Castledine Environmental

LAND CONTAMINATION SURVEYS

Phase 2 Land Contamination Risk Assessment

for

Proposed Conversion of Commercial Floorspace (Charitable Services Offices) to Residential Use (Class MA)

on the site of

Unit No.28, Hawthorne Court, Ryefield Crescent, Northwood HA6 1LJ

Date: May 2022

Status:	Final Report
Reference:	3284P P2 Hamways Ltd - Northwood
Date:	09/05/2022

Tel: 01509 880399 Mob: 07779 305682 Email: kevin@castledineenvironmental.co.uk

4 Wymeswold Road, Hoton, Loughborough, Leicestershire, LE12 5SN

Executive Summary

Previous reporting for the site found that the site had former industrial usages. Site works and sampling carried out have shown the risks from potential ground vapours as **LOW**.

Based on the information contained in this report, it is the opinion of Castledine Environmental that the site represents a **LOW** level of risk with respect to the proposed development.

It is not envisaged that any further works or investigation are required.

A watching brief inline with Appendix E should be had during the course of any permitted demolition, site clearance, or construction works for any obvious contamination (e.g. oil spillage in ground, buried waste, possible asbestos containing material) development should stop and Castledine Environmental should be contacted to determine if further assessment or changes to the remediation scheme are required.

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1.0 QUALITY ASSURANCE

Castledine Environmental can confirm that all reasonable efforts have been made to ensure that the information outlined within this report is accurate.

Castledine Environmental would further confirm that due care, attention and technical skill were used in the creation of this report.

For and on behalf of Castledine Environmental.

Kevin Castledine

(Director)

2.0 LIMITATIONS

The conclusions and recommendations made in this report are limited to those based on the findings of the investigation. Where comments are made based on information obtained from third parties, Castledine Environmental assumes that all third-party information is true and correct. No independent action has been undertaken to validate the findings of third parties. The assessments and interpretation have been made in line with legislation and guidelines in force at the time of writing, representing best practice at the time.

This survey has not included asbestos within existing structures, invasive plant species, geotechnical considerations or any elements unconnected with potential ground contamination at the site. If required, such surveys should be undertaken by suitably accredited organisations.

There may be other conditions prevailing at the site which have not been disclosed by this investigation and which have not been taken into account by this report. Responsibility cannot be accepted for conditions not revealed by the investigation.

3.0 INTRODUCTION

Castledine Environmental have been appointed by Hamways Ltd to undertake a Phase 2 investigation of at Unit No.28, Hawthorne Court, Ryefield Crescent, Northwood, London HA6 1LJ.

A Phase 1 report was carried out by Castledine Environmental:

- Phase 1 Land Contamination Risk Assessment for Proposed Conversion of Commercial Floorspace to Residential Use, Hawthorne Court, Ryefield Crescent. Produced by Castledine Environmental in March of 2022

The report is attached as Appendix A

4.0 SCOPE

Castledine Environmental have prepared this report for the sole use and reliance of Hamways Ltd and appointees for the purpose of ensuring compliance with:

- Paragraph(s) 174, 179, 183 & 184 of the National Planning Policy Framework 2021
- part C1 of the building regulations
- Support of a Planning Application

This report should be read in conjunction with the reports listed in section 3.0

This report may not be used or relied upon by any unauthorised third party, or for any other proposed use than that specified above, without the explicit written agreement of Castledine Environmental.

The report consists of a risk assessment in accordance with BS10175:2011+A2:2017, CLR11 “Model Procedures for the Management of Land Contamination” and LCRM “Land Contamination Risk Management”.

The objectives of the report are:-

- To assess historical activities at the site with respect to their potential impact on the site environment.
- To characterise the environmental setting of the site, identify migration pathways and vulnerable receptors for contamination originating at the site, focusing on potential soil and groundwater liabilities.
- To assess historical and current surrounding land use in relation to known or potential off site contamination issues that may impact on the subject site and
- To develop a preliminary conceptual site model (CSM).

5.0 SITE DESCRIPTION

The site is located in Northwood, London at National Grid Reference: 510352,190177 and is approximately 0.03ha in area.

The site is irregular in shape and orientated slightly north west to south east. The site forms part of a larger building, itself located in an urbanised area. The site is directly bounded by adjacent commercial units within the same building to the east and west, Ryefield Crescent access road to the south with housing beyond and a railway line and station platform with further housing beyond to the north.

The site interior comprises a commercial property previously in use for former charitable office spaces. Structural support stanchions (acrows) were seen throughout the unit. Access to the unit was provided via a large, double garage door on the southern face of Hawthorne Court, with the doors then located behind security shuttering. The interior of the premises comprises an initial large room upon entering the site, with a triangular room to the rear of this and extending to the north western boundary of site. Additional, smaller rooms were located off this triangular room and extending to the northern boundary of site. The flooring throughout the unit was noted to be concrete or carpet atop concrete, with little to no cracking or jointing seen. Water pooling was noted in areas, likely originating from rain water seeping through the ceiling. Storage of old timber and furniture was noted within the unit.

6.0 FINDINGS IN PREVIOUS REPORT

The previous report for the site found that historically, the site was unoccupied field from circa. 1864-1865 through to circa.1955-1960 when the site was developed with the building seen in the present-day. The site is then labelled as part of an engineering works before being labelled as an 'unspecified' works by 1992. Following this, the site has been both vacant and in use as office space for a charitable company, being leased as such since circa.2020. The site then changes little on either historical mapping or contemporary satellite imagery. The previous report found that the sites historical usages as an engineering works and unspecified 'works' may have involved the storage and usage of fuels and oils and as such, there is a potential for VOC contamination in residual shallow site soils. The report found a low risk from soil contamination as no soft-landscaping is present nor proposed, with VOC contamination being considered the main potential hazard to the intended site usage.

7.0 CHEMICAL ASSESSMENT CRITERIA

On establishing the presence of pollutant linkages, it is then necessary to assess whether or not any of the linkages are significant, whereby significant harm is being caused or there is significant possibility of significant harm being caused to human health or the environment. In the absence of any evidence of 'significant harm', the risks will be assessed on the basis of a 'significant possibility of significant harm' being caused. In order to initially assess the risks, appropriate Tier 1 assessment criteria are derived which represent benchmark contamination concentrations with respect to relevant receptors. Concentrations recorded in excess of these levels **may** represent a significant risk to a specific receptor when considered as part of a pollutant linkage.

7.1 HUMAN HEALTH

The Environment Agency, through its Contaminated Land Exposure Assessment (CLEA) framework, published toxicological reports (TOX) and soil guideline values (SGVs).

SGVs are science-based generic assessment criteria that indicate human health risks from long-term exposure to soil contaminants. They are set at levels

where there are ‘no appreciable’ or ‘minimal’ risks to human health. For each substance, different SGVs are applicable according to land use, for example, whether residential, allotment or commercial. They have been widely seen as over precautionary and offering councils a very weak indication of whether sites represent a "significant possibility of significant harm" (SPOSH) requiring determination under the contaminated land regime.

Following publication of the revised Part IIa Statutory Guidance DEFRA has commissioned the creation of Category 4 Screening levels (C4SL’s) They are set at levels where there is a “Low” risk to Human Health (i.e. higher than that of SGV’s but still sufficiently low to defiantly not be “Contaminated Land” as defined by section 78A of the Environmental Protection Act 1990 as amended). The C4SL’s are calculated using the CLEA model using less conservative exposure and toxicological assumptions than the SGV’s. C4SL’s have also been calculated for Open Space land use.

LQM in association with the CIEH have produced S4UL’s are reproduced with permission; Publication Number S4UL3693

The pathways considered for the standard land uses include:

- Ingestion of soils;
- Ingestion of household dust;
- Ingestion of contaminated vegetables (residential with plant uptake only);
- Ingestion of soil attached to vegetables (residential with plant uptake only);
- Dermal contact with soils;
- Dermal contact with household dust;
- Inhalation of fugitive dusts from soils;
- Inhalation of fugitive household dust;
- Inhalation of vapours in outdoor air; and
- Inhalation of vapours in buildings.

These exposure routes have been evaluated independently of one another to identify the most sensitive exposure route. The SSV adopted for a given land use scenario is the most stringent screening value of all those relevant to the site.

The current proposals are to redevelop the site for a residential use with no soft landscaping. It is considered appropriate to compare the chemical testing results to those SGVs/SSVs with the appropriate 'residential without plant uptake' settings.

8.0 SITE WORKS AND FINDINGS

8.1 FIELDWORK DATED 25TH APRIL 2022

Castledine Environmental attended site on the 25th April 2022 with the intention of taking samples for VOC laboratory analysis. The site works consisted of 3 No. locations (designated CC1 to CC3) which were cored through the existing concrete flooring, with the underlying strata encountered then logged and sampled.

8.2 GROUND CONDITIONS ENCOUNTERED

The ground conditions encountered during the site works comprised an existing concrete base atop a layer of made ground deposits which were seen to be atop natural clay at 2 No. locations.

The concrete base which was cored through to reach the underlying deposits was noted to be 0.10m in thickness and seen at all locations.

The made ground underlying the concrete base was encountered at all 3 No. locations from 0.10m to depths of 0.30m, 0.40m and 0.30m, respectively. This stratum was seen to comprise a dark grey, sandy, ashy Made Ground Gravel of sub-angular to sub-rounded, fine to coarse fragments of flint, brick, concrete and clinker, with occasional metal and ceramic fragments noted in this stratum at CC2.

At the locations of CC1 and CC2 underlying both the concrete and made ground a soft, brown, slightly sandy Clay was encountered to maximum confirmed depths of 0.40m.

8.3 SAMPLE RESULTS

Sample results have been compared with generic screening criteria (GAC). Sample results are attached as Appendix E.

8.4 ANALYSIS OF RESULTS

Laboratory analysis has shown that the majority of determinands are below laboratory detection limits, with any readings above detection limits being themselves below relevant GAC thresholds.

TABLE 1 SUMMARY OF SIGNIFICANT POLLUTION LINKAGES

Contaminant	Pathway	Receptor	Probability of Pollutant Linkage	Consequence	Risk	Possible Mitigation
Contaminated Soils	Direct Ingestion & Direct Contact	Site Workers	Ul	Md	L	Site workers to wear appropriate PPE for health and safety reasons
Contaminated Soils	Inhalation of Dust	Site Workers	Ul	Md	L	
Contaminated Soils	Direct Ingestion & Direct Contact	End Users	Ul	Md	L	No soft-landscaping is present nor is any proposed, thus the relevant pollutant linkages arising from soil contamination here are severed. Recommend a Watching Brief (inline with Appendix E) be applied during site works.
Contaminated Soils	Inhalation of Dust	End Users	Ul	Md	L	
Contaminated Soils	Direct Ingestion	Flora and Fauna	Ul	Md	L	
Contaminated Soils	Vertical and lateral migration	Controlled Waters	Ul	Md	L	
Contaminated Soils	Direct contact	Services	Ul	Md	L	
Ground Gases (Methane and CO_2)	Vertical and lateral migration	End Users & Building Envelope	Ul	Md	L	No significant sources of ground gas and no contaminants capable of producing hazardous vapours identified; clay has been confirmed beneath site (migration inhibitor).
Volatile and Semi-volatile Organic Compounds	Vertical and lateral migration	End Users & Building Envelope	Ul	Md	L	
Radon	Vertical and lateral migration	End Users & Building Envelope	Ul	Md	L	Site is not in a Radon Affected Area.

KEY: Probability of pollutant linkage Hi = Highly likely, Li = Likely, Lw = Low Likelihood, Ul = Unlikely
Consequence Sv = Severe, Md = Medium, Mi = Mild, Mr = Minor,
Overall Risk VH = Very High, H = High, M = Moderate, M/L = Moderate/Low, L = Low, VL = Very Low

Based on the preliminary CSM for the site, an environmental risk assessment has been undertaken. A simple matrix can provide a consistent basis for decision making. It should be used with caution, recognising the over-simplification that it will normally represent. The probability and consequences are defined according to parameters relevant to the situation; the boundaries of risk acceptability (and tolerability, where relevant) indicated on the matrix provided in Table 2, can be tailored to the factors influencing the significance of the risk. Individual situations are mapped onto the matrix to provide a ready and consistent indication of their acceptability or tolerability.

TABLE 2 RISK CLASSIFICATION MATRIX

		Consequence			
		Severe (Sv)	Medium (Md)	Mild (Mi)	Minor (Mr)
Probability	High (Hi)	Very high risk	High risk	Moderate Risk	Moderate/ Low Risk
	Likely (Li)	High risk	Moderate Risk	Moderate/ Low Risk	Low Risk
	Low Likelihood (Lw)	Moderate Risk	Moderate/ Low Risk	Low Risk	Very Low Risk
	Unlikely (Ul)	Moderate/ Low Risk	Low Risk	Very Low Risk	Very Low Risk

Source: CIRIA Report C552, Contaminated Land Risk Assessment. A Guide to Good Practice, 2001

These attributes are evaluated qualitatively against individual hazard assessments to determine the likelihood of a given hazard occurring. The risk evaluations for each plausible pollutant linkage are given in the last three columns of Table 1.

TABLE 3 CLASSIFICATION OF RISK

Very high risk (Vh)	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High risk (Hi)	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short-term and are likely over the longer term.
Moderate risk (Md)	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer-term.
Low risk (Lw)	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very low risk (Vl)	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Source: CIRIA Report C552, Contaminated Land Risk Assessment. A Guide to Good Practice, 2001

9.0 REVISED ENVIRONMENTAL RISK ASSESSMENT

Based on the information contained in this report, it is the opinion of Castledine Environmental that the site represents a **LOW** level of risk with respect to the proposed development.

It is not envisaged any further works or investigation are required.

10.0 REFERENCES

10.1 LEGISLATION AND REGULATIONS

10.1.1 ACTS

[1]. Environmental Protection Act 1990, Part IIA: inserted by Environment Act 1995, Section 57. See Environment Act 1995 for text of Part IIA.

10.1.2 PLANNING REGULATIONS

[2]. The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 SI1999/No.293

[3]. The Town and Country Planning (Environmental Impact Assessment) (England and Wales) (Amendment) Regulations 2000 SI2000/No.2867

10.1.3 CONTAMINATED LAND REGULATIONS

[4]. The Contaminated Land (England) Regulations 2000. SI2000/No.227

[5]. The Contaminated Land (England) (Amendment) Regulations 2001 SI2001/No.663

[6]. The Contaminated Land (England) Regulations 2006 SI2006/No.1380

10.2 STATUTORY GUIDANCE

[7]. Department of Environment, Food and Rural Affairs. 2012. *Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance.* Department of Environment, Food and Rural Affairs

[8]. Communities and local Government, 2012: National Planning Policy Framework.

10.3 BRITISH STANDARDS

[9]. BS 5930:2015 Code of practice for site investigations

[10]. BS 10175:2011+A2:2017 Investigation of potentially contaminated sites - Code of practice

[11]. BS 8485:2015+A1:2019 BS 8485 - 2015 - Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings

[12]. BS 8576:2013 Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs)

10.4 NON STATUTORY TECHNICAL GUIDANCE

10.4.1 ENVIRONMENT AGENCY

[13]. Cassella Stranger, 2002. Model Procedures for the Management of Contaminated Land, Contaminated Land Report (CLR) 11, Department for Environment, Food, and Rural Affairs.

10.4.2 CIRIA PUBLICATIONS

[14]. Wilson, S., Oliver, S., Mallett, H., Hutchings, H., and Card, G.. 2007, *C 665 Assessing risks posed by hazardous ground gases to buildings* London: Construction Industry Research and Information Association

10.4.3 CL:AIRE

[15]. Card G, Wilson S, Mortimer S. 2012. *A Pragmatic Approach to Ground Gas Risk Assessment. CL:AIRE Research Bulletin RB17*. CL:AIRE, London, UK. ISSN 2047- 6450 (Online)

11.0 APPENDICES

APPENDIX A PHASE 1 REPORT

APPENDIX B **SITE CORING LOCATION PLAN**

APPENDIX C TRIAL PIT LOGS

Castledine Environmental
LAND CONTAMINATION SURVEYS
Web: www.castledineenvironmental.co.uk
Email: kevin@castledineenvironmental.co.uk
Tel: 01509 880399

CLIENT

SITE LOCATION
Unit 28, Ryefield Crescent

Date: 25th April 2022
Ground Level:
Orientation:
Coordinates:
Plant: Hydrostatic diamond corer
Dimensions:

BOREHOLE NO. CC1
Sheet No. 1 of 1
Job No.

Description of Strata	Reduced level (m)	Legend	Depth (Thickness) m	SAMPLES/TESTS Depth	No	Type	SPT Results Seating	SPT Results Test Drive	N Value	Installation	Test Sample Details
MADE GROUND comprising concrete.	0.10		0.10 (0.10)								
MADE GROUND comprising dark grey ashy sandy GRAVEL. Gravel is fine to coarse sub-angular to sub-rounded flint, brick concrete and clinker.	0.20		0.30 (0.20)	0.20	1	ES					
Soft brown slightly sandy silty CLAY.	0.40		0.40 (0.10)								
Borehole terminated at 0.40mbgl.	0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 2.90 3.00 3.10 3.20 3.30 3.40 3.50 3.60 3.70 3.80 3.90 4.00 4.10 4.20 4.30 4.40 4.50 4.60 4.70 4.80 4.90 5.00										

Casing record			Chiselling records			Water strikes					
Date	Diameter (mm)	Depth (m)	Time	From (m)	To (m)	Date	Water strike	Water level (after 20mins)	Flow	Standing level	Remarks

Remarks:
1. Core reinstated with arisings upon completion.
2. No groundwater encountered.

Logged By:	Checked By:	Date	Scale
PD	PD	21.09.21	NTS

Castledine Environmental
LAND CONTAMINATION SURVEYS
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Email: kevin@castledineenvironmental.co.uk
Tel: 01509 880399

CLIENT

SITE LOCATION

Unit 28, Ryefield Crescent

Date: 25th April 2022
Ground Level:
Orientation:
Coordinates:
Plant: Hydrostatic diamond corer
Dimensions:

BOREHOLE NO. CC2

Sheet No. 1 of 1

Job No.

Description of Strata	Reduced level (m)	Legend	Depth (Thickness) m	SAMPLES/TESTS Depth	No	Type	SPT Results Seating Blows	Seating Blows	Test Drive Blows	Test Drive Blows	Test Drive Blows	Test Drive Blows	NP Value	Installation	Test Sample Details
MADE GROUND comprising concrete.	0.10		0.10 (0.10)	0.20	1	ES									
MADE GROUND comprising dark grey ashy sandy GRAVEL. Gravel is fine to coarse sub-angular to sub-rounded flint, brick concrete and clinker. Occasional metal and ceramic fragments.	0.20 0.30 0.40		0.40 (0.30)												
Borehole terminated at 0.40mbgl.	0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 2.90 3.00 3.10 3.20 3.30 3.40 3.50 3.60 3.70 3.80 3.90 4.00 4.10 4.20 4.30 4.40 4.50 4.60 4.70 4.80 4.90 5.00														

Casing record			Chiselling records						Water strikes					
Date	Diameter (mm)	Depth (m)	Time				From (m)	To (m)	Date	Water strike	Water level (after 20mins)	Flow	Standing level	Remarks

Remarks:
1. Core reinstated with arisings upon completion.
2. No groundwater encountered.

Logged By:	Checked By:	Date	Scale
PD	PD	21.09.21	NTS

Castledine Environmental
LAND CONTAMINATION SURVEYS
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Email: kevin@castledineenvironmental.co.uk
Tel: 01509 880399

CLIENT

SITE LOCATION

Unit 28, Ryefield Crescent

Date: 25th April 2022
Ground Level:
Orientation:
Coordinates:
Plant: Hydrostatic diamond corer
Dimensions:

BOREHOLE NO. CC3

Sheet No. 1 of 1

Job No.

Description of Strata	Reduced level (m)	Legend	Depth (Thickness) m	SAMPLES/TESTS Depth	No	Type	SPT Results Seating	Test Drive	N Value	Instalation	Test Sample Details
MADE GROUND comprising concrete.	0.10		0.10 (0.10)								
MADE GROUND comprising dark grey ashy sandy GRAVEL. Gravel is fine to coarse sub-angular to sub-rounded flint, brick concrete and clinker.	0.20 0.30		0.30 (0.20)	0.20	1	ES					
Soft brown slightly sandy silty CLAY.	0.40		0.40 (0.10)								
Borehole terminated at 0.40mbgl.	0.50 0.60 0.70 0.80 0.90 1.00 1.10 1.20 1.30 1.40 1.50 1.60 1.70 1.80 1.90 2.00 2.10 2.20 2.30 2.40 2.50 2.60 2.70 2.80 2.90 3.00 3.10 3.20 3.30 3.40 3.50 3.60 3.70 3.80 3.90 4.00 4.10 4.20 4.30 4.40 4.50 4.60 4.70 4.80 4.90 5.00										

Casing record			Chiselling records						Date	Water strike	Water level (after 20mins)	Flow	Standing level	Remarks
Date	Diameter (mm)	Depth (m)	Time				From (m)	To (m)						

Remarks:
1. Core reinstated with arisings upon completion.
2. No groundwater encountered.

Logged By:	Checked By:	Date	Scale
PD	PD	21.09.21	NTS

APPENDIX D TEST RESULTS

UKAS TESTING 2531 MCERTS

CHEMTECH environmental

ANALYTICAL TEST REPORT

Contract no:	108625
Contract name:	Unit 28, Ryefield Crescent, Northwood
Client reference:	EAL.277.21
Clients name:	Erda Associates
Clients address:	102 Scalpcliffe Road Burtpn on Trent Staffordshire DE15 9AB
Samples received:	27 April 2022
Analysis started:	27 April 2022
Analysis completed:	05 May 2022
Report issued:	05 May 2022

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by:

Rachael Burton

Reporting Team Lead

Unit 6 Parkhead, Greencroft Industrial Park, Stanley, County Durham, DH9 7YB
Tel 01207 528578 Email customerservices@chemtech-env.co.uk
Vat Reg No. 772 5703 18 Registered in England number 4284013

Chemtech Environmental Limited

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.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
108625-1	CC1	0.20	Sand with Gravel	-	-	14.6
108625-2	CC2	0.20	Sand with Gravel	-	-	13.5
108625-3	CC3	0.20	Sand with Gravel	-	-	17.1

Chemtech Environmental Limited

SOILS

Lab number			108625-1	108625-2	108625-3
Sample id			CC1	CC2	CC3
Depth (m)			0.20	0.20	0.20
Date sampled			25/04/2022	25/04/2022	25/04/2022
Test	**Method**	**Units**			
Volatiles					
MTBE	CE192 U	mg/kg	<0.02	<0.02	<0.02
Benzene	CE192 U	mg/kg	<0.01	<0.01	<0.01
Toluene	CE192 U	mg/kg	<0.01	<0.01	<0.01
Ethylbenzene	CE192 U	mg/kg	<0.01	0.02	<0.01
m & p-Xylene	CE192 U	mg/kg	<0.02	<0.02	<0.02
o-Xylene	CE192 U	mg/kg	<0.01	<0.01	<0.01
Dichlorodifluoromethane	CE174	mg/kg	<0.01	<0.01	<0.01
Chloromethane	CE174	mg/kg	<0.01	<0.01	<0.01
Vinyl chloride	CE174	mg/kg	<0.01	<0.01	<0.01
Bromomethane	CE174	mg/kg	<0.03	<0.03	<0.03
Chloroethane	CE174	mg/kg	<0.01	<0.01	<0.01
Trichlorofluoromethane	CE174	mg/kg	<0.01	<0.01	<0.01
1,1-Dichloroethene	CE174	mg/kg	<0.01	<0.01	<0.01
Trans-1,2-Dichloroethene	CE174	mg/kg	<0.01	<0.01	<0.01
1,1-Dichloroethane	CE174	mg/kg	<0.01	<0.01	<0.01
2,2-Dichloropropane	CE174	mg/kg	<0.01	<0.01	<0.01
Cis-1,2-Dichloroethene	CE174	mg/kg	<0.01	<0.01	<0.01
Bromochloromethane	CE174	mg/kg	<0.01	<0.01	<0.01
Chloroform	CE174	mg/kg	<0.01	<0.01	<0.01
1,1,1-Trichloroethane	CE174	mg/kg	<0.01	<0.01	<0.01
Carbon tetrachloride	CE174	mg/kg	<0.01	<0.01	<0.01
1,1-Dichloro-1-propene	CE174	mg/kg	<0.01	<0.01	<0.01
1,2-Dichloroethane	CE174	mg/kg	<0.01	<0.01	<0.01
Trichloroethene	CE174	mg/kg	<0.01	<0.01	<0.01
1,2-Dichloropropane	CE174	mg/kg	<0.01	<0.01	<0.01
Dibromomethane	CE174	mg/kg	<0.01	<0.01	<0.01
Bromodichloromethane	CE174	mg/kg	<0.01	<0.01	<0.01
cis-1,3-Dichloro-1-propene	CE174	mg/kg	<0.01	<0.01	<0.01
trans-1,3-Dichloro-1-propene	CE174	mg/kg	<0.01	<0.01	<0.01
1,1,2-Trichloroethane	CE174	mg/kg	<0.01	<0.01	<0.01
Tetrachloroethene	CE174	mg/kg	<0.01	<0.01	<0.01
1,3-Dichloropropane	CE174	mg/kg	<0.01	<0.01	<0.01
Dibromochloromethane	CE174	mg/kg	<0.01	<0.01	<0.01
1,2-Dibromoethane	CE174	mg/kg	<0.01	<0.01	<0.01
Chlorobenzene	CE174	mg/kg	<0.01	<0.01	<0.01
1,1,1,2-Tetrachloroethane	CE174	mg/kg	<0.01	<0.01	<0.01
Styrene	CE174	mg/kg	<0.01	<0.01	<0.01
Tribromomethane	CE174	mg/kg	<0.01	<0.01	<0.01
Isopropylbenzene	CE174	mg/kg	<0.01	<0.01	<0.01
Bromobenzene	CE174	mg/kg	<0.01	<0.01	<0.01

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SOILS

Lab number			108625-1	108625-2	108625-3
Sample id			CC1	CC2	CC3
Depth (m)			0.20	0.20	0.20
Date sampled			25/04/2022	25/04/2022	25/04/2022
Test	**Method**	**Units**			
1,1,2,2-Tetrachloroethane	CE174	mg/kg	<0.01	<0.01	<0.01
1,2,3-Trichloropropane	CE174	mg/kg	<0.01	<0.01	<0.01
Propylbenzene	CE174	mg/kg	<0.01	<0.01	<0.01
2-Chlorotoluene	CE174	mg/kg	<0.01	<0.01	<0.01
4-Chlorotoluene	CE174	mg/kg	<0.01	<0.01	<0.01
1,3,5-Trimethylbenzene	CE174	mg/kg	<0.01	<0.01	<0.01
tert-Butylbenzene	CE174	mg/kg	<0.01	<0.01	<0.01
1,2,4-Trimethylbenzene	CE174	mg/kg	<0.01	<0.01	<0.01
sec-Butylbenzene	CE174	mg/kg	<0.01	<0.01	<0.01
1,3-Dichlorobenzene	CE174	mg/kg	<0.01	<0.01	<0.01
4-Isopropyltoluene	CE174	mg/kg	<0.01	<0.01	<0.01
1,4-Dichlorobenzene	CE174	mg/kg	<0.01	<0.01	<0.01
1,2-Dichlorobenzene	CE174	mg/kg	<0.01	<0.01	<0.01
Butylbenzene	CE174	mg/kg	<0.01	<0.01	<0.01
1,2-Dibromo-3-chloropropane	CE174	mg/kg	<0.01	<0.01	<0.01
1,2,4-Trichlorobenzene	CE174	mg/kg	<0.01	<0.01	<0.01
Hexachloro-1,3-butadiene	CE174	mg/kg	<0.01	<0.01	<0.01
1,2,3-Trichlorobenzene	CE174	mg/kg	<0.01	<0.01	<0.01
VOC Tentatively Identified Compounds	CE174	-	None Identifie	None Identifie	None Identifiec
Semi-volatiles					
Naphthalene	CE087 M	mg/kg	<0.02	0.16	<0.02
Acenaphthylene	CE087 M	mg/kg	<0.02	<0.02	<0.02
Acenaphthene	CE087 M	mg/kg	<0.02	1.05	<0.02
Fluorene	CE087 U	mg/kg	<0.02	0.59	<0.02
Phenanthrene	CE087 M	mg/kg	0.10	3.74	0.02
Anthracene	CE087 U	mg/kg	0.03	0.71	<0.02
Fluoranthene	CE087 M	mg/kg	0.19	3.78	0.04
Pyrene	CE087 M	mg/kg	0.15	3.00	0.03
Benzo(a)anthracene	CE087 U	mg/kg	0.07	1.56	<0.02
Chrysene	CE087 M	mg/kg	0.08	1.43	<0.03
Benzo(b)fluoranthene	CE087 M	mg/kg	0.10	1.49	<0.02
Benzo(k)fluoranthene	CE087 M	mg/kg	<0.03	0.50	<0.03
Benzo(a)pyrene	CE087 U	mg/kg	0.06	1.22	<0.02
Indeno(123cd)pyrene	CE087 M	mg/kg	0.08	0.96	<0.02
Dibenz(ah)anthracene	CE087 M	mg/kg	0.04	0.18	<0.02
Benzo(ghi)perylene	CE087 M	mg/kg	<0.02	0.70	<0.02
N-Nitrosodimethylamine	CE189	mg/kg	<0.1	<0.1	<0.1
Phenol	CE189	mg/kg	<0.1	<0.1	<0.1
Bis(2-chloroethyl)ether	CE189	mg/kg	<0.1	<0.1	<0.1
2-Chlorophenol	CE189	mg/kg	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	CE189	mg/kg	<0.1	<0.1	<0.1

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SOILS

Lab number			108625-1	108625-2	108625-3
Sample id			CC1	CC2	CC3
Depth (m)			0.20	0.20	0.20
Date sampled			25/04/2022	25/04/2022	25/04/2022
Test	**Method**	**Units**			
1,4-Dichlorobenzene	CE189	mg/kg	<0.1	<0.1	<0.1
2-Methylphenol	CE189	mg/kg	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	CE189	mg/kg	<0.1	<0.1	<0.1
Bis(2-chloroisopropyl)ether	CE189	mg/kg	<0.1	<0.1	<0.1
3&4-Methylphenol	CE189	mg/kg	<0.1	<0.1	<0.1
N-Nitrosodi-n-propylamine	CE189	mg/kg	<0.1	<0.1	<0.1
Hexachloroethane	CE189	mg/kg	<0.1	<0.1	<0.1
Nitrobenzene	CE189	mg/kg	<0.1	<0.1	<0.1
Isophorone	CE189	mg/kg	<0.1	<0.1	<0.1
2,4-Dimethylphenol	CE189	mg/kg	<0.1	<0.1	<0.1
2-Nitrophenol	CE189	mg/kg	<0.1	<0.1	<0.1
Bis(2-chloroethoxy)methane	CE189	mg/kg	<0.1	<0.1	<0.1
2,4-Dichlorophenol	CE189	mg/kg	<0.1	<0.1	<0.1
1,2,4-Trichlorobenzene	CE189	mg/kg	<0.1	<0.1	<0.1
4-Chloroaniline	CE189	mg/kg	<0.1	<0.1	<0.1
Hexachlorobutadiene	CE189	mg/kg	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	CE189	mg/kg	<0.1	<0.1	<0.1
2-Methylnaphthalene	CE189	mg/kg	<0.1	<0.1	<0.1
1-Methylnaphthalene	CE189	mg/kg	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	CE189	mg/kg	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	CE189	mg/kg	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	CE189	mg/kg	<0.1	<0.1	<0.1
2-Chloronaphthalene	CE189	mg/kg	<0.1	<0.1	<0.1
2-Nitroaniline	CE189	mg/kg	<0.1	<0.1	<0.1
Dimethyl phthalate	CE189	mg/kg	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	CE189	mg/kg	<0.1	<0.1	<0.1
3-Nitroaniline	CE189	mg/kg	<0.1	<0.1	<0.1
2,4-Dinitrophenol	CE189	mg/kg	<0.1	<0.1	<0.1
4-Nitrophenol	CE189	mg/kg	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	CE189	mg/kg	<0.1	<0.1	<0.1
Dibenzofuran	CE189	mg/kg	<0.1	<0.1	<0.1
Diethyl phthalate	CE189	mg/kg	<0.1	<0.1	<0.1
4-Chlorophenylphenyl ether	CE189	mg/kg	<0.1	<0.1	<0.1
4-Nitroaniline	CE189	mg/kg	<0.1	<0.1	<0.1
2-Methyl-4,6-dinitrophenol	CE189	mg/kg	<0.1	<0.1	<0.1
Azobenzene	CE189	mg/kg	<0.1	<0.1	<0.1
4-Bromophenylphenyl ether	CE189	mg/kg	<0.1	<0.1	<0.1
Hexachlorobenzene	CE189	mg/kg	<0.1	<0.1	<0.1
Pentachlorophenol	CE189	mg/kg	<0.1	<0.1	<0.1
Carbazole	CE189	mg/kg	<0.1	<0.1	<0.1
Di-n-butyl phthalate	CE189	mg/kg	<0.1	<0.1	<0.1

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SOILS

Lab number			108625-1	108625-2	108625-3
Sample id			CC1	CC2	CC3
Depth (m)			0.20	0.20	0.20
Date sampled			25/04/2022	25/04/2022	25/04/2022
Test	**Method**	**Units**			
Butylbenzyl phthalate	CE189	mg/kg	<0.1	<0.1	<0.1
Bis(2-ethylhexyl)phthalate	CE189	mg/kg	<0.1	<0.1	<0.1
Di-n-octyl phthalate	CE189	mg/kg	<0.1	<0.1	<0.1

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METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE192	MTBE	Headspace GC-FID	As received	U	0.02	mg/kg
CE192	Benzene	Headspace GC-FID	As received	U	0.01	mg/kg
CE192	Toluene	Headspace GC-FID	As received	U	0.01	mg/kg
CE192	Ethylbenzene	Headspace GC-FID	As received	U	0.01	mg/kg
CE192	m & p-Xylene	Headspace GC-FID	As received	U	0.02	mg/kg
CE192	o-Xylene	Headspace GC-FID	As received	U	0.01	mg/kg
CE174	Dichlorodifluoromethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Chloromethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Vinyl chloride	Headspace GC-MS	As received		0.01	mg/kg
CE174	Bromomethane	Headspace GC-MS	As received		0.03	mg/kg
CE174	Chloroethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Trichlorofluoromethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,1-Dichloroethene	Headspace GC-MS	As received		0.01	mg/kg
CE174	Trans-1,2-Dichloroethene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,1-Dichloroethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	2,2-Dichloropropane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Cis-1,2-Dichloroethene	Headspace GC-MS	As received		0.01	mg/kg
CE174	Bromochloromethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Chloroform	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,1,1-Trichloroethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Carbon tetrachloride	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,1-Dichloro-1-propene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,2-Dichloroethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Trichloroethene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,2-Dichloropropane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Dibromomethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Bromodichloromethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	cis-1,3-Dichloro-1-propene	Headspace GC-MS	As received		0.01	mg/kg

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METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE174	trans-1,3-Dichloro-1-propene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,1,2-Trichloroethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Tetrachloroethene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,3-Dichloropropane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Dibromochloromethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,2-Dibromoethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Chlorobenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,1,1,2-Tetrachloroethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Styrene	Headspace GC-MS	As received		0.01	mg/kg
CE174	Tribromomethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Isopropylbenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	Bromobenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,1,2,2-Tetrachloroethane	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,2,3-Trichloropropane	Headspace GC-MS	As received		0.01	mg/kg
CE174	Propylbenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	2-Chlorotoluene	Headspace GC-MS	As received		0.01	mg/kg
CE174	4-Chlorotoluene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,3,5-Trimethylbenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	tert-Butylbenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,2,4-Trimethylbenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	sec-Butylbenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,3-Dichlorobenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	4-Isopropyltoluene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,4-Dichlorobenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,2-Dichlorobenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	Butylbenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,2-Dibromo-3-chloropropane	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,2,4-Trichlorobenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	Hexachloro-1,3-butadiene	Headspace GC-MS	As received		0.01	mg/kg
CE174	1,2,3-Trichlorobenzene	Headspace GC-MS	As received		0.01	mg/kg
CE174	VOC Tentatively Identified Compounds	Headspace GC-MS	As received		-	-
CE189	N-Nitrosodimethylamine	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Phenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Bis(2-chloroethyl)ether	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2-Chlorophenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	1,3-Dichlorobenzene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	1,4-Dichlorobenzene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2-Methylphenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	1,2-Dichlorobenzene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Bis(2-chloroisopropyl)ether	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	3&4-Methylphenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	N-Nitrosodi-n-propylamine	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Hexachloroethane	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Nitrobenzene	Solvent extraction, GC-MS	As received		0.1	mg/kg

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METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE189	Isophorone	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2,4-Dimethylphenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2-Nitrophenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Bis(2-chloroethoxy)methane	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2,4-Dichlorophenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	1,2,4-Trichlorobenzene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	4-Chloroaniline	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Hexachlorobutadiene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	4-Chloro-3-methylphenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2-Methylnaphthalene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	1-Methylnaphthalene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Hexachlorocyclopentadiene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2,4,6-Trichlorophenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2,4,5-Trichlorophenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2-Chloronaphthalene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2-Nitroaniline	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Dimethyl phthalate	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2,6-Dinitrotoluene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	3-Nitroaniline	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2,4-Dinitrophenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	4-Nitrophenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2,4-Dinitrotoluene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Dibenzofuran	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Diethyl phthalate	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	4-Chlorophenylphenyl ether	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	4-Nitroaniline	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	2-Methyl-4,6-dinitrophenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Azobenzene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	4-Bromophenylphenyl ether	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Hexachlorobenzene	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Pentachlorophenol	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Carbazole	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Di-n-butyl phthalate	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Butylbenzyl phthalate	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Bis(2-ethylhexyl)phthalate	Solvent extraction, GC-MS	As received		0.1	mg/kg
CE189	Di-n-octyl phthalate	Solvent extraction, GC-MS	As received		0.1	mg/kg

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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

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
108625-1	CC1	0.20	N	
108625-2	CC2	0.20	N	
108625-3	CC3	0.20	N	

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ADDITIONAL INFORMATION

Notes

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

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

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

Methods, procedures and performance data are available on request.

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

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

Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

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. Samples dried at no more than 30°C in a drying cabinet.

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

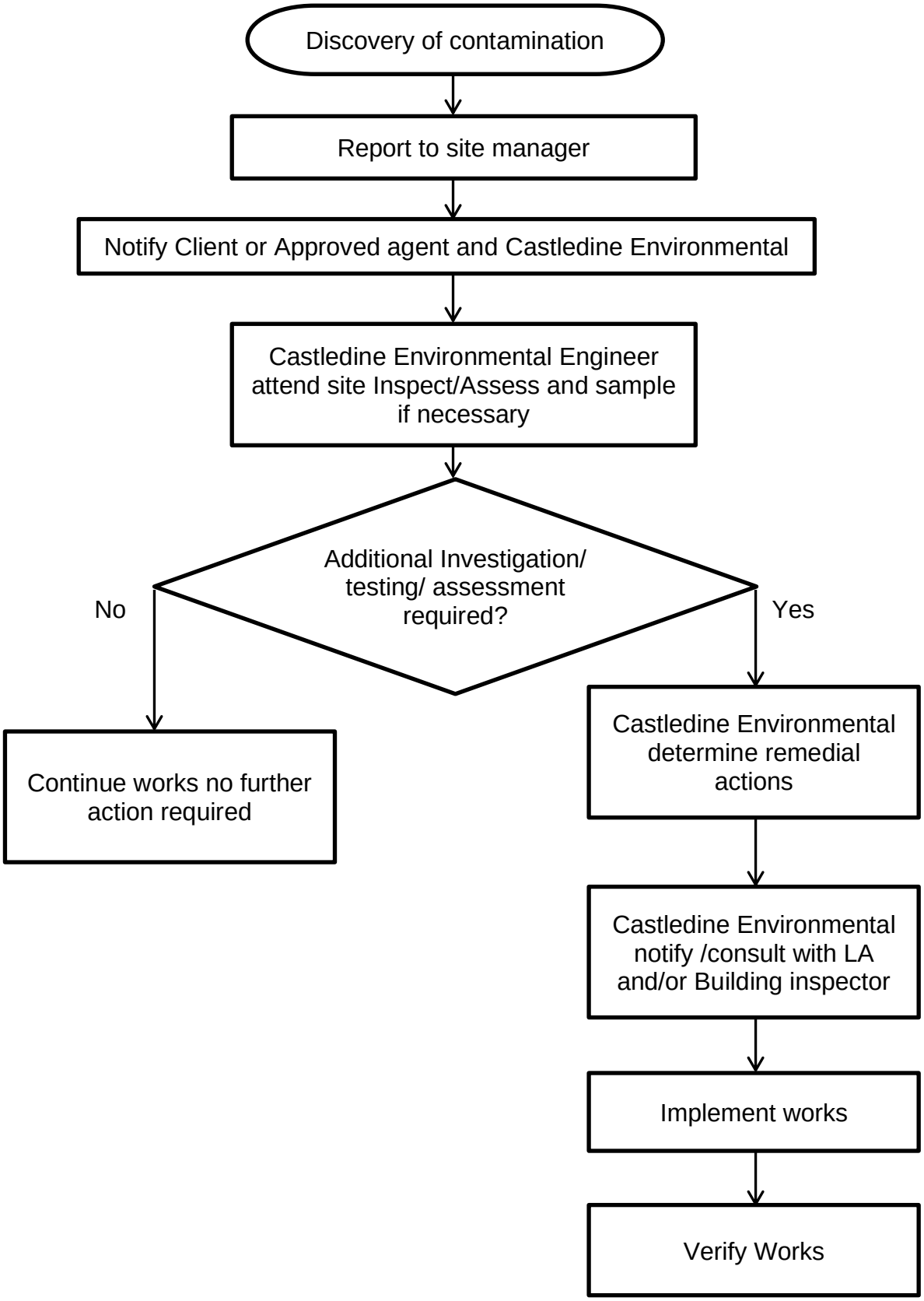
APPENDIX E WATCHING BRIEF

It remains possible that previously unexpected soil conditions may be encountered during the construction process. Examples may include oily pockets within the soil, potential for asbestos containing materials, black ashy materials, soils exhibiting strong odours, brightly coloured materials, and former demolition materials.

Should previously undiscovered contamination be encountered during the demolition/construction of the new buildings the following course of action should be adhered to:

1. The ground workers should report any suspected contamination immediately to the Client's site supervisor. The supervisor should contact the Client or their appointed agent who will in turn contact Castledine Environmental to request an engineer to visit the site to assess the extent of the 'contamination'.
2. Castledine Environmental shall make records of their inspection, and pass details of these to the Local Authority.
3. Where the conditions revealed differ from those previously anticipated, the Castledine Environmental shall take samples as deemed appropriate to be dispatched for appropriate chemical testing.
4. Depending on the results of the testing either:
    a. no further work will be required;
    b. a further detailed risk assessment will be required; and/or
    c. Localised specific remedial measures will be necessary. Appraisal criteria will vary depending on the nature of the assessment.
5. The results of any such testing will be sent to the Local Authority Pollution Control Section, Local Authority development control section, and the appointed building inspector. If remediation is required, the LA/Building inspector will be informed of the date and time of the proposed works.

6. Remediation will be undertaken in accordance with a method statement submitted for approval. The works shall be supervised where necessary by Castledine Environmental who shall provide a Verification Report for the Local Authorities.
7. A copy of the discovery strategy should be lodged on site and provisions made to ensure that all workers are made aware of their responsibility to observe, report and act on any potentially suspicious or contaminated materials they may encounter.


Discovery of contamination
Report to site manager
Notify Client or Approved agent and Castledine Environmental
Castledine Environmental Engineer attend site Inspect/Assess and sample if necessary
Additional Investigation/ testing/ assessment required?
No
Yes
Continue works no further action required
Castledine Environmental determine remedial actions
Castledine Environmental notify /consult with LA and/or Building inspector
Implement works
Verify Works