FAIRFIELD ROAD, DROYLSDEN

SITE COMPLETION REPORT

Job: Number: LKC 20 1761
Date: 1st December 2023
Client: J Greenwood (Builders) Ltd

INCREASING LAND VALUE

LK GROUP

LK Consult Document Verification			
Site Address	Fairfield Road, Droylsden, Manchester, M43 6AH		
Report Title	Site Completion Report		
Job Number	LKC 20 1761	**Document Ref.**	LKC 20 1761-D2
Date Issued	1st December 2023	**Report Version**	R0
Prepared By	Ella Mcleod	**Reviewed By**	Catherine Baranek

Revision Record			
Revision No.	**Date**	**Nature of Revision**	**Approved By**

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Those using this information in subsequent assessments or evaluations do so at their own risk.

CONTENTS

FIGURES

APPENDICES

1 Introduction

1.1 Background

LK Consult Ltd (LKC) has been commissioned by J Greenwood (Builders) Ltd to provide a Site Completion Report for the Fairfield Road, Droylsden residential development site. The development comprises 62no. 1 & 2-bed units comprising flats and houses with associated infrastructure, vehicle access, car parking and landscaping. Figures 1, 2 and 3 indicate the site location, boundary and proposed development.

The aim of the Site Completion Report will be to demonstrate to the Local Authority that the site has been suitably remediated in line with the Additional Risk Assessment and Updated Remediation Strategy Report and in accordance with the National Planning Policy Framework (NPPF)[1], where the site is "suitable for use" for the proposed development.

1.2 Summary of Previous Work

The following reports have been undertaken for the site and should be read in conjunction with this report:

- Final Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy, undertaken by LKC (Ref: LKC 19 1024-02 R3, dated March 2022).
- Additional Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy, undertaken by LKC (Ref: LKC 20 1761-01 R1, dated March 2022).
- Additional Risk Assessment and Updated Remediation Strategy Report (Ref. LKC 20 1761-B1, dated 24th August 2023).

Subsequent to the above, the following reports have been prepared by LKC and should be read in conjunction with this report:

- Cover System Excavation Validation Report, undertaken by LKC (Ref. LKC 20 1761-D1, dated 28th November 2023).
- Gas Membrane Validation Report, undertaken by LKC (Ref. LKC 20 1761-02 Plots 1-9 & 37-62 R1, dated 23rd November 2023).

1.3 Summary of Required Validation Work

Based upon the findings of the above the following validation was required:

- Validation of gas protection measures.
- Validation of environmental cover system.
- Verification testing of all imported soil for garden and soft landscaping areas.
- Information on the installation of protective pipes and / or sterile trenches, as required.
- Details of any unexpected contamination identified onsite, suitably risk assessed and / or validated.

[1] DCL (2019). "National Planning Policy Framework." Department of Communities and Local Government.

2 Gas Protection Measures

The following was recommended with regards to gas protection measures:

- Proposed type A building with a point score of 3.5[2] to be achieved by:
- Gas resistant membrane (2 points) and;
- Passive sub-floor dispersal via clear void with telescopic vents (1.5-2.5 points).
- Protection measures installation validated by a suitably qualified independent consultant.

All plots have been validated by LKC and a report has been supplied under separate cover (Gas Membrane Validation Report, undertaken by LKC (Ref. LKC 20 1761-02 Plots 1-9 & 37-62 R1, dated 23rd November 2023).

3 Unexpected Contamination

Due to uncertainties in the earthworks undertaken at the site, further sampling of the existing made ground across the site beneath proposed gardens / soft landscaping areas was required to undertake additional risk assessments for the garden / soft landscaping areas at the site. All additional soil testing and risk assessments undertaken associated with the remedial works in garden / soft landscaping areas at the site are included within the Additional Risk Assessment and Updated Remediation Strategy Report (Ref. LKC 20 1761-B1, dated 24th August 2023).

The subsoil laid in Plots 45-48, the rear gardens of Plots 49-60, front gardens of Plots 51-53 and the area of shared soft landscaping adjacent to the rear garden of Plot 48 were found to contain elevated contaminants and LKC requested that the material is removed. The Cover System Excavation Validation Report, undertaken by LKC (Ref. LKC 20 1761-D1, dated 28th November 2023) provides photographic evidence that the material has been excavated from the gardens and provide Waste Transfer Notes to prove that the material was removed from site.

LKC understand that no other unexpected contamination was encountered during development works and LKC did not observe any other unexpected contamination during the excavation of the cover system soils.

[2] BSI (2019). “Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings.” BS8485:2015+A1 2019.

4 Garden Validations

The remediation and validation requirements in gardens / areas of soft landscaping is summarised in Table 4-1.

Remediation Requirements	Validation Requirements
Environmental Cover System **Private Rear Gardens (excluding Plots 37-42, Plots 52-54 and Plot 62): 600mm thick environmental cover system comprising:** Geotextile membrane and at least 600mm comprising clean inert fill and sufficient topsoil for a growing medium (minimum 100mm). It should be noted that the rear gardens of Plots 52, 53 and 54 are relatively small and have been paved. The environmental cover system requirements do not apply to these plots. **Private Front Gardens and Shared Landscaping (excluding soft landscaping in SE of site): 300mm thick environmental cover system comprising:** Geotextile membrane and at least 300mm comprising clean inert fill and sufficient topsoil for a growing medium (minimum 100mm). **TPO Areas (Rear Gardens of Plots 37-42 & 62, Soft Landscaping in SE):** Due to TPOs, a full 600mm / 300mm cover will not be possible. It is recommended (in the area where the tree roots extend) that the made ground is excavated to the top of the roots, a membrane installed and clean soil replaced up to original levels (minimum of 150mm depth). Rear gardens of Plots 37-42 to be turfed. All tenants to be informed (via a note on the tenancy agreement etc) of the depth and construction of cover systems present in garden areas and of the importance of ensuring the capping is not breached / damaged.	Measuring depth of environmental cover system using a staff and providing photographic evidence. Photographic evidence of the geotextile membrane. Chemical validation of imported soils.

Table 4-1: Environmental Cover System Remediation and Validation Requirements.

All plots have been validated by LKC and can confirm that in the areas inspected a suitable cover system construction was installed. The cover system depths are presented in Table 4-2.

As stated in Table 4-1, TPO areas extend into the rear gardens of Plots 37-42 and the rear garden of Plot 62. Two depths validations were undertaken per plot in the rear gardens of Plots 37-42 and in the rear garden of Plot 62.These depths are presented in Table 4-2 as '(N) and '(S)'.

It should be noted that due to it being outside of the planting season for turf, the contractors J Greenwood (Builders) Ltd have confirmed that the rear gardens of Plots 37-42 (impacted by TPOs) will be turfed in Spring 2024. The following confirmation was received from J Greenwood (Builders) Ltd: '*J Greenwood (Builders) Ltd confirm that all outstanding turfing works on the Fairfield Avenue scheme in Droylsden will be completed at the first reasonable opportunity in Spring 2024' (*email 'Fairfield Road, Droylsden' from Julian Hoe – Contracts Manager, dated 28th November 2023*).* Despite the current absence of a turf layer, the cover systems placed in plots 37 – 42 are still considered to provide a sufficient level protection to future site end users (residents etc) from the underlying impacted soils given the existing cover system, short period of time until turfed and minimal garden use assumed over the winter period..

Location	Topsoil Depth (mm)	Clean Inert Fill Depth (mm)	Membrane	Total Depth (mm)	Required Depth (mm)	Pass (✓) or Fail (x)
Plot 37 Front	250	250	Y	500	300	✓
Plot 37 Rear (N) Plot 37 Rear (S)	150 400	450 0	Y Y	600 400	150*	✓ ✓
Plot 38 Front	250	300	Y	550	300	✓
Plot 38 Rear (N) Plot 38 Rear (S)	400 200	0 0	Y	400 200	150*	✓
Plot 39 Front	100	350	Y	450	300	✓
Plot 39 Rear (N) Plot 39 Rear (S)	150 150	100 0	Y Y	250 150	150*	✓ ✓
Plot 40 Front	250	250	Y	500	300	✓
Plot 40 Rear (N) Plot 40 Rear (S)	200 100	0 100	Y Y	200 200	150*	✓
Plot 41 Front	250	250	Y	500	300	✓
Plot 41 Rear (N) Plot 41 Rear (S)	200 200	0 0	Y Y	200 200	150*	✓
Plot 42 Front	200	200	Y	400	300	✓
Plot 42 Rear (N) Plot 42 Rear (S)	180 150	0 0	Y Y	180 150	150*	✓
Plot 43 Front	380	100	Y	480	300	✓
Plot 43 Rear	150	450	Y	600	600	✓
Plot 44 Front	250	150	Y	400	300	✓
Plot 44 Rear	150	450	Y	600	600	✓
Plot 45 Front	200	200	Y	400	300	✓
Plot 45 Rear	150	650	Y	800	600	✓
Plot 46 Front	300	200	Y	500	300	✓
Plot 46 Rear	150	600	Y	750	600	✓
Plot 47 Front	200	250	Y	450	300	✓
Plot 47 Rear	100	600	Y	700	600	✓
Plot 48 Front	250	200	Y	450	300	✓
Plot 48 Rear	100	500	Y	600	600	✓
Plot 49 Rear	200	400	Y	600	600	✓
Plot 49 Side	200	600	Y	800	600	✓
Plot 49 Front	Hardstood (driveway)					
Plot 50 Front	200	150	Y	350	300	✓
Plot 50 Rear	225	400	Y	625	600	✓
Plot 51 Front	300	125	Y	425	300	✓
Plot 51 Rear	300	450	Y	750	600	✓

Table 4-2: Summary of cover system depth validations.
*In TPO areas, a reduced cover system may be present. Where tree roots extend, it was recommended that made ground is excavated to the top of the roots, a membrane installed and clean soil replaced up to original levels (minimum of 150mm depth).

Location	Topsoil Depth (mm)	Clean Inert Fill Depth (mm)	Membrane	Total Depth (mm)	Required Depth (mm)	Pass (✓) or Fail (x)
Plot 52 Front	300	125	Y	425	300	✓
Plot 52 Rear	Rear garden is flagged					
Plot 53 Front	300	150	Y	450	300	✓
Plot 53 Rear	Rear garden is flagged					
Plot 54 Rear	Rear garden is flagged					
Plot 54/55 Front	400	-	Y	400	300	✓
Plot 55 Rear	100	550	Y	650	600	✓
Plot 55/56 Front	400	-	Y	400	300	✓
Plot 56 Rear	100	550	Y	650	600	✓
Plot 56/57 Front	400	-	Y	400	300	✓
Plot 57 Rear	300	425	Y	725	600	✓
Plot 57/58 Front	380	-	Y	380	300	✓
Plot 58 Rear	200	450	Y	650	600	✓
Plot 58/59 Front	500	-	Y	500	300	✓
Plot 59 Rear	200	450	Y	650	600	✓
Plot 59/60 Front	400	-	Y	400	300	✓
Plot 60 Rear	300	500	Y	800	600	✓
Plot 61 Front	450	-	Y	450	300	✓
Plot 61 Rear	200	600	Y	800	600	✓
Plot 62 Front	500	0	Y	500	300	✓
Plot 62 Rear (N) Plot 62 Rear (S)	150 200	600 200	Y Y	750 400	150*	✓

Table 4-2 (continued): Summary of cover system depth validations.
*In TPO areas, a reduced cover system may be present. Where tree roots extend, it was recommended that made ground is excavated to the top of the roots, a membrane installed and clean soil replaced up to original levels (minimum of 150mm depth).

4.1 Areas of Shared Soft Landscaping

In areas of shared soft landscaping, a 300mm thick environmental cover system was recommended (excluding landscaping in south east of site adjacent to Fairfield Road where TPOs extend within the area). Limited shared soft landscaping is present around the apartment block in the north east of the site, and a small area of soft landscaping is present in the north west of the site adjacent to the rear garden of Plot 48.

TPO areas are located within the area of shared soft landscaping along south eastern site boundary. In TPO areas, a reduced cover system may be present. Where tree roots extend, it was recommended that made ground is excavated to the top of the roots, a membrane installed and clean soil replaced up to original levels (minimum of 150mm depth).

All areas of soft landscaping have been validated by LKC and can confirm that in the areas inspected a suitable cover system construction was installed. The cover system depths are presented in Table 4-3 and a plan showing depth locations is presented in Appendix A.

Location	Topsoil Depth (mm)	Clean Inert Fill Depth (mm)	Membrane	Total Depth (mm)	Required Depth (mm)	Pass (✓) or Fail (x)
Apartment Block - A1	600	-	Y	600	300	✓
Apartment Block – A2	250	100	Y	350	300	✓
Apartment Block – A3	300	100	Y	400	300	✓
SE Landscaping – B1	200	-	Y	200	150*	✓
SE Landscaping – B2	200	-	Y	200	150*	✓
SE Landscaping – B3	150	-	Y	150	150*	✓
SE Landscaping – B4	180	-	Y	180	150*	✓
NW Landscaping – C1	150	450	Y	600	300	✓
NW Landscaping – C2	200	250	Y	450	300	✓

Table 4-3: Summary of cover system depth validations in areas of shared soft landscaping.
*In TPO areas, a reduced cover system may be present. Where tree roots extend, it was recommended that made ground is excavated to the top of the roots, a membrane installed and clean soil replaced up to original levels (minimum of 150mm depth).

5 Imported Material

5.1 Sampling Methodology

Standard sampling protocol and preservation of samples was undertaken as described in the EA guidance on site investigation[3].

Soil samples of approximately 500g were recovered in amber jars and plastic tubs. All the samples were sent to Chemtest laboratory / DETS laboratory for chemical testing.

A detailed suite of testing includes the following:

- Metals, metalloids, pH, water soluble sulphate, cyanide suite, phenol, TPHCWG, BTEX, MTBE, speciated PAHs, SOM and asbestos screen.

A basic suite of testing includes the following:

- Metals, metalloids, pH, water soluble sulphate, speciated PAHs, SOM and asbestos screen.

Many of the contamination tests are UKAS or MCERTS accredited and further details are given in the Certificate of Analysis presented in Appendix C and Appendix D.

5.2 Material Import

Plots 45-48 Fronts and Rears, Plots 49-60 Rears, Plots 51-53 Fronts and Area of Shared Soft Landscaping in NW:

Topsoil for use in the above areas has been imported to site. The material was sourced from Baldwins, Baddington Bank Farm, Nantwich.

5no. wagon loads of topsoil (each containing approximately 20 tonnes) were imported to site and stockpiled prior to placement in gardens / areas of soft landscaping. LKC visited

[3] EA (2000). "Technical Aspects Of Site Investigation. Volumes 1 & 2 Text Supplements Research and Development Technical Report." P5-065/Tr.

site on 8th September 2023 and collected 3no. samples of the material (ref. TS201-TS203 – detailed suites) from a stockpile on site. Certificates of analysis are provided in Appendix C.

Clean inert fill for the above areas is first generation quarried grit sand from Scoutmoor Quarry, supplied by Marshalls Aggregates. A Laboratory Test Report detailing the grading of material and source has been supplied by Marshalls Aggregates and is provided in Appendix D. 18no. wagon loads of grit sand (each containing approximately 20 tonnes) were imported to site. The first generation material was considered to be exempt from validation testing.

Plots 50 and 54-60 Front Gardens

Topsoil for use in the above areas has been imported to site. The material was sourced from Wrexham Road, Chester. The material was originally tested at source by Tim O'Hare Associates where 1no. sample was tested. 5no. wagon loads of topsoil (each containing approximately 20 tonnes) were imported to site.

LKC visited site on 24th March 2023 and collected 3no. samples of the material (ref. TP101-TS103 – detailed suites). LKC collected additional samples on 21st July 2023 (ref. Plot 55 Front TS, Plot 56 Front TS, Plot 57 Front TS, Plot 59 Front TS – basic suites). Certificates of analysis and source testing certificates are provided in Appendix C. The cover systems in these plots comprised topsoil only.

Shared Soft Landscaping around Apartment Block

Topsoil for use in the above area has been imported to site. The material was sourced from Yew Tree Farm, Burscough. The material was originally tested at source by Tim O'Hare Associates where 1no. sample was tested. 5no. wagon loads of topsoil (each containing approximately 20 tonnes) were imported to site.

LKC visited site on 1st November 2022 and collected 3no. samples of the material (ref. Plot 61 Rear TS, Plot 62 Rear TS and Apartment TS – detailed suites). Certificates of analysis and source testing certificates are provided are provided in Appendix C.

Clean inert fill for the above areas is fill sand from Scoutmoor Quarry, supplied by Marshalls Aggregates. A Laboratory Test Report detailing the grading of material and source has been supplied by Marshalls Aggregates and is provided in Appendix D. 1no. wagon loads of sand (containing approximately 20 tonnes) was imported to site. The first generation material was considered to be exempt from validation testing.

Plots 37-44

Topsoil for use in the above areas has been imported to site. The material was sourced from Astor Drive, Grappenhall. The material was originally tested at source by i2 Analytical where 2no. samples were tested. LKC attended site on 1st November 2022 and collected 2no. samples of the material (ref. Plot 37 Rear TS, Plot 38 Rear TS). LKC also attended site on 19th December 2023 and collected an additional 1no. sample (ref. Plot 43 & 44 Topsoil – detailed suite). Certificates of analysis and source testing certificates are provided in Appendix C.

LKC attended site on 27th May 2022 and collected 2no. samples of the clean inert fill used as subsoil (ref. Plot 43 SS105 & Plot 44 SS106 – detailed suites). LKC also attended site on 1st November 2022 and collected 2no. additional samples of the material (ref. Plot 37 Rear Sub & Plot 38 Rear Sub – basic suites). LKC did not receive source testing results or

delivery tickets from the former contractors at the site, however LKC consider that the 4no. samples analysed from various locations within the area the material was laid is sufficient (2no. detailed soil suites and 2no. basic soil suite).

Plots 61-62

The topsoil used in Plots 61-62 was sourced from Yew Tree Farm, Burscough. The volume imported and testing of the material is covered under the shared soft landscaping above.

Clean inert fill for the above areas is first generation sand from Crown Farm, Northwich supplied by Tarmac. A Laboratory Test Report has been supplied by Tarmac and is provided in Appendix D. 3no. wagon loads of sand (each containing approximately 20 tonnes) were imported to site. The first generation material was considered to be exempt from validation testing.

5.3 Soil Assessment Criteria

As stated in the Additional Risk Assessment and Updated Remediation Strategy Report, results of the imported soil testing were screened against appropriate assessment criteria for a residential with plant uptake end-use.

With regards to the soil risk assessment LKC will use the following hierarchy:

- Category 4 Screening Levels (C4SLs).
- LQM Suitable 4 Use Levels (S4ULs).

All criteria have been generated using the CLEA V1.06 model[4] based either on 1%, 2.5% and 6% Soil Organic matter (SOM). Results will be compared to the nearest appropriate SOM.

A summary of the generic assessment criteria is provided in Appendix E.

B(a)P as Surrogate Marker

Based on the above assumption for PAHs, LKC undertook an assessment of the data for the site with regards to using B(a)P as a surrogate marker for carcinogenic PAHs as per HPA and CL:AIRE guidelines. The primary toxicological study related to Culp *et.al*[5], which was based on coal tar mixtures (>80,000mg/kg of total PAHs) fed in food to mice over a two-year carcinogenicity study.

An assessment of the data should be undertaken to confirm B(a)P is a suitable surrogate marker by assessing the ratios of carcinogenic PAHs to B(a)P. All the data points that could be used to calculate ratios fall inside the upper or lower limits. Based on this distribution of data LKC considers B(a)P can be used as a surrogate marker for carcinogenic PAHs and the C4SL criteria is suitable for this dataset.

When compared to the agreed Generic Assessment Criteria (Appendix E), no soil results exceeded the criteria.

LKC considers imported material is deemed ‘suitable for use’ with regards to the risk to human health.

[4] EA (2008). “CLEA Software (Version 1.05) Handbook.” Science Report – SC050021/SR4.
[5] Culp, S; Gaylor, D; Sheldon, W; Goldstein, L and Beland, F (1998). “ A Comparison of Tumours Induced by Coal Tar and Benzo-a-pyrene in a 2-Year Bioassay.” Carcinogenesis. Vol 19, no. 1, pp. 117-124.

6 Potable Water Supplies

A United Utilities (UU) Risk Assessment was undertaken for the site and it was concluded that barrier pipe is required. Delivery notes of the pipe material / photographs of the installed pipes were not provided by the former contractors at the site. It is assumed that United Utilities have approved and signed off the pipework and connections.

7 Conclusion

The work onsite has been validated in accordance with the 'Additional Risk Assessment and Updated Remediation Strategy Report' produced by LKC.

Based on the above information LKC considers the Fairfield Road, Droylsden development site is 'suitable for use' for a residential development.

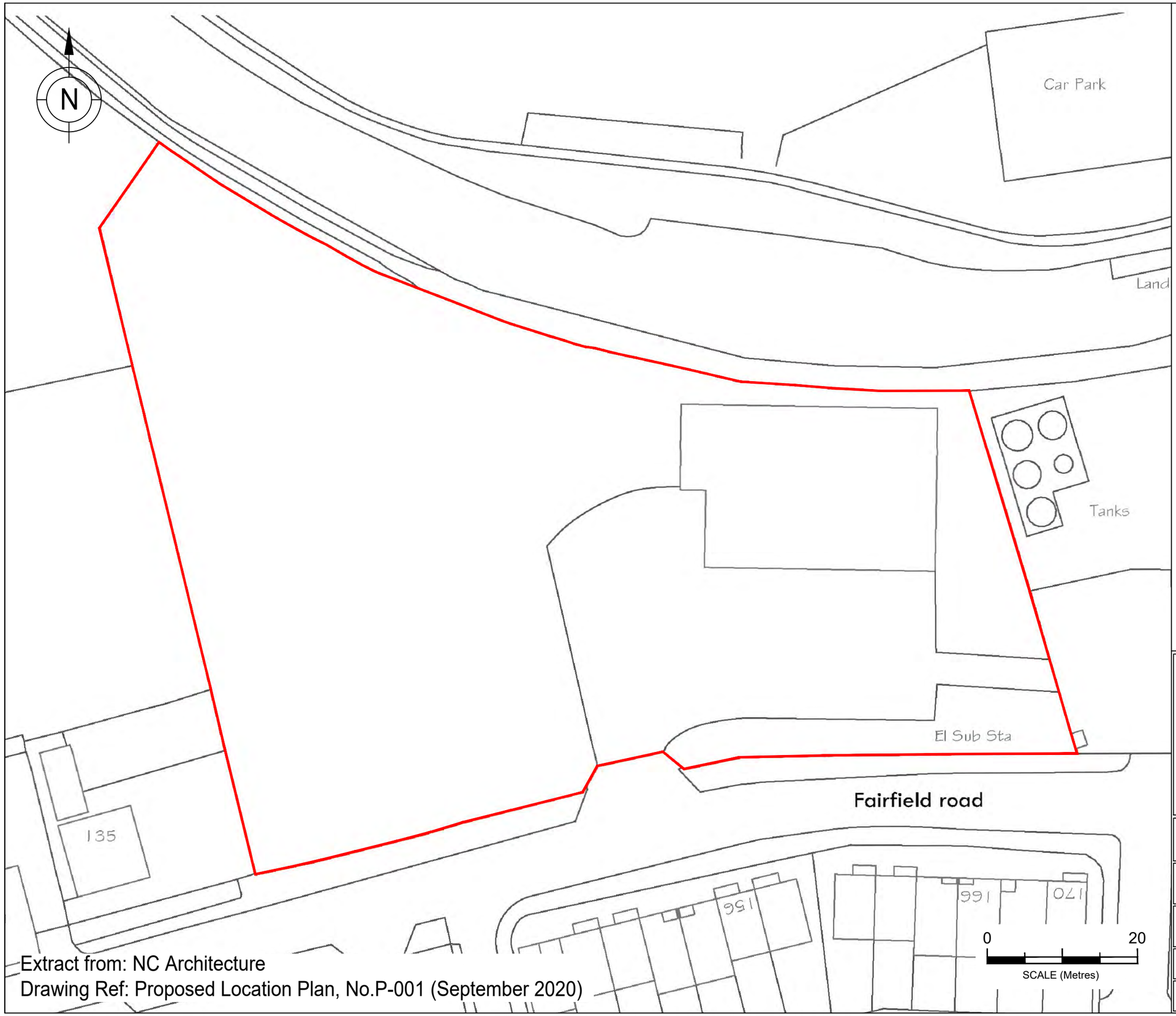
LKC considers there is sufficient information to discharge the outstanding contaminated land planning Conditions by Tameside MBC.

FIGURES

Figure 1: Site Location Plan, Fairfield Road, Droylsden

Drawn: February 2019 Scale: 1:25,000 @ A4 (see scale bar)

LK CONSULT LIMITED



Extract from: NC Architecture
Drawing Ref: Proposed Location Plan, No.P-001 (September 2020)

KEY

Site Boundary

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

LK CONSULT LIMITED

Client: J Greenwood (Builders) Ltd

Site: Fairfield Road, Droylsden

Title: Site Boundary Plan

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 20 1761	1:500 @ A3	2	

Drawn By:	Checked By:	Drawn:
AC	EM	Oct 2020

Extract from: NC Architecture
Drawing Ref: Proposed Site Plan, No.P-001, Rev:14 (November 2020)

KEY

Site Boundary

Accommodation Schedule

1-bed, 2-person apartments over 4 storey:
36no. apartments @ 50sqm

3-bed, 5/6-person houses over 3 storeys:
26no. semi-detached houses @ 105sqm
(excluding undercroft hardstanding)

Total Units: 62no

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

LK CONSULT LIMITED

Client: J Greenwood (Builders) Ltd

Site: Fairfield Road, Droylsden

Title: Proposed Development Plan

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 20 1761	1:500 @ A3	3	

Drawn By:	Checked By:	Drawn:
AC	EM	Jul 2023

APPENDIX A
SHARED SOFT LANDSCAPING DEPTH VALIDATION LOCATIONS

Note: A1-A3, B1-B4 and C1-C2 denote the locations of depth validations.

APPENDIX B
PHOTOGRAPHS OF GARDEN / SHARED SOFT LANDSCAPING DEPTH VALIDATIONS

Photograph 1: View of front garden in Plot 37.

Photograph 4: View of rear (N) garden in Plot 37.

Photograph 2: View of depth of soil within the front garden of Plot 37.

Photograph 5: View of depth of soil within the rear (N) garden of Plot 37.

Photograph 3: View of soil within cover system and geotextile at base in front of Plot 37.

Photograph 6: View of soil within cover system and geotextile at base in rear (N) of Plot 37.

Photograph 7: View of rear (S) garden in Plot 37.

Photograph 10: View of front garden in Plot 38.

Photograph 8: View of depth of soil within the rear (S) garden of Plot 37.

Photograph 11: View of depth of soil within the front garden of Plot 38.

Photograph 9: View of soil within cover system and geotextile at base in rear (S) of Plot 37.

Photograph 12: View of soil within cover system and geotextile at base in front of Plot 38.

Photograph 13: View of rear (N) garden in Plot 38.

Photograph 16: View of rear (S) garden in Plot 38.

Photograph 14: View of depth of soil within the rear (N) garden of Plot 38.

Photograph 17: View of depth of soil within the rear (S) garden of Plot 38.

Photograph 15: View of soil within cover system and geotextile at base in rear (N) of Plot 38.

Photograph 18: View of soil within cover system and geotextile at base in rear (S) of Plot 38.

Photograph 19: View of front garden in Plot 39.

Photograph 22: View of rear (S) garden in Plot 39.

Photograph 20: View of depth of soil within the front garden of Plot 39.

Photograph 23: View of depth of soil within the rear (S) garden of Plot 39.

Photograph 21: View of soil within cover system and geotextile at base in front of Plot 39.

Photograph 24: View of soil within cover system and geotextile at base in rear (S) of Plot 39.

Photograph 25: View of rear (N) garden in Plot 39.

Photograph 28: View of front garden in Plot 40.

Photograph 26: View of depth of soil within the rear (N) garden of Plot 39.

Photograph 29: View of depth of soil within the front garden of Plot 40.

Photograph 27: View of soil within cover system and geotextile at base in rear (N) of Plot 39.

Photograph 30: View of soil within cover system and geotextile at base in front of Plot 40.

Photograph 31: View of rear (N) garden in Plot 40.

Photograph 34: View of rear (S) garden in Plot 40.

Photograph 32: View of depth of soil within the rear (N) garden of Plot 40.

Photograph 35: View of depth of soil within the rear (S) garden of Plot 40.

Photograph 33: View of soil within cover system and geotextile at base in rear (N) of Plot 40.

Photograph 36: View of soil within cover system and geotextile at base in rear (S) of Plot 40.

Photograph 37: View of front garden in Plot 41.

Photograph 40: View of rear (N) garden in Plot 41.

Photograph 38: View of depth of soil within the front garden of Plot 41.

Photograph 41: View of depth of soil within the rear (N) garden of Plot 41.

Photograph 39: View of soil within cover system and geotextile at base in front of Plot 41.

Photograph 42: View of soil within cover system and geotextile at base in rear (N) of Plot 41.

Photograph 43: View of rear (S) garden in Plot 41.

Photograph 46: View of front garden in Plot 42.

Photograph 44: View of depth of soil within the rear (S) garden of Plot 41.

Photograph 47: View of depth of soil within the front garden of Plot 42.

Photograph 45: View of soil within cover system and geotextile at base in rear (S) of Plot 41.

Photograph 48: View of soil within cover system and geotextile at base in front of Plot 42.

Photograph 49: View of rear (N) garden in Plot 42.

Photograph 52: View of rear (S) garden in Plot 42.

Photograph 50: View of depth of soil within the rear (N) garden of Plot 42.

Photograph 53: View of depth of soil within the rear (S) garden of Plot 42.

Photograph 51: View of soil within cover system and geotextile at base in rear (N) of Plot 42.

Photograph 54: View of soil within cover system and geotextile at base in rear (S) of Plot 42.

Photograph 55: View of front garden in Plot 43.

Photograph 58: View of rear garden in Plot 43.

Photograph 56: View of depth of soil within the front garden of Plot 43.

Photograph 59: View of depth of soil within the rear garden of Plot 43.

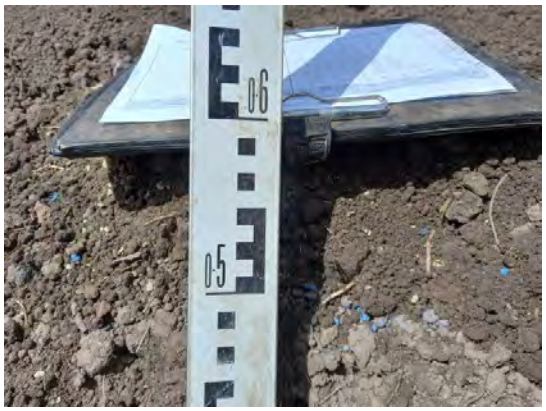
Photograph 57: View of soil within cover system and geotextile at base in front of Plot 43.

Photograph 60: View of soil within cover system and geotextile at base in rear of Plot 43.

Photograph 61: View of front garden in Plot 44.

Photograph 64: View of rear garden in Plot 44.

Photograph 62: View of depth of soil within the front garden of Plot 44.



Photograph 65: View of depth of soil within the rear garden of Plot 44.

Photograph 63: View of soil within cover system and geotextile at base in front of Plot 44.

Photograph 66: View of soil within cover system and geotextile at base in rear of Plot 44.

Photograph 67: View of front garden in Plot 45.

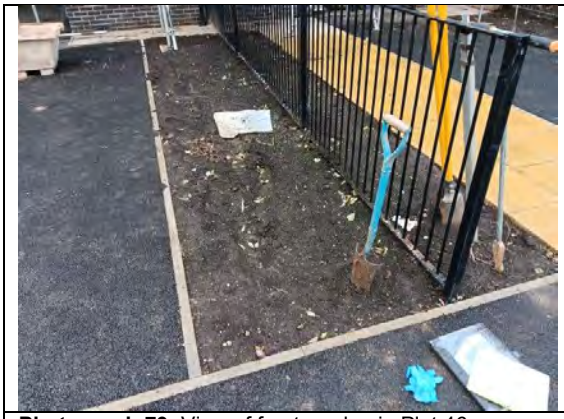
Photograph 70: View of rear garden in Plot 45.

Photograph 68: View of depth of soil within the front garden of Plot 45.

Photograph 71: View of depth of soil within the rear garden of Plot 45.

Photograph 69: View of soil within cover system and geotextile at base in front of Plot 45.

Photograph 72: View of soil within cover system and geotextile at base in rear of Plot 45.



Photograph 73: View of front garden in Plot 46.

Photograph 76: View of rear garden in Plot 46.

Photograph 74: View of depth of soil within the front garden of Plot 46.

Photograph 77: View of depth of soil within the rear garden of Plot 46.

Photograph 75: View of soil within cover system and geotextile at base in front of Plot 46.

Photograph 78: View of soil within cover system and geotextile at base in rear of Plot 46.

Photograph 79: View of front garden in Plot 47.

Photograph 82: View of rear garden in Plot 47.

Photograph 80: View of depth of soil within the front garden of Plot 47.

Photograph 83: View of depth of soil within the rear garden of Plot 47.

Photograph 81: View of soil within cover system and geotextile at base in front of Plot 47.

Photograph 84: View of soil within cover system and geotextile at base in rear of Plot 47.

Photograph 85: View of front garden in Plot 48.

Photograph 88: View of rear garden in Plot 48.

Photograph 86: View of depth of soil within the front garden of Plot 48.

Photograph 89: View of depth of soil within the rear garden of Plot 48.

Photograph 87: View of soil within cover system and geotextile at base in front of Plot 48.

Photograph 90: View of soil within cover system and geotextile at base in rear of Plot 48.

Photograph 91: View of side garden in Plot 49.

Photograph 94: View of rear garden in Plot 49.

Photograph 92: View of depth of soil within the side garden of Plot 49.

Photograph 95: View of depth of soil within the rear garden of Plot 49.

Photograph 93: View of soil within cover system and geotextile at base in side of Plot 49.

Photograph 96: View of soil within cover system and geotextile at base in rear of Plot 49.

Photograph 97: View of front garden in Plot 50.

Photograph 100: View of rear garden in Plot 50.

Photograph 98: View of depth of soil within the front garden of Plot 50.

Photograph 101: View of depth of soil within the rear garden of Plot 50.

Photograph 99: View of soil within cover system and geotextile at base in front of Plot 50.

Photograph 102: View of soil within cover system and geotextile at base in rear of Plot 50.

Photograph 103: View of front garden in Plot 51.

Photograph 106: View of rear garden in Plot 51.

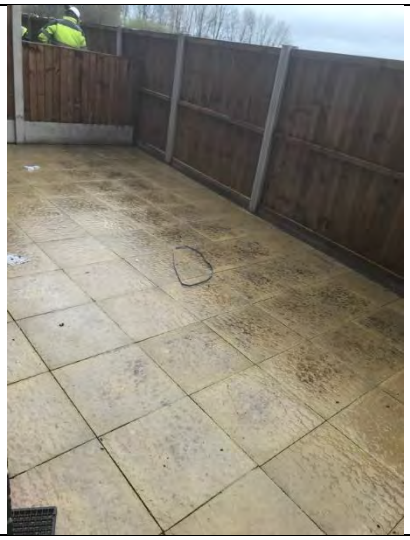
Photograph 104: View of depth of soil within the front garden of Plot 51.

Photograph 107: View of depth of soil within the rear garden of Plot 51.

Photograph 105: View of soil within cover system and geotextile at base in front of Plot 51.

Photograph 108: View of soil within cover system and geotextile at base in rear of Plot 51.

Photograph 109: View of front garden in Plot 52.

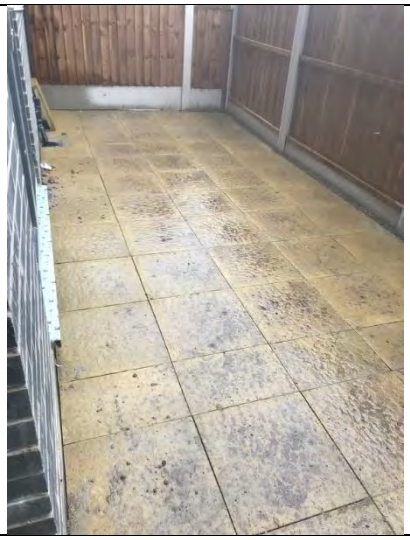


Photograph 112: View of rear garden in Plot 52.

Photograph 110: View of depth of soil within the front garden of Plot 52.

Photograph 111: View of soil within cover system and geotextile at base in front of Plot 52.

Photograph 113: View of front garden in Plot 53.

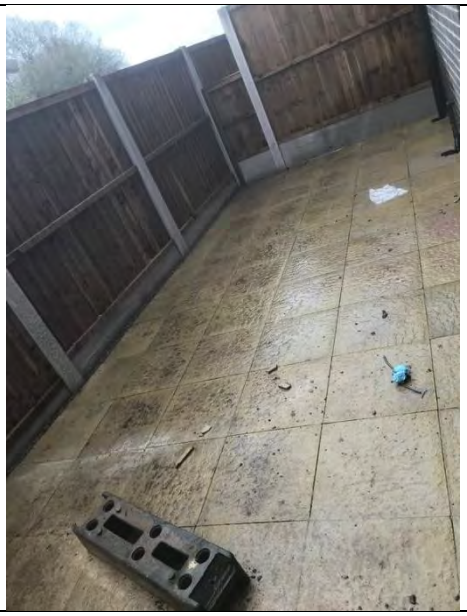


Photograph 116: View of rear garden in Plot 53.

Photograph 114: View of depth of soil within the front garden of Plot 53.

Photograph 115: View of soil within cover system and geotextile at base in front of Plot 53.

Photograph 118: View of shared front garden in Plots 54/55.



Photograph 121: View of rear garden in Plot 54.

Photograph 119: View of depth of soil within the front gardens of Plot 54/55.

Photograph 120: View of soil within cover system and geotextile at base in front of Plots 54/55.

Photograph 122: View of shared front garden in Plots 55/56.

Photograph 125: View of rear garden in Plot 55.

Photograph 123: View of depth of soil within the front gardens of Plot 55/56.

Photograph 126: View of depth of soil within the rear garden of Plot 55.

Photograph 124: View of soil within cover system and geotextile at base in front of Plots 55/56.

Photograph 127: View of soil within cover system and geotextile at base in rear of Plot 55.

Photograph 128: View of shared front garden in Plots 56/57.

Photograph 131: View of rear garden in Plot 56.

Photograph 129: View of depth of soil within the front garden of Plots 56/57.

Photograph 132: View of depth of soil within the rear garden of Plot 56.

Photograph 130: View of soil within cover system and geotextile at base in front of Plots 56/57.

Photograph 133: View of soil within cover system and geotextile at base in rear of Plot 56.

Photograph 134: View of shared front garden in Plots 57/58.

Photograph 137: View of rear garden in Plot 57.

Photograph 135: View of depth of soil within the front garden of Plots 57/58.

Photograph 138: View of depth of soil within the rear garden of Plot 57

Photograph 136: View of soil within cover system and geotextile at base in front of Plots 57/58.

Photograph 139: View of soil within cover system and geotextile at base in rear of Plot 57.

Photograph 140: View of shared front garden in Plots 58/59.

Photograph 143: View of rear garden in Plot 58.

Photograph 141: View of depth of soil within the front garden of Plots 58/59.

Photograph 144: View of depth of soil within the rear garden of Plot 58.

Photograph 142: View of soil within cover system and geotextile at base in front of Plots 58/59.

Photograph 145: View of soil within cover system and geotextile at base in rear of Plot 58.

Photograph 146: View of shared front garden in Plots 59/60.

Photograph 149: View of rear garden in Plot 59.

Photograph 147: View of depth of soil within the front garden of Plots 59/60.

Photograph 150: View of depth of soil within the rear garden of Plot 59

Photograph 148: View of soil within cover system and geotextile at base in front of Plots 59/60.

Photograph 151: View of soil within cover system and geotextile at base in rear of Plot 59.

Photograph 152: View of rear garden in Plot 60.

Photograph 155: View of front garden in Plot 61.

Photograph 153: View of depth of soil within the rear garden of Plot 60.

Photograph 156: View of depth of soil within the front garden of Plot 61.

Photograph 154: View of soil within cover system and geotextile at base in rear of Plot 60.

Photograph 157: View of soil within cover system and geotextile at base in front of Plot 61.

Photograph 158: View of rear garden in Plot 61.

Photograph 161: View of front garden in Plot 62.

Photograph 159: View of depth of soil within the rear garden of Plot 61

Photograph 162: View of depth of soil within the front garden of Plot 62.

Photograph 160: View of soil within cover system and geotextile at base in rear of Plot 61.

Photograph 163: View of soil within cover system and geotextile at base in front of Plot 62.

Photograph 164: View of rear garden (N) in Plot 62.

Photograph 167: View of rear garden (S) in Plot 62.

Photograph 165: View of depth of soil within the rear garden (N) of Plot 62

Photograph 168: View of depth of soil within the rear garden (S) of Plot 62

Photograph 166: View of soil within cover system and geotextile at base in rear (N) of Plot 62.

Photograph 169: View of soil within cover system and geotextile at base in rear (S) of Plot 62.

Photograph 170: View of shared soft landscaping A1.

Photograph 173: View of shared soft landscaping A2.

Photograph 171: View of depth of soil within the shared soft landscaping A1.

Photograph 174: View of depth of soil within the shared soft landscaping A2.

Photograph 172: View of soil within cover system and geotextile at base of shared soft landscaping A1.

Photograph 174: View of soil within cover system and geotextile at base of shared soft landscaping A2.

Photograph 175: View of shared soft landscaping A3.

Photograph 178: View of shared soft landscaping B1.

Photograph 176: View of depth of soil within the shared soft landscaping A3.

Photograph 179: View of depth of soil within the shared soft landscaping B1.

Photograph 177: View of soil within cover system and geotextile at base of shared soft landscaping A3.

Photograph 180: View of soil within cover system and geotextile at base of shared soft landscaping B1.

Photograph 181: View of shared soft landscaping B2.

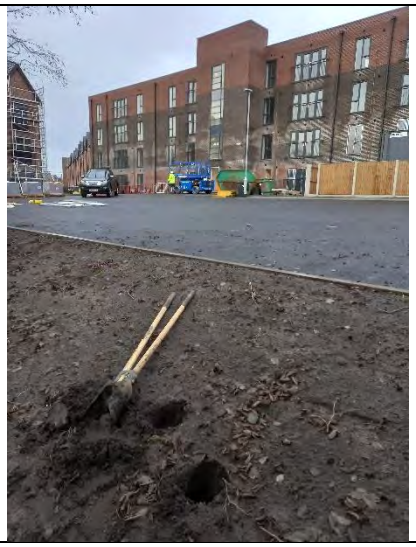
Photograph 184: View of shared soft landscaping B3.

Photograph 182: View of depth of soil within the shared soft landscaping B2.

Photograph 185: View of depth of soil within the shared soft landscaping B3.

Photograph 183: View of soil within cover system and geotextile at base of shared soft landscaping B2.

Photograph 186: View of soil within cover system and geotextile at base of shared soft landscaping B3.



Photograph 187: View of shared soft landscaping B4.

Photograph 190: View of shared soft landscaping C1.

Photograph 188: View of depth of soil within the shared soft landscaping B4.

Photograph 191: View of depth of soil within the shared soft landscaping C1.

Photograph 189: View of soil within cover system and geotextile at base of shared soft landscaping B4.

Photograph 192: View of soil within cover system and geotextile at base of shared soft landscaping C1.

Photograph 193: View of shared soft landscaping C2.

Photograph 194: View of depth of soil within the shared soft landscaping C2.

Photograph 195: View of soil within cover system and geotextile at base of shared soft landscaping C2.

APPENDIX C
IMPORTED TOPSOIL TESTING DATA

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-41883-1
Initial Date of Issue:	12-Nov-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Catherine Baranek Contaminated Land
Project	LKC 20 1761 Fairfield Road

Quotation No.:		**Date Received:**	02-Nov-2022
Order No.:	740690	**Date Instructed:**	04-Nov-2022
No. of Samples:	7		
Turnaround (Wkdays):	5	**Results Due:**	10-Nov-2022
Date Approved:	12-Nov-2022		

Approved By:

[redacted]

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: LKC 20 1761 Fairfield Road

Client: LK Consult			**Chemtest Job No.:**		22-41883	22-41883	22-41883	22-41883	22-41883	22-41883	22-41883
Quotation No.:			**Chemtest Sample ID.:**		1536674	1536677	1536679	1536680	1536681	1536682	1536683
Order No.: 740690			Client Sample Ref.:		Plot 61 Rear	Plot 62 Rear	Apartment	Plot 38 Rear	Plot 38 Rear	Plot 37 Rear	Plot 37 Rear
			Client Sample ID.:		TS	TS	TS	Sub	TS	Sub	TS
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Date Sampled:		01-Nov-2022	01-Nov-2022	01-Nov-2022	01-Nov-2022	01-Nov-2022	01-Nov-2022	01-Nov-2022
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**							
ACM Type	U	2192		N/A	-	-	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	19	20	15	21	22	21	28
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones and Roots	Stones	Stones	Stones and Roots	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Loam	Sand	Sand	Sand	Sand	Sand	Sand
Chromatogram (TPH)	N			N/A	See Attached	See Attached	See Attached		See Attached		See Attached
pH	U	2010		4.0	8.2	8.4	6.7	7.0	7.0	7.1	6.9
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	0.58	0.47	< 0.40		0.48		< 0.40
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	< 0.010	< 0.010	0.043	< 0.010	0.039	0.012	< 0.010
Cyanide (Free)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50		< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50		< 0.50		< 0.50
Arsenic	U	2455	mg/kg	0.5	2.6	4.0	3.1	7.5	6.5	5.5	5.6
Cadmium	U	2455	mg/kg	0.10	< 0.10	0.20	0.22	0.19	0.13	0.11	0.16
Chromium	U	2455	mg/kg	0.5	3.4	5.3	5.6	15	15	12	11
Copper	U	2455	mg/kg	0.50	11	21	8.9	78	19	17	20
Mercury	U	2455	mg/kg	0.05	0.06	0.12	0.05	0.07	0.06	0.05	0.10
Nickel	U	2455	mg/kg	0.50	4.5	6.2	5.2	9.6	9.9	7.5	11
Lead	U	2455	mg/kg	0.50	23	48	21	42	28	25	39
Selenium	U	2455	mg/kg	0.25	< 0.25	< 0.25	< 0.25	0.37	0.49	0.27	0.47
Vanadium	U	2455	mg/kg	0.5	3.8	6.6	6.7	16	16	14	12
Zinc	U	2455	mg/kg	0.50	19	71	26	49	37	29	43
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40	4.5	7.8	2.2	4.5	11	2.8	6.9
Diesel Present	N	2670		N/A	False	False	False		False		False
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aliphatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aliphatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aliphatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aliphatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aliphatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0		< 5.0		< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aromatic TPH >C8-C10	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0

Results - Soil

Project: LKC 20 1761 Fairfield Road

Client: LK Consult			**Chemtest Job No.:**		22-41883	22-41883	22-41883	22-41883	22-41883	22-41883	22-41883
Quotation No.:			**Chemtest Sample ID.:**		1536674	1536677	1536679	1536680	1536681	1536682	1536683
Order No.: 740690			Client Sample Ref.:		Plot 61 Rear	Plot 62 Rear	Apartment	Plot 38 Rear	Plot 38 Rear	Plot 37 Rear	Plot 37 Rear
			Client Sample ID.:		TS	TS	TS	Sub	TS	Sub	TS
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Date Sampled:		01-Nov-2022	01-Nov-2022	01-Nov-2022	01-Nov-2022	01-Nov-2022	01-Nov-2022	01-Nov-2022
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**							
Aromatic TPH >C10-C12	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aromatic TPH >C12-C16	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aromatic TPH >C16-C21	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aromatic TPH >C21-C35	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0		< 5.0		< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	< 10		< 10		< 10
Benzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Toluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Ethylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
m & p-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
o-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Methyl Tert-Butyl Ether	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0
Naphthalene	U	2800	mg/kg	0.10	0.59	0.64	0.39	0.79	1.4	0.77	1.0
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	U	2800	mg/kg	0.10	0.13	< 0.10	< 0.10	< 0.10	0.12	< 0.10	0.11
Fluorene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.15	0.18	< 0.10	0.11
Phenanthrene	U	2800	mg/kg	0.10	0.58	0.57	0.16	0.61	0.28	0.20	0.45
Anthracene	U	2800	mg/kg	0.10	0.14	0.11	< 0.10	0.16	< 0.10	< 0.10	0.12
Fluoranthene	U	2800	mg/kg	0.10	0.94	0.85	0.17	0.87	0.22	0.23	0.65
Pyrene	U	2800	mg/kg	0.10	0.90	0.78	0.21	0.84	0.20	0.24	0.61
Benzo[a]anthracene	U	2800	mg/kg	0.10	0.49	0.38	< 0.10	0.49	< 0.10	< 0.10	0.41
Chrysene	U	2800	mg/kg	0.10	0.41	0.35	< 0.10	0.39	< 0.10	< 0.10	0.28
Benzo[b]fluoranthene	U	2800	mg/kg	0.10	0.43	0.49	< 0.10	0.40	< 0.10	< 0.10	0.37
Benzo[k]fluoranthene	U	2800	mg/kg	0.10	0.12	0.11	< 0.10	0.16	< 0.10	< 0.10	0.16
Benzo[a]pyrene	U	2800	mg/kg	0.10	0.51	0.40	< 0.10	0.39	< 0.10	< 0.10	0.38
Indeno(1,2,3-c,d)Pyrene	U	2800	mg/kg	0.10	0.22	0.24	< 0.10	< 0.10	< 0.10	< 0.10	0.26
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	2800	mg/kg	0.10	0.39	0.29	< 0.10	0.24	< 0.10	< 0.10	0.22
Total Of 16 PAH's	N	2800	mg/kg	2.0	5.9	5.2	< 2.0	5.5	2.4	< 2.0	5.1
Total Phenols	U	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10		< 0.10		< 0.10

TPH Chromatogram on Soil Sample: 1536674

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Data Filename : 2022-11-07_07112022_Back 1536674 22-41883_030.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 90
Date Acquired : 07/11/2022 19:23:51
Date Processed : 10/11/2022

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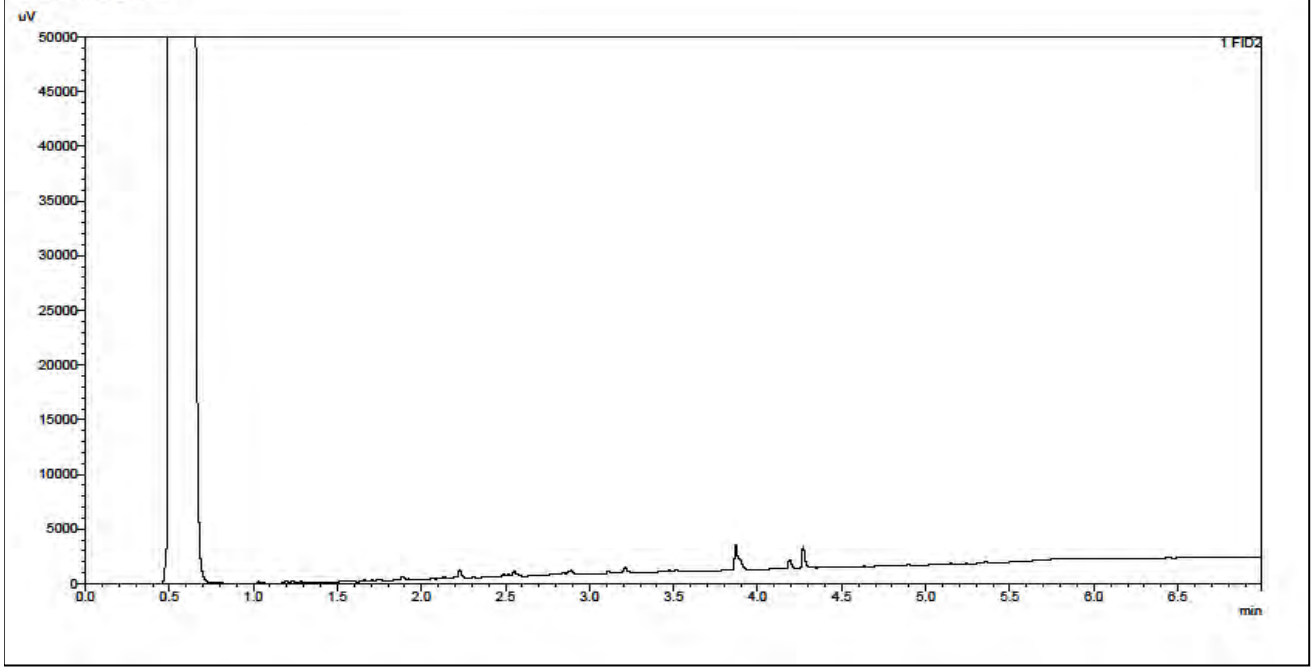

TPH Chromatogram on Soil Sample: 1536677

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Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 91
Date Acquired : 07/11/2022 19:36:29
Date Processed : 10/11/2022

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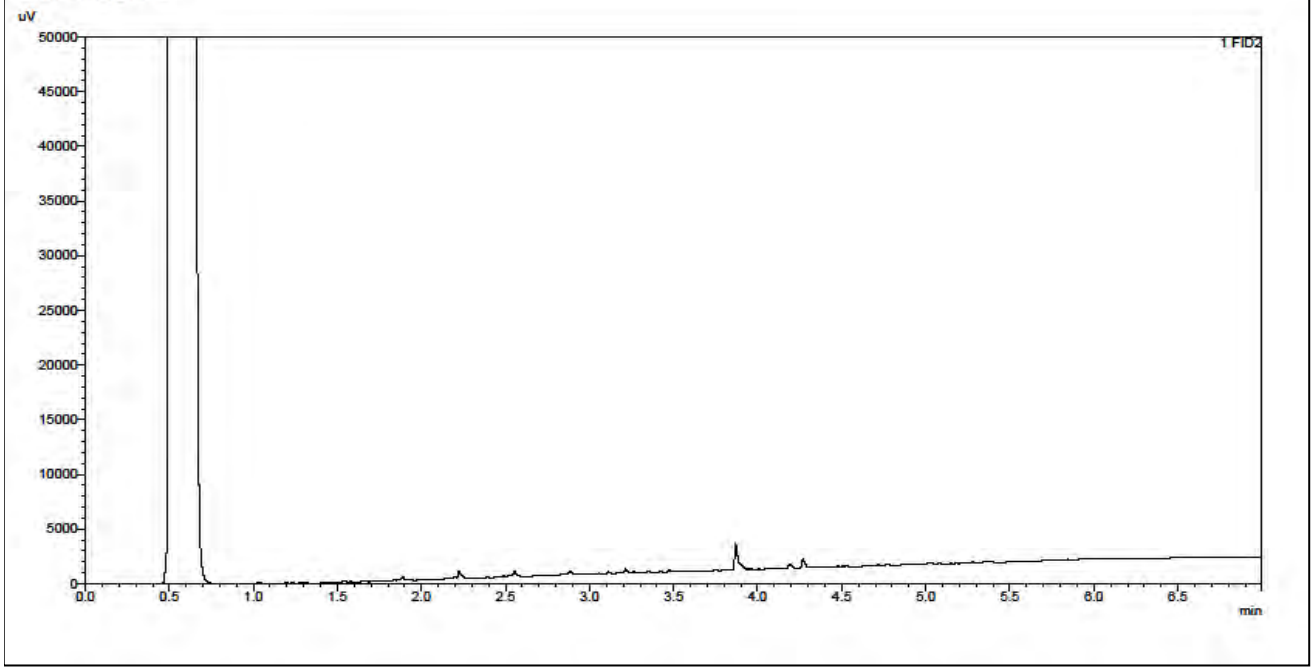

TPH Chromatogram on Soil Sample: 1536679

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Sample Name : Back 1536679 22-41883
Data Filename : 2022-11-07_07112022_Back 1536679 22-41883_034.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 92
Date Acquired : 07/11/2022 19:49:04
Date Processed : 10/11/2022

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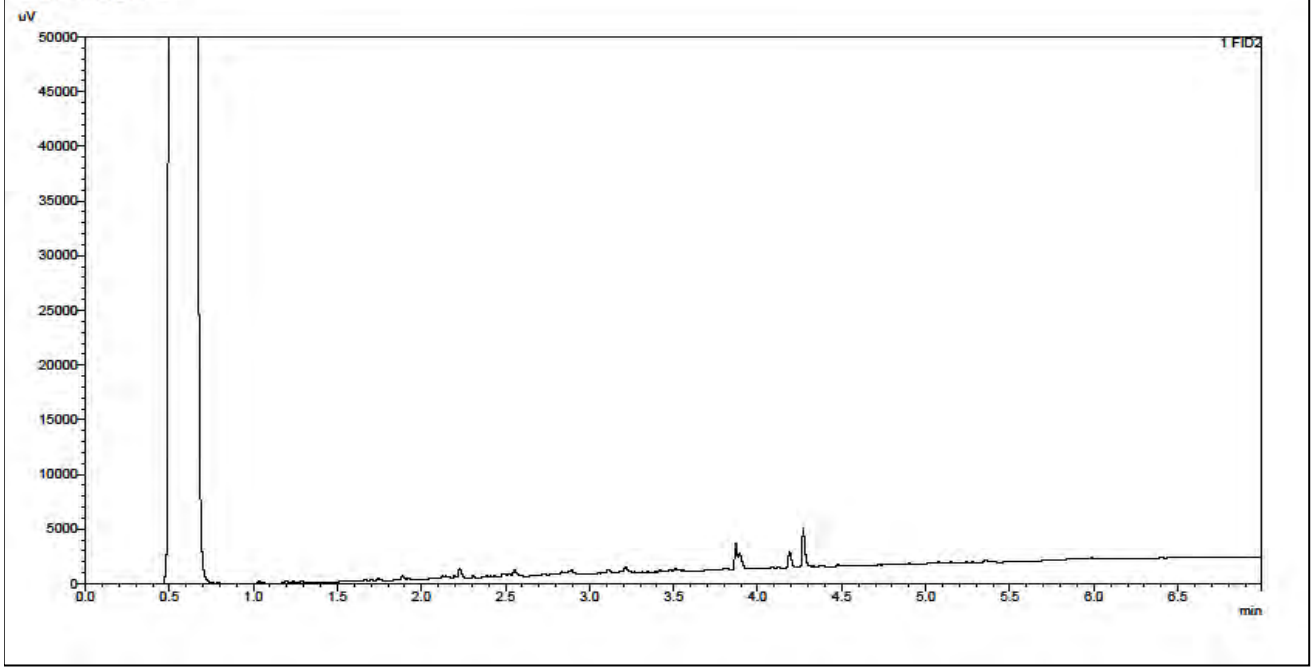

TPH Chromatogram on Soil Sample: 1536681

<Sample Information>

Sample Name : Back 1536681 22-41883
Data Filename : 2022-11-07_07112022_Back 1536681 22-41883_036.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 93
Date Acquired : 07/11/2022 20:01:38
Date Processed : 10/11/2022

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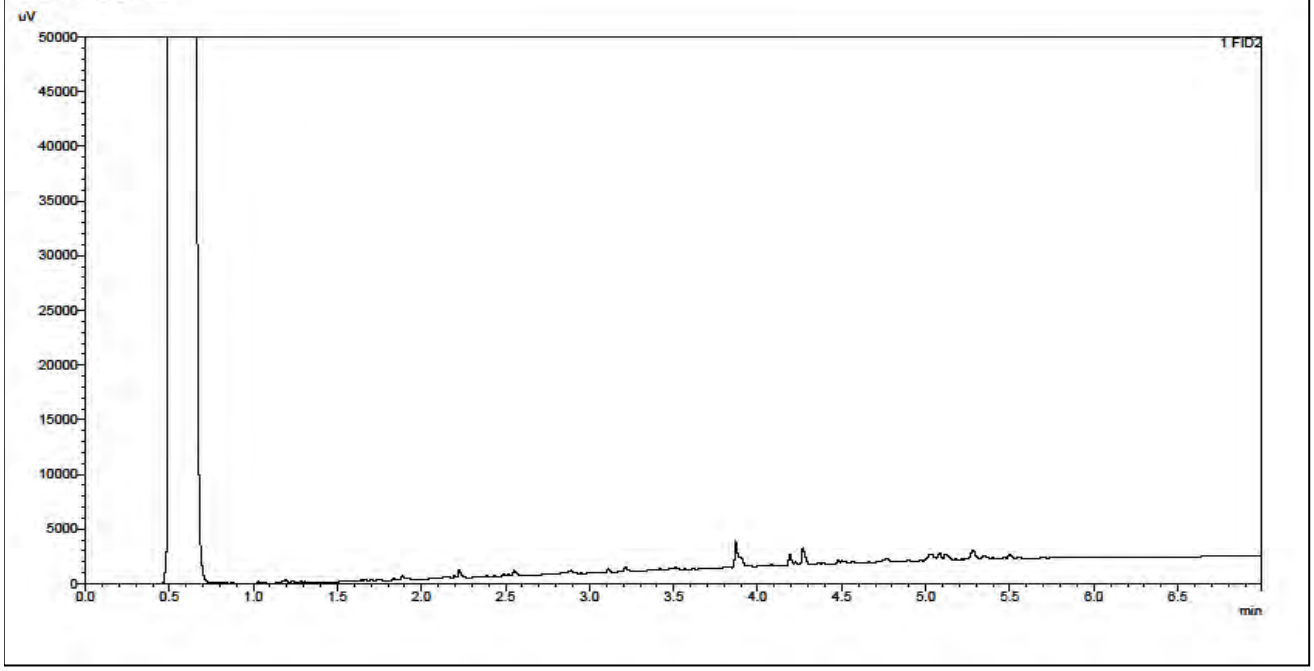
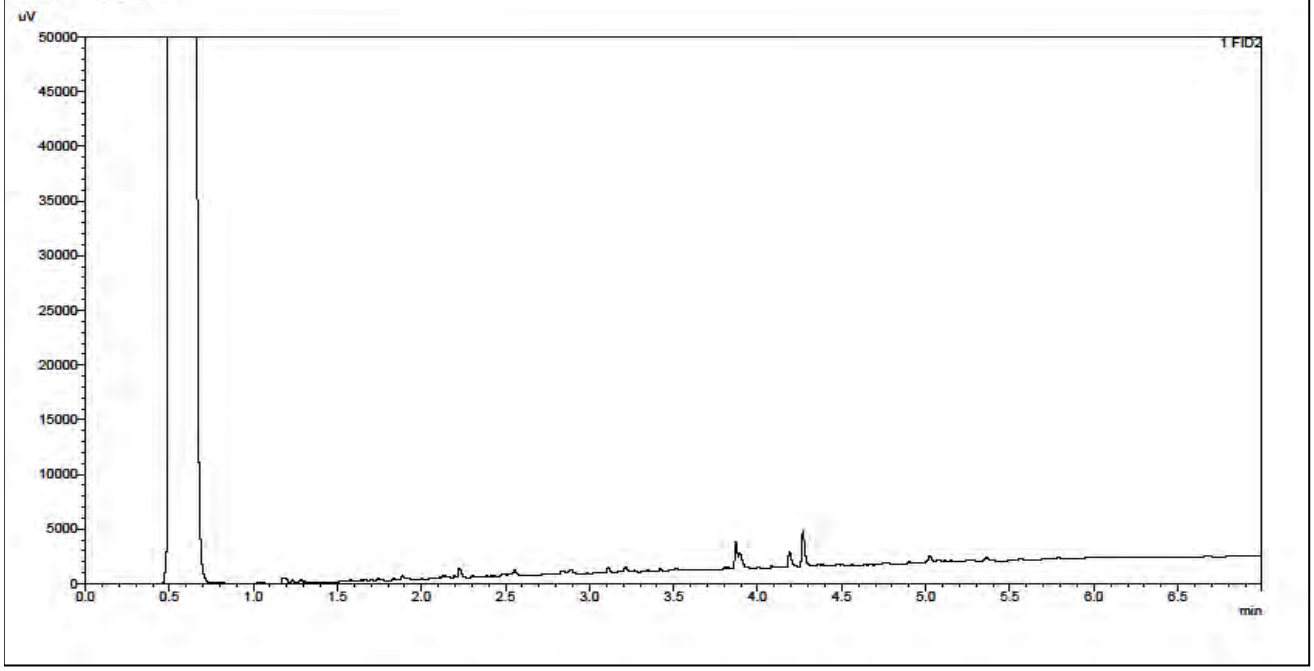


TPH Chromatogram on Soil Sample: 1536683

<Sample Information>

Sample Name : Back 1536683 22-41883
Data Filename : 2022-11-07_07112022_Back 1536683 22-41883_038.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 94
Date Acquired : 07/11/2022 20:14:17
Date Processed : 10/11/2022

<Chromatogram>



TPH Interpretation

Job	Sample	Matrix	Location	Sample Ref	Sample ID	Sample Depth (m)	Gasoline / Diesel Present	TPH Interpretation
22-41883	1536674	S		Plot 61 Rear	TS		No	N/A
22-41883	1536677	S		Plot 62 Rear	TS		No	N/A
22-41883	1536679	S		Apartment	TS		No	N/A
22-41883	1536681	S		Plot 38 Rear	TS		No	N/A
22-41883	1536683	S		Plot 37 Rear	TS		No	N/A

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-11245-1
Initial Date of Issue:	31-Mar-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Contaminated Land Ella Mcleod
Project	LKC 20 1761 Fairfield Road, Droyisden

Quotation No.:		**Date Received:**	25-Mar-2022
Order No.:	740131	**Date Instructed:**	28-Mar-2022
No. of Samples:	3		
Turnaround (Wkdays):	5	**Results Due:**	01-Apr-2022
Date Approved:	31-Mar-2022		

Approved By:

Details: Stuart Henderson, Technical Manager

Results - Soil

Project: LKC 20 1761 Fairfield Road, Droyisden

Client: LK Consult		**Chemtest Job No.:**			22-11245	22-11245	22-11245
Quotation No.:		**Chemtest Sample ID.:**			1398342	1398343	1398344
		Client Sample ID.:			TS101	TS102	TS103
		Sample Type:			SOIL	SOIL	SOIL
		Date Sampled:			24-Mar-2022	24-Mar-2022	24-Mar-2022
		Asbestos Lab:			DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
ACM Type	U	2192		N/A	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	23	24	24
Soil Colour	N	2040		N/A	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones and Roots	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand
Chromatogram (TPH)	N			N/A	See Attached	See Attached	See Attached
pH	U	2010		4.0	8.6	8.5	8.3
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	0.56	0.60	0.81
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.024	0.028	0.052
Cyanide (Free)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Arsenic	U	2450	mg/kg	1.0	4.2	4.5	2.6
Cadmium	U	2450	mg/kg	0.10	0.12	0.13	0.12
Chromium	U	2450	mg/kg	1.0	11	9.9	5.3
Copper	U	2450	mg/kg	0.50	12	11	9.0
Mercury	U	2450	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Nickel	U	2450	mg/kg	0.50	9.6	8.5	4.6
Lead	U	2450	mg/kg	0.50	22	20	19
Selenium	U	2450	mg/kg	0.20	< 0.20	< 0.20	< 0.20
Vanadium	U	2450	mg/kg	5.0	14	11	6.4
Zinc	U	2450	mg/kg	0.50	31	27	32
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Organic Matter	U	2625	%	0.40	4.1	4.0	3.8
Diesel Present	N	2670		N/A	False	False	False
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: LKC 20 1761 Fairfield Road, Droyisden

Client: LK Consult		**Chemtest Job No.:**			22-11245	22-11245	22-11245
Quotation No.:		**Chemtest Sample ID.:**			1398342	1398343	1398344
		Client Sample ID.:			TS101	TS102	TS103
		Sample Type:			SOIL	SOIL	SOIL
		Date Sampled:			24-Mar-2022	24-Mar-2022	24-Mar-2022
		Asbestos Lab:			DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Aromatic TPH >C12-C16	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	< 10
Benzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Toluene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
o-Xylene	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	U	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0
Naphthalene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluorene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Anthracene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	U	2800	mg/kg	0.10	0.50	1.1	0.40
Pyrene	U	2800	mg/kg	0.10	0.47	0.94	0.37
Benzo[a]anthracene	U	2800	mg/kg	0.10	0.27	0.66	0.21
Chrysene	U	2800	mg/kg	0.10	0.18	0.66	0.15
Benzo[b]fluoranthene	U	2800	mg/kg	0.10	0.40	0.93	< 0.10
Benzo[k]fluoranthene	U	2800	mg/kg	0.10	0.15	0.34	< 0.10
Benzo[a]pyrene	U	2800	mg/kg	0.10	0.46	0.79	< 0.10
Indeno(1,2,3-c,d)Pyrene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	U	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	2.4	5.4	< 2.0
Total Phenols	U	2920	mg/kg	0.10	< 0.10	0.18	< 0.10

TPH Chromatogram on Soil Sample: 1398342

<Sample Information>

Sample Name : 1398342 22-11245
Data Filename : 2022-03-28_28032022_1398342 22-11245_038.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 94
Date Acquired : 28/03/2022 20:27:53
Date Processed : 28/03/2022

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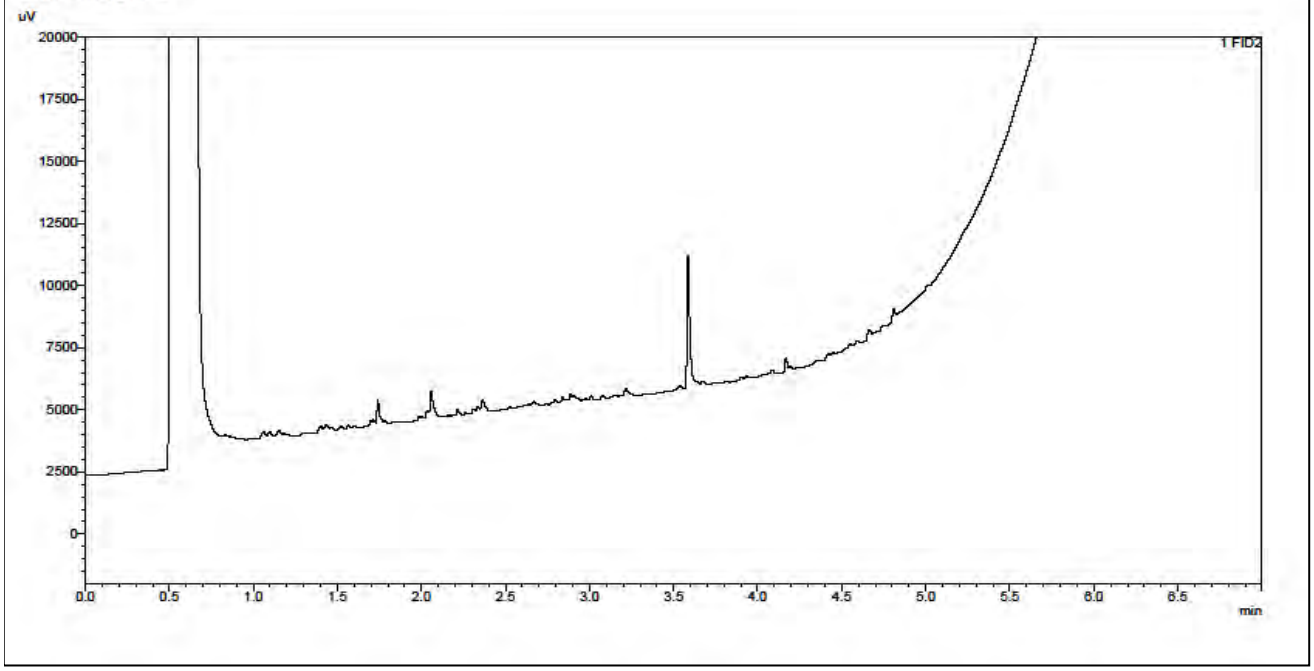

TPH Chromatogram on Soil Sample: 1398343

<Sample Information>

Sample Name : 1398343 22-11245
Data Filename : 2022-03-28_28032022_1398343 22-11245_040.gcd
Method Filename : TPH 12m Fast OSv2.gcm
Sample # : 95
Date Acquired : 28/03/2022 20:40:31
Date Processed : 28/03/2022

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