



Ergo Ltd
Hoults Yard
Walker Road
Newcastle upon Tyne
NE6 2HL

0191 389 6200

info@ergoenvironmental.com
<http://www.ergoenvironmental.com>

Ref: 21-1146-RS
Date: 27th February 2023

**C/o Peter Rushworth
Mr F Mahmood**
Bridgeman Court
Salop Street
Bolton
BL2 1DZ

BY Email (peter@madp.co.uk)

Remediation Statement Land at Ashton Old Road, Manchester

INTRODUCTION

ERGO has been commissioned by MADP on behalf of Mr F Mahmood to produce a Remediation Statement to detail the works required to remediate identified contamination and subsequently validate the required mitigation measures.

This document will address the requirements to delineate and manage localised impacted soils and subsequent placement of an appropriate clean cover system within proposed landscaped areas.

It is considered that given the minimal nature of the works, a full Remediation Strategy document is not required and that a Remediation Statement should suffice.

OBJECTIVES

The scope of work consisted of following elements:

- *Production of a Remediation Statement Report; and,*
- *Recommendations for subsequent validation of the works.*

LIMITATIONS

The limitations of this report are enclosed in Appendix I.

CONFIDENTIALITY

ERGO has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from ERGO; a charge may be levied against such approval.

PREVIOUS REPORTS

ERGO have previously completed the following phases of work at the site:

- ERGO Phase I Geoenvironmental Site Assessment, Ref: 22-1146-P1), dated April 2022; and,
- ERGO Phase II Geoenvironmental Site Assessment, Ref: 22-1146-P2), dated April 2022.



These reports for should be read as a precursor and in conjunction with the ERGO Remediation Statement.

HUMAN HEALTH RISK SUMMARY

A Tier I Human Health Risk Assessment identified the presence of elevated Benzo(a)Pyrene, Benzo(b)Fluoranthene, Dibenzo(a,h)Anthracene within WS102 at 0.50mbgl and asbestos in the form of chrysotile asbestos cement within WS103 at 0.50mbgl.

Potential risks from the identified PAH contaminants are somewhat negated given development proposals indicate the presence of predominantly hardstanding impermeable surface across the site with localised peripheral areas of proposed landscaping which will largely inhibit the potential for complete source-receptor pathway.

Materials impacted by asbestos will need to be managed appropriately to ensure that materials pose no significant risk to construction workers, future site users and adjacent site users, as per the developed asbestos conceptual site model. It is considered that materials to retained and reused onsite as part of the enabling works should be subjected to a confirmatory asbestos hand pick during the enabling works programme.

REMEDIATION WORKS

The following actions are required to be undertaken at the site sequentially to ensure no unacceptable level of risk to Human Health receptors remains following completion of the works.

RE-1	Management of Identified and Potential Asbestos Impact Visible asbestos in the form of chrysotile cement has been identified locally within onsite deposits. However given the nature and variability of the onsite deposits further ACM is considered likely to be present. Where encountered, visible asbestos is unsuitable to be retained within onsite deposits. The contractor must ensure than all personnel working onsite are trained in the identification of ACM and the risk associated with impacted soils. A visual inspection and handpick of the cut surface and Made Ground materials proposed for reuse within the scheme is required to completed by a CAT C licensed operative. All identified ACM will be require subsequent offsite disposal. A certificate of cleanliness shall be produced by the appointed contractor. Furthermore, the ERGO Developed Conceptual Site Model demonstrates a suitable method for management of Made Ground soils to negate any future risk, this model is enclosed within Appendix III and confirms the protocol for the management of soils impacted by asbestos fibres. Validation sampling of the processed Made Ground to be retained should be completed to demonstrate compliance with the Developed Conceptual Site Model. These processes should be completed under strict controls to be devised and employed by the nominated contractor to ensure no potential for fibre release into ambient air. If necessary, reassurance air testing in accordance with the requirements of HSG 248 should be completed during the operation to move the soils to demonstrate the deployment of the required control procedures and safe working methods.
RE-2	Management of Identified PAH Impacted Soil Localised PAH contamination was previously identified within onsite soils. To remove the source-receptor pathway, soils surrounding the eastern development should be capped with a clean cover layer. To achieve this, areas of proposed soft landscaping should be excavated to allow for placement of 600mm of clean, suitable materials. Note that where natural ground is encountered at depths of <600mm, excavation can cease and the clean cover system can incorporate this material. Excavated materials should be stockpiled for offsite disposal or should be placed within an area of low future sensitivity.

RE-3	Preparation of landscaping areas for Cover System As part of the land remediation works, all areas of proposed landscaping will be prepared in a manner that will facilitate the placement of a clean cover system during the development phase of the works. The preparation of the areas requiring clean cover is critical in ensuring delivery of the site in a manner that will ensure no risk to the proposed end users. As Made Ground deposits have been deemed to be chemically and texturally unsuitable for retention due to ACM, a reduced level dig to remove unsuitable material to a minimum depth of 1.00m below finished landscaping level or verified natural stratum (whichever is the shallower).
RE-4	Provision of Subsoil and Topsoil Appropriate clean subsoil and topsoil material will be required for use in the proposed landscaping area. Materials will require validation testing as outlined within the validation sampling protocol herein, to ensure suitability. All imported and site won materials proposed for reuse shall be confirmed to be chemical and texturally suitable prior to placement.
RE-5	Placement of Subsoil & Topsoil To ensure the risks to receptors are appropriately mitigated, a 1.00m clean cover system comprising a minimum 300mm suitable growing medium within 150mm topsoil will be installed within proposed landscaping areas due to the presence of ACM. Where natural drift is encountered at depths <1.00m, the clean cover system shall incorporate this material. The full thickness of the placed material will require validation to confirm no unacceptable risk to future site users is present.
RE-6	Remedial Verification Report A report will be compiled following completion the remedial works which will include information relating to delineation, site clearance, excavation, importation of materials, chemical testing, remedial works, remedial verification, material movements and waste transfer documentation where appropriate. Full details of remediation validation to be implemented including validation of clean cover, will be provided. The report will be submitted to the Local Authority for approval following completion.

MATERIALS MANAGEMENT & LEGISLATIVE COMPLIANCE

A U1 Standard Rules Permit shall be registered for the site which allows the re-use of up to 5000T of prescribed material within construction with up to 25,000T of material permissible to be re-used in the construction of roads. It should be noted that only 1000T of material described as sand, stones or clay soil classified as waste can be re-used with a U1.

IMPORTATION SAMPLING REQUIREMENTS

In accordance with the requirements of regulatory authorities and guidance outlined by YALPAG, samples will be collected from all materials to be imported and submitted for chemical analysis at UKAS accredited laboratories to the site to confirm suitability for use within the scheme. Required sampling frequency and analysis suites is shown in Table 3.2 (overleaf).

To confirm suitability, assessment should be undertaken against site specific screening criteria (as detailed within Appendix II. Where material is found to contain concentrations of potential contaminants at levels in excess of the, an alternative source of material will be sourced. Unsuitable material will be disposed of appropriately.



Table 3.2 **Specification of Chemical Validation Laboratory Analysis**

MATERIAL USE	TESTING FREQUENCY	SUITE OF ANALYSIS
Imported Subsoil/Topsoil Greenfield Source for Clean cover System	Min 3no. then 1 Sample per 200m ³	A / B / C / D
Site won or imported Subsoil/Topsoil Brownfield Source for Clean cover System	Min 6no. then 1 Sample per 50m ³	A / B / C / D

Notes

Suites of Analysis

A) Speciated PAH

B) Speciated TPH (C5-C35)

C) Asbestos (ID)

D) CLEA Inorganic Heavy Metals

VALIDATION

ERGO will return to site a sufficient number of times to collect photographic evidence documenting the placement of the clean cover layer on completion of construction works.

Collation of information relating to excavation, management, disposal, chemical testing, remedial works, remedial verification, material movements and waste transfer documentation where appropriate.

A completed remedial validation reported in line with regulatory guidance will issued upon completion of remediation. This will include a detailed risk assessment. The report will be submitted to the Local Authority for approval following completion.

Localised, as yet unidentified contaminant impact cannot be discounted, therefore elements of the site remediation and enabling works will be completed under the part time supervision of an independent Geo-Environmental Engineer. In the event any as yet unidentified / unexpected source impact is observed, samples will be subject to laboratory testing to inform robust risk assessment and where necessary remediation action.

CONCLUSION

Subject to the appropriate completion of the Remediation works and subsequent appropriate validation as detailed above, it is considered that identified potential risks to Human Health receptors will be adequately mitigated at the Ashton Old Road, Manchester site.

I trust that the above information is sufficient at this time and if you require anything further please do not hesitate to contact me.

Yours sincerely,

For and on behalf of ERGO Environmental Ltd

Jonathan Malley

Associate Director



Enclosed:

Limitations

Drawings

ERGO Drawing 21-1146-001 Site Location Plan

ERGO Drawing 21-1146-002 Proposed Development Plan

ERGO Drawing 21-1146-004 Contamination Location Plan

ERGO Drawing 21-1146-005 Asbestos Conceptual Site Model

Screening Values

APPENDIX I LIMITATIONS



1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between ERGO and the Client as indicated in Section 1.2.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information, it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials this is for indicative purposes only and do not constitute or replace full and proper surveys.
8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
9. ERGO cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by ERGO is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by ERGO in this connection without their explicit written agreement there to by ERGO.
10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.



APPENDIX II DRAWINGS





SITE

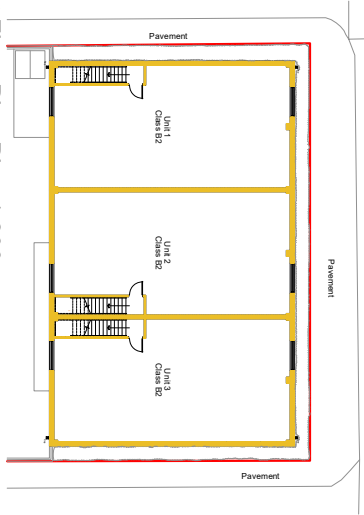


Drawing 21-1146-001
Site Location Plan



Key:

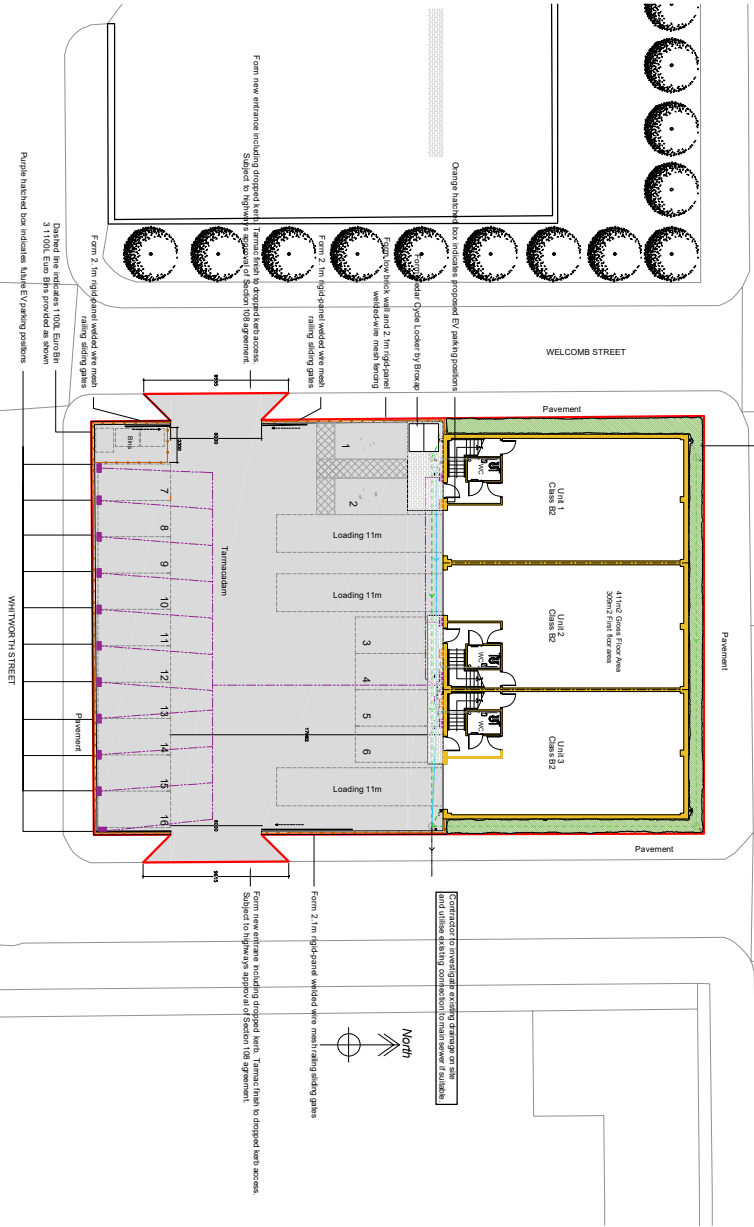
Location Symbols



First Floor Plan Plan 1:200

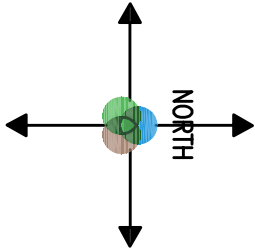
NOTE: Item 303.32, Accessory 1.1
From definition in substructure

NOTE: The proposed structure does not obstruct the existing highway
Pedestrian and vehicular access onto site to be maintained

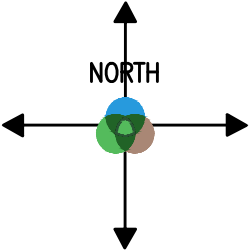


Site Plan 1:200

Block Plan 1:200



Job Title:		Drawing Title:	
Ashton Old Road, Manchester		Proposed Development Plan	
Client:	Manjur Choudhury	Job No:	22-1146
Phase	P1	Revision	-
Date	15.03.2022	Issue	DRAFT
Drawn	JN	Drawn	RB
Authorised	JN	Date	15.03.2022
Drawing No:	002	Scale:	NTS



Key:

Location Symbols

- Approximate Window Sample Probehole Location
- Identified Elevated PAH
- Identified Asbestos

Notes:

P1	-	27.02.2023	DRAFT	KF	JN
Phase	Revision	Date	Issue	Drawn	Authorised
Client:			Job No:	Date:	
Faisal Mahmood			22-1146	27.02.2023	
			Drawing No:	Scale:	
			004	NTS	
Job Title:			Drawing Title:		
Ashton Old Road, Manchester			Contamination Location Plan		

Ergo Environmental Ltd
Tel: 0191 389 6200
Website: www.ergoenvironmental.com
Email: info@ergoenvironmental.com

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Key:

Location Symbols

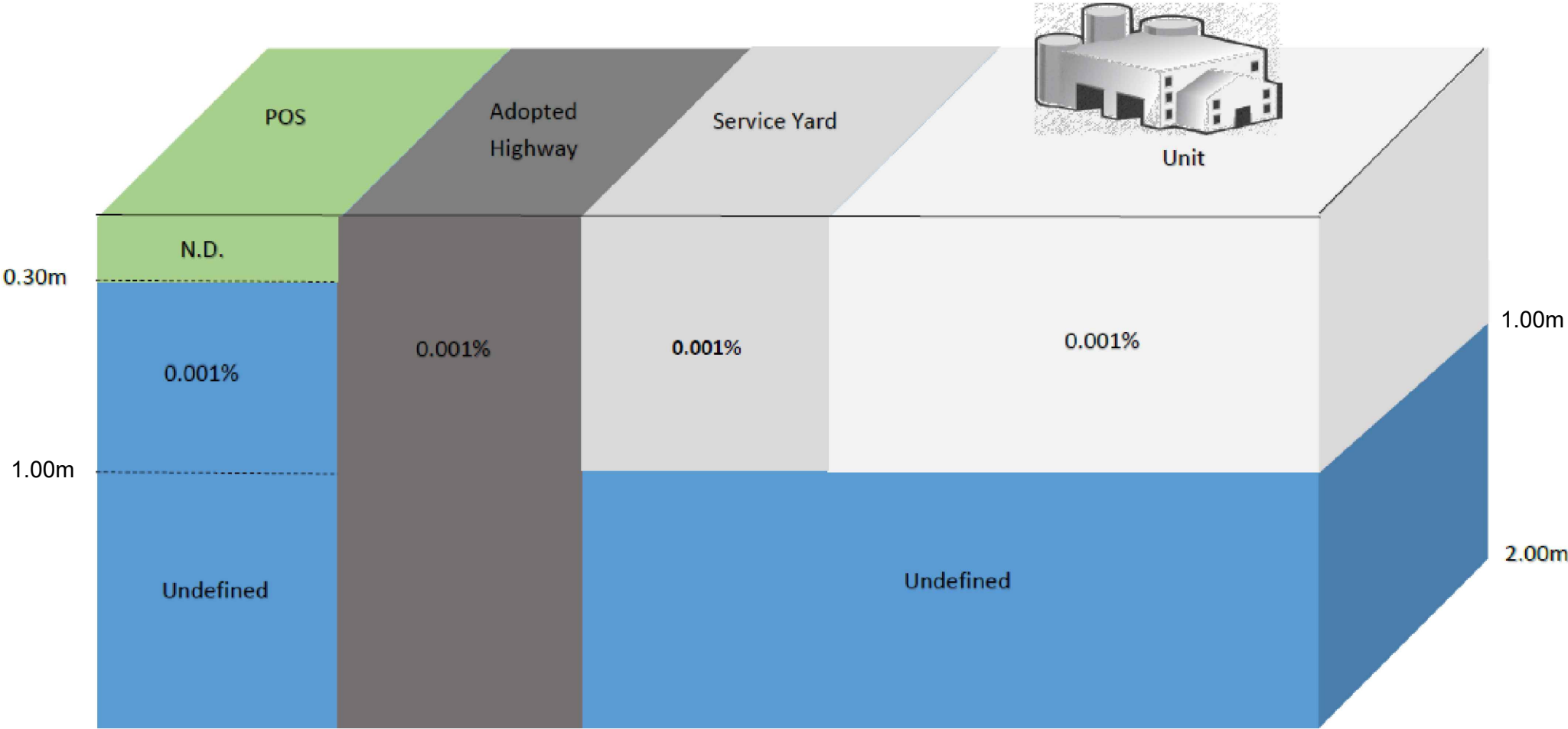
Figure A1 Asbestos in Soils Conceptual Site Model Commercial Development

Notes:

N.D. – None Detected

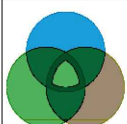
0.001% - Soils may contain≤0.001% asbestos using composite testing to ensure there is no potential risk to human health. This value is present within areas where there may be short-term low-level exposure of soils containing trace asbestos fibres by construction workers where an appropriate level of asbestos management is employed (dust suppression).

Undefined – This will be dependent upon soils encountered during the earthworks, which may be placed at these depths to ensure no potential risk to human health.



Notes:

P1	-	27.02.2023	DRAFT	KF	JN
Phase	Revision	Date	Issue	Drawn	Authorised
Client:			Job No:	Date:	
Faisal Mahmood			22-1146	27.02.2023	
			Drawing No:	Scale:	
			005	NTS	
Job Title:			Drawing Title:		
Ashton Old Road, Manchester			Asbestos Conceptual Site Model		



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APPENDIX III SCREENING VALUES



GAC Screening Values for Commercial End Use

Determinand	Units	Within 300mm Cover System	Pathway
Arsenic	mg/kg	640	1
Cadmium	mg/kg	190	1
Chromium (Hexavalent)	mg/kg	33	1
Lead	mg/kg	1100	1
Inorganic Mercury	mg/kg	58	2
Nickel	mg/kg	980	1
Selenium	mg/kg	12000	1
Copper	mg/kg	68000	1
Zinc	mg/kg	730000	1
Phenol	mg/kg	791	2
Naphthalene	mg/kg	210	2
Acenaphthylene	mg/kg	190	3
Acenaphthene	mg/kg	83000	1
Fluorene	mg/kg	84000	1
Phenanthrene	mg/kg	63000	3
Anthracene	mg/kg	22000	3
Fluoranthene	mg/kg	520000	3
Pyrene	mg/kg	23000	3
Benzo(a)Anthracene	mg/kg	54000	3
Chrysene	mg/kg	170	3
Benzo(b)Fluoranthene	mg/kg	350	3
Benzo(k)Fluoranthene	mg/kg	44	3
Benzo(a)Pyrene	mg/kg	35	3
Indeno(123-cd)Pyrene	mg/kg	500	3
Dibenzo(a,h)Anthracene	mg/kg	3.5	3
Benzo(ghi)Perylene	mg/kg	3900	3
TPH C ₅ -C ₆ (aliphatic)	mg/kg	190	2
TPH C ₆ -C ₈ (aliphatic)	mg/kg	3200	2
TPH C ₈ -C ₁₀ (aliphatic)	mg/kg	7800	2
TPH C ₁₀ -C ₁₂ (aliphatic)	mg/kg	2000	2
TPH C ₁₂ -C ₁₆ (aliphatic)	mg/kg	9700	1
TPH C ₁₆ -C ₂₁ (aliphatic)	mg/kg	59000	1
TPH C ₂₁ -C ₃₅ (aliphatic)	mg/kg	1600000	1
TPH C ₅ -C ₇ (aromatic)	mg/kg	26000	2
TPH C ₇ -C ₈ (aromatic)	mg/kg	56000	2
TPH C ₈ -C ₁₀ (aromatic)	mg/kg	3500	2
TPH C ₁₀ -C ₁₂ (aromatic)	mg/kg	16000	2
TPH C ₁₂ -C ₁₆ (aromatic)	mg/kg	36000	1
TPH C ₁₆ -C ₂₁ (aromatic)	mg/kg	28000	1
TPH C ₂₁ -C ₃₅ (aromatic)	mg/kg	3200	1

Note: Asbestos will be screened visually onsite by a qualified environmental consultant and where potential ACM is identified representative samples will be subject to quantitative analysis of % volume by weight. Should any ACM be identified within the soil matrices, further detailed % assessment would be required when the reported laboratory result exceeds the limit of detection for the analytical method at 0.01% by volume (weight).