

Your Ref:

Our Ref: BC684 RE001 Rev 18th October 2024

Environmental Health
Wokingham Borough Council Shute End
Wokingham
Berkshire
RG40 1WW

For the attention of [REDACTED] Environmental Protection Officer

24th March 2025

Dear Sarah

Planning Ref: 241468

Library Parade, Crockhamwell Road, Woodley, Wokingham, RG5 3LX

Additional Details to comply with Condition 6 (Contamination)

Further to your memorandum of the 23/01/2025 in relation to application number 242871, I write with further supporting information to discharge Condition 6 of planning consent ref. 241468 dated 10/10/2024.

The Preliminary Contamination Assessment (PCA) Report (Brownfield Consultancy Ref: BC684 RE001 Rev dated 18th October 2024 made the following conclusions and recommendations in relation to Condition 6:-

Historically, the site was within the grounds of a Public House, then became a 'Works' and then a 'Printing Works'. A risk of contamination to soil and groundwater has been established. The redevelopment proposals largely mitigate the risks to residential end users although a check is required on land borne gas in soil and volatile vapours in soil and groundwater.

The environmental receptor considered most at risk is future construction workers involved in the redevelopment.

A site investigation will be required for geotechnical design and the contamination requirements can be incorporated into this survey. We would recommend the following contamination investigations:-

- 1. Sink a number of windowless sampling boreholes with in-situ geotechnical and contamination sampling and testing.*
- 2. Testing at the appropriate depths for future water supply pipework (WRAS Requirements), if required.*
- 3. Install ground gas and groundwater wells in two boreholes.*
- 4. Undertake contamination soil and groundwater laboratory analysis.*

5. Undertake a ground gas monitoring programme. Three visits are recommended across a 6-9 week period.
6. Compile an interpretive report with recommendations in respect of the proposed development.

A site investigation had been undertaken by Albury SI and reported in Report Ref: 21/12209/GO REV 1 issued October 2021. This report is included in Appendix A to this letter, and a recent letter of reliance addressed to the applicant, Hanslink Ltd, is included in Appendix B.

The investigation comprised the construction of five boreholes using hand held window sampling techniques and the installation of two standpipes to enable long-term ground gas monitoring. During this work samples were recovered for further examination and laboratory testing. In addition, in situ screening for the presence of VOC was also performed.

Ground conditions comprised Made Ground comprising macadam at surface, 100mm in thickness, over crushed limestone/pinkish grey sand and gravel over dark brown/dark greyish brown gravelly sand, noted to extend to depths of between 0.30m and 0.75m. Further possibly disturbed or Made Ground was noted to 1.10m at borehole 3. Orangish brown silty sand with variable amounts of flint gravel, was exposed beneath the made ground. These granular soils are indicative of the River Terrace Deposits and were proved to the concluding depths of the boreholes at 2.10m and 2.40m, with no further penetration possible below these depths due to their dense nature.

During the sampling measurement of soil vapours [VOC] was carried out on the samples of the soils taken using a PhoCheck Tiger PID meter. The composite sample is placed within a sealed plastic bag with a limited air space (headspace) which allows vapours to enter following agitation of the sample bag. The headspace is then measured using the PID meter and the results recorded in ppm as an indicative total VOC. The maximum TVOC recorded during this work was 9.4ppm and this sample was selected for testing. However, no obvious visual or olfactory evidence of contamination was apparent during the sampling.

3No. return gas monitoring visits were undertaken between 14-29th October 2021.

The following conclusions on soil contamination were made:-

The results obtained have been compared against the GAC for the proposed end-use Residential (with home-grown produce) and 1% SOM. A study of the data reveals elevated levels of PAH at boreholes 2 and 4 at 0.20m depth. A corresponding elevated level of aromatic hydrocarbons in the C16-21 band of 350mg/kg, which exceeds the S4UL GAC of 260mg/kg, was also noted at borehole 4. Consideration of the PAH double ratio plot of the elevated results infers that this is from a Coal Tar derived source, as opposed to a petroleum-based source and is likely to be associated with macadam surfacing.

A trace or very low level of amosite asbestos was also detected within the sample from borehole 4 at 0.20m, together with an elevated level of beryllium of 4.0mg/kg, which exceeds the S4UL GAC of 1.7mg/kg. Further testing undertaken at 0.50m revealed no further elevated levels of PAH or beryllium. It is evident that the shallow made ground in the areas of boreholes 2 and 4 is not suitable for a residential end-use. In areas that are to be permanent hardstanding no further specific remedial measures are envisaged as the pathway between the source (made ground) and receptor will be broken. In areas of soft landscaping the unsuitable made ground should be excavated and replaced with clean soils to protect future users of the site. It should be noted that an isolated positive identification of loose fibrous debris of amosite asbestos, which has been quantified as <0.001wt%. which is a trace or a very low proportion of the sample. Nevertheless, due to the fact that these are free fibres and owing to the granular matrix of the made ground, there is still a medium risk to site workers, particularly those forming

excavations. Hence, appropriate PPE and RPE should be worn by operatives, with manual/localised dust suppression measures employed unless works are undertaken during wet or raining periods.

In relation to groundwater vulnerability and risks, Albury SI concluded the following:-

The site is underlain by a minor or Secondary A aquifer; however, limited groundwater strikes were recorded during the investigation, with a standing water level of 2.20m observed. Based upon the findings from the investigation, the levels of low mobility, semi-volatile PAH and heavy metals do not pose a significant risk to the underlying minor aquifer.

In relation to ground gas risks, the Brownfield Consultancy identified a 'very low' risk of ground gas in the PCA. Having completed 3No. gas monitoring visits, Albury SI concluded the following:-

Based upon the calculated gas screening value of 0.0 litres/hour, the hazard potential of the site can be considered very low or characteristic gas situation 1. Therefore, no remedial or specific protection measures will be required regarding ground gas. Current guidance indicates that six monitoring rounds should be undertaken to fully classify this site in terms of its ground gas regime. However, in view of the ground conditions revealed, the low gas levels recorded over the three visits and zero flow, it is considered that the site has been adequately assessed by the visits undertaken to date.

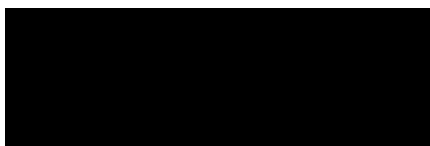
In conclusion, the risks of harm to future occupants and groundwater quality from soil contamination at the site is considered very low. Gas protection measures are not required.

RECOMMENDATION

We recommend that protective water supply pipework (for example Protectaline) is adopted at the site.

We trust this is sufficient to discharge Condition 6. Please do not hesitate to contact me should you have any queries.

Your sincerely



Jim Twaddle cGeol
Director

Appendix A *Report Ref: 21/12209/GO REV 1*
Appendix B *Letter of Reliance*

APPENDIX A

Site Investigation Report

Report Ref: 21/12209/GO REV 1

REPORT ON A SITE INVESTIGATION

Site

**LIBRARY PARADE,
CROCKHAMWELL ROAD,
WOODLEY, BERKSHIRE RG5 3LX**

Client

CASTLETON INVESTMENTS LTD

Consulting Engineer

SHARPS COMMERCIAL

Report Ref

**21/12209/GO
REV 1**

Issued

OCTOBER 2021



ALBURY S.I. LTD

Geotechnical and Environmental Consultants

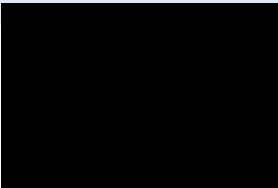
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DOCUMENT CONTROL			
Report Title	Report on a Site Investigation		
Contract	Crockhamwell Road, Woodley		
Report Reference	21/12209/GO		
Client	Castleton Investments Ltd		
Prepared by	G C D Owens BSc MSc FGS MEnvSc Director		
Approved by	K J Clark BSc Hons Director		
Revision No.	Status	Date of Issue	Final Issue Check
0	Final	15/10/2021	
1	Final with 3 rd monitoring visit	03/11/2021	

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This Report is prepared for the specific purpose stated and in relation to the development proposals or usage indicated to Albury S.I. Limited at the time of preparation. The recommendations should not be used for adjacent schemes and may not be appropriate for alternative proposals.

The recommendations made and opinions expressed in this Report are based on the strata conditions revealed by the fieldworks as indicated on the exploratory records, together with an assessment of the data from in situ and laboratory tests. No liability can be accepted for conditions which have not been revealed by the fieldworks, for example, between exploratory positions. While this Report may offer opinions on the possible configuration of strata, both between the excavations and below the maximum depth achieved by the investigation, these comments are for guidance only and no liability can be accepted for their accuracy. The data obtained relate to the conditions which are relevant at the time of the investigation.

The groundwater observations entered on exploratory records are those noted at the time of the investigation. The normal rate of progress does not usually permit the recording of any equilibrium water level for any one water strike. It should be noted that groundwater levels are prone to seasonal variation and to changes in local drainage conditions. The word 'none' indicates that groundwater was sealed off by the borehole casing or that no water was observed in the exploratory hole upon completion.

REPORT REF: 21/12209/GO REV 1
CONTRACT: CROCKHAMWELL ROAD, WOODLEY

TABLE OF CONTENTS

1	INTRODUCTION.....	1
1.1	Aims and Objectives.....	1
1.2	Background	1
1.3	Scope of Works	1
2	FIELDWORKS.....	2
2.1	Site Works	2
2.2	Installations.....	2
3	GROUND CONDITIONS	3
3.1	Geology	3
3.2	Stratigraphy.....	3
3.3	Groundwater.....	3
3.4	In Situ Testing.....	3
3.5	Monitoring	3
4	LABORATORY TESTING	4
5	GROUND CONTAMINATION	4
6.1	Human Health	5
6.2	Groundwater.....	5
6.3	Preliminary Waste Assessment.....	6
6.4	Potable Water Supply Pipes.....	6
6.5	Ground Gases.....	6

REFERENCES

LIST OF ABBREVIATIONS

FIGURES

- 1 Site Plan
- 2 Proposed Layout

APPENDICES

- 1 Exploratory Records
- 2 Laboratory Test Results
- 3 Waste
- 4 Monitoring Data
- 5 Calibration Certificates

1 INTRODUCTION

1.1 Aims and Objectives

The Client proposes to construct a three-storey apartment block within the existing car park at the rear of Library Parade, Crockhamwell Road, Woodley ("the site"). The existing site layout is shown in Figure 1 and the proposed ground floor layout is included in Figure 2. A Phase 1 Desk Study undertaken by others in August 2021, identified historical potentially contaminative uses (Works/Printing Works) and recommendations were made for an intrusive investigation of the site. Accordingly, an exploratory investigation into ground conditions has been made to assess the impact from this historical usage and to obtain data to inform a risk assessment. Geotechnical testing and interpretation did not form part of this investigation and lies outside the scope of this report.

1.2 Background

The Phase 1 Desk Study was undertaken by STM Environmental, report ref PH1-2021-000089, was issued in August 2021 and should be read in conjunction with this report. The site comprises retail units at ground floor with offices at first floor level and a car park to the rear. The proposed development will entail the conversion of the first-floor offices to residential flats, with the construction of a three-storey apartment block within the existing car park. Based upon the proposed plans supplied, the majority of the ground floor level of the new apartment block will comprise undercroft car parking with limited areas of soft landscaping.

The site history included in the Desk Study identified that an unspecified works, later Printing Works, was constructed c.1966-1969, which was then redeveloped by 1993 to its present-day layout. A garage was highlighted to the north of the site; however, this was redeveloped c.2008-2010 to the existing supermarket and flats. The significant pollutant linkages of concern were highlighted as being a low to moderate risk from the build-up of methane/VOC from any on-site residual contamination within the shallow soils. The remaining pollutant linkages were identified as being not significant and of very low to low risk.

1.3 Scope of Works

The programme of this investigation comprised the construction of five boreholes using hand-held window sampling techniques and the installation of two standpipes to enable long-term ground gas monitoring. During this work samples were recovered for further examination and laboratory testing. In addition, in situ screening for the presence of VOC was also performed. This report describes the work undertaken, presents the information obtained and discusses the ground conditions with respect to the long-term risks from ground contamination and ground gases.

2 FIELDWORKS

2.1 Site Works

The boreholes were constructed on 20th September 2021 at locations as shown on the site plan, drawing no. 21/12209/1, which is presented as Figure 1. The exploratory positions were located in order to establish the prevailing ground conditions beneath the proposed residential structure, taking into account site constraints such as the presence of existing buried services. Due to the presence of incoming water and gas pipes it was not possible to locate borehole 1 as originally intended and this location was repositioned.

The depths and descriptions of the strata encountered in the boreholes are given on the records which comprise Appendix 1 to this report. These records note the depths at which samples were taken, the results of in situ PID screening and the groundwater observations noted at the time of the fieldworks.

Photographs which give a general impression of the site at the time of the fieldworks are included below.



2.2 Installations

Upon completion of boreholes 1 and 3 standpipes or monitoring wells were installed in order to carry out long-term ground gas monitoring. These comprised of plain pipe between ground level and 0.50m, with a bentonite surround or annulus and extended to depths of 1.90m and 2.15m with slotted pipe. Each position was provided with a gas valve and lockable metal cover at surface.

3 GROUND CONDITIONS

3.1 Geology

Reference has been made to the earlier Desk Study which indicates that the site is underlain by River Terrace Deposits of recent or Quaternary age. These superficial deposits are underlain at depth by the London Clay Formation of the Eocene epoch.

3.2 Stratigraphy

Consideration of the borehole records indicates that made ground comprising macadam at surface, 100mm in thickness, over crushed limestone/pinkish grey sand and gravel over dark brown/dark greyish brown gravelly sand was noted to extend to depths of between 0.30m and 0.75m. Further possibly disturbed or made ground was noted to 1.10m at borehole 3.

Orangish brown silty sand with variable amounts of flint gravel, was exposed beneath the made ground. These granular soils are indicative of the River Terrace Deposits and were proved to the concluding depths of the boreholes at 2.10m and 2.40m, with no further penetration possible below these depths due to their dense nature. The London Clay Formation has not been revealed in the course of this investigation.

3.3 Groundwater

During the construction of borehole 3 a groundwater strike at 2.20m was observed with a short-term standing water level also noted at this level upon completion. The remaining positions were observed to be dry upon completion.

3.4 In Situ Testing

During the sampling measurement of soil vapours [VOC] was carried out on the samples of the soils taken using a PhoCheck Tiger PID meter. The composite sample is placed within a sealed plastic bag with a limited air space (headspace) which allows vapours to enter following agitation of the sample bag. The headspace is then measured using the PID meter and the results recorded in ppm as an indicative total VOC. The maximum TVOC recorded during this work was 9.4ppm and this sample was selected for testing. However, no obvious visual or olfactory evidence of contamination was apparent during the sampling.

3.5 Monitoring

Return visits were made on 30th September, 14th and 29th October 2021 to monitor the standpipes installed as part of the intrusive investigation. On the first and second occasions

each of the positions were noted to be dry. A standing water level of 2.14m below ground level was recorded within borehole 3 on the third visit.

4 LABORATORY TESTING

Selected samples of the made ground have been submitted to the UKAS accredited laboratories operated by i2 Analytical Ltd. The testing comprises a suite of typical inorganic and organic priority contaminants including metals, PAH, TPH CWG and an asbestos screen. Due to a positive identification of asbestos at borehole 4, subsequent quantification of the amount of asbestos present was automatically undertaken. Based upon the initial results, additional testing for beryllium and speciated PAH compounds was carried out on samples from boreholes 2 and 4 at 0.50m. The test results are included in Appendix 2.

5 GROUND CONTAMINATION

A Conceptual Site Model (CSM) was formulated for this site as part of the Phase 1 Desk Study, which informed the current Phase 2 intrusive investigation. The CSM produced as part of the earlier Desk Study has been reviewed and an extract is presented below for reference.

Potential Receptor	Potential Pathway	Potential Hazard	PSPPL?	Risk
On-Site Human Health	Ingestion/Absorption Inhalation	Adverse health Injury/Death	No	Low
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	Yes	Low to Moderate
Off-Site Human Health	Ingestion/Absorption Inhalation	Adverse health Injury/Death	No	Low
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Injury/Death	No	Low
Groundwater	Percolation/Leaching	Adverse groundwater quality	No	Very Low
Surface Water	Lateral Migration Groundwater baseflow	Adverse Surface water quality	No	Very Low
Ecology	Ingestion/Absorption	Adverse health Injury/Death	No	Very Low
Property	Physical Contact/Absorption	Damage to building and services	Yes	Low to Moderate
	Buildup of Methane/ VOCs in confined spaces	Explosion/ Fire Damage to building	Yes	Low to Moderate

 Site: Library Parade, Woodley, Reading, Berkshire, RG5 3LX
 Report Reference: PH1-2021-000089
 Date: August 21

6.1 Human Health

A generic assessment of the chronic or long-term risk to human health from soil contamination has been made using the available generic screening criteria. The screening values include the Category 4 Screening Levels [C4SLs] (DEFRA, 2014) and Suitable for Use Levels [S4ULs] (LQM/CIEH, 2014) derived using the CLEA software. It should be appreciated that these do not consider the short-term or acute risks, such as to construction workers or SI personnel.

The results obtained have been compared against the GAC for the proposed end-use Residential (with home-grown produce) and 1% SOM. A study of the data reveals elevated levels of PAH at boreholes 2 and 4 at 0.20m depth. A corresponding elevated level of aromatic hydrocarbons in the C16-21 band of 350mg/kg, which exceeds the S4UL GAC of 260mg/kg, was also noted at borehole 4. Consideration of the PAH double ratio plot of the elevated results infers that this is from a Coal Tar derived source, as opposed to a petroleum-based source and is likely to be associated with macadam surfacing. A trace or very low level of amosite asbestos was also detected within the sample from borehole 4 at 0.20m, together with an elevated level of beryllium of 4.0mg/kg, which exceeds the S4UL GAC of 1.7mg/kg. Further testing undertaken at 0.50m revealed no further elevated levels of PAH or beryllium.

It is evident that the shallow made ground in the areas of boreholes 2 and 4 is not suitable for a residential end-use. In areas that are to be permanent hardstanding no further specific remedial measures are envisaged as the pathway between the source (made ground) and receptor will be broken. In areas of soft landscaping the unsuitable made ground should be excavated and replaced with clean soils to protect future users of the site.

It should be noted that an isolated positive identification of loose fibrous debris of amosite asbestos, which has been quantified as <0.001%, which is a trace or a very low proportion of the sample. Nevertheless, due to the fact that these are free fibres and owing to the granular matrix of the made ground, there is still a medium risk to site workers, particularly those forming excavations. Hence, appropriate PPE and RPE should be worn by operatives, with manual/localised dust suppression measures employed unless works are undertaken during wet or raining periods. Further information can be found in the recent publication (CL:AIRE, 2016) "Control of Asbestos Regulations 2012 - Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials: Industry guidance".

6.2 Groundwater

The site is underlain by a minor or Secondary A aquifer; however, limited groundwater strikes were recorded during the investigation, with a standing water level of 2.20m observed. Based upon the findings from the investigation, the levels of low mobility, semi-volatile PAH and heavy metals do not pose a significant risk to the underlying minor aquifer.

6.3 Preliminary Waste Assessment

It is likely that, if excavated soils cannot be re-used or retained on site, these surplus materials will require off-site disposal. It may be possible to divert the unwanted material to a soil treatment hub where it can be recycled. Where material cannot be re-used or recycled then disposal at a licensed landfill site can be considered. It will then be necessary to classify the spoil as inert, non-hazardous or hazardous. A discussion of the current regime for the classification and treatment of waste soils is included in Appendix 3.

An initial assessment of the geochemical results obtained from this investigation has been carried out to provide a preliminary classification of the surplus materials. The Atkins CAT-WASTE tool determines whether waste soil should be classified as being non-hazardous or hazardous. The output from the CAT-WASTE assessment is located in Appendix 3. Asbestos was detected in the form of a trace or very low level at the location of borehole 4. Based on the output waste soil arisings from borehole 4 are considered to be hazardous for disposal purposes. The remaining locations have been tentatively identified as being non-hazardous waste.

This assessment is preliminary and based upon the information obtained from the investigation. Where made ground is excavated then these materials should be stockpiled and segregated. Further sampling, testing and characterisation to accurately classify waste soil arisings may be required. It should be appreciated that it is the responsibility of the waste producer to sufficiently characterise their waste. Moreover, the agreement of the waste acceptor should be sought.

6.4 Potable Water Supply Pipes

Given the history of the site the requirements of the water supply company should be established for any incoming water supply pipes. The results of the geochemical testing may be of assistance in the selection of the appropriate water supply pipe.

6.5 Ground Gases

The Desk Study highlighted a limited potential risk posed by ground gas generation from degradation of hydrocarbons within the local area and VOC vapour ingress from historical printing works. Consequently, two standpipes were installed across the site and a regime of ground gas monitoring was undertaken.

Three visits have been made to date to monitor the standpipes and the results of the monitoring are included in Appendix 4. The results have been reviewed in accordance with BS 8485 (2015) Code of Practice for the characterisation and remediation of ground gas in

effected developments. The calibration certificates for the respective instruments form Appendix 5.

The hazardous gas flow rate has been determined based upon the worst case from these monitoring visits, which are a carbon dioxide of 2.6% and a flow of 0.0l/h (zero). No methane was detected on any of the visits. The third visit was undertaken during a low and significantly falling atmospheric pressure event.

Q_{hg}	=	$(C_{hg}/100)q$
Q_{hg}	=	$(2.6/100) \times 0.0$
Q_{hg}	=	0.0l/h
where:		
Q_{hg}	=	calculated hazardous gas flow rate/gas screening value
C_{hg}	=	measured hazardous gas concentration
q	=	measured flow rate

Based upon the calculated gas screening value of 0.0 litres/hour, the hazard potential of the site can be considered very low or characteristic gas situation 1. Therefore, no remedial or specific protection measures will be required regarding ground gas.

Current guidance indicates that six monitoring rounds should be undertaken to fully classify this site in terms of its ground gas regime. However, in view of the ground conditions revealed, the low gas levels recorded over the three visits and zero flow, it is considered that the site has been adequately assessed by the visits undertaken to date.

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LIST OF ABBREVIATIONS

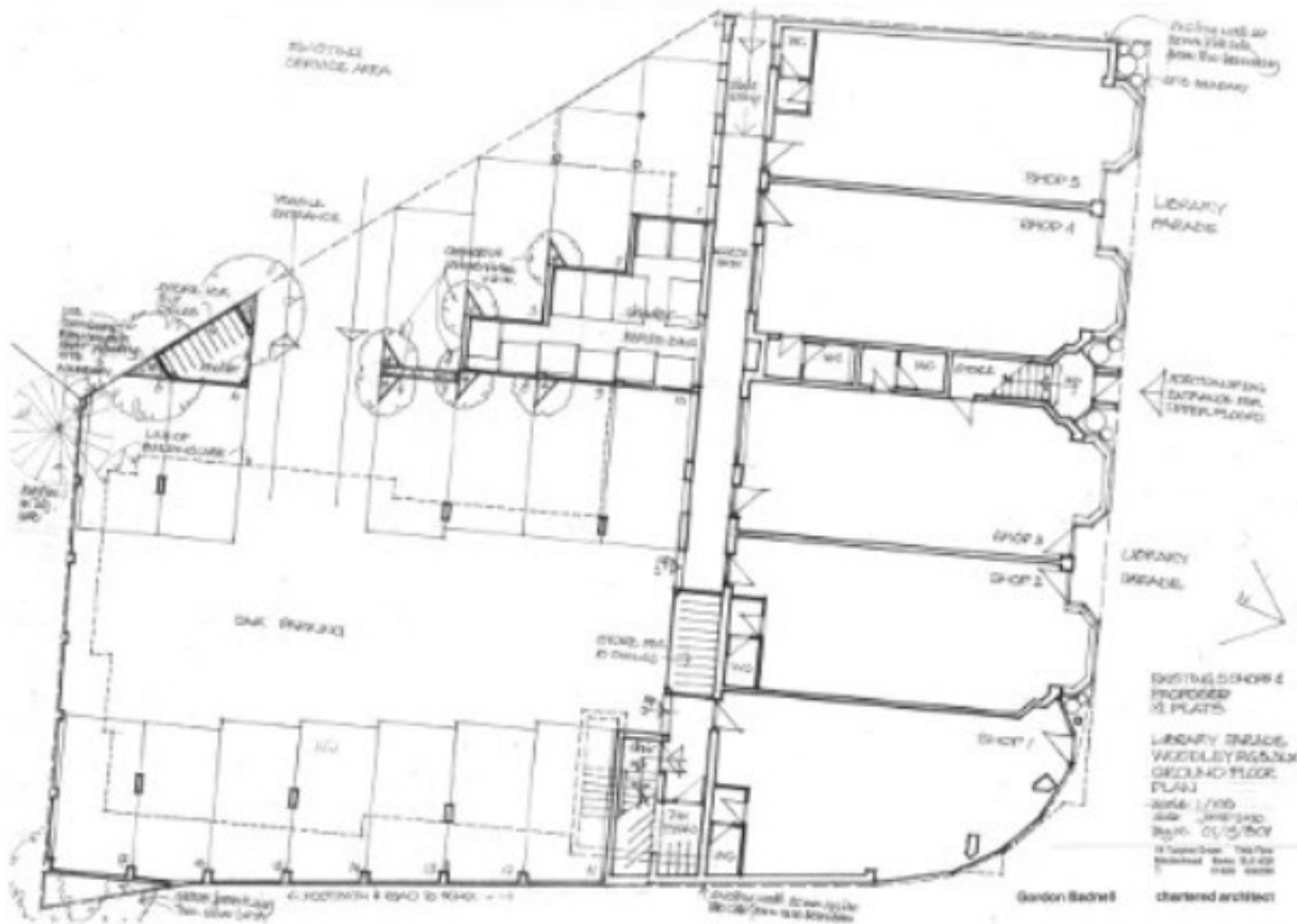
AOD	-	Above Ordnance Datum
ACM	-	Asbestos-containing Material
AST	-	Above-ground Storage Tank
BGS	-	British Geological Survey
BH	-	Borehole
BRE	-	Building Research Establishment
BSI	-	British Standards Institution
BS	-	British Standard
C4SL	-	Category Four Screening Level
CIRIA	-	Construction Industry Research and Information Association
CP	-	Cable Percussive
DPH	-	Dynamic Probing Heavy
DPSH	-	Dynamic Probing Super Heavy
EA	-	Environment Agency
GAC	-	Generic Assessment Criteria
LL	-	Liquid Limit
mAOD	-	Metres Above Ordnance Datum
mBGL	-	Metres Below Ground Level
mOD	-	Metres Ordnance Datum
OS	-	Ordnance Survey
PAH	-	Polycyclic Aromatic Hydrocarbons
PCB	-	Polychlorinated Biphenyl
PID	-	Photo Ionisation Detector
PL	-	Plastic Limit
PSD	-	Particle Size Distribution
SGV	-	Soil Guideline Value
SOM	-	Soil Organic Matter
SPT	-	Standard Penetration Test
SPZ	-	Source Protection Zone
SVOC	-	Semi-volatile Organic Compounds
TPH	-	Total Petroleum Hydrocarbon
UST	-	Underground Storage Tank
UXB	-	Unexploded Bombs
UXO	-	Unexploded Ordnance
VOC	-	Volatile Organic Compound

FIGURE 1

SITE PLAN

FIGURE 2

PROPOSED LAYOUT



Ground Floor Plan

Title: Proposed GF Layout

Dwg No: 21/12209/2

Drawn by: GO

Client: Castleton Investments Ltd

Contract: Crockhamwell Road, Woodley

Job Ref: 21/12209/GO

Scale: NTS

Revision: 0

Issue Date: 15/10/2021



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APPENDIX 1

EXPLORATORY RECORDS



1

21/12209/GO

20/09/2021

Ground Level

dry

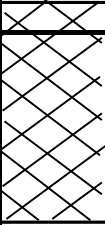
Ease of excavation, m

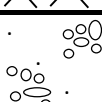
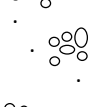
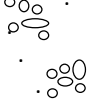
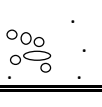
Difficult

2		Moderate	GL-1.10	Very hard	1.10-2.10
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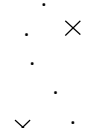
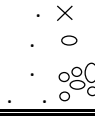
No obvious visual or olfactory evidence of contamination
Standpipe installed to 1.90m

Sample Code: *B - Large Disturbed* *D - Small Disturbed* *W - Water Sample* *R - Root Sample* *T - Tube Sample*

 ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH		BOREHOLE	2				
Contract	Crockhamwell Road, Woodley		Report Ref	21/12209/GO			
Client	Castleton Investments Ltd		Date	20/09/2021			
Site Address	Library Parade, Crockhamwell Road, Woodley, Berkshire RG5 3LX		Ground Level				
Type of excavator	Window Sampler	Water level after completion, m	dry				
Water strikes, m	Dimensions, m		Ease of excavation, m				
1 none	Diameter 0.06	Very easy Difficult					
2		Moderate GL-0.75 Very hard 0.75-2.10					
Remarks No obvious visual or olfactory evidence of contamination							
Samples or tests		Shear Strength kPa	PID TVOC ppm	Depth m		Legend	Strata Description
Type	Depth, m						
D	0.20		0.2	0.10		MADE GROUND (macadam) MADE GROUND (dark brown slightly gravelly silty SAND. Gravel comprises of flint)	
D	0.50		0.4				
D	1.00		0.6	0.75			
D	1.50		0	1.60		Orangish brown slightly gravelly silty SAND, becoming gravelly with depth. Gravel is of flint	
D	2.00		0	2.10			
						Orangish brown slightly gravelly silty SAND. Gravel is of flint	
						END OF BOREHOLE	

 ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH					BOREHOLE		3				
Contract		Crockhamwell Road, Woodley					Report Ref		21/12209/GO		
Client		Castleton Investments Ltd					Date		20/09/2021		
Site Address		Library Parade, Crockhamwell Road, Woodley, Berkshire RG5 3LX					Ground Level				
Type of excavator		Window Sampler			Water level after completion, m			2.20			
Water strikes, m		Dimensions, m			Ease of excavation, m						
1 2.20		Diameter 0.06			Very easy		Difficult		1.10-1.60		
2					Moderate GL-1.10		Very hard		1.60-2.40		
Remarks No obvious visual or olfactory evidence of contamination Standpipe installed to 2.15m											
Samples or tests		Shear Strength kPa	PID TVOC ppm	Depth m		Legend	Strata Description				
Type	Depth, m										
D	0.20		0.2	0.10			MADE GROUND (macadam)				
D	0.50		0.1	0.60			MADE GROUND (dark greyish brown gravelly SAND. Gravel is of flint and concrete fragments)				
D	1.00		0.2	1.10			Brown gravelly SAND. Gravel is of flint (possible disturbed or MADE GROUND)				
D	1.20		0				Orangish brown gravelly SAND. Gravel is of flint				
D	1.50		0								
D	2.00		0								
D	2.30		0	2.40							
							END OF BOREHOLE				

Sample Code: B - Large Disturbed D - Small Disturbed W - Water Sample R - Root Sample T - Tube Sample

 ALBURY S.I. LTD Miltons Yard, Petworth Road, Witley, Surrey GU8 5LH					BOREHOLE		4				
Contract		Crockhamwell Road, Woodley					Report Ref		21/12209/GO		
Client		Castleton Investments Ltd					Date		20/09/2021		
Site Address		Library Parade, Crockhamwell Road, Woodley, Berkshire RG5 3LX					Ground Level				
Type of excavator		Window Sampler			Water level after completion, m			dry			
Water strikes, m		Dimensions, m			Ease of excavation, m						
1 none		Diameter 0.06			Very easy			Difficult		GL-1.50	
2					Moderate			Very hard		1.50-1.70	
Remarks No obvious visual or olfactory evidence of contamination											
Samples or tests		Shear Strength kPa	PID TVOC ppm	Depth m		Legend	Strata Description				
Type	Depth, m										
D	0.20		0	0.10			MADE GROUND (macadam) MADE GROUND (brown SAND and flint GRAVEL with some cobbles)				
				0.30							
D	0.50		0				Brown slightly gravelly silty SAND with occasional roots. Gravel is of flint				
											
D	1.00		0				Orangish brown slightly gravelly silty SAND, becoming more gravelly with depth. Gravel is of flint				
				1.20							
D	1.50						END OF BOREHOLE				
				1.70							

Sample Code: B - Large Disturbed D - Small Disturbed W - Water Sample R - Root Sample T - Tube Sample



5

21/12209/GO

20/09/2021

Ground Level

dry

Ease of excavation, m

Difficult

2		Moderate	GL-1.00	Very hard	1.00-1.70
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No obvious visual or olfactory evidence of contamination

Sample Code: *B - Large Disturbed* *D - Small Disturbed* *W - Water Sample* *R - Root Sample* *T - Tube Sample*

APPENDIX 2

LABORATORY TEST RESULTS

George Owens

Albury SI Ltd
Miltons Yard
Petworth Road
Witley
Surrey
GU8 5LH

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e: reception@i2analytical.com

Analytical Report Number : 21-11209

Project / Site name:	Crockhamwell Road, Woodley	Samples received on:	21/09/2021
Your job number:	21-12209-GO	Samples instructed on/ Analysis started on:	21/09/2021
Your order number:	14182	Analysis completed by:	04/10/2021
Report Issue Number:	1	Report issued on:	04/10/2021
Samples Analysed:	5 soil samples		

Signed:



Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

Analytical Report Number: 21-11209

Project / Site name: Crockhamwell Road, Woodley

Your Order No: 14182

Lab Sample Number				2017984	2017985	2017986	2017987	2017988
Sample Reference				1	2	3	4	5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	0.20	0.20	0.50
Date Sampled				20/09/2021	20/09/2021	20/09/2021	20/09/2021	20/09/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	6.2	4.0	1.8	9.8
Total mass of sample received	kg	0.001	NONE	0.80	0.60	0.80	0.80	0.80

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Amosite	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	< 0.001	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	< 0.001	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	6.8	8.2	8.7	8.2	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	530	310	610	380	260
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	140	31	35	51	25
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.068	0.016	0.018	0.026	0.013
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	67.6	15.6	17.6	25.5	12.5
Sulphide	mg/kg	1	MCERTS	1.8	1.7	24	9.2	2.5
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.2	1.0	1.0	2.8	0.7

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	2.0	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.2	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.20	< 0.05	19	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	18	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.49	2.9	0.74	85	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.89	0.20	49	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.98	8.8	1.3	83	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.85	8.5	1.2	83	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.52	6.7	0.74	76	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.40	3.9	0.46	56	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.55	7.8	0.68	51	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.28	3.6	0.40	38	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.51	7.9	0.79	55	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.29	3.7	0.31	27	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.91	< 0.05	7.5	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.36	4.4	0.43	30	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	5.23	60.2	7.16	681	< 0.80
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Analytical Report Number: 21-11209

Project / Site name: Crockhamwell Road, Woodley

Your Order No: 14182

Lab Sample Number				2017984	2017985	2017986	2017987	2017988
Sample Reference				1	2	3	4	5
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	0.20	0.20	0.50
Date Sampled				20/09/2021	20/09/2021	20/09/2021	20/09/2021	20/09/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	8.6	16	12	7.6
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.49	0.40	0.33	4.0	0.26
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2	0.4	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	0.7	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	MCERTS	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (III)	mg/kg	1	NONE	15	14	13	19	14
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	14	13	19	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	9.4	4.9	31	3.0
Lead (aqua regia extractable)	mg/kg	1	MCERTS	47	27	34	52	9.9
Manganese (aqua regia extractable)	mg/kg	1	MCERTS	120	120	250	310	150
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	9.4	9.3	10	27	6.8
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	26	21	20	39	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	53	40	84	88	18

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH C6 - C40	mg/kg	10	NONE	< 10	200	650	1100	< 10
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TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	2.3	2.1	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	3.3	5.3	8.9	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	13	19	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	20	140	66	< 8.0
TPH-CWG - Aliphatic >EC21 - EC40	mg/kg	10	NONE	< 10	25	190	92	< 10
TPH-CWG - Aliphatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	< 8.4	71	42	< 8.4
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	30	160	96	< 10
TPH-CWG - Aliphatic (EC5 - EC44)	mg/kg	10	NONE	< 10	30	230	140	< 10

TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.2	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	2.9	< 2.0	44	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	36	17	350	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	120	270	510	< 10
TPH-CWG - Aromatic >EC21 - EC40	mg/kg	10	NONE	< 10	130	430	630	< 10
TPH-CWG - Aromatic > EC35 - EC44	mg/kg	8.4	NONE	< 8.4	22	200	170	< 8.4
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	160	290	910	< 10
TPH-CWG - Aromatic (EC5 - EC44)	mg/kg	10	NONE	< 10	180	490	1100	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 21-11209
Project / Site name: Crockhamwell Road, Woodley
Your Order No: 14182

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2017987	4	0.20	171	Loose Fibrous Debris	Amosite	< 0.001	< 0.001

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

Analytical Report Number : 21-11209

Project / Site name: Crockhamwell Road, Woodley

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2017984	1	None Supplied	0.5	Brown loam and clay with gravel.
2017985	2	None Supplied	0.2	Brown loam with gravel.
2017986	3	None Supplied	0.2	Brown sand with gravel.
2017987	4	None Supplied	0.2	Brown loam and gravel with vegetation.
2017988	5	None Supplied	0.5	Brown loam and clay with gravel.

Analytical Report Number : 21-11209

Project / Site name: Crockhamwell Road, Woodley

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPH Chromatogram in Soil	TPH Chromatogram in Soil.	In-house method	L064-PL	D	NONE

Analytical Report Number : 21-11209

Project / Site name: Crockhamwell Road, Woodley

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

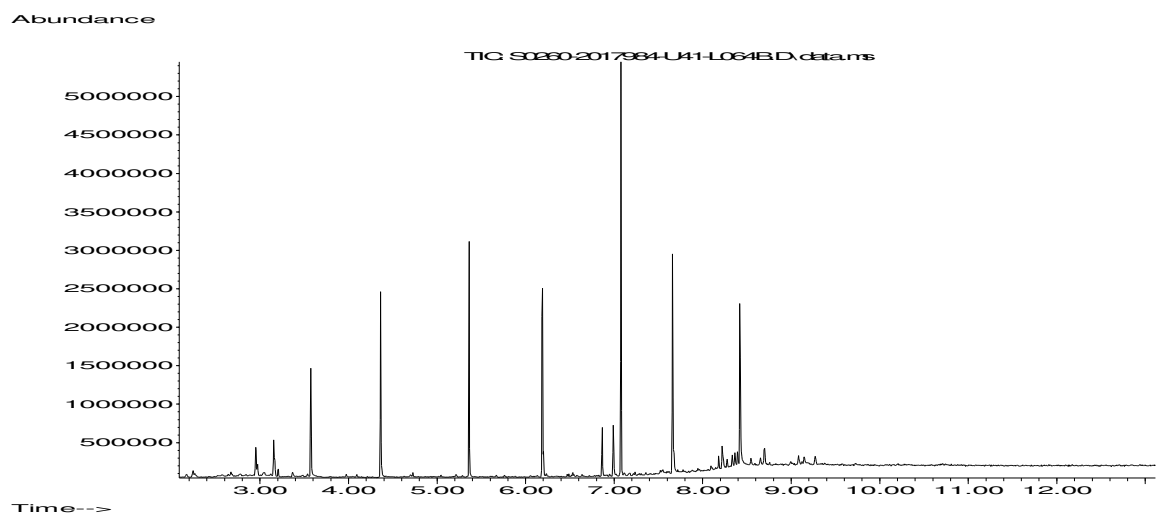
Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

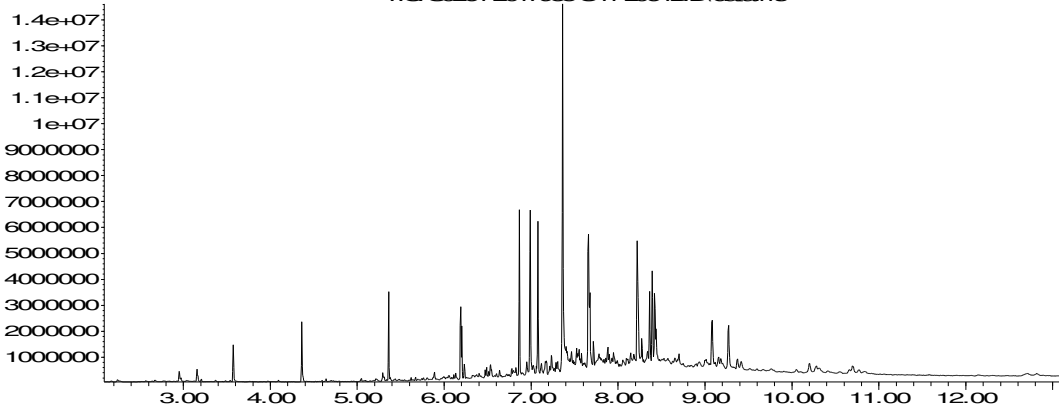
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

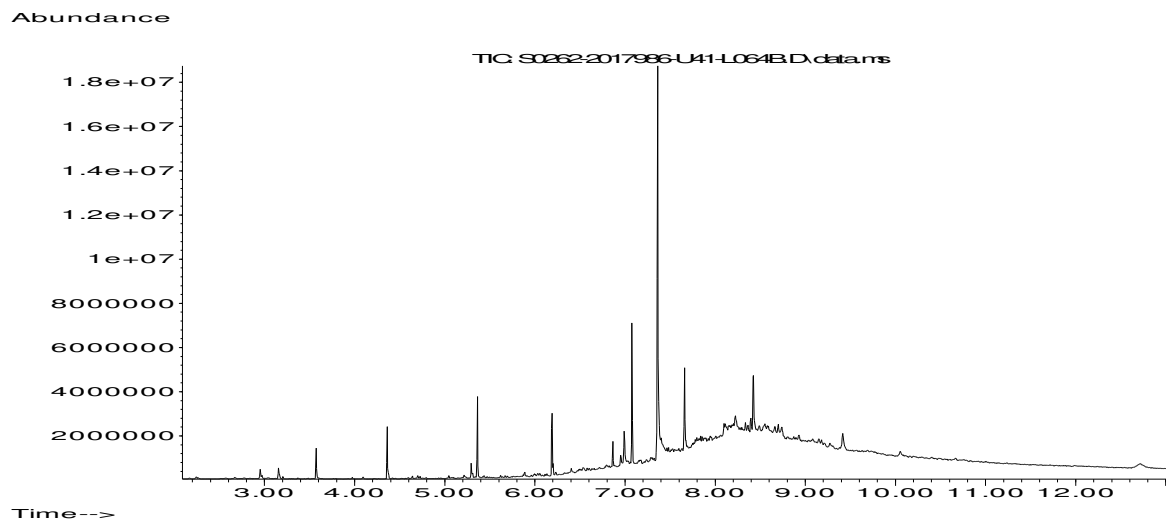


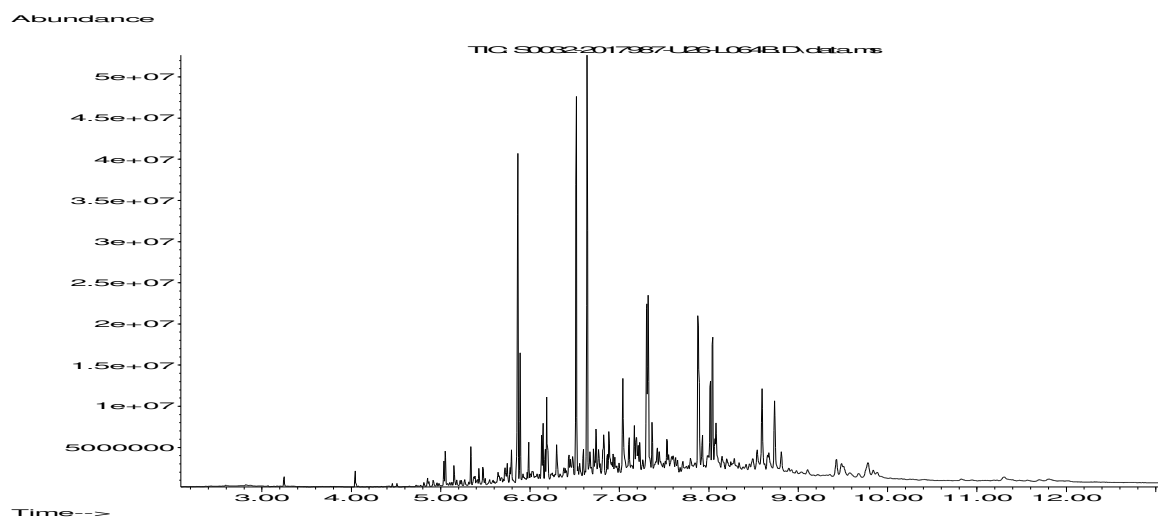
Abundance

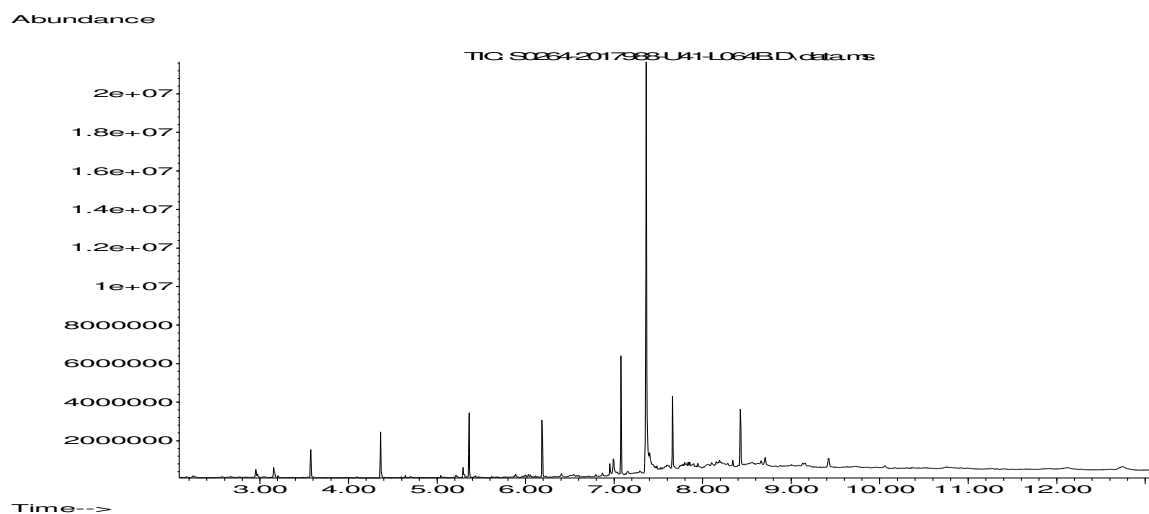
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Time-->







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Analytical Report Number : 21-14298

Project / Site name:	Crockhamwell Road Woodley	Samples received on:	05/10/2021
Your job number:	21 12209 GO	Samples instructed on/ Analysis started on:	05/10/2021
Your order number:	14182	Analysis completed by:	12/10/2021
Report Issue Number:	1	Report issued on:	12/10/2021
Samples Analysed:	2 soil samples		

Signed:

Agneszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 21-14298

Project / Site name: Crockhamwell Road Woodley

Your Order No: 14182

Lab Sample Number				2035611	2035612
Sample Reference				Sample 2	Sample 4
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	0.50
Date Sampled				20/09/2021	20/09/2021
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.5	4.7
Total mass of sample received	kg	0.001	NONE	0.50	0.60

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.51	3.0
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.79
Fluoranthene	mg/kg	0.05	MCERTS	0.73	3.4
Pyrene	mg/kg	0.05	MCERTS	0.65	2.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.43	1.5
Chrysene	mg/kg	0.05	MCERTS	0.31	1.1
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.46	1.2
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.21	0.75
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.40	1.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.55
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.64

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	3.70	16.9
-----------------------------	-------	-----	--------	------	------

Heavy Metals / Metalloids

Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	-	0.39
------------------------------------	-------	------	--------	---	------

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 21-14298

Project / Site name: Crockhamwell Road Woodley

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2035611	Sample 2	None Supplied	0.5	Brown loam and clay with gravel.
2035612	Sample 4	None Supplied	0.5	Brown sand with gravel.

Analytical Report Number : 21-14298

Project / Site name: Crockhamwell Road Woodley

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

APPENDIX 3

WASTE

Site Name	Library Parade
Location	Woodley
Site ID	
Job Number	21/12209/GO
Date	13/10/2021
User Name	
Company Name	Albury S.I Ltd

[illegible]

Site Name	Library Parade
Location	Woodley
Site ID	
Job Number	21/12209/GO
Date	13/10/2021
User Name	
Company Name	Albury S.I Ltd

Hole ID	Sample Depth	Contaminant	Contaminant Concentration (%)	Hazardous Waste Y/N	Hazard Property	Individual Hazard Statements Exceeded	Cumulative Hazard Statements Exceeded	Additional Hazard Statements (see notes section)
1	0.50	pH	0.00000	N				
1	0.50	Benzene	0.00010	N				H225 test
1	0.50	Toluene	0.00010	N				H225 test
1	0.50	Ethylbenzene	0.00010	N				H225 test
1	0.50	m,p-xylene	0.00010	N				H226 test
1	0.50	o-xylene	0.00000	N				H226 test
1	0.50	Naphthalene	0.00001	N				H228 test
1	0.50	Acenaphthylene	0.00001	N				
1	0.50	Acenaphthene	0.00001	N				
1	0.50	Fluorene	0.00001	N				
1	0.50	Phenanthrene	0.00005	N				
1	0.50	Anthracene	0.00001	N				
1	0.50	Fluoranthene	0.00010	N				
1	0.50	Pyrene	0.00009	N				
1	0.50	Benzo(a)anthracene	0.00005	N				
1	0.50	Chrysene	0.00004	N				
1	0.50	Benzo(b)fluoranthene	0.00006	N				
1	0.50	Benzo(k)fluoranthene	0.00003	N				
1	0.50	Benzo(a)pyrene	0.00005	N				
1	0.50	Indeno(1,2,3-cd)pyrene	0.00003	N				
1	0.50	Di-benz(a,h)anthracene	0.00001	N				
1	0.50	Benzo(g,h,i)perylene	0.00004	N				
1	0.50	hydrocarbon/oil with marker	0.00100	N				H225 test
1	0.50	Arsenic	0.00169	N				
1	0.50	Boron	0.00093	N				
1	0.50	Cadmium	0.00004	N				
1	0.50	Hexavalent Chromium	0.00012	N				
1	0.50	Chromium (Total)	0.00202	N				
1	0.50	Copper	0.00578	N				
1	0.50	Lead	0.00470	N				
1	0.50	Manganese	0.03299	N				
1	0.50	Mercury	0.00003	N				
1	0.50	Nickel	0.00248	N				
1	0.50	Selenium	0.00038	N				
1	0.50	Zinc	0.00000	N				
1	0.50	Zincx	0.01309	N				
1	0.50	Vanadium	0.00464	N				
2	0.20	pH	0.00000	N				
2	0.20	Benzene	0.00010	N				H225 test
2	0.20	Toluene	0.00010	N				H225 test
2	0.20	Ethylbenzene	0.00010	N				H225 test
2	0.20	m,p-xylene	0.00010	N				H226 test
2	0.20	o-xylene	0.00000	N				H226 test
2	0.20	Naphthalene	0.00001	N				H228 test
2	0.20	Acenaphthylene	0.00001	N				
2	0.20	Acenaphthene	0.00002	N				
2	0.20	Fluorene	0.00001	N				

Site Name	Library Parade
Location	Woodley
Site ID	
Job Number	21/12209/GO
Date	13/10/2021
User Name	
Company Name	Albury S.I Ltd

Hole ID	Sample Depth	Contaminant	Contaminant Concentration (%)	Hazardous Waste Y/N	Hazard Property	Individual Hazard Statements Exceeded	Cumulative Hazard Statements Exceeded	Additional Hazard Statements (see notes section)
2	0.20	Phenanthrene	0.00029	N				
2	0.20	Anthracene	0.00009	N				
2	0.20	Fluoranthene	0.00088	N				
2	0.20	Pyrene	0.00085	N				
2	0.20	Benzo(a)anthracene	0.00067	N				
2	0.20	Chrysene	0.00039	N				
2	0.20	Benzo(b)fluoranthene	0.00078	N				
2	0.20	Benzo(k)fluoranthene	0.00036	N				
2	0.20	Benzo(a)pyrene	0.00079	N				
2	0.20	Indeno(1,2,3-cd)pyrene	0.00037	N				
2	0.20	Di-benz(a,h)anthracene	0.00009	N				
2	0.20	Benzo(g,h,i)perylene	0.00044	N				
2	0.20	hydrocarbon/oil with marker	0.02000	N				H225 test
2	0.20	Arsenic	0.00132	N				
2	0.20	Boron	0.00046	N				
2	0.20	Cadmium	0.00007	N				
2	0.20	Hexavalent Chromium	0.00012	N				
2	0.20	Chromium (Total)	0.00187	N				
2	0.20	Copper	0.00236	N				
2	0.20	Lead	0.00270	N				
2	0.20	Manganese	0.03299	N				
2	0.20	Mercury	0.00003	N				
2	0.20	Nickel	0.00245	N				
2	0.20	Selenium	0.00038	N				
2	0.20	Zinc	0.00000	N				
2	0.20	Zincx	0.00988	N				
2	0.20	Vanadium	0.00375	N				
3	0.20	pH	0.00000	N				
3	0.20	Benzene	0.00000	N				H225 test
3	0.20	Toluene	0.00000	N				H225 test
3	0.20	Ethylbenzene	0.00000	N				H225 test
3	0.20	m,p-xylene	0.00000	N				H226 test
3	0.20	o-xylene	0.00000	N				H226 test
3	0.20	Naphthalene	0.00001	N				H228 test
3	0.20	Acenaphthylene	0.00001	N				
3	0.20	Acenaphthene	0.00001	N				
3	0.20	Fluorene	0.00001	N				
3	0.20	Phenanthrene	0.00007	N				
3	0.20	Anthracene	0.00002	N				
3	0.20	Fluoranthene	0.00013	N				
3	0.20	Pyrene	0.00012	N				
3	0.20	Benzo(a)anthracene	0.00007	N				
3	0.20	Chrysene	0.00005	N				
3	0.20	Benzo(b)fluoranthene	0.00007	N				
3	0.20	Benzo(k)fluoranthene	0.00004	N				
3	0.20	Benzo(a)pyrene	0.00008	N				
3	0.20	Indeno(1,2,3-cd)pyrene	0.00003	N				

Site Name	Library Parade
Location	Woodley
Site ID	
Job Number	21/12209/GO
Date	13/10/2021
User Name	
Company Name	Albury S.I Ltd

Hole ID	Sample Depth	Contaminant	Contaminant Concentration (%)	Hazardous Waste Y/N	Hazard Property	Individual Hazard Statements Exceeded	Cumulative Hazard Statements Exceeded	Additional Hazard Statements (see notes section)
3	0.20	Di-benz(a,h)anthracene	0.00001	N				
3	0.20	Benzo(g,h,i)perylene	0.00004	N				
3	0.20	hydrocarbon/oil with marker	0.06500	N				H225 test
3	0.20	Arsenic	0.00245	N				
3	0.20	Boron	0.00046	N				
3	0.20	Cadmium	0.00013	N				
3	0.20	Hexavalent Chromium	0.00012	N				
3	0.20	Chromium (Total)	0.00172	N				
3	0.20	Copper	0.00123	N				
3	0.20	Lead	0.00340	N				
3	0.20	Manganese	0.06872	N				
3	0.20	Mercury	0.00003	N				
3	0.20	Nickel	0.00264	N				
3	0.20	Selenium	0.00038	N				
3	0.20	Zinc	0.00000	N				
3	0.20	Zincx	0.02074	N				
3	0.20	Vanadium	0.00357	N				
4	0.20	pH	0.00000	N				
4	0.20	Benzene	0.00000	N				H225 test
4	0.20	Toluene	0.00000	N				H225 test
4	0.20	Ethylbenzene	0.00000	N				H225 test
4	0.20	m,p-xylene	0.00000	N				H226 test
4	0.20	o-xylene	0.00000	N				H226 test
4	0.20	Naphthalene	0.00020	N				H228 test
4	0.20	Acenaphthylene	0.00012	N				
4	0.20	Acenaphthene	0.00190	N				
4	0.20	Fluorene	0.00180	N				
4	0.20	Phenanthrene	0.00850	N				
4	0.20	Anthracene	0.00490	N				
4	0.20	Fluoranthene	0.00830	N				
4	0.20	Pyrene	0.00830	N				
4	0.20	Benzo(a)anthracene	0.00760	N				
4	0.20	Chrysene	0.00560	N				
4	0.20	Benzo(b)fluoranthene	0.00510	N				
4	0.20	Benzo(k)fluoranthene	0.00380	N				
4	0.20	Benzo(a)pyrene	0.00550	N				
4	0.20	Indeno(1,2,3-cd)pyrene	0.00270	N				
4	0.20	Di-benz(a,h)anthracene	0.00075	N				
4	0.20	Benzo(g,h,i)perylene	0.00300	N				
4	0.20	hydrocarbon/oil with marker	0.11000	Y	HP7, HP11	H350, H340		H225 test
4	0.20	Arsenic	0.00184	N				
4	0.20	Boron	0.00093	N				
4	0.20	Cadmium	0.00004	N				
4	0.20	Hexavalent Chromium	0.00012	N				
4	0.20	Chromium (Total)	0.00260	N				
4	0.20	Copper	0.00779	N				
4	0.20	Lead	0.00520	N				

Site Name	Library Parade
Location	Woodley
Site ID	
Job Number	21/12209/GO
Date	13/10/2021
User Name	
Company Name	Albury S.I Ltd

Hole ID	Sample Depth	Contaminant	Contaminant Concentration (%)	Hazardous Waste Y/N	Hazard Property	Individual Hazard Statements Exceeded	Cumulative Hazard Statements Exceeded	Additional Hazard Statements (see notes section)
4	0.20	Manganese	0.08521	N				
4	0.20	Mercury	0.00003	N				
4	0.20	Nickel	0.00712	N				
4	0.20	Selenium	0.00038	N				
4	0.20	Zinc	0.00000	N				
4	0.20	Zincx	0.02173	N				
4	0.20	Vanadium	0.00696	N				
5	0.50	pH	0.00000	N				
5	0.50	Benzene	0.00010	N				H225 test
5	0.50	Toluene	0.00010	N				H225 test
5	0.50	Ethylbenzene	0.00010	N				H225 test
5	0.50	m,p-xylene	0.00010	N				H226 test
5	0.50	o-xylene	0.00010	N				H226 test
5	0.50	Naphthalene	0.00001	N				H228 test
5	0.50	Acenaphthylene	0.00001	N				
5	0.50	Acenaphthene	0.00001	N				
5	0.50	Fluorene	0.00001	N				
5	0.50	Phenanthrene	0.00001	N				
5	0.50	Anthracene	0.00001	N				
5	0.50	Fluoranthene	0.00001	N				
5	0.50	Pyrene	0.00001	N				
5	0.50	Benzo(a)anthracene	0.00001	N				
5	0.50	Chrysene	0.00001	N				
5	0.50	Benzo(b)fluoranthene	0.00001	N				
5	0.50	Benzo(k)fluoranthene	0.00001	N				
5	0.50	Benzo(a)pyrene	0.00001	N				
5	0.50	Indeno(1,2,3-cd)pyrene	0.00001	N				
5	0.50	Di-benz(a,h)anthracene	0.00001	N				
5	0.50	Benzo(g,h,i)perylene	0.00001	N				
5	0.50	hydrocarbon/oil with marker	0.00100	N				H225 test
5	0.50	Arsenic	0.00117	N				
5	0.50	Boron	0.00069	N				
5	0.50	Cadmium	0.00004	N				
5	0.50	Hexavalent Chromium	0.00012	N				
5	0.50	Chromium (Total)	0.00187	N				
5	0.50	Copper	0.00075	N				
5	0.50	Lead	0.00099	N				
5	0.50	Manganese	0.04123	N				
5	0.50	Mercury	0.00003	N				
5	0.50	Nickel	0.00179	N				
5	0.50	Selenium	0.00038	N				
5	0.50	Zinc	0.00000	N				
5	0.50	Zincx	0.00444	N				
5	0.50	Vanadium	0.00446	N				

Notes - Additional Information on Hazard Properties

Hazardous Property	Description	Hazard Statement	Note
HP1	Explosive	H200, H201, H202, H203, H204, H240 and H241	A waste is assessed for HP1 via test methods, rather than a concentration limit. If you have substances or a mixture containing explosive properties the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria.
HP2	Oxidising	H270, H271, H272	A waste is assessed for HP2 via test methods, rather than a concentration limit. If you have substances or a mixture containing oxidising properties the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria.
HP3	Flammable	H220 to H226, H228, H242, H250, H251m H252, H260, H261	A waste is assessed for HP3 via test methods, rather than a concentration limit. If you have substances or a mixture containing flammable properties the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria. If a waste contains either H220, H221, H260 or H261 a calculation can be performed to identify the minimum amount of that substance that will trigger HP3.
HP5	Specific Target Organ Toxicity (STOT)	H304	Should a waste contain two or more compounds displaying H304 (Asp. Tox 1) and equal or exceed its specific concentration limit of 10%, then a waste will be hazardous by HP5 if its kinematic viscosity exceeds 20.5 mm ² /s. Guidance should be sought from the CLP Criteria.
HP9	Infectious	N/A	A waste is assessed for HP9 via further testing, rather than a concentration limit. In cases where there is the potential for toxins to be present, further testing will be required. For healthcare waste reference should be made to the Department of health guidance: Safe management of healthcare waste.
HP12	Release of acute toxic gas	EUH029, EUH031, EUH032, H260 or H261	A waste is assessed for HP12 via test methods, rather than a concentration limit. If you have substances or a mixture that may release acute toxic gas the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria.
HP15	Explosive or explosive properties	H205, EUH001, EUH019 or EUH044	A waste is assessed for HP15 via test methods, rather than a concentration limit. If you have substances or a mixture that may exhibit explosive or explosive properties the waste should be tested in accordance with the European Chemical Agency's guidance on the application of the CLP Criteria.
HP16	Persistent organic pollutants	N/A	A waste is considered hazardous if the concentration of one or more compound (persistent organic pollutant) as listed in Appendix C of Environment Agency guidance WM3 is above its assigned concentration limit. For reference for dioxins and furans, this assessment incorporates the use of specific toxicity equivalent factors.

WASTE CLASSIFICATION

The European Waste Framework Directive is implemented in the UK by the 2002 Landfill Regulations, together with a number of other acts and regulations. A key part of this process is to establish the hazardous properties of potential waste. The classification and definition of hazardous waste is interpreted within the Environment Agency guidance WM3 and all wastes require classifying in accordance with the European Waste Catalogue [EWC]. The EWC is a detailed list of typical industry waste types and each has a 6 digit code. Typically the appropriate EWC codes for excavated soil being disposed off site are:

- 17 05 03* soil and stones containing dangerous substances, or
- 17 05 04 soil and stones other than those mentioned in 17 05 03

If excavated soils are to be discarded or exported from site then they would be considered controlled waste and require classification. However, if soils can be re-used on site then they are not considered to be controlled waste. A Desk Study, soil descriptions, laboratory chemical analysis and risk assessment can all contribute to basic waste characterisation. Depending upon the chemical composition or levels of contaminants in the waste (e.g. metals, TPH, asbestos), soil and stones can either be hazardous or non-hazardous. Waste Acceptance Criteria [WAC] test results are used to determine the suitability of the waste intended for disposal against the acceptance criteria for a particular class of landfill site. WAC tests are not used for the classification of waste soils and are only required for inert or hazardous excavated material which is destined for landfill.

Wastes containing asbestos with a concentration of >0.10% weight/weight (w/w) are generally considered to be hazardous. While waste with <0.10% w/w of asbestos are considered non-hazardous. Where free fibres or fibrous asbestos is present at concentrations of >0.001% then these are considered to pose a risk to human health and are deemed hazardous waste. These waste materials also require a suitably licensed company to handle them.

Waste Treatment

It is a requirement of the 2002 Landfill Regulations that all wastes must undergo some form of pre-treatment prior to disposal at an appropriately licensed landfill. Treatment is defined using a 'three-point test' and can include physical, chemical, biological or thermal processes, which must change the characteristics of the waste in order to:

- reduce its volume, or
- reduce its hazardous nature, or
- facilitate its handling, or
- enhance its recovery.

The exceptions to this are:

- inert waste for which treatment is not technically feasible.
- it is waste other than inert waste and treatment would not reduce its quantity or its hazards to human health or the environment.

The waste producer should either treat their own waste or ensure that the waste will be treated by a subsequent handler. The waste producer should record the type and amount of pre-treatment undertaken prior to disposal.

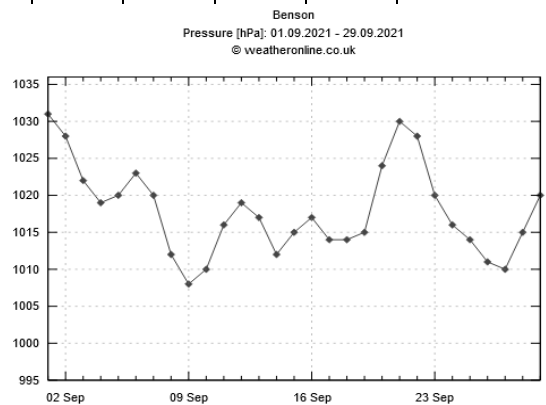
Examples of treatment include mechanical segregation or sorting, composting, soil treatment hubs and incineration. This can include physical sorting of waste soil types into separate stockpiles at the producer site, e.g. topsoil, made ground and natural clay, sand or gravels.

APPENDIX 4

MONITORING DATA

GROUND GAS AND GROUNDWATER MONITORING

Contract	Crockhamwell Road, Woodley					Report Ref	21/12209/GO					
Date	30/09/2021					Visit	1					
Engineer	JAM					Check	GO					
Weather	Overcast					Page	1					
Atmospheric Pressure			Before			1012						
			After			1012						
Published Pressure Trend			Rising									
Remarks												
Position	Flow (l/hr)		Common Gases (%)				H ₂ S	Hexane	VOC (ppm)	Groundwater (m)		Remarks
	High	Low	Time	CO ₂	CH ₄	O ₂				Water	Base	
Calibration Check	0.0	0.0	15s	0	-0.30	20.7						Calibration check passed
			30s	0	-0.30	20.7						
			60s	0	-0.30	20.6						
1	0.0	0.0	15s	0.8	-0.40	20.0	0		0.1	None	1.92	
			30s	1.4	-0.40	19.6						
			45s	2.3	-0.40	18.9						
			1m	2.6	-0.50	18.1						
			1m 15s	2.6	-0.50	17.9						
			1m 30s	2.4	-0.50	18.0						
			1m 45s	2.5	-0.50	18.1						
			2m	2.3	-0.50	18.1						
			2m 15s	2.3	-0.50	18.3						
			2m 30s	2.2	-0.50	18.2						
			2m 45s	2.2	-0.50	18.4						
			3m	2.2	-0.50	18.4						
			3	0.0	0.0	15s						
30s	2.1	-0.50				18.6						
45s	2.2	-0.50				18.5						
1m	2.2	-0.50				18.5						
1m 15s	2.2	-0.50				18.5						
1m 30s	2.2	-0.50				18.5						
1m 45s	2.2	-0.50				18.6						
2m	2.1	-0.50				18.6						
2m 15s	2.1	-0.50				18.6						
2m 30s	2.2	-0.50				18.6						
2m 45s	2.1	-0.50				18.6						
3m	2.1	-0.50				18.6						
			Calibration Check	0.0	0.0	15s	0.0	-0.4	20.7			
30s	0.0	-0.3				20.6						
60s	0.0	-0.3				20.6						



GROUND GAS AND GROUNDWATER MONITORING													
Contract		Crockhamwell Road, Woodley					Report Ref		21/12209/GO				
Date		14/10/2021					Visit		2				
Engineer		JAM					Check		GO				
Weather		Sunny intervals					Page		1				
Atmospheric Pressure			Before				1018						
			After				1017						
Published Pressure Trend			High - Steady										
Remarks													
Position	Flow (l/hr)		Common Gases (%)				H ₂ S	Hexane	VOC (ppm)	Groundwater (m)		Remarks	
	High	Low	Time	CO ₂	CH ₄	O ₂				Water	Base		
Calibration Check	0.0	0.0	15s	-0.4	0.0	20.7							Calibration check passed
			30s	0.0	0.0	20.7							
			60s	0.0	-0.2	20.7							
1	0.0	0.0	15s	1.3	-0.4	19.6	0		0.0	None	1.92		
			30s	1.6	-0.4	19.1							
			45s	2.1	-0.4	18.5							
			1m	2.3	-0.5	18.3							
			1m 15s	2.2	-0.5	18.4							
			1m 30s	2.1	-0.5	18.5							
			1m 45s	2.0	-0.5	18.6							
			2m	1.9	-0.5	18.8							
			2m 15s	1.8	-0.5	18.9							
			2m 30s	1.8	-0.5	19.0							
			2m 45s	1.7	-0.5	19.0							
			3m	1.6	-0.5	19.1							
			3	0.0	0.0	15s							1.8
30s	2.0	-0.4				18.6							
45s	2.1	-0.5				18.5							
1m	2.2	-0.5				18.4							
1m 15s	2.2	-0.4				18.4							
1m 30s	2.2	-0.4				18.4							
1m 45s	2.2	-0.4				18.4							
2m	2.2	-0.4				18.4							
2m 15s	2.2	-0.4				18.4							
2m 30s	2.2	-0.4				18.5							
2m 45s	2.2	-0.4				18.5							
3m	2.2	-0.4				18.5							
			Calibration Check	0.0	0.0	15s	0.1	-0.4	20.5				
30s	0.0	-0.4				20.7							
60s	0.0	-0.4				20.7							

Benson
Pressure [hPa]: 15.09.2021 - 13.10.2021
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GROUND GAS AND GROUNDWATER MONITORING												
Contract	Crockhamwell Road, Woodley					Report Ref	21/12209/GO					
Date	29/10/2021					Visit	3					
Engineer	JAM					Check	GO					
Weather	Sunny intervals					Page	1					
Atmospheric Pressure			Before			987						
			After			986						
Published Pressure Trend			Low and significantly falling									
Remarks												
Position	Flow (l/hr)		Common Gases (%)				H ₂ S	Hexane	VOC (ppm)	Groundwater (m)		Remarks
	High	Low	Time	CO ₂	CH ₄	O ₂				Water	Base	
Calibration Check	0.0	0.0	15s	0	-0.2	20.7						Calibration check passed
			30s	0	-0.4	20.7						
			60s	0	-0.4	20.7						
1	0.0	0.0	15s	1.3	-0.6	19.5	0		0.0	None	1.92	
			30s	1.4	-0.6	19.1						
			45s	1.9	-0.6	18.7						
			1m	2.0	-0.7	18.6						
			1m 15s	1.9	-0.6	18.7						
			1m 30s	1.7	-0.6	18.8						
			1m 45s	1.8	-0.6	18.8						
			2m	1.7	-0.6	18.8						
			2m 15s	1.4	-0.6	19.0						
			2m 30s	1.3	-0.7	19.2						
			2m 45s	1.3	-0.6	19.2						
			3m	1.3	-0.6	19.2						
3	0.0	0.0	15s	2.4	-0.6	18.8	0		0.1	2.14	2.17	
			30s	2.6	-0.6	18.4						
			45s	2.6	-0.7	18.3						
			1m	2.6	-0.6	18.2						
			1m 15s	2.6	-0.6	18.2						
			1m 30s	2.6	-0.6	18.2						
			1m 45s	2.6	-0.6	18.1						
			2m	2.6	-0.6	18.2						
			2m 15s	2.6	-0.6	18.1						
			2m 30s	2.6	-0.6	18.1						
			2m 45s	2.6	-0.6	18.1						
			3m	2.6	-0.6	18.1						
Calibration Check	0.0	0.0	15s	0.1	-0.6	20.5						Calibration check passed
			30s	0.0	-0.6	20.6						
			60s	0.0	-0.7	20.7						

Benson
Pressure [hPa]: 03.10.2021 - 31.10.2021
© weatheronline.co.uk



APPENDIX 5

CALIBRATION CERTIFICATES

TEST DATE AND CONDITIONS			
Date	23/08/2021		
Atmospheric Pressure	1011	mB	
Ambient Temperature	22.3	°C	
Envionics Serial No.	5089		

**GFM436 Final Inspection & Calibration
Check Certificate**

GAS DATA LTD

Unit 4, Fairfield Court

Seven Stars Estate

Wheler Rd

Coventry

CV3 4LJ

Tel 02476303311

Fax 02476307711



Customer	Albury S.I.
Certificate Number	122654
Order Number	329201

Serial Number	12733
Software Version	G436-00.0027/0010

Recalibration DUE Date
23/08/22

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	500	Accept > 200 cc/min	Pump Flow @ -200mB	300	Accept > 200 cc/min
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
Sensor	CH ₄		CO ₂		O ₂	
	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %	Instrument Gas	True Gas Value %
	Readings %		Readings %		Readings %	
	59.5	60	40	40	20.9	20.9
	Accept ±3.0		Accept ±3.0		Accept ±0.5	
	4.9	5	5	5	6	6
	Accept ±0.3		Accept ±0.3		Accept ±0.3	
Zero Reading 100% N2	0	0	0	0	0	0
	Accept ±0.0		Accept ±0.0		Accept ±0.1	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings (ppm)			
Gas Type	Range (ppm)		Zero Reading		Instrument Gas Reading	
H2S	5000	1500	0	Accept ±0.0	1500	Accept ±5.0
CO	2000	1000	0	Accept ±0.0	998	Accept ±5.0
Hexane	2.0%	2.0%	0	Accept ±0.0	1.99	Accept ±10.0

Cross Gas Effects									
Applied Gas (ppm)		Instrument Readings (ppm)							
Gas Type	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:	HEX		
H2S	1500	1500		0		0			
CO	1000	70		998		0			
Hexane	2.0%	0		0		1.99			

Pressure Checks			
Atmospheric Pressure [AP] (mB)			
Current Atmospheric Pressure (mB)		Instrument Atmospheric Pressure Reading (mB)	
AP Open Ports		1011	Accept ± 2.0
AP Port (Internal)	+800 mB	800	Accept ± 5.0
	+1200mb	1200	Accept ± 5.0

Flow Checks					
Borehole Flow			Differential Pressure		
Applied Reading (l/h)	Instrument Reading (l/h)		Applied Pressure (Pa)	Instrument Reading (Pa)	
-30	-30	Accept ± 3.0	-387	-390	Accept ± 50
-3	-3	Accept ± 1.0	-18	-18	Accept ± 6.0
0	0	Accept ± 0.0	0	0	Accept ± 0.5
3	3	Accept ± 0.5	15	15	Accept ± 3.0
30	30	Accept ± 3.0	323	323	Accept ± 50
60	60.2	Accept ± 6.0	973	981	Accept ± 130
90	90.7	Accept ± 9.0	1902	1952	Accept ± 250

Temperature Checks		
Calibration Temperature	Instrument Temperature Reading $^{\circ}\text{C}$	
Applied Temperature $^{\circ}\text{C}$		
-10	-10	Accept ± 2.0
0	0	Accept ± 1.0
30	30	Accept ± 1.0
60	60	Accept ± 1.0
100	100	Accept ± 1.0

Technician:
<i>Jack Rutland</i>

Date Tested:
<i>24/08/2021</i>

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.



VAN WALT

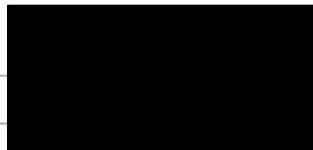
Monitoring your needs

OUTWARDS CHECKLIST

PID Service and Calibration

PID Serial Number

Customer and Company



	Reading	Target	Acceptable	Pass	Lot no / Expiry date
100ppm Isobutylene gas	100.5	100	$\pm 10\%$ *	✓	W0310946-1 28/7/26
Fresh Air	0.2	0.0	$\pm 10\%$ *	✓	✓

This PID was calibrated and was within acceptable range on the day of calibration. The PID can keep calibration for up to 30 days. If measurements become unstable re-calibrate the PID using the Isobutylene gas provided. * On bump test after calibration.

Service Checklist

- ☒ PID Turns on/off
- ☒ Sensor block cleaned
- ☒ Pump rebuilt
- ☒ Internal tubes replaced
- ☒ Metal filter and o-ring changed
- ☒ Charger PAT Tested

Comments

N/A

N/A

N/A

Other work carried out FIRMWARE & GAS TABLE UPDATED

* Serviced & calibrated to manufacturers standards

Signed:

Date: 23/8/21

Name:

Cross checked contents initials: RM

APPENDIX B

Letter of Reliance



ALBURY S.I. LTD

Geotechnical and Environmental Consultants

Miltons Yard, Petworth Road,
Witley, Surrey GU8 5LH

01428 684 836
info@alburysi.co.uk
www.alburysi.co.uk

Our Ref 21/12209/GO REV 1

18th March 2025

Hanslink Ltd
49 High Street
Egham
Surrey
TW20 9EW

Dear Sirs

Library Parade, Crockhamwell Road, Woodley, Berkshire RG5 3LX (the "Site")

This letter certifies that Albury S.I. Ltd (the "Consultant") was employed by Castleton Investments Ltd (the "Client") under an appointment dated 7th September 2021 (the "Appointment") to provide Soil Investigations and Consultancy services (the "Services") in relation to the Site, the results of which are contained in the Report referenced 21/12209/GO REV 1 (the "Report") and the Client has authorised the Consultant to issue this reliance letter to Hanslink Ltd (the "Beneficiary").

We hereby acknowledge and agree that:

- 1 The Report may be relied upon by the Beneficiary and their permitted assigns.
- 2 The Beneficiary may assign the benefit of their rights under this letter on one occasion only with our agreement and payment of a suitable fee. No further assignments shall be permitted.
- 3 The Beneficiary may rely upon the Report and on the information and conclusions set out in it with the same effect as if the Report was originally addressed directly to them.
- 4 Any terms and conditions relating to the Appointment are as actually attached to this letter.

We confirm that, in preparing the Report, we exercised the reasonable skill and care to be expected of a competent and qualified Geotechnical Engineer.

Further, we hereby undertake to maintain professional indemnity insurance in an amount not less than £5,000,000.00 in the Aggregate provided always that such insurance is available to the Consultant at commercially reasonable rates for a period of six years from the date of preparation of the Report.

This letter is provided on the basis that we shall be entitled in any actions or proceedings by the Beneficiary to rely on any limitations in the Appointment and to raise the equivalent rights in defence of liability as we would have against the Client or their successors and assigns under the Appointment save for the defences of set off and counterclaim.

Albury S.I. Limited

Registered Office:
Beechey House, 87 Church Street,
Crowthorne RG45 7AW
Registered in England 2702786



Directors

K J Clark BSc Hons

G C D Owens BSc MSc FGS MEnvSc



-2-

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We shall not be liable for any use of the Report for any purpose other than that for which it was originally prepared or provided by us.

Nothing in this agreement confers or purports to confer on any third party any benefit of any right to enforce any term of this agreement pursuant to the Contracts (Rights of Third Parties) Act 1999 (the "Act").

No actions or proceedings under or in respect of this letter whether in contract or in tort or in negligence or for breach of statutory duty or otherwise shall be commenced against us after the expiry of the period of three years from the date of issue of this letter or, if earlier, from the date that we last perform our services under the Appointment.

Albury S.I. Ltd's liability shall be limited to that proportion of loss which it would be just and equitable to require Albury S.I. Ltd to pay having regard to the extent of Albury S.I. Ltd's responsibility for the same and on the basis that those other contractors, consultants and suppliers who were engaged in connection with the project shall be deemed to have provided contractual undertakings on terms no less onerous than this Contract to the Client in respect of the performance of their services and shall be deemed to have paid to the Client such proportion as it would be just and equitable for them to pay having regard to the extent of their responsibility.

The total aggregate limit for damages payable in respect of any and all liability including liability arising from negligence under or in connection with the Agreement shall not exceed £5,000,000.00.

This letter is governed by and shall be construed in accordance with English Law and the parties hereto submit to the exclusive jurisdiction of the Courts of England and Wales.

This undertaking is made in consideration of the payment of £450.00 plus VAT to the Consultant by Hanslink Ltd.

Yours faithfully
for ALBURY S.I. LTD

Keith Clark BSc Hons
Director

George Owens BSc MSc FGS MEnvSc
Director