PHASE 2 SITE INVESTIGATION

Freight Island Event Space

for

Mayfield Partnership Ltd

CIVIL | STRUCTURAL | GEOTECHNICAL | GEO-ENVIRONMENTAL ENGINEERING SERVICES

COMPLEX CHALLENGES ...
MADE SIMPLE

PHASE 2 SITE INVESTIGATION

At

Mayfield Freight Island

On behalf of

Mayfield Partnership Ltd

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COMPLEX CHALLENGES ...
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1.0 Introduction

1.1 Background

1.1.1 RoC Consulting has been appointed the Mayfield Partnership Ltd to conduct a Phase 2 Site Investigation across Freight Island event space, Mayfield, Manchester (the site). The site current comprises an open-air live music and dinning space which is to be retained in its current configuration for the short to medium term as part of the wider Mayfield regeneration strategic masterplan.

1.1.2 The Phase 2 investigation is being undertaken following historical record review of this area which previously contained a vehicle refuelling facility associated with the former Mayfield Railway Station to the North. The purpose of the investigation is to assess soil quality beneath the site and specifically the potential for residual contaminants from the sites past use to impact upon the neighbouring Mayfield Park development and the River Medlock.

1.1.3 The current site investigation follows on from a desktop study relating to the wider Mayfield area but included the site:

1) Phase 1 Desktop Study completed by Buro Happold Engineering dated 10th August 2017 (ref: 035548).

2) Phase 2 Site Investigation Report completed by RoC Consulting for the adjacent Mayfield Park site dated December 2020 (ref: ROCP Ltd /LD/AS/ 4153-ROC-XX-XX-RP-ES-P2SI1).

1.1.4 It is recommended reference be made to the abovementioned report (s) when reviewing the current assessment.

1.1.5 The scope of the report and its assessment has been based around assessing the potential for residual contamination if any at the site to impact upon the neighbouring Mayfield Park site. It should be noted that any subsequent revision of the current sites use or adjacent Mayfield Park site boundary away from that at the time of writing may result in the full or partial re-interpretation of this report and assessment.

1.2 Terms of Reference

1.2.1 The Phase 2 Site Investigation was carried out following receipt of an instruction from Mike Harrison of Mayfield Partnership Ltd.

1.3 Objectives

1.3.1 The scope of works has been tailored to assess soil quality within the site due to the historic use of the site as a vehicle fuelling station and potential for any residual contamination to impact upon the Mayfield Park site. These considerations include:

1) Design a programme of site investigation works to establish ground conditions beneath the site and target known or suspected sources of contamination (as revealed by review of historic plans see ES300A in Appendix A).

2) Completion of site investigation field works including the formation of 9 window sampler boreholes to establish the underlying ground conditions on site and assess potential soil and/or groundwater contamination in the area of historic below ground fuel tanks and filling station.

3) Installation of 4 monitoring wells and completion of 3 subsequent monitoring visits to establish ground water conditions beneath the site and obtain samples.

4) Completion of geo-environmental laboratory analysis of soil samples to determine chemical characteristics.

5) Completion of a geo-environmental assessment utilising information provided by site investigation works sufficient in its scope to establish what if any impacts may have occurred as a result of the previous site use as a vehicle refuelling station.

6) Consider implications of site investigations in context of wider Mayfield Park and potential impact on the River Medlock.

2.0 Limitations of Study Assessment

2.0.1 The report has been produced by RoC Consulting for the client solely for the purposes of a review of information for the above-mentioned site. It may not be used by any person for any other purpose other than that specified without the express written permission of RoC Consulting. Any liability arising out of its use by a third party for purposes not wholly connected with the above shall be the responsibility of that party who shall indemnify RoC Consulting against all claims, costs, damages and losses arising out of such use.

2.0.2 This report is written in the context of an agreed scope of work and should not be used in a different context. The report should be read in its entirety. Furthermore, new information, improved practices and changes in legislation may require re-interpretation of this report in whole or in part after its original issue. RoC Consulting reserve the right to alter their conclusions and recommendations in the light of further information that may become available.

2.0.3 Ground conditions can change rapidly, especially in areas of made ground, however, it is assumed that the ground conditions observed are typical and representative of the site as a whole. The ground conditions have been determined from a limited number of exploratory holes formed across the property, therefore, only a small percentage of the total area of the property has been investigated. Interpolation between exploratory holes has enabled a general picture of the subsurface conditions to be produced.

2.0.4 Conclusions drawn from the ground investigation should be read in this context. RoC Consulting cannot accept responsibility for any situations resulting from locally unforeseen ground conditions occurring between exploratory holes.

3.0 Background Information

3.0.1 The overview below outlines the most salient points / considerations, and it is recommended reference be made to the complete findings of previous site investigation reports for additional information / clarification.

3.1 Site Description

3.1.1 The site is located to the north west of the Mayfield Strategic Regeneration frame works and currently occupied by the Gate House office building, a small security cabin and the 'Escape to Freight Island' outdoor event space (comprising covered outdoor seating and a number of small kitchens and bars).

3.1.2 The sites covering is 100% hardstanding and is surfaced predominantly by asphalt with a small area located in the central portion which comprises paving cobbles. The northern site boundary is formed by the Mayfield depot, the southern and eastern boundaries are formed by the proposed Mayfield Park development which is currently an active construction site; the western boundary is formed by Baring Street beyond which lie residential apartments.

3.1.3 No potentially contaminative operations were noted across the site at the time of inspection.

3.2 Geological Characteristics

3.2.1 Review of publicly available BGS geological map records indicate the site is underlain by the following:

Drift Geology: Glacial Till, Devensian – Diamicton

Solid Geology: Chester Sandstone Formation

3.2.2 The Burro Happold report indicated that the site is not located in an area which may be affected by historic Coal Mining or Brine Extraction processes.

3.3 Site History and Environmental Characteristics

Site History

3.3.1 Earliest available site records dated 1851 indicate the site to be occupied by buildings associated with the Mayfield Works with boiler houses and engine houses noted in close proximity to the sites eastern and western boundaries (Within 100m). Several buildings are noted in the north eastern corner of the site on mapping dated 1891, possibly residential.

3.3.2 The Mayfield station was constructed around 1909-1910 and is depicted adjacent the sites northern boundary. The site appears to form part of the station curtilage, containing a fuel filling station (possibly related to delivery wagons for the railway company. Records dating from improvement works to this filling station (date unknown but likely to be pre-railway nationalisation in 1948) have been obtained which includes a detailed filling station layout plan including below ground storage tank locations and construction information.

3.3.3 Review of the layout plan for the "Road Motor Depot" (a copy of which is provided within Appendix A) indicates the site to have been accessible from Boardman Street (now Baring Street) and was surfaced by sett paving with concrete paving encircling a central gantry structure. The structure in the northern portion of the site was noted as an oil store, the structure in the west of the site was noted as a filling shed with a storage tank situated below ground,

3.3.4 The gantry structure in the centre of the site was a fuel office building with associated fuel pumps beneath a canopy roof, two fuel storage tanks were located below ground in this area. The structure in the east of the site was a filling shed with a tank located underneath. The plans appear to relate to planned improvement works and a schematic section of a new below ground fuel storage tank is provided (and reproduced below).

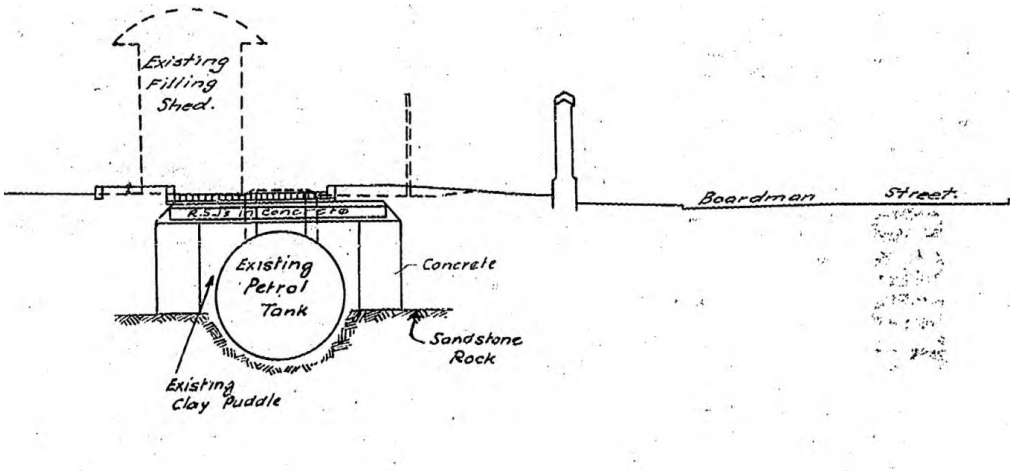


Fig 3.0: Extract from LMSR Plan relating to Road Motor Petrol Depot improvement works

3.3.5 Records indicate the petrol tanks were contained below ground within a concrete trench structure partially cut into the Sandstone bedrock. The tanks themselves were enclosed within puddle clay, likely to contain any spillage or leakage. The records show tank locations from the original Road Motor depot construction as well as alterations associated with the proposed improvement works. The plans indicate the original below ground tanks were to be removed and replaced. An overlay showing current site features and proposed improvement works (drawing ES300) has been provided within Appendix A.

3.3.6 Records dated 1974-76 show the southern and eastern building associated with the fuelling station to have been demolished with only the western building remaining. It is not clear from historical mapping when the Road Motor Depot closes, although local history sources indicate the Mayfield railway station was closed and converted into a parcel depot in the 1960s before closing completely in 1986. Historical aerial imagery for the site indicate the outline of the former Road Motor depot remained largely unchanged until the Gate House office development (circa 2017) and more recent Freight Island event space (2019).

3.3.7 Likely sources of contamination from the above-mentioned historic features include hydrocarbons, PAHs and SVOCs/VOCs associated with the historic tanks present on site and the fuelling station which is known to have housed underground tanks contained within a clay lining (See Appendix A for construction details). Hotspots of Heavy Metals, PAH and Asbestos may also be present from previous development and its subsequent demolition.

Environmental Characteristics

3.3.8 The Phase 1 Desk Study completed by Buro Happold indicates the drift geology is classified as Secondary Aquifer (Undifferentiated) with the underlying Sandstone bedrock classed as a Principal Aquifer. The site is not said to be located within any Environment Agency Source Protection Zones or close proximity to any sensitive water abstraction points (e.g. potable water supply well). There are no surface or groundwater abstraction points; or discharge consents within 1000m of the site.

3.3.9 The nearest surface water feature is indicated 5m to the south in the form of the River Medlock. No measurable water quality or flow rates are available for this feature.

3.3.10 Public records of Manchester bombings were consulted for the site, showing records of high explosive impacts in the area of Piccadilly Station and extensive damage to structures and demolition across the site. Borehole locations were cleared by UXO specialists from Planit UXB.

3.3.11 The site is not said to be located in an area deemed to be at risk from flooding or extreme flooding events from either land or sea.

4.0 Site Investigation Design

General

4.0.1 The RoC intrusive investigation was designed and completed to further investigate potential geo-environmental issues arising as a result of the sites past use as a Road Motor depot fuelling station. The site investigation works comprised the formation of x8 window sample boreholes to a maximum depth of 5.45m.

4.0.2 Exploratory hole placement was dictated by the approximate location of the historic fuelling station and its features, in particular the underground fuel storage tanks as these have the potential to have impacted upon soil quality. In addition, boreholes were located to within the wider Freight Island area and at the boundary with the adjacent proposed Park / River Medlock to assess any spatial movement of contaminants beneath the site.

4.0.3 Samples of soil collected during the investigation works are to be analysed for a variety of determinants associated with the pattern of current / historic industrial activity across the site. Table 4.0 provided below provides location justification for each exploratory hole formed during the site investigation fieldworks. The purposes of this table are to illustrate the targeting of potential sources of contamination during the Phase 2 site investigation works.

Table 4.0: Borehole Locations & Justification

BH/WS ID.	Reason for selection
WS501	Assess soil quality in northwest corner to assess contaminant migration.
WS502	Assess soil quality in the vicinity of the historic western below ground fuel tank.
WS503	Assess soil quality adjacent the River Medlock and assess if any contaminant migration towards the River Medlock has occurred.
WS504	Assess soil quality in the vicinity of the historic central fuel tanks.
WS505	Assess soil quality in the vicinity of the historic central fuel tanks.
WS506	Assess soil quality adjacent the River Medlock and assess if any contaminant migration towards the River Medlock has occurred.
WS507	Assess soil quality in the vicinity of the historic central and eastern fuel tanks.
WS508	Assess soil quality in the vicinity of the historic central and eastern fuel tanks.
WS509	Assess soil quality in the vicinity of the historic eastern fuel tank.

4.0.4 Exploratory hole locations are shown on RoC Consulting drawing ES300 (Current Site) and ES300A (Fuel Station Overlay) provided within Appendix A.

5.0 Site Investigation Fieldworks

5.0.1 Site investigation fieldworks were completed between the 11th and 15th of January 2020 by drilling contractors Earth Engineering. Boreholes were formed using a Competitor 150 window sampling rig.

5.0.2 Information with respect to buried services was obtained from relevant providers prior to commencement of the investigation works. However, as a precautionary measure all exploratory hole locations were scanned with a Cable Avoidance Tool prior to the commencement of works. In addition, hand dug service pits were completed to a depth of 1.2mbgl at all borehole locations deemed to fall in close proximity to the suspected location of possible buried service runs / infrastructure.

5.0.3 To ensure no new sources of contamination were introduced to underlying soils / bedrock during the formation of each borehole, steel casing was used throughout as well as vegetable oil as a lubrication medium for all drilling apparatus. Sampling equipment was also cleaned between sampling to reduce cross-contamination risks.

5.0.4 Soil samples were collected for subsequent chemical and geotechnical laboratory analysis. Samples collected for chemical testing were collected in 300g glass jars and 500g plastic sample tubs. Samples were obtained from both made ground and natural strata to assess the overall quality of underlying soils.

5.0.5 The shallow soils encountered during construction of the boreholes were described and logged by a suitably qualified engineer in accordance with BS 5930: Code of Practice for Site Investigations (the log sheets for which have been provided within Appendix B).

5.0.6 WS501 could not be completed due to below ground services constraining borehole placement.

5.0.7 A total of 4 ground gas and ground water monitoring wells were installed within window sampler boreholes. Installation details are provided within Table 5.0 below, copies of ground water and gas monitoring records are provided within Appendix D.

Table 5.1: Monitoring Well Installations

BH ID	Monitoring well depth (mbgl)	Response zone (mbgl)	Response zone strata
WS503	3.00	1.00-3.00	Made Ground
WS504	1.00	0.50-1.00	Made Ground
WS505	3.40	0.40-3.40	Made Ground
WS506	3.00	1.00-3.00	Made Ground

6.0 Encountered Ground Conditions

6.0.1 The following ground conditions are summarised from the exploratory holes formed during the RꝎC Consulting site investigation. The following represents an overview of encountered ground conditions and it is recommended reference be made to the borehole and trial pit log sheets provided within Appendix B for a detailed strata description; all depths shown are given in metres below ground level (mbgl) unless otherwise stated).

6.1 Ground Conditions Overview

Made Ground

6.1.1 Made ground was reported at all 8 exploratory hole locations the details of which is provided in table 6.1 below:

Table 6.1: Made Ground Strata Description

Strata description	Made ground was encountered at all exploratory hole locations. This comprised a surfacing of paving cobbles at 3 locations and asphalt at the remaining 5 locations. A concrete slab was noted at 4 locations beneath the surface layer (WS505, WS507, WS508 and WS509). Made ground primarily consisted of granular demolition type fill material including ash. Made ground with clay comprising the primary constituent was encountered at WS503, 505, 506 and 508 and was described as demolition fill type material within a reworked clay matrix. Clay at WS505 (2.10-3.20mbgl) was noted as being possible puddle clay and was also noted to have a diesel odour. It is possible that this is part of the clay containment system associated with the historic tanks. No groundwater strikes were encountered within made ground deposits.		
Max Depth*	3.80mbgl	**Min Depth***	1.10mbgl
Mean Depth*	2.99mbgl	**SPT Range**	N/A

*Based on proven depth.

Glacial Till

6.1.2 Natural soils were reported at the base of made ground deposits at 3 exploratory hole locations as described in Table 6.2 below.

Table 6.2 Glacial Till

Strata description	Glacial till was encountered at 3 borehole locations underlying made ground materials and comprising a mixture of firm gravelly sandy clay, gravelly sand and sandy gravels. No groundwater strikes were encountered within made ground deposits		
Max Depth	1.10mbgl	**Min Depth**	2.80mbgl
Mean Depth	3.85mbgl	**SPT Range**	N/A

Weathered Bedrock

6.1.3 Weathered sandstone bedrock was encountered at 5 borehole locations as an orangish brown sand at depths ranging from 2.5 to 3.8mbgl (34.50 to 33.25mAOD and at an average depth of 3.08mbgl.

6.2 Groundwater & Contamination Observations

6.2.1 Visual and olfactory evidence of contamination was encountered at several borehole locations as summarised in the table below.

BH ID	Depth		Notes and observations
	mbgl	mAOD	
WS503	3.00	34.02	Creosote odour with layer of made ground materials – Likely originating from leaks and spillages. Odour was noted in strata immediately overlying the sandstone bedrock and has likely leached to the base of made ground over time. No evidence of contamination was noted in the sandstone.
WS505	0.90	36.06	Hydrocarbon odour – Likely originating from the central fuel tank or spillages from historic site operations in this area. The odour was noticed in a layer of reworked puddle clay that contained the tank and did not extend to the underlying Sandstone bedrock.
WS505	2.10 - 3.20	34.86 - 33.76	
WS508	1.10 - 1.60	35.76 - 35.26	Slight chemical odour – Likely associated historic site operations and spillages. Was noted as being confined to granular made ground layer and not to have impacted a thin band of underlying clay based made ground.

6.2.2 No groundwater strikes were noted during the site works. Ground investigation Works across the wider Mayfield Park and specifically deep monitoring wells RO101 and 102 to the south and east of the site indicate a water table is present within the underlying Sandstone bedrock at depths circa 30.05 to 30.70mAOD; groundwater flows are assumed to follow topographical features and are likely to pass from the site to the south and east onto the Mayfield Park development.

6.2.3 A single monitoring visit had been undertaken at the time of writing. No groundwater was noted during the initial monitoring visit. PID testing was undertaken at each monitoring well in order to measure the presence of VOCs only negligible concentrations of VOCs were noted. The results are presented below.

- WS503 – 0.3ppm
- WS504 – 0.0ppm
- WS505 – 2.6ppm
- WS506 – 0.3ppm

6.3 Below Ground Obstructions

6.3.1 At WS501 a number of utilities were present in close proximity to the hole with little scope for relocation. It was therefore abandoned.

6.3.2 At WS509 a concrete slab was encountered at 0.85mbgl and therefore the hole was abandoned.

6.3.3 It is not known whether or not the fuel tanks indicated on historic plans remain on site or were removed as part of the site's redevelopment to its present condition. During the investigation, no tanks were encountered; although it is noted that none of the locations were exactly above where the tanks are believed to be located; these were positioned off to the side due to on site access constraints.

7.0 Laboratory Testing

7.0.1 To establish the physical and chemical properties of underlying soils, a programme of laboratory analysis was completed utilising samples obtained during site investigation works. This analysis comprised the testing of soil samples to assist with the estimation of risks posed by contaminated land related concerns.

Chemical Testing

7.0.2 RoC Consulting submitted a total of 12 soil samples to a UKAS accredited testing facility for analysis against a range of determinands synonymous with the site's former industrial activity.

Determinands	No. of Tests
Toxic and phytotoxic metals and metalloids	12
Total & Speciated Polycyclic Aromatic Hydrocarbons (PAH),	12
Other inorganic substances (e.g. Sulphate, Cyanide etc)	12
Asbestos ID	9
Hydrocarbons	9
SVOC's/VOC's	3
Water Soluble Sulfate & pH	12

7.0.3 Copies of chemical testing results have been provided within Appendix C.

8.0 Geo-Environmental Assessment

8.0.1 The information obtained during the desk-based study has been reviewed to establish the Preliminary Conceptual Model for the site. This model is based around the Source / Pathway / Receptor methodology as outlined in Figure 8.0.

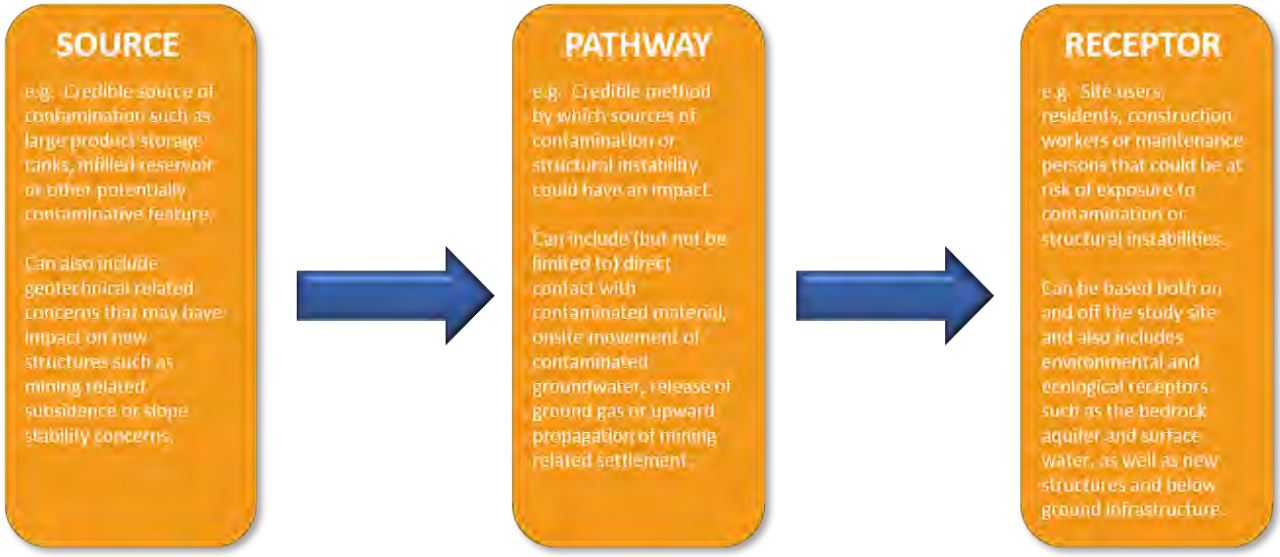


Figure 8.0 Source Pathway Receptor Diagram

8.0.2 Risk assessment is the process of collating known information on a hazard or set hazards in order to establish actual or potential risks to receptors. The receptor may be human health, controlled waters, a sensitive local ecosystem or even construction materials. Receptors can be connected with the hazard under consideration via one or several exposure pathways (e.g. the pathway of direct skin contact and oral exposure).

8.0.3 Risks are generally managed by isolating or removing the hazard, isolating the receptor, or by intercepting the exposure pathway. Without the three essential components of a source (hazard), pathway and receptor, there is deemed to be no risk. In other words, the mere presence of a hazard at a site does not mean that there will necessarily be risks.

8.0.4 A CLEA CLR 8 provides a selection of contaminants that may be relevant for the assessment of contaminated land, based on site usage, because they are likely to be found on a large number of industrial sites in the UK and have the potential to affect human health and the environment. The CLEA CLR 8 documentation, along with other relevant guidance, forms the basis against which the site has been assessed.

8.0.5 A Preliminary desk-based risk assessment has been completed for the site utilising the current and historical environmental information available (refer to Buro Happold report ref: 035548). Along with review of historic information this report formed the basis from which the current program of ground investigations was designed and undertaken.

8.0.6 The results from these intrusive site investigations have allowed a geo-environmental risk assessment to be completed in accordance with the guidelines and principals of the Environment Agency CLEA Methodology and with reference to the guidance outlined within CIRIA 552 "Contaminated land risk assessment. A good practise guide". This risk assessment methodology considers the potential consequence / severity of risks that may be present within soils in comparison with the likelihood of exposure to or and occurrence of said risk.

8.0.7 A range of risk classifications are provided within CIRIA 552 further details of which are provided in Table 8.0 below.

Table 8.0: Definition of Risk Class and Consequence.

Risk Class	Definition	Example
Minor	Potential for harm, although not significant, which may result in financial loss to resolve. Ground conditions where the use of PPE would readily mitigate risks posed to human health.	Low level contamination hotspots within made ground / demolition fill materials. Stunted or impeded plant growth due to poor soil quality.
Mild	Pollution of non-sensitive water resources or damage to crops, plant growth, below ground utilities or structures.	Perched groundwater contamination overlying low permeability aquifer or aggressive sulphate concentrations in soils.
Medium	Sources of contamination identified on site have the potential to cause both long- and short-term health effects on site residents / users. Alternatively (or in conjunction with) sources of contamination may have the potential to impact surface or groundwater quality or impede vegetation growth	Elevated concentrations of hydrocarbon contamination reported within topsoil tested within residential gardens as a result of inadequate or incomplete previous remediation works. Movement of contaminated groundwater from leaking below ground storage tank into adjacent surface water course.
Severe	Sources of contamination pose a credible and acute risk to human health with potential for "Significant Harm" occurring as defined by the Part IIA of the Environmental Protection Act (1990). Alternatively (or in conjunction with risks posed to human health) sources of contamination may pose an immediate risk to controlled water resources or ecosystems.	Grossly contaminated soils are encountered or disturbed during excavation works, causing an immediate release of toxic soil vapour and leachate / contaminated groundwater flow across adjacent land.

8.0.8 As previously discussed the contaminated land risk assessment model evaluates both the severity of risks that may be present within soils / groundwater's in the context of threats posed to identified receptors before deriving the actual risk rating based on the probability of occurrence. Table 8.1 (provided overleaf) outlines the range likelihood of risk.

Table 8.1: Probability Assessment

Classification	Definition
High likelihood	A credible pollutant linkage has been identified and it is very likely contaminants will impact identified receptors in both the short or long term (or is already actively doing so). The potential for harm to be caused is thus highly likely.
Likely	Pollutant linkages between the sources of contamination and identified receptors are present and it is considered likely they will become active given the right set of circumstances (e.g. contaminants currently buried below ground that are likely to be exposed or disturbed during construction / excavation works. The circumstances are such that an event is not inevitable, however, it is possible in the short term and likely over the longer term.
Low likelihood	A theoretical pollutant linkage has been identified that has the potential to exposure receptors to contaminates under the correct circumstances. However, the likelihood of such an event occurring is not a certainty, even in the long term
Unlikely	There is no / minimal likelihood a pollutant linkage would occur, even over the long term.

8.0.9 The risk assessment process is a combination of probability and consequence, recognising that it may be possible to have a significant source of contamination beneath a site (such as a large below ground chemical storage tank) that may only present a relatively moderate to low risk (owing to the fact it may be contained within a secure concrete bund). Table 8.2 indicates how the actual nature of risk is established with Table 8.3 illustrating how the risk is interpreted in the context of contaminated land risk assessment.

Table 8.2: Risk Definition

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very Low Risk	

Table 8.3: Description of risks posed

Risk Definition	Description
Very High	Active pollutant linkages between a significant source of contamination and identified receptors have been establish and there is a high likelihood of severe harm occurring to said receptors unless immediate investigation and remediation action is not taken.
High Risk	Harm is likely to arise to receptors from an identified hazard in the short and long term. Urgent investigation of the contaminant issue will be required, and remedial treatment is likely.
Moderate Risk	The possibility of harm has been identified toward receptors under the right circumstances, although the severity of harm would be relatively mild. Further investigation of identified issues would be prudent and possible need for remedial measures in the long term.
Low Risk	It is possible harm could arise to a designated receptor from identified hazard, but it is likely (if realised) any harm would be (at worst) mild.
Very Low Risk	No significant pollutant linkages have been identified and the possibly of harm occurring to receptors is low.

8.0.10 A geo-environmental risk assessment has been completed to quantify the risks posed to identified receptors (as outlined in the preliminary site conceptual model) using the information obtained during site investigation fieldworks. Broadly speaking, this risk assessment process can be divided based on the receptor group in question between:

1) Risks posed to human health by soil contamination (both construction persons, current and future site users).
2) Risks posed to controlled waters by soil or groundwater contamination (both surface water features and bedrock aquifers).

8.0.11 It is noted the site is currently in commercial use and in the short to medium term as an event space. The following assessment has been completed to assess the risks posed from previous operations toward both current users and adjacent sites / receptors.

8.0.12 Appropriate assessment have been completed for each of the above utilising the latest statutory and non-statutory guidance documents; for details of risks posed to human health refer to Section 8.1 (soils) and Section 8.2 (ground gas), for details of risks posed to controlled waters refer to Section 8.3 and risks posed to new structures refer to Section 8.4.

8.1 Assessment of Soil Contamination

8.1.1 In order to estimate the risks posed to human health from soil contamination, a quantitative risk assessment has been completed utilising the latest Environment Agency CLEA methodology. The assessment utilises the chemical testing results obtained during the site investigation fieldworks to characterise site conditions and facilitate the completion of the risk assessment process.

8.1.2 The assessment is based on the comparison of soil chemical testing results with published Environment Agency Category Four Screening Levels (C4SL's) under the proposed end use scenario to determine the sites suitability for use. C4SL values represent the highest acceptable values for contaminants within site soils under the proposed end use and are derived using the Environment Agency CLEA risk assessment methodology. A result in exceedance of a C4SL level may indicate the presence of contaminants within site soils and require further assessment.

8.1.3 It is noted only a limited number of C4SL values have been derived by the Environment Agency for use and reference has been made to LQM/CIEH Suitable For Use Values (S4UL's) for a wider range of other contaminants (Heavy Metals, Poly Aromatic Hydrocarbons, TPH, SVOC and VOC's) to increase the depth and robustness of our assessment.

8.1.4 Chemical testing results are compared against C4SL and S4UL values for each determinant with any results reported in exceedance of screening criteria identified and their significance reviewed. When determining the significance of any exceedances within the dataset the magnitude and frequency of the exceedance need to be taken into account, for example, a single exceedance of a screening value may be considered a localised hotspot whereas consistently elevated levels of a substance at multiple locations across the site may indicate a more prevalent contamination issue.

8.1.5 In addition to this assessment, an Asbestos Identification test (via the visual inspection method) has been completed on all samples of made ground obtained during the investigation to determine risks posed. Any positive occurrences of Asbestos will be subject to quantification analysis to further assess the extent and significance of risks posed.

8.1.6 As required, for each exceedance reference will be made to the Conceptual Site Model to establish the most likely source of contaminants and initial commentary given as to the likely scope of remedial measures. In addition, reference will also be made to the assumptions used to derive generic assessment criteria (C4SL and S4UL values) to determine their comparability with the proposed end use.

8.1.7 For the purposes of this assessment we have assumed a "Commercial" end use scenario when reviewing chemical testing data against C4SL / S4UL values; a "worst case" Soil Organic Matter content value of 1% has been assumed for the initial assessment.

Summary and Assessment of Risks Posed by Soil Contamination

8.1.8 Results from chemical testing analysis indicate the following sources of contamination within site soils.

Table 8.4: Contaminants Encountered

BH ID	Depth (mbgl)	Location	Determinant/s Exceeded
WS503	3.00	Southwestern corner of site	Benzo(a)pyrene Dibenzo(ah)anthracene
WS505	0.70	Central portion of site	Asbestos – Chrysotile loose fibres (<0.001%) Lead
WS507	0.15	Central/eastern portion of site	Benzo(a)pyrene Benzo(b)fluoranthene Dibenzo(ah)anthracene
WS508	1.20-1.60	Central/eastern portion of site	Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Dibenzo(ah)anthracene Naphthalene
WS509	0.70	Eastern portion of site	Asbestos – Amosite and Crocidolite loose fibres (<0.001%)

8.1.9 Asbestos was noted in two boreholes within demolition fill made ground deposits likely originating from the demolition of historical structures on site or import of demolition fill material.

8.1.10 Localised areas of PAH contamination were noted in the eastern and southwestern portions of the site. It is suspected that PAH contaminants originated from a mixture of historic site operations and the use of demolition fill containing ash and clinker. Elevated levels of hydrocarbons were noted within the Made Ground pointing towards potential past leakage and spillage during historic site operations.

8.1.11 Although not exceeding guideline screening values, elevated levels of hydrocarbons were noted across the site. Locations where TPH concentrations exceeded 100mg/kg are provided in Table 8.5 (indicates anecdotal evidence of hydrocarbon impact).

8.1.12 The slightly elevated concentrations of hydrocarbons across the site are to be expected given the sites history. There are 3 areas where significant concentrations were noted: WS503, WS507 and WS508. These appear to be localised hotspots. The location of WS507 and 508 point to the source of contamination originating from leakages within the eastern or central historic fuel tank or possibly from spillages at surface level infiltrating through the cobbled surface.

8.1.13 WS503 is not located immediately adjacent any fuel tanks or where historic operations appear to have taken place, this would suggest that some migration of hydrocarbons is occurring towards the southwestern corner of the site. It is important to note that hydrocarbons appear to be isolated to made ground with no evidence of elevated levels in natural strata or weathered sandstone.

Table 8.5: TPH Concentrations Greater than 100mg/kg

BH ID	Depth (m)	TPH concentration (mg/kg)
WS503	3.00	11,900
WS504	0.50	1,710
WS505	2.40	917
	3.20	187
WS506	2.40-2.60	174
WS507	0.15	6,400
WS508	1.20-1.60	14,500
WS509	0.70	567

8.1.14 At WS503 elevations of TPH were noted in made ground overlying the weathered sandstone in. There were insufficient arisings from the weathered sandstone to obtain a sample, although no visual / olfactory evidence of hydrocarbon contamination was noted when inspected during drilling works.

8.1.15 PID testing during monitoring work indicates elevations of soil vapour in WS505, with the remainder of wells reporting levels at or around limits of detection.

8.1.16 The findings of the above have been used to update the Refined Conceptual Site Model (provided within Section 9.0) as well as inform the scope of any further investigation or remedial works deemed necessary to support the sites development.

8.2 Controlled Waters

8.2.1 It is understood the site is underlain by a Principal Aquifer and is not said to be located within any Environment Agency Zone source protection zones or in close proximity to sensitive groundwater abstraction boreholes. The nearest surface water feature is indicated 5m to the south (River Medlock) and is considered to be at potential risk of contaminant migration from the study site due to its close proximity.

8.2.2 Site investigation works have revealed hotspots of heavy metal and PAH contamination within made ground and elevated concentrations of hydrocarbons across the site but significantly in the eastern portion of the site (WS503 & WS508) and the southwestern corner of the site (WS503). This appears to have arisen from historic site operations and the use of demolition materials and ash as fill beneath the site. No anecdotal evidence of contamination (visual / olfactory) was noted in natural soils or underlying sandstone.

8.2.3 Groundwater monitoring works indicated that no groundwater was present within monitoring wells nor was any groundwater noted during site investigation works. Records from deep bores formed across the adjacent Mayfield Park development to the south and east indicate the water table occurs within the Sandstone bedrock at a depth circa 30.5mAOD. The flow of groundwater is assumed to follow topography in this area and will likely trend from the site to the south and east into the Park area.

8.2.4 Groundwater samples were obtained from deep monitoring wells RO101 and RO102 down gradient of the former Road Depot facility the chemical testing results from which did not indicate elevated levels of TPH or PAH contamination within the water table in this area (see RoC Consulting Mayfield Park Phase 2 Site Investigation report). Similarly, water samples have been taken from the River Medlock upstream and immediately downstream of the study site as part of the wider Mayfield Park development investigations. These samples reported values for all TPH fractions and PAH compounds to be below the limit of detection.

8.2.5 The 100% hardstanding surfacing of the site will serve to prevent infiltration of rainfall and limit the potential migration of contaminants within site soils. It is therefore unlikely that any impact on the underlying aquifer or neighbouring River Medlock will occur (as is evident from chemical analysis of water quality within these receptors).

8.2.6 It is noted a river wall is present along approximately 50% of the length of the river adjacent the site it is likely this wall provides some level of prevention against groundwater flow into the River Medlock.

8.2.7 At the time of the site investigation, no visual evidence of contamination was observed entering the watercourse from the area of the study site, nor has staining of the river walls adjacent the study site (indicative of contamination) has been noted.

8.3 Ground Gas Risk Assessment

8.3.1 The Preliminary Conceptual Site model identified the Made Ground as being a potential source of ground gas generation. The site is not said to be located within in an area at risk from Radon gas ingress.

8.3.2 It is considered the most probable exposure pathways are likely to be limited to construction workers during the sites redevelopment, however, there are no development plans for this site currently. The sites current operation as an open-air event space is not considered likely to present a risk of exposure to hazardous ground gases. The Gate House office space is suspended above ground level with only a well ventilated staircase present for access. As such it is considered unlikely users of this facility are at risk of ground gas ingress.

8.3.3 To estimate the risks posed by ground gas generation a total of 4 boreholes were installed with gas monitoring wells across the site. The purpose of these standpipes is to investigate ground gas generation potential of made ground soils and the associated implications.

8.3.4 At the time of writing, a total of three ground gas monitoring visits have been completed on site during varying weather conditions and atmospheric pressure, including atmospheric pressures below 1000atm (refer to Appendix D for further information).

8.3.5 The results from these monitoring works revealed a maximum Carbon Dioxide concentration of 5.9% with peak gas flow rates being 0l/hr. Steady gas flow rates were recorded as 0.0 l/hr across all locations. The results also indicated depleted oxygen levels within monitoring wells and an absence of carbon monoxide, methane and hydrogen sulphide gases. The principal source of ground gas generation is considered to be the decay of organic material within Made Ground.

8.3.6 PID testing has indicated some localised elevations of soil vapour at a single location WS505 likely relating to residual TPH contamination within impacted puddle clay reported associated with the former fuel storage tank in this area.

8.3.7 With reference to guidance provided in CIRIA C665 "*Assessing risks posed by hazardous ground gases to buildings*" and assuming the development comprises Public Open Space; the above-mentioned worst case gas levels and borehole flow rates equate to a gas screening value of 0.00 l/hr with CO_2 concentrations above 5%.

8.3.8 Whilst values above the 5% Carbon Dioxide threshold were noted these were not evident on a site wide basis, also given the open air nature of the event space it is considered unlikely patrons or staff are at risk of exposure to hazardous ground gas in its current configuration / operation.

9.0 Refined Conceptual Site Model

9.0.1 The Environmental Protection Act Part IIA: 1990, defines contamination as land containing levels of contamination which form a risk to human health, controlled waters, or other ecosystems. Therefore, contamination in exceedance of the relevant screening values is considered a source. Table 9.0 assesses and summarises the sources, pathways and receptors that may exist at the site.

Table 9.0: Refined Conceptual Site Model

Table 9.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
On Site	Current Ground Conditions, including Made Ground	Dermal contact and / or ingestion; inhalation of vapours / dusts	Current Site Users	Mild	Unlikely	Low	Site users are not considered to be at risk from direct contact with contaminated soils given the majority hardstanding covering across site. Given the current site use, it is unlikely that site users would come into contact with site soils.
			Construction workers	Mild to Medium	Likely	Moderate	It is noted that no there are no redevelopment proposals for the study site in the short to medium term. Risks posed to construction personnel during any future development by sources of contamination can be adequately mitigated against via the use of full PPE and the adoption of good hygiene and site practices. Appropriate personal ground gas detection equipment should be deployed by all site operatives when working in below ground or confined spaces.
			Future Site Users	Mild	Unlikely	Low	There are no current redevelopment plans for the short to medium term for the study site which is likely to remain in its current configuration. In the event this portion of the site is significantly redeveloped from its current configuration due consideration of residual sources of TPH and PAH contamination noted will be required and, remediated (as appropriate).

Table 9.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
			Ecological - Plant Uptake	Minor	Unlikely	Very Low	There are currently no areas of soft landscaping on site and no plans for this to alter within the short to medium term. In the long term if there are any plans to alter the site with areas of soft landscaping contaminants within site soils may contribute to poor plant health and a clean soil capping layer will be required to provide a suitable growing medium for vegetation.
On Site	Historical Feature(s) (Underground fuel tanks)	Dermal contact and / or ingestion; inhalation of vapours / dusts	Current Site Users	Mild	Unlikely	Low	A review of historical information has revealed the site was previously used as a filling station associated with the Mayfield Depot and there were several tanks located below ground in the eastern, central, and western portions of the site. Boreholes formed in the location of these tanks indicate they have likely been removed, although residual construction materials (puddle clay) and localised TPH impacts were noted. Site investigation works have also identified localised exceedances of PAH and lead. Slightly elevated levels of hydrocarbons were noted across the site. Higher concentrations that appear to be localised hotspots of hydrocarbon contamination were noted in the eastern and southwestern portions of the site (although not exceeding guideline values). However, given the hardstanding nature of the site and its use no potential pathway exists between current users and contaminated soils, reducing risks posed to low.
			Construction workers	Mild to Medium	Likely	Moderate	It is noted that no there are no redevelopment proposals for the study site in the short to medium term. However, as noted above, due consideration and mitigation of residual contamination hotspots arising from former refuelling operations will be required as part of any more comprehensive development works.
			Future Site Users	Mild	Unlikely	Low	

Table 9.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
On site	Current Ground Conditions (contaminants identified in made ground)	Leaching of contaminated soil & impact beneath site	Controlled Waters: Aquifer	Mild to Medium	Unlikely	Low	The underlying ground water table was not encountered during ground investigations or subsequent monitoring works. Investigations across the adjacent Mayfield Park site to the south and east indicate the water table exists at a depth circa 6m below ground level within the Sandstone bedrock. Site investigations have revealed contamination hotspots associated with former refuelling operations, although no evidence of a significant mobile contamination plume was noted in soils across the site. Similarly, chemical analysis of groundwater down gradient of the former refuelling depot as part of the Mayfield Park ground investigation did not reveal any associated impacts from this site (i.e. elevated levels of PAH or TPH within groundwater. Similarly, no evidence of soil impacts (leachate flow) was reported in shallow boreholes from within the Park at the boundary with the site (which would be expected if a significant source was present owing to the sites elevated location relative to the proposed park). It is likely the spatial extent of significant contamination is limited to hotspots relating to former refuelling operations, similarly the current hard standing coverage (and reduction of infiltration and contaminant mobilisation) will further impede any movement off site. As such, it is considered unlikely the site is having an impact on water quality within the underlying Sandstone bedrock.
			Controlled Waters: River Medlock	Mild to Medium	Unlikely	Low	As is the case with groundwater it is considered unlikely contaminants are moving from the site to the River Medlock due to limited spatial extent of contamination beneath the site and impeded infiltration potential from hard standing coverage.

Table 9.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
			Controlled Waters : River Medlock	Mild to Medium	Unlikely	Low	River water quality information for the Medlock obtained during the adjacent Mayfield Park ground investigation did not indicate TPH impacts in up or down stream reach as it passes the site, further supporting the notion the site is having little (if any) impact on water quality.
	Ground Gas Generation	Migration/Accumulation	Current Site Users	Mild	Unlikely	Low	Ground gas monitoring has revealed slightly elevated levels of ground gas (specifically CO_2) generation typical of made ground deposits. Flow levels were below the level of detection and given the sites current use and layout there is unlikely to be any pathways to current site uses.
			Construction Workers	Mild	Unlikely	Low	
			Future Site Users	Mild	Unlikely	Low	
Off site	Potentially Contaminative Sources; Controlled waters and ground gas generation [adjacent landfills, peat bogs etc]	Leaching of contaminated soil onto site	Controlled Waters: Aquifer	Negligible	Unlikely	Very Low	No significantly contaminative off-site sources have been identified that pose a risk to the site and no evidence of on-site movement of contamination or ground gasses was noted during investigation works.
			Controlled Waters: Surface Water				
		Ground gas Migration / Accumulation	Construction workers				
			Future Site Users				

Remedial Requirements

9.0.2 Re-appraisal and reassessment of the conceptual site model (following completion of investigation works) has failed to reveal significant sources of contamination that could require specific remedial measures (assuming the site remains in its current configuration).

9.0.3 Contaminants have been identified, in the form of PAH and Lead, that exceed guideline values; however, these hotspots are encapsulated below ground by the site's hard surfacing and thus pose no threat to current site users. Elevated levels of total petroleum hydrocarbons were also noted but remain below the guideline values for Commercial-led end use scenario (and are also isolated from current site users by the aforementioned majority hard standing coverage).

9.0.4 Results from ground investigations across the adjacent Mayfield Park site (down gradient of the site to the south east) does not indicate any evidence of soil or groundwater contaminant movement from the site. This is to be expected given the localised nature of residual contamination revealed beneath the site and impeded generation of groundwater / leachate due to current hard standing coverage.

9.0.5 As such we are of the opinion that, whilst containing some localised residual contamination relating to former fuel filling station operations, we do not consider the site (in its current configuration and operation) poses a risk to human health (current site users / staff) or adjacent land (namely the proposed Mayfield Park). As such the need to remediate soils beneath the site is not warranted at this time but should be considered in the event of any more significant / comprehensive redevelopment of this site.

10.0 Conclusions & Recommendations

10.0.1 The Freight Island portion of the Mayfield Masterplan (the site) comprises an open-air event space with associated bar, restaurants and outdoor seating. In addition, the suspended commercial office development (the Gate House) is also located across this portion of the site as well as the Mayfield site security office. Records indicate the site formed part of the adjacent Mayfield Railway station operation and contained a road vehicle refuelling facility (with associated dispensing pumps and below ground fuel storage tanks). The site was cleared following the close of the station (and more recently parcel depot) in the 1980s and remained unused until its regeneration as part of the wider Mayfield regeneration project in 2017.

10.0.2 The site investigation across this parcel of land was completed to support the adjacent Mayfield Park Development. While the site does not form part of the current planning application for the Mayfield Park (given its proximity to the park and former operation as a refuelling facility) it has been deemed prudent to assess ground quality to establish any residual contamination may be present (and associated potential linkage via off site contaminant flows from the site toward the Mayfield Park development and River Medlock).

10.0.3 A targeted program of ground investigations was completed with reference to historical refuelling station layout plans to establish ground conditions and quality. Investigations have revealed demolition type made ground materials (of variable depth) ranging between 1.10 - 3.80mbgl, with a mean depth of 2.99mbgl, underlying the site. These Made Ground deposits overlay a combination of granular and cohesive natural soils described as a clay, and sand and gravel (at 3 locations) and weathered sandstone at 5 locations (4 of which were directly overlain by made ground deposits). No groundwater was encountered during the site works although records for investigations completed in the adjacent Mayfield Park to the south and east indicate the water table exists in the Sandstone bedrock at depths circa 30.5mAOD.

10.0.4 Chemical assessment of site soils has revealed a localised hotspots of heavy metal contamination (Lead at WS505) and PAH contamination in the eastern and south western area of the site when compared against a “Commercial” end use scenario. Elevated levels of hydrocarbons were noted also throughout made ground deposits, with hotspots at WS503, 507 and 508 where elevated levels of PAH contamination were also recorded.

10.0.5 These hotspots can be directly related to former refuelling operations (tank locations, puddle clay etc) and do not appear significantly elevated on a site wide basis. Similarly surface and ground water sampling down gradient within the adjacent Mayfield Park site does not indicate any evidence of contaminant movement from the site.

10.0.6 The sources of contamination are not deemed to pose a risk to site users its current configuration owing to their localised nature and the extensive hardstanding coverage (breaking exposure pathways). As such we do not envisage any remediation measures are required either to protect current site users.

10.0.7 Similarly, no evidence of off-site contaminant movement was noted wither within the bedrock aquifer or adjacent surface water course during ground investigations across the park. Given the relatively localised and low-level nature of contaminants reported beneath the site, coupled with the aforementioned hard standing coverage, we do not consider the site poses a risk to either the proposed park or controlled waters in its current configuration. As such we do not envisage any remediation works are required for the protection of these receptors based on the current site layout and operation.

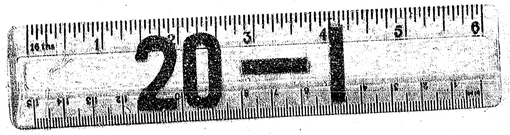
10.0.8 Should the site undergo a more comprehensive redevelopment in the future the full extent of contamination present in site soils should be assessed in order to mitigate any risk to future site users (in accordance with typical contaminated land planning requirements). Deeper boreholes into the bedrock aquifer should also be formed to assess what (if any) localised groundwater impacts may have occurred.

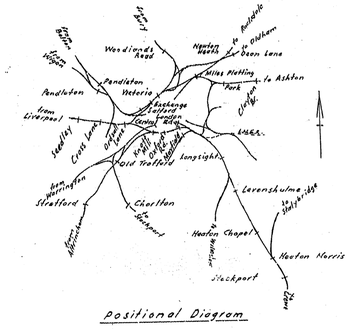
10.0.9 Copies of the current report should be submitted to the EA and local planning authority for consideration and comment. As required, any feedback received should be passed back to RoC Consulting for review. In addition, the aforementioned Phase 2 Site Investigation report for the Mayfield Park site should be revised to capture the results of these investigations with specific amendment to risks posed from this off site source toward the proposed park development.

APPENDIX A – Site Drawings

3002983

13

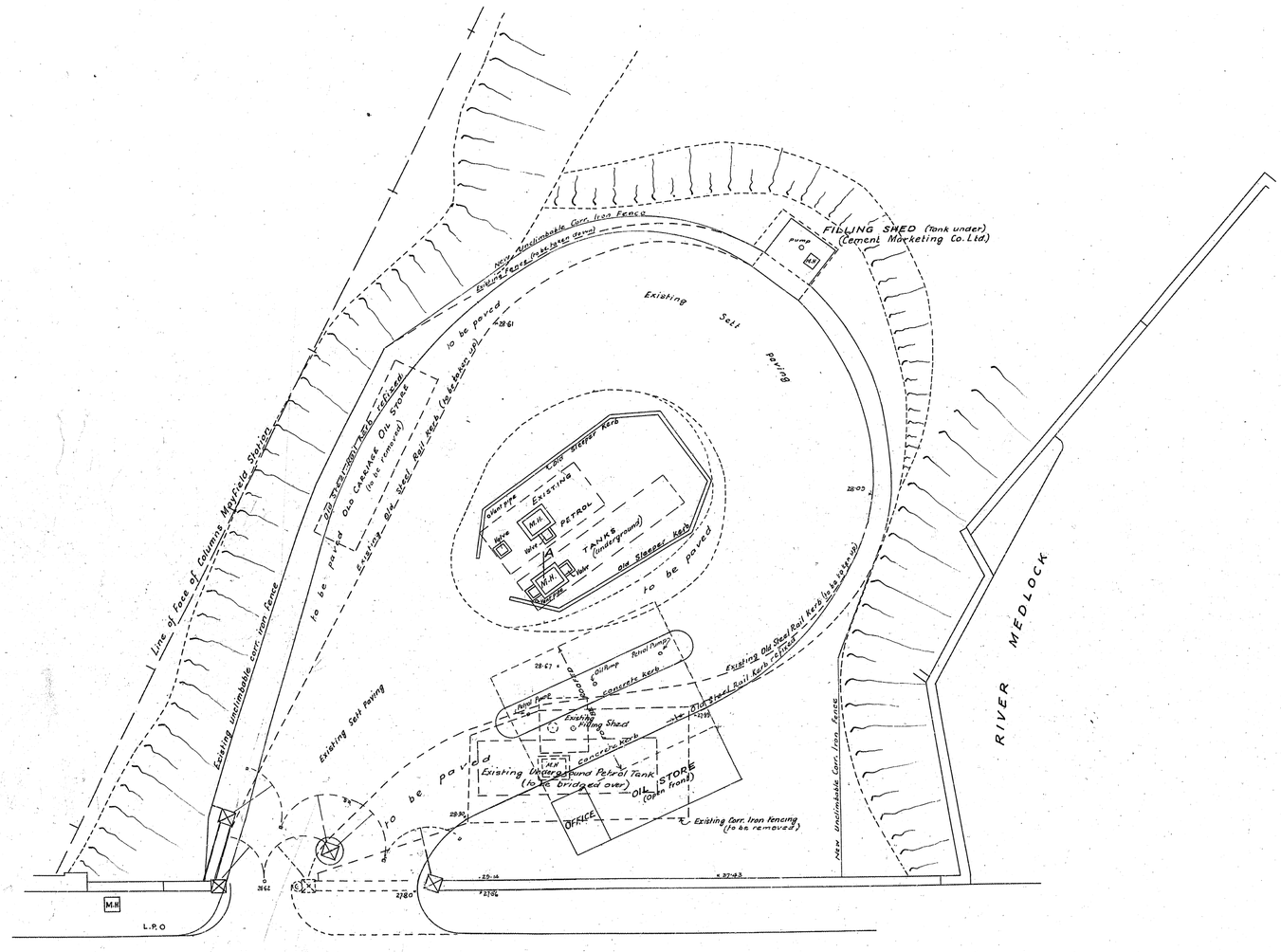



Woodhouse Park
Woodhouse Park Road
Woodhouse Park Works
Woodhouse Park Bridge
Woodhouse Park Sidings
Woodhouse Park Junction
Woodhouse Park Goods
Woodhouse Park Signal Box
Woodhouse Park Cabin
Woodhouse Park Crossing
Woodhouse Park Gates
Woodhouse Park Lane
Woodhouse Park Road
Woodhouse Park Bridge

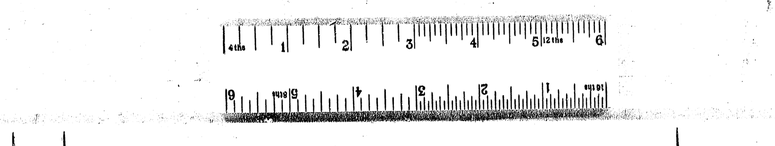
3000780

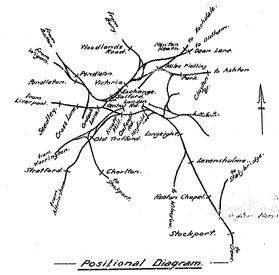
LMSR MANCHESTER MAYFIELD STN

Proposed alterations to Road Motor Dept. Petrol Depôt.

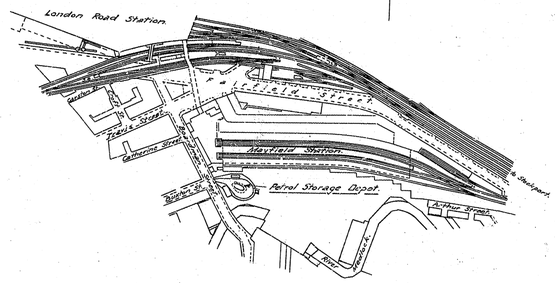


Scale ~ 10 feet to 1 inch





Positional Diagram.


London Road Station
Station St.
Travis St.
Mayfield Station
Petrol Storage Depot.
Catherine Street
Parker St.
Store
Store
Store

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NOTES

WS50X — WIN W AM LE \EH LE L ATI N

WS50X — WIN W AM LE \ \EH LE WITH M NIT \IN WELL

WS50X — WIN W AM LE \ \EH LE N T M LETE

A \ XIMATE F \ME \ \EF ELIN TATI N EXTENT

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LINE OF FACE OF STATION COLUMNS
O/H CANOPY
SEATING
corrugated iron fence
EXISTING OIL STORE (old carriage) to be removed
new concrete kerb
6" Concrete Paving
Existing Old Steel Rail Kerb (To be removed)
80' Rad
80 ft Rad
NOT COMPLETED DUE TO SERVICE CONSTRAINTS
WS501
WS502
WS503
WS504
WS505
WS506
WS507
WS508
WS509
SI1
SI2
CA01
CA02
CA03
GT1
SO1
6" thick Concrete Paving
Concrete Paving take up & relay to falls where suitable
Existing kerb taken up & relayed where suitable
Existing Old Steel Rail Kerb to be removed
Existing Oil Store to be removed
Existing Filling Shed to be removed
NEW CORRUGATED IRON OIL STORE
3.0 x 5.0 x 2.4m Ht.
Concrete Kerb
Existing Fence to be removed
Fence retained
Corr Iron Fence retained
Existing Tarmac to be removed
Existing Concrete to be removed
Existing Gravel to be removed
Existing Steps to be removed
Existing Steps to be retained
Existing Steps to be removed
Existing Steps to be relocated

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NOTES

WS50X — WIN W AM LE \EH LE L ATI N

WS50X — WIN W AM LE \ \EH LE WITH M NIT \IN WELL

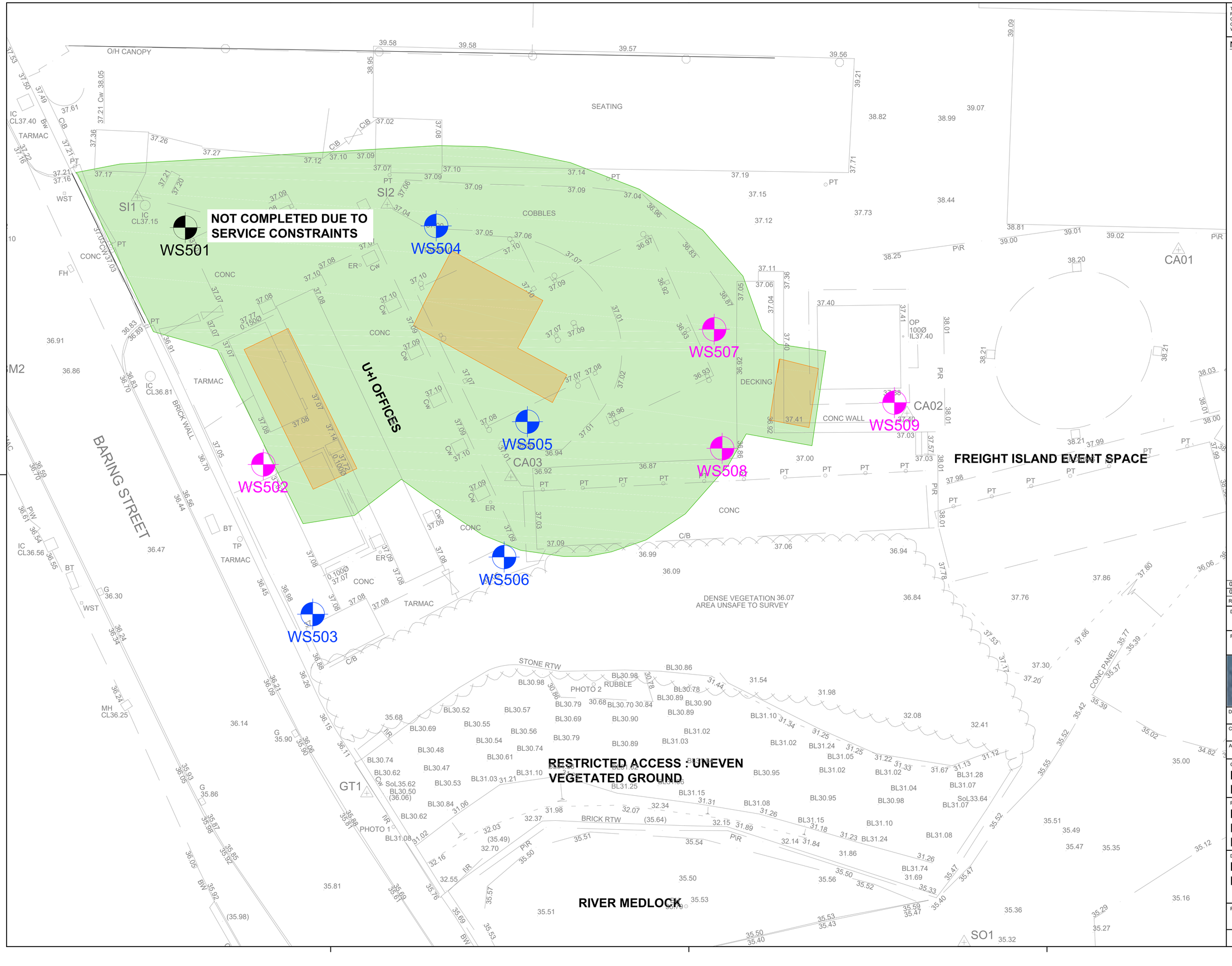
WS50X — WIN W AM LE \ \EH LE N T M LETE

A \ XIMATE F \ME\ \EF ELIN TATI N EXTENT

A \ XIMATE F \ME\ F EL T \A E TANK EXTENT

\AWIN N TE

1 FEAT \E \ELATIN T F \ME\ \EF ELIN TATI N E\ATI N TAKEN F\ M HI T \I AL \E \ LAN \ELATIN T LM \ E\ATI N . VE\LAY F \EF ELIN TATI N FEAT \E HAVE EEN T\A E F\ M HI T \I AL \E \ AN H L E N I E\E A \ XIMATE \EH LE L ATI N H WN AT I EAL L ATI N AN MAY E E T T AMEN MENT F LL WIN I N WITH MAYFIEL ITE E\ATI N EL W \ N TILITIE AN THE\ E\ATI NAL N T\AINT .



REV.	DATE	DETAILS	DRN.	CHK.
02	25.01.21	UPDATE POST SI	RM	AS
01	06.01.21	FIRST ISSUE	AS	AS

DRAWING STATUS: INFORMATION

RIBA STAGE:

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Commercial Wharf
6 Commercial Street
Manchester M15 4PZ
T 0161 214 5350
W rocconsulting.com

DRAWN	DATE	SCALES
AS	02 12 20	NTS
CHECKED	DATE	THE ABOVE SCALES APPLY WHEN PLOTTED AT A1 SIZE --DO NOT SCALE--
APPRVD.	DATE	EMAIL FOR DRAWINGS info@rocconsulting.com

CLIENT: MAYFIELD PARTNERSHIPS ITD

PROJECT TITLE: MAYFIELD FREIGHT ISLAND INVESTIGATIONS

DRAWING TITLE: BOREHOLE LOCATION PLAN

PROJECT No.	DRAWING No.	REV.
4153	ES300	2

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COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX B – Exploratory Hole Logsheets

Percussion Drilling Log

Project Name: Freight Island	Client: Mayfield Partnership Ltd	Date: 15/01/2021
Location: Mayfield	Contractor: Earth Engineering	Co-ords: E384984.50 N397620.27
Project No. : 4153-1	Crew Name:	Drilling Equipment: Competitor Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS502	WS	37.07m AoD	AS	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15	36.92		Asphalt (MADE GROUND)
								Dark greyish brown slightly clayey angular fine to coarse GRAVEL of brick, granite and limestone. Rare roots. (MADE GROUND)
					0.60	36.47		Brown clayey slightly sandy angular fine to coarse GRAVEL of brick (MADE GROUND)
								...becoming sandy
		1.80	ES					*...ash band*
					2.70	34.37		Orangish brown SAND (WEATHERED SANDSTONE)
					3.00	34.07		End of Borehole at 3.000m

1
2
3
4
5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
1.20	300							0.00	3.00		
2.00	97										
3.00	87										

Remarks

1. Inspection pit hand excavated to 1.2mbgl prior to drilling. 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings

Percussion Drilling Log

Project Name: Freight Island	Client: Mayfield Partnership Ltd	Date: 15/01/2021
Location: Mayfield	Contractor: Earth Engineering	Co-ords: E384987.44 N397611.35
Project No. : 4153-1	Crew Name:	Drilling Equipment: Competitor Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS503	WS	37.02m AoD	LD	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	36.92		Asphalt (MADE GROUND)
					0.20	36.82		Dark greyish brown ashy sub angular to angular fine to coarse GRAVEL of clinker and limestone (MADE GROUND)
								Brown slightly sandy clayey angular fine to coarse GRAVEL of brick, slate and clinker (MADE GROUND)
					0.80	36.22		Firm brown slightly sandy slightly gravelly CLAY. Gravel is angular fine to coarse of brick and mudstone (MADE GROUND)
								…terram sheet
					1.30	35.72		Blackish grey angular fine to coarse GRAVEL of ash, brick and sandstone with pockets of brown clay (MADE GROUND)
		3.00	ES					*…creosote odour*
					3.20	33.82		Orangish brown SAND (WEATHERED SANDSTONE)
					3.50	33.52		End of Borehole at 3.500m

1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
1.20	300							0.00	3.50		
2.00	97										
3.00	87										
3.50	77										

Remarks

1. Inspection pit hand excavated to 1.2mbgl prior to drilling. 2. Groundwater was not observed. 3. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 1.00 and 3.00mbgl.

Percussion Drilling Log

Project Name: Freight Island	Client: Mayfield Partnership Ltd	Date: 11/01/2021
Location: Mayfield	Contractor: Earth Engineering	Co-ords: E384999.66 N397636.08
Project No. : 4153-1	Crew Name:	Drilling Equipment: Competitor Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS504	WS	37.00m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	36.90		Stone cobbles (MADE GROUND)
								Reddish brown sandy sub angular to angular fine to coarse GRAVEL of brick (MADE GROUND)
					0.40	36.60		
		0.50	ES					Dark greyish brown clayey sandy sub angular to angular fine to medium GRAVEL of brick (MADE GROUND)
					1.10	35.90		Soft light brown slightly gravelly very sandy CLAY. Gravel is sub rounded to rounded fine to medium of mudstone (GLACIAL TILL)
					1.40	35.60		Brown slightly gravelly SAND. Gravel is sub rounded to rounded of sandstone and mudstone (GLACIAL TILL)
					1.70	35.30		Brown sandy sub rounded to rounded fine to coarse GRAVEL of sandstone (GLACIAL TILL)
								…coal gravel band
								…fine to coarse sub angular sandstone gravel
					2.50	34.50		Orangish brown SAND (WEATHERED SANDSTONE)
					2.68	34.32		End of Borehole at 2.680m

1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
1.20	300							0.00	2.68		
2.00	97										
2.36	87										

Remarks

1. Inspection pit hand excavated to 1.2mbgl prior to drilling. 2. Groundwater was not observed. 3. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 0.50 and 1.00mbgl.

Percussion Drilling Log

Project Name: Freight Island	Client: Mayfield Partnership Ltd	Date: 15/01/2021
Location: Mayfield	Contractor: Earth Engineering	Co-ords: E385000.23 N397622.82
Project No. : 4153-1	Crew Name:	Drilling Equipment: Competitor Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS505	WS	36.96m AoD	LD	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	36.86		Asphalt (MADE GROUND)
								Concrete slab (MADE GROUND)
					0.35	36.61		Dark brown soft gravelly CLAY. Gravel sub angular to angular fine to coarse of brick, limestone, slate with occassional limestone gravel bands. (REWORKED CLAY)
		0.70	ES					*…hydrocarbon odour*
					2.10	34.86		Dark grey mottled black slightly gravelly very silty CLAY. Gravel angular fine to medium of brick, slate. Possible foundry sand and diesel odour, possible puddle clay (REWORKED CLAY)
		2.40	ES					
		3.20	ES		3.20	33.76		Orangish brown SAND (WEATHERED SANDSTONE)
					3.20	33.76		End of Borehole at 3.200m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
1.20	300							0.00	3.20		
2.00	97										
3.00	87										
3.20	77										

Remarks

1. Inspection pit hand excavated to 1.2mbgl prior to drilling. 2. Groundwater was not observed. 3. Upon completion borehole was installed with a 50mm diameter standpepe with a response zone between 1.00 and 3.00mbgl

Percussion Drilling Log

Project Name: Freight Island	Client: Mayfield Partnership Ltd	Date: 11/01/2021
Location: Mayfield	Contractor: Earth Engineering	Co-ords: E384998.85 N397614.76
Project No. : 4153-1	Crew Name:	Drilling Equipment: Competitor Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS506	WS	37.05m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	36.95		Asphalt (MADE GROUND)
								Brown gravelly SAND. Gravel sub angular to angular fine to medium of brick and concrete (MADE GROUND)
					0.60	36.45		Dark greyish brown slightly clayey very gravelly SAND. Gravel sub angular to angular to fine to medium of brick (MADE GROUND)
		2.40 - 2.60	ES		2.40	34.65		Soft brown slightly gravelly CLAY. Gravel sub rounded to sub angular fine to medium of brick and coal (MADE GROUND)
					2.70	34.35		Black and orange sandy sub angular to angular fine to medium GRAVEL of brick and coal (MADE GROUND)
					3.80	33.25		Orangish brown SAND (WEATHERED SANDSTONE)
					4.00	33.05		End of Borehole at 4.000m

1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
1.20	300							0.00	4.00		
2.00	97										
3.00	87										
4.00	77										

Remarks

1. Inspection pit hand excavated to 1.2mbgl prior to drilling. 2. Groundwater was not observed. 3. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 0.40 and 3.40mbgl.

Percussion Drilling Log

Project Name: Freight Island	Client: Mayfield Partnership Ltd	Date: 11/01/2021
Location: Mayfield	Contractor: Earth Engineering	Co-ords: E385011.36 N397628.32
Project No. : 4153-1	Crew Name:	Drilling Equipment: Competitor Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS507	WS	36.93m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.15	ES		0.10	36.83		Stone cobbles (MADE GROUND)
					0.20	36.73		Dark greyish brown clayey sandy sub angular to angular fine to coarse GRAVEL of brick sandstone and clinker (MADE GROUND)
								Concrete slab (MADE GROUND)
					0.50	36.43		Dark greyish brown sandy sub angular to angular fine to medium GRAVEL of brick (MADE GROUND)
		1.30	ES					*…brick recovered as reddish brown sandy gravel*
								…brown clay band
					1.60	35.33		Dark greyish brown sandy sub angular to angular fine to medium GRAVEL of brick (MADE GROUND)
					3.20	33.73		Reddish brown sandy angular fine to coarse GRAVEL (MADE GROUND)
					3.50	33.43		Soft brown slightly sandy slightly gravelly CLAY. Gravel is sub angular to rounded fine to medium of coal and mudstone (GLACIAL TILL)
								…becoming sandy
					5.00	31.93		End of Borehole at 5.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
1.20	300							0.00	5.00		
2.00	97										
3.00	87										
4.00	77										
5.00	67										

Remarks

1. Inspection pit hand excavated to 1.2mbgl prior to drilling. 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings

Percussion Drilling Log

Project Name: Freight Island	Client: Mayfield Partnership Ltd	Date: 11/01/2021
Location: Mayfield	Contractor: Earth Engineering	Co-ords: E385011.83 N397621.23
Project No. : 4153-1	Crew Name:	Drilling Equipment: Competitor Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS508	WS	36.86m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	36.76		Stone cobbles (MADE GROUND)
					0.20	36.66		Dark greyish brown clayey sandy sub angular to angular fine to coarse GRAVEL of brick sandstone and clinker (MADE GROUND)
					0.40	36.46		Concrete slab (MADE GROUND)
		0.75	ES					Soft brown sandy gravelly CLAY. Gravel subangular to angular fine to coarse of brick and coal (MADE GROUND)
					1.00	35.86		Reddish brown sandy angular fine to coarse GRAVEL of brick (MADE GROUND)
		1.20 - 1.60	ES		1.10	35.76		Black sandy angular fine to medium GRAVEL of brick. Slight chemical odour (MADE GROUND)
					1.60	35.26		Soft brown slightly gravelly sandy CLAY. Gravel is subangular to subrounded of brick and mudstone (MADE GROUND)
					1.80	35.06		Black slightly gravelly SAND. Gravel sub angular fine to medium of clinker (MADE GROUND)
					2.00	34.86		Brown sandy angular fine to medium GRAVEL of brick and slate (MADE GROUND)
								…brown clay band
					3.40	33.46		Orangish brown slightly gravelly sandy CLAY. Gravel subangular to subrounded of coal (GLACIAL TILL)
								…becoming brown
					5.00	31.86		End of Borehole at 5.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
1.20	300							0.00	5.00		
2.00	97										
3.00	87										
4.00	77										
5.00	67										

Remarks

1. Inspection pit hand excavated to 1.2mbgl prior to drilling. 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings

Percussion Drilling Log

Project Name: Freight Island	Client: Mayfield Partnership Ltd	Date: 15/01/2021
Location: Mayfield	Contractor: Earth Engineering	Co-ords: E385022.09 N397623.95
Project No. : 4153-1	Crew Name:	Drilling Equipment: Competitor Dart

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS509	WS	37.40m AoD	AS	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	37.30		Asphalt (MADE GROUND)
					0.30	37.10		Greyish white sandy sub angular to angular fine to coarse GRAVEL of limestone (MADE GROUND)
		0.70	ES					Loose dark brown clayey SAND and sub angular to angular fine to coarse GRAVEL of brick, concrete, slate and other demolition type fill (MADE GROUND)
					0.85	36.55		End of Borehole at 0.850m

1
2
3
4
5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
0.85	300							0.00	0.85		

Remarks

1. Inspection pit hand excavated to 1.2mbgl prior to drilling. 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings.

APPENDIX C – Chemical Testing Results

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

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/00262
Issue Number: 1 **Date:** 22 January, 2021

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness; Alex Smiles
Project Name: Mayfield Freight Island
Project Ref: 4153
Order No: 1619
Date Samples Received: 12/01/21
Date Instructions Received: 13/01/21
Date Analysis Completed: 22/01/21

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Danielle Brierley
Client Manager

Envirolab Job Number: 21/00262

Client Project Name: Mayfield Freight Island

Client Project Ref: 4153

Lab Sample ID	21/00262/1	21/00262/2	21/00262/3	21/00262/4	21/00262/5	21/00262/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS507	WS507	WS508	WS508	WS506	WS504				
Depth to Top	0.15	1.30	0.75	1.20	2.40	0.50				
Depth To Bottom				1.60	2.60					
Date Sampled	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4AB	4A	5A	4AB	4A	4A				
% Stones >10mm$_A$	14.2	16.8	17.2	23.8	3.0	11.6		% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.98	8.12	8.10	7.95	8.36	7.98		pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	12	22	11	26	21	80		mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	3	<1	<1		mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	0.5	<0.2	<0.2		mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.2460	0.1493	0.0443	0.1418	0.0207	0.1113		N/A	0.0003	A-T-032 FOC
Antimony$_D$	11	12	<5	<5	<5	5		mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	20	12	7	8	8	21		mg/kg	1	A-T-024s
Barium$_D$	290	548	151	228	108	264		mg/kg	1	A-T-024s
Beryllium$_D$$^{\#}$	1.5	3.9	0.8	2.7	0.7	1.4		mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0	1.1	<1.0	<1.0	1.1	1.1		mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	1.7	1.0	0.7	2.0	<0.5	2.7		mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	131	234	43	94	21	89		mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	25	33	19	26	16	54		mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-040s
Chromium (trivalent)	25	33	19	26	16	54		mg/kg	1	Calc
Lead$_D$$^{M\#}$	422	530	611	94	79	613		mg/kg	1	A-T-024s
Mercury$_D$	1.04	0.22	1.61	0.59	0.56	1.06		mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	3	6	<1	5	<1	3		mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	34	57	18	53	17	28		mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	2	<1	<1		mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	37	81	26	58	20	44		mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	348	201	537	259	54	385		mg/kg	5	A-T-024s

Envirolab Job Number: 21/00262

Client Project Name: Mayfield Freight Island

Client Project Ref: 4153

Lab Sample ID	21/00262/1	21/00262/2	21/00262/3	21/00262/4	21/00262/5	21/00262/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS507	WS507	WS508	WS508	WS506	WS504				
Depth to Top	0.15	1.30	0.75	1.20	2.40	0.50				
Depth To Bottom				1.60	2.60					
Date Sampled	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4AB	4A	5A	4AB	4A	4A				
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_D^{\#}$	NAD	-	NAD	-	NAD	NAD				A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_D$	N/A	-	N/A	-	N/A	N/A				A-T-045

Envirolab Job Number: 21/00262

Client Project Name: Mayfield Freight Island

Client Project Ref: 4153

Lab Sample ID	21/00262/1	21/00262/2	21/00262/3	21/00262/4	21/00262/5	21/00262/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS507	WS507	WS508	WS508	WS506	WS504				
Depth to Top	0.15	1.30	0.75	1.20	2.40	0.50				
Depth To Bottom				1.60	2.60					
Date Sampled	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4AB	4A	5A	4AB	4A	4A				
PAH-16MS										
Acenaphthene$_A^{M\#}$	19.2	1.60	14.2	303	0.14	3.49		mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<1.00	<0.01	<0.10	<1.00	0.06	<0.10		mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	33.2	1.45	14	364	0.40	8.61		mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	83.2	2.77	14.3	244	1.34	19.7		mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	102	2.44	10.5	171	1.21	17.2		mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	115	2.38	11.9	184	1.04	19.2		mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	60.2	1.03	4.11	62.7	0.42	10.6		mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	44.3	0.91	4.81	75.9	0.42	7.17		mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	105	2.82	17.8	310	1.24	25.3		mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	12.9	0.20	1.36	17.7	0.09	2.83		mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	219	6.40	49.6	803	2.17	54		mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	12.8	1.01	13.6	340	0.15	2.35		mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	68.9	1.18	5.14	80.2	0.62	10.5		mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<3.00	0.68	10.3	1030	0.17	<0.30		mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	105	6.73	70.6	1480	1.54	44.7		mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	188	5.94	41	671	2.04	49.8		mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	1170	37.5	283	6140	13.1	275		mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/00262

Client Project Name: Mayfield Freight Island

Client Project Ref: 4153

Lab Sample ID	21/00262/1	21/00262/2	21/00262/3	21/00262/4	21/00262/5	21/00262/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS507	WS507	WS508	WS508	WS506	WS504				
Depth to Top	0.15	1.30	0.75	1.20	2.40	0.50				
Depth To Bottom				1.60	2.60					
Date Sampled	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4AB	4A	5A	4AB	4A	4A				
TPH UKCWG										
Ali >C5-C6$_A^{\#}$	<0.01	-	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	0.02	-	-	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<10	-	-	<20	2	<5		mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	38	-	-	22	2	<5		mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	202	-	-	34	2	12		mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	140	-	-	33	3	24		mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	317	-	-	96	27	271		mg/kg	1	A-T-055s
Ali >C35-C44$_A$	73	-	-	105	10	77		mg/kg	1	A-T-055s
Total Aliphatics$_A$	770	-	-	291	48	384		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$_A$	<10	-	-	41	7	<5		mg/kg	1	A-T-055s
Aro >C10-C12$_A$	39	-	-	1330	3	<5		mg/kg	1	A-T-055s
Aro >C12-C16$_A$	315	-	-	2400	8	42		mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	1140	-	-	4570	23	255		mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	4030	-	-	5760	74	963		mg/kg	1	A-T-055s
Aro >C35-C44$_A$	96	-	-	74	10	69		mg/kg	1	A-T-055s
Total Aromatics$_A$	5620	-	-	14100	126	1330		mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	6400	-	-	14500	174	1710		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

Envirolab Job Number: 21/00262

Client Project Name: Mayfield Freight Island

Client Project Ref: 4153

Lab Sample ID	21/00262/1	21/00262/2	21/00262/3	21/00262/4	21/00262/5	21/00262/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS507	WS507	WS508	WS508	WS506	WS504				
Depth to Top	0.15	1.30	0.75	1.20	2.40	0.50				
Depth To Bottom				1.60	2.60					
Date Sampled	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4AB	4A	5A	4AB	4A	4A				
SVOC										
4-Bromophenyl phenyl ether$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	-	-	71700	-	-		µg/kg	100	A-T-052s
Carbazole$_A$	-	-	-	57900	-	-		µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	-	-	<5000	-	-		µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	-	-	15600	-	-		µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	-	-	5980	-	-		µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	-	-	12100	-	-		µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	-	-	155000	-	-		µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Phenol$_A$	-	-	-	5300	-	-		µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	-	-	-	<5000	-	-		µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Isophorone$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s

Envirolab Job Number: 21/00262

Client Project Name: Mayfield Freight Island

Client Project Ref: 4153

Lab Sample ID	21/00262/1	21/00262/2	21/00262/3	21/00262/4	21/00262/5	21/00262/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS507	WS507	WS508	WS508	WS506	WS504				
Depth to Top	0.15	1.30	0.75	1.20	2.40	0.50				
Depth To Bottom				1.60	2.60					
Date Sampled	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4AB	4A	5A	4AB	4A	4A				
Hexachloroethane$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	-	-	<1000	-	-		µg/kg	100	A-T-052s
Perylene$_A$	-	-	-	26600	-	-		µg/kg	100	A-T-052s

Envirolab Job Number: 21/00262

Client Project Name: Mayfield Freight Island

Client Project Ref: 4153

Lab Sample ID	21/00262/1	21/00262/2	21/00262/3	21/00262/4	21/00262/5	21/00262/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS507	WS507	WS508	WS508	WS506	WS504				
Depth to Top	0.15	1.30	0.75	1.20	2.40	0.50				
Depth To Bottom				1.60	2.60					
Date Sampled	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4AB	4A	5A	4AB	4A	4A				
VOC										
Dichlorodifluoromethane$_A$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Chloromethane$_A$	-	-	-	<10	-	-		µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A^\#$	-	-	-	*<1*	-	-		µg/kg	1	A-T-006s
Bromomethane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Chloroethane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Trichlorofluoromethane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,1-Dichloroethene$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Carbon Disulphide$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Dichloromethane$_A$	-	-	-	<5	-	-		µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,1-Dichloroethane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
2,2-Dichloropropane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Bromochloromethane$_A^\#$	-	-	-	<5	-	-		µg/kg	5	A-T-006s
Chloroform$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,1-Dichloropropene$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Carbon Tetrachloride$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,2-Dichloroethane$_A^\#$	-	-	-	<2	-	-		µg/kg	2	A-T-006s
Benzene$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Trichloroethene$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,2-Dichloropropane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Dibromomethane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Bromodichloromethane$_A^\#$	-	-	-	<10	-	-		µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Toluene$_A^\#$	-	-	-	4	-	-		µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,3-Dichloropropane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Tetrachloroethene$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Dibromochloromethane$_A^\#$	-	-	-	<3	-	-		µg/kg	3	A-T-006s
1,2-Dibromoethane$_A^\#$	-	-	-	<1	-	-		µg/kg	1	A-T-006s

Lab Sample ID	21/00262/1	21/00262/2	21/00262/3	21/00262/4	21/00262/5	21/00262/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS507	WS507	WS508	WS508	WS506	WS504				
Depth to Top	0.15	1.30	0.75	1.20	2.40	0.50				
Depth To Bottom				1.60	2.60					
Date Sampled	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21	11-Jan-21				
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES				
Sample Matrix Code	4AB	4A	5A	4AB	4A	4A				
Chlorobenzene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	-	-	-	11	-	-		µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	-	-	-	14	-	-		µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	-	-	-	6	-	-		µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	-	-	-	3	-	-		µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	-	-	-	8	-	-		µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	-	-	-	<2	-	-		µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	-	-	-	19	-	-		µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	-	-	-	2	-	-		µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	-	-	-	3	-	-		µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	-	-	-	<2	-	-		µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	-	-	-	<3	-	-		µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	-	-	-	<1	-	-		µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	-	-	-	<3	-	-		µg/kg	3	A-T-006s

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.
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.

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: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Mayfield Freight Island

Clients Project No: 4153

Project No: 21/00262

Date Received: 13/01/2021 (am)

Cool Box Temperatures (°C): 4.2

NO DEVIATIONS IDENTIFIED

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, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

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

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 21/00481
Issue Number: 1 **Date:** 26 January, 2021

Client:
ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Liam Daley/ Alex Smiles
Project Name: Freight Isalnd, Mayfield
Project Ref: 4153
Order No: TBC
Date Samples Received: 18/01/21
Date Instructions Received: 19/01/21
Date Analysis Completed: 25/01/21

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 21/00481

Client Project Name: Freight Isalnd, Mayfield

Client Project Ref: 4153

Lab Sample ID	21/00481/1	21/00481/2	21/00481/3	21/00481/4	21/00481/5	21/00481/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS509	WS505	WS505	WS505	WS503	WS502				
Depth to Top	0.70	0.70	2.40	3.20	3.00	1.80				
Depth To Bottom										
Date Sampled	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6AB	6AB	6AB	1A	4AB	6AB				
% Stones >10mm$_A$	<0.1	<0.1	3.9	7.2	26.7	<0.1		% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	10.19	8.10	7.80	8.31	8.10	8.41		pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	28	42	<10	<10	34	20		mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0370	0.0360	0.0618	0.0019	0.1786	0.0304		N/A	0.0003	A-T-032 FOC
Antimony$_D$	12	10	<5	<5	<5	<5		mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	174	21	25	6	24	19		mg/kg	1	A-T-024s
Barium$_D$	285	719	122	36	281	390		mg/kg	1	A-T-024s
Beryllium$_D$$^{\#}$	0.8	1.2	1.6	<0.5	2.3	1.1		mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	1.2	3.8	0.7	<0.5	0.7	0.6		mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	78	84	85	5	108	54		mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	22	24	19	4	17	20		mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-040s
Chromium (trivalent)	22	24	19	4	17	20		mg/kg	1	Calc
Lead$_D$$^{M\#}$	309	3030	335	10	205	1330		mg/kg	1	A-T-024s
Mercury$_D$	1.43	1.95	1.52	<0.17	0.99	1.07		mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1	1	2	<1	4	2		mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	21	24	26	3	33	22		mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	2	<1	1	1		mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	19	30	31	5	54	25		mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	410	883	86	14	98	67		mg/kg	5	A-T-024s

Envirolab Job Number: 21/00481

Client Project Name: Freight Isalnd, Mayfield

Client Project Ref: 4153

Lab Sample ID	21/00481/1	21/00481/2	21/00481/3	21/00481/4	21/00481/5	21/00481/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS509	WS505	WS505	WS505	WS503	WS502				
Depth to Top	0.70	0.70	2.40	3.20	3.00	1.80				
Depth To Bottom										
Date Sampled	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6AB	6AB	6AB	1A	4AB	6AB				
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	Amosite & Crocidolite	Chrysotile	NAD	-	NAD	NAD				A-T-045
Asbestos Matrix (microscope)$_{D}$	Loose fibres	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	<0.001	-	-	-	-		% w/w	0.001	A-T-054

Envirolab Job Number: 21/00481

Client Project Name: Freight Isalnd, Mayfield

Client Project Ref: 4153

Lab Sample ID	21/00481/1	21/00481/2	21/00481/3	21/00481/4	21/00481/5	21/00481/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS509	WS505	WS505	WS505	WS503	WS502				
Depth to Top	0.70	0.70	2.40	3.20	3.00	1.80				
Depth To Bottom										
Date Sampled	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6AB	6AB	6AB	1A	4AB	6AB				
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.49	1.16	0.05	0.02	58.7	0.07		mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.03	0.04	<0.01	0.01	14.4	0.05		mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.68	2.38	0.02	0.04	105	0.19		mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	1.69	3.71	<0.04	0.04	121	0.53		mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	1.55	4.07	<0.04	<0.04	115	0.75		mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	1.63	3.78	<0.05	<0.05	112	0.65		mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.80	2.34	<0.05	0.07	42.8	0.32		mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.58	1.34	<0.07	<0.07	43.7	0.25		mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.90	3.34	<0.06	<0.06	114	0.55		mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.19	0.50	<0.04	<0.04	9.61	0.07		mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	4.21	8.08	<0.08	0.10	293	1.08		mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.35	1.87	0.13	0.04	73.3	0.07		mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.90	2.67	<0.03	<0.03	46	0.35		mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.38	0.17	<0.03	0.09	158	0.05		mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	3.67	5.63	0.13	0.17	342	0.78		mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	3.68	7.63	<0.07	0.09	280	1.06		mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	22.7	48.7	0.33	0.67	1930	6.82		mg/kg	0.01	A-T-019s

Envirolab Job Number: 21/00481

Client Project Name: Freight Isalnd, Mayfield

Client Project Ref: 4153

Lab Sample ID	21/00481/1	21/00481/2	21/00481/3	21/00481/4	21/00481/5	21/00481/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS509	WS505	WS505	WS505	WS503	WS502				
Depth to Top	0.70	0.70	2.40	3.20	3.00	1.80				
Depth To Bottom										
Date Sampled	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6AB	6AB	6AB	1A	4AB	6AB				
TPH UKCWG										
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	-	4	<1	<20	<1		mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	1	-	72	<1	<20	<1		mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	3	-	286	5	43	<1		mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	5	-	174	13	40	<1		mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	36	-	34	35	59	5		mg/kg	1	A-T-055s
Ali >C35-C44$_A$	29	-	<1	1	133	1		mg/kg	1	A-T-055s
Total Aliphatics$_A$	74	-	569	55	275	6		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	0.03	<0.01		mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	2	-	2	<1	35	<1		mg/kg	1	A-T-055s
Aro >C10-C12$_A$	6	-	38	<1	494	2		mg/kg	1	A-T-055s
Aro >C12-C16$_A$	44	-	191	13	1520	6		mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	141	-	98	85	3420	19		mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	282	-	18	33	5970	50		mg/kg	1	A-T-055s
Aro >C35-C44$_A$	17	-	<1	<1	152	1		mg/kg	1	A-T-055s
Total Aromatics$_A$	493	-	347	132	11600	79		mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	567	-	917	187	11900	85		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	0.03	<0.01		mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-	<0.01	<0.01	0.02	<0.01		mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-	<0.01	<0.01	0.07	<0.01		mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-	<0.01	<0.01	0.07	<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

Envirolab Job Number: 21/00481

Client Project Name: Freight Isalnd, Mayfield

Client Project Ref: 4153

Lab Sample ID	21/00481/1	21/00481/2	21/00481/3	21/00481/4	21/00481/5	21/00481/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS509	WS505	WS505	WS505	WS503	WS502				
Depth to Top	0.70	0.70	2.40	3.20	3.00	1.80				
Depth To Bottom										
Date Sampled	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6AB	6AB	6AB	1A	4AB	6AB				
SVOC										
4-Bromophenyl phenyl ether$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	-	<100	-	32400	-		µg/kg	100	A-T-052s
Carbazole$_A$	-	-	<100	-	24100	-		µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	-	<500	-	<5000	-		µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	-	<100	-	1920	-		µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	-	<100	-	2060	-		µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	-	127	-	45300	-		µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Phenol$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	-	-	<500	-	<5000	-		µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Isophorone$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s

Envirolab Job Number: 21/00481

Client Project Name: Freight Isalnd, Mayfield

Client Project Ref: 4153

Lab Sample ID	21/00481/1	21/00481/2	21/00481/3	21/00481/4	21/00481/5	21/00481/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS509	WS505	WS505	WS505	WS503	WS502				
Depth to Top	0.70	0.70	2.40	3.20	3.00	1.80				
Depth To Bottom										
Date Sampled	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6AB	6AB	6AB	1A	4AB	6AB				
Hexachloroethane$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	-	<100	-	<1000	-		µg/kg	100	A-T-052s
Perylene$_A$	-	-	<100	-	28200	-		µg/kg	100	A-T-052s

Envirolab Job Number: 21/00481

Client Project Name: Freight Isalnd, Mayfield

Client Project Ref: 4153

Lab Sample ID	21/00481/1	21/00481/2	21/00481/3	21/00481/4	21/00481/5	21/00481/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS509	WS505	WS505	WS505	WS503	WS502				
Depth to Top	0.70	0.70	2.40	3.20	3.00	1.80				
Depth To Bottom										
Date Sampled	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6AB	6AB	6AB	1A	4AB	6AB				
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	-	2	-		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	-	5	-		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

Lab Sample ID	21/00481/1	21/00481/2	21/00481/3	21/00481/4	21/00481/5	21/00481/6		Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS509	WS505	WS505	WS505	WS503	WS502				
Depth to Top	0.70	0.70	2.40	3.20	3.00	1.80				
Depth To Bottom										
Date Sampled	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21	15-Jan-21				
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil				
Sample Matrix Code	6AB	6AB	6AB	1A	4AB	6AB				
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	-	7	-		µg/kg	1	A-T-006s
m & p Xylene$_A^{\#}$	-	-	<1	-	25	-		µg/kg	1	A-T-006s
o-Xylene$_A^{\#}$	-	-	<1	-	20	-		µg/kg	1	A-T-006s
Styrene$_A^{\#}$	-	-	<1	-	4	-		µg/kg	1	A-T-006s
Bromoform$_A^{\#}$	-	-	<1	-	<1	-		µg/kg	1	A-T-006s
Isopropylbenzene$_A^{\#}$	-	-	<1	-	3	-		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	-	2	-		µg/kg	1	A-T-006s
2-Chlorotoluene$_A^{\#}$	-	-	<1	-	<1	-		µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_A^{\#}$	-	-	<1	-	43	-		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	-	80	-		µg/kg	1	A-T-006s
sec-Butylbenzene$_A^{\#}$	-	-	5	-	<1	-		µg/kg	1	A-T-006s
4-Isopropyltoluene$_A^{\#}$	-	-	<1	-	8	-		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

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.
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.

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: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Freight Isalnd, Mayfield

Clients Project No: 4153

Project No: 21/00481

Date Received: 19/01/2021 (am)

Cool Box Temperatures (°C): 4.8

NO DEVIATIONS IDENTIFIED

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, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

APPENDIX D – Monitoring data

Civil, Structural & Environmental Engineers Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4153	**Site:**	Mayfield Freight Island
	Date:	25/01/2021	**Client:**	Mayfield Partnerships Ltd
	Engineer:	RM	**Equipment:**	GFM 435

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Light Snow	Cloudy	Cloudy
Barometric Pressure Trend:	Increasing	Increasing	Increasing
Surface Ground Conditions:			

VISIT ONE	**Start**	**Finish**	
Time:	11:00:00	**Time:**	11:45:00
Barometric Pressure:	1000	**Barometric Pressure:**	1000
Background Oxygen:	21.0	**Background Oxygen:**	21.0

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS503	**0**	**0**	**4.6**	**14.9**	**<<<**	**0/0**	**0**	**0**	**4.6**	**14.9**	**<<<**	**0/0**	**Dry**	**3.08**	**N/A**	
WS504	**0**	**0**	**1.6**	**15.2**	**<<<**	**0/0**	**0**	**0**	**1.6**	**15.2**	**<<<**	**0/0**	**Dry**	**1**	**N/A**	
WS505	**0**	**0**	**5.9**	**5**	**<<<**	**0/0**	**0**	**0**	**5.9**	**5**	**<<<**	**0/0**	**Dry**	**3.4**	**N/A**	
WS506	**0**	**0**	**2.6**	**18.4**	**<<<**	**0/0**	**0**	**0**	**2.6**	**18.4**	**<<<**	**0/0**	**Dry**	**3.27**	**N/A**	

Comments: <<< = Below detection limits