GEO-ENVIRONMENTAL CONSULTING ENGINEERS

bEk Enviro Ltd
Suite One | No 3 Mitton Road Business Park
Mitton Road | Whalley | Lancashire | BB7 9YE
01254 377622
mbuckley@bekenviro.co.uk | bekenviro.co.uk

LAND LOCATED AT THE FORMER TVR FACTORY, BRISTOL AVENUE, BLACKPOOL

Site Investigation & Ground Assessment

Prepared for

J. WARING & SONS LIMITED

Report Ref: BEK-21924-1

October 2021

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Project Quality Assurance Information Sheet

Site	Former TVR Factory, Bristol Avenue, Blackpool
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Date	October 2021
Prepared For	**J Waring & Sons Limited** Belfold Depot Moorside Lane Woodplumpton Preston PR4 0TB
Prepared By	**BEK ENVIRO LIMITED** Suite One No 3 Mitton Road Business Park Mitton Road Whalley Lancashire BB7 9YE
Author	**James Mashiter** BSc (Hons) MSc
Checked	**David Emmott** BSc (Hons) MSc MIEnvSci CEnv
Authorised	**Michael Buckley** BSc (Hons) MSc MIEnvSci CEnv
Contact	mbuckley@bekenviro.co.uk www.bekenviro.co.uk Office: 01254 377622 Mobile: 07906753583

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REVISION STATUS / HISTORY

Rev	Date	Issue / Comment	Prepared	Checked

GENERAL REPORT LIMITATIONS

BEK Enviro Limited (BEK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and BEK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by BEK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

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Unless explicitly agreed otherwise, in writing, this report has been prepared under BEK's limited standard Terms and Conditions as included within our proposal to the Client.

The report needs to be considered in the light of the BEK proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

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1. INTRODUCTION

1.1 Appointment

1.1.1 BEK Enviro Limited (BEK) has been commissioned by J Waring & Sons Ltd to carry out a site investigation and contamination assessment for the land located at the Former TVR Factory, Bristol Avenue, Blackpool (hereafter referred to as 'the site'). The investigation will inform a quantitative risk assessment with respect to contamination and ground gas at the site considered the change of use to commercial and provide recommendations for foundation design.

1.2 Background Information

1.2.1 The site area is an irregular polygon, with a main rectangular area oriented in an east-west skew, with an eastern spur. The site is a vacant parcel of derelict industrial land that was formerly occupied by a laundry works and a vehicle manufacturing (TVR) and repair works, including light engineering activities within the various buildings. The north-western part of the site is occupied by operational industrial units. A small electricity substation in the north and a national grid gas installation in the north-west of the site. A large stockpile of soil arisings lie in the south-east of the site. The remainder of the site is occupied by concrete slabs, tarmacadam roads and crushed rubble.

1.2.2 The site location and layout is illustrated on BEK Drawing No 21924-1 and 21924-2, copies of which are presented in Appendix F.

1.3 Proposed Development

1.3.1 It is understood that consideration is being given to the redevelopment of the site to 10 industrial units (B1, B2 and B8) with associated access roads, car parking with limited landscaped areas.

1.3.2 The 'Proposed Site Layout' is presented on Evolve Architectural Design Ltd Drawing (Ref: EAD_031_03, dated 15th January 2019), a copy of which is presented on Appendix F.

1.4 Objective & Scope of Work

1.4.1 The site investigation was undertaken by BEK during August 2021 in accordance with the recommendations detailed in the Phase 1 Land Quality Assessment prepared by PSA Design Limited (Report Ref: D2927-GR-01) dated 14th February 2019.

1.4.2 This report has been prepared to provide a summary of the site details and ground conditions to inform a quantitative assessment of the potential pollutant linkages identified within the Phase 1 Assessment and a geotechnical assessment to provide recommendations for foundation design.

1.4.3 The Phase 1 Assessment should be read in conjunction with this report.

1.5 Limitations

1.5.1 The conclusions and recommendations presented in this report are the result of our professional interpretation of the information currently available. BEK reserve the right to amend the conclusions and recommendations if further information becomes available.

1.5.2 However, it should be noted that much of the information has been derived from reports written by others and BEK takes no responsibility for the accuracy of that information. Notwithstanding the above, the reports reviewed have all been written by professional environmental consultants with a duty of care to provide relevant and accurate information.

1.5.3 The comments given in this report and the opinions expressed are based on review of reports provided to BEK, ground conditions encountered during site works and the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the investigations and therefore could not be taken into account.

2. BACKGROUND INFORMATION

2.0.1 This section provides an overview of the findings and recommendations presented in the Phase 1 Assessment.

2.1 Site Location & History

Site Location/Description

2.1.1 The site details are summarised in the table below:

Detail	Remarks
Location	Nothern outskirts of Blackpool
Address	Bristol Avenue, Blackpool, FY2 0JF
NGR	332179E, 439690N
Area	1.82 ha
Known Services	No services plans have been provided/made available for the scheme to date.

Table 1: *Summary of Site Details (adapted from Phase 1 Assessment)*

2.1.2 The site area is an irregular polygon, with a main rectangular area oriented in an east-west skew, with an eastern spur. There are several brick building structures within the northern areas of the site. The buildings appear to have concrete floors. The occupants are generally vehicle/machine workshops, but there is also a gym. The rear concrete yards of the buildings are used for vehicle/equipment storage.

2.1.3 The open southern areas of the site are generally surfaced in concrete slabs, but with minor tarmac surfacing within the north-western area, with the elongated eastern spur is made up of unbound gravel surfacing. Some historical drainage infrastructure was recorded in the form of manhole covers across the site.

2.1.4 Ground levels are relatively flat throughout the site. A small retaining wall and ramps are present within the north-west area where the ground level is slightly raised to the north-west. A patch of grassed vegetation is present within the south-eastern corner of the main site, where the ground is slightly undulating and raised.

2.1.5 Vegetation is only present within the south-east corner of the main site with the majority of the site hard-standing. The vegetation in this area is wild grasses. Mature trees are present along the southern boundary of the site (with Moor Park) and mature (laurel) hedges are present along the western boundary.

2.1.6 Two gated access routes from the north-east and north-west to the site are present, off Bristol Avenue highway, along the northern boundary.

2.1.7 Within the rear yard of the northern building is a small electricity sub-station. In addition, a small structure within the north-western area of the site houses a National Grid gas installation.

2.1.8 Surrounding land uses are mixed, with a large recycling depot to the north, parkland to the south, housing to the west and electricity sub-station to the east.

2.1.9 Site has a mix of secured steel fencing with padlocked gates, plus walled and hedged boundaries.

Figure 1: *Site Layout at Time of PSA Site Walkover (taken from PSA Report)*

Site Operations

2.1.10 The site is essentially derelict with a operational workshop/industrial activity in the north-west buildings. The site is considered to represent low/medium source of ground contamination.

Site History

2.1.11 Based on the earliest available maps the site was undeveloped and occupied by open fields. At this time, a drain ran diagonally south-west to north-east through the site with a pond in the south-east corner. The site remained this way until 1938 when a laundry building was noted within the eastern strip of land at the site. The drain appeared to have been infilled/diverted/piped within the site on maps dating from 1951.

2.1.12 On maps dating from 1960 the pond in the south-east of the site was infilled with a works and depot located in the north at this time. By 1965 a bottling depot was present in the north-west building with a coach building works noted in the central northern building and a joinery works in the north-eastern building. The coach building works was labelled light engineering works from 1971. The central north and eastern building was renamed factory from 1981 and a large factory was constructed in the southern area circa 1989 with tank present in the centre and central eastern area of the site. The eastern building was renamed warehouse at this time. The site has remained this was until 2014 when the buildings in the east and southern areas of the site were demolished.

2.1.13 The areas surrounding the site have been occupied by agricultural fields with the increasing development of nurseries and housing within the vicinity of the site until present.

2.1.14 The areas surrounding the site were noted to be vacant on maps dating from 1847 with several ponds located within 250 m (closest 60 m north of the site). Circa 1930 a refuse disposal works was noted 13 m north of the site and Bristol Avenue highway was constructed along the northern boundary of the site. Housing was also constructed to the north-west of the site at this time. Further works buildings were constructed in the industrial estate within the vicinity of the site from 1960 and an electricity substation was constructed 30 m east circa 1965. A tank was noted 40 m north of the site circa 1989 at which time a large factory was built south-east of the site. Circa 2010 the south-eastern building was used as an ice arena and buildings to the north-east and south-east of the site were demolished.

2.2 Environmental Setting

Geology & Previous Investigations

2.2.1 Partial Alluvial Deposits over Glacial Till Deposits (Boulder Clay) overlying Kirkham Mudstone Member (Permo-Triassic).

2.2.2 Two ground investigations carried out on adjacent site, to north-east by Worms Eye & south-east by Socotec UK Ltd.

2.2.3 The rectangular area to the north-east of the site has been investigated, with a Desk Study carried out by Worms Eye in September 2017. The Desk Study concluded that there were environmental risks to the site's proposed development that would require a suitable ground investigation carrying out, prior to construction.

2.2.4 Two ground investigations have been carried out close to the site. A ground investigation was carried out by Worms Eye in March 2018 within the land north-east of the site. Another ground investigation was carried out by SOCOTEC UK Ltd to land adjacent to the south-east of the site in April 2018, for the proposed development of a power generation facility (ref. A8005 – A18/2). The Worms Eye investigation consisted of 8 window sampler boreholes and 2 probe holes to depths of up to 5 mbgl and 8.5 mbgl respectively with chemical and geotechnical testing carried out and initial gas monitoring undertaken on 6 wells. The SOCOTEC investigation consisted of 11 window sampler boreholes and 3 shell and auger boreholes to depths of up to 5.45 mbgl and 15.45 mbgl respectively with chemical and geotechnical testing carried out and gas monitoring undertaken on 6 wells. This investigation was carried out whilst the former building was still intact.

2.2.5 For the two investigation proved generally of similar ground conditions. The Worms Eye investigation recorded made ground to depths varying from 0.4 to 1.8 mbgl. The made ground was generally described as hardcore fill, consisting of brick sand and gravel, with occasional cinders and clay. The underlying natural soils consisted of a varying thickness of loose sand and soft/firm clays overlying a firm/stiff clay. The SOCOTEC investigation recorded made ground to depths varying from 0.2 to 1.6 mbgl. The made ground was generally described as a concrete slab in all the boreholes overlying granular sub-base fill. Sandy gravelly clay fill is present also in several boreholes. The underlying natural soils consisted of sandy gravelly clays, with occasional sand lenses, with descriptions of soft-firm clay at shallow depths in localised areas, becoming stiff with depth.

2.2.6 Groundwater strikes were observed at varying depths within both investigations and was assumed by the investigation contractors to be perched water on top of the glacial till when found at shallow depth. Groundwater is likely to be associated the isolated sand lenses found across the two sites, at varying depths, trapped within the impermeable layers of the dominant glacial till clay deposits.

2.2.7 Geotechnical testing was carried in both investigations, with plasticity results from each investigation recording a low plasticity clay. The Worms Eye and SOCOTEC foundation design interpretation was that the upper clay layers were of poor quality and that the competent clays were at 4 to 5 mbgl. The Worms Eye recommendation was for the proposed buildings to be founded on piles or on a raft, whilst the SOCOTEC recommendation was related more to the specialist energy plant infrastructure bearing on the shallow soils, due to the reduced loading aspect, however they did caveat the report that any detailed design for structures with heavier loadings may require deeper foundation solutions or ground improvement.

2.2.8 Chemical testing was carried out for both sites, with a similar proposed commercial/industrial end use.

2.2.9 The results compared against commercial soil guideline values were generally below acceptable levels however for both sites an isolated sample of amosite asbestos fibre (<0.001%) was found in both investigations (Borehole BH7 at 0.8 mbgl [Worms Eye] and Borehole WS09 at 0.25 mbgl [SOCOTEC]. The risk from asbestos was interpreted as low for end users, due to the proposed hard-standing across the site, with recommendations for additional protection and education for the site redevelopment workers. The investigations also concluded that concrete design was unaffected in terms of sulphate chemical attack and that water supply pipe was not at risk.

2.2.10 Gas monitoring was carried out for both sites, with results recording low gas values (<5% v/v CO2 and <1% v/v CH4) and minimal flow rates. For both sites the gas risk assessments carried out recommended that no gas protection measures were required within the proposed building fabric.

Mining and Quarrying

2.2.11 None within 500m.

Hydrogeology

2.2.12 Site underlain by secondary (A & Undifferentiated) superficial deposits aquifer and secondary (B) bedrock aquifer. The site is not located within a groundwater source protection zone. No potable groundwater abstractions within 2 km of site.

Hydrology

2.2.13 Nearest watercourse is a land drain located some 280 m south-east of the site. There are 6 pollution incidents within 500 m of site, closest of which is some 13 m north of site and is associated with a minor land impact at the recycling plant. No discharge consents are listed within 500m radius.

Contaminated Land & Landfills

2.2.14 There is one landfill within 250 m of the site and this known as 'Moor Park Baths' which was licensed to accept mixed inert and household waste circa 1970; the landfill is located some 171 m west of site. There are various infilled ponds in the vicinity of the site including 1 within the south-east of the site. There is a Refuse Disposal Works some 10 m north of site.

2.2.15 There is an electricity sub-station located in the north-west of the site and an off-site large electricity sub-station along eastern site boundary. Historic use of site as vehicle manufacture and repair and laundry, including tanks may provide some source of pollution. Concrete slabs are present within buildings and over much of the southern part of the site which will reduce the source-receptor pathway.

2.2.16 There is possible recent shallow infilling of ground in south-east corner of main site, as part of demolition exercise construction arisings. The walkover showed no obvious evidence of contamination from current mix of empty site usage and small vehicle/machinery workshops.

Radon

2.2.17 Map 13 of HPA-RPD-033 shows the site is not in a radon affected area (<1% homes above Action Level) and therefore no protective measures are necessary in the construction of new dwellings or extensions.

2.3 Hazard Assessment: Sources of Contamination

2.3.1 The industrial processes and activities undertaken on or adjacent to the site that may act as potential historical or current sources of environmental hazard are shown in the Table below.

Type of Issue	SOURCE-Specific Issue	HAZARD-Remarks
Potential on-site contamination sources HISTORICAL	1. Coach Building & TVR Car Works / Factory incl Sub-station – activities and fuel leakages. 2. Joinery in NE area. 3. Laundry in NE and E area. 4 Tanks within central area. 5. Pond infill with SE area.	1-4. Potential source of soil and groundwater contamination (metalloids, hydrocarbons, SVOC-VOC, PAH, PCB, asbestos + organics). 5. Risk of ground gas production (CO_2 & CH_4).
Potential off-site contamination sources HISTORICAL	1. Infilled ponds surrounding site. 2. Landfill to W of site. 3. Refuse Disposal Works to N. 4. Factory to E.	1+2. Risk of ground gas production (CO_2 & CH_4). 3+4. Potential migrating soil and groundwater contamination (metalloids, hydrocarbons + PAH).
Potential on-site contamination sources CURRENT	1. Vehicle/machine repair and servicing – leaks/spillages. 2. Demolition debris/shallow infill in E and SE area. 3. Small electricity sub-station in NW area.	1-3. Potential source of soil and groundwater contamination (metalloids, hydrocarbons, PAH, SVOC-VOC, PCB, asbestos + organics).
Potential off-site contamination sources CURRENT	1. Electricity sub-station to E & W. 2. Recycling Centre, incl tank to N of site.	1-2. Potential migrating soil and groundwater contamination (metalloids, hydrocarbons, PAH & PCB).
Potential geotechnical hazards	1. Relict building foundations and infill. 2 Trees-shrubs along boundary.	1. Obstruction during foundation construction and deeper foundations due to infill and differential settlement risk to pavement/foundation design. 2. Shrink/swell clay-heave effect on building foundations.

Table 2: Potential Sources of Contamination (taken from PSA Report)

2.4 Hazard Assessment: Pathways

2.4.1 Five pollutant receptors have been identified for the site, and are listed in the table below, together with the pathways through which they may be linked to pollutant sources.

Receptor	Pathways
HUMAN HEALTH Re-development Workers End users-customers & staff	Inhalation, ingestion, direct contact
FAUNA & FLORA Landscaping	Root uptake
WATER ENVIRONMENT Controlled Waters	Groundwater
BUILT ENVIRONMENT Buildings and services	Diffusion of landfill gas through ground and collection in confined spaces Direct contact with contaminated soil and groundwater

Table 3: Potential Pathways and Receptors (taken from PSA Report)

2.5 Conceptual Site Model

2.5.1 This section identifies the potential contaminants of concern, sources, pathways and receptors that may be associated with the site based on its known history and the current condition and with respect to the redevelopment of the site for commercial use. The preliminary conceptual model is summarised in the following table extracts from the Phase 1 report.

2.5.2 The preliminary conceptual model is summarised in the following table:

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
On & off-site sources of ground contamination (gas) arising from *infilled ponds* and landfill to W (CO_2 and CH_4 gas).	Inhalation, ingestion, direct contact	Re-development workers	Severe	unlikely	**Low/moderate risk**
		End users - staff/customers	Severe	unlikely	**Low/moderate risk**
Source	**Pathway**	**Receptor**	**Consequence**	**Probability**	**Risk Classification**
On site current/historic sources of ground/groundwater contamination from *Vehicle & Machinery manufacture/servicing activities plus Laundry/Joinery works and tanks*, including metalloids, PAH, organics, asbestos SVOC-VOC & hydrocarbons.	Inhalation, ingestion, direct contact	Re-development workers	Medium	low	**Low/moderate risk**
		End users - staff/customers	Medium	low	**Low/moderate risk**
	Root Uptake	Landscaping Vegetation	Minor	likely	Low risk
	Groundwater	Controlled Waters	Mild	low	Low risk
	Direct Contact	Buildings and Services	Medium	low	**Low/moderate risk**
On site current source of ground/groundwater contamination from *electricity sub-station*, including metalloids, PAH, PCB, organics, asbestos SVOC-VOC & hydrocarbons.	Inhalation, ingestion, direct contact	Re-development workers	Medium	low	**Low/moderate risk**
		End users - staff/customers	Medium	low	**Low/moderate risk**
	Root Uptake	Landscaping Vegetation	Minor	likely	Low risk
	Groundwater	Controlled Waters	Mild	low	Low risk
	Direct Contact	Buildings and Services	Medium	low	**Low/moderate risk**
On site current/historic sources of ground/groundwater contamination from *Vehicle & Machinery manufacture/servicing activities plus Laundry/Joinery works and tanks*, including metalloids, PAH, organics, asbestos SVOC-VOC & hydrocarbons.	Inhalation, ingestion, direct contact	Re-development workers	Medium	low	**Low/moderate risk**
		End users - staff/customers	Medium	low	**Low/moderate risk**
	Root Uptake	Landscaping Vegetation	Minor	likely	Low risk
	Groundwater	Controlled Waters	Mild	low	Low risk
	Direct Contact	Buildings and Services	Medium	low	**Low/moderate risk**

Source	Pathway	Receptor	Consequence	Probability	Risk Classification
Off-site current/historic sources of ground contamination arising from migration of contaminants of activities from electricity sub-station & Refuse Disposal Works, including metalloids, PAH, PCB & hydrocarbons	Inhalation, ingestion, direct contact	Re-development workers	medium	unlikely	Low risk
		End users - staff/customers	medium	unlikely	Low risk
	Root uptake	Landscaping	minor	unlikely	Very low risk
	Groundwater	Aquifer	mild	unlikely	Very low risk
	Direct Contact	Buildings and Services	medium	unlikely	Low risk

Table 4: Preliminary Conceptual Model (taken from PSA Report)

2.6 Conclusions & Recommendations (from Phase 1 Assessment)

Contamination

2.6.1 Several potential sources of contamination have been identified for the site, which are associated with:

- The potential risk for contamination in the underlying soils from the on-site historic/current activities related to the laundry and vehicle manufacture/repair is assessed as of low/moderate risk and should be investigated further;
- The potential for contamination associated with the current on-site electricity substation is assessed as of low/moderate risk for several receptors across the site and should be investigated further;
- The potential for contamination associated with historic infilling activities is assessed as of low/moderate risk for several receptors across the site and should be investigated further;
- The potential risk for contamination from migration of contaminants from the offsite electricity sub-stations and refuse disposal works are assessed as low risk for several receptors across the site.

2.6.2 It is recommended that further investigation works are required to assess contamination on the site, which can be combined with an intrusive investigation, to aid foundation, pavement and earthworks design. A targeted investigation of the potential pollutant sources should be conducted to resolve the uncertainty of contamination affecting the sensitive receptors. Should any contaminated fill be encountered during this investigation then suitable chemical testing is should be to assess the contamination risk.

Hazardous Gas

2.6.3 The presence of infilled ground within and off-site would suggest that further investigation is required to assess the gas risk at the site.

2.6.4 Based on the nature of the proposed commercial development, and with reference to CIRIA C665 and the Ground Gas Handbook [2009], it is recommended that four monitoring visits must be undertaken over a one month monitoring period (Low sensitivity and very low generation potential of source (CIRIA 2007 Recommended Monitoring Periods)).

2.6.5 Provision of gas protection measures in the building development should be considered but not specified until full monitoring results are analysed.

Mining & Quarrying

2.6.5 No quarries or mining activity within 250 m of site.

Foundations

2.6.6 At present, no geotechnical ground investigation data is available for the site. Consequently, it is only possible to estimate the ground conditions. Before firm foundation recommendations can be given, it may be necessary to undertake an appropriate ground investigation. However, tentative recommendations are provided below.

2.6.7 The published geological data suggests the site is underlain by alluvium over glacial till over mudstone rocks. The alluvium is generally an unstable poor quality material and should not be founded upon. The underlying clay materials may provide a suitable founding stratum, subject to inspection of the formation from a suitable ground investigation.

2.6.8 Made ground is not generally considered a suitable founding material and foundations should be taken through it, into underlying natural in-situ strata of adequate bearing capacity.

2.6.9 Foundations that conflict with relict foundations should be taken to greater depth than the relict foundations and into natural ground of adequate bearing capacity.

2.6.10 The presence of trees and hedges along the boundaries of the site may have an impact on the foundations, due to potential clay heave.

Highway, Drainage and External Works Issues

2.6.11 The proposed vehicle access points to the site will be from the existing highway, Bristol Avenue to the north of the site.

2.6.12 It is assumed that surface water discharge from the proposed development and foul water drainage is likely to flow into the existing local drainage network in the vicinity of the site. It is recommended that the developer contact the local drainage network supplier with respect to capacity in existing foul and surface water sewers in the vicinity of the development area.

2.6.13 The site is relatively flat and it is anticipated that minimal site re-grading will be required. There is a slightly raised level within the north-west corner (with current retaining wall) which will need addressing within the highways design.

Potential Development Constraints

2.6.14 There are no risks of flooding on the site.

2.6.15 Full STATS information is required prior to the site development, in particular related to the gas installation building structure and the electricity sub-station within the north area of the site.

2.6.16 There are potential former building structure obstructions within site and buried concrete.

Further Investigation

2.6.17 Whilst the site is considered suitable for its current usage, the proposed change in use will require intrusive investigation. These investigation works can be managed by a suitable condition imposed upon the planning permission, with various aspects related also to building control issues.

2.6.18 This would include a borehole drilling exercise, to assess ground conditions, plus borehole well installations to allow for gas monitoring, with associated geotechnical and basic chemical analysis carried out to enable foundation recommendations and to determine near surface ground conditions including depth to competent founding strata, presence of buried obstructions, groundwater and stability.

2.6.19 A suitable schedule of chemical testing should be carried out on soils and groundwater (if present), to assess the significance of contamination, if any, at the site as a result of former potentially contaminative land use. In addition, chemical testing of representative samples of the underlying soils will be required to aid concrete design (pH and sulphate), plus testing designated by United Utilities to assess the correct water supply pipe specification (SVOC, VOC and speciated Hydrocarbons).

2.6.20 An appropriate ground investigation strategy is presented below:

Exploratory holes	Purpose
Window Sampler Boreholes	To retrieve geotechnical data from depth.
	To determine the general nature of soils underlying the site, including the: • nature, distribution and thickness of made ground and natural deposits • nature, degree and extent of contamination if any • proportion of undesirable elements e.g. biodegradable matter, relic foundations etc • suitability of the ground for founding structures and highways
	To install monitoring wells across the sites in order to: • monitor for hazardous gas. • determine groundwater levels and assess flow direction.

Table 5: Recommended Scope of Site Investigation Works (taken from PSA Report)

2.6.21 The proposed exploratory hole locations would be selected to provide a representative view of the strata beneath the site and to target potential areas of interest identified in the conceptual model. Additional exploratory locations would probably be scheduled by the site engineer in light of the ground conditions encountered.

2.6.22 The number of representative samples taken would be reflective of the geological complexity encountered during the intrusive investigation. An assessment of potential contaminants associated with the former uses has been undertaken, which is based upon the professional judgement of PSA Design. As a consequence of this assessment, anticipated potential contaminants, within the sub-soil include: localised inorganic contaminants, hydrocarbons, SVOC/VOC, asbestos, PCB and PAH concentrations across of the site.

2.6.23 Gas installation, monitoring and assessment should make reference to the CIRIA Publication C665 "Assessing risks posed by hazardous ground gases to buildings", 2007 and NHBC document "Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present", Ed 4, March 2007 and BS8576:2013 "Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds".

2.6.24 Following completion of the site investigation, it will be necessary to undertake a quantitative risk assessment, and dependent upon the outcome provide a remediation statement for approval by the regulatory authorities. A validation report will be required to demonstrate that the remedial measures have been undertaken in accordance with the approved plan.

2.7 BEK Comments

2.7.1 BEK considers the Phase 1 Assessment to be concise and well written and generally the assessment conforms with current guidance on the assessment of potential risks associated with contamination. The assessment of risks from ground gas should follow the standard presented in 'Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings' (BS8485:2015+A1:2019).

2.7.2 However, BEK notes that further buildings have been demolished in the north of the site since the walkover carried out by PSA with the only buildings remaining residing in the north-west of the site. Moreover, a series of stockpiles of spoil are located near the centre of the site from recent excavations carried out by United Utilities (UU). These are to be removed by UU in due course.

Figure 2: *Site Layout Following Demolition of Further Buildings in the North of the Site. (Taken 2021)*

3. SITE INVESTIGATION

3.1 General

3.1.1 This section provides a summary of the site investigation works undertaken by BEK during August 2021.

3.1.2 The site investigation has been designed to provide indicative information for the ground conditions across the site and to provide a quantitative assessment of potential risks associated with contamination and ground gas and to provide recommendations with respect to foundation design. However, it should be noted that there were areas of the site that were inaccessible at the time of the investigation. This included the north-east of the site where a number of operational buildings remain. Moreover, it was not possible to drill a number of the boreholes at the site due to the presence of hardstanding obstructions/the suspected presence of services (Borehole No WS2 and WS13). However, BEK considers that a reasonable spread of exploratory locations were achieved within accessible areas on site.

3.1.3 All exploratory locations were set out by the site engineer and the exploratory locations are illustrated on BEK Drawing No 21924-3, a copy of which is presented in Appendix F.

3.2 Fieldworks

3.2.1 The extent and scope of the site investigation works were prepared by BEK based on the information presented in the Phase 1 Assessment and observations made on the site.

3.2.2 The site investigation was carried out between 2nd and 20th August 2021 and consisted of the following:

- Twelve window sample boreholes were drilled up to 5.45 m bgl to provide information on the ground conditions across the site. Gas and groundwater monitoring probes were installed in 5 boreholes
- Six machine excavated trial pits (using a JCB 3CX) up to 3.0 m bgl to provide information on the ground conditions across the site with respect to contamination.
- Soil samples were selected for chemical and geotechnical laboratory analysis, as detailed in Section 3.4.
- Five falling head test were carried out to assist with the drainage assessment
- In-situ testing (SPTs) were carried out within the boreholes and the trial pits

- The ground gas and groundwater probes have been monitored on 2 occasions to date (monitoring ongoing).

3.2.3 The ground conditions were recorded by an engineer from BEK and copies of the borehole and trial pit records are presented in Appendix A.

3.2.4 All exploratory locations are illustrated on BEK Drawing No 21924-3 presented in Appendix F.

3.2.5 A series of photographs showing the excavated trial pits are shown in Appendix E.

3.3 Exploratory Locations Rationale

3.3.1 The site investigation was designed by BEK to target specific areas of contamination identified in the Phase 1 Assessment. The following table provides a rationale for each exploratory location:

Exploratory Location	Rationale for Investigation
WS7	To investigate risks with historic Joinery activities in this location
WS5, TP1	To investigate former Tank in East of the site
WS8, TP2	To Investigate risks with former Tank near the centre of the site
WS4*, TP4	To investigate contamination and ground gas risks within the vicinity of the pond in the south-east of the site
WS5*, WS9, WS13, WS14	To investigate risks associated with former laundry
WS6	To investigate risks associated with the ESS to the west of the centre of the site.
WS1*, WS2*, WS3*, WS10, WS11, WS12, WS15, TP3, TP5, TP6	General site wide locations to determine ground conditions and contamination risks associated with site use as Car and Coach Building Factory

Table 6: *Rationale for Exploratory Locations*

*Gas/Groundwater monitoring probe placed within borehole

3.4 Laboratory Testing

3.4.1 Following an assessment of the ground conditions encountered, representative samples were selected for chemical and geotechnical testing.

Chemical Testing

Soil Chemical Testing

3.4.2 Following a review of the ground conditions, BEK selected soil samples for chemical testing based on the recommendations set out in the PRA and ground conditions encountered during the investigation.

3.4.3 The samples were delivered to the UKAS laboratory of Envirolab for the following selected analysis:

- Twenty one (21) samples were tested for the standard BEK soil suite which includes: Arsenic (Total), Cadmium (Total), Copper (Total), Lead (Total), Nickel (Total), Zinc (Total), Chromium (Total), Selenium (Total), Mercury (Total), Boron (Soluble), Hexavalent Chromium, Cyanide (Total), pH, 16 EPA Poly-Aromatic Hydrocarbons (PAH), Speciated Total Petroleum Hydrocarbons (TPH-CWG), Total Phenols, Sulphate (acid soluble), Sulphate 2:1 extract and Soil Organic Matter.

- Twenty one (21) samples were subjected to Asbestos ID testing (including 1 bulk sample of suspected asbestos cement recovered from Trial Pit No 1 at 0.6 m).

- Seven (7) samples were tested for Volatile Organic Compounds and Semi-Volatile Organic Compounds.

- Four (4) samples were tested for Speciated PCB-WHO12

- Five (5) samples were submitted for BRE Sulphate Suite

3.4.4 Copies of the chemical test results are presented in Appendix B.

Groundwater Testing

3.4.5 Groundwater samples have been recovered from Trial Pit No 1 (during the site investigation works) ad from the installations in Borehole No WS4 and Borehole No WS5. These samples were delivered to the UKAS laboratory of Envirolab for the following selected analysis:

Arsenic (Total), Cadmium (Total), Chromium (Total), Copper (Total), Mercury (Total), Lead (Total), Nickel (Total), Selenium (Total), Zinc (Total), Boron (Total), pH, Ammoniacal Nitrogen as N, Chloride, Sulphate as SO4, Total Cyanide, Total Phenols, Dissolved Organic Carbon, Hexavalent Chromium, Speciated TPH Compounds, 16 EPA Poly-Aromatic Hydrocarbons (PAH), MTBE Compounds, BTEX Compounds

3.4.6 Copies of the chemical test results are presented in Appendix B.

Geotechnical Testing

3.4.7 Following a review of ground conditions, 2 natural clay bulk samples were submitted to the UKAS accredited laboratory of TestConsult and were tested for Plasticity Index.

3.4.8 Copies of the geotechnical test results are presented in Appendix C.

3.5 Ground Conditions

3.5.1 Made ground was identified in each exploratory location varying in depth from 0.2 m (Borehole No WS5, WS9 and WS10) to 1.9 m (Borehole No WS7). The made ground comprised 6 subtypes (with the exception of concrete or tarmac) which were generally described as:

Grey/brown/black fine to coarse rarely ashy, occasionally clayey sand with varying proportions of gravel of brick, glass, metal, plastic, concrete, wood and mudstone – This strata represented the most common subtype of made ground at the site and was generally characterstic of demolition fill. The material was encountered at the surface/immediately below the concrete in 9 exploratory locations (Trial Pit No 1, 2, 4 and 6 and Window Sample No 6, 7, 8, 9, 14) to depths varying from 0.2 m (Borehole No WS9) and 1 m (Borehole No WS12). The material was also encountered at the base of the made ground within two exploratory boreholes to depths varying from 1 m (Trial Pit No 3) to 1.9 m (Borehole No WS7).

Brown/grey fine to coarse sandy gravel of limestone with rare brick – This strata was encountered below the concrete/tarmac or at the surface of 5 exploratory locations varying in depth from 0.2 m (Trial Pit No 3, Borehole No WS4 and 5) to 0.6 (Trial Pit No 5).

Soft to stiff brown/grey sandy clay with occasional gravels with occasional brick, concrete and sandstone – This strata was encountered below the demolition fill within Trial Pit No 4 between depths 0.5 m and 0.7 m, at the base of the made ground within Borehole No WS 6 (to a depth of 1.5 m), and at the surface of 4 Borehole to depths between 1 m (Borehole No WS1, WS4 and WS11) and 1.5 m (WS3). This strata contained occasional black clinker within Borehole No WS1.

Orange/brown fine to coarse sand – This strata was encountered below the concrete within Borehole No WS7 to a depth of 0.4 m and at the base of the made ground within Borehole No 7 to a depth of 1.6 m.

Brown fine to coarse clayey silty sand – This strata represented relic topsoil and was encountered at the base of Trial Pit No 5 to a depth of 0.9 m.

Fine black sandy gravel of coal – A thin layer of this material was encountered within the made ground of Borehole No WS7 between depths 0.4 m and 0.5 m.

3.5.2 The superficial strata underlying the made ground soils generally comprised 'soft to stiff brown/grey/red sandy silty clays with occasional sand pockets and gravels'. However, 'wet light brown/orange/brown fine to coarse clayey sands and gravel' lenses were encountered sporadically across the site being noted in Borehole No WS10 (1m to 2.5 m), Borehole No WS11 (1.5 m to 2 m), Borehole No WS12 (1 m to 3m). In Trial Pit No 5, 'soft silty sands' were encountered at 0.9m down to 1.4m with 'wet cobbles and gravel' extending down to 2.1m, with 'soft clays' at the base of the excavation. 'No recovery' was recorded within the superficial strata in five locations including Borehole No WS6 (3 m to 5.45 m), Borehole No WS11 (2 m to 5.45 m), Borehole No WS4 (3 m to 4 m), Borehole No WS8 (3 m to 4 m) and Borehole No WS14 (4 to 5.45 m).

3.5.3 Standing groundwater was encountered within Trial Pit No 5 at 1.7 m. A 'moderate water ingress' was encountered within Trial Pit No 6 at 0.5 m. A 'slight water ingress' was encountered at depth 0.9 m within Trial Pit No 3 which was assigned to the presence of a broken land drain in this location.

3.5.4 Visual/olfactory evidence of contamination was encountered in a number of exploratory locations at the site. A summary of visual/olfactory evidence of contamination is provided within Table 7.

Location	Depth (m)	Strata	Comments
TP1	0.6	Made Ground	Suspected Asbestos Cement
TP2	0.4 – 0.45	Made Ground	Localised Hydrocarbon Staining and Slight Hydrocarbon Odour
TP3	0.9	Water Ingress at 0.9 m	Slight Hydrocarbon Sheen and Odour
TP3	0.8 – 1.2	Made Ground	Clinker Pocket
TP6	0.5	Groundwater	Hydrocarbon Odour
TP6	0.5 – 1.0	Natural Clay	Black Staining
WS1	0.1 – 1	Made Ground	Occasional Clinker Inclusions
WS7	0.5 – 1.9	Made Ground	Slight Hydrocarbon Odour

Table 7: *Summary of Visual & Olfactory Evidence of Contamination at the Site*

Falling Head Test

3.5.5 Falling head tests were carried out within 5 exploratory locations at the site (Borehole No WS1, WS3, WS4, WS5 and WS10). The results are presented in Appendix D.

3.5.6 Whilst a level of permeability was noted within the shallow alluvial soils, the depth to shallow groundwater at the outset of the falling head tests varied from 0.79 to 1.32 m. As such disposal of surface water via infiltration is unlikely to be possible given the shallow groundwater levels. However, confirmation of this should be provided through further site investigation in accordance with BRE 365.

3.6 Environmental Monitoring

3.6.1 Gas and groundwater monitoring is ongoing and the results will be assessed within an addendum report that will be completed when the gas monitoring programme has been completed.

3.6.2 However, a summary of the monitoring undertaken to date (2 monitoring visits) is provided below:

Groundwater

3.6.3 Groundwater levels have been monitored in the boreholes are summarised in the Table 8.

Borehole Location	Recorded Water Level (m bgl)
WS1	1.31 – 1.37
WS10	1.1 - 1.28
WS4	1.1 – 1.22
WS3	0.94 – 0.96
WS5	0.79 – 0.81

Table 8: *Summary of Water Levels in Boreholes*

3.6.4 It can be seen from the above table that groundwater was present at shallow depths across the site.

3.6.5 Based on the available information, the water encountered in the boreholes is considered to represent quantities of perched water within the less permeable horizons of made ground/shallow superficial deposits.

3.6.6 Note that seasonal variations in water levels cannot be accounted for over the short monitoring period.

Gas Monitoring

3.6.7 The boreholes have been monitored for ground gas on 2 occasions to date and a summary of the gas monitoring results are presented in Table 9.

Location	Concentrations (% v/v)			Steady State Flow Rate (l/hr)
	Carbon Dioxide	Methane	Oxygen	
WS1	0.1	0	19.3 – 19.4	0
WS10	3.4 – 5.3	0	8.5 – 10.9	0
WS4	0.4 – 0.6	0	20.0 – 20.1	-3.3
WS3	0.9	0	20.1 – 20.2	0
WS5	0.1 -0.2	0	20.3	0

Table 9: Summary of Gas Monitoring Data

3.6.8 It can be seen that as there are no positive flow rates recorded during the monitoring visit.

3.6.9 Based on the morning data to date, risks from ground gas appear to be low. However, there is a marginal exceedance of the typical maximum values for carbon dioxide (5 %) on one occasion from Borehole No WS10.

3.6.10 The gas monitoring program is incomplete and a full Gas Risk Assessment will be prepared as a separate report on completion of the gas monitoring programme.

4. QUANTITATIVE RISK ASSESSMENT

4.1 Potentially Significant Pollutant Linkages

4.1.1 Potentially significant pollutant linkages have been identified in the PSA as listed below:

(i) Human Health – risks to end users associated with contamination in the made ground: risk via ingestion (soil), inhalation (soil or dust) or direct contact .Risks to groundworkers and end users associated with the inhalation of asbestos fibres during the re-development works

(ii) Human Health – risks associated with harmful gases entering buildings (on site or off site): risk via inhalation or explosion

(iii) Controlled Waters – risks associated with contamination in the made ground and/or natural strata affecting water quality in the superficial Secondary A Aquifer present within the Alluvial deposits and bedrock Secondary B Aquifer (where Boulder Clay is absent). Risk are associated with dissolution of contamination into perched water/leachate and lateral/vertical migration to water receptors.

(v) Property (including services, concrete and flora) – risks associated contamination affecting concrete, service pipes and flora

4.2 Risk Assessment: Human Health Risks from Exposure to Contaminated Soil

4.2.1 The risks to human health have been assessed by inspection of shallow soils for the presence of elevated contaminants based on the expected contaminant findings detailed in the conceptual model and completion of a quantitative risk assessment.

4.2.2 The soil contamination concentrations have initially been compared to a range of generic assessment criteria. These include the use of the Land Quality Management and Chartered Institute of Environmental Health assessment criteria (S4ULs), Category 4 Screening Levels (C4SLs), Atkins Atrisk Values and Environment Agency Soil Guideline Values (SGVs).

4.2.3 These assessment criteria have been derived using the CLEA model and fully justified input parameters. For contaminants of concern where generic assessment criteria are not available, BEK has derived assessment criteria using fully justified physical, chemical and toxicological parameters for each contaminants of concern input into the CLEA model. The derivation of the assessment criteria assumes a commercial end use. The initial assessment assumes a soil organic matter (SOM) of 1 % as a conservative approach.

4.2.4 The following table summarises the chemical test results for the samples tested and lists the relevant assessment criteria and the samples with a concentration in excess of the assessment criteria. Note that only determinands with a concentration above the laboratory limit of detection are presented in the table below:

Determinands	Units	Range of Concentrations	Assessment Criteria	Samples Fail
Cyanide (total)	mg/kg	<1 - 8	34[3]	---
Arsenic	mg/kg	<1 - 77	640[1]	---
Boron (water soluble)	mg/kg	<1 - 1.8	240000[1]	---
Cadmium	mg/kg	<0.5 - 4.6	190[1]	---
Copper	mg/kg	3 - 387	68000[1]	---
Chromium	mg/kg	12 - 161	8600[1]	---
Chromium (hexavalent)	mg/kg	<1	33[1]	---
Lead	mg/kg	<1 - 919	2300[2]	---
Mercury	mg/kg	<0.17 - 4	1100[1]	---
Nickel	mg/kg	9.0 - 87.0	980[1]	---
Selenium	mg/kg	<1 - 1	12000[1]	---
Zinc	mg/kg	9 - 420	730000[1]	---
Acenaphthene	mg/kg	<0.01 - 1.99	84000[1]	---
Acenaphthylene	mg/kg	<0.01 - 0.29	83000[1]	---
Anthracene	mg/kg	<0.02 - 9.97	520000[1]	---
Benzo(a)anthracene	mg/kg	<0.04 - 11.8	170[1]	---
Benzo(a)pyrene	mg/kg	<0.04 - 7.49	35[1]	---
Benzo(b)fluoranthene	mg/kg	<0.05 - 7.83	44[1]	---
Benzo(ghi)perylene	mg/kg	<0.05 - 3.25	3900[1]	---
Benzo(k)fluoranthene	mg/kg	<0.07 - 3.47	1200[1]	---
Chrysene	mg/kg	<0.06 - 9.17	350[1]	---
Dibenzo(ah)anthracene	mg/kg	<0.04 - 0.76	3.5[1]	---
Fluoranthene	mg/kg	<0.08 - 29.4	23000[1]	---
Fluorene	mg/kg	<0.01 - 3.03	63000[1]	---
Indeno(123-cd)pyrene	mg/kg	<0.03 - 3.97	500[1]	---
Naphthalene	mg/kg	<0.03 - 0.24	190[1]	---
Phenanthrene	mg/kg	<0.03 - 36	22000[1]	---
Pyrene	mg/kg	<0.07 - 22.6	54000[1]	---
Dimethyl phthalate	µg/kg	<100 - 534	19000000[4]	---
Carbazole	µg/kg	<100 - 154	490000[4]	---
2-Methylnaphthalene	µg/kg	<100 - 253	5300000[4]	---
Perylene	µg/kg	<100 - 886	---	---
Trichloroethene	µg/kg	<1 - 8	730[4]	---
n-Propylbenzene	µg/kg	<1 - 23	33000000[4]	---
1,2,4-Trimethylbenzene	µg/kg	<1 - 80	300000[4]	---
sec-Butylbenzene	µg/kg	<1 - 49	17000000[4]	---
n-Butylbenzene	µg/kg	<1 - 82	9200000[4]	---
PCB BZ 118	mg/kg	<0.007 - 0.014	0.24[5]	---
PCB BZ 123	mg/kg	<0.005 - 0.007		
PCB BZ 167	mg/kg	<0.005 - 0.013		
Aliphatic Hydrocarbons >C6-C8	mg/kg	<0.01 - 0.12	7800[1]	---
Aliphatic Hydrocarbons >C8-C10	mg/kg	<1 - 19	2000[1]	---
Aliphatic Hydrocarbons >C10-C12	mg/kg	<1 - 112	9700[1]	---
Aliphatic Hydrocarbons >C12-C16	mg/kg	<1 - 371	59000[1]	---
Aliphatic Hydrocarbons >C16-C21	mg/kg	<1 - 328	1600000*[1]	---
Aliphatic Hydrocarbons >C21-C35	mg/kg	1 - 400	1600000*[1]	---
Aromatic Hydrocarbons >C8-C10	mg/kg	<1 - 4	3500*[1]	---
Aromatic Hydrocarbons >C10-C12	mg/kg	<1 - 22	16000[1]	---
Aromatic Hydrocarbons >C12-C16	mg/kg	<1 - 138	36000[1]	---

Aromatic Hydrocarbons >C16-C21	mg/kg	<1 - 178	28000[1]	---
Aromatic Hydrocarbons >C21-C35	mg/kg	1 - 429	28000[1]	---
Asbestos ID	% w/w	Positive asbestos found in TP1 (0.6 m), TP1 (0.7 m), WS6 (0.5 m)		

Table 10: Summary of Contamination Assessment

1 CIEH/LQM Derived Assessment Criteria (S4ULs based on 1% SOM)
2 Category 4 Screening Levels
3 Atkins Atrisk Values
4 BEK Derived Assessment Criteria
5 Soil Guideline Values
NAD No Asbestos Detected

4.2.5 It can be seen from the above table that there are no elevated contaminants of concern at the site.

4.2.6 Notwithstanding, 3 of 21 samples proved positive for the presence of asbestos.

Further Assessment - Asbestos

4.2.7 Three of 21 samples proved positive with respect to the presence of asbestos (2 from the sub-surface soils and 1 bulk piece of ACM recovered from the Trial Pit No 1 (0.6 m.

4.2.8 To further assess potential risks associated with asbestos BEK instructed the laboratory to carry out the asbestos quantification testing on the 2 soil samples which proved positive with respect to the presence of asbestos. Bulk fibre testing was also carried out by the laboratory on the suspected piece of asbestos containing cement in Trial Pit No 1.

4.2.9 The location of the positive asbestos samples, the type of asbestos contained within each positive sample and the quantification result for each sample is provided within Table 11.

Location	Asbestos Type/Matrix Description	Quantification Result (% w/w)
TP1 (0.6 m)	Chrysotile – Cement	Bulk Piece
TP1 (0.7 m)	Chrysotile – Loose Fibres	<0.001
WS6 (0.5 m)	Amosite & Chrysotile – Loose Fibres and Board	0.003

Table 11: Summary of Asbestos Quantification Testing in Positive Samples

4.2.10 Additional testing confirmed that the asbestos concentrations within the sample recovered from Trial Pit No 1 (0.7 m) was identified at 'trace' concentrations (<0.001%). In accordance with HSG248 if asbestos [fibres] are identified at the limit of detection this is taken to be the equivalent of 'trace' asbestos for bulk materials. In addition, work with soils containing asbestos concentrations of <0.001% are not considered to fall under CAR-SOIL given that the concentration of asbestos encountered are at trace.

4.2.11 Notwithstanding the above, further consideration should be given to the presence of an asbestos cement piece within Trial Pit No 1 (0.6 m) and the sub-surface soil concentration of Amosite & Chrysotile – Loose Fibres and Board of 0.003% encountered at depth 0.5 m within Borehole No WS6.

4.2.12 To further assess the potential issues with the asbestos present in Borehole No WS6 (0.5 m), site specific information (ie type, concentration and end use) were input into the 'Joint Industry and Working Group' (JIWG) risk scoring algorithm for work categories. Where parameters where unknown, the most conservative data was input into the algorithm.

4.2.13 Based on the testing carried out work with the fly-tipped asbestos cement and soils in the vicinity of Borehole No WS6 (0.5 m) should as a minimum be regarded as non-notifiable non-licensed works.

4.2.14 Moreover, it may also be prudent to carry out all sub-surface ground works in accordance with an asbestos management plan given the significant quantities of made ground encountered at the site and its inherent variability.

4.2.15 Furthermore, BEK cannot rule out further localised hotspots of asbestos within the made ground across the site. Therefore, specific mitigation measures will be required within soft landscaped areas of the development to mitigate the risks to end users associated with the potential presence of asbestos in the shallow soils at the site.

4.3 Risk Assessment: Human Health Risks from Exposure to Hazardous Gases

4.3.1 Based on the monitoring undertaken to date (2 monitoring visit) the risks from ground gas are considered to be low.

4.3.2 A separate Ground Gas Risk Assessment will be prepared upon completion of the gas monitoring programme.

4.4 Risk Assessment: Controlled Waters

4.4.1 Potential risks to the quality of groundwater have been identified in the ground conceptual model. Risks associated with contamination in the made ground and/or natural strata affecting water quality in the superficial Secondary A Aquifer present within the Alluvial deposits and bedrock Secondary B Aquifer (where Boulder Clay is absent).

4.4.2 The results of the chemical testing of soils (solid testing) showed that no elevated contaminants of concern (except asbestos) were encountered when assessment was carried out against commercial assessment criteria.

4.4.3 Moreover, perched water was encountered during the groundwater monitoring at depths varying from 0.79 m to 1.31 m in each location. This is considered to represent permeable horizons within the made ground given that laterally continuous groundwater was not encountered during the site investigation works.

4.4.4 A moderate water ingress was encountered within Trial Pit No 3 from 0.9 m which was accompanied by a slight hydrocarbon sheen and odour. BEK conjectures that this may have originated from a damaged land drain.

4.4.5 Relatively impermeable Boulder Clay was identified within the majority of exploratory locations which will mitigate the downward migration of contamination to the underlying Secondary B Aquifer.

4.4.6 In order to assess the risks to superficial groundwater held within the made ground/shallow alluvial deposits and the deeper bedrock aquifer a sample of groundwater was recovered from Trial Pit No 3 (1.0 m) during the ground investigation. Moreover, two samples of perched groundwater have been recovered from groundwater wells (Borehole No WS4 and WS5) during a recent monitoring visit. The results are presented herein.

Chemical Test Results & Assessment

4.4.7 As part of a Tier 1 assessment the concentrations have been compared with the UK DWS Water Supply (Water Quality) Standards (DWS).

4.4.8 Where no UK DWS have been established professional judgement has been used to select alternative criteria derived from various sources, e.g. UK Environmental Quality Standards (EQS) derived from the River Basin Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2015), USEPA standards and the Scotland Private Water Supply Regulations (Scotland 2006 SI209).

4.4.9 The following table summarises the chemical test results for the samples tested and lists the relevant assessment criteria and the samples with a concentration in excess of the assessment criteria. Note determinands above the laboratory limit of detection are not listed.

Determinand	Units	Range of Concentrations	Assessment Criteria	Samples Fail
pH	pH	7.13 - 12.42	nc	---
Ammoniacal nitrogen as N	mg/l	0.12 - 0.94	nc	---
Chloride	mg/l	14 - 123	nc	---
Sulphate	mg/l	15 - 167	250[1]	---
Cyanide (total)	mg/l	<0.005 - 0.103	0.05[1]	WS5
DOC	mg/l	6.1 - 15.7	nc	---
Arsenic (dissolved)	µg/l	3.0 - 6.0	10[1]	---
Boron (dissolved)	µg/l	24 - 188	1000[1]	---
Cadmium (dissolved)	µg/l	<0.2	5[1]	---

Copper (dissolved)	µg/l	2 - 15.0	2000[1]	---
Chromium (dissolved)	µg/l	<1 - 19	50[1]	---
Mercury (dissolved)	µg/l	<0.1	1[1]	---
Nickel (dissolved)	µg/l	2.0 - 14	20[1]	---
Selenium (dissolved)	µg/l	<1 - 5	10[1]	---
Zinc (dissolved)	µg/l	2.0 - 9.0	10.9 & Background[2]	---
Acenaphthene	µg/l	<0.01 - 0.16	5.8[3]	---
Acenaphthylene	µg/l	<0.01 - 0.05	nc	---
Anthracene	µg/l	<0.01 - 0.08	0.1[2]	---
Benzo(a)anthracene	µg/l	0.02 - 0.04	0.018[3]	WS4, WS5, TP3
Benzo(a)pyrene	µg/l	0.01 - 0.03	0.01[1]	WS4, TP3
Benzo(b)fluoranthene	µg/l	0.02 - 0.04	0.1[1]	---
Benzo(ghi)perylene	µg/l	<0.01 - 0.02	0.1[1]	---
Benzo(k)fluoranthene	µg/l	<0.01 - 0.01	0.1[1]	---
Chrysene	µg/l	0.02 - 0.05	nc	---
Fluoranthene	µg/l	0.05 - 0.19	0.0063[2]	WS4, WS5, TP3
Fluorene	µg/l	<0.01 - 0.17	3[3]	---
Indeno(123-cd)pyrene	µg/l	<0.01 - 0.02	0.1[1]	---
Naphthalene	µg/l	<0.01 - 0.25	2.4[2]	---
Phenanthrene	µg/l	<0.01 - 0.25	0.4[3]	---
Pyrene	µg/l	0.05 - 0.17	0.025[3]	WS4, WS5, TP3
Aliphatic Hydrocarbons >C6-C8	µg/l	<1 - 3	15000[4]	---
Aliphatic Hydrocarbons >C8-C10	µg/l	<5 - 38	300[4]	---
Aliphatic Hydrocarbons >C10-C12	µg/l	<5 - 137	300[4]	---
Aliphatic Hydrocarbons >C12-C16	µg/l	<5 - 219	300[4]	---
Aliphatic Hydrocarbons >C16-C21	µg/l	<5 - 380	6000[4]	---
Aliphatic Hydrocarbons >C21-C35	µg/l	<5 - 8060	6000[4]	TP3
Aromatic Hydrocarbons >C7-C8	µg/l	<1 - 1	700[4]	---
Aromatic Hydrocarbons >C8-C10	µg/l	<5 - 122	100[4]	WS5
Aromatic Hydrocarbons >C10-C12	µg/l	<5 - 55	100[4]	---
Aromatic Hydrocarbons >C12-C16	µg/l	7 - 146	100[4]	TP3
Aromatic Hydrocarbons >C16-C21	µg/l	12 - 254	90[4]	TP3
Aromatic Hydrocarbons >C21-C35	µg/l	14 - 884	90[4]	TP3
BTEX - Toluene	µg/l	<1 - 1	74[2]	---
BTEX - o Xylene	µg/l	<1 - 1	30[1]	---

Table 12: *Summary of Elevated Perched Groundwater Concentrations*

1UK DWS Water Supply (Water Quality) Regulations (England & Wales 2000 SI 3184 & 2010 SI 994, Scotland 2001 SI 207, Northern Ireland 2007 No. 147)
2 UK EQS Water Framework Directive (Standards and Classification Directions (England and Wales) 2015
3 USEPA Region 3 Freshwater Screening Benchmarks
4 World Health Organisation Drinking Water Standard

4.4.10 It can be seen from the above table that there are elevated concentrations of Cyanide (total), Benzo(a)anthracene, Benzo(a)pyrene, Fluoranthene, Pyrene, Aliphatic Hydrocarbons >C21-C35, Aromatic Hydrocarbons >C8-C10, Aromatic Hydrocarbons >C12-C16, Aromatic Hydrocarbons >C16-C21 and Aromatic Hydrocarbons >C21-C35.

Further Assessment – Controlled Waters

4.4.11 A review of the chemical test results indicates that elevated PAH compounds and speciated total petroleum hydrocarbons were encountered within both the perched groundwater samples recovered from Borehole No WS4 and WS5 and the water sample recovered from the broken land drain within Trial Pit No 1. Moreover elevated cyanide was encountered within Borehole No WS5.

4.4.12 However, it is noted that the speciated total hydrocarbon concentrations within the groundwater were only marginally elevated with a single elevated concentration of Aromatic Hydrocarbons >C8-C10 being encountered within Borehole No WS5 where a concentration of 122 mg/kg was encountered (versus a screening criteria of 100 mg/kg). In contrast, four speciated total petroleum hydrocarbon ranges were encountered within the water sample recovered from Trial Pit No TP4 with the Aromatic Hydrocarbons >C21-C35 concentration being almost an order of magnitude above the screening criteria (884 mg/kg vs 90 mg/kg).

4.4.13 Cyanide and PAH compounds were generally marginally elevated above the screening criteria/present at low concentrations. Moreover, the presence of clay across the majority of the site will mitigate the downward migration of contamination to the underlying bedrock Secondary B Aquifer which is in any case of low sensitivity.

4.4.14 Furthermore, the site will be overlain by hardstanding with a surface water drainage system to collect water and mitigate the ingress of water to the underlying made ground which in any case is likely to be of poor quality due to historical/present surrounding industrial activities

4.4.15 In addition, it is noted that conservatism is built into the assessment criteria used to assess the risks to controlled waters. The assessment does not consider retardation and dispersion that will occur if the contamination was to migrate to the receptors identified.

4.4.16 With consideration to the marginal nature of the elevated contaminants in groundwater, the impermeable surface of the proposed development and the sensitivity of the aquifer, BEK does not consider the perched water within the made ground/natural strata to pose an ongoing risk to the wider environment.

4.4.17 Notwithstanding, the drainage runs within the site appear to contain water with elevated concentrations of speciated total petroleum hydrocarbons which are likely to originate from the previous use as a garage/car manufactory.

4.4.18 It would be prudent to grub out' and remove from the site all relict drainage runs/services. This shall include the excavation and off site removal of any unexpected contaminated liquids, sludges.

4.5 Risk Assessment: Buildings

4.5.1 Risks to buildings include the assessment of the aggressive nature of the shallow ground with respect to concrete, the risks to the degradation of water pipes and flora due to contamination.

Risk to Concrete

4.5.2 To assess the potential risks to concrete, BEK has compared the site investigation data to assessment criteria presented in the BRE Special Digest 1: Concrete in Aggressive Ground.

4.5.3 With consideration to the characteristic pH and sulphate values from both the groundwater and soil chemical test results, the concrete classification suitable for the site is DS-1 AC-1.

Risks to Services

4.5.4 Potable water supply pipes can be at risk from degradation if the shallow ground consists of specific organic contamination. Guidance published by UKWIR includes a methodology for the site investigation and risk assessment to determine pipe specification.

4.5.5 For brownfield sites, site investigation may be required along the intended route of the water pipeline and samples recovered from specific depths and tested for specific contaminants of concern.

4.5.6 On the basis of the ground conditions encountered, risks to water supply pipelines are considered to be medium to high, however it is recommended that consultation is undertaken with the water service supplier to confirm this.

Risks to Flora

4.5.7 Copper, nickel and zinc are toxic to plants. The effects of copper, nickel and zinc are often regarded as additive. The assessment criteria used for copper, nickel and zinc, are 'pseudo total concentrations' are derived from BS3882:2007 as follows:

Phytotoxic Contaminant	pH Range		
	<6.0	6.0 to 7.0	>7.0
Zinc (nitric acid extractable)	<200	<200	<300
Copper (nitric acid extractable)	<100	<135	<200
Nickel (nitric acid extractable)	<60	<75	<110

Table 13: *Limits for Phytotoxic Contaminants (Units mg/kg)*

4.5.8 By comparing the chemical test results (Appendix B) to the concentrations in the above table, it can be seen that there are localized elevations of copper (387 mg/kg vs 200 mg/kg) and zinc (420 mg/kg vs 300 mg/kg) within Borehole No WS1 (1 m). A further elevated concentration of zinc (313 mg/kg vs 300 mg/kg) was encountered within Borehole No WS6 (0.5 m).

4.6 Risk Assessment: Conclusions

4.6.1 The site investigation encountered laterally continuous heterogeneous made ground in each exploratory location varying in depth from 0.2 m (Borehole No WS5, WS9 and WS10) to 1.9 m (Borehole No WS7). The superficial strata underlying the made ground soils generally comprised 'soft to stiff brown/grey/red sandy silty clays with occasional sand pockets and gravels'. However, 'wet light brown/orange/brown fine to coarse clayey sands and gravel' lenses were encountered sporadically across the site being noted in Borehole No WS10 (1m to 2.5 m), Borehole No WS11 (1.5 m to 2 m), Borehole No WS12 (1 m to 3m). In Trial Pit No 5, 'soft silty sands' were encountered at 0.9m down to 1.4m with 'wet cobbles and gravel' extending down to 2.1m, with 'soft clays' at the base of the excavation. 'No recovery' was recorded within the superficial strata in five locations including Borehole No WS6 (3 m to 5.45 m), Borehole No WS11 (2 m to 5.45 m), Borehole No WS4 (3 m to 4 m), Borehole No WS8 (3 m to 4 m) and Borehole No WS14 (4 to 5.45 m).

4.6.2 Representative samples recovered from site investigation have been tested for a wide range of contaminants of concern in accordance with the recommendations outlined within the Phase 1 Assessment and based on the observations made during the site investigation. The chemical test results have been compared to relevant generic assessment criteria to identify potential contaminants of concern.

4.6.3 Based on the contamination assessment herein and with respect to the redevelopment of the site for commercial use, the only contaminant of concern identified at the site is asbestos.

4.6.4 The potential risks to human health are summarised in the table below:

Receptor	Contaminants of Concern	Matrix	Significant Pathways
Human Health	Asbestos	Made Ground Strata	Inhalation
Flora	Copper Zinc	Made Ground Strata	Root Assimilation
Controlled Waters	Aliphatic Hydrocarbons C21-C35 Aromatic Hydrocarbons C12-C16, C16-C21, C21-C35	Water within Relic Drainage Runs	Migration to Groundwater

Table 14: Summary of Active Risk Pathways

4.6.5 Potential risk to service pipes are considered to be medium to high but advice should be sought from the water supply provider.

4.6.6 Risks to concrete are considered to be low and concrete classification of DS-1 AC-1 will be suitable.

5. GEOTECHNICAL ASSESSMENT

5.1 General

5.1.1 The proposed development involves the erection of a number of single storey commercial units. The units are presumed to be of light weight steel frame construction, with concrete ground floors, and lightweight cladding to walls and roofs. The recommendations given in this assessment are made in the context of the new dwellings. Should the development use change from this profile, re-assessment will be required to consider the likely loads imposed by the specific development.

5.1.2 Six trial pits were excavated, and twelve window sample boreholes were drilled across the accessible areas of the site (exploratory logs presented in Appendix A). The site investigation proved made ground overlying the site, varying in depth from 0.2m (Borehole No WS5, WS9 & WS10) to 1.9m (Borehole No WS7). The made ground is comprised of 'gravels, brick, concrete and firm sandy clays'. The underlying natural superficial strata is variable. 'Sandy clays' were encountered in the majority of the exploratory locations with 'organic gravelly clay' overlying 'firm sandy clays' in Borehole No WS10 & WS12. In Borehole No WS11 'soft clay' was noted to overlie 'coarse sands and gravels'.

5.1.3 There were several boreholes where geotechnical recovery was not possible, this may be due to the wet nature of the soil or due to blockages in the recovery tube.

5.1.4 The trial pit excavations exposed 'soft to stiff clays' underlying the made ground, which extended down to the base of the excavation. In Trial Pit No TP5, 'soft silty sands' were encountered at 0.9 m down to 1.4 m with 'wet cobbles and gravel' extending down to 2.1 m, with 'soft clays' at the base of the excavation.

5.1.4 Bedrock is not believed to have been encountered within any of the trial pits or boreholes. All boreholes generally drilled to a depth of 5.45 m. Ground water was encountered within the trial pits, at depths of 1.7 m in Trial Pit No TP5 & TP6 and at 0.9 m in Trial Pit No TP3. Ground water was not encountered in any of the borehole locations.

5.1.5 Standard Penetration Tests (SPT) were conducted in the window sample boreholes, starting at a depth of 1 m and repeated at 1 m levels from 2 m onwards. The SPT results are summarised in Table 15 below.

Borehole Locations	Depth of Test				
	1.0 – 1.45	2.0 – 2.45	3.0 – 3.45	4.0 – 4.45	5.0 – 5.45
WS1	3	6	10	8	27
WS3	6	9	15	12	14
WS4	8	6	5	8	12
WS5	8	5	8	11	10
WS6	7	10	13	27	24
WS7	5	5	8	12	14
WS8	6	6	5	8	10
WS9	5	8	8	9	8
WS10	15	14	7	18	22
WS11	3	4	12	25	23
WS12	8	9	13	19	22
WS14	7	7	8	8	9

Table 15: *Window Sample SPT Results*

5.1.6 Shear strength of the clay was measured via hand vanes within the trial pits, the results of which are summarised in Table 16 below.

Trial Pit	Shear Strength (kN/m^2)				
	(At depth)	*(At depth)*	*(At depth)*	*(At depth)*	*(At depth)*
TP1	116 *(1.7m)*	61 *(2.1m)*	92 *(2.5m)*	-	-
TP2	163 *(0.7m)*	125 *(1.3m)*	111 *(1.8m)*	56 *(2.2m)*	79 *(2.7m)*
TP3	120 *(1.6m)*	64 *(2.2m)*	87 *(2.7m)*	-	-
TP4	51 *(1.8m)*	76 *(2.3m)*	73 *(2.7m)*	-	-
TP5	-	-	-	-	-
TP6	36 *(1.7m)*	64 *(2.3m)*	89 *(2.7m)*	-	-

Table 16: *Shear Strength Results*

5.1.7 Clay samples were taken from Trial Pit No 2 and Trial Pit No 4. Atterberg tests were undertaken in the laboratory conditions to determine the plasticity index of the clay. The modified plasticity index for each sample was calculated in accordance with NHBC guidance and summarised in Table 17 below.

Sample	Plastic Limit Test Results					
	Location	Depth (m)	Plasticity Index (P.I.)	Retained 425 Sieve	Passing 425 Sieve	Modified P.I. (%)
1	TP2	1.8m	13	5.0	95.0	12.4
2	TP4	2.6m	10	7.1	92.9	9.3
		Average	11.5		Average:	10.9

Table 17: Plasticity Results

5.1.8 The plasticity results are reasonably consistent and therefore the soil can be categorised to be of low volume change potential, requiring a minimum foundation formation depth of 0.75 m below existing or proposed ground level, whichever is the lower, in areas where clay soils are present. Clay heave potential must be considered as part of the foundation design and must be appraised in accordance with NHBC Ch.4.2 requirements.

5.2 Assessment and Conclusions

5.2.1 The underlying soils vary significantly in terms of strength and composition. Shear strengths and SPT values to trial pits and their closest adjacent boreholes suggest variance in bearing pressures of between 200 KN/m^2 (Trial Pit No TP2) and 60 KN/m2 (Borehole No WS8) a few metres away. The results, however; suggest that the weakest ground has a bearing capacity of no lower than 50 KN/m^2 at any exploratory location. This bearing capacity should therefore be adopted as the pessimistic pressure for all foundations across the site.

5.2.2 We understand that the development is for single storey lightly loaded commercial units. The construction of these is currently unknown, but is likely to impose foundation loadings of no more than 50 kN/m^2. The adoption of reinforced spread foundations could therefore be adopted for the proposed buildings. The addition of reinforcement will allow for the load to be spread laterally and will also distribute loadings to restrict potential differential settlements. For more certainty regarding settlements, the adoption of a mini-piled raft slab could be considered.

5.2.3 In some areas, the fill materials exceed 600 mm in thickness. In these areas, the ground floor slabs will need to be suspended. There are minor areas of the site where the fill materials have been found to be less than 600 mm in depth, although these appear to be in isolated locations. It is therefore recommended that suspended concrete ground floors are adopted for the units.

5.2.4 All formations must be checked on site to confirm that the design bearing capacity is extent before foundations are installed. Should areas of poor ground be encountered, the excavations may require extending until suitable strata is found, and the design engineer's instruction must be sought.

5.2.5 Should there be mature trees within the site, these will have a bearing on formation depths. Formation depths must be considered in respect of existing tress as this will have an impact on foundation depths. The foundation designer must consider the potential effects of the existing trees, in respect of determination of formation levels for foundations. Formation levels must be designed to comply with LABC requirements and NHBC Ch.4.2 guidance.

5.2.6 All foundation designs must be reviewed and designed by a suitably qualified design engineer. The above advice is based upon the ground condition information obtained during the survey. The design engineer must satisfy themselves that the information meets with their design requirements.

6. RECOMMENDATIONS

6.1 This report provides an assessment of the ground conditions based on the assessment of available site investigation information. The assessment quantifies the potential risks associated with contamination and provides recommendations for foundation design considering the redevelopment proposals.

Contamination Assessment

6.2 Based on the contamination assessment herein and with respect to the redevelopment of the site for commercial use, potential risks have been identified to groundworkers associated with the presence of asbestos at the site. Moreover, phytotoxic concentrations of copper and zinc have been encountered within the shallow made ground soils. Whilst perched groundwater did not appear to contain significant contamination, the drainage runs within the site appear to contain water with elevated concentrations of speciated total petroleum hydrocarbons which are likely to originate from the sites use as a garage/car manufactory.

6.3 To mitigate the potential risks, the following works are recommended:

i) As a minimum, inspection of the ground conditions should be carried out following removal of the remaining buildings in the north-west of the site and in the south-east where a stockpile is currently located (where access to below ground conditions is not possible). The inspection will need tp confirm that ground conditions are similar to elsewhere across the site. If ground conditions differ or there is visual/olfactory evidence of contamination encountered, further sampling, assessment and/or remediation may be required.

ii) Further sampling and assessment of the stockpiled soils in the south-east of the site to provide recommendations for re-use or waste classification.

iii) The remediation contractor shall ‘grub out’ and remove from the site all relict drainage runs/services. This shall include the excavation and off site removal of any unexpected contaminated liquids, sludges etc, as required and validation of site soils by the supervising engineer against the relevant site specific remedial targets.

iv) To mitigate the potential risks to human health associated with potential presence of asbestos in the made ground all groundworks should be carried out in accordance with an Asbestos Management Plan (AMP). The groundworkers risk assessment and method statements should reflect the information presented herein and the AMP.

v) All soft landscaped areas will be capped with a minimum of 300 mm of clean suitable soil (150 mm subsoil and 150 mm topsoil). The capping soils

should be underlain by a 100 mm granular no-dig layer or a geotextile marker membrane to prevent mixing. It may be possible to re-use site won topsoil/subsoil subject to further spatial assessment of phytotoxic contaminants in the soils.

vi) All ground workers adopts suitable PPE when working on the site and consider the requirements of site specific risk assessments and working method statements.

6.4 The ground conditions should be as anticipated during all excavations. Advice should be sought if ground conditions are significantly different or if visual/olfactory evidence of contamination is encountered.

6.5 The remediation works required should be detailed in a Remediation Method Statement along with the method a validation and reporting.

Geotechnical Assessment

6.6 The underlying soils vary significantly in terms of strength and composition. Shear strengths and SPT values to trial pits and their closest adjacent boreholes suggest variance in bearing pressures of between 200 KN/m^2 (Trial Pit No TP2) and 60 KN/m^2 (Borehole No WS8) a few metres away. However, the results suggest that the weakest ground has a bearing capacity of no lower than 50 KN/m^2 at any exploratory location. This bearing capacity should therefore be adopted as the pessimistic pressure for all foundations across the site.

6.7 We understand that the development is for single storey lightly loaded commercial units. The construction of these is currently unknown, but is likely to impose foundation loadings of no more than 50 kN/m^2. The adoption of reinforced spread foundations could therefore be adopted for the proposed buildings. The addition of reinforcement will allow for the load to be spread laterally and will also distribute loadings to restrict potential differential settlements. For more certainty regarding settlements, the adoption of a mini-piled raft slab could be considered.

6.8 In some areas, the fill materials exceed 600 mm in thickness. In these areas, the ground floor slabs will need to be suspended. There are minor areas of the site where the fill materials have been found to be less than 600 mm in depth, although these appear to be in isolated locations. It is therefore recommended that suspended concrete ground floors are adopted for the units.

6.9 All formations must be checked on site to confirm that the design bearing capacity is extent before foundations are installed. Should areas of poor ground be encountered, the excavations may require extending until suitable strata is found, and the design engineer's instruction must be sought.

6.10 Should there be mature trees within the site, these will have a bearing on formation depths. Formation depths must be considered in respect of existing tress as this will have an impact on foundation depths. The foundation designer must consider the potential effects of the existing trees, in respect of determination of formation levels for foundations. Formation levels must be designed to comply with LABC requirements and NHBC Ch.4.2 guidance.

6.11 All foundation designs must be reviewed and designed by a suitably qualified design engineer. The above advice is based upon the ground condition information obtained during the survey. The design engineer must satisfy themselves that the information meets with their design requirements.

6.12 Precautions are required with respect to concrete classification. BEK recommends that as a minimum the design sulphate class for the site should comply with DS-1 and the ACEC class AC-1.

Waste Soil Management

6.13 Careful management of soils during the excavation works will ensure optimum utilisation of soil resources.

6.14 Excavated soils which require off-site disposal are anticipated to be classified in accordance with the following document: Guidance on the Disposal of "Contaminated Soils" Version 3 (April 2001); produced by the Environment Agency. On the basis it is considered likely that soils from the majority of the site would classify as "Non-hazardous"/"Inert" for disposal; however this is subject to confirmation of the potential landfill use.

6.15 In all cases where excess soils require off-site disposal, the materials needs to be managed under the appropriate legislation and consideration given to any remedial techniques that could be used to improve the soil.

6.16 If waste soils are to be re-used on site then a suitable permit exemption should be put in place (if appropriate) or a Material Management Plan should be prepared as part of compliance with the CL:AIRE Definition of Waste:Code of Practice.

Water Pipe Specification

6.17 Consideration should be given to the requirements of the water supply provider. They are likely to require the UKWIR risk assessment to be completed to determine the specification for the water pipes. It is recommended that the water supply provider is contacted and enquiries made.

APPENDIX A

Exploratory Logs

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJ. NAME Former TVR Buildings, Blackpool
CLIENT JWS LTD

DATE 2nd August 2021
EXCAVATION METHOD Trial Pit
TRIAL PIT NO TP1
SHEET 1/6

COMPLETION

COMMENTS SV @ 1.7 m = 116 kPa. SV @ 2.1 m = 61 kPa. SV @ 2.5 m = 92 kPa

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Graphic Log	Material Description	Additional Observations	Elevation (m)
0.2						Reinforced Concrete		0.2
0.4						Brown fine to coarse sand with frequent fine to coarse gravel and cobbles of brick. Suspected Asbestos Cement piece at 0.6 m		0.4
0.6	0.6	D=0.6 m						0.6
	0.7	D=0.7 m						
0.8						Soft grey very sandy clay with frequent claywith frequent clayey sand pockets		0.8
1	1.0	D=1.0 m						1
1.2								1.2
1.4								1.4
1.6						Firm to stiff light brown sandy cobbly clay		1.6
1.8								1.8
2								2
2.2								2.2
2.4								2.4
2.6						Termination Depth at: 2.5 m		2.6
2.8								2.8
3								3
3.2								3.2
3.4								3.4
3.6								3.6
3.8								3.8

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJ. NAME Former TVR Buildings, Blackpool
CLIENT JWS LTD

DATE 2nd August 2021
EXCAVATION METHOD Trial Pit
TRIAL PIT NO TP2
SHEET 2/6

COMPLETION

COMMENTS SV @ 0.7 m = 163 kPa, SV @ 1.3 m = 125 kPa, SV @ 1.8 m = 111 kPa, SV @ 2.2 m = 56 kPa, SV @ 2.7 m = 79 kPa.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Graphic Log	Material Description	Additional Observations	Elevation (m)
0.2						Reinforced Concrete		0.2
0.4	0.4	D=0.4 m				Brown fine to coarse sand with frequent fine to coarse gravel of brick (localised hydrocarbon staining and slight hydrocarbon odour from 0.4 to 0.45 m)		0.4
0.6						Firm brown sandy clay with occasional soft clay lenses and occasional sand pockets		0.6
0.8								0.8
1								1
1.2								1.2
1.4								1.4
1.6								1.6
1.8	1.8	D=1.8 m, B=1.8 m						1.8
2								2
2.2								2.2
2.4								2.4
2.6								2.6
2.8								2.8
3						Termination Depth at: 2.9 m		3
3.2								3.2
3.4								3.4
3.6								3.6
3.8								3.8

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJ. NAME Former TVR Buildings, Blackpool
CLIENT JWS LTD

DATE 2nd August 2021
EXCAVATION METHOD Trial Pit
TRIAL PIT NO TP3
SHEET 3/6

COMPLETION

COMMENTS SV @ 1.6 m = 120 kPa, SV @ 2.2 m = 64 kPa, SV @ 2.7 m = 87 kPa.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Graphic Log	Material Description	Additional Observations	Elevation (m)
0	0.15	D=0.15 m				Tarmac		0
0.2						Cream fine to coarse sandy gravel with rare brick fragments		0.2
0.4	0.5	D=0.5 m				Black fine to coarse ashy slightly clayey sand with occasional fine to coarse gravel and occasional brick fragments, rare glass and rare metal (water ingress from 0.9 m, slight hydrocarbon sheen and odour)(pocket of clinker from 0.8 to 1.2 m in centre of the pit)		0.4
0.6								0.6
0.8								0.8
1	1.0	W=1.0 m		▽				1
1.2						Firm to stiff sandy silty clay with sand pockets (sand lense from 1.3 to 1.5 m)		1.2
1.4								1.4
1.6								1.6
1.8								1.8
2								2
2.2								2.2
2.4								2.4
2.6								2.6
2.8								2.8
3						Termination Depth at: 2.9 m		3
3.2								3.2
3.4								3.4
3.6								3.6
3.8								3.8

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJ. NAME Former TVR Buildings, Blackpool
CLIENT JWS LTD

DATE 2nd August 2021
EXCAVATION METHOD Trial Pit
TRIAL PIT NO TP4
SHEET 4/6

COMPLETION

COMMENTS SV @ 1.8 m = 51 kPa, SV @ 2.3 m = 76 kPa, SV @ 2.7 m = 73 kPa.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Graphic Log	Material Description	Additional Observations	Elevation (m)
0.2	0.3	D=0.3 m				Light brown fine to coarse clayey sand with frequent fine to coarse gravel and frequent cobbles of brick, concrete, rare plastic, rare metal and rare wood		0.2
0.4								0.4
0.6						Soft brown sandy clay		0.6
0.8						Orange fine to coarse sand		0.8
1								1
1.2								1.2
1.4								1.4
1.6						Firm brown/red sandy clay with rare cobbles		1.6
1.8								1.8
2								2
2.2								2.2
2.4								2.4
2.6	2.6	D=2.6 m, B=2.6 m						2.6
2.8								2.8
3						Termination Depth at: 3.0 m		3
3.2								3.2
3.4								3.4
3.6								3.6
3.8								3.8

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJ. NAME Former TVR Buildings, Blackpool
CLIENT JWS LTD

DATE 2nd August 2021
EXCAVATION METHOD Trial Pit
TRIAL PIT NO TP5
SHEET 5/6

COMPLETION

COMMENTS TP collapsed. Standing Water at 1.7 m.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Graphic Log	Material Description	Additional Observations	Elevation (m)
0						Hardstanding Concrete (reinforced)		0
0.2						Brown coarse angular sandy gravel of limestone		0.2
0.4								0.4
0.6	0.7	D=0.7 m				Brown fine to coarse clayey silty sand (Relic Topsoil)		0.6
0.8								0.8
1						Brown/grey/yellow silty sand with rare granite pieces		1
1.2								1.2
1.4								1.4
1.6	1.6	D=1.6 m		▽		Wet sandy rounded gravel and cobbles		1.6
1.8								1.8
2								2
2.2						Soft brown/red sandy clay with rare cobbles		2.2
2.4						Termination Depth at: 2.2 m		2.4
2.6								2.6
2.8								2.8
3								3
3.2								3.2
3.4								3.4
3.6								3.6
3.8								3.8

GEO-ENVIROMENTAL CONSULTING ENGINEERS

PROJECT NUMBER 21924
PROJ. NAME Former TVR Buildings, Blackpool
CLIENT JWS LTD

DATE 2nd August 2021
EXCAVATION METHOD Trial Pit
TRIAL PIT NO TP6
SHEET 6/6

COMPLETION

COMMENTS SV @ 1.7 m = 36 kPa, SV @ 2.3 m = 64 kPa, SV @ 2.7 m = 89 kPa.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Graphic Log	Material Description	Additional Observations	Elevation (m)
0.2						Grey fine to coarse gravel and cobbles of limestone with occasional brick (Moderate water ingress at 0.5 m, Hydrocarbon Odour from Groundwater)		0.2
0.4								0.4
0.6	0.6	D=0.6 m				Soft to firm grey sandy clay (Black staining in upper 0.5 m of the clay)		0.6
0.8								0.8
1								1
1.2								1.2
1.4								1.4
1.6				▽				1.6
1.8								1.8
2								2
2.2								2.2
2.4								2.4
2.6								2.6
2.8								2.8
3						Termination Depth at: 3.0 m		3
3.2								3.2
3.4								3.4
3.6								3.6
3.8								3.8

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 6th August 2021
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS6
SHEET 1/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Graphic Log	Material Description	Additional Observations	Elevation (m)
0						Concrete		0
	0.5	D=0.5 m				Wet grey fine to coarse sandy clayey gravel of brick and concrete (Made Ground)		
0.5								0.5
						Firm to stiff grey sandy clay with occasional rounded gravel (Made Ground)		
1	1 - 1.45	SPT (C) N=7	1,1/1,2,2,2					1
1.5	1.5	D=1.5 m				Stiff orange/brown sandy clay		1.5
2	2 - 2.45	SPT (C) N=10	2,2/2,2,3,3					2
2.5								2.5
	3.0	D=3.0 m						
3	3 - 3.45	SPT (C) N=13	2,2/3,3,3,4			no recovery		3
3.5								3.5
4	4 - 4.45	SPT (C) N=27	5,4/5,6,8,8					4
4.5								4.5
5	5 - 5.45	SPT (C) N=24	5,5/6,6,6,6					5
5.5						Termination Depth at: 5.45 m		5.5
6								6
6.5								6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 6th August 2021
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS10
SHEET 2/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Additional Observations	Elevation (m)
0							Concrete		0
							Soft brown slightly organic sandy gravelly clay		
0.5	0.5	D=0.5 m							0.5
1	1 - 1.45	SPT (C) N=15	2,3/4,4,4,3				Wet light brown fine to coarse slightly clayey sand		1
1.5	1.5	D=1.5 m							1.5
2	2 - 2.45	SPT (C) N=14	3,4/4,4,4,2						2
2.5							Firm to stiff brown sandy clay with occasional fine rounded angular gravel (becoming very stiff from 4 m)		2.5
3	3.0	D=3.0 m							3
	3 - 3.45	SPT (C) N=7	2,2/1,2,2,2						
3.5									3.5
4	4 - 4.45	SPT (C) N=18	4,4/4,5,5,4						4
4.5									4.5
5	5 - 5.45	SPT (C) N=22	5,5/5,5,6,6						5
5.5							Termination Depth at: 5.45 m		5.5
6									6
6.5									6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 6th August 2021
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS11
SHEET 3/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Graphic Log	Material Description	Additional Observations	Elevation (m)
0						Concrete		0
0.5	0.5	D=0.5 m				Soft dark grey sandy clay with frequent fine too coarse gravel of brick and concrete (Made Ground)		0.5
1	1 - 1.45	SPT (C) N=3	1,1/0,1,1,1			Soft brown very sandy clay		1
1.5	1.5	D=1.5 m				Wet brown/orange fine to coarse sand and rounded/angular gravels		1.5
2	2 - 2.45	SPT (C) N=4	1,0/1,0,1,2			no recovery - possibly very wet sands or gravels		2
2.5								2.5
3	3 - 3.45	SPT (C) N=12	2,2/2,2,4,4					3
3.5								3.5
4	4 - 4.45	SPT (C) N=25	4,5/5,6,6,8					4
4.5								4.5
5	5 - 5.45	SPT (C) N=23	5,5/5,6,6,6					5
5.5						Termination Depth at: 5.45 m		5.5
6								6
6.5								6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 6th August 2021
DRILLING METHOD Window Sample Borehole
BORE HOLE NO WS12
SHEET 4/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Graphic Log	Material Description	Additional Observations	Elevation (m)
0						Concrete		0
	0.5	D=0.5 m				Dark brown fine to coarse very clayey sand and gravel (Made Ground)		
0.5								0.5
	1.0	D=1.0 m						
1	1 - 1.45	SPT (C) N=8	1,1/2,2,2,2			Very wet brown/orange fine to coarse sandy slighty clayey gravels		1
1.5								1.5
2	2 - 2.45	SPT (C) N=9	2,3/3,2,2,2					2
2.5								2.5
3	3 - 3.45	SPT (C) N=13	2,2/3,3,3,4			Stiff to very stiff light brown very sandy clay with occasional rounded gravel		3
3.5	3.5	D=3.5 m						3.5
4	4 - 4.45	SPT (C) N=19	4,4/4,5,5,5					4
4.5								4.5
5	5 - 5.45	SPT (C) N=22	4,5/6,5,5,6					5
5.5						Termination Depth at: 5.45 m		5.5
6								6
6.5								6.5

GEO-ENVIRONMENTAL CONSULTANTS

GEO-ENVIROMENTAL CONSULTING ENGINEERS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 13th August 2021
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS1
SHEET 5/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Additional Observations	Elevation (m)
0.5	0.5	D=0.5 m			A		Concrete		0.5
							Soft dark grey/brown sandy silty clay with frequent fine to coarse gravel and occasional brick fragments and occasional black clinker (Made Ground)		
1	1.0	D=1.0 m							1
	1 - 1.45	SPT (C) N=3	1,0/1,0,1,1				Soft grey very sandy slightly sandy clay with frequent fine to coarse gravel		
1.5	1.5	D=1.5 m							1.5
							Firm to stiff brown slightly silty sandy clay with rare fine to medium angular to rounded gravel (becoming stiff from 3 m)		
2	2 - 2.45	SPT (C) N=6	1,1/2,1,2,1						2
2.5									2.5
3	3.0	D=3.0 m							3
	3 - 3.45	SPT (C) N=10	2,2/2,3,2,3						
3.5									3.5
4	4 - 4.45	SPT (C) N=8	2,3/2,2,2,2						4
4.5									4.5
5	5 - 5.45	SPT (C) N=27	4,4/6,7,7,7						5
5.5							Termination Depth at: 5.45 m		5.5
6									6
6.5									6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 13th August 2021
DRILLING METHOD Window Sample Borehole
BORE HOLE NO WS4
SHEET 6/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Additional Observations	Elevation (m)
0	0.2	D=0.2 m			A		Grey fine to coarse sandy gravel of limestone (Made Ground)		0
0.5							Firm to stiff red/brown slightly sandy clay with rare rootlets (Possibly reworked)		0.5
1	1.0	D=1.0 m							1
	1 - 1.45	SPT (C) N=8	1,1/2,2,2,2				Firm to stiff red/brown sandy clay with rare fine to medium rounded gravel		
1.5									1.5
2	2.0	D=2.0 m							2
	2 - 2.45	SPT (C) N=6	1,1/1,2,1,2						
2.5									2.5
3	3 - 3.45	SPT (C) N=5	1,1/1,2,1,1				No recovery		3
3.5									3.5
4	4 - 4.45	SPT (C) N=8	2,2/2,2,2,2				Stiff brown sandy clay		4
4.5									4.5
5	5 - 5.45	SPT (C) N=12	2,2/3,3,3,3						5
5.5							Termination Depth at: 5.45 m		5.5
6									6
6.5									6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 13th August 2021
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS8
SHEET 7/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Additional Observations	Elevation (m)
0							Concrete		0
	0.5	D=0.5 m					Brown fine to coarse sand with frequent fine to coarse subangular gravel (Made Ground)		
0.5									0.5
	1 - 1.45	SPT (C) N=6	1,1/1,1,2,2				Firm to stiff red/brown slightly silty sandy clay with rare fine to coarse angular to rounded gravel		
1									1
1.5									1.5
	2 - 2.45	SPT (C) N=6	1,1/2,1,2,1						
2									2
2.5									2.5
	3.0	D=3.0 m							
3	3 - 3.45	SPT (C) N=5	2,2/1,1,2,1				No recovery		3
3.5									3.5
4	4 - 4.45	SPT (C) N=8	2,2/2,2,2,2				Stiff brown slightly silty sandy clay with rare fine to coarse angular to rounded gravel		4
4.5									4.5
5	5 - 5.45	SPT (C) N=10	2,2/3,2,2,3						5
5.5							Termination Depth at: 5.45 m		5.5
6									6
6.5									6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 13th August 2021
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS14
SHEET 8/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Additional Observations	Elevation (m)
0.5	0.5	D=0.5 m					Concrete		0.5
							Brown fine to coarse sand with frequent fine to coarse subangular gravel (Made Ground)		
1	1 - 1.45	SPT (C) N=7	1,1/2,2,1,2				Firm to stiff brown slightly silty sandy clay with rare fine to medium angular to rounded gravel		1
1.5									1.5
2	2 - 2.45	SPT (C) N=7	1,1/1,2,2,2						2
2.5									2.5
3	3.0	D=3.0 m							3
	3 - 3.45	SPT (C) N=8	1,2/2,2,2,2						
3.5									3.5
4	4 - 4.45	SPT (C) N=8	1,1/2,2,2,2				No recovery		4
4.5									4.5
5	5 - 5.45	SPT (C) N=9	1,2/2,2,3,2						5
5.5							Termination Depth at: 5.45 m		5.5
6									6
6.5									6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 20th August 2021
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS7
SHEET 9/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Additional Observations	Elevation (m)
0	0.2	D=0.2 m					Concrete		0
	0.5	D=0.5 m					Yellow/brown fine to coarse sand (Made Ground)		
0.5							Fine black sandy gravel of coal (Made Ground)		0.5
1	1 - 1.45	SPT (C) N=5	1,0/1,1,1,2				Grey fine to coarse slightly clayey sand and gravel with rare brick (Made Ground)(Slight Hydrocarbon Odour)		1
1.5	1.5	D=1.5 m							1.5
2	2 - 2.45	SPT (C) N=5	1,1/1,1,1,2				Firm to stiff red/brown sandy clay with occasional fine to coarse gravel (becoming stiff from 3 m)		2
2.5									2.5
3	3 - 3.45	SPT (C) N=8	1,2/2,2,2,2						3
3.5									3.5
4	4.0	D=4.0 m							4
	4 - 4.45	SPT (C) N=12	2,2/2,3,3,4						
4.5									4.5
5	5 - 5.45	SPT (C) N=14	2,3/3,3,4,4						5
5.5							Termination Depth at: 5.45 m		5.5
6									6
6.5									6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 20th August 2021
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS9
SHEET 10/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Additional Observations	Elevation (m)
0	0.2	D=0.2 m					Concrete overlying grey fine to coarse sand and gravel of brick, concrete, mudstone and limestone (Made Ground)		0
0.5							Firm to stiff brown/red sandy clay with occasional fine to medium gravel (becoming stiff from 2 m)		0.5
1	1 - 1.45	SPT (C) N=5	2,1/1,2,1,1						1
1.5									1.5
2	2 - 2.45	SPT (C) N=8	1,1/2,2,2,2						2
2.5									2.5
3	3.0	D=3.0 m							3
	3 - 3.45	SPT (C) N=8	1,2/2,2,2,2						
3.5									3.5
4	4 - 4.45	SPT (C) N=9	1,2/2,2,3,2						4
4.5									4.5
5	5 - 5.45	SPT (C) N=8	2,2/2,2,2,2						5
5.5							Termination Depth at: 5.45 m		5.5
6									6
6.5									6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 13th August 2021
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS3
SHEET 11/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Additional Observations	Elevation (m)
0	0.2	D=0.2 m			A		Soft red/brown sandy clay with occasional sandstone and rare angular brick cobbles (Made Ground)		0
0.5									0.5
1	1 - 1.45	SPT (C) N=6	1,1/1,1,2,2						1
1.5	1.5	D=1.5 m					Stiff brown very sandy clay with occasional sandy pockets		1.5
2	2 - 2.45	SPT (C) N=9	1,1/2,2,2,3						2
2.5									2.5
3	3 - 3.45	SPT (C) N=15	2,2/3,4,4,4						3
3.5									3.5
4	4.0	D=4.0 m							4
	4 - 4.45	SPT (C) N=12	2,2/3,3,3,3						
4.5									4.5
5	5 - 5.45	SPT (C) N=14	2,3/3,4,3,4						5
5.5							Termination Depth at: 5.45 m		5.5
6									6
6.5									6.5

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 21924
PROJECT NAME Former TVR Garage, Blackpool
CLIENT JWS Ltd

DATE 13th August 2021
DRILLING METHOD Window Sample Borehole
BORE HOLE NO WS5
SHEET 12/12

COMPLETION **CASING** uPVC **SCREEN** uPVC Factory Slotted

COMMENTS

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Additional Observations	Elevation (m)
0	0.2	D=0.2 m			A		Grey fine to coarse sandy gravel of limestone (Made Ground)		0
0.5							Firm to stiff red/brown sandy silty clay with occasional fine to coarse gravel (becoming stiff form 3 m)		0.5
1	1 - 1.45	SPT (C) N=8	2,2/2,2,2,2						1
1.5									1.5
2	2 - 2.45	SPT (C) N=5	2,2/1,1,2,1						2
2.5									2.5
3	3.0	D=3.0 m							3
	3 - 3.45	SPT (C) N=8	2,2/2,2,2,2						
3.5									3.5
4	4 - 4.45	SPT (C) N=11	2,2/2,3,3,3						4
4.5									4.5
5	5 - 5.45	SPT (C) N=10	2,2/3,2,2,3						5
5.5							Termination Depth at: 5.45 m		5.5
6									6
6.5									6.5

APPENDIX B

Chemical Test Results

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/08437
Issue Number: 1 **Date:** 13 August, 2021

Client:
BEK Enviro Ltd
Suite One
No 3 Mitton Road Business Park
Mitton Road
Whalley
Lancashire
BB7 9YE

Project Manager: Mick Buckley
Project Name: Former TVR Garage, Blackpool
Project Ref: N/A
Order No: 7180-21924-J
Date Samples Received: 03/08/21
Date Instructions Received: 04/08/21
Date Analysis Completed: 12/08/21

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Danielle Brierley
Client Manager

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/1	21/08437/2	21/08437/3	21/08437/4	21/08437/5	21/08437/6	21/08437/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP6	TP1	TP3	TP4			
Depth to Top	0.60	1.00	0.40	0.60	0.70	0.50	0.30			
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21			
Sample Type	Solid - Fragment / Tile	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	8	5A	4A	4A	4AB	6AE	4ABE			
% Stones >10mm$_A$	-	13.1	9.6	7.4	<0.1	44.9	7.6	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	-	7.95	8.78	8.06	8.92	7.91	8.44	pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	-	0.03	0.09	0.02	0.16	0.01	0.02	g/l	0.01	A-T-026s
Sulphate (acid soluble)$_D$$^{M\#}$	-	220	880	200	1900	550	530	mg/kg	200	A-T-028s
Cyanide (total)$_A$$^{M\#}$	-	<1	<1	<1	1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Organic matter$_D$$^{M\#}$	-	0.5	2.9	0.3	25.2	8.8	2.0	% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	-	3	5	<1	10	28	5	mg/kg	1	A-T-024s
Boron (water soluble)$_D$	-	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	-	0.6	1.3	<0.5	0.6	1.1	<0.5	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	-	11	19	3	27	106	16	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	-	26	12	25	15	16	17	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	-	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	-	18	55	26	136	163	135	mg/kg	1	A-T-024s
Mercury$_D$	-	<0.17	0.45	<0.17	0.89	0.42	0.19	mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	-	23	13	21	10	32	14	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	-	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	-	36	64	29	198	194	187	mg/kg	5	A-T-024s

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/1	21/08437/2	21/08437/3	21/08437/4	21/08437/5	21/08437/6	21/08437/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP6	TP1	TP3	TP4			
Depth to Top	0.60	1.00	0.40	0.60	0.70	0.50	0.30			
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21			
Sample Type	Solid - Fragment / Tile	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	8	5A	4A	4A	4AB	6AE	4ABE			
Asbestos in Soil (inc. matrix)^ @										
Asbestos in soil$_D^{\#}$	-	-	NAD	NAD	Chrysotile	NAD	NAD			A-T-045
Asbestos Matrix (microscope)$_D$	-	-	-	-	Loose Fibres	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	-	-	N/A	N/A	N/A	N/A	N/A			A-T-045
Asbestos in Soil Quantification % @ (Hand Picking&Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_D$	-	-	-	-	<0.001	-	-	% w/w	0.001	A-T-054
Bulk Fibre ID (inc. matrix) ^										
Bulk Fibre Identification$_D^{\#}$	Chrysotile	-	-	-	-	-	-			A-T-045
Bulk Fibre Identification Matrix (visual)$_D$	Cement	-	-	-	-	-	-			A-T-045
Bulk Fibre Identification - Suitable for Water Absorption Test?$_D$	Yes	-	-	-	-	-	-			Gravimetry
Bulk Fibre Quantification % Asbestos in ACM										
Bulk Fibre - % Asbestos in ACM (HSG264)$_D$	15	-	-	-	-	-	-	% w/w	0.001	A-T-054

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/1	21/08437/2	21/08437/3	21/08437/4	21/08437/5	21/08437/6	21/08437/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP6	TP1	TP3	TP4			
Depth to Top	0.60	1.00	0.40	0.60	0.70	0.50	0.30			
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21			
Sample Type	Solid - Fragment / Tile	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	8	5A	4A	4A	4AB	6AE	4ABE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	-	<0.01	0.13	0.01	1.99	0.04	0.06	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	-	<0.01	0.03	0.01	0.13	0.03	0.03	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	-	<0.02	0.24	<0.02	9.97	0.13	0.21	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	-	<0.04	0.60	<0.04	11.8	0.50	1.19	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	-	<0.04	0.69	<0.04	7.49	0.51	1.37	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	-	<0.05	0.78	<0.05	7.83	0.55	1.37	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	-	<0.05	0.40	<0.05	2.53	0.29	0.88	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	-	<0.07	0.29	<0.07	3.47	0.23	0.55	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	-	<0.06	0.60	<0.06	9.17	0.46	1.08	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	-	<0.04	0.08	<0.04	0.76	0.07	0.18	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	-	<0.08	1.17	<0.08	29.4	0.86	1.79	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	-	<0.01	0.10	0.07	3.03	0.04	0.04	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	-	<0.03	0.43	<0.03	3.34	0.32	0.92	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	-	<0.03	<0.03	<0.03	0.20	0.06	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	-	<0.03	0.78	0.10	36	0.43	0.78	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	-	<0.07	1.08	<0.07	22.6	0.77	1.65	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	-	<0.08	7.40	0.19	150	5.29	12.1	mg/kg	0.01	A-T-019s

Lab Sample ID	21/08437/1	21/08437/2	21/08437/3	21/08437/4	21/08437/5	21/08437/6	21/08437/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP6	TP1	TP3	TP4			
Depth to Top	0.60	1.00	0.40	0.60	0.70	0.50	0.30			
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21			
Sample Type	Solid - Fragment / Tile	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	8	5A	4A	4A	4AB	6AE	4ABE			
SVOC										
4-Bromophenyl phenyl ether$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	-	107	<100	-	-	-	µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Carbazole$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	-	<500	<500	-	-	-	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Phenol$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	-	-	<500	<500	-	-	-	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Isophorone$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/1	21/08437/2	21/08437/3	21/08437/4	21/08437/5	21/08437/6	21/08437/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP6	TP1	TP3	TP4			
Depth to Top	0.60	1.00	0.40	0.60	0.70	0.50	0.30			
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21			
Sample Type	Solid - Fragment / Tile	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	8	5A	4A	4A	4AB	6AE	4ABE			
Hexachloroethane$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	-	<100	<100	-	-	-	µg/kg	100	A-T-052s
Perylene$_A$	-	-	210	<100	-	-	-	µg/kg	100	A-T-052s

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/1	21/08437/2	21/08437/3	21/08437/4	21/08437/5	21/08437/6	21/08437/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP6	TP1	TP3	TP4			
Depth to Top	0.60	1.00	0.40	0.60	0.70	0.50	0.30			
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21			
Sample Type	Solid - Fragment / Tile	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	8	5A	4A	4A	4AB	6AE	4ABE			
VOC										
Dichlorodifluoromethane$_A$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Chloromethane$_A$	-	-	<10	<10	-	-	-	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Bromomethane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Chloroethane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Trichlorofluoromethane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Carbon Disulphide$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Dichloromethane$_A$	-	-	<5	<5	-	-	-	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
2,2-Dichloropropane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Bromochloromethane$_A^\#$	-	-	<5	<5	-	-	-	µg/kg	5	A-T-006s
Chloroform$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloropropene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Carbon Tetrachloride$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,2-Dichloroethane$_A^\#$	-	-	<2	<2	-	-	-	µg/kg	2	A-T-006s
Benzene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Trichloroethene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,2-Dichloropropane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Dibromomethane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Bromodichloromethane$_A^\#$	-	-	<10	<10	-	-	-	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Toluene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,3-Dichloropropane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Tetrachloroethene$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Dibromochloromethane$_A^\#$	-	-	<3	<3	-	-	-	µg/kg	3	A-T-006s
1,2-Dibromoethane$_A^\#$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/1	21/08437/2	21/08437/3	21/08437/4	21/08437/5	21/08437/6	21/08437/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP6	TP1	TP3	TP4			
Depth to Top	0.60	1.00	0.40	0.60	0.70	0.50	0.30			
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21			
Sample Type	Solid - Fragment / Tile	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	8	5A	4A	4A	4AB	6AE	4ABE			
Chlorobenzene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	-	-	<2	3	-	-	-	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	-	-	<1	2	-	-	-	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	-	-	<1	2	-	-	-	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	-	-	<2	<2	-	-	-	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	-	-	<3	<3	-	-	-	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	-	-	<1	<1	-	-	-	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	-	-	<3	<3	-	-	-	µg/kg	3	A-T-006s

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/1	21/08437/2	21/08437/3	21/08437/4	21/08437/5	21/08437/6	21/08437/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP1	TP1	TP2	TP6	TP1	TP3	TP4			
Depth to Top	0.60	1.00	0.40	0.60	0.70	0.50	0.30			
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21	02-Aug-21			
Sample Type	Solid - Fragment / Tile	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	8	5A	4A	4A	4AB	6AE	4ABE			
TPH CWG										
Ali >C5-C6$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	-	<1	1	13	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	-	<1	12	73	2	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	-	<1	22	139	5	1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	-	<1	17	65	8	3	2	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	-	1	22	31	96	20	22	mg/kg	1	A-T-055s
Total Aliphatics$_A$	-	1	73	321	110	25	24	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	-	<1	2	1	1	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	-	<1	3	18	2	1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	-	<1	12	65	11	3	3	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	-	<1	15	34	28	9	15	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	-	1	39	10	130	42	78	mg/kg	1	A-T-055s
Total Aromatics$_A$	-	1	70	127	173	55	96	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	-	2	144	448	283	80	120	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/8	21/08437/9	21/08437/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP5	TP2	TP4							
Depth to Top	0.70	1.80	2.60							
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21							
Sample Type	Soil	Soil	Soil							
Sample Matrix Code	4A	5A	4A							
% Stones >10mm$_A$	0.8	<0.1	<0.1					% w/w	0.1	A-T-044
pH$_D^{M\#}$	7.41	-	-					pH	0.01	A-T-031s
pH BRE$_D^{M\#}$	-	8.36	8.54					pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D^{M\#}$	<0.01	-	-					g/l	0.01	A-T-026s
Sulphate BRE (water sol 2:1)$_D^{M\#}$	-	13	63					mg/l	10	A-T-026s
Sulphate (acid soluble)$_D^{M\#}$	210	-	-					mg/kg	200	A-T-028s
Sulphate BRE (acid sol)$_D^{M\#}$	-	<0.02	0.03					% w/w	0.02	A-T-028s
Sulphur BRE (total)$_D$	-	<0.01	0.03					% w/w	0.01	A-T-024s
Cyanide (total)$_A^{M\#}$	<1	-	-					mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	-	-					mg/kg	0.2	A-T-050s
Organic matter$_D^{M\#}$	0.8	-	-					% w/w	0.1	A-T-032 OM
Arsenic$_D^{M\#}$	<1	-	-					mg/kg	1	A-T-024s
Boron (water soluble)$_D$	<1.0	-	-					mg/kg	1	A-T-027s
Cadmium$_D^{M\#}$	<0.5	-	-					mg/kg	0.5	A-T-024s
Copper$_D^{M\#}$	6	-	-					mg/kg	1	A-T-024s
Chromium$_D^{M\#}$	17	-	-					mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	-	-					mg/kg	1	A-T-040s
Lead$_D^{M\#}$	17	-	-					mg/kg	1	A-T-024s
Mercury$_D$	<0.17	-	-					mg/kg	0.17	A-T-024s
Nickel$_D^{M\#}$	13	-	-					mg/kg	1	A-T-024s
Selenium$_D^{M\#}$	<1	-	-					mg/kg	1	A-T-024s
Zinc$_D^{M\#}$	24	-	-					mg/kg	5	A-T-024s

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/8	21/08437/9	21/08437/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP5	TP2	TP4							
Depth to Top	0.70	1.80	2.60							
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21							
Sample Type	Soil	Soil	Soil							
Sample Matrix Code	4A	5A	4A							
Asbestos in Soil (inc. matrix)^ @										
Asbestos in soil$_D^{\#}$	NAD	-	-							A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	-	-							A-T-045

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/8	21/08437/9	21/08437/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP5	TP2	TP4							
Depth to Top	0.70	1.80	2.60							
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21							
Sample Type	Soil	Soil	Soil							
Sample Matrix Code	4A	5A	4A							
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	-	-					mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	-	-					mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	-	-					mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	-	-					mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	-	-					mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	-	-					mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	-	-					mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	-	-					mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	-	-					mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	-	-					mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	-	-					mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	-	-					mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	-	-					mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	-	-					mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	-	-					mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	-	-					mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	<0.08	-	-					mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/8	21/08437/9	21/08437/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP5	TP2	TP4							
Depth to Top	0.70	1.80	2.60							
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21							
Sample Type	Soil	Soil	Soil							
Sample Matrix Code	4A	5A	4A							
Speciated PCB-WHO12										
PCB BZ 81$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 105$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 114$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 118$_A^{M\#}$	<0.007	-	-					mg/kg	0.007	A-T-004s
PCB BZ 123$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 126$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 156$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 157$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 167$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 169$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 189$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
PCB BZ 77$_A$	<0.005	-	-					mg/kg	0.005	A-T-004s
Total Speciated PCB-WHO12$_A$	<0.007	-	-					mg/kg	0.005	A-T-004s

Envirolab Job Number: 21/08437

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08437/8	21/08437/9	21/08437/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP5	TP2	TP4							
Depth to Top	0.70	1.80	2.60							
Depth To Bottom										
Date Sampled	02-Aug-21	02-Aug-21	02-Aug-21							
Sample Type	Soil	Soil	Soil							
Sample Matrix Code	4A	5A	4A							
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	-	-					mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	-	-					mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	-	-					mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	-	-					mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	2	-	-					mg/kg	1	A-T-055s
Total Aliphatics$_A$	2	-	-					mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	-	-					mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	-	-					mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	-	-					mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	-	-					mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	3	-	-					mg/kg	1	A-T-055s
Total Aromatics$_A$	3	-	-					mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	6	-	-					mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	-	-					mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

v1

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: BEK Enviro Ltd, Suite One , No 3 Mitton Road Business Park , Mitton Road , Whalley , Lancashire , BB7 9YE

Project: Former TVR Garage, Blackpool

Clients Project No: N/A

Project No: 21/08437

Date Received: 04/08/2021 (am)

Cool Box Temperatures (°C): 17.0

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-120:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/08437/1	21/08437/2	21/08437/3	21/08437/4	21/08437/5	21/08437/6	21/08437/7	21/08437/8	21/08437/9	21/08437/10
Client Sample No										
Client Sample ID/Depth	TP1 0.60m	TP1 1.00m	TP2 0.40m	TP6 0.60m	TP1 0.70m	TP3 0.50m	TP4 0.30m	TP5 0.70m	TP2 1.80m	TP4 2.60m
Date Sampled	02/08/21	02/08/21	02/08/21	02/08/21	02/08/21	02/08/21	02/08/21	02/08/21	02/08/21	02/08/21
A-T-004s								09/08/2021		
A-T-006s			09/08/2021	09/08/2021						
A-T-019s		09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021		
A-T-022s		09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021		
A-T-024s		12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021
A-T-026s		10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021
A-T-027s		12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021		
A-T-028s		11/08/2021	11/08/2021	11/08/2021	11/08/2021	11/08/2021	11/08/2021	11/08/2021	11/08/2021	11/08/2021
A-T-031s		10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021
A-T-032 OM		10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021		
A-T-040s		10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021		
A-T-042sTCN		12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021		
A-T-044		12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021	12/08/2021
A-T-045	05/08/2021		05/08/2021	05/08/2021	05/08/2021	05/08/2021	05/08/2021	05/08/2021		
A-T-050s		10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021	10/08/2021		
A-T-052s			11/08/2021	11/08/2021						
A-T-054	09/08/2021				09/08/2021					
A-T-055s		09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021	09/08/2021		
Gravimetry	05/08/2021									

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/08661
Issue Number: 1 **Date:** 18 August, 2021

Client:
BEK Enviro Ltd
Suite One
No 3 Mitton Road Business Park
Mitton Road
Whalley
Lancashire
BB7 9YE

Project Manager: Mick Buckley
Project Name: Former TVR Garage, Blackpool
Project Ref: Not specified
Order No: 7188-21924-J
Date Samples Received: 09/08/21
Date Instructions Received: 10/08/21
Date Analysis Completed: 18/08/21

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Holly Neary-King
Client Services Supervisor

Envirolab Job Number: 21/08661

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/08661/1	21/08661/2	21/08661/3	21/08661/4	21/08661/5	21/08661/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS10	WS11	WS12	WS6	WS6	WS5				
Depth to Top	0.50	0.50	0.50	0.50	1.50	3.00				
Depth To Bottom										
Date Sampled	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6A	6A	5A	6A	5A	5A				
% Stones >10mm$_A$	6.2	2.3	2.0	<0.1	<0.1	3.4		% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.27	9.10	7.78	8.28	-	8.45		pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	0.02	0.08	<0.01	0.01	-	<0.01		g/l	0.01	A-T-026s
Sulphate (acid soluble)$_D$$^{M\#}$	250	940	210	530	-	<200		mg/kg	200	A-T-028s
Sulphur (total)$_D$	-	-	-	-	-	140		mg/kg	50	A-T-024s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	-	-		mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	-	-		mg/kg	0.2	A-T-050s
Organic matter$_D$$^{M\#}$	0.8	3.0	0.7	3.5	-	-		% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	4	8	<1	3	-	-		mg/kg	1	A-T-024s
Boron (water soluble)$_D$	<1.0	1.4	<1.0	<1.0	-	-		mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	<0.5	<0.5	0.6	-	-		mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	8	18	4	99	-	-		mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	16	24	19	75	-	-		mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	-	-		mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	16	50	8	50	-	-		mg/kg	1	A-T-024s
Mercury$_D$	1.40	0.84	<0.17	<0.17	-	-		mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	12	18	12	13	-	-		mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	-	-		mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	29	69	20	313	-	-		mg/kg	5	A-T-024s

Envirolab Job Number: 21/08661

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/08661/1	21/08661/2	21/08661/3	21/08661/4	21/08661/5	21/08661/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS10	WS11	WS12	WS6	WS6	WS5				
Depth to Top	0.50	0.50	0.50	0.50	1.50	3.00				
Depth To Bottom										
Date Sampled	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6A	6A	5A	6A	5A	5A				
Asbestos in Soil (inc. matrix)^ @										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	Amosite & Chrysotile	-	-				A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	Loose Fibres & Board	-	-				A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	No	-	-				A-T-045
Asbestos in Soil Quantification % @ (Hand Picking&Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	-	-	0.003	-	-		% w/w	0.001	A-T-054

Envirolab Job Number: 21/08661

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/08661/1	21/08661/2	21/08661/3	21/08661/4	21/08661/5	21/08661/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS10	WS11	WS12	WS6	WS6	WS5				
Depth to Top	0.50	0.50	0.50	0.50	1.50	3.00				
Depth To Bottom										
Date Sampled	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6A	6A	5A	6A	5A	5A				
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	<0.01	<0.01	0.65	-	-		mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	<0.01	0.29	-	-		mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.02	<0.02	<0.02	2.22	-	-		mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.11	0.09	<0.04	8.50	-	-		mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.13	0.10	<0.04	7.07	-	-		mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.12	0.11	<0.05	7.13	-	-		mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.06	0.07	<0.05	3.25	-	-		mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	<0.07	2.21	-	-		mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.11	0.10	<0.06	6.52	-	-		mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04	<0.04	0.57	-	-		mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.19	0.19	<0.08	16.9	-	-		mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	<0.01	0.50	-	-		mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.08	0.07	<0.03	3.97	-	-		mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	<0.03	0.24	-	-		mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.08	0.05	<0.03	6.37	-	-		mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.17	0.15	<0.07	15.2	-	-		mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	1.07	0.93	<0.08	81.6	-	-		mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/08661

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/08661/1	21/08661/2	21/08661/3	21/08661/4	21/08661/5	21/08661/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS10	WS11	WS12	WS6	WS6	WS5				
Depth to Top	0.50	0.50	0.50	0.50	1.50	3.00				
Depth To Bottom										
Date Sampled	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6A	6A	5A	6A	5A	5A				
Speciated PCB-WHO12										
PCB BZ 81$_A$	-	-	-	<0.005	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 105$_A$	-	-	-	<0.005	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 114$_A$	-	-	-	<0.005	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 118$_A^{M\#}$	-	-	-	0.014	<0.007	-		mg/kg	0.007	A-T-004s
PCB BZ 123$_A$	-	-	-	0.007	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 126$_A$	-	-	-	<0.005	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 156$_A$	-	-	-	0.006	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 157$_A$	-	-	-	<0.005	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 167$_A$	-	-	-	0.013	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 169$_A$	-	-	-	<0.005	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 189$_A$	-	-	-	<0.005	<0.005	-		mg/kg	0.005	A-T-004s
PCB BZ 77$_A$	-	-	-	<0.005	<0.005	-		mg/kg	0.005	A-T-004s
Total Speciated PCB-WHO12$_A$	-	-	-	0.040	<0.007	-		mg/kg	0.005	A-T-004s

Envirolab Job Number: 21/08661

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/08661/1	21/08661/2	21/08661/3	21/08661/4	21/08661/5	21/08661/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS10	WS11	WS12	WS6	WS6	WS5				
Depth to Top	0.50	0.50	0.50	0.50	1.50	3.00				
Depth To Bottom										
Date Sampled	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21	06-Aug-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6A	6A	5A	6A	5A	5A				
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	-	-		mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	-	-		mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	1	-	-		mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	2	<1	8	-	-		mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	2	33	1	54	-	-		mg/kg	1	A-T-055s
Total Aliphatics$_A$	2	36	1	63	-	-		mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	<1	-	-		mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	-	-		mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	<1	2	-	-		mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	2	<1	21	-	-		mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	3	24	1	128	-	-		mg/kg	1	A-T-055s
Total Aromatics$_A$	3	26	1	152	-	-		mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	5	62	2	215	-	-		mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	-		mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

v1

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client:	BEK Enviro Ltd, Suite One , No 3 Mitton Road Business Park , Mitton Road , Whalley , Lancashire , BB7 9YE	**Project No:**	21/08661
		Date Received:	10/08/2021 (am)
Project:	Former TVR Garage, Blackpool	**Cool Box Temperatures (°C):**	15.1
Clients Project No:			

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-120:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/08661/1	21/08661/2	21/08661/3	21/08661/4	21/08661/5	21/08661/6
Client Sample No						
Client Sample ID/Depth	WS10 0.50m	WS11 0.50m	WS12 0.50m	WS6 0.50m	WS6 1.50m	WS5 3.00m
Date Sampled	06/08/21	06/08/21	06/08/21	06/08/21	06/08/21	06/08/21
A-T-004s				13/08/2021	13/08/2021	
A-T-019s	13/08/2021	13/08/2021	13/08/2021	13/08/2021		
A-T-022s	17/08/2021	17/08/2021	17/08/2021	17/08/2021		
A-T-024s	18/08/2021	18/08/2021	18/08/2021	18/08/2021		18/08/2021
A-T-026s	17/08/2021	17/08/2021	17/08/2021	17/08/2021		17/08/2021
A-T-027s	18/08/2021	18/08/2021	18/08/2021	18/08/2021		
A-T-028s	18/08/2021	18/08/2021	18/08/2021	18/08/2021		18/08/2021
A-T-031s	17/08/2021	17/08/2021	17/08/2021	17/08/2021		17/08/2021
A-T-032 OM	17/08/2021	17/08/2021	17/08/2021	17/08/2021		
A-T-040s	17/08/2021	17/08/2021	17/08/2021	17/08/2021		
A-T-042sTCN	17/08/2021	17/08/2021	17/08/2021	17/08/2021		
A-T-044	18/08/2021	18/08/2021	18/08/2021	18/08/2021	18/08/2021	18/08/2021
A-T-045	11/08/2021	11/08/2021	11/08/2021	11/08/2021		
A-T-050s	17/08/2021	17/08/2021	17/08/2021	17/08/2021		
A-T-054				12/08/2021		
A-T-055s	17/08/2021	17/08/2021	17/08/2021	17/08/2021		

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/08954
Issue Number: 1 **Date:** 26 August, 2021

Client:
BEK Enviro Ltd
Suite One
No 3 Mitton Road Business Park
Mitton Road
Whalley
Lancashire
BB7 9YE

Project Manager: Mick Buckley
Project Name: Former TVR Garage, Blackpool
Project Ref: N/A
Order No: 7197-21924-JD
Date Samples Received: 17/08/21
Date Instructions Received: 18/08/21
Date Analysis Completed: 26/08/21

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Sophie France
Client Service Manager

Envirolab Job Number: 21/08954

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS1	WS4	WS14	WS1	WS8					
Depth to Top	1.00	0.20	0.50	0.50	0.50					
Depth To Bottom										
Date Sampled	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21					
Sample Type	Soil	Soil	Soil	Soil	Solid					
Sample Matrix Code	4A	5A	4AB	5A	7					
% Stones >10mm$_A$	25.6	1.4	21.6	32.9	<0.1			% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.99	8.16	8.73	11.45	10.44			pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	0.04	<0.01	0.03	0.04	<0.01			g/l	0.01	A-T-026s
Sulphate (acid soluble)$_D$$^{M\#}$	950	240	350	690	630			mg/kg	200	A-T-028s
Cyanide (total)$_A$$^{M\#}$	<1	<1	8	<1	<1			mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2			mg/kg	0.2	A-T-050s
Organic matter$_D$$^{M\#}$	31.0	1.0	1.8	8.5	1.3			% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	77	4	3	20	4			mg/kg	1	A-T-024s
Boron (water soluble)$_D$	1.8	<1.0	<1.0	<1.0	<1.0			mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	2.8	<0.5	<0.5	0.7	<0.5			mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	387	18	20	74	29			mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	36	17	21	17	24			mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1			mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	919	35	21	115	14			mg/kg	1	A-T-024s
Mercury$_D$	0.48	<0.17	1.40	1.72	3.03			mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	87	14	16	24	19			mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	1	<1	<1	<1	<1			mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	420	33	51	119	33			mg/kg	5	A-T-024s

Envirolab Job Number: 21/08954

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS1	WS4	WS14	WS1	WS8					
Depth to Top	1.00	0.20	0.50	0.50	0.50					
Depth To Bottom										
Date Sampled	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21					
Sample Type	Soil	Soil	Soil	Soil	Solid					
Sample Matrix Code	4A	5A	4AB	5A	7					
Asbestos in Soil (inc. matrix)^ @										
Asbestos in soil$_D^{\#}$	NAD	NAD	NAD	NAD	NAD					A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	N/A	N/A	N/A	N/A					A-T-045

Envirolab Job Number: 21/08954

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS1	WS4	WS14	WS1	WS8					
Depth to Top	1.00	0.20	0.50	0.50	0.50					
Depth To Bottom										
Date Sampled	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21					
Sample Type	Soil	Soil	Soil	Soil	Solid					
Sample Matrix Code	4A	5A	4AB	5A	7					
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.05	0.05	0.07	<0.01	0.21			mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.03	0.02	0.03	<0.01	0.09			mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.16	0.14	0.19	<0.02	0.39			mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.73	0.85	1.05	0.10	2.14			mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.67	1.11	1.13	0.11	2.20			mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.71	1.14	1.18	0.12	2.40			mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.34	0.65	0.53	0.07	0.91			mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.27	0.39	0.42	<0.07	0.80			mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.80	0.93	1.08	0.11	2.02			mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.07	0.12	0.11	<0.04	0.21			mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	1.54	1.53	1.97	0.14	3.84			mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.04	0.03	0.06	<0.01	0.12			mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.41	0.73	0.65	0.08	1.19			mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	0.04			mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.84	0.55	0.72	0.05	1.69			mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	1.23	1.40	1.93	0.13	3.35			mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	7.89	9.64	11.1	0.91	21.6			mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/08954

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS1	WS4	WS14	WS1	WS8					
Depth to Top	1.00	0.20	0.50	0.50	0.50					
Depth To Bottom										
Date Sampled	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21					
Sample Type	Soil	Soil	Soil	Soil	Solid					
Sample Matrix Code	4A	5A	4AB	5A	7					
Speciated PCB-WHO12										
PCB BZ 81$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 105$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 114$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 118$_A^{M\#}$	-	-	-	-	<0.007			mg/kg	0.007	A-T-004s
PCB BZ 123$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 126$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 156$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 157$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 167$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 169$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 189$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
PCB BZ 77$_A$	-	-	-	-	<0.005			mg/kg	0.005	A-T-004s
Total Speciated PCB-WHO12$_A$	-	-	-	-	<0.007			mg/kg	0.005	A-T-004s

Envirolab Job Number: 21/08954

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS1	WS4	WS14	WS1	WS8					
Depth to Top	1.00	0.20	0.50	0.50	0.50					
Depth To Bottom										
Date Sampled	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21					
Sample Type	Soil	Soil	Soil	Soil	Solid					
Sample Matrix Code	4A	5A	4AB	5A	7					
SVOC										
4-Bromophenyl phenyl ether$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	-	-	<100	534			µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Carbazole$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	-	-	<500	<500			µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Phenol$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	-	-	-	<500	<500			µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Isophorone$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s

Envirolab Job Number: 21/08954

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS1	WS4	WS14	WS1	WS8					
Depth to Top	1.00	0.20	0.50	0.50	0.50					
Depth To Bottom										
Date Sampled	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21					
Sample Type	Soil	Soil	Soil	Soil	Solid					
Sample Matrix Code	4A	5A	4AB	5A	7					
Hexachloroethane$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	-	-	<100	<100			µg/kg	100	A-T-052s
Perylene$_A$	-	-	-	<100	187			µg/kg	100	A-T-052s

Envirolab Job Number: 21/08954

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS1	WS4	WS14	WS1	WS8					
Depth to Top	1.00	0.20	0.50	0.50	0.50					
Depth To Bottom										
Date Sampled	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21					
Sample Type	Soil	Soil	Soil	Soil	Solid					
Sample Matrix Code	4A	5A	4AB	5A	7					
VOC										
Dichlorodifluoromethane$_{A}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Chloromethane$_{A}$	-	-	-	<10	<10			µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Dichloromethane$_{A}$	-	-	-	<5	<5			µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	-	-	-	<5	<5			µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	-	-	-	<2	<2			µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	-	-	-	<10	<10			µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	-	-	-	<3	<3			µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s

Envirolab Job Number: 21/08954

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS1	WS4	WS14	WS1	WS8					
Depth to Top	1.00	0.20	0.50	0.50	0.50					
Depth To Bottom										
Date Sampled	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21					
Sample Type	Soil	Soil	Soil	Soil	Solid					
Sample Matrix Code	4A	5A	4AB	5A	7					
Chlorobenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	-	-	-	<2	<2			µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	-	-	-	<2	<2			µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	-	-	-	<3	<3			µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	-	-	-	<1	<1			µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	-	-	-	<3	<3			µg/kg	3	A-T-006s

Envirolab Job Number: 21/08954

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS1	WS4	WS14	WS1	WS8					
Depth to Top	1.00	0.20	0.50	0.50	0.50					
Depth To Bottom										
Date Sampled	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21	13-Aug-21					
Sample Type	Soil	Soil	Soil	Soil	Solid					
Sample Matrix Code	4A	5A	4AB	5A	7					
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	1	1	4	<1	7			mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	15	36	61	10	103			mg/kg	1	A-T-055s
Total Aliphatics$_A$	16	37	65	11	110			mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	1	1	2	2	2			mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	2	2	1			mg/kg	1	A-T-055s
Aro >C12-C16$_A$	3	2	2	3	4			mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	9	10	9	3	23			mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	34	73	48	10	151			mg/kg	1	A-T-055s
Total Aromatics$_A$	47	86	63	19	181			mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	63	123	128	30	291			mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

v1

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: BEK Enviro Ltd, Suite One , No 3 Mitton Road Business Park , Mitton Road , Whalley , Lancashire , BB7 9YE

Project: Former TVR Garage, Blackpool

Clients Project No: N/A

Project No: 21/08954

Date Received: 18/08/2021 (am)

Cool Box Temperatures (°C): 14.8

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/08954/1	21/08954/2	21/08954/3	21/08954/4	21/08954/5
Client Sample No					
Client Sample ID/Depth	WS1 1.00m	WS4 0.20m	WS14 0.50m	WS1 0.50m	WS8 0.50m
Date Sampled	13/08/21	13/08/21	13/08/21	13/08/21	13/08/21
A-T-004s					24/08/2021
A-T-006s				23/08/2021	23/08/2021
A-T-019s	23/08/2021	23/08/2021	23/08/2021	23/08/2021	23/08/2021
A-T-022s	24/08/2021	24/08/2021	24/08/2021	24/08/2021	24/08/2021
A-T-024s	25/08/2021	25/08/2021	25/08/2021	25/08/2021	25/08/2021
A-T-026s	25/08/2021	25/08/2021	25/08/2021	25/08/2021	25/08/2021
A-T-027s	26/08/2021	26/08/2021	26/08/2021	26/08/2021	26/08/2021
A-T-028s	26/08/2021	26/08/2021	26/08/2021	26/08/2021	26/08/2021
A-T-031s	26/08/2021	26/08/2021	26/08/2021	26/08/2021	26/08/2021
A-T-032 OM	24/08/2021	24/08/2021	24/08/2021	24/08/2021	24/08/2021
A-T-040s	25/08/2021	25/08/2021	25/08/2021	25/08/2021	25/08/2021
A-T-042sTCN	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021
A-T-044	25/08/2021	25/08/2021	25/08/2021	25/08/2021	25/08/2021
A-T-045	19/08/2021	19/08/2021	19/08/2021	19/08/2021	19/08/2021
A-T-050s	19/08/2021	19/08/2021	19/08/2021	19/08/2021	19/08/2021
A-T-052s				23/08/2021	23/08/2021
A-T-055s	24/08/2021	24/08/2021	24/08/2021	24/08/2021	24/08/2021

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/09152
Issue Number: 1 **Date:** 03 September, 2021

Client:
BEK Enviro Ltd
Suite One
No 3 Mitton Road Business Park
Mitton Road
Whalley
Lancashire
BB7 9YE

Project Manager: Mick Buckley
Project Name: Former TVR Garage, Blackpool
Project Ref: Not specified
Order No: 7203/21924/J
Date Samples Received: 23/08/21
Date Instructions Received: 24/08/21
Date Analysis Completed: 03/09/21

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 21/09152

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09152/1	21/09152/2	21/09152/3	21/09152/4	21/09152/5	21/09152/6	21/09152/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS5	WS7	WS7	WS3	WS9	WS7	WS9			
Depth to Top	0.20	0.50	1.50	0.20	0.20	4.00	3.00			
Depth To Bottom										
Date Sampled	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21			
Sample Type	Solid	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	7	4A	4AE	5A	4AB	5A	5A			
% Stones >10mm$_A$	<0.1	<0.1	10.7	3.1	35.7	<0.1	13.8	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	12.57	9.58	8.61	8.46	10.60	8.85	8.75	pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	0.08	<0.01	0.06	0.05	0.14	0.02	0.03	g/l	0.01	A-T-026s
Sulphate (acid soluble)$_D$$^{M\#}$	2400	910	200	270	1100	<200	220	mg/kg	200	A-T-028s
Sulphur (total)$_D$	-	-	-	-	-	210	271	mg/kg	50	A-T-024s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	-	-	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	mg/kg	0.2	A-T-050s
Organic matter$_D$$^{M\#}$	6.9	0.2	0.3	1.3	1.3	-	-	% w/w	0.1	A-T-032 OM
Arsenic$_D$$^{M\#}$	2	<1	4	8	<1	-	-	mg/kg	1	A-T-024s
Boron (water soluble)$_D$	<1.0	<1.0	<1.0	<1.0	<1.0	-	-	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	4.6	<0.5	0.8	<0.5	-	-	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	6	42	6	37	11	-	-	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	15	161	24	25	16	-	-	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	-	-	mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	29	<1	6	79	18	-	-	mg/kg	1	A-T-024s
Mercury$_D$	4.00	<0.17	<0.17	<0.17	1.68	-	-	mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	9	59	21	29	12	-	-	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	-	-	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	19	9	26	88	32	-	-	mg/kg	5	A-T-024s

Envirolab Job Number: 21/09152

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09152/1	21/09152/2	21/09152/3	21/09152/4	21/09152/5	21/09152/6	21/09152/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS5	WS7	WS7	WS3	WS9	WS7	WS9			
Depth to Top	0.20	0.50	1.50	0.20	0.20	4.00	3.00			
Depth To Bottom										
Date Sampled	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21			
Sample Type	Solid	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	7	4A	4AE	5A	4AB	5A	5A			
Asbestos in Soil (inc. matrix)^ @										
Asbestos in soil$_D^{\#}$	NAD	NAD	NAD	NAD	NAD	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	N/A	N/A	N/A	N/A	-	-			A-T-045

Envirolab Job Number: 21/09152

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09152/1	21/09152/2	21/09152/3	21/09152/4	21/09152/5	21/09152/6	21/09152/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS5	WS7	WS7	WS3	WS9	WS7	WS9			
Depth to Top	0.20	0.50	1.50	0.20	0.20	4.00	3.00			
Depth To Bottom										
Date Sampled	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21			
Sample Type	Solid	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	7	4A	4AE	5A	4AB	5A	5A			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.07	<0.01	0.09	<0.01	0.71	-	-	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.05	<0.01	<0.01	<0.01	0.09	-	-	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.23	<0.02	0.07	<0.02	2.53	-	-	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	1.69	0.05	<0.04	<0.04	6.70	-	-	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	2.60	<0.04	<0.04	<0.04	4.95	-	-	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	2.54	<0.05	<0.05	<0.05	4.77	-	-	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	1.61	<0.05	<0.05	<0.05	2.34	-	-	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.91	<0.07	<0.07	<0.07	1.84	-	-	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.81	<0.06	<0.06	<0.06	5.22	-	-	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.28	<0.04	<0.04	<0.04	0.51	-	-	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	2.59	0.11	<0.08	<0.08	15.2	-	-	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.05	<0.01	0.27	<0.01	1.14	-	-	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	1.87	<0.03	<0.03	<0.03	3.09	-	-	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	0.03	-	-	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.78	0.09	0.46	<0.03	13	-	-	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	2.51	0.10	<0.07	<0.07	12.2	-	-	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	19.6	0.35	0.89	<0.08	74.3	-	-	mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/09152

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09152/1	21/09152/2	21/09152/3	21/09152/4	21/09152/5	21/09152/6	21/09152/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS5	WS7	WS7	WS3	WS9	WS7	WS9			
Depth to Top	0.20	0.50	1.50	0.20	0.20	4.00	3.00			
Depth To Bottom										
Date Sampled	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21			
Sample Type	Solid	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	7	4A	4AE	5A	4AB	5A	5A			
SVOC										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Carbazole$_A$	154	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<500	-	-	-	-	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	253	-	-	-	-	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	<500	<500	-	-	-	-	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s

Envirolab Job Number: 21/09152

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09152/1	21/09152/2	21/09152/3	21/09152/4	21/09152/5	21/09152/6	21/09152/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS5	WS7	WS7	WS3	WS9	WS7	WS9			
Depth to Top	0.20	0.50	1.50	0.20	0.20	4.00	3.00			
Depth To Bottom										
Date Sampled	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21			
Sample Type	Solid	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	7	4A	4AE	5A	4AB	5A	5A			
Hexachloroethane$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100	-	-	-	-	µg/kg	100	A-T-052s
Perylene$_A$	886	<100	<100	-	-	-	-	µg/kg	100	A-T-052s

Envirolab Job Number: 21/09152

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09152/1	21/09152/2	21/09152/3	21/09152/4	21/09152/5	21/09152/6	21/09152/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS5	WS7	WS7	WS3	WS9	WS7	WS9			
Depth to Top	0.20	0.50	1.50	0.20	0.20	4.00	3.00			
Depth To Bottom										
Date Sampled	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21			
Sample Type	Solid	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	7	4A	4AE	5A	4AB	5A	5A			
VOC										
Dichlorodifluoromethane$_{A}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<10	<10	-	-	-	-	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<5	<5	-	-	-	-	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<5	<5	-	-	-	-	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<2	<2	-	-	-	-	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	6	<1	8	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<10	<10	-	-	-	-	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<3	<3	-	-	-	-	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s

Lab Sample ID	21/09152/1	21/09152/2	21/09152/3	21/09152/4	21/09152/5	21/09152/6	21/09152/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS5	WS7	WS7	WS3	WS9	WS7	WS9			
Depth to Top	0.20	0.50	1.50	0.20	0.20	4.00	3.00			
Depth To Bottom										
Date Sampled	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21			
Sample Type	Solid	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	7	4A	4AE	5A	4AB	5A	5A			
Chlorobenzene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1	8	-	-	-	-	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1	23	-	-	-	-	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	<2	-	-	-	-	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1	80	-	-	-	-	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	49	-	-	-	-	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	82	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	<2	-	-	-	-	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	<3	-	-	-	-	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	<3	-	-	-	-	µg/kg	3	A-T-006s

Envirolab Job Number: 21/09152

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09152/1	21/09152/2	21/09152/3	21/09152/4	21/09152/5	21/09152/6	21/09152/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS5	WS7	WS7	WS3	WS9	WS7	WS9			
Depth to Top	0.20	0.50	1.50	0.20	0.20	4.00	3.00			
Depth To Bottom										
Date Sampled	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21	20-Aug-21			
Sample Type	Solid	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	7	4A	4AE	5A	4AB	5A	5A			
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	0.12	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	19	<1	<1	-	-	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	112	<1	<1	-	-	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	2	2	371	<1	<1	-	-	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	7	13	328	<1	1	-	-	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	400	29	127	1	70	-	-	mg/kg	1	A-T-055s
Total Aliphatics$_A$	410	44	957	1	71	-	-	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	3	1	4	<1	<1	-	-	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	1	<1	22	<1	<1	-	-	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	4	2	138	<1	1	-	-	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	36	25	178	<1	8	-	-	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	429	12	35	1	94	-	-	mg/kg	1	A-T-055s
Total Aromatics$_A$	474	39	377	1	104	-	-	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	884	83	1340	2	175	-	-	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

v1

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client:	BEK Enviro Ltd, Suite One , No 3 Mitton Road Business Park , Mitton Road , Whalley , Lancashire , BB7 9YE	**Project No:**	21/09152
		Date Received:	24/08/2021 (am)
Project:	Former TVR Garage, Blackpool	**Cool Box Temperatures (°C):**	16.2
Clients Project No:			

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/09152/1	21/09152/2	21/09152/3	21/09152/4	21/09152/5	21/09152/6	21/09152/7
Client Sample No							
Client Sample ID/Depth	WS5 0.20m	WS7 0.50m	WS7 1.50m	WS3 0.20m	WS9 0.20m	WS7 4.00m	WS9 3.00m
Date Sampled	20/08/21	20/08/21	20/08/21	20/08/21	20/08/21	20/08/21	20/08/21
A-T-006s	31/08/2021	31/08/2021	31/08/2021				
A-T-019s	27/08/2021	27/08/2021	27/08/2021	27/08/2021	27/08/2021		
A-T-022s	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021		
A-T-024s	03/09/2021	03/09/2021	03/09/2021	03/09/2021	03/09/2021	03/09/2021	03/09/2021
A-T-026s	02/09/2021	02/09/2021	02/09/2021	02/09/2021	02/09/2021	02/09/2021	02/09/2021
A-T-027s	03/09/2021	03/09/2021	03/09/2021	03/09/2021	03/09/2021		
A-T-028s	03/09/2021	03/09/2021	03/09/2021	03/09/2021	03/09/2021	03/09/2021	03/09/2021
A-T-031s	02/09/2021	02/09/2021	02/09/2021	02/09/2021	02/09/2021	02/09/2021	02/09/2021
A-T-032 OM	01/09/2021	01/09/2021	01/09/2021	01/09/2021	01/09/2021		
A-T-040s	02/09/2021	02/09/2021	02/09/2021	02/09/2021	02/09/2021		
A-T-042sTCN	25/08/2021	25/08/2021	25/08/2021	25/08/2021	25/08/2021		
A-T-044	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021
A-T-045	25/08/2021	25/08/2021	25/08/2021	25/08/2021	25/08/2021		
A-T-050s	25/08/2021	25/08/2021	25/08/2021	25/08/2021	25/08/2021		
A-T-052s	31/08/2021	31/08/2021	31/08/2021				
A-T-055s	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021		

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/08434
Issue Number: 1 **Date:** 13 August, 2021

Client:
BEK Enviro Ltd
Suite One
No 3 Mitton Road Business Park
Mitton Road
Whalley
Lancashire
BB7 9YE

Project Manager: Mick Buckley
Project Name: Former TVR Garage, Blackpool
Project Ref: N/A
Order No: 7181-21924-J
Date Samples Received: 03/08/21
Date Instructions Received: 04/08/21
Date Analysis Completed: 12/08/21

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 21/08434

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08434/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP3									
Depth to Top	1.00									
Depth To Bottom										
Date Sampled	02-Aug-21									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
pH (w)$_A^\#$	7.13							pH	0.01	A-T-031w
Ammoniacal nitrogen as N (w)$_A^\#$	0.65							mg/l	0.02	A-T-033w
Chloride (w)$_A^\#$	14							mg/l	1	A-T-026w
Sulphate (w)$_A^\#$	15							mg/l	1	A-T-026w
Cyanide (total) (w)$_A^\#$	<0.005							mg/l	0.005	A-T-042wTCN
Phenols - Total by HPLC (w)$_A$	<0.01							mg/l	0.01	A-T-050w
DOC (w)$_A^\#$	6.1							mg/l	0.2	A-T-032w
Arsenic (dissolved)$_A^\#$	6							µg/l	1	A-T-025w
Boron (dissolved)$_A^\#$	181							µg/l	10	A-T-025w
Cadmium (dissolved)$_A^\#$	<0.2							µg/l	0.2	A-T-025w
Copper (dissolved)$_A^\#$	3							µg/l	1	A-T-025w
Chromium (dissolved)$_A^\#$	<1							µg/l	1	A-T-025w
Chromium (hexavalent) (w)$_A^\#$	<0.01							mg/l	0.01	A-T-040w
Lead (dissolved)$_A^\#$	<1							µg/l	1	A-T-025w
Mercury (dissolved)$_A^\#$	<0.1							µg/l	0.1	A-T-025w
Nickel (dissolved)$_A^\#$	2							µg/l	1	A-T-025w
Selenium (dissolved)$_A^\#$	<1							µg/l	1	A-T-025w
Zinc (dissolved)$_A^\#$	9							µg/l	1	A-T-025w
TPH total dissolved (>C6-C40) (w)$_A^\#$	1407							µg/l	40	A-T-007w

Envirolab Job Number: 21/08434

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08434/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP3									
Depth to Top	1.00									
Depth To Bottom										
Date Sampled	02-Aug-21									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
PAH 16MS (w)										
Acenaphthene (w)$_A^\#$	0.16							µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^\#$	0.05							µg/l	0.01	A-T-019w
Anthracene (w)$_A^\#$	0.08							µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^\#$	0.04							µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^\#$	0.03							µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^\#$	0.04							µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^\#$	0.02							µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^\#$	0.01							µg/l	0.01	A-T-019w
Chrysene (w)$_A^\#$	0.03							µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^\#$	0.14							µg/l	0.01	A-T-019w
Fluorene (w)$_A^\#$	0.17							µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^\#$	0.02							µg/l	0.01	A-T-019w
Naphthalene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^\#$	0.25							µg/l	0.01	A-T-019w
Pyrene (w)$_A^\#$	0.13							µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^\#$	1.17							µg/l	0.01	A-T-019w

Envirolab Job Number: 21/08434

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: N/A

Lab Sample ID	21/08434/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP3									
Depth to Top	1.00									
Depth To Bottom										
Date Sampled	02-Aug-21									
Sample Type	Water - EW									
Sample Matrix Code	N/A									
TPH CWG (w)										
Ali >C5-C6 (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C6-C8 (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C8-C10 (w)$_A^{\#}$	<25							µg/l	5	A-T-055w
Ali >C10-C12 (w)$_A^{\#}$	137							µg/l	5	A-T-055w
Ali >C12-C16 (w)$_A^{\#}$	219							µg/l	5	A-T-055w
Ali >C16-C21 (w)$_A^{\#}$	380							µg/l	5	A-T-055w
Ali >C21-C35 (w)$_A^{\#}$	8060							µg/l	5	A-T-055w
Total Aliphatics (w)$_A^{\#}$	8790							µg/l	5	A-T-055w
Aro >C5-C7 (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
Aro >C7-C8 (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
Aro >C8-C10 (w)$_A$	26							µg/l	5	A-T-055w
Aro >C10-C12 (w)$_A^{\#}$	55							µg/l	5	A-T-055w
Aro >C12-C16 (w)$_A^{\#}$	146							µg/l	5	A-T-055w
Aro >C16-C21 (w)$_A^{\#}$	254							µg/l	5	A-T-055w
Aro >C21-C35 (w)$_A^{\#}$	884							µg/l	10	A-T-055w
Total Aromatics (w)$_A$	1370							µg/l	10	A-T-055w
TPH (Ali & Aro >C5-C35) (w)$_A$	10200							µg/l	10	A-T-055w
BTEX - Benzene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - Toluene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - m & p Xylene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - o Xylene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
MTBE (w)$_A^{\#}$	<1							µg/l	1	A-T-022w

REPORT NOTES

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Analytical results reflect the quality of the sample at the time of analysis only.
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The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

v1

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: BEK Enviro Ltd, Suite One , No 3 Mitton Road Business Park , Mitton Road , Whalley , Lancashire , BB7 9YE

Project: Former TVR Garage, Blackpool

Clients Project No: N/A

Project No: 21/08434

Date Received: 04/08/2021 (am)

Cool Box Temperatures (°C): 17.0

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-120:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/08434/1
Client Sample No	
Client Sample ID/Depth	TP3 1.00m
Date Sampled	02/08/21
A-T-007w	10/08/2021
A-T-019w	10/08/2021
A-T-022w	09/08/2021
A-T-025w	12/08/2021
A-T-026w	10/08/2021
A-T-031w	10/08/2021
A-T-032w	11/08/2021
A-T-033w	10/08/2021
A-T-040w	10/08/2021
A-T-042wTCN	12/08/2021
A-T-050w	09/08/2021
A-T-055w	09/08/2021

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/09763
Issue Number: 1 **Date:** 17 September, 2021

Client:
BEK Enviro Ltd
Suite One
No 3 Mitton Road Business Park
Mitton Road
Whalley
Lancashire
BB7 9YE

Project Manager: Mick Buckley
Project Name: Former TVR Garage, Blackpool
Project Ref: Not specified
Order No: 7226-21924-J
Date Samples Received: 09/09/21
Date Instructions Received: 09/09/21
Date Analysis Completed: 17/09/21

Prepared by:

Richard Wong
Client Manager

Approved by:

Sophie France
Client Service Manager

UKAS TESTING
1247

Envirolab Job Number: 21/09763

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09763/1	21/09763/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS4	WS5								
Depth to Top										
Depth To Bottom										
Date Sampled	07-Sep-21	07-Sep-21								
Sample Type	Water - W	Water - W								
Sample Matrix Code	N/A	N/A								
pH (w)$_A^\#$	7.49	12.42						pH	0.01	A-T-031w
Ammoniacal nitrogen as N (w)$_A^\#$	0.12	0.94						mg/l	0.02	A-T-033w
Chloride (w)$_A^\#$	33	123						mg/l	1	A-T-026w
Sulphate (w)$_A^\#$	167	57						mg/l	1	A-T-026w
Cyanide (total) (w)$_A^\#$	<0.005	0.103						mg/l	0.005	A-T-042wTCN
Phenols - Total by HPLC (w)$_A$	<0.01	<0.01						mg/l	0.01	A-T-050w
DOC (w)$_A^\#$	8.3	15.7						mg/l	0.2	A-T-032w
Arsenic (dissolved)$_A^\#$	4	3						µg/l	1	A-T-025w
Boron (dissolved)$_A^\#$	188	24						µg/l	10	A-T-025w
Cadmium (dissolved)$_A^\#$	<0.2	<0.2						µg/l	0.2	A-T-025w
Copper (dissolved)$_A^\#$	2	15						µg/l	1	A-T-025w
Chromium (dissolved)$_A^\#$	1	19						µg/l	1	A-T-025w
Chromium (hexavalent) (w)$_A^\#$	<0.01	<0.01						mg/l	0.01	A-T-040w
Lead (dissolved)$_A^\#$	<1	<1						µg/l	1	A-T-025w
Mercury (dissolved)$_A^\#$	<0.1	<0.1						µg/l	0.1	A-T-025w
Nickel (dissolved)$_A^\#$	5	14						µg/l	1	A-T-025w
Selenium (dissolved)$_A^\#$	<1	5						µg/l	1	A-T-025w
Zinc (dissolved)$_A^\#$	4	2						µg/l	1	A-T-025w
TPH total dissolved (>C6-C40) (w)$_A^\#$	<40	6338						µg/l	40	A-T-007w

Envirolab Job Number: 21/09763

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09763/1	21/09763/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS4	WS5								
Depth to Top										
Depth To Bottom										
Date Sampled	07-Sep-21	07-Sep-21								
Sample Type	Water - W	Water - W								
Sample Matrix Code	N/A	N/A								
PAH 16MS (w)										
Acenaphthene (w)$_A^\#$	<0.01	0.10						µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^\#$	<0.01	0.02						µg/l	0.01	A-T-019w
Anthracene (w)$_A^\#$	<0.01	0.05						µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^\#$	0.02	0.04						µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^\#$	0.03	0.01						µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^\#$	0.03	0.02						µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^\#$	0.02	<0.01						µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^\#$	0.01	<0.01						µg/l	0.01	A-T-019w
Chrysene (w)$_A^\#$	0.02	0.05						µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^\#$	<0.01	<0.01						µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^\#$	0.05	0.19						µg/l	0.01	A-T-019w
Fluorene (w)$_A^\#$	<0.01	0.07						µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^\#$	0.02	<0.01						µg/l	0.01	A-T-019w
Naphthalene (w)$_A^\#$	<0.01	0.25						µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^\#$	<0.01	0.18						µg/l	0.01	A-T-019w
Pyrene (w)$_A^\#$	0.05	0.17						µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^\#$	0.25	1.15						µg/l	0.01	A-T-019w

Envirolab Job Number: 21/09763

Client Project Name: Former TVR Garage, Blackpool

Client Project Ref: Not specified

Lab Sample ID	21/09763/1	21/09763/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS4	WS5								
Depth to Top										
Depth To Bottom										
Date Sampled	07-Sep-21	07-Sep-21								
Sample Type	Water - W	Water - W								
Sample Matrix Code	N/A	N/A								
TPH CWG (w)										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	3						µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	38						µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	29						µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	30						µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	10						µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	12						µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	<5	122						µg/l	5	A-T-055w
Aro >C5-C7 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	1						µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5	122						µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	46						µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	7	66						µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	12	40						µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A^{\#}$	14	34						µg/l	10	A-T-055w
Total Aromatics $(w)_A$	33	309						µg/l	10	A-T-055w
TPH (Ali & Aro >C5-C35) $(w)_A$	33	431						µg/l	10	A-T-055w
BTEX - Benzene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	1						µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	1						µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40℃).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25℃ / 11550µS/cm @ 20℃ fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

v1

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: BEK Enviro Ltd, Suite One , No 3 Mitton Road Business Park , Mitton Road , Whalley , Lancashire , BB7 9YE

Project: Former TVR Garage, Blackpool

Clients Project No:

Project No: 21/09763

Date Received: 09/09/2021 (am)

Cool Box Temperatures (°C): 21.1

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3℃), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	21/09763/1	21/09763/2
Client Sample No		
Client Sample ID/Depth	WS4	WS5
Date Sampled	07/09/21	07/09/21
A-T-007w	15/09/2021	17/09/2021
A-T-019w	14/09/2021	14/09/2021
A-T-022w	14/09/2021	14/09/2021
A-T-025w	17/09/2021	17/09/2021
A-T-026w	17/09/2021	17/09/2021
A-T-031w	16/09/2021	16/09/2021
A-T-032w	16/09/2021	16/09/2021
A-T-033w	17/09/2021	17/09/2021
A-T-040w	17/09/2021	17/09/2021
A-T-042wTCN	16/09/2021	16/09/2021
A-T-050w	16/09/2021	16/09/2021
A-T-055w	15/09/2021	15/09/2021

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

APPENDIX C

Geotechnical Test Results

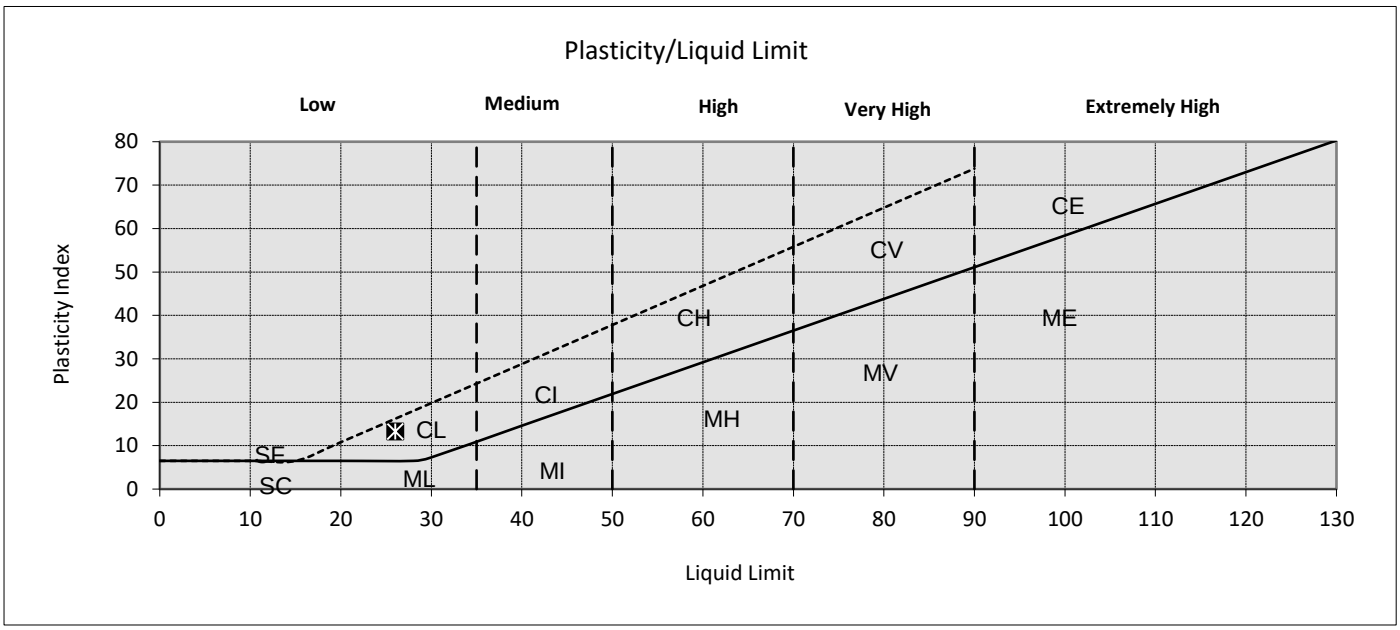
James Fisher Testing Services Ltd
Ruby House, 40A Hardwick Grange
Warrington, WA1 4RF
Tel: 01925286880

James Fisher Testing Services

LABORATORY TEST REPORT
LIQUID & PLASTIC LIMIT TESTS BS 1377: Part 2: 1990 Cl 4.4,5.3

Site Ref.:	Former TVR Garage, Blackpool	**Job No.:**	34790
Client:	BEK Enviro Ltd	**Lab Ref No.:**	34790/86
		Sample Ref.:	TP2 (1.8m)
		Date Sampled:	02/08/2021
		Date Received:	03/08/2021
		Date Tested:	05/08/2021
Originator:	**Mick Buckley**	**Date Reported:**	19/08/2021

Sampling Certificate	**Yes**
Sampled By	**Client**
Sample Type	**Bulk**
Sample Preparation Method	**As Received**
MATERIAL	**Red Brown CLAY**
Retained 425 micron (%)	**5**
Natural Moisture Content (%)	**15**
Liquid Limit (single point)(%)	**26**
Plastic Limit (%)	**13**
Plasticity Index	**13**



K.Monks

Approved Signature
James Fisher Testing Services Ltd
Karl Monks, Lab/Insitu Manager

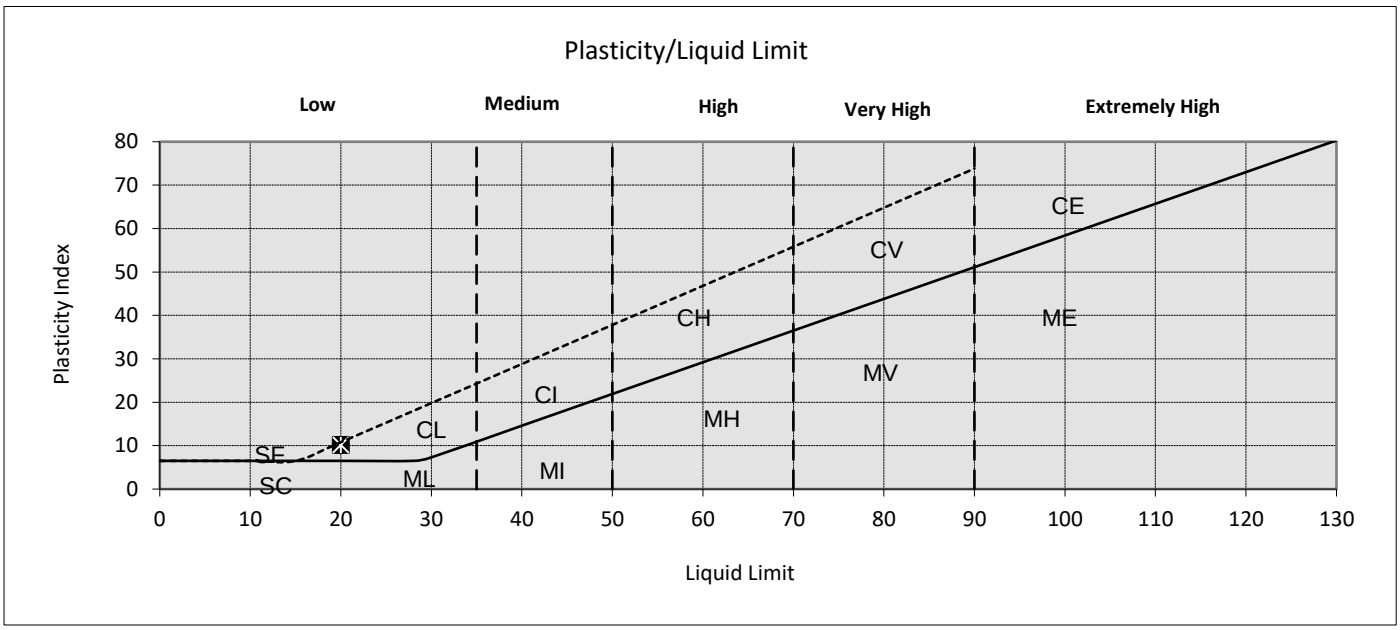
James Fisher Testing Services Ltd
Ruby House, 40A Hardwick Grange
Warrington, WA1 4RF
Tel: 01925286880

James Fisher Testing Services

LABORATORY TEST REPORT
LIQUID & PLASTIC LIMIT TESTS BS 1377: Part 2: 1990 Cl 4.4,5.3

Site Ref.:	Former TVR Garage, Blackpool	**Job No.:**	34790
Client:	BEK Enviro Ltd	**Lab Ref No.:**	34790/86
		Sample Ref.:	TP4 (2.6m)
		Date Sampled:	02/08/2021
		Date Received:	03/08/2021
		Date Tested:	05/08/2021
Originator:	**Mick Buckley**	**Date Reported:**	19/08/2021

Sampling Certificate	**Yes**
Sampled By	**Client**
Sample Type	**Bulk**
Sample Preparation Method	**As Received**
MATERIAL	**Red Brown CLAY**
Retained 425 micron (%)	**7.1**
Natural Moisture Content (%)	**12**
Liquid Limit (single point)(%)	**20**
Plastic Limit (%)	**10**
Plasticity Index	**10**



K.Monks

Approved Signature
James Fisher Testing Services Ltd
Karl Monks, Lab/Insitu Manager

APPENDIX D

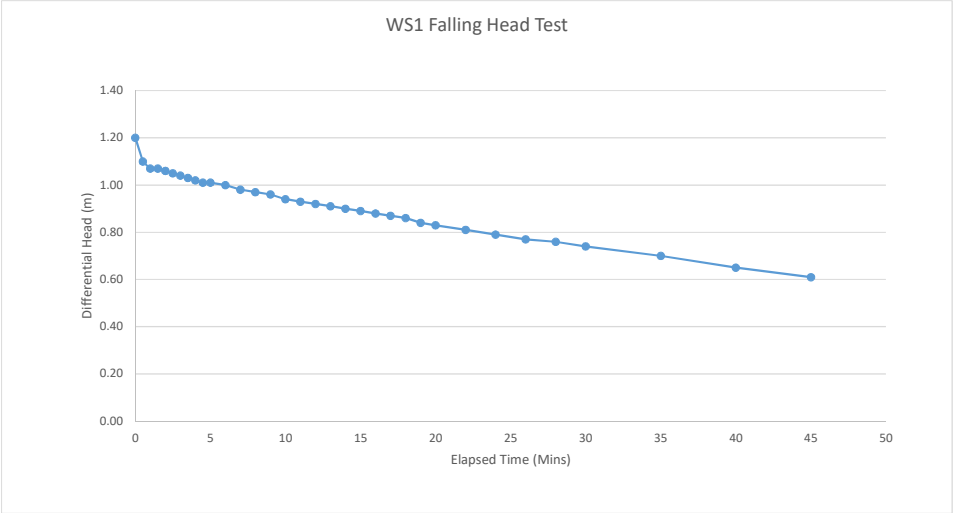
Falling Head Test Results

Former TVR Garage, Blackpool - WS1

Date of Test: 9th September 2021

Time (minutes)	Depth to water (m)	Differential Head, Ht (m)	Ht/h0
0	0.12	1.20	0.91
0.5	0.22	1.10	0.83
1	0.25	1.07	0.81
1.5	0.25	1.07	0.43
2	0.26	1.06	0.43
2.5	0.27	1.05	0.43
3	0.28	1.04	0.42
3.5	0.29	1.03	0.42
4	0.3	1.02	0.41
4.5	0.31	1.01	0.41
5	0.31	1.01	0.41
6	0.32	1.00	0.41
7	0.34	0.98	0.40
8	0.35	0.97	0.39
9	0.36	0.96	0.39
10	0.38	0.94	0.38
11	0.39	0.93	0.38
12	0.4	0.92	0.37
13	0.41	0.91	0.37
14	0.42	0.90	0.37
15	0.43	0.89	0.36
16	0.44	0.88	0.36
17	0.45	0.87	0.35
18	0.46	0.86	0.35
19	0.48	0.84	0.34
20	0.49	0.83	0.34
22	0.51	0.81	0.33
24	0.53	0.79	0.32
26	0.55	0.77	0.31
28	0.56	0.76	0.31
30	0.58	0.74	0.30
35	0.62	0.70	0.28
40	0.67	0.65	0.26
45	0.71	0.61	0.25

Diameter of Standpipe (m)	Depth to Water at 0 seconds (m)	Initial Groundwater Level	Area (m^2)	Top of Response Zone(m bgl)	Bottom of Response Zone (m bgl)	Length of Filter Zone(m)
0.050	0.12	1.32	0.001963			0



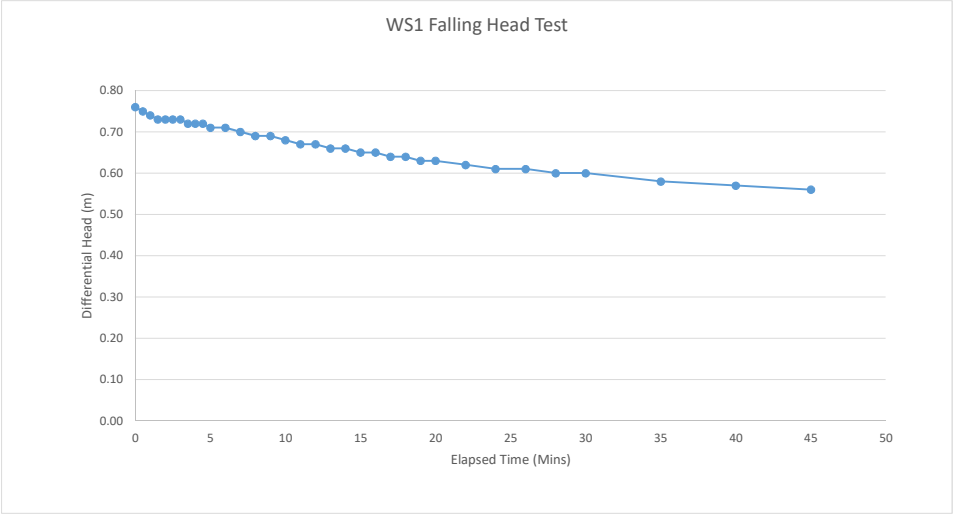
GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Former TVR Garage, Blackpool - WS3

Date of Test: 9th September 2021

Time (minutes)	Depth to water (m)	Differential Head, Ht (m)	Ht/h0
0	0.2	0.76	0.79
0.5	0.21	0.75	0.78
1	0.22	0.74	0.77
1.5	0.23	0.73	0.30
2	0.23	0.73	0.30
2.5	0.23	0.73	0.30
3	0.23	0.73	0.30
3.5	0.24	0.72	0.29
4	0.24	0.72	0.29
4.5	0.24	0.72	0.29
5	0.25	0.71	0.29
6	0.25	0.71	0.29
7	0.26	0.70	0.28
8	0.27	0.69	0.28
9	0.27	0.69	0.28
10	0.28	0.68	0.28
11	0.29	0.67	0.27
12	0.29	0.67	0.27
13	0.3	0.66	0.27
14	0.3	0.66	0.27
15	0.31	0.65	0.26
16	0.31	0.65	0.26
17	0.32	0.64	0.26
18	0.32	0.64	0.26
19	0.33	0.63	0.26
20	0.33	0.63	0.26
22	0.34	0.62	0.25
24	0.35	0.61	0.25
26	0.35	0.61	0.25
28	0.36	0.60	0.24
30	0.36	0.60	0.24
35	0.38	0.58	0.24
40	0.39	0.57	0.23
45	0.4	0.56	0.23

Diameter of Standpipe (m)	Depth to Water at 0 seconds (m)	Initial Groundwater Level	Area (m^2)	Top of Response Zone(m bgl)	Bottom of Response Zone (m bgl)	Length of Filter Zone(m)
0.050	0.2	0.96	0.001963			0



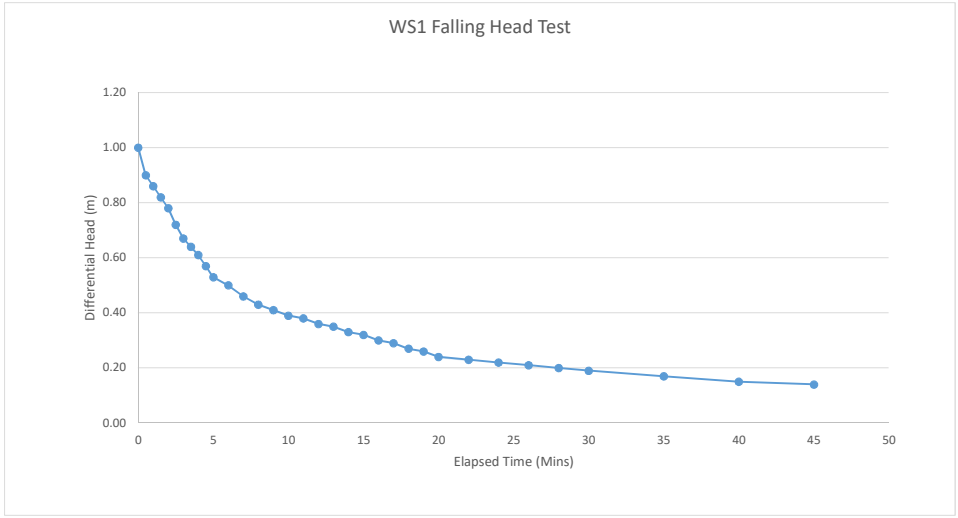
GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Former TVR Garage, Blackpool - WS4

Date of Test: 9th September 2021

Time (minutes)	Depth to water (m)	Differential Head, Ht (m)	Ht/h0
0	0.08	1.00	0.93
0.5	0.18	0.90	0.83
1	0.22	0.86	0.80
1.5	0.26	0.82	0.33
2	0.3	0.78	0.32
2.5	0.36	0.72	0.29
3	0.41	0.67	0.27
3.5	0.44	0.64	0.26
4	0.47	0.61	0.25
4.5	0.51	0.57	0.23
5	0.55	0.53	0.22
6	0.58	0.50	0.20
7	0.62	0.46	0.19
8	0.65	0.43	0.17
9	0.67	0.41	0.17
10	0.69	0.39	0.16
11	0.7	0.38	0.15
12	0.72	0.36	0.15
13	0.73	0.35	0.14
14	0.75	0.33	0.13
15	0.76	0.32	0.13
16	0.78	0.30	0.12
17	0.79	0.29	0.12
18	0.81	0.27	0.11
19	0.82	0.26	0.11
20	0.84	0.24	0.10
22	0.85	0.23	0.09
24	0.86	0.22	0.09
26	0.87	0.21	0.09
28	0.88	0.20	0.08
30	0.89	0.19	0.08
35	0.91	0.17	0.07
40	0.93	0.15	0.06
45	0.94	0.14	0.06

Diameter of Standpipe (m)	Depth to Water at 0 seconds (m)	Initial Groundwater Level	Area (m^2)	Top of Response Zone(m bgl)	Bottom of Response Zone (m bgl)	Length of Filter Zone(m)
0.050	0.08	1.08	0.001963			0



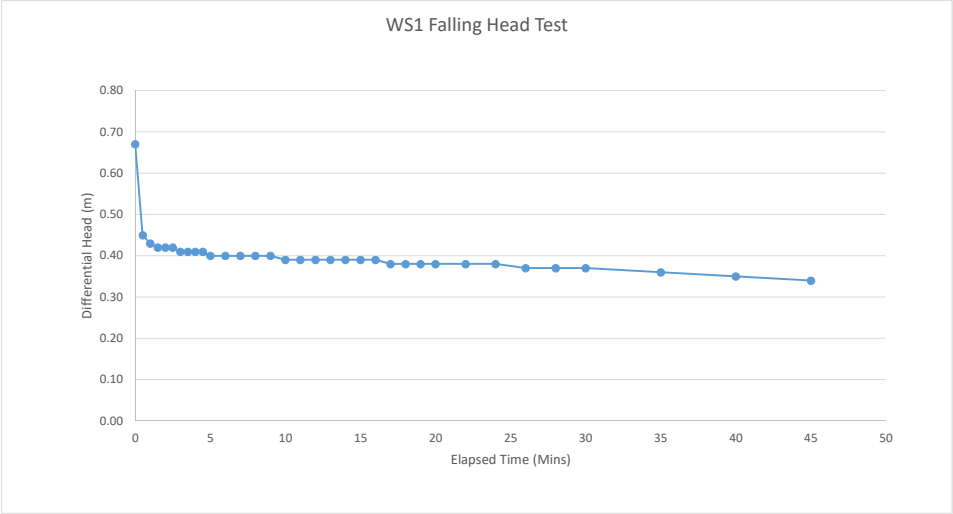
GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Former TVR Garage, Blackpool - WS5

Date of Test: 9th September 2021

Time (minutes)	Depth to water (m)	Differential Head, Ht (m)	Ht/h0
0	0.12	0.67	0.85
0.5	0.34	0.45	0.57
1	0.36	0.43	0.54
1.5	0.37	0.42	0.17
2	0.37	0.42	0.17
2.5	0.37	0.42	0.17
3	0.38	0.41	0.17
3.5	0.38	0.41	0.17
4	0.38	0.41	0.17
4.5	0.38	0.41	0.17
5	0.39	0.40	0.16
6	0.39	0.40	0.16
7	0.39	0.40	0.16
8	0.39	0.40	0.16
9	0.39	0.40	0.16
10	0.4	0.39	0.16
11	0.4	0.39	0.16
12	0.4	0.39	0.16
13	0.4	0.39	0.16
14	0.4	0.39	0.16
15	0.4	0.39	0.16
16	0.4	0.39	0.16
17	0.41	0.38	0.15
18	0.41	0.38	0.15
19	0.41	0.38	0.15
20	0.41	0.38	0.15
22	0.41	0.38	0.15
24	0.41	0.38	0.15
26	0.42	0.37	0.15
28	0.42	0.37	0.15
30	0.42	0.37	0.15
35	0.43	0.36	0.15
40	0.44	0.35	0.14
45	0.45	0.34	0.14

Diameter of Standpipe (m)	Depth to Water at 0 seconds (m)	Initial Groundwater Level	Area (m^2)	Top of Response Zone(m bgl)	Bottom of Response Zone (m bgl)	Length of Filter Zone(m)
0.050	0.12	0.79	0.001963			0



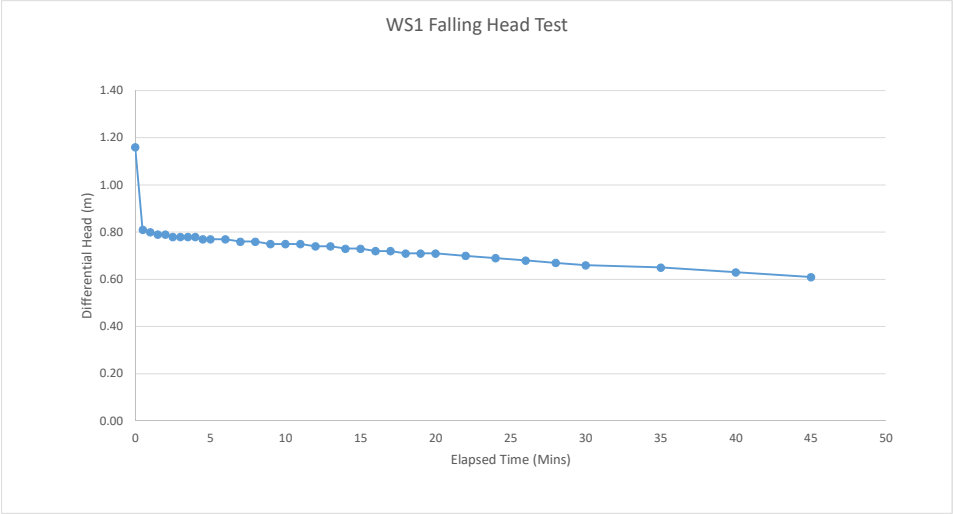
GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Former TVR Garage, Blackpool - WS10

Date of Test: 9th September 2021

Time (minutes)	Depth to water (m)	Differential Head, Ht (m)	Ht/h0
0	0.11	1.16	0.91
0.5	0.46	0.81	0.64
1	0.47	0.80	0.63
1.5	0.48	0.79	0.32
2	0.48	0.79	0.32
2.5	0.49	0.78	0.32
3	0.49	0.78	0.32
3.5	0.49	0.78	0.32
4	0.49	0.78	0.32
4.5	0.5	0.77	0.31
5	0.5	0.77	0.31
6	0.5	0.77	0.31
7	0.51	0.76	0.31
8	0.51	0.76	0.31
9	0.52	0.75	0.30
10	0.52	0.75	0.30
11	0.52	0.75	0.30
12	0.53	0.74	0.30
13	0.53	0.74	0.30
14	0.54	0.73	0.30
15	0.54	0.73	0.30
16	0.55	0.72	0.29
17	0.55	0.72	0.29
18	0.56	0.71	0.29
19	0.56	0.71	0.29
20	0.56	0.71	0.29
22	0.57	0.70	0.28
24	0.58	0.69	0.28
26	0.59	0.68	0.28
28	0.6	0.67	0.27
30	0.61	0.66	0.27
35	0.62	0.65	0.26
40	0.64	0.63	0.26
45	0.66	0.61	0.25

Diameter of Standpipe (m)	Depth to Water at 0 seconds (m)	Initial Groundwater Level	Area (m^2)	Top of Response Zone(m bgl)	Bottom of Response Zone (m bgl)	Length of Filter Zone(m)
0.050	0.11	1.27	0.001963			0



GEO-ENVIRONMENTAL CONSULTING ENGINEERS

APPENDIX E

Photographs

P1: Trial Pit No 1

P2: Trial Pit No 1 (ACM)

P3: Trial Pit No 2

P4: Trial Pit No 2

P5: Trial Pit No 3

P6: Trial Pit No 3

GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Photographs 1 to 6

Site: Former TVR Factory, Bristol Avenue, Blackpool	**Project No:** 21924	**Created By:** J Mashiter	**Date:** October 2021
Title: Appendix E - Photographs	**Client:** J Waring & Sons Ltd		

P7: Trial Pit No 4

P8: Trial Pit No 4

P9: Trial Pit No 5

P10: Trial Pit No 5

P11: Trial Pit No 6

P12: Trial Pit No 6

GEO-ENVIRONMENTAL CONSULTING ENGINEERS

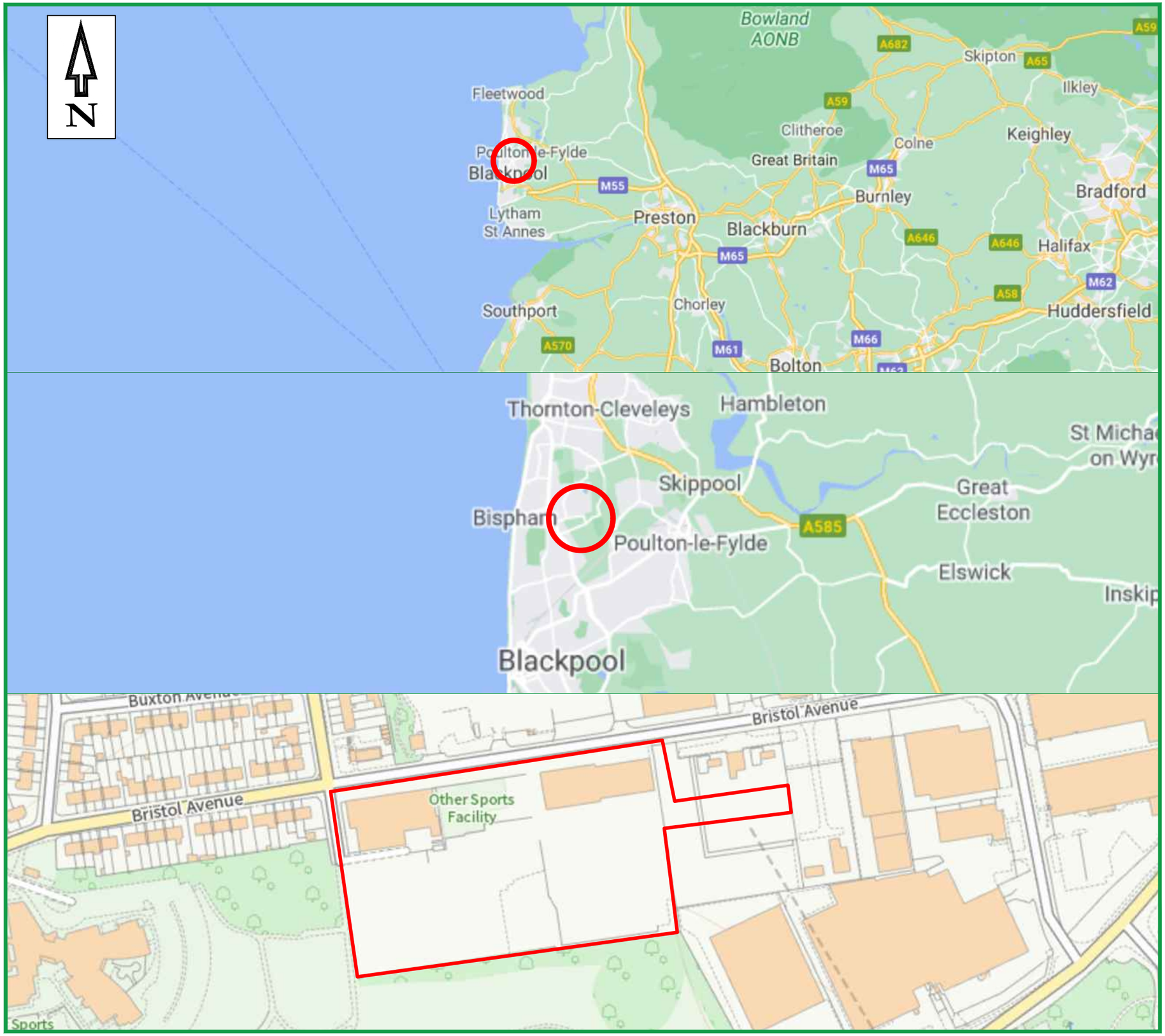
Photographs 7 to 12

This appendix is for illustrative purposes only and is for use only in conjunction with associated reports relating to the project details adjacent. BEK accepts no liability for the misinterpretation or use of this illustration by any other parties.

Site: Former TVR Factory, Bristol Avenue, Blackpool	**Project No:** 21924	**Created By:** J Mashiter	**Date:** October 2021
Title: Appendix E - Photographs	**Client:** J Waring & Sons Ltd		

APPENDIX F

Drawings



LEGEND

SITE LOCATION

REV	DESCRIPTION	DATE	BY

GEO-ENVIRONMENTAL CONSULTING ENGINEERS
Suite One, No 3 Mitton Road Business Park, Mitton Road, Whalley, Lancashire BB7 9YE
Tel: 01254 377622 Mob: 07906753583
Email: mbuckley@bekenviro.co.uk
Web: www.bekenviro.co.uk

CLIENT.
J WARING AND SONS LTD

JOB TITLE.
LAND AT FORMER TVR GARAGE, BRISTOL AVENUE, BLACKPOOL

DRAWING TITLE.
SITE LOCATION PLAN

SCALE @ A3.	DRAWN BY.	APPROVED BY.	DATE.
NTS	D.E.	M.B.	05/10/21

DRAWING No. 21924-1

REV. -

LEGEND

SITE FOOTPRINT

REV	DESCRIPTION	DATE	BY

GEO-ENVIRONMENTAL CONSULTING ENGINEERS
Suite One, No 3 Mitton Road Business Park, Mitton Road,
Whalley, Lancashire BB7 9YE
Tel: 01254 377622 Mob: 07906753583
Email: mbuckley@bekenviro.co.uk
Web: www.bekenviro.co.uk

CLIENT.

J WARING AND SONS LTD

JOB TITLE.

LAND AT FORMER TVR GARAGE,
BRISTOL AVENUE, BLACKPOOL

DRAWING TITLE.

SITE LAYOUT PLAN

SCALE @ A3.	DRAWN BY.	APPROVED BY.	DATE.
NTS	D.E.	M.B.	05/10/21

DRAWING No.	REV.
21924-2	-

LEGEND

- WINDOW SAMPLE BOREHOLE
- WINDOW SAMPLE BOREHOLE (WITH GAS/GROUNDWATER PROBE)
- TRIAL PIT
- STOCKPILE (CONSTRUCTION AND DEMOLITION MATERIAL)

REV	DESCRIPTION	DATE	BY

GEO-ENVIRONMENTAL CONSULTING ENGINEERS
Suite One, No 3 Mitton Road Business Park, Mitton Road, Whalley, Lancashire BB7 9YE
Tel: 01254 377622 Mob: 07906753583
Email: mbuckley@bekenviro.co.uk
Web: www.bekenviro.co.uk

CLIENT.
J WARING AND SONS LTD

JOB TITLE.
LAND AT FORMER TVR GARAGE, BRISTOL AVENUE, BLACKPOOL

DRAWING TITLE.
EXPLORATORY LOCATION PLAN

SCALE @ A3.	DRAWN BY.	APPROVED BY.	DATE.
NTS	D.E.	M.B.	05/10/21

DRAWING No. 21924-3

REV. -

Proposed Site Layout

> **IMPORTANT**

> © This drawing is copyright and remains the property of this practice
> Do not scale this drawing
> All dimensions to be checked on site
> Positions of existing services to be confirmed prior to proceeding

> **REVISION STATUS**

S Information issued for feasibility or scheme design.
T Information issued for tender purposes only.
C Information issued for Construction.
NB: Only those drawings containing a C revision to be used for construction.

> **NOTES**

Materials/Finishes

- Macadam Road Surface
- Brindle Block Pavers - Red (Paths/Parking Areas)
- Stepped brick blinth with contrasting nosings/edgings
- Grassed/Landscaped Areas
- B1, B2 & B8 Units
- Waste Storage Compounds

REVISION	DATE	DESCRIPTION
S5	20.07.20	Unit 8 reduced in size and City Fibre site added
S4	19.05.20	Unit 8 reduced in size and battery storage facility added
S3	30.01.20	Unit 4 layout added
S2	04.09.19	Parking removed outside the front of unit 1 on Ashfield Rd
S1	31.07.19	Unit 3 rotated to bring parking within the site. Units 6 and 7 amended to centralise the TVR feature. Genral amendmenst to address Planning/Highway comments.

> CLIENT
Trustees of The Wheeler Plan

> PROJECT
Proposed B1, B2 & B8 Units
Bristol Avenue, Blackpool

> DRAWING TITLE
Proposed Site Layout

SCALE	DATE	DRAWN	CHECKED
1:500@A2	15.01.19	PRH	

> DRG NO.
EAD_031_03

> REVISION
S5

SCALE m 0 5 10 15 20 25 30 35 40 45 50
1:500

Evolve Architectural Design Ltd
2 St Matthews School House
Stanhill Lane
Oswaldtwistle
Accrington
Lancashire BB5 4PZ
T 01254 469702
M 07957 592102
E paul@evolvead.co.uk
www.evolvead.co.uk

Evolve Architectural Design