



Validation Report

Ossett Lane, Dewsbury

Campbell Homes Developments Limited.

SHF.1888.002.GE.R.004.A

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Validation Report

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|----------|--|
| Project: | Ossett Lane, Dewsbury |
| For: | Campbell Homes Limited |
| Ref: | SHF.1888.002.GE.R.004.A |
| Status: | Revision A |
| Date: | October 2023 |
| Author: | Nigel Ramsumair - MGeo (Hons.) , Principal Geo-Environmental Engineer |

Disclaimer:

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We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

Enzygo Limited Registered in England No. 06525159

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1.0 INTRODUCTION

1.1 Background

1.1.1 Enzygo Limited (Enzygo) has been commissioned by Campbell Homes Limited (the Client) to prepare a Validation Report for a proposed residential development at Ossett Lane, Earlsheaton, Dewsbury, WF12 8LR.

1.2 Proposed Development

1.2.1 The proposed residential development comprises five houses with associated hard and soft landscaping with a retaining wall to the southern boundary. The proposed development layout is shown on the Self Architects 'Concept Design' Drawing Number: 13125-SA-ZZ-DR-A201, dated January 2023, which is included in the Appendix 1.

1.3 Existing Information

1.3.1 All information made available to Enzygo is listed below.

- Enzygo Ltd, Preliminary Geo-Environmental Risk Assessment [Report Ref: SHF.1888.002.GE.R.001.C], dated March 2023.
- Enzygo Ltd, Ground Investigation Report [Report Ref: SHF.1888.002.GE.R.002.A], dated September 2023.
- Enzygo Ltd Remediation Method statement [Report Ref: SHF.1888.002.GE.R.003.A], dated September 2023.

1.4 Planning Consent

1.4.1 Outline Planning Consent [Ref: 2021/60/91695/E], dated 25 March 2025, as granted by Kirklees Council includes the following conditions/directives as set out in 'Condition 11,12 & 13,' which state the following [excluding related elements in condition already signed off].

11. Where site remediation is recommended in the Phase II Intrusive Site Investigation Report approved pursuant to condition 10, groundworks shall not commence until a Remediation Strategy has been submitted to and approved in writing by the Local Planning Authority. The Remediation Strategy shall include a timetable for the implementation and completion of the approved remediation measures. Reason: Having regard to environmental sustainability and to comply with policy LP53 of the Kirklees Local Plan

12. Remediation of the site shall be carried out and completed in accordance with the Remediation Strategy approved pursuant to condition 11. In the event that remediation is unable to proceed in accordance with the approved Remediation Strategy or contamination not previously considered [in either the Preliminary Risk Assessment or the Phase II Intrusive Site Investigation Report] is identified or encountered on site, all groundworks in the affected area (except for site investigation works) shall cease immediately and the Local Planning Authority shall be notified in writing within 2 working days. Works shall not recommence until proposed revisions to the Remediation Strategy have been submitted to and approved in writing by the Local Planning Authority. Remediation of the site shall thereafter be carried out in accordance

with the approved revised Remediation Strategy. Reason: Having regard to environmental sustainability and to comply with policy LP53 of the Kirklees Local Plan

13. Following completion of any measures identified in the approved Remediation Strategy or any approved revised Remediation Strategy a Validation Report shall be submitted to the Local Planning Authority. No part of the site shall be brought into use until such time as the remediation measures have been completed for (that part of) the site in accordance with the approved Remediation Strategy or the approved revised Remediation Strategy and a Validation Report in respect of those remediation measures has been approved in writing by the Local Planning Authority. Where validation has been submitted and approved in stages for different areas of the whole site, a Final Validation Summary Report shall be submitted to and approved in writing by the Local Planning Authority. Reason: Having regard to environmental sustainability and to comply with policy LP53 of the Kirklees Local Plan.

1.5 Objectives

1.5.1 The purpose of this report is to provide a record of the remedial works undertaken as follows, to allow safe development of the site in order discharge the related Planning Conditions specifically; the requirements under Condition 13 [Validation Report].

- Any areas of unknown contamination encountered; and the remedial measures undertaken.
- Waste disposal notes where appropriate.
- Confirmation that the works observed complied with the remedial methodology; and
- Details of imported clean cover soils with the results of any chemical analysis.

2.0 REMEDIATION METHOD STATEMENT

2.1 General

- 2.1.1 An Enzygo Ltd, Remediation Method Statement [Report Ref: SHF.1888.002.GE.R.003.A], dated September 2023 was produced concluding the following:
- 2.1.2 Three soil samples of Made Ground [CP01, WS1 and WS3] have returned test results with exceedances of the Enzygo GAC values for residential end use with plant uptake, these exceedances were recorded for Polynuclear Aromatic Hydrocarbons (PAH's) from the samples obtained from CP01 and WS1, as well as an exceedance of Lead from the samples obtained from WS1 and WS3.
- 2.1.3 Further delineation works are not required as all Made Ground soils are proposed to be excavated and removed from site. By removal of any impacted soils at the source, there can be no risks to the end user.
- 2.1.4 Whilst undertaking the remediation the following guidance was provided within the following headings.

2.2 Asbestos Management

- 2.2.1 Asbestos contaminated material was identified during the Ground Investigation. Asbestos management measures should be documented in an Asbestos Management Plan which will be incorporated into the Contractors Construction Stage Health and Safety Plan as required under the Construction Design and Management (CDM) regulations to mitigate risk to construction works. The asbestos management plan should document measures to mitigate the risk of potential asbestos materials to construction workers. These measures should be provided by an appropriately qualified asbestos contractor and may include the following however may include additional measures deemed necessary by the asbestos contractor:
- Preventing access to the construction site by members of the public;
 - Use of good hygiene measures, including washing down of plant; and
 - Use of appropriate PPE, including face masks.

2.3 Validation of Cover Soils

- 2.3.1 Given the proposed plan and the landscaping requirements across the site it is recommended that the thickness of the imported materials is verified. The works will comprise the following:
- Excavation of pits by hand, locations of which are yet to be determined. The number of pits and samples will be based on current NHBC guidance, which was developed in conjunction with the Environment Agency;
 - Measure the thickness of the cover soils; and
 - Photograph each pit with a measuring tape of staff used to show the thickness of the cover soils.
- 2.3.2 Soil samples will be collected from each pit from within the cover soils in appropriate containers provided by the analytical laboratory. At this stage it is anticipated that one sample will be collected from each hand pit within the garden areas of each plot [proposed five], in accordance with current NHBC guidance.

2.3.3 Samples will be stored in cool boxes prior to dispatch to the laboratory for analysis. All samples will be collected using appropriate sampling equipment that is cleaned at each sampling location and will be analysed at a laboratory which is UKAS and MCERTS accredited. Samples will be tested for the CLEA metal suite, pH, sulphate, cyanide, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAH), organic carbon, Speciated Total Petroleum Hydrocarbon (TPH) and asbestos screen.

2.3.4 Should soils fail the General Assessment Criteria (GAC) values these will be excavated and discarded off-site. Additional testing will be undertaken around the excavation to confirm that the adjacent soils are clean. Fresh soils will be imported and used to re-construct the cover soils.

2.4 Unforeseen Contaminations

2.4.1 If unforeseen contamination is encountered during construction works, such as localised spillage outside the areas investigated an Environmental Consultant will be available on a 'call out' basis to undertake an assessment of risk. If 'unforeseen contamination' is encountered the discovery strategy will be to remove the source as it is likely to be very limited in extent, and the Local Planning Authority advised.

2.5 Utilities

2.5.1 Results of the chemical analysis will be provided to the water authority and any requirements in relation to protecting potable waste supply pipes will be incorporated into the scheme.

3.0 VALIDATION: EXISTING SOILS

3.1 General

- 3.1.1 A site inspection was carried out by an Enzygo Engineer on 21st September 2023 to assess and validate the remediation work that has been undertaken to date. At the time of the site inspection all Made Ground soils had been excavated and stockpiled for offsite disposal. Remaining soils displayed no visual or olfactory evidence of any gross contamination or potential asbestos containing material [ACM], photos of which are included within Appendix 2.
- 3.1.2 Soils that were identified to be 'impacted' during the Enzygo Ground Investigation [WS1, WS3 & CP1] were stockpiled on impermeable sheeting within the southwestern section of the site for offsite removal, as seen on the Enzygo 'Proposed Remediations' drawing [SHF1888002-ENZ-XX-XX-DR-Z-0003, Rev 01] within Appendix 1. An estimated soil volume totalled at approximately 35m³.
- 3.1.3 Therefore, a total of fifteen [15no.] representative soil samples [S01-S15] were sampled from the base and sides of the excavations associated with the impacted soils within the areas of WS1, WS3 & CP1. Soils were sent to the laboratories of I2 Analytical Ltd who are MCERTS accredited. Samples were tested for the CLEA metal suite, pH, sulphate, cyanide, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAH), organic carbon, speciated Total Petroleum Hydrocarbon (TPH) and asbestos screen, to confirm there is no risk from potential contaminants present within these existing soils.
- 3.1.4 The soil testing results were compared to GAC values [reference values obtained from the Contaminated Land Exposure Assessment (CLEA), Soil Guideline Values (SGV) and General Acceptance Criteria (GAC) published by LQM/CIEH] for a residential end use with plant uptake, considering the proposed [residential] development.
- 3.1.5 Laboratory testing identified no chemical exceedances or the presence of asbestos, the results of which are included within Appendix 3. Therefore, it is considered that these remaining soils pose no risk to end user.

3.2 Asbestos Management

- 3.2.1 As far as Enzygo are aware, Asbestos measures were in accordance with the Asbestos Management Plan. As advised, this should be incorporated into the contractor's Construction Stage Health and Safety Plan, as required under the Construction Design and Management (CDM) Regulations, to mitigate risk to construction works and end users of the site.

3.3 Unforeseen Contamination

- 3.3.1 Enzygo understand that the appointed contractor followed the discovery strategy as per the Enzygo Ltd, Remediation Method Statement [Report Ref: SHF.1888.002.GE.R.003], dated September 2023.

4.0 VALIDATION: UTILITIES

4.1 General

- 4.1.1 Enzygo understand Cambell Homes Ltd have provided chemical analysis results to the water authority and any requirements in relation to protecting potable waste supply pipes will be incorporated into the scheme.

5.0 VALIDATION: CLEAN COVER

5.1 General

- 5.1.1 Areas of soft landscaping are to be covered with clean cover soils which will break the dermal pathway, further reducing risk to the end user. It is proposed that a minimum of 600mm [thickness] cover soils will be provided for the private garden areas and 300mm in communal open space areas. A geotextile separator (Terram 1000 or similar) will be placed at the base of the cover soils to act as a 'no dig layer'.
- 5.1.2 These cover soils will need to be confirmed as clean and pass the chemical requirements based on GAC values for residential use with plant uptake within private garden areas.
- 5.1.3 Clean cover system is yet to be implemented on site. This is programmed for the summer 2024. Once this is being undertaken Enzygo will visit site to independently witness following this exercise this report will be updated to reflect conclusions.






6.0 CONCLUSION

6.1 General

6.1.1 It is considered that the proposed new residential development is generally being developed in accordance with the Enzygo Ltd Remediation Method statement [Report Ref: SHF.1888.002.GE.R.003.A], dated September 2023.

Appendix 1 – Drawings



- KEY:**
-  Site Boundary
 -  Cable Percussion Boreholes (CP)
 -  Window Sampler Borehole (WS)
 -  Soil Sampling Locations (S)
 -  Anticipated Extent of Impacted Soils

- Notes:**
- Do not scale from this drawing.
 - All dimensions are in meters unless stated otherwise.
 - This drawing is to be read in conjunction with all relevant drawings and documents associated with this project.
 - All existing and proposed dimensions, levels and locations to be checked and verified by the main contractor on site prior to the commencement of the works and any anomalies reported to the engineer.

| | | | | | |
|-----|----------|-------------------------------|-----|-----|-----|
| P01 | 07.11.23 | Issued for comment / approval | LW | NR | NR |
| Rev | Date | Description | DRA | CHK | APP |

Project
Ossett Lane, Dewsbury

Client
Campbell homes Limited

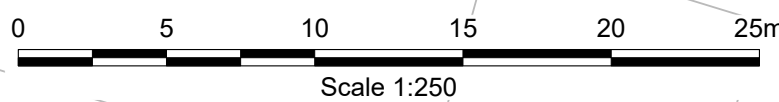
Drawing Title
Proposed Remediation

| | | |
|----------------------------|-------------------------|------------------------------|
| Scale 1:250 @ A3 | Date 07.09.23 | Status Preliminary |
|----------------------------|-------------------------|------------------------------|

| | |
|--|------------------------|
| DWG No. SHF1888002-ENZ-XX-XX-DR-Z-0003 | Revision P01 |
|--|------------------------|



| | | |
|--------------------------|------------------------------------|----------------------------|
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| CARDIFF 02920 023 700 | www.enzygo.com hello@enzygo.com | CAMBRIDGE 01799 542 473 |



Appendix 2 – Site Photos



Photo 1: Entrance and stockpile of soil in south.



Photo 2: View rental of site.


| | | |
|--|--|--|
|  Enzygo GeoEnvironmental Ltd Manchester 215 Ducie Street Tel: 0161 413 6444 | Project <p style="text-align: center;">Ossett Lane</p> | Drawing Title <p style="text-align: center;">Site Photos</p> |
| | Client <p style="text-align: center;">Campbell Homes Limited</p> | Project No. <p style="text-align: center;">SHF.1888.002</p> |



Photo 3: View central of site.



Photo 4: Northern section of site.


| | | |
|--|---|---|
|  Enzygo GeoEnvironmental Ltd Manchester 215 Ducie Street Tel: 0161 413 6444 | <small>Project</small> <p style="text-align: center;">Ossett Lane</p> | <small>Drawing Title</small> <p style="text-align: center;">Site Photos</p> |
| | <small>Client</small> <p style="text-align: center;">Campbell Homes Limited</p> | <small>Project No.</small> <p style="text-align: center;">SHF.1888.002</p> |



Photo 5: View east of site.



Photo 6: Soils east of site.



Enzygo GeoEnvironmental Ltd
Manchester
215 Ducie Street
Tel: 0161 413 6444

Project

Ossett Lane

Drawing Title

Site Photos

Client

Campbell Homes Limited

Project No.

SHF.1888.002

Appendix 3 – Chemical Testing Results



Nigel Ramsumair
Enzygo Geoenvironmental Ltd
Ducie House, Ducie Street,
M1 2JW

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: Nigel.ramsumair@enzygo.com

Analytical Report Number : 23-58676

| | | | |
|-----------------------------|-----------------|--|------------|
| Project / Site name: | Ossett Lane | Samples received on: | 25/09/2023 |
| Your job number: | SHF-1888-002 | Samples instructed on/ Analysis started on: | 26/09/2023 |
| Your order number: | SHF-1888-002 | Analysis completed by: | 03/10/2023 |
| Report Issue Number: | 1 | Report issued on: | 03/10/2023 |
| Samples Analysed: | 15 soil samples | | |

Signed: _____

Joanna Szwagrak
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

| | |
|-----------|---------------------------|
| soils | - 4 weeks from reporting |
| leachates | - 2 weeks from reporting |
| waters | - 2 weeks from reporting |
| asbestos | - 6 months from reporting |

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 23-58676

Project / Site name: Ossett Lane

Your Order No: SHF-1888-002

| Lab Sample Number | | | | 2824128 | 2824129 | 2824130 | 2824131 | 2824132 |
|--------------------------------------|-------|--------------------|----------------------|---------------|---------------|---------------|---------------|---------------|
| Sample Reference | | | | S1 | S2 | S3 | S4 | S5 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Depth (m) | | | | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Date Sampled | | | | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Analytical Parameter (Soil Analysis) | Units | Limit of detection | Accreditation Status | | | | | |
| Stone Content | % | 0.1 | NONE | 13 | 16 | 18 | 6.4 | 12 |
| Moisture Content | % | 0.01 | NONE | 7.6 | 6.9 | 8.1 | 6 | 8.6 |
| Total mass of sample received | kg | 0.001 | NONE | 1 | 0.9 | 0.9 | 1 | 0.9 |

| Asbestos in Soil | Type | N/A | ISO 17025 | Not-detected | Not-detected | Not-detected | Not-detected | Not-detected |
|---------------------|------|-----|-----------|--------------|--------------|--------------|--------------|--------------|
| Asbestos Analyst ID | N/A | N/A | N/A | ASE | ASE | ASE | ASE | ASE |

Speciated PAHs

| Compound | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
|------------------------|-------|------|-----------|--------|--------|--------|--------|--------|
| Naphthalene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluorene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Phenanthrene | mg/kg | 0.05 | MCERTS | 0.07 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluoranthene | mg/kg | 0.05 | MCERTS | 0.08 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Pyrene | mg/kg | 0.05 | MCERTS | 0.07 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Chrysene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(b)fluoranthene | mg/kg | 0.05 | ISO 17025 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(k)fluoranthene | mg/kg | 0.05 | ISO 17025 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |

Total PAH

| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | ISO 17025 | < 0.80 | < 0.80 | < 0.80 | < 0.80 | < 0.80 |
|-----------------------------|-------|-----|-----------|--------|--------|--------|--------|--------|
|-----------------------------|-------|-----|-----------|--------|--------|--------|--------|--------|

Heavy Metals / Metalloids

| Element | mg/kg | 1 | MCERTS | 12 | 11 | 10 | 8.3 | 10 |
|-----------------------------------|-------|-----|--------|-------|-------|-------|-------|-------|
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 12 | 11 | 10 | 8.3 | 10 |
| Boron (water soluble) | mg/kg | 0.2 | MCERTS | 0.2 | 0.3 | 0.5 | 0.4 | 0.5 |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | < 0.2 | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Chromium (hexavalent) | mg/kg | 1.8 | MCERTS | < 1.8 | < 1.8 | < 1.8 | < 1.8 | < 1.8 |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 18 | 18 | 18 | 16 | 18 |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 27 | 26 | 22 | 22 | 26 |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 25 | 19 | 21 | 18 | 22 |
| Mercury (aqua regia extractable) | mg/kg | 0.3 | MCERTS | < 0.3 | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| Nickel (aqua regia extractable) | mg/kg | 1 | MCERTS | 32 | 35 | 29 | 32 | 31 |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 82 | 84 | 72 | 75 | 69 |

Monoaromatics & Oxygenates

| Compound | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
|------------------------------------|-------|---|--------|-------|-------|-------|-------|-------|
| Benzene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Toluene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Ethylbenzene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| p & m-xylene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| o-xylene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| MTBE (Methyl Tertiary Butyl Ether) | µg/kg | 5 | NONE | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |

Analytical Report Number: 23-58676

Project / Site name: Ossett Lane

Your Order No: SHF-1888-002

| Lab Sample Number | 2824128 | | | 2824129 | | | 2824130 | | | 2824131 | | | 2824132 | | |
|--------------------------------------|---------------|--------------------|----------------------|---------------|--|--|---------------|--|--|---------------|--|--|---------------|--|--|
| Sample Reference | S1 | | | S2 | | | S3 | | | S4 | | | S5 | | |
| Sample Number | None Supplied | | | None Supplied | | | None Supplied | | | None Supplied | | | None Supplied | | |
| Depth (m) | 0.30 | | | 0.30 | | | 0.30 | | | 0.30 | | | 0.30 | | |
| Date Sampled | 21/09/2023 | | | 21/09/2023 | | | 21/09/2023 | | | 21/09/2023 | | | 21/09/2023 | | |
| Time Taken | None Supplied | | | None Supplied | | | None Supplied | | | None Supplied | | | None Supplied | | |
| Analytical Parameter (Soil Analysis) | Units | Limit of detection | Accreditation Status | | | | | | | | | | | | |

Petroleum Hydrocarbons

| | | | | | | | | | |
|--|-------|-----|--------|--------|--------|--------|--------|--------|--------|
| TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL} | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL} | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL} | mg/kg | 8 | MCERTS | < 8.0 | < 8.0 | < 8.0 | < 8.0 | < 8.0 | < 8.0 |
| TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL} | mg/kg | 8 | MCERTS | < 8.0 | < 8.0 | < 8.0 | < 8.0 | < 8.0 | < 8.0 |
| TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL} | mg/kg | 10 | NONE | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 |

| | | | | | | | | | |
|---|-------|-----|--------|--------|--------|--------|--------|--------|--------|
| TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR} | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR} | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR} | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 |
| TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR} | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 |
| TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR} | mg/kg | 10 | NONE | < 10 | < 10 | < 10 | < 10 | < 10 | < 10 |

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-58676

Project / Site name: Ossett Lane

Your Order No: SHF-1888-002

| Lab Sample Number | | | | 2824133 | 2824134 | 2824135 | 2824136 | 2824137 |
|--------------------------------------|-------|--------------------|----------------------|---------------|---------------|---------------|---------------|---------------|
| Sample Reference | | | | S6 | S7 | S8 | S9 | S10 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Depth (m) | | | | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Date Sampled | | | | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Analytical Parameter (Soil Analysis) | Units | Limit of detection | Accreditation Status | | | | | |
| Stone Content | % | 0.1 | NONE | 17 | 18 | 8.2 | < 0.1 | < 0.1 |
| Moisture Content | % | 0.01 | NONE | 4.9 | 4.1 | 4.3 | 6.2 | 6.6 |
| Total mass of sample received | kg | 0.001 | NONE | 0.8 | 1.1 | 1.2 | 1 | 0.9 |

| Asbestos in Soil | Type | N/A | ISO 17025 | Not-detected | Not-detected | Not-detected | Not-detected | Not-detected |
|---------------------|------|-----|-----------|--------------|--------------|--------------|--------------|--------------|
| Asbestos Analyst ID | N/A | N/A | N/A | ASE | ASE | ASE | ASE | ASE |

Speciated PAHs

| Compound | Units | Limit of detection | Accreditation Status | 2824133 | 2824134 | 2824135 | 2824136 | 2824137 |
|------------------------|-------|--------------------|----------------------|---------|---------|---------|---------|---------|
| Naphthalene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluorene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Phenanthrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluoranthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Chrysene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(b)fluoranthene | mg/kg | 0.05 | ISO 17025 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(k)fluoranthene | mg/kg | 0.05 | ISO 17025 | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |

Total PAH

| Speciated Total EPA-16 PAHs | Units | Limit of detection | Accreditation Status | 2824133 | 2824134 | 2824135 | 2824136 | 2824137 |
|-----------------------------|-------|--------------------|----------------------|---------|---------|---------|---------|---------|
| | mg/kg | 0.8 | ISO 17025 | < 0.80 | < 0.80 | < 0.80 | < 0.80 | < 0.80 |

Heavy Metals / Metalloids

| Element | Units | Limit of detection | Accreditation Status | 2824133 | 2824134 | 2824135 | 2824136 | 2824137 |
|-----------------------------------|-------|--------------------|----------------------|---------|---------|---------|---------|---------|
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 11 | 9.4 | 8.3 | 10 | 12 |
| Boron (water soluble) | mg/kg | 0.2 | MCERTS | 0.3 | 0.4 | 0.3 | 0.4 | 0.4 |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | < 0.2 | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Chromium (hexavalent) | mg/kg | 1.8 | MCERTS | < 1.8 | < 1.8 | < 1.8 | < 1.8 | < 1.8 |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 17 | 17 | 15 | 18 | 19 |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 24 | 23 | 22 | 26 | 31 |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 20 | 15 | 17 | 23 | 27 |
| Mercury (aqua regia extractable) | mg/kg | 0.3 | MCERTS | < 0.3 | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| Nickel (aqua regia extractable) | mg/kg | 1 | MCERTS | 38 | 33 | 27 | 31 | 32 |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 82 | 69 | 73 | 81 | 100 |

Monoaromatics & Oxygenates

| Compound | Units | Limit of detection | Accreditation Status | 2824133 | 2824134 | 2824135 | 2824136 | 2824137 |
|------------------------------------|-------|--------------------|----------------------|---------|---------|---------|---------|---------|
| Benzene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Toluene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Ethylbenzene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| p & m-xylene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| o-xylene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| MTBE (Methyl Tertiary Butyl Ether) | µg/kg | 5 | NONE | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |

Analytical Report Number: 23-58676
 Project / Site name: Ossett Lane
 Your Order No: SHF-1888-002

| Lab Sample Number | | | | 2824133 | 2824134 | 2824135 | 2824136 | 2824137 |
|--|-------|--------------------|-------------------------|---------------|---------------|---------------|---------------|---------------|
| Sample Reference | | | | S6 | S7 | S8 | S9 | S10 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Depth (m) | | | | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Date Sampled | | | | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Analytical Parameter (Soil Analysis) | Units | Limit of detection | Accreditation Status | | | | | |
| Petroleum Hydrocarbons | | | | | | | | |
| TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL} | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL} | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL} | mg/kg | 8 | MCERTS | < 8.0 | < 8.0 | < 8.0 | < 8.0 | < 8.0 |
| TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL} | mg/kg | 8 | MCERTS | < 8.0 | < 8.0 | < 8.0 | < 8.0 | < 8.0 |
| TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL} | mg/kg | 10 | NONE | < 10 | < 10 | < 10 | < 10 | < 10 |
| TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR} | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR} | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR} | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | < 10 |
| TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR} | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | < 10 |
| TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR} | mg/kg | 10 | NONE | < 10 | < 10 | < 10 | < 10 | < 10 |

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 23-58676

Project / Site name: Ossett Lane

Your Order No: SHF-1888-002

| Lab Sample Number | | | | 2824138 | 2824139 | 2824140 | 2824141 | 2824142 |
|--------------------------------------|-------|--------------------|----------------------|---------------|---------------|---------------|---------------|---------------|
| Sample Reference | | | | S11 | S12 | S13 | S14 | S15 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Depth (m) | | | | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Date Sampled | | | | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Analytical Parameter (Soil Analysis) | Units | Limit of detection | Accreditation Status | | | | | |
| Stone Content | % | 0.1 | NONE | < 0.1 | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Moisture Content | % | 0.01 | NONE | 9.9 | 11 | 9 | 11 | 11 |
| Total mass of sample received | kg | 0.001 | NONE | 0.9 | 1 | 1.1 | 1 | 1 |

| Asbestos in Soil | Type | N/A | ISO 17025 | Not-detected | Not-detected | Not-detected | Not-detected | Not-detected |
|---------------------|------|-----|-----------|--------------|--------------|--------------|--------------|--------------|
| Asbestos Analyst ID | N/A | N/A | N/A | IZJ | IZJ | IZJ | IZJ | IZJ |

Speciated PAHs

| Compound | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | 0.08 |
|------------------------|-------|------|-----------|--------|--------|--------|--------|--------|
| Naphthalene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | 0.08 |
| Acenaphthylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Acenaphthene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Fluorene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Phenanthrene | mg/kg | 0.05 | MCERTS | 0.05 | < 0.05 | 0.24 | 0.09 | 0.37 |
| Anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.05 | < 0.05 | 0.1 |
| Fluoranthene | mg/kg | 0.05 | MCERTS | 0.07 | < 0.05 | 0.45 | 0.15 | 0.44 |
| Pyrene | mg/kg | 0.05 | MCERTS | 0.06 | < 0.05 | 0.4 | 0.13 | 0.41 |
| Benzo(a)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.19 | 0.06 | 0.22 |
| Chrysene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.22 | 0.1 | 0.27 |
| Benzo(b)fluoranthene | mg/kg | 0.05 | ISO 17025 | < 0.05 | < 0.05 | 0.21 | 0.08 | 0.23 |
| Benzo(k)fluoranthene | mg/kg | 0.05 | ISO 17025 | < 0.05 | < 0.05 | 0.1 | < 0.05 | 0.09 |
| Benzo(a)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.15 | 0.05 | 0.18 |
| Indeno(1,2,3-cd)pyrene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.09 | < 0.05 | 0.08 |
| Dibenz(a,h)anthracene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Benzo(ghi)perylene | mg/kg | 0.05 | MCERTS | < 0.05 | < 0.05 | 0.08 | < 0.05 | 0.09 |

Total PAH

| Speciated Total EPA-16 PAHs | mg/kg | 0.8 | ISO 17025 | < 0.80 | < 0.80 | 2.18 | < 0.80 | 2.56 |
|-----------------------------|-------|-----|-----------|--------|--------|------|--------|------|
|-----------------------------|-------|-----|-----------|--------|--------|------|--------|------|

Heavy Metals / Metalloids

| Element | mg/kg | 1 | MCERTS | 8.5 | 8.6 | 10 | 11 | 11 |
|-----------------------------------|-------|-----|--------|-------|-------|-------|-------|-------|
| Arsenic (aqua regia extractable) | mg/kg | 1 | MCERTS | 8.5 | 8.6 | 10 | 11 | 11 |
| Boron (water soluble) | mg/kg | 0.2 | MCERTS | 0.3 | 0.5 | 0.6 | 0.6 | 0.4 |
| Cadmium (aqua regia extractable) | mg/kg | 0.2 | MCERTS | < 0.2 | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Chromium (hexavalent) | mg/kg | 1.8 | MCERTS | < 1.8 | < 1.8 | < 1.8 | < 1.8 | < 1.8 |
| Chromium (aqua regia extractable) | mg/kg | 1 | MCERTS | 16 | 16 | 15 | 19 | 16 |
| Copper (aqua regia extractable) | mg/kg | 1 | MCERTS | 24 | 22 | 23 | 35 | 29 |
| Lead (aqua regia extractable) | mg/kg | 1 | MCERTS | 29 | 35 | 39 | 45 | 44 |
| Mercury (aqua regia extractable) | mg/kg | 0.3 | MCERTS | < 0.3 | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| Nickel (aqua regia extractable) | mg/kg | 1 | MCERTS | 18 | 18 | 17 | 19 | 18 |
| Selenium (aqua regia extractable) | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Zinc (aqua regia extractable) | mg/kg | 1 | MCERTS | 76 | 77 | 76 | 94 | 83 |

Monoaromatics & Oxygenates

| Compound | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
|------------------------------------|-------|---|--------|-------|-------|-------|-------|-------|
| Benzene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Toluene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| Ethylbenzene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| p & m-xylene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| o-xylene | µg/kg | 5 | MCERTS | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |
| MTBE (Methyl Tertiary Butyl Ether) | µg/kg | 5 | NONE | < 5.0 | < 5.0 | < 5.0 | < 5.0 | < 5.0 |

Analytical Report Number: 23-58676

Project / Site name: Ossett Lane

Your Order No: SHF-1888-002

| Lab Sample Number | | | | 2824138 | 2824139 | 2824140 | 2824141 | 2824142 |
|--|-------|--------------------|----------------------|-------------------------------|---------------|---------------|---------------|---------------|
| Sample Reference | | | | S11 | S12 | S13 | S14 | S15 |
| Sample Number | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Depth (m) | | | | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Date Sampled | | | | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 | 21/09/2023 |
| Time Taken | | | | None Supplied | None Supplied | None Supplied | None Supplied | None Supplied |
| Analytical Parameter (Soil Analysis) | Units | Limit of detection | Accreditation Status | | | | | |
| | | | | Petroleum Hydrocarbons | | | | |
| TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aliphatic >EC6 - EC8 _{HS_1D_AL} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aliphatic >EC8 - EC10 _{HS_1D_AL} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL} | mg/kg | 1 | MCERTS | < 1.0 | 1.9 | 1.3 | < 1.0 | < 1.0 |
| TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL} | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | 2.3 | < 2.0 | < 2.0 |
| TPH-CWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL} | mg/kg | 8 | MCERTS | < 8.0 | < 8.0 | < 8.0 | < 8.0 | < 8.0 |
| TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL} | mg/kg | 8 | MCERTS | < 8.0 | < 8.0 | 16 | < 8.0 | < 8.0 |
| TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL} | mg/kg | 10 | NONE | < 10 | < 10 | 26 | < 10 | < 10 |
| TPH-CWG - Aromatic >EC5 - EC7 _{HS_1D_AR} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aromatic >EC8 - EC10 _{HS_1D_AR} | mg/kg | 0.1 | NONE | < 0.10 | < 0.10 | < 0.10 | < 0.10 | < 0.10 |
| TPH-CWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR} | mg/kg | 1 | MCERTS | < 1.0 | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR} | mg/kg | 2 | MCERTS | < 2.0 | < 2.0 | < 2.0 | < 2.0 | < 2.0 |
| TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR} | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | < 10 |
| TPH-CWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR} | mg/kg | 10 | MCERTS | < 10 | < 10 | < 10 | < 10 | < 10 |
| TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR} | mg/kg | 10 | NONE | < 10 | < 10 | < 10 | < 10 | 12 |

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 23-58676

Project / Site name: Ossett Lane

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

| Lab Sample Number | Sample Reference | Sample Number | Depth (m) | Sample Description * |
|-------------------|------------------|---------------|-----------|---|
| 2824128 | S1 | None Supplied | 0.3 | Brown clay and sand with stones and gravel |
| 2824129 | S2 | None Supplied | 0.3 | Brown clay and sand with stones and gravel |
| 2824130 | S3 | None Supplied | 0.3 | Brown clay and sand with stones and gravel |
| 2824131 | S4 | None Supplied | 0.3 | Brown clay and sand with stones and gravel |
| 2824132 | S5 | None Supplied | 0.3 | Brown clay and sand with stones and gravel |
| 2824133 | S6 | None Supplied | 0.3 | Brown sandy loam with stones and vegetation. |
| 2824134 | S7 | None Supplied | 0.3 | Brown clay and loam with stones and vegetation. |
| 2824135 | S8 | None Supplied | 0.3 | Brown loam and sand with stones and vegetation. |
| 2824136 | S9 | None Supplied | 0.3 | Brown loam and sand with gravel and vegetation. |
| 2824137 | S10 | None Supplied | 0.3 | Brown loam and sand with gravel and vegetation. |
| 2824138 | S11 | None Supplied | 0.3 | Brown loam and sand with gravel and vegetation. |
| 2824139 | S12 | None Supplied | 0.3 | Brown clay and loam with gravel and vegetation. |
| 2824140 | S13 | None Supplied | 0.3 | Brown loam and sand with gravel and vegetation. |
| 2824141 | S14 | None Supplied | 0.3 | Brown loam and sand with gravel and vegetation. |
| 2824142 | S15 | None Supplied | 0.3 | Brown loam and sand with gravel and vegetation. |

Analytical Report Number : 23-58676

Project / Site name: Ossett Lane

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|---------------------------------------|---|--|---------------|--------------------|----------------------|
| Metals in soil by ICP-OES | Determination of metals in soil by aqua-regia digestion followed by ICP-OES. | In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil. | L038-PL | D | MCERTS |
| Asbestos identification in soil | Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques. | In house method based on HSG 248 | A001-PL | D | ISO 17025 |
| Boron, water soluble, in soil | Determination of water soluble boron in soil by hot water extract followed by ICP-OES. | In-house method based on Second Site Properties version 3 | L038-PL | D | MCERTS |
| Moisture Content | Moisture content, determined gravimetrically. (30 oC) | In house method. | L019-UK/PL | W | NONE |
| Speciated EPA-16 PAHs in soil | Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation. | In-house method based on USEPA 8270 | L064-PL | D | MCERTS |
| Stones content of soil | Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight. | In-house method based on British Standard Methods and MCERTS requirements. | L019-UK/PL | D | NONE |
| BTEX and MTBE in soil (Monoaromatics) | Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited | In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation | L073B-PL | W | MCERTS |
| TPHCWG (Soil) | Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID. Refer to CoA for band specific accreditation. | In-house method with silica gel split/clean up. | L088/76-PL | D | MCERTS |
| Hexavalent chromium in soil | Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry. | In-house method | L080-PL | W | MCERTS |

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 23-58676

Project / Site name: Ossett Lane

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

| Analytical Test Name | Analytical Method Description | Analytical Method Reference | Method number | Wet / Dry Analysis | Accreditation Status |
|----------------------|-------------------------------|-----------------------------|---------------|--------------------|----------------------|
|----------------------|-------------------------------|-----------------------------|---------------|--------------------|----------------------|

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

| Acronym | Descriptions |
|---------|--|
| HS | Headspace Analysis |
| MS | Mass spectrometry |
| FID | Flame Ionisation Detector |
| GC | Gas Chromatography |
| EH | Extractable Hydrocarbons (i.e. everything extracted by the solvent(s)) |
| CU | Clean-up - e.g. by Florisil®, silica gel |
| 1D | GC - Single coil/column gas chromatography |
| 2D | GC-GC - Double coil/column gas chromatography |
| Total | Aliphatics & Aromatics |
| AL | Aliphatics |
| AR | Aromatics |
| #1 | EH_2D_Total but with humics mathematically subtracted |
| #2 | EH_2D_Total but with fatty acids mathematically subtracted |
| _ | Operator - understore to separate acronyms (exception for +) |
| + | Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total |

Sample Deviation Report



Analytical Report Number : 23-58676

Project / Site name: Ossett Lane

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

| Sample ID | Other ID | Sample Type | Lab Sample Number | Sample Deviation | Test Name | Test Ref | Test Deviation |
|-----------|---------------|-------------|-------------------|------------------|---------------------------------------|------------|----------------|
| S1 | None Supplied | S | 2824128 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S1 | None Supplied | S | 2824128 | b | TPHCWG (Soil) | L088/76-PL | b |
| S10 | None Supplied | S | 2824137 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S10 | None Supplied | S | 2824137 | b | TPHCWG (Soil) | L088/76-PL | b |
| S11 | None Supplied | S | 2824138 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S11 | None Supplied | S | 2824138 | b | TPHCWG (Soil) | L088/76-PL | b |
| S12 | None Supplied | S | 2824139 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S12 | None Supplied | S | 2824139 | b | TPHCWG (Soil) | L088/76-PL | b |
| S13 | None Supplied | S | 2824140 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S13 | None Supplied | S | 2824140 | b | TPHCWG (Soil) | L088/76-PL | b |
| S14 | None Supplied | S | 2824141 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S14 | None Supplied | S | 2824141 | b | TPHCWG (Soil) | L088/76-PL | b |
| S15 | None Supplied | S | 2824142 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S15 | None Supplied | S | 2824142 | b | TPHCWG (Soil) | L088/76-PL | b |
| S2 | None Supplied | S | 2824129 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S2 | None Supplied | S | 2824129 | b | TPHCWG (Soil) | L088/76-PL | b |
| S3 | None Supplied | S | 2824130 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S3 | None Supplied | S | 2824130 | b | TPHCWG (Soil) | L088/76-PL | b |
| S4 | None Supplied | S | 2824131 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S4 | None Supplied | S | 2824131 | b | TPHCWG (Soil) | L088/76-PL | b |
| S5 | None Supplied | S | 2824132 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S5 | None Supplied | S | 2824132 | b | TPHCWG (Soil) | L088/76-PL | b |
| S6 | None Supplied | S | 2824133 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S6 | None Supplied | S | 2824133 | b | TPHCWG (Soil) | L088/76-PL | b |
| S7 | None Supplied | S | 2824134 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S7 | None Supplied | S | 2824134 | b | TPHCWG (Soil) | L088/76-PL | b |
| S8 | None Supplied | S | 2824135 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S8 | None Supplied | S | 2824135 | b | TPHCWG (Soil) | L088/76-PL | b |
| S9 | None Supplied | S | 2824136 | b | BTEX and MTBE in soil (Monoaromatics) | L073B-PL | b |
| S9 | None Supplied | S | 2824136 | b | TPHCWG (Soil) | L088/76-PL | b |



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