

INTRUSIVE CONTAMINATED LAND INVESTIGATION

91b The Crescent
Eastleigh
Hampshire
SO50 9BJ



May 2026

Contents

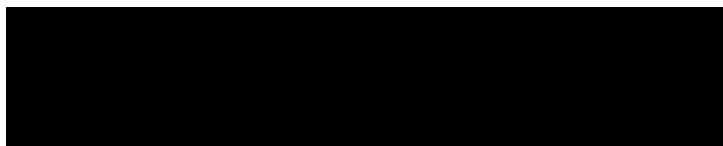
	Contact Information	3
	Company information	4
1	Introduction and scope of work	5
2	Methodology	7
3	On-site observations	9
4	Results from soil analyses	18
5	Interpretation	32
6	Summary of soil assessment	36
7	Gas risk assessment	37
8	Review of conceptual site model	55
9	Summary and recommendations	57
10	Limitations	58
11	References and specified sources of information	59
	Appendix	
	Laboratory data	61
	Calibration certification	85

Contact information

Site address

91b The Crescent
Eastleigh
Hampshire
S050 9BJ

Contact: Craig Hoyland



Report co-ordinator

Apple Environmental Limited
Unit 3 Estevan Farm
Stoney Lane
Medstead
Alton
Hampshire
GU34 5EL

Contact: Laura Charman



Report checking

Final check by:

Adrian Whittle



Company information



Unit 3 Estevan Farm, Stoney Lane, Medstead. Alton, GU34 5EL

Telephone: 01420 563377
e.mail: info@appleenvironmental.co.uk

www.appleenvironmental.co.uk

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1 Introduction and scope of work

Apple Environmental has been appointed to undertake an intrusive soil contamination investigation at 91B The Crescent, Eastleigh, in order to characterise the upper sub-surface of the site for the proposed construction of six dwellings.

An environmental desk-study and preliminary risk assessment previously undertaken at the site by Apple Environmental (Report Ref. CL/3847/RH) had identified a potential land contamination concern, due principally to the former use of the site as a vehicle service garage.

In view of the proposal to construct new dwellings on the site, the conceptual model within the aforementioned desk study had highlighted a perceived risk from the above source, with potentially significant pathway linkages that could enable contamination to reach receptors.

In considering this, the contaminants deemed to be potentially present included general inorganics, hydrocarbons (both petroleum and poly-aromatic), asbestos and possibly ground gases.

An intrusive investigation was subsequently recommended in order to determine the presence and extent of any such contamination, and to assess the overall risk more fully.

The principal aims of this investigation therefore have been to devise and implement an appropriate strategy such that it has been possible to:

- determine the nature of the sub-surface material on-site;
- determine the presence of unacceptable ground contamination in this area, its nature and extent;
- assess the degree to which the site itself could be contributing to the contamination of environmental media off-site;
- observe or presume contaminant-pathway-receptor relationships on site;
- assess the risk to future users of the site.

This type of assessment relies upon visual examination of the area and sub-surface material, as well as the laboratory analysis of material samples.

As such, the specific objectives are:

- to drill boreholes at eight separate locations across the site to a minimum depth of 2000mm or at least 500mm into the natural geology;
- to characterise the nature of the sub-surface material at each of these locations;
- to collect at least 2 soil samples from each of the pits for laboratory analysis generally representing the direct and indirect contact zones;
- to install gas wells in four of the bores and record the levels and flow characteristics of methane, carbon dioxide and hydrogen sulphide over an initial period of 2 months;
- to analyse the soil for a wide range of contamination indicators;
- to ascertain the significance of all chemical or physical data obtained;
- to determine the risk to future users based upon residential usage; and
- to make appropriate recommendations in order to reduce and/or eliminate any risks, as identified.

2 Methodology

As stated above, the overall aim of this investigation is to assess the sub-surface of the site in order to determine any risk that may be present as a result of ground contamination.

For this purpose, eight boreholes were drilled across the site to a maximum depth of 2000mm, at the locations shown below in Figure 1.

Semi-permanent gas wells were installed within four of the bores at positions BH.01, BH.03, BH.05 and BH.07.

Figure 1 Plan showing the location of the boreholes and gas wells



- Shallow sampling locations (0 - 1000mm)
- Deeper sampling locations including gas well installations (0 - 2000mm)

The soil profile from each investigated location has been logged within Section 3 below, along with photographs showing the excavated arisings. Each bore extended at least 500mm into the natural geology.

Soil samples were collected from each of the highlighted locations representing depths of 100 - 200mm and 500 - 600mm.

All of the samples were placed immediately into a sterilised container and transferred into refrigerated cold-boxes until removed for analysis.

Chemical analysis was undertaken for the following determinands:

- arsenic, boron, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc;
- sulphate, sulphide, chloride, cyanide, ammonia and asbestos;
- benzene, toluene, ethylbenzene and xylene (all isomers);
- polycyclic aromatic hydrocarbons (speciated), petroleum hydrocarbons (banded TPHCWG); and
- phenols and non-speciated VOCs*

* Photo-ionisation detection was undertaken in-situ on the removed soil material in order to detect vapours originating from any VOC residue (fuels/solvents etc.) that may be present in each excavated area. This was performed by means of an externally calibrated Tiger PID. Calibration certification has been appended to this report.

All chemical analyses were undertaken by a UKAS accredited laboratory. Laboratory certification has also been appended to this report.

Ground gas monitoring is to be undertaken at two-weekly intervals over a period of two months, thereby providing four rounds of measurements. The concentration of methane, carbon dioxide, carbon monoxide, oxygen and hydrogen sulphide is to be recorded on each occasion, along with a continuous record of the local weather conditions.

Gas readings are to be obtained using a Geotech GA2000[®] infra-red detector. In addition to annual external calibration, the instrument will have been field-calibrated prior to use, with an analar mixture of 5% methane and 10% carbon dioxide balanced with nitrogen. The external calibration certification has been appended to this report.

3 On-site observations

The only known use of the site has been as a vehicle service garage.

The ground surface generally exists as compressed soil with some made-ground present to the surface.

It is understood from BGS data that the bedrock beneath the site is characterised by the Wittering Formation (Sand, silt and clay) with superficial river terrace deposits. This was noted within all areas.

The sub-surface material strata logs have been reproduced below in Tables 1 to 8 along with any detailed observations.

Photographs showing the removed material have been appended to each strata log (Photographs 1 to 8).

The intrusive investigation was undertaken on the 12th March 2026.

Table 1 Strata log - BH.01

Location ID	Depth (mm)	Notes
BH.01	0 - 1000	Light-brown, sandy soil with small angular flints (10-20mm diameter)
	1000 - 1800	Orange, dry, sandy, silty, firm clay
	1800 - 2000	Orange/brown very friable, sandy, silty, firm clay
Groundwater	-	Groundwater was not reached

Photograph 1 Removed soil material - BH.01



Left to right, bottom to top 0 - 2000mm

Table 2 Strata log - BH.02

Location ID	Depth (mm)	Notes
BH.02	0 - 1000	White/light-brown, sandy soil with small angular flints (5-30mm diameter)
	1000 - 1700	Orange, dry, friable, sandy, silty, firm clay
	1700 - 2000	Dark-brown, damp, sandy, silty, firm clay
Groundwater	-	Groundwater was not reached

Photograph 2 Removed soil material - BH.02



Left to right, bottom to top 0 - 2000mm

Table 3 Strata log - BH.03

Location ID	Depth (mm)	Notes
BH.03	0 - 740	Light-brown, sandy, silty soil with small angular flints (10-40mm diameter)
	740 - 1100	Light-brown sandy, silty clay with small angular gravels (10-20mm diameter)
	1100 - 1500	Light-brown/grey, sandy gravels with small angular flints (10-20mm diameter)
	1500 - 2000	Light-brown, sandy, silty, firm clay
Groundwater	-	Groundwater was not reached

Photograph 3 Removed soil material - BH.03



Left to right, bottom to top 0 - 2000mm

Table 4 Strata log - BH.04

Location ID	Depth (mm)	Notes
BH.04	0 - 1000	Light-brown sandy gravels with small angular flints (10-40mm diameter)
	1000 - 1710	Light-brown, firm, sandy, silty clay with small gravels (5-10mm diameter)
	1710 - 2000	Dark-brown, soft, sandy, silty clay (some of which was friable)
Groundwater	-	Groundwater was not reached

Photograph 4 Removed soil material - BH.04



Left to right, bottom to top 0 - 2000mm

Table 5 Strata log - BH.05

Location ID	Depth (mm)	Notes
BH.05	0 - 800	Light-brown, sandy gravels with small angular flints (10-30mm diameter)
	800 - 1000	Light-brown, firm, sandy, silty clay
	1000 - 1100	Dark-brown, soft, sandy, silty clay
	1100 - 2000	Light-brown, soft, sandy, silty clay
Groundwater	-	Groundwater was not reached

Photograph 5 Removed soil material - BH.05



Left to right, bottom to top 0 - 2000mm

Table 6 Strata log - BH.06

Location ID	Depth (mm)	Notes
BH.06	0 - 760	Light-brown, sandy gravels with small angular flints (10-30mm diameter)
	760 - 930	Mid-brown, clayey gravels with small angular flints (10-40mm diameter)
	930 - 1200	Dark-brown, clayey made-ground comprising brick fragments and large angular flints (10-60mm diameter)
	1200 - 2000	Light-brown, soft, sandy, silty clay, turning firm between 1700 - 2000mm
Groundwater	-	Groundwater was not reached.

Photograph 6 Removed soil material - BH.06



Left to right, bottom to top 0 - 2000mm

Table 7 Strata log - BH.07

Location ID	Depth (mm)	Notes
BH.07	0 - 900	Light-brown sandy gravels with small angular flints (10-30mm diameter)
	900 - 1000	Light-brown, soft, sandy, silty clay with small angular flints (10-20mm diameter)
	1000 - 1150	Dark-brown, soft, sandy, silty clay
	150 - 1750	Light-brown, firm, sandy, silty clay
	1750 - 2000	Dark-brown, soft, sandy, silty clay
Groundwater	-	Groundwater was not reached.

Photograph 7 Removed soil material - BH.07



Left to right, bottom to top 0 - 2000mm

Table 8 Strata log - BH.08

Location ID	Depth (mm)	Notes
BH.08	0 - 800	Light-brown sandy gravels with small angular flints (10-30mm diameter)
	800 - 1000	Light-brown, firm, sandy, silty clay with small angular flints (10-20mm diameter)
	1000 - 1350	Dark-brown, soft, sandy, silty clay with small angular flints (10-20mm diameter)
	1350 - 2000	Light-brown, soft, sandy, silty clay
Groundwater	-	Groundwater was not reached

Photograph 8 Removed soil material - BH.08



Left to right, bottom to top 0 - 2000mm

4 Results from soil analysis

The results from the soil analysis are displayed in Tables 9 to 14 below. Any determinand detected has been highlighted in bold type.

Table 9 Results for specified inorganics in soil - metals

Determinand (mg/kg)	BH.01		BH.02		BH.03	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Arsenic	11	15	< 10	< 10	12	12
Boron	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Cadmium	2.5	1.2	1.0	0.7	0.8	1.1
Chromium	3.5	28	10	10	9.5	19
Hexavalent chromium	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	22	15	14	12	12	16
Lead	38	26	7.9	11	7.7	18
Mercury (total)	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	25	35	13	16	12	25
Selenium	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	42	59	26	24	21	39

Table 9 (Cont.) Results for specified inorganics in soil - metals

Determinand (mg/kg)	BH.04		BH.05		BH.06	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Arsenic	11	< 10	< 10	< 10	12	12
Boron	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Cadmium	1.1	1.1	0.7	0.7	1.1	0.9
Chromium	25	17	11	10	15	21
Hexavalent chromium	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Copper	14	16	11	10	32	12
Lead	17	9.3	8.7	16	180	18
Mercury (total)	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	28	26	12	14	25	24
Selenium	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	48	32	23	33	150	45

Table 9 (Cont.) Results for specified inorganics in soil - metals

Determinand (mg/kg)	BH.07		BH.08	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Arsenic	< 10	10	< 10	< 10
Boron	< 2.5	< 2.5	< 2.5	< 2.5
Cadmium	0.7	0.8	0.6	0.7
Chromium	10	11	9.6	13
Hexavalent chromium	< 1.0	< 1.0	< 1.0	< 1.0
Copper	14	23	7.8	9.2
Lead	22	71	16	14
Mercury (total)	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	12	17	12	15
Selenium	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	38	71	30	38

Table 10 Results for specified inorganics in soil - non-metals

Determinand (mg/kg)	BH.01		BH.02		BH.03	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Cyanide (total)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphate (total)	17	44	< 10	< 10	< 10	< 10
Sulphide	< 15	< 15	< 15	< 15	< 15	< 15
Chloride	2.8	8.6	1.3	2.3	1.5	2.2
Asbestos	None detected	None detected	None detected	None detected	None detected	None detected
Determinand (mg/kg)	BH.04		BH.05		BH.06	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Cyanide (total)	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphate (total)	< 10	< 10	< 10	< 10	17	< 10
Sulphide	< 15	< 15	< 15	< 15	< 15	< 15
Chloride	2.5	1.7	1.9	2.7	3.2	3.0
Asbestos	None detected	None detected	None detected	None detected	None detected	None detected

Table 10 (Cont.) Results for specified inorganics in soil - non-metals

Determinand (mg/kg)	BH.07		BH.08	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Cyanide (total)	< 1.0	< 1.0	< 1.0	< 1.0
Sulphate (total)	17	< 10	< 10	< 10
Sulphide	< 15	< 15	< 15	< 15
Chloride	3.4	1.8	3.4	1.3
Asbestos	None detected	None detected	None detected	None detected

Table 11 Results for specified hydrocarbons in soil

Determinand (mg/kg)	BH.01		BH.02		BH.03	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Benzene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p & m-Xylene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o-Xylene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Determinand (mg/kg)	BH.04		BH.05		BH.06	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Benzene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
p & m-Xylene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o-Xylene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Table 11 (Cont.) Results for specified hydrocarbons in soil

Determinand (mg/kg)	BH.07		BH.08	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Benzene	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	< 0.01	< 0.01	< 0.01	< 0.01
p & m-Xylene	< 0.02	< 0.02	< 0.02	< 0.02
o-Xylene	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	< 0.01	< 0.01	< 0.01	< 0.01

Table 12 Results for poly-aromatic hydrocarbons in soil

Determinand (mg/kg)	BH.01		BH.02		BH.03	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Acenaphthene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Acenaphthylene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Anthracene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzo(a)anthracene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.03
Benzo(a)pyrene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.02
Benzo(b)fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.02
Benzo(ghi)perylene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Benzo(k)fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chrysene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.02
Dibenzo(ah)anthracene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Fluoranthene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.07
Fluorene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Indeno(123-cd)pyrene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Naphthalene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.03
Pyrene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.06
Coronene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total PAHs	< 0.34	< 0.34	< 0.34	< 0.34	< 0.34	0.47

Table 12 (Cont.) Results for poly-aromatic hydrocarbons in soil

Determinand (mg/kg)	BH.04		BH.05		BH.06	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Acenaphthene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Acenaphthylene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Anthracene	< 0.02	< 0.02	< 0.02	0.07	< 0.02	< 0.02
Benzo(a)anthracene	< 0.02	< 0.02	< 0.02	0.24	0.09	< 0.02
Benzo(a)pyrene	< 0.02	< 0.02	< 0.02	0.24	0.11	< 0.02
Benzo(b)fluoranthene	< 0.02	< 0.02	< 0.02	0.22	0.11	< 0.02
Benzo(ghi)perylene	< 0.02	< 0.02	< 0.02	0.13	0.09	< 0.02
Benzo(k)fluoranthene	< 0.02	< 0.02	< 0.02	0.11	0.05	< 0.02
Chrysene	< 0.02	< 0.02	< 0.02	0.23	0.09	< 0.02
Dibenzo(ah)anthracene	< 0.02	< 0.02	< 0.02	0.03	< 0.02	< 0.02
Fluoranthene	< 0.02	< 0.02	< 0.02	0.70	0.17	< 0.02
Fluorene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Indeno(123-cd)pyrene	< 0.02	< 0.02	< 0.02	0.14	0.09	< 0.02
Naphthalene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	< 0.02	< 0.02	< 0.02	0.22	0.07	< 0.02
Pyrene	< 0.02	< 0.02	< 0.02	0.61	0.17	< 0.02
Coronene	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Total PAHs	< 0.34	< 0.34	< 0.34	3.1	1.2	< 0.34

Table 12 (Cont.) Results for poly-aromatic hydrocarbons in soil

Determinand (mg/kg)	BH.07		BH.08	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Acenaphthene	< 0.02	0.26	< 0.02	< 0.02
Acenaphthylene	0.02	0.05	< 0.02	< 0.02
Anthracene	0.04	0.66	< 0.02	< 0.02
Benzo(a)anthracene	0.30	1.7	0.03	< 0.02
Benzo(a)pyrene	0.41	1.7	0.04	< 0.02
Benzo(b)fluoranthene	0.35	1.5	0.03	< 0.02
Benzo(ghi)perylene	0.31	1.1	0.03	< 0.02
Benzo(k)fluoranthene	0.15	0.66	< 0.02	< 0.02
Chrysene	0.28	1.4	0.03	< 0.02
Dibenzo(ah)anthracene	0.04	0.17	< 0.02	< 0.02
Fluoranthene	0.64	4.5	0.06	< 0.02
Fluorene	< 0.02	0.18	< 0.02	< 0.02
Indeno(123-cd)pyrene	0.26	1.1	< 0.02	< 0.02
Naphthalene	< 0.02	0.40	< 0.02	< 0.02
Phenanthrene	0.18	3.1	< 0.02	< 0.02
Pyrene	0.65	4.0	0.06	< 0.02
Coronene	< 0.02	0.26	< 0.02	< 0.02
Total PAHs	3.8	23	< 0.34	< 0.34

Table 13 Results for petroleum hydrocarbons in soil

Determinand (mg/kg)	BH.01		BH.02		BH.03	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Aliphatic C5 - C6	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic C6 - C8	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic C8 - C10	0.16	0.09	0.14	0.10	0.08	< 0.06
Aliphatic C10 - C12	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12 - C16	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16 - C21	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C21 - C34	4.7	2.6	9.5	7.3	3.3	3.3
Aliphatic C35 - C44	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic C5 - C7	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7 - C8	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8 - C10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aromatic C10 - C12	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12 - C16	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16 - C21	13	14	13	13	14	13
Aromatic C21 - C35	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Aromatic C35 - C44	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Aliphatic / Aromatic (C5 -35)	18	17	23	20	18	17

Table 13 (Cont.) Results for petroleum hydrocarbons in soil

Determinand (mg/kg)	BH.04		BH.05		BH.06	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Aliphatic C5 - C6	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic C6 - C8	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic C8 - C10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic C10 - C12	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12 - C16	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16 - C21	< 1.0	< 1.0	< 1.0	< 1.0	1.6	< 1.0
Aliphatic C21 - C34	2.6	2.5	3.4	3.2	24	2.9
Aliphatic C35 - C44	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic C5 - C7	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7 - C8	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8 - C10	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aromatic C10 - C12	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12 - C16	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16 - C21	13	14	15	15	14	16
Aromatic C21 - C35	< 2.0	< 2.0	< 2.0	< 2.0	7.2	< 2.0
Aromatic C35 - C44	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Aliphatic / Aromatic (C5 -35)	16	16	18	19	47	19

Table 13 (Cont.) Results for petroleum hydrocarbons in soil

Determinand (mg/kg)	BH.07		BH.08	
	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
Aliphatic C5 - C6	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic C6 - C8	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic C8 - C10	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic C10 - C12	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C12 - C16	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic C16 - C21	1.3	3.1	< 1.0	< 1.0
Aliphatic C21 - C34	13	5.8	3.6	2.9
Aliphatic C35 - C44	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic C5 - C7	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C7 - C8	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic C8 - C10	< 0.06	< 0.06	< 0.06	< 0.06
Aromatic C10 - C12	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C12 - C16	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic C16 - C21	15	13	16	14
Aromatic C21 - C35	15	32	< 2.0	< 2.0
Aromatic C35 - C44	< 5.0	7.6	< 5.0	< 5.0
Total Aliphatic / Aromatic (C5 -35)	43	54	20	17

Table 14 Non-specified VOCs - measured by photo-ionisation detection in-situ

BH.01		BH.02		BH.03		BH.04	
Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm
BH.05		BH.06		BH.07		BH.08	
Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm	Depth 100-200mm	Depth 500-600mm
< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm

5 Interpretation

Tables 15 to 17 below show the soil guideline concentrations used as part of this assessment.

Where Environment Agency guideline values are unavailable, soil guideline concentrations derived using CLEA software packages and other published guidelines have been consulted. In all instances guideline values for residential end-use with home-grown produce have been considered.

For the purposes of this assessment therefore, the following guideline criteria have been referred to:

- Environment Agency Category 4 Screening Levels (2014);
- CIEH (LQM) GAC 3rd Edition (residential end-use);
- Atkins ATRISK SSVs (residential end-use with home-grown produce);
- GAC CLEA generated value for residential end-use with home-grown produce; and
- others, as available.

Note that for some guideline values a choice of soil organic matter (SOM) concentration is provided whereby different guideline concentrations exist for SOM values of between 1% and 6%.

In this instance the guideline value for 1% SOM was referred to. The mean organic content was determined as 0.7%; which approximates to 1.2% SOM.

Table 15 Soil guideline concentrations for inorganics referred to for this assessment

Determinand (mg/kg)	Guideline concentration for 1% SOM	Origin
Arsenic	37	Atkins ATRISK Category 4 Screening Level
Boron	290	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Cadmium	22.1	Atkins ATRISK Category 4 Screening Level
Chromium	14300	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Chromium VI	20.5	Atkins ATRISK Category 4 Screening Level
Copper	4730	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Lead	200	Category 4 Screening Level ^(a)
Mercury (elemental)	0.0863	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Mercury (inorganic Hg ²⁺)	180	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Nickel	136	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Selenium	375	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Zinc	20000	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Free Cyanide	34	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Phenols (SOM 1%)	267	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Benzene (SOM 1%)	0.137	Atkins ATRISK (C4SL) for residential with home-grown produce
Toluene (SOM 1%)	113	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Ethylbenzene (SOM 1%)	50.7	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
o-Xylene (SOM 1%)	26.4	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
m-Xylene (SOM 1%)	25	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
p-Xylene (SOM 1%)	24	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce

(a) Quoted for residential land-use 0-7 year-old child taking into account bioavailability, with exposure parameters as detailed in report SR3.

Table 16 Soil guideline concentrations for PAHs referred to for this assessment

Determinand (mg/kg)	Guideline concentration for 1% SOM	Origin
Naphthalene	0.829	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Acenaphthylene	608	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Acenaphthene	210	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Fluorene	735	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Phenanthrene	95	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Anthracene	10200	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Fluoranthene	983	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Pyrene	668	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Benzo(a)anthracene	7.2	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Chrysene	15	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Benzo(b)fluoranthene	2.6	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Benzo(k)fluoranthene	77	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Benzo(a)pyrene	2.2	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Indeno(123-cd)pyrene	27	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Dibenzo(ah)anthracene	0.24	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Benzo(ghi)perylene	320	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce

Table 17 Soil guideline concentrations for TPHs referred to for this assessment

Determinand (mg/kg)	Guideline concentration for 1% SOM	Origin
Aliphatic TPH C5-C6	42.7	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aliphatic TPH C6-C8	99.3	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aliphatic TPH C8-C10	13.9	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aliphatic TPH C10-C12	81.7	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aliphatic TPH C12-C16	385	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aliphatic TPH C16-C35	210000	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aliphatic TPH C35-C44	65000	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce
Aromatic TPH C5-C7	0.137	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aromatic TPH C7-C8	113	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aromatic TPH C8-C10	20.5	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aromatic TPH C10-C12	70	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aromatic TPH C12-C16	165	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aromatic TPH C16-C21	319	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aromatic TPH C21-C35	1120	Atkins ATRISK (CLEA 1.07) for residential with home-grown produce
Aromatic TPH C5-C35	1100	LQM/CIEH S4ULs (CLEA 1.06) for residential with home-grown produce

6 Summary of soil assessment

As detailed above, eight boreholes were drilled to a maximum depth of 2000mm, with four of the boreholes being installed with gas wells.

Two soil samples were collected from each bore for laboratory analysis, representing the direct and indirect contact zones.

In doing so, the results reproduced in Tables 9 to 14 above have shown that although there were a number of determinands present within the soil, none was present above their corresponding referenced soil guideline criteria, when considered for residential development.

7 Gas risk assessment

7.1 Gas risk aims and objectives

A ground-gas risk assessment has been recommended for this site due mainly to the previous use of this land as a vehicle service garage. Consideration therefore has to be given to the possibility that any hydrocarbon leaks could have the potential to generate and liberate explosive and/or toxic gases.

This report follows a system of assessment enabling compliance with the requirement of the National Planning Policy Framework. This assessment of risk will therefore be undertaken mainly through reference to the following documents:

- Assessing risks posed by hazardous ground gases to buildings (CIRIA C665);
- Protecting development from methane (CIRIA 149);
- Methane and associated hazards to construction (CIRIA 151); and
- Risk assessment for methane and other gases in the ground (CIRIA 152).

In accordance with CLR-11 (Model procedures for the management of contaminated land) a tiered approach to gas risk assessment should be undertaken, which begins with a Tier 1 preliminary risk assessment.

The purpose of the preliminary risk assessment is to develop an initial conceptual model of the site and establish whether or not there are potentially unacceptable risks.

Where potential pollutant linkages of concern are identified a Tier 2 generic risk assessment would need to be undertaken, during which site-specific data should be obtained and compared to generic screening criteria in order to identify those parameters which could be present at concentrations sufficiently elevated to represent a risk to any receptor.

The principal aims of the gas risk assessment therefore can be considered as:

- to identify the basic risk associated with potential ground gases present beneath the site;
- to determine the nature and extent of any ground gas emissions; and
- to ascertain the risk to future users of the site and/or neighbouring areas.

As such, the specific objectives have been:

- to install four gas wells on the site to a maximum depth of 2000mm;
- to take gas readings at two-weekly intervals over a period of two months;
- to record the meteorological conditions over the same period;
- to ascertain the significance of any data obtained;
- to determine the general level of risk to on-site and off-site receptors; and
- to make appropriate recommendations in order to reduce and/or eliminate any perceived risks.

7.2 Gas monitoring risk assessment procedure

7.2.1 Sources

This report has highlighted a source of contamination as detailed above, arising from the former use of the site as a vehicle service garage. The principal gases that may be generated under these conditions are methane and carbon dioxide.

Of the major constituents, methane is classed as having 'low toxicity', although it is a flammable gas which is prone to exploding when present in oxygen between 5 - 15%v/v. Carbon dioxide by contrast does not support combustion; however it is classed as a toxic gas and can be fatal in air at concentrations greater than 22%v/v (NHBC).

7.2.2 Pathways

The geology of the area exists as the Wittering Formation, with superficial River Terrace deposits. As such, the permeability of the bedrock is expected to be moderate. The physical nature of the sub-strata is likely to be variable; although it is not expected to be able to retain or attenuate gases to any great extent. It is not expected for groundwater to be particularly active in this area.

The ability of gas to migrate through the ground is dependent upon a number of factors other than the geology, including atmospheric pressure, temperature, rainfall, and the groundwater level.

Of these, a change in barometric pressure is considered as being one of the principal influencing factors (CIRIA 665). At falling pressure, gas expands resulting in increased emission rates as the gas increases in volume. Conversely, rising pressure causes the air to flow into the ground, diluting soil gas concentrations.

With regards to rainfall, it is known that rainwater catalyses the generation of ground gases from degrading carbonaceous materials, and therefore gas generation can be accentuated after periods of wet weather.

With regards to air temperature, it is also known that higher temperatures assist in the maintaining of bacterial populations, thereby similarly increasing the potential for gas generation during warmer periods.

7.2.3 Receptors

The principal receptors identified in this instance are the future users of the proposed dwellings.

Gas can enter the new buildings via cracks or gaps in floors, fractures in walls, through gaps around service pipes and ducts, and/or accumulate within wall cavities. Similarly, potentially hazardous or explosive concentrations can potentially accumulate in sub-surface voids.

Through consideration of the above points, the potential pathways and linkages have been highlighted below in Table 18.

Table 18 Potential linkages of gas sources to receptors

Pathway	Linkage present (Y/N)
Inhalation of gases indoors	Yes
Ignition of gases indoors	Yes
Inhalation of gases outdoors	Yes
Contact with mains services	Yes
Contact with building fabric below ground	Yes
Contact with building fabric above ground	No
Contact with vegetation	Yes

7.3 Stage 1 assessment

Considering that which has been discussed above, the initial assessment of risk has been determined through reference to the 'comparison of consequence and probability risk matrix' detailed in CIRIA 552, where, risk equals probability x consequences.

In doing so, a simple numerical algorithm approach has been adopted whereby the following scores have been applied as shown below in Table 19, whereas Table 20 summarises the assessment of risk for those linkages potentially present, whilst considering any influential topographical, geological, and environmental factors discussed above.

A precautionary approach has been adopted in all instances, thereby relating to a worse-case scenario.

Table 19 Risk matrix algorithm

Potential severity	Risk rating						Severity of hazard	Probability of hazard	Overall risk
	5	5	10	15	20	25	5 = Fatality	1 = Improbable	1 - 6 Low
	4	4	8	12	16	20	4 = Major	2 = Remote	8 - 12 Medium
	3	3	6	9	12	15	3 = Minor	3 = Possible	15 - 25 High
	2	2	4	6	8	10	2 = Negligible	4 = Probable	
	1	1	2	3	4	5	1 = None	5 = Certainty	
		1	2	3	4	5			
Probability						Severity of hazard x probability = risk rating			

Table 20 Risk assessment for ground gas pathways potentially present

Pathway	Potential severity	Probability	Overall risk
Inhalation of gases within the building structure	5	3	15
Ignition of gases within the building structure	5	3	15
Inhalation of gases externally	4	1	4
ignition of gases eternally	5	1	5
Contact with mains services	2	2	4
Contact with building fabric below ground	2	2	4
Contact with vegetation	3	2	6

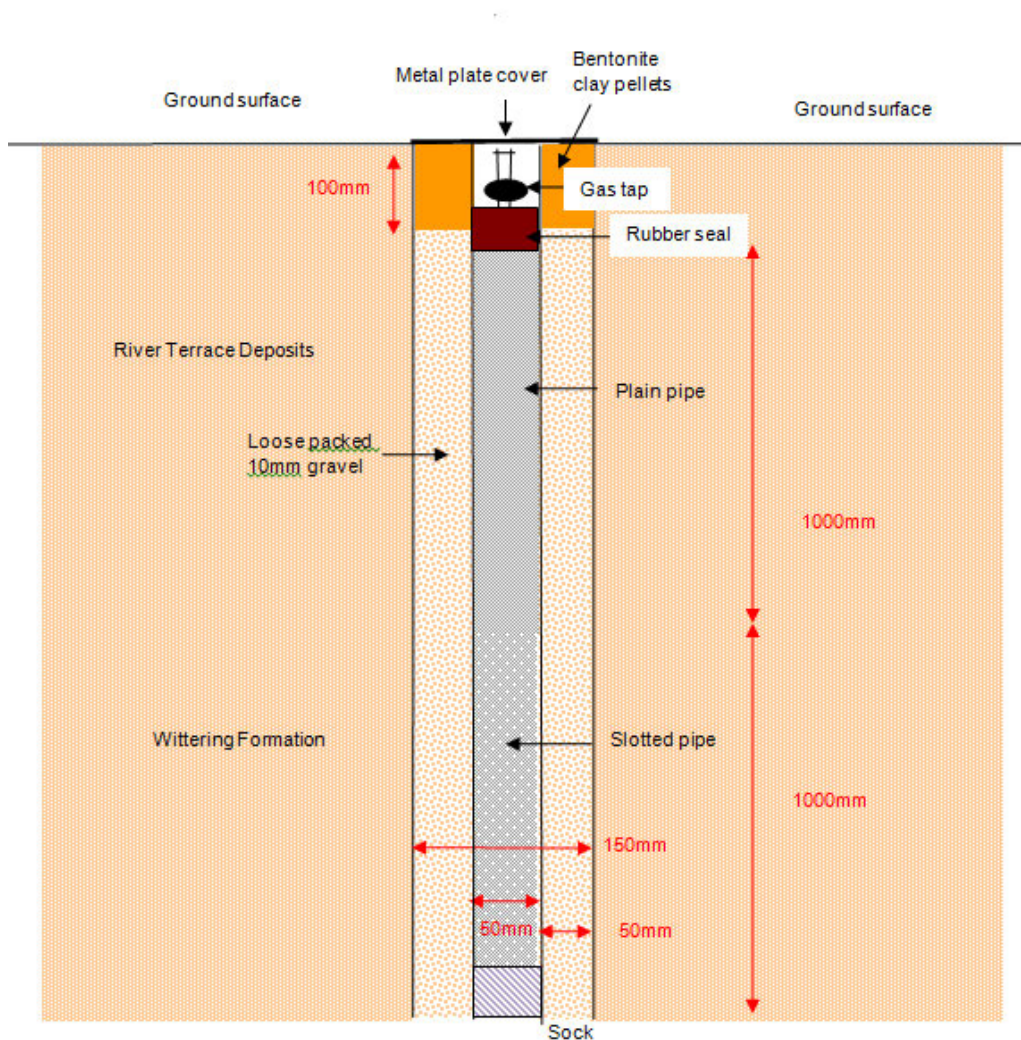
7.4 Monitoring methodology

In order to undertake a Tier 2 generic risk assessment, gas wells were installed at four locations on the site, as described above in Section 2. The installation of the gas wells and the monitoring procedure was carried out through reference with BS 10175:2026 and CIRIA 665.

Gas monitoring was undertaken bi-weekly over a continuous period of two months for the determination of methane, carbon dioxide, oxygen, carbon monoxide and hydrogen sulphide concentrations (v/v). The corresponding gas monitoring results have been recorded in Section 7.6.

A diagram showing the construction of each gas well is shown below in Figure 2.

Figure 2 Diagram showing the construction of the gas wells



7.5 Meteorological data

Meteorological data for the duration of the monitoring period was collected daily. Graphs showing the recorded temperature, rainfall and barometric pressure have been reproduced below in Figures 3, 4 and 5, and the actual measurement days have been highlighted on each graph as a red dot.

These parameters are considered within this assessment due to their potentially significant influence on ground gas generation and migration.

Through reference to these profiles it can be seen that the monitoring period saw varying meteorological conditions, which subsequently suggests that the results from gas monitoring could be regarded as representative of the general situation at this site.

Figure 3 Temperature throughout the gas monitoring period

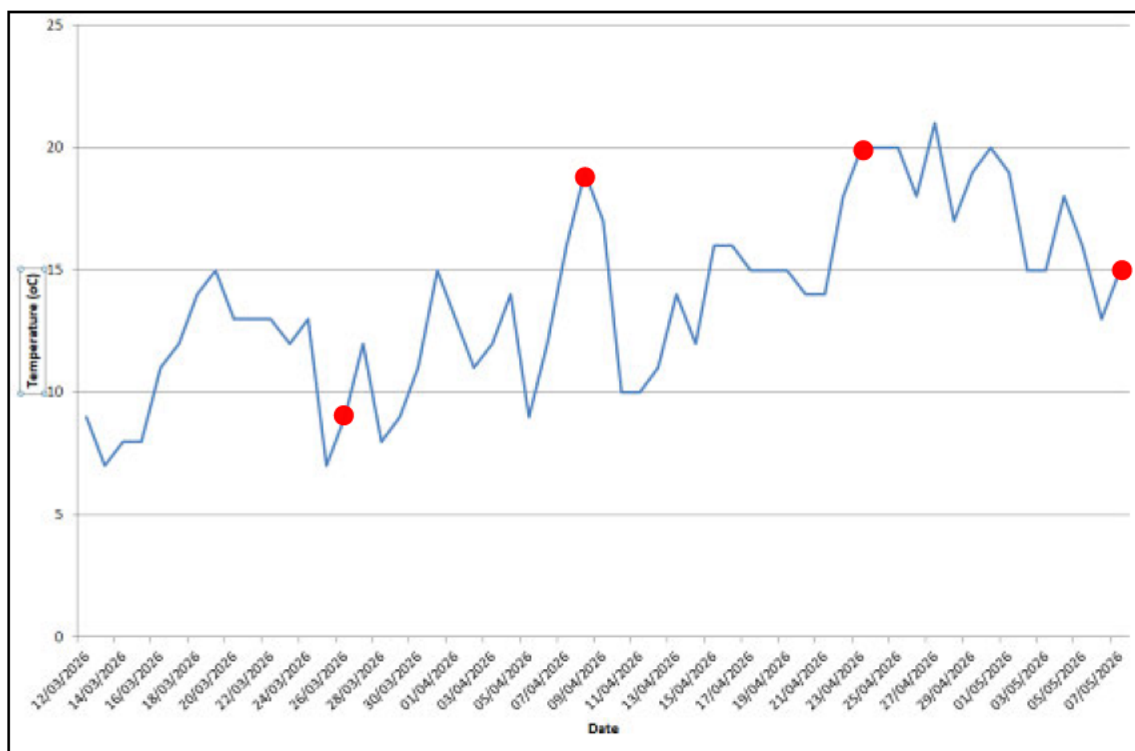


Figure 4 Barometric pressure throughout the gas monitoring period

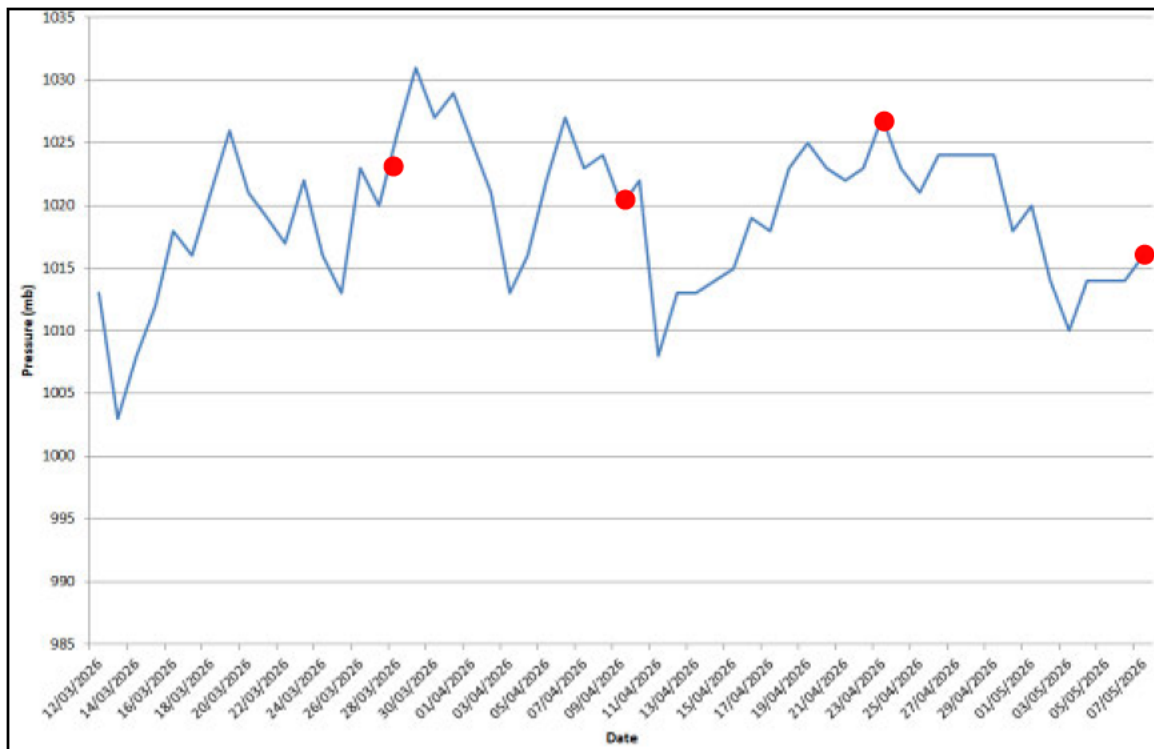
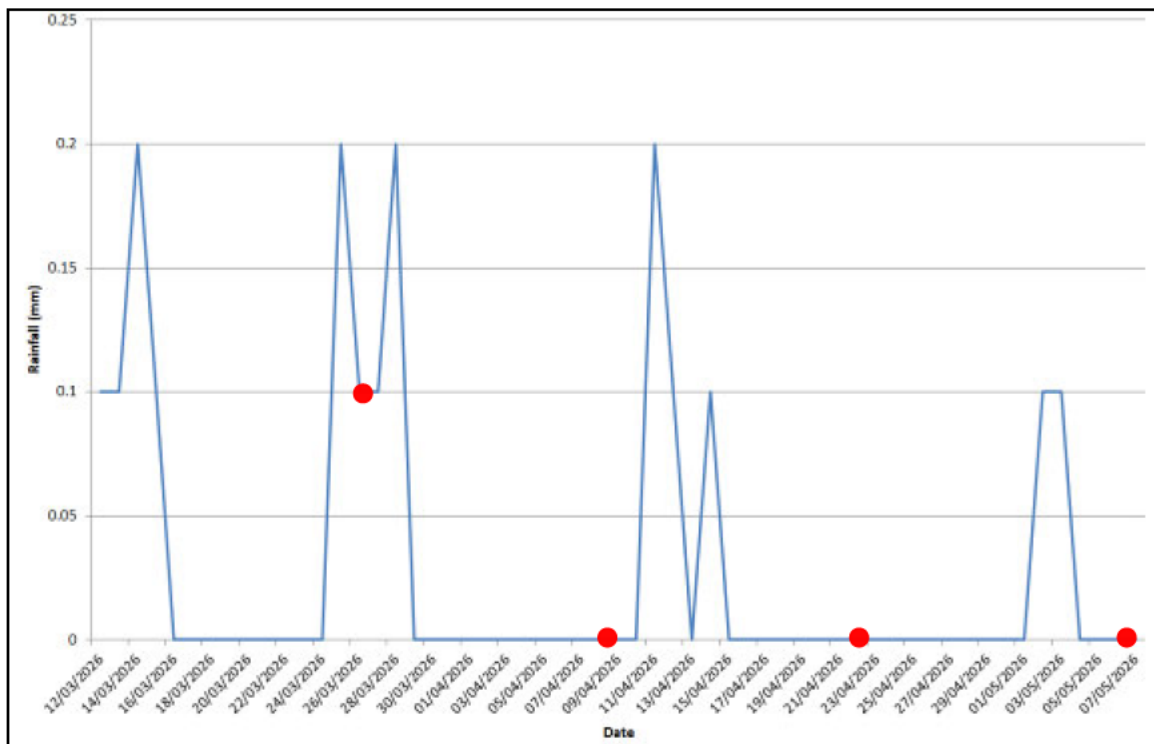


Figure 5 Rainfall throughout the gas monitoring period



In accordance with the requirements of CIRIA C665, at least one round of ground gas monitoring should be undertaken under worst-case scenario conditions of low and quickly falling atmospheric pressure.

There were several events of a sudden atmospheric drop which occurred within three hours, throughout the gas monitoring period; each of which has been detailed below.

- A 3mb fall in pressure occurred on Tuesday 24th March 2026 from 1016mb to 1013mb between the hours of 12:00 and 15:00. The nearest round of ground gas monitoring to this date occurred on the 26th March 2026;
- there were two falls in pressure recorded on Sunday 29th March 2026. The first from 1013mb to 1028mb between the hours of 12:00 and 15:00, and from 1028mb to 1025mb between the hours of 15:00 to 18:00. The nearest round of ground gas monitoring to this date occurred on the 26th March 2026;
- a 3mb fall in pressure occurred on Saturday 4th April 2026 from 1014mb to 1011mb between the hours of 15:00 and 18:00. The nearest round of ground gas monitoring to this date occurred on the 9th April 2026;
- there were two falls in pressure on Friday 10th April. A 3mb fall in pressure from 1019mb to 1016mb occurred between the hours of 15:00 and 18:00 and a 3mb fall in pressure from 1016mb to 1013mb occurred between the hours of 18:00 and 21:00. The nearest round of ground gas monitoring to this date occurred on the previous day; and
- a 3mb fall in pressure occurred on Saturday 2nd May 2026 from 1014mb to 1011mb between the hours of 12:00 and 15:00. The nearest round of ground gas monitoring to this date occurred on the 7th May 2026.

There were also other falls in pressure over a longer period of time during the gas monitoring, as also detailed below.

- A 15mb drop in pressure occurred from 1019mb to 1004mb between the hours of 00:00 and 21:00 on Thursday 12th March 2026. The nearest round of ground gas monitoring to this date occurred on the 26th March;
- a 5mb pressure drop was recorded on the 20th March 2026, from 1026mb to 1021mb between the hours of 00:00 and 15:00. The nearest round of ground gas monitoring to this date occurred on the 26th March;
- an 11mb pressure drop was recorded on the 24th March 2026 from 1021mb to 1010mb between the hours of 00:00 and 21:00. The nearest round of ground gas monitoring to this date occurred on the 26th March;

- a 9mb drop in pressure occurred from 1033mb to 1024mb between the hours of 09:00 and 21:00 on Sunday 29th March 2026. The nearest round of ground gas monitoring to this date occurred on the 26th March;
- an 6mb drop in pressure from 1029mb to 1023mb was recorded between the hours of 00:00 and 18:00, on Wednesday 1st April 2026. The nearest round of ground gas monitoring to this date occurred on the 26th March;
- a 5mb pressure drop occurred on Friday 3rd April 2026 from 1029mb to 1023mb between the hours of 00:00 and 18:00. The nearest round of ground gas monitoring to this date occurred on the 9th April;
- a 9mb pressure drop occurred on Saturday 4th April 2026 from 1019mb to 1010mb between the hours of 06:00 and 21:00. The nearest round of ground gas monitoring to this date occurred on the 9th April;
- a 4mb pressure drop occurred on Monday 6th April 2026 from 1027mb to 1023mb between the hours of 12:00 and 21:00. The nearest round of ground gas monitoring to this date occurred on the 9th April;
- an 11mb drop in pressure from 1024mb to 1013mb was recorded between the hours of 00:00 and 21:00, on Friday 10th April 2026. The nearest round of ground gas monitoring to this date occurred on the previous day;
- a 5mb pressure drop occurred on Saturday 11th April 2026 from 1009mb to 1004mb between the hours of 00:00 and 06:00. The nearest round of ground gas monitoring to this date occurred on the 9th April;
- a 3mb pressure drop occurred on Sunday 19th April 2026 from 1027mb to 1024mb between the hours of 06:00 and 18:00. The nearest round of ground gas monitoring to this date occurred on the 23rd April;
- a 3mb pressure drop occurred on Tuesday 21st April 2026 from 1024mb to 1021mb between the hours of 06:00 and 18:00. The nearest round of ground gas monitoring to this date occurred on the 23^d April;
- a 4mb drop in pressure from 1026mb to 1022mb was recorded between the hours of 06:00 and 18:00, on Friday 24th April 2026. The nearest round of ground gas monitoring to this date occurred on the previous day; and
- a 7mb drop in pressure from 1018mb to 1011mb was recorded between the hours of 00:00 and 18:00, on Saturday 2nd May. The nearest round of ground gas monitoring to this date occurred on the 7th May.

7.6 Gas monitoring results

The readings obtained during the baseline measurement (at the time of installing the wells) and the four rounds of gas monitoring are reproduced below in Tables 21 to 24.

Each table details the concentration of methane (CH₄), carbon dioxide (CO₂) and oxygen (O₂) expressed as a percentage (v/v), whereas carbon monoxide (CO) and hydrogen sulphide (H₂S) have been reported as ppm.

The other columns in the table report the atmospheric pressure, and whether or not there was any measurable flow of gas passing through the valve at the top of the well. Where present, the flow will have been reported in the form of litres per hour.

The final column in the table indicates the explosiveness of the gas detected, based on the methane and oxygen composition. The LEL corresponds to the Lower Explosion Limit.

Where there is a LEL value of between 1 and 100% shown there is some potential for the gas to be explosive. Where this is greater than 100% the mixture is not expected to be explosive, but can still be flammable.

Table 21 Ground gas monitoring results - 1st round

Date of monitoring	Gas well	Measurement parameters							
		CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)	Atmos. pressure (mb)	Flow (l/h)	LEL (%)
26/03/2026	BH.01	< 0.1	0.8	19.4	0	0	1027	-	-
	BH.03	< 0.1	0.4	18.8	0	0	1027	-	-
	BH.05	< 0.1	0.5	19.4	0	0	1027	-	-
	BH.07	< 0.1	0.6	19.2	0	0	1027	-	-

Table 22 Ground gas monitoring results - 2nd round

Date of monitoring	Gas well	Measurement parameters							
		CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)	Atmos. pressure (mb)	Flow (l/h)	LEL (%)
09/04/2026	BH.01	< 0.1	0.6	20.2	0	0	1020	-	-
	BH.03	< 0.1	1.4	18.6	0	0	1020	-	-
	BH.05	< 0.1	1.5	18.4	0	0	1020	-	-
	BH.07	< 0.1	1.6	18.8	0	0	1020	-	-

Table 23 Ground gas monitoring results - 3rd round

Date of monitoring	Gas well	Measurement parameters							
		CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)	Atmos. pressure (mb)	Flow (l/h)	LEL (%)
23/04/2026	BH.01	< 0.1	< 0.1	20.6	0	0	1028	-	-
	BH.03	< 0.1	0.6	19.9	0	0	1028	-	-
	BH.05	< 0.1	0.8	19.7	0	0	1028	-	-
	BH.07	< 0.1	2.0	18.6	0	0	1028	-	-

Table 24 Ground gas monitoring results - 4th round

Date of monitoring	Gas well	Measurement parameters							
		CH ₄ (%)	CO ₂ (%)	O ₂ (%)	CO (ppm)	H ₂ S (ppm)	Atmos. pressure (mb)	Flow (l/h)	LEL (%)
07/05/2026	BH.01	< 0.1	0.6	20.1	0	0	1016	-	-
	BH.03	< 0.1	1.5	18.8	0	0	1016	-	-
	BH.05	< 0.1	1.8	18.8	0	0	1016	-	-
	BH.07	< 0.1	2.1	18.6	0	0	1016	-	-

7.7 Gas measurement summary

Throughout the monitoring period no methane was detected.

Carbon dioxide was detected on all occasions in the all bar one of the wells; with the highest concentration of 2.1%(v/v) recorded in BH.07. There was no flow recorded on any occasion, and no clear correlation of the apparent concentration with the weather conditions throughout the measurement period.

7.8 Tier 2 assessment

As the site may be developed, a Tier 2 generic assessment has been undertaken for determining the associated risk.

Table 25 below is based upon the aforementioned CIRIA 152 guidance; it enables a classification score to be generated, which in turn determines the risk strategy required for site redevelopment.

Through consideration of the four risk aspects within Table 25, the classification score for the subject site would be as shown below in Table 26.

Table 25 NHBC classification of risk adapted from CIRIA 152

Aspect Of Risk:													
Source			Information Available		Migration			Development					
Natural soil, low peat/organic		1	Flow measurements, continuous data Reliable gas composition data Source identified long-term gas Generation performance identified	2	Soils and rocks hydraulic conductivity <10 ⁻⁹ m/s low pressure gradient/diffusion controlled flow		2	Soft landscaping			2		
Natural soil, high peat/organic		2											
Dock silt, low organic		3	Flow measurements, continuous data <6 months Reliable gas composition data Source identified long-term gas Generation performance identified	6	Soils and rocks hydraulic conductivity >10 ⁻⁹ m/s low pressure gradient/diffusion controlled flow		6	Roads, hard landscape, car parks			3		
Carbonate deposits		4											
Dock silt, high organic		5	Flow measurements, intermittent data Reliable gas composition data Source identified as long-term gas Generation performance identified	8	Soils and rocks hydraulic conductivity <10 ⁻⁹ m/s high pressure gradient		8	Domestic housing within 1,000m of source			4		
Landfill, pre 1960		6											
Mineworking susceptible to flooding		7											
Mineworking unflooded and active		8	Sparse data	10	Soils and rocks hydraulic conductivity >10 ⁻⁹ m/s high pressure gradient		10	Domestic housing within 100m of source			9		
Mineworking flooded		9											
Landfill site, post 1960		10						Domestic housing within 10m of source			10		
Average classification		2		3		4		5	6	7	8	9	10
Average classification (site grey tone)													
Risk strategy for protection		Control of water vapour through a damp proof course may be the only protection measures necessary.		Well-constructed ground gas barrier incorporating permeability contrast and membrane may be adequate.		GQRA obligatory, with DQRA possibly required.							

Table 26 Risk classification

Source	Information available	Migration	Development	Classification score
1*	6	6	10	5.7

*The value of 1 was used for the source above in Table 26 as the TOC was seen to be 1.3% at its highest, and only low concentrations of hydrocarbon residue was detected.

Consequently, through reference to Table 26 above, an average score of 5.7 would imply that in addition to the Tier 1 preliminary risk assessment and the Tier 2 generic risk assessment, a more detailed quantitative assessment may need to be considered.

7.9 NHBC guidance

The 'traffic light system' of assessment may additionally be employed, as derived by the NHBC following a period of gas monitoring. The principle of this application is to provide an indication of measures that may need to be adopted prior to building development, and hence can also be used as an indication of risk.

The 'system' provides two different criteria to which site specific values can be compared. The first of these is the 'typical maximum concentration' (TMC), which is used as an initial screening value, whereas the second is the risk-based 'gas screening value' (GSV) which is to be used when TMCs are exceeded.

In this case, to calculate the GSVs the following calculation is needed:

$$\text{GSV} = \frac{\text{the borehole flow-rate}}{\text{the concentration in the air stream of the gas being considered}} \times$$

The assessment criteria for the 'traffic light system' have been reproduced below in Table 27. The site specific calculated values are shown below in Table 28 for gas wells BH.01, BH.03, BH.05 and BH.07 respectively.

In order to undertake this assessment through the application of this guidance, the measured values obtained during the gas monitoring period have been used.

For the purposes of calculating the gas screening value, in the absence of a recorded gas flow-rate at any time from any of these wells, an arbitrary flow-rate of 0.1l/hr has been used as a worst-case scenario for each well.

Table 27 Gas risk assessment - traffic lights with typical maximum concentrations and gas screening values (NHBC)

Traffic light classification	Methane ¹		Carbon dioxide ²	
	Typical maximum concentration ³ (%v/v)	Gas screening value ^{2,4} (l/hr)	Typical maximum concentration ³ (%v/v)	Gas screening value ^{2,4} (l/hr)
Green	1	0.13	5	0.78
Amber 1	5	0.63	10	1.60
Amber 2				
Red	20	1.60	30	3.10

Notes:

1. The worst-case ground gas regime identified on the site, either methane or carbon dioxide, at the worst-case temporal conditions that the site may be expected to encounter will be the decider as to what traffic light is allocated;
2. Borehole Gas Volume Flow Rate, in litres per hour as defined in Wilson and Card (1999), is the borehole flow rate multiplied by the concentration in the air stream of the particular gas being considered;
3. The Typical Maximum Concentrations can be exceeded in certain circumstances should the Conceptual Site Model indicate it is safe to do so;
4. The Gas Screening Value thresholds should not generally be exceeded without the completion of a detailed ground gas risk assessment taking into account site-specific conditions.

Table 28 Characteristic situation scoring for each gas well

Methane			Carbon dioxide			Characteristic situation for BH.01
Maximum conc. (%)	Gas flow rate (l/hr)	GSV (l/hr)	Maximum conc. (%)	Gas flow rate (l/hr)	GSV (l/hr)	
< 0.1	< 0.1	< 0.0001	0.8	< 0.1	0.0008	Low risk
Methane			Carbon dioxide			Characteristic situation for BH.03
Maximum conc. (%)	Gas flow rate (l/hr)	GSV (l/hr)	Maximum conc. (%)	Gas flow rate (l/hr)	GSV (l/hr)	
< 0.1	< 0.1	< 0.0001	1.5	< 0.1	0.0015	Low risk
Methane			Carbon dioxide			Characteristic situation for BH.05
Maximum conc. (%)	Gas flow rate (l/hr)	GSV (l/hr)	Maximum conc. (%)	Gas flow rate (l/hr)	GSV (l/hr)	
< 0.1	< 0.1	< 0.0001	1.8	< 0.1	0.0018	Low risk
Methane			Carbon dioxide			Characteristic situation for BH.07
Maximum conc. (%)	Gas flow rate (l/hr)	GSV (l/hr)	Maximum conc. (%)	Gas flow rate (l/hr)	GSV (l/hr)	
< 0.1	< 0.1	< 0.0001	2.1	< 0.1	0.0021	Low risk

Through reference to Table 28 above, the calculated GSVs would suggest that the site should fall into a 'Green' classification level, which implies that gas protection measures would not normally be required for any new development on the site.

The full NHBC recommendations for each of these classifications have been reproduced below in Table 29.

Table 29 Ground-gas protection measures required for the traffic lights assessment (NHBC)

Traffic light	Ground gas protection measures
Green	Ground gas protection measures are not required.
Amber 1	Low-level ground gas protection measures are required, using a membrane and ventilated sub-floor void that creates a permeability contrast to limit the ingress of gas into buildings. Gas protection measures are to be installed as prescribed in BRE 414. Ventilation of the sub-floor void should be designed to provide a minimum of one complete volume change per 24 hours.
Amber 2	High-level ground gas protection measures are required, creating a permeability contrast to prevent ingress of gas into buildings. Gas protection measures are to be installed as prescribed in BRE 414. Membranes used should always be fitted by a specialist contractor and should be fully certified (see Appendix E). As with Amber 1, ventilation of the sub-floor void should be designed to provide a minimum of one complete volume change per 24 hours.
Red	Standard residential housing is not normally acceptable without further Ground Gas Risk Assessment and/or possible remedial mitigation measures to reduce/remove the source of the ground gases. In certain circumstances, active protection methods could be applied, but only when there is a legal agreement assuring the management and maintenance of the system for the life of the property.

8 Review of conceptual model and risk assessment

Using the overall soil sampling results, along with the gas monitoring results and any observations made, the conceptual site model (CSM) from the Phase 1 desk study can now be reviewed and updated. In doing so any uncertainties highlighted within that report can now be readdressed and the corresponding risk reassessed.

In reviewing this conceptual model, Table 30 below highlights any perceived pollutant pathway linkages that may still be considered present.

It should be noted that the following re-assessment of the risk, has been made on the understanding that groundworks would be required for the construction of the new dwellings, in addition to which the proposal would include soft landscaped recreational areas.

It is further noted that this has been based entirely on the findings discussed within this report.

The risk matrix used for this purpose is reproduced below in Figure 6.

Figure 6 Risk assessment algorithm

Potential severity	Risk rating						Severity of hazard	Probability of hazard	Overall risk
	5	5	10	15	20	25	5 = Fatality	1 = Improbable	1 - 6 Low
	4	4	8	12	16	20	4 = Major	2 = Remote	8 - 12 Medium
	3	3	6	9	12	15	3 = Minor	3 = Possible	15 - 25 High
	2	2	4	6	8	10	2 = Negligible	4 = Probable	
	1	1	2	3	4	5	1 = None	5 = Certainty	
		1	2	3	4	5			
	Probability						Severity of hazard x probability = risk rating		

Table 30 Comments relating to perceived risk

Contaminants identified	Potential pathways	Perceived level of risk	Comments and reasoning
None	Ingestion of soil	4	In the absence of any identified chemical soil contamination beneath the surface, the corresponding risk to ingestion of soil is expected to be low
	Dermal contact with soil	4	In the absence of any identified chemical soil contamination beneath the surface, the corresponding risk to dermal contact with soil is expected to be low
	Inhalation of soil dust	4	In the absence of any identified chemical soil contamination beneath the surface, the corresponding risk to inhalation of soil is expected to be low
	Inhalation or ignition of gases or vapours	5	Despite carbon dioxide being present beneath the site, the concentrations recorded are not expected to present a significant hazard to receptors. The corresponding risk based on these findings is therefore expected to be low
	Contact with mains services and building fabric below ground	4	In the absence of any identified aggressive chemical soil contamination beneath the surface, the corresponding risk to underground services and building fabric is expected to be low
	Contact with groundwater or other environmental media	4	In the absence of any chemical soil contamination across the site, the corresponding risk to groundwater resources and off-site media is expected to be low

9 Summary and recommendations

9.1 Summary

It is proposed to construct six dwellings on this site, for which a potential concern has arisen due to the understanding that the site was in previous use as a service garage.

This intrusive investigation has considered the underlying soil down to a maximum depth of 2000mm in eight locations across the site, the findings from which failed to detect any chemical determinands exceeding residential guideline criteria.

In addition to soil sampling, ground gas monitoring has been undertaken over a period of eight weeks, from which it has been noted that there was no methane recorded on any occasion. The greatest concentration of carbon dioxide occurred within gas well BH.07 where a maximum concentration of 2.1%(v/v) has been recorded. The mean carbon dioxide concentration across the entire site has been reported as just 1%(v/v).

On the basis of these results it has been concluded that the risk should be low for anyone occupying the new dwellings, or undertaking construction work.

9.2 Recommendations

The findings from both the soil analyses and the ground gas monitoring suggest that despite the former presence of a vehicle service garage on the site, there should be no requirement to undertake any remedial action prior to constructing the proposed dwellings on this site.

Despite this investigation failing to detect any significant presence of ground gases, it is still recommended that the dwellings should have some means of sub-floor ventilation as a precaution against the unexpected accumulation of ground gases beneath the dwellings.

It is also recommended that an informal observation strategy is put in place during any groundworks that take place as part of the development. Should there be a suspicion that the soil on or beneath the site could be potentially contaminated by means of observation or odour, then work should stop immediately to allow the concern to be appropriately investigated, and the contaminated land officer at EBC notified accordingly.

10 Limitations

This work has been undertaken in accordance with Apple Environmental Limited's standard terms and conditions.

The findings represent the professional opinion of the report author. All work carried out is based upon Apple Environmental Limited's current professional knowledge and understanding. It is therefore stated that the conclusions of this report have been based upon information gathered from a number of sources and it can only be assumed that this information provided was accurate and correct.

Intrusive investigation undertaken as part of this work has been restricted to a level of detail required to achieve the stated objectives of this work. The results of any measurements taken may vary spatially or with time, and further confirmatory measurements may wish to be considered, as necessary.

There is always the possibility that other undetected contaminants or gases exist, or, that detected contaminants/gases may exist at a greater concentration than that specified in areas of the site that have not been intrusively investigated.

Finally it should be noted that this report details the environmental conditions of the site as at May 2026, and therefore can not take account of any changes that may have subsequently occurred since this report has been completed.

11 References and specific sources of information

1. Investigation of potentially contaminated sites - code of practice (BSI 10175:2026)
2. Using Soil Guideline Values - Environment Agency Science Report SC050021/SGV (March 2009)
3. The LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment CIEH 3rd Ed. - Land Quality Management Ltd. (2015)
4. CLEA Software (Version 1.05) Handbook - Environment Agency Science Report SC050021/SR4 (January 2014)
5. Land Affected by Contamination - Planning Practice Guidance - The Department for Communities and Local Government (June 2014)
6. The National Planning Policy Framework - February 2025
7. Model procedures for the management of contaminated land (CLR-11) - Environment Agency (September 2004 - withdrawn)
8. Contaminated Land Risk Assessment: A Guide to Good Practice (C552) - CIRIA (2001)
9. SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination - CL:AIRE (September 2014)
10. British Geological Survey. Geology of Britain:
<http://mapapps.bgs.ac.uk/geologyofbritain/home.html?>
11. Assessing risks posed by hazardous ground gases to buildings (CIRIA C665);
12. Methane and associated hazards to construction (CIRIA 151);
13. Risk assessment for methane and other gases in the ground (CIRIA 152);

APPENDIX

Laboratory data

Calibration certification

Analytical Test Report

E26/03583/APL/26-11253

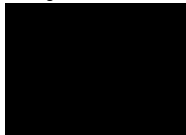
Clients Project Reference CL/3897/RH - 91b The Crescent
Clients Order Number N/A
Sample(s) Analysed 16
Sample(s) received / instructed 16/03/2026 / 16/03/2026
Sample(s) Tested 16/03/2026 to 25/03/2026
Report issued 26/03/2026
Report issue number 1

Tested on Behalf of

Apple Environmental Limited
Unit 3 Estevan Farm
Stoney Lane

GU34 5EL

Signed



James Gane
Analytical Services Manager

Notes:

General

This report shall not be reproduced except in full

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples were supplied by customer, results apply to the samples as received.

Samples will be retained for 14 days after issue of this report with the exception of the asbestos test portion which is held for 6 months unless otherwise requested.

Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.

Uncertainty of measurement values are available on request.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30°C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Stone Content was determined in accordance with CTS method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

Please note: Where further analysis is required, samples identified as containing asbestos are screened and tested on an as received basis. No correction is made for moisture content and other than the asbestos test(s) these results are not covered by our accreditation.

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

Deviating Samples

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present)

Accreditation Key

U = UKAS Accreditation, M = MCERTS Accreditation, N = Unaccredited, SC = Subcontracted

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734072	734073	734074
Client Sample ID					GW.01/01/3897	GW.01/02/3897	BH.02/01/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.1	0.5	0.1
Depth - Bottom (m)					0.2	0.6	0.2
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					900	905	915
Sample Matrix					Sand	Clay	Sand
Determinant	Code	Units	LOD	Accreditation			
Arsenic	ICPMETS	mg/kg	10	M	11	15	< 10
Boron (Water Soluble)	WSBORONS	mg/kg	2.5	N	< 2.5	< 2.5	< 2.5
Cadmium	ICPMETS	mg/kg	0.2	M	2.5	1.2	1.0
Chromium (Total)	ICPMETS	mg/kg	1	U	3.5	28	10
Copper	ICPMETS	mg/kg	2	M	22	15	14
Iron	ICPMETS	mg/kg	100	N	96000	53000	40000
Lead	ICPMETS	mg/kg	1.5	M	38	26	7.9
Mercury	ICPMETS	mg/kg	2.5	U	< 2.5	< 2.5	< 2.5
Nickel	ICPMETS	mg/kg	1	M	25	35	13
Selenium	ICPMETS	mg/kg	8	N	< 8.0	< 8.0	< 8.0
Zinc	ICPMETS	mg/kg	2	M	42	59	26
Cyanide (Total)	SKALARCNS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	SKALARHCS	mg/kg	1	N	< 1.0	< 1.0	< 1.0
pH	PHS	pH units	1	M	8.5	7.7	8.8
Water Soluble Sulphate (as SO4)	ANIONSS	mg/L	10	N	17	44	< 10
Sulphide	SULPHIDES	mg/kg	15	N	< 15	< 15	< 15
Chloride	ANIONSS	mg/L	0.1	N	2.8	8.6	1.3
TOC	TOCS	%	0.5	M	< 0.5	< 0.5	< 0.5
Asbestos	ASB	p/a	-	U	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Acenaphthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Acenaphthylene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Anthracene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Benzo[a]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[a]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[b]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[ghi]perylene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[k]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Chrysene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Dibenzo[a,h]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Fluorene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Indeno[1,2,3,-cd]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Naphthalene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Phenanthrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734075	734076	734077
Client Sample ID					BH.02/02/3897	GW.03/01/3897	GW.03/02/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.5	0.1	0.5
Depth - Bottom (m)					0.6	0.2	0.6
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					920	930	935
Sample Matrix					Sand	Sand	Clay
Determinant	Code	Units	LOD	Accreditation			
Arsenic	ICPMETS	mg/kg	10	M	< 10	12	12
Boron (Water Soluble)	WSBORONS	mg/kg	2.5	N	< 2.5	< 2.5	< 2.5
Cadmium	ICPMETS	mg/kg	0.2	M	0.7	0.8	1.1
Chromium (Total)	ICPMETS	mg/kg	1	U	10	9.5	19
Copper	ICPMETS	mg/kg	2	M	12	12	16
Iron	ICPMETS	mg/kg	100	N	19000	24000	36000
Lead	ICPMETS	mg/kg	1.5	M	11	7.7	18
Mercury	ICPMETS	mg/kg	2.5	U	< 2.5	< 2.5	< 2.5
Nickel	ICPMETS	mg/kg	1	M	16	12	25
Selenium	ICPMETS	mg/kg	8	N	< 8.0	< 8.0	< 8.0
Zinc	ICPMETS	mg/kg	2	M	24	21	39
Cyanide (Total)	SKALARCNS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	SKALARHCS	mg/kg	1	N	< 1.0	< 1.0	< 1.0
pH	PHS	pH units	1	M	8.9	8.8	8.8
Water Soluble Sulphate (as SO4)	ANIONSS	mg/L	10	N	< 10	< 10	< 10
Sulphide	SULPHIDES	mg/kg	15	N	< 15	< 15	< 15
Chloride	ANIONSS	mg/L	0.1	N	2.3	1.5	2.2
TOC	TOCS	%	0.5	M	1.8	< 0.5	< 0.5
Asbestos	ASB	p/a	-	U	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Acenaphthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Acenaphthylene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Anthracene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Benzo[a]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.03
Benzo[a]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.02
Benzo[b]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.02
Benzo[ghi]perylene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[k]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Chrysene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.02
Dibenzo[a,h]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.07
Fluorene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Indeno[1,2,3,-cd]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Naphthalene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Phenanthrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.03

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734078	734079	734080
Client Sample ID					BH.04/01/3897	BH.04/02/3897	GW.05/01/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.1	0.5	0.1
Depth - Bottom (m)					0.2	0.6	0.2
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					945	950	1000
Sample Matrix					Clay	Clay	Sand
Determinant	Code	Units	LOD	Accreditation			
Arsenic	ICPMETS	mg/kg	10	M	11	< 10	< 10
Boron (Water Soluble)	WSBORONS	mg/kg	2.5	N	< 2.5	< 2.5	< 2.5
Cadmium	ICPMETS	mg/kg	0.2	M	1.1	1.1	0.7
Chromium (Total)	ICPMETS	mg/kg	1	U	25	17	11
Copper	ICPMETS	mg/kg	2	M	14	16	11
Iron	ICPMETS	mg/kg	100	N	46000	33000	22000
Lead	ICPMETS	mg/kg	1.5	M	17	9.3	8.7
Mercury	ICPMETS	mg/kg	2.5	U	< 2.5	< 2.5	< 2.5
Nickel	ICPMETS	mg/kg	1	M	28	26	12
Selenium	ICPMETS	mg/kg	8	N	< 8.0	< 8.0	< 8.0
Zinc	ICPMETS	mg/kg	2	M	48	32	23
Cyanide (Total)	SKALARCNS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	SKALARHCS	mg/kg	1	N	< 1.0	< 1.0	< 1.0
pH	PHS	pH units	1	M	8.5	8.9	8.9
Water Soluble Sulphate (as SO4)	ANIONSS	mg/L	10	N	< 10	< 10	< 10
Sulphide	SULPHIDES	mg/kg	15	N	< 15	< 15	< 15
Chloride	ANIONSS	mg/L	0.1	N	2.5	1.7	1.9
TOC	TOCS	%	0.5	M	< 0.5	< 0.5	< 0.5
Asbestos	ASB	p/a	-	U	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Acenaphthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Acenaphthylene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Anthracene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Benzo[a]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[a]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[b]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[ghi]perylene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Benzo[k]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Chrysene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Dibenzo[a,h]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Fluorene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Indeno[1,2,3,-cd]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Naphthalene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Phenanthrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734081	734082	734083
Client Sample ID					GW.05/02/3897	BH.06/01/3897	BH.06/02/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.5	0.1	0.5
Depth - Bottom (m)					0.6	0.2	0.6
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					1005	1020	1025
Sample Matrix					Sand	Sand	Clay
Determinant	Code	Units	LOD	Accreditation			
Arsenic	ICPMETS	mg/kg	10	M	< 10	12	12
Boron (Water Soluble)	WSBORONS	mg/kg	2.5	N	< 2.5	< 2.5	< 2.5
Cadmium	ICPMETS	mg/kg	0.2	M	0.7	1.1	0.9
Chromium (Total)	ICPMETS	mg/kg	1	U	10	15	21
Copper	ICPMETS	mg/kg	2	M	10	32	12
Iron	ICPMETS	mg/kg	100	N	20000	31000	44000
Lead	ICPMETS	mg/kg	1.5	M	16	180	18
Mercury	ICPMETS	mg/kg	2.5	U	< 2.5	< 2.5	< 2.5
Nickel	ICPMETS	mg/kg	1	M	14	25	24
Selenium	ICPMETS	mg/kg	8	N	< 8.0	< 8.0	< 8.0
Zinc	ICPMETS	mg/kg	2	M	33	150	45
Cyanide (Total)	SKALARCNS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	SKALARHCS	mg/kg	1	N	< 1.0	< 1.0	< 1.0
pH	PHS	pH units	1	M	8.7	8.6	8.5
Water Soluble Sulphate (as SO4)	ANIONSS	mg/L	10	N	< 10	17	< 10
Sulphide	SULPHIDES	mg/kg	15	N	< 15	< 15	< 15
Chloride	ANIONSS	mg/L	0.1	N	2.7	3.2	3.0
TOC	TOCS	%	0.5	M	< 0.5	2.1	< 0.5
Asbestos	ASB	p/a	-	U	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Acenaphthene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Acenaphthylene	PAHASRDS	mg/kg	0.02	U	< 0.02	< 0.02	< 0.02
Anthracene	PAHASRDS	mg/kg	0.02	U	0.07	< 0.02	< 0.02
Benzo[a]anthracene	PAHASRDS	mg/kg	0.02	M	0.24	0.09	< 0.02
Benzo[a]pyrene	PAHASRDS	mg/kg	0.02	M	0.24	0.11	< 0.02
Benzo[b]fluoranthene	PAHASRDS	mg/kg	0.02	M	0.22	0.11	< 0.02
Benzo[ghi]perylene	PAHASRDS	mg/kg	0.02	M	0.13	0.09	< 0.02
Benzo[k]fluoranthene	PAHASRDS	mg/kg	0.02	M	0.11	0.05	< 0.02
Chrysene	PAHASRDS	mg/kg	0.02	M	0.23	0.09	< 0.02
Dibenzo[a,h]anthracene	PAHASRDS	mg/kg	0.02	M	0.03	< 0.02	< 0.02
Fluoranthene	PAHASRDS	mg/kg	0.02	M	0.70	0.17	< 0.02
Fluorene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Indeno[1,2,3-cd]pyrene	PAHASRDS	mg/kg	0.02	M	0.14	0.09	< 0.02
Naphthalene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Phenanthrene	PAHASRDS	mg/kg	0.02	M	0.22	0.07	< 0.02

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734084	734085	734086
Client Sample ID					GW.07/01/3897	GW.07/02/3897	BH.08/01/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.1	0.5	0.1
Depth - Bottom (m)					0.2	0.6	0.2
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					1035	1040	1050
Sample Matrix					Sand	Sand	Clay
Determinant	Code	Units	LOD	Accreditation			
Arsenic	ICPMETS	mg/kg	10	M	< 10	10	< 10
Boron (Water Soluble)	WSBORONS	mg/kg	2.5	N	< 2.5	< 2.5	< 2.5
Cadmium	ICPMETS	mg/kg	0.2	M	0.7	0.8	0.6
Chromium (Total)	ICPMETS	mg/kg	1	U	10	11	9.6
Copper	ICPMETS	mg/kg	2	M	14	23	7.8
Iron	ICPMETS	mg/kg	100	N	18000	22000	20000
Lead	ICPMETS	mg/kg	1.5	M	22	71	16
Mercury	ICPMETS	mg/kg	2.5	U	< 2.5	< 2.5	< 2.5
Nickel	ICPMETS	mg/kg	1	M	12	17	12
Selenium	ICPMETS	mg/kg	8	N	< 8.0	< 8.0	< 8.0
Zinc	ICPMETS	mg/kg	2	M	38	71	30
Cyanide (Total)	SKALARCNS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	SKALARHCS	mg/kg	1	N	< 1.0	< 1.0	< 1.0
pH	PHS	pH units	1	M	8.6	8.6	8.4
Water Soluble Sulphate (as SO4)	ANIONSS	mg/L	10	N	17	< 10	< 10
Sulphide	SULPHIDES	mg/kg	15	N	< 15	< 15	< 15
Chloride	ANIONSS	mg/L	0.1	N	3.4	1.8	3.4
TOC	TOCS	%	0.5	M	< 0.5	1.3	< 0.5
Asbestos	ASB	p/a	-	U	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Acenaphthene	PAHASRDS	mg/kg	0.02	M	< 0.02	0.26	< 0.02
Acenaphthylene	PAHASRDS	mg/kg	0.02	U	0.02	0.05	< 0.02
Anthracene	PAHASRDS	mg/kg	0.02	U	0.04	0.66	< 0.02
Benzo[a]anthracene	PAHASRDS	mg/kg	0.02	M	0.30	1.7	0.03
Benzo[a]pyrene	PAHASRDS	mg/kg	0.02	M	0.41	1.7	0.04
Benzo[b]fluoranthene	PAHASRDS	mg/kg	0.02	M	0.35	1.5	0.03
Benzo[ghi]perylene	PAHASRDS	mg/kg	0.02	M	0.31	1.1	0.03
Benzo[k]fluoranthene	PAHASRDS	mg/kg	0.02	M	0.15	0.66	< 0.02
Chrysene	PAHASRDS	mg/kg	0.02	M	0.28	1.4	0.03
Dibenzo[a,h]anthracene	PAHASRDS	mg/kg	0.02	M	0.04	0.17	< 0.02
Fluoranthene	PAHASRDS	mg/kg	0.02	M	0.64	4.5	0.06
Fluorene	PAHASRDS	mg/kg	0.02	M	< 0.02	0.18	< 0.02
Indeno[1,2,3-cd]pyrene	PAHASRDS	mg/kg	0.02	M	0.26	1.1	< 0.02
Naphthalene	PAHASRDS	mg/kg	0.02	M	< 0.02	0.40	< 0.02
Phenanthrene	PAHASRDS	mg/kg	0.02	M	0.18	3.1	< 0.02

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference	734087
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Client Sample ID BH.08/02/3897

Client Sample Location -

Client Sample Type Soil

Client Sample Number -

Depth - Top (m) 0.5

Depth - Bottom (m) 0.6

Date of Sampling 12/03/2026

Time of Sampling 1100

Sample Matrix Clay

Determinant	Code	Units	LOD	Accreditation	
Arsenic	ICPMETS	mg/kg	10	M	< 10
Boron (Water Soluble)	WSBORONS	mg/kg	2.5	N	< 2.5
Cadmium	ICPMETS	mg/kg	0.2	M	0.7
Chromium (Total)	ICPMETS	mg/kg	1	U	13
Copper	ICPMETS	mg/kg	2	M	9.2
Iron	ICPMETS	mg/kg	100	N	28000
Lead	ICPMETS	mg/kg	1.5	M	14
Mercury	ICPMETS	mg/kg	2.5	U	< 2.5
Nickel	ICPMETS	mg/kg	1	M	15
Selenium	ICPMETS	mg/kg	8	N	< 8.0
Zinc	ICPMETS	mg/kg	2	M	38
Cyanide (Total)	SKALARCNS	mg/kg	1	M	< 1.0
Chromium (Hexavalent)	SKALARHCS	mg/kg	1	N	< 1.0
pH	PHS	pH units	1	M	8.4
Water Soluble Sulphate (as SO4)	ANIONSS	mg/L	10	N	< 10
Sulphide	SULPHIDES	mg/kg	15	N	< 15
Chloride	ANIONSS	mg/L	0.1	N	1.3
TOC	TOCS	%	0.5	M	< 0.5
Asbestos	ASB	p/a	-	U	No Asbestos Detected
Acenaphthene	PAHASRDS	mg/kg	0.02	M	< 0.02
Acenaphthylene	PAHASRDS	mg/kg	0.02	U	< 0.02
Anthracene	PAHASRDS	mg/kg	0.02	U	< 0.02
Benzo[a]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02
Benzo[a]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02
Benzo[b]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02
Benzo[ghi]perylene	PAHASRDS	mg/kg	0.02	M	< 0.02
Benzo[k]fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02
Chrysene	PAHASRDS	mg/kg	0.02	M	< 0.02
Dibenzo[a,h]anthracene	PAHASRDS	mg/kg	0.02	M	< 0.02
Fluoranthene	PAHASRDS	mg/kg	0.02	M	< 0.02
Fluorene	PAHASRDS	mg/kg	0.02	M	< 0.02
Indeno[1,2,3-cd]pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02
Naphthalene	PAHASRDS	mg/kg	0.02	M	< 0.02
Phenanthrene	PAHASRDS	mg/kg	0.02	M	< 0.02

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734072	734073	734074
Client Sample ID					GW.01/01/3897	GW.01/02/3897	BH.02/01/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.1	0.5	0.1
Depth - Bottom (m)					0.2	0.6	0.2
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					900	905	915
Sample Matrix					Sand	Clay	Sand
Determinant	Code	Units	LOD	Accreditation			
Pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Total PAH (Sum of USEPA 16)	PAHASRDS	mg/kg	0.32	U	< 0.32	< 0.32	< 0.32
Coronene	PAHASRDS	mg/kg	0.02	N	< 0.02	< 0.02	< 0.02
Total PAH (Sum of 17)	PAHASRDS	mg/kg	0.34	N	< 0.34	< 0.34	< 0.34

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734075	734076	734077
Client Sample ID					BH.02/02/3897	GW.03/01/3897	GW.03/02/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.5	0.1	0.5
Depth - Bottom (m)					0.6	0.2	0.6
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					920	930	935
Sample Matrix					Sand	Sand	Clay
Determinant	Code	Units	LOD	Accreditation			
Pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	0.06
Total PAH (Sum of USEPA 16)	PAHASRDS	mg/kg	0.32	U	< 0.32	< 0.32	0.45
Coronene	PAHASRDS	mg/kg	0.02	N	< 0.02	< 0.02	< 0.02
Total PAH (Sum of 17)	PAHASRDS	mg/kg	0.34	N	< 0.34	< 0.34	0.47

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734078	734079	734080
Client Sample ID					BH.04/01/3897	BH.04/02/3897	GW.05/01/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.1	0.5	0.1
Depth - Bottom (m)					0.2	0.6	0.2
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					945	950	1000
Sample Matrix					Clay	Clay	Sand
Determinant	Code	Units	LOD	Accreditation			
Pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
Total PAH (Sum of USEPA 16)	PAHASRDS	mg/kg	0.32	U	< 0.32	< 0.32	< 0.32
Coronene	PAHASRDS	mg/kg	0.02	N	< 0.02	< 0.02	< 0.02
Total PAH (Sum of 17)	PAHASRDS	mg/kg	0.34	N	< 0.34	< 0.34	< 0.34

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734081	734082	734083
Client Sample ID					GW.05/02/3897	BH.06/01/3897	BH.06/02/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.5	0.1	0.5
Depth - Bottom (m)					0.6	0.2	0.6
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					1005	1020	1025
Sample Matrix					Sand	Sand	Clay
Determinant	Code	Units	LOD	Accreditation			
Pyrene	PAHASRDS	mg/kg	0.02	M	0.61	0.17	< 0.02
Total PAH (Sum of USEPA 16)	PAHASRDS	mg/kg	0.32	U	3.0	1.2	< 0.32
Coronene	PAHASRDS	mg/kg	0.02	N	0.03	0.02	< 0.02
Total PAH (Sum of 17)	PAHASRDS	mg/kg	0.34	N	3.1	1.2	< 0.34

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference					734084	734085	734086
Client Sample ID					GW.07/01/3897	GW.07/02/3897	BH.08/01/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.1	0.5	0.1
Depth - Bottom (m)					0.2	0.6	0.2
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					1035	1040	1050
Sample Matrix					Sand	Sand	Clay
Determinant	Code	Units	LOD	Accreditation			
Pyrene	PAHASRDS	mg/kg	0.02	M	0.65	4.0	0.06
Total PAH (Sum of USEPA 16)	PAHASRDS	mg/kg	0.32	U	3.7	23	< 0.32
Coronene	PAHASRDS	mg/kg	0.02	N	0.09	0.24	< 0.02
Total PAH (Sum of 17)	PAHASRDS	mg/kg	0.34	N	3.8	23	< 0.34

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - ENV Analysis Solids

Lab Reference	734087
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Client Sample ID	BH.08/02/3897
Client Sample Location	-
Client Sample Type	Soil
Client Sample Number	-
Depth - Top (m)	0.5
Depth - Bottom (m)	0.6
Date of Sampling	12/03/2026
Time of Sampling	1100
Sample Matrix	Clay

Determinant	Code	Units	LOD	Accreditation	
Pyrene	PAHASRDS	mg/kg	0.02	M	< 0.02
Total PAH (Sum of USEPA 16)	PAHASRDS	mg/kg	0.32	U	< 0.32
Coronene	PAHASRDS	mg/kg	0.02	N	< 0.02
Total PAH (Sum of 17)	PAHASRDS	mg/kg	0.34	N	< 0.34

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - EPHVPHS

Lab Reference					734072	734073	734074
Client Sample ID					GW.01/01/3897	GW.01/02/3897	BH.02/01/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.1	0.5	0.1
Depth - Bottom (m)					0.2	0.6	0.2
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					900	905	915
Sample Matrix					Sand	Clay	Sand
Determinant	Code	Units	LOD	Accreditation			
Benzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Toluene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Ethylbenzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
m&p Xylene	VPHS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
o-Xylene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Methyl tert-butyl ether (MTBE)	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aliphatic >C5 to C6 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C6 to C8 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C8 to C10 [5]	VPHS	mg/kg	0.06	M	0.16	0.09	0.14
Aliphatic >C10-C12 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C12-C16 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C16-C21 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C21-C35 [13]	GCXGCS	mg/kg	2	M	4.7	2.6	9.5
Aliphatic >C35-C44 [13]	GCXGCS	mg/kg	5	N	< 5.0	< 5.0	< 5.0
Aromatic >C5 to C7 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C7 to C8 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C8 to C10 [6]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aromatic >C10-C12 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C12-C16 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C16-C21 [14]	GCXGCS	mg/kg	1	M	13	14	13
Aromatic >C21-C35 [14]	GCXGCS	mg/kg	2	M	< 2.0	< 2.0	< 2.0
Aromatic >C35-C44 [14]	GCXGCS	mg/kg	5	N	< 5.0	< 5.0	< 5.0
Total >C5-C35 (Ali/Aro) [10]	CWGS	mg/kg	10	M	18	17	23

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - EPHVPHS

Lab Reference					734075	734076	734077
Client Sample ID					BH.02/02/3897	GW.03/01/3897	GW.03/02/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.5	0.1	0.5
Depth - Bottom (m)					0.6	0.2	0.6
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					920	930	935
Sample Matrix					Sand	Sand	Clay
Determinant	Code	Units	LOD	Accreditation			
Benzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Toluene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Ethylbenzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
m&p Xylene	VPHS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
o-Xylene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Methyl tert-butyl ether (MTBE)	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aliphatic >C5 to C6 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C6 to C8 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C8 to C10 [5]	VPHS	mg/kg	0.06	M	0.10	0.08	< 0.06
Aliphatic >C10-C12 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C12-C16 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C16-C21 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C21-C35 [13]	GCXGCS	mg/kg	2	M	7.3	3.3	3.3
Aliphatic >C35-C44 [13]	GCXGCS	mg/kg	5	N	< 5.0	< 5.0	< 5.0
Aromatic >C5 to C7 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C7 to C8 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C8 to C10 [6]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aromatic >C10-C12 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C12-C16 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C16-C21 [14]	GCXGCS	mg/kg	1	M	13	14	13
Aromatic >C21-C35 [14]	GCXGCS	mg/kg	2	M	< 2.0	< 2.0	< 2.0
Aromatic >C35-C44 [14]	GCXGCS	mg/kg	5	N	< 5.0	< 5.0	< 5.0
Total >C5-C35 (Ali/Aro) [10]	CWGS	mg/kg	10	M	20	18	17

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - EPHVPHS

Lab Reference					734078	734079	734080
Client Sample ID					BH.04/01/3897	BH.04/02/3897	GW.05/01/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.1	0.5	0.1
Depth - Bottom (m)					0.2	0.6	0.2
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					945	950	1000
Sample Matrix					Clay	Clay	Sand
Determinant	Code	Units	LOD	Accreditation			
Benzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Toluene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Ethylbenzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
m&p Xylene	VPHS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
o-Xylene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Methyl tert-butyl ether (MTBE)	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aliphatic >C5 to C6 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C6 to C8 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C8 to C10 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C10-C12 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C12-C16 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C16-C21 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C21-C35 [13]	GCXGCS	mg/kg	2	M	2.6	2.5	3.4
Aliphatic >C35-C44 [13]	GCXGCS	mg/kg	5	N	< 5.0	< 5.0	< 5.0
Aromatic >C5 to C7 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C7 to C8 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C8 to C10 [6]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aromatic >C10-C12 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C12-C16 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C16-C21 [14]	GCXGCS	mg/kg	1	M	13	14	15
Aromatic >C21-C35 [14]	GCXGCS	mg/kg	2	M	< 2.0	< 2.0	< 2.0
Aromatic >C35-C44 [14]	GCXGCS	mg/kg	5	N	< 5.0	< 5.0	< 5.0
Total >C5-C35 (Ali/Aro) [10]	CWGS	mg/kg	10	M	16	16	18

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - EPHVPHS

Lab Reference					734081	734082	734083
Client Sample ID					GW.05/02/3897	BH.06/01/3897	BH.06/02/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.5	0.1	0.5
Depth - Bottom (m)					0.6	0.2	0.6
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					1005	1020	1025
Sample Matrix					Sand	Sand	Clay
Determinant	Code	Units	LOD	Accreditation			
Benzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Toluene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Ethylbenzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
m&p Xylene	VPHS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
o-Xylene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Methyl tert-butyl ether (MTBE)	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aliphatic >C5 to C6 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C6 to C8 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C8 to C10 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C10-C12 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C12-C16 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C16-C21 [13]	GCXGCS	mg/kg	1	M	< 1.0	1.6	< 1.0
Aliphatic >C21-C35 [13]	GCXGCS	mg/kg	2	M	3.2	24	2.9
Aliphatic >C35-C44 [13]	GCXGCS	mg/kg	5	N	< 5.0	< 5.0	< 5.0
Aromatic >C5 to C7 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C7 to C8 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C8 to C10 [6]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aromatic >C10-C12 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C12-C16 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C16-C21 [14]	GCXGCS	mg/kg	1	M	15	14	16
Aromatic >C21-C35 [14]	GCXGCS	mg/kg	2	M	< 2.0	7.2	< 2.0
Aromatic >C35-C44 [14]	GCXGCS	mg/kg	5	N	< 5.0	< 5.0	< 5.0
Total >C5-C35 (Ali/Aro) [10]	CWGS	mg/kg	10	M	19	47	19

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - EPHVPHS

Lab Reference					734084	734085	734086
Client Sample ID					GW.07/01/3897	GW.07/02/3897	BH.08/01/3897
Client Sample Location					-	-	-
Client Sample Type					Soil	Soil	Soil
Client Sample Number					-	-	-
Depth - Top (m)					0.1	0.5	0.1
Depth - Bottom (m)					0.2	0.6	0.2
Date of Sampling					12/03/2026	12/03/2026	12/03/2026
Time of Sampling					1035	1040	1050
Sample Matrix					Sand	Sand	Clay
Determinant	Code	Units	LOD	Accreditation			
Benzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Toluene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Ethylbenzene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
m&p Xylene	VPHS	mg/kg	0.02	M	< 0.02	< 0.02	< 0.02
o-Xylene	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Methyl tert-butyl ether (MTBE)	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aliphatic >C5 to C6 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C6 to C8 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C8 to C10 [5]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aliphatic >C10-C12 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C12-C16 [13]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aliphatic >C16-C21 [13]	GCXGCS	mg/kg	1	M	1.3	3.1	< 1.0
Aliphatic >C21-C35 [13]	GCXGCS	mg/kg	2	M	13	5.8	3.6
Aliphatic >C35-C44 [13]	GCXGCS	mg/kg	5	N	< 5.0	< 5.0	< 5.0
Aromatic >C5 to C7 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C7 to C8 [6]	VPHS	mg/kg	0.01	M	< 0.01	< 0.01	< 0.01
Aromatic >C8 to C10 [6]	VPHS	mg/kg	0.06	M	< 0.06	< 0.06	< 0.06
Aromatic >C10-C12 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C12-C16 [14]	GCXGCS	mg/kg	1	M	< 1.0	< 1.0	< 1.0
Aromatic >C16-C21 [14]	GCXGCS	mg/kg	1	M	15	13	16
Aromatic >C21-C35 [14]	GCXGCS	mg/kg	2	M	15	32	< 2.0
Aromatic >C35-C44 [14]	GCXGCS	mg/kg	5	N	< 5.0	7.6	< 5.0
Total >C5-C35 (Ali/Aro) [10]	CWGS	mg/kg	10	M	43	54	20

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analytical Test Results - EPHVPHS

Lab Reference	734087
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Client Sample ID BH.08/02/3897

Client Sample Location -

Client Sample Type Soil

Client Sample Number -

Depth - Top (m) 0.5

Depth - Bottom (m) 0.6

Date of Sampling 12/03/2026

Time of Sampling 1100

Sample Matrix Clay

Determinant	Code	Units	LOD	Accreditation	
Benzene	VPHS	mg/kg	0.01	M	< 0.01
Toluene	VPHS	mg/kg	0.01	M	< 0.01
Ethylbenzene	VPHS	mg/kg	0.01	M	< 0.01
m&p Xylene	VPHS	mg/kg	0.02	M	< 0.02
o-Xylene	VPHS	mg/kg	0.01	M	< 0.01
Methyl tert-butyl ether (MTBE)	VPHS	mg/kg	0.01	M	< 0.01
Aliphatic >C5 to C6 [5]	VPHS	mg/kg	0.06	M	< 0.06
Aliphatic >C6 to C8 [5]	VPHS	mg/kg	0.06	M	< 0.06
Aliphatic >C8 to C10 [5]	VPHS	mg/kg	0.06	M	< 0.06
Aliphatic >C10-C12 [13]	GCXGCS	mg/kg	1	M	< 1.0
Aliphatic >C12-C16 [13]	GCXGCS	mg/kg	1	M	< 1.0
Aliphatic >C16-C21 [13]	GCXGCS	mg/kg	1	M	< 1.0
Aliphatic >C21-C35 [13]	GCXGCS	mg/kg	2	M	2.9
Aliphatic >C35-C44 [13]	GCXGCS	mg/kg	5	N	< 5.0
Aromatic >C5 to C7 [6]	VPHS	mg/kg	0.01	M	< 0.01
Aromatic >C7 to C8 [6]	VPHS	mg/kg	0.01	M	< 0.01
Aromatic >C8 to C10 [6]	VPHS	mg/kg	0.06	M	< 0.06
Aromatic >C10-C12 [14]	GCXGCS	mg/kg	1	M	< 1.0
Aromatic >C12-C16 [14]	GCXGCS	mg/kg	1	M	< 1.0
Aromatic >C16-C21 [14]	GCXGCS	mg/kg	1	M	14
Aromatic >C21-C35 [14]	GCXGCS	mg/kg	2	M	< 2.0
Aromatic >C35-C44 [14]	GCXGCS	mg/kg	5	N	< 5.0
Total >C5-C35 (Ali/Aro) [10]	CWGS	mg/kg	10	M	17

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
734072	GW.01/01/3897	-	SOIL	-	Dark brown gravelly slightly clayey silty sand	6.5	47	38
734073	GW.01/02/3897	-	SOIL	-	Dark brown gravelly slightly sandy silty clay	10	36	53
734074	BH.02/01/3897	-	SOIL	-	Light brown gravelly slightly clayey silty sand	8.1	25	47
734075	BH.02/02/3897	-	SOIL	-	Brown gravelly slightly clayey silty sand	8.1	46	48
734076	GW.03/01/3897	-	SOIL	-	Light brown gravelly slightly clayey silty sand	11	35	49
734077	GW.03/02/3897	-	SOIL	-	Brown gravelly slightly sandy silty clay	13	31	54
734078	BH.04/01/3897	-	SOIL	-	Dark brown gravelly slightly sandy silty clay	8.4	42	45
734079	BH.04/02/3897	-	SOIL	-	Light brown gravelly sandy silty clay	11	39	49
734080	GW.05/01/3897	-	SOIL	-	Light brown gravelly silty sand	6.0	62	50
734081	GW.05/02/3897	-	SOIL	-	Light brown gravelly slightly clayey silty sand	8.8	56	59
734082	BH.06/01/3897	-	SOIL	-	Light brown gravelly slightly clayey silty sand	8.6	56	52
734083	BH.06/02/3897	-	SOIL	-	Brown gravelly silty clay	14	34	72
734084	GW.07/01/3897	-	SOIL	-	Light brown gravelly slightly clayey silty sand	8.6	37	74
734085	GW.07/02/3897	-	SOIL	-	Brown gravelly slightly clayey silty sand	15	34	70
734086	BH.08/01/3897	-	SOIL	-	Brown gravelly silty clay	16	28	56
734087	BH.08/02/3897	-	SOIL	-	Brown gravelly silty clay with rare rootlets	17	12	51

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Sample Comments

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Comments
734072	GW.01/01/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734074	BH.02/01/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734075	BH.02/02/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734076	GW.03/01/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734077	GW.03/02/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734078	BH.04/01/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734079	BH.04/02/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734080	GW.05/01/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734081	GW.05/02/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734082	BH.06/01/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734083	BH.06/02/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.
734086	BH.08/01/3897	-	SOIL	-	VPH/BTEX - Sample taken from container with headspace.

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Analysis Methodologies - Please refer to sample comments page (if present) for any changes to methods Methods

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
ANIONSS	MS - CL - Anions by Aquakem (2:1Extract)	Oven dried	Passing 2mm test sieve	Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio
ASB	MS - AS - Asbestos	-	-	Fibre identification is in accordance with in house documented methods which are based on the procedure documented in the HSE Document HSG 248 "Asbestos: The analysts guide for sampling, analysis and clearance procedures"
CWGS	Calculation from VPH-S and EPH-S	As received	Passing 10mm test sieve	Determination of TPH CWG (Volatile Petroleum Hydrocarbons and Extractable Petroleum Hydrocarbons) in soils via Headspace-GC-MS and GC-GC-FID respectively
GCGCS	MS - CL - TPH & EPH by GCXGC	As received	Passing 10mm test sieve	Determination of TPH and EPH in soils via GCxGC-FID
ICPMETS	MS - CL - ICP Metals	Air dried	Passing 10mm test sieve	Determination of metals in soils via ICP
PAHASRDS	MS - CL - PAH (As Received)	As received	Passing 10mm test sieve	Determination of Polyaromatic hydrocarbons in soil via GC-MS
PHS	MS - CL - pH in Soils	As received	Passing 10mm test sieve	Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction)
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis
SKALARCNS	MS - CL - Cyanide by Skalar	As received	Passing 10mm test sieve	Determination of cyanide (total / free / complex) in soil using a Skalar segmented flow analyser
SKALARHCS	MS - CL - Hexavalent Chromium by Skalar	As received	Passing 10mm test sieve	Determination of hexavalent chromium in soil using Skalar segmented flow analyser
SULPHIDES	MS - CL - Sulphide in Soils	Air Dried	Passing 10mm test sieve	Determination of sulphide in soil via titration
TOCS	MS - CL - TOC Eltra	Air Dried	Passing 10mm test sieve	Determination of Total Organic Carbon in soils
VPHS	MS - CL - VPH	As received	Passing 10mm test sieve	Determination of VPH in soils via Headspace-GC-MS
WSBORONS	MS - CL - WS Boron	Air dried	Passing 10mm test sieve	Determination of Water soluble Boron in soils via ICP

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided

W -

No time of sampling provided

C - Received in inappropriate container

H - Contains headspace

T - Temperature on receipt exceeds storage temperature

R - Sample(s) received with less than 2 hours for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e.

RX)

Observations

X - Exceeds

whilst in laboratory

sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
734079	BH.04/02/3897		Soil		MS - CL - VPH	RX
734083	BH.06/02/3897		Soil		MS - CL - VPH	RX

E26/03583/APL/26-11253

CL/3897/RH - 91b The Crescent

HWOL TPH Acronym Index

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics and Aromatics
AL	Aliphatics Only
AR	Aromatics Only
2D	GC-GC - Double Coil Gas Chromatography
#1	EH_Total but with humics mathematically subtracted
#2	EH_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (except for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry

Key of Codes	
[1]	EH_1D_TOTAL
[2]	EH_CU_1D_TOTAL
[3]	EH_CU+HS_1D_TOTAL
[4]	EH_1D+HS_MS_TOTAL
[5]	HS_MS_1D_AL
[6]	HS_MS_1D_AR
[7]	HS_MS_1D_TOTAL
[8]	EH_CU_1D_AL
[9]	EH_CU_1D_AR
[10]	EH_2D+HS_1D_TOTAL
[11]	EH_CU_2D+HS_1D_TOTAL
[12]	EH_2D_TOTAL
[13]	EH_2D_AL
[14]	EH_2D_AR
[15]	EH_CU_2D_TOTAL
[16]	EH_CU_2D_AL
[17]	EH_CU_2D_AR



Life-saving solutions

CERTIFICATE OF CALIBRATION

Tiger Select

CALIBRATION CERTIFICATE NO: 83489

ISSUED BY: SHAWCITY LIMITED
DATE: 22/07/2025

APPROVED SIGNATORY:



NAME: Joe Herbert

CUSTOMER: Apple Environmental Ltd
INSTRUMENT: Tiger Select
SERIAL NUMBER: T-113211

CALIBRATION METHOD: CM03
AMBIENT CONDITIONS: 20°C ± 2°C and 50% (± 20%) RH

S500124-1

S500123-1

S500126-1

The instrument has been factory calibrated to documented procedures in accordance with ISO9001:2015 Quality Management System.
The instrument is calibrated following manufacturer guidance.
Measurement standards are derived from volumetric and time sources which have been calibrated at an accredited laboratory traceable to national or international standards.

CALIBRATION RESULTS

REF. VALUE
100 ppm Isobutylene
1000 ppm Isobutylene
5 ppm Benzene

INDICATED VALUE
100 ppm Isobutylene
1000 ppm Isobutylene
5 ppm Benzene

Prior to calibration, the instrument was allowed to stabilise in the laboratory for at least 30 minutes.
The instrument was calibrated by exposing the sensor to known values of gas concentrations.
All gases were sampled through the complete probe and in line filter, where applicable.
The reference value is that generated by the certified source and the indicated value is that measured by the instrument.
Gas mixture prepared using equipment traceable to N.P.L standards against suppliers' certificate No.
On the day of calibration, the instrument was working according to the manufacturer's original specifications.

COMMENTS:

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor of $k=2$.
This provides a level of confidence of uncertainty of approximately 95%.
The uncertainty of measurement is ±2 %
The results indicate that the instrument conforms to the applicable parts of the published specification.

HEALTH & SAFETY, OCCUPATIONAL HYGIENE AND ENVIRONMENTAL MONITORING INSTRUMENTS