrene	620	1,240	2,040
Phenol	120	210	390
Total Petroleum Hydrocarbons			
Aliphatic hydrocarbons EC_5-EC_6	42	78	160
Aliphatic hydrocarbons >EC_6-EC_8	100	230	530
Aliphatic hydrocarbons >EC_8-EC_{10}	27	65	154
Aliphatic hydrocarbons >EC_{10}-EC_{12}	130 (48)	330 (118)	760 (283)
Aliphatic hydrocarbons >EC_{12}-EC_{16}	1,100 (24)	2,400 (59)	4,300 (142)
Aliphatic hydrocarbons >EC_{16}-EC_{35}	65,000 (8)	92,000 (21)	110,000
Aliphatic hydrocarbons >EC_{35}-EC_{44}	65,000 (8)	92,000 (21)	110,000
Aromatic hydrocarbons >EC_6-EC_{10}	30	80	190
Aromatic hydrocarbons >EC_{10}-EC_{12}	80	180	390
Aromatic hydrocarbons >EC_{12}-EC_{16}	140	330	670
Aromatic hydrocarbons >EC_{16}-EC_{21}	260	540	930
Aromatic hydrocarbons >EC_{21}-EC_{35}	1,100	1,500	1,700
Aromatic hydrocarbons >EC_{35}-EC_{44}	1,100	1,500	1,700
Minerals			
Asbestos	Stage 1 test – No asbestos detected with ID; Stage 2 test - <0.001% dry weight (exceedance of either equates to an exceedance of the GAC)[1]		

Notes:

'-' Generic assessment criteria not calculated owing to low volatility of substance and therefore no pathway, or an absence of toxicological data.

NR - SAC for 1,3,5-trimethylbenzene is not recorded owing to the lack of toxicological data, SAC for 1,2,4 trimethylbenzene may be used

EC - equivalent carbon. SAC - soil assessment criteria.

[1] LOD for weight of asbestos per unit weight of soil calculated on a dry weight basis using PLM, handpicking and gravimetry.

The SAC for organic compounds are dependent on Soil Organic Matter (SOM) (%) content. To obtain SOM from total organic carbon (TOC) (%) divide by 0.58. 1% SOM is 0.58% TOC. DL Rowell Soil Science: Methods and Applications, Longmans, 1994.

SAC for TPH fractions, PAHs napthalene, acenaphthene and acenaphthylene, BTEX and trimethylbenzene compounds were produced using an attenuation factor for the indoor air inhalation pathway of 10 to reduce conservatism associated with the vapour inhalation pathway, section 10.1.1, SR3.

(VALUE IN BRACKETS)

RSK has adopted an approach for petroleum hydrocarbons in accordance with LQM/CIEH whereby the concentration modelled for each petroleum hydrocarbon fraction has been tabulated as the SAC with the corresponding solubility or vapour saturation limits given in brackets.