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GORTON LANE

PHASE 4 VALIDATION REPORT

Curtins Ref: **067694-CUR-00-XX-RP-GE-00007**
Revision: P01
Issue Date: 20 December 2023

Client Name: EQUANS

Client Address: The Lighthouse, The Quays, Salford Quays, Manchester, M50 3BF

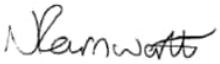
Site Address: Gorton Lane Sites, Manchester, M12 5WF

Rev	Description	Issued by	Checked	Date
P01	Issue	LW	JL	20 December 2023

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EXECUTIVE SUMMARY

Curtins were instructed by EQUANS (the Client) to produce a Verification Report following completion of remediation activities at a site known as Gorton Lane, Manchester, with development proposals for 18 houses, and 4 No. apartment blocks, along with associated car-parking space, private gardens, and soft landscaping. The site is located off Gorton Lane, approximately centred on National Grid Reference 387260, 396950. Development Plans can be referred to within *Appendix A*.

EQUANS were the Main Contractor on site, and Kelly Contracting Ltd undertook the groundworks activities. Curtins carried out a number of site visits during construction of clean capping.

This Verification Report has been compiled to provide a descriptive and factual record of the remedial works undertaken by EQUANS, and the subsequent verification of these works by Curtins. It is envisaged that this document will be used to support the discharging of planning condition number 5c of planning permission 129876/FO/2021 in line with the measures agreed with the Local Planning Authority (LPA).

Site assessment works previously determined that remedial measures were required to be incorporated into the development as follows:

- Removal of Naphthalene Hotspots;
- Handpicking and Removal of ACMs;
- Engineered Capping; and,
- Installation of Contaminant Resistant Water Pipes.

To address the elevated risks, the requirements for the proposed clean soil layer / planting medium capping works were detailed in the Curtins Remediation Strategy issued in February 2020, together with health and safety management during construction, asbestos management, measures for dealing with unexpected contamination appropriately through the use of a strategy for handling potentially contaminated soils and contaminative incidents on site. Remediation works have now been completed, with details and records of the works undertaken at the site collated herein from information provided by EQUANS and obtained by Curtins through site inspection visits on 15/09/2023, 03/10/2023, 16/11/2023 and 23/11/2023.

Through independent verification and consideration of the available evidence Curtins can confirm the following:

- Photographic evidence has been provided of the removal of the Naphthalene-impacted soils, with waste consignment tickets obtained.
- The clean and inert growing medium of >600mm of topsoil / subsoil (minimum 150mm topsoil) with an underlying geotextile layer has been installed and forms an effective barrier between end users and contaminated soils in the rear gardens of Plots 1 – 12 and Plots 104 – 109, verified through visual inspection by Curtins with associated photographic records obtained;
- The clean and inert growing medium of >300mm of topsoil / subsoil (minimum of 150mm topsoil) with an underlying geotextile layer has been installed and forms an effective barrier between end users and contaminated soils in the front gardens of Plots 1 – 12 and Plots 104 – 109 along with in public soft landscaping areas, verified through visual inspection by Curtins with associated photographic records obtained; and,
- Imported topsoil source testing and on-site testing has been undertaken in accordance with the Curtins Remediation Strategy. Results have been screened against suitable screening criteria and no exceedances have been found.
- Evidence in the form of photographs and certificates of compliance from the Water Industry Approved Plumbers Scheme (WIAPS) has been provided verifying that new 25mm barrier piping was installed.
- Evidence has been provided to demonstrate asbestos impacted soils have been removed from the site with relevant waste consignment ticket provided, with no further asbestos identified.

Additionally, EQUANS have confirmed that there was no unexpected contamination encountered during groundworks.

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1 INTRODUCTION

This Verification Report has been prepared by Curtins for EQUANS (the Client) to provide a descriptive and factual record of the works undertaken as evidence that the requirements of the agreed upon Remediation Strategy have been met at the site located off Gorton Lane, Manchester, M12 5WF, approximately centred on NGR 387260, 396950. It is understood the Residential development will include 18 houses, and 4 No. apartment blocks, along with associated car-parking space, private gardens, and soft landscaping. The landscape architect plans are included within *Appendix A* of this report.

The site is centred on NGR 387260, 396950 in West Gorton and comprises two plots of land which are separated by Wenlock Way / Gorton Lane:

- Site 1 (north of Wenlock Way/Gorton Lane)
- Site 2 (to the south of Wenlock Way/Gorton Lane)

The two sites are within residential areas, with Site 1 bounded by residential and commercial properties along with three roadways. Site 2 is bounded by residential properties and four different roadways.



Figure 1 – Site 1 and Site 2 Location Plan taken from Google Maps

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It is intended that this report is submitted to allow the discharge of Planning Condition 5c, associated with Application Ref. 129876/FO/2021.

Planning Condition 5c reads:

> *"The development shall be carried out in accordance with the previously agreed Remediation Strategy, and that a Completion/Verification Report shall be submitted to and approved in writing by Manchester City Council."*

Details and records of remedial works undertaken at the site have been collated herein from information provided by EQUANS and obtained by Curtins through site visits.

1.1 Requirements of the Verification Report

This verification report is to account for the following;

- A descriptive and factual record of the remedial works (removal of unacceptable materials, provision of engineered capping layer comprising a clean soil layer and geotextile separation layer and installation of appropriate water piping) undertaken by the contractor and their appointed sub-contractors;
- Verification of all remedial works:
    - Photographic record of ground works activities;
    - Evidence of removal of Naphthalene Hotspots;
    - Evidence of following the Asbestos Management Plan;
    - Records of any other significant visual or olfactory evidence of contamination encountered during site clearance and excavations;
    - Waste consignment notes for contaminated materials removed from site;
    - Imported soil quality certificates, including soil chemical analysis;
    - Provision of a minimum 600mm (Rear Gardens) or 300mm (Front Gardens and public soft landscaping areas) clean capping comprising a minimum of 150mm topsoil over resultant depth of subsoil, underlain by a demarcation membrane; and,
    - Installation of appropriate contaminant resistant water piping.

1.2 References

The Verification Report has been prepared with reference to the following reports:

- Reference 1: Curtins (2020) Gorton Lane Remediation Strategy (Ref. 067694-CUR-00-XX-RP-GE-001).
- Reference 2: Curtins (2018) Phase 2 Site Investigation for Gorton Lane, Manchester (Ref. 068244-CUR-00-XX-RP-GE-001-V02).
- Reference 3: Curtins (2018) Phase 1 Preliminary Risk Assessment, Gorton Lane Sites (Ref. 067694-CUR-00-XX-RP-GE-001-V02).

1.3 Project Background

A Phase 1 Preliminary Site Assessment Desktop Study (Ref. 3) was undertaken on the site by Curtins in 2018. A Ground Investigation was subsequently undertaken on site by Curtins in 2020 with an associated Phase 2 Ground Investigation Report issued, (Ref. 2).

The above works concluded the following pollutant linkages (outlined in Table 1) were considered to present a potential risk to human health and would require specific remedial measures to enable to safe redevelopment of the site for its proposed end-use.

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Table 1 – Potential Pollutant Linkages

PPL	Source	Pathway	Receptor	Risk
1	**Made Ground** soils centred around TP11, CP1 and CP2 with elevated Naphthalene (Semi-Volatile)	**Residential Site End-Users**	Inhalation, ingestion, and dermal contact with PAHs including Naphthalene contaminants in soil within TP11, CP1 and CP2 and soil-derived dust from on-site Made Ground.	**Moderate Risk** Elevated concentrations of Naphthalene have been further investigated with no additional exceedances of Naphthalene detected. It is recommended that the hotspots (TP11, CP1 and CP2) are removed via a 2m x 2m square of the locations during the redevelopment of the site due to the vapour risk posed to site-end users.
2	Asbestos fibres within soil samples and ACMs. **Amosite and Chrysotile** loose fibres of 0.89% identified within WS6, **Chrysotile** fibres of 0.073% in TP10.	**Residential Site End-Users** **Construction and Maintenance Workers** **Adjacent Residents**	Inhalation of asbestos fibres in soil-derived dust from on-site Made Ground.	**Moderate / Low Risk** Engineered capping and geotextile membrane to serve as a physical barrier between original site soils and site surface in areas of soft landscaping. The building footprint and areas of hard standing will break the source-pathway-receptor linkage across the remainder of the site. Asbestos Management Plan required during construction.
3	**Made Ground** soils containing elevated concentrations of heavy metals, PAHs and TPHs.	**Residential Site End-Users**	Inhalation, ingestion, and dermal contact with PAH, TPH, Arsenic and Lead contaminants in soil and soil-derived dust from on-site Made Ground.	**Moderate Risk** Engineered capping and geotextile membrane to serve as a physical barrier between original site soils and site surface in areas of soft landscaping. The building footprint and areas of hardstanding will break the source-pathway-receptor linkage across the remainder of the site.
4	**Made Ground** soils containing elevated concentrations of PAHs and TPHs.	**Water Pipes**	Contact with PAH and TPH contaminants in soil from on-site Made Ground.	**Moderate Risk** Installation of contaminant resistant water piping on site to break the source-pathway-receptor linkage across the site is required.

To address the elevated risks the proposed remediation works were detailed in the Curtins Remediation Strategy (Ref.1), together with health and safety management during construction, asbestos management, and measures for dealing with unexpected contamination appropriately through a 'Strategy for Handling Potentially Contaminated Soils and Contaminative Incidents on Site'.

For further background details the previous reports referenced above should be consulted. It is assumed that the Client is in receipt of these reports and that they have also been submitted to and accepted by Manchester City Council to discharge relevant planning conditions.

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2 REMEDIAL WORKS UNDERTAKEN

In this document the term 'remediation' is used to define specific works required to address the potential issues arising from asbestos fibres, and contaminated soils, with due account taken for the proposed end-user.

In order to address the risk from elevated concentrations of volatile and non-volatile contamination in soils including asbestos containing materials the following remedial measures were outlined to be required.

- **Remedial Action 1:** Removal of Naphthalene Hotspots.
- **Remedial Action 2:** Asbestos Management, Including Handpicking and Removal of ACMs.
- **Remedial Action 3:** Engineered Capping.
- **Remedial Action 4:** Installation of Contaminant Resistant Water Supply Pipes.

Measures were also provided for dealing appropriately with unexpected contamination encountered on site, through the use of a Strategy for Handling Potentially Contaminated Soils and Contaminative Incidents on Site.

EQUANS are the Principal Contractor on site, with Kennys Contractors Ltd. employed as the groundworks contractor. Required remedial works have been undertaken as part of the soft landscaping implementation as detailed below.

2.1 Remedial Action 1 - Removal of Naphthalene Hotspots

Remedial Action 1 required the removal of Naphthalene Hotspots identified during the Curtins Phase 2 Site Investigation (Ref. 2).

During the Curtins Phase 2 Site Investigation, Naphthalene was recorded above 'Residential' thresholds in CP1 (Site 1), TP11 and CP2 (Site 2). During delineation works, fourteen further samples were taken, all of which recorded Naphthalene below the Generic Assessment Criteria.

Potential Pollutant Linkage 1 identified at the site relates to the inhalation of Naphthalene in Made Ground soils within TP11, CP1 and CP2 and soil-derived dust on site to the site end-users (residential). It was determined that remedial measures were required for the Naphthalene-impacted soils.

Material centred around TP11, CP1 and CP2 was to be excavated (approximately 2.00m x 2.00m) to 1.50m depth and the material removed from the site to a suitably licensed facility. The excavation of the Naphthalene-impacted soils was to be supervised and validated by a qualified engineer.

2.1.1 Validation of the Removal of Naphthalene Hotspots

EQUANS have provided photographic evidence (*Appendix B*) of the removal of the Naphthalene-impacted soils, showing that a 2.00m x 2.00m area, up to a depth of 2.00m in the area of TP11, CP1 and CP2 has been removed, with relevant waste consignment tickets obtained (*Appendix H*).

The removal of the Naphthalene-impacted material was supervised by Kelly Contracting Civil Engineers. Curtins did not have a site presence during these works.

2.2 Remedial Action 2 – Asbestos Management Plan During Construction, Including Handpicking and Removal of Asbestos Containing Materials (ACMs)

Remedial Action 2 required an asbestos management plan to be put in place during construction, along with a recommendation for removal and handpicking of Asbestos Containing Materials (ACMs) identified during the Curtins Phase 2 Site Investigation (Ref. 2).

Potential Pollutant Linkage 2 identified at the site relates to the inhalation of asbestos fibres in soil-derived dust from on-site Made Ground. It was determined that remedial measures were required due to the presence of ACMs.

2.2.1 Asbestos Management, Unexpected Contamination & Contaminative Incidents

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Curtins were not present on-site during groundworks activities. The following details have been provided by EQUANS and sub-contractors Kelly Contractors Ltd.

EQUANS state that their Site Management team receive regular Asbestos Awareness training as part of Company policy and procedure. Due to asbestos being noted in the Curtins Phase 2 Report (Ref. 2), the Site Management team also received specific 'Asbestos in Soils' training. EQUANs state that all operatives who attended site during the groundworks phase were also made aware of the potential asbestos impacted soils as part of the Site Induction, with specific instructions as to what operatives must do should they discover any suspected asbestos. Kelly Contractors groundworks supervisor and staff also received asbestos awareness training. EQUANS' Asbestos Management Process and Plan along with Kelly Contractors Risk Assessment are provided in *Appendix G*.

As part of earthworks, an approximate total of 15.7 tonnes of hazardous construction materials containing asbestos was removed from the site on 09/04/2021, with relevant hazardous waste consignment tickets provided (*Appendix H*). Further ACM (<0.001%) impacted soils were removed from the site on 25/03/2022, with relevant hazardous waste consignment tickets and photographs depicting the removal of the soils evidenced within *Appendix B* and *Appendix H*.

It has been confirmed by EQUANS that no further asbestos or suspected asbestos containing materials were encountered during the groundworks phase, and that handpicking of ACMs was not deemed necessary.

It was also confirmed by EQUANS that, other than the asbestos impacted soils and Naphthalene hotspots, no further unexpected contamination was encountered (*Appendix F*).

2.3 Remedial Action 3 - Engineered Capping

Remedial Action 3 required the installation of engineered capping due to the exceedances of arsenic, lead, PAHs and TPHs in soil identified in the Curtins Phase 2 Site Investigation (Ref. 2).

Hardstanding areas are considered sufficient to break the potential contaminant linkage and therefore no specific remediation measures were required. However, a risk remained in landscaped areas (private gardens and soft landscaping) of exposure to contaminated Made Ground. The proposed minimum depth of cover varied between 600mm (private rear gardens) and 300mm (private front gardens and general landscaping/public open space). A demarcation layer was proposed beneath the capping layer.

Verification of the installed engineered capping measures to soft landscaped areas was undertaken to ensure remediation has been undertaken as specified and demonstrate the effectiveness of the remediation. Figures 1 and 2 show the location of hand excavated inspection pits undertaken as part of the verification process. It was undertaken in general accordance with the verification and validation plan set out in Curtins Remediation Strategy (Ref. 1).

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Figure 2 – Map showing the different areas of engineered landscaping on Site 1 (North).



Figure 3 – Map showing the different areas of engineered landscaping on Site 2 (South).

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2.3.1 Validation of Imported Soil Quality

Topsoil and subsoil were understood to have been imported from a single source, known as *'Crown Farm'*.

Source chemical analysis testing was undertaken by the supplier, and laboratory testing certificates have been provided to Curtins for review and are enclosed in *Appendix C* (Tim O'Hare Associates, Report Ref. TOHA/22/7546/SS). The topsoil sample was described as a dark brown, slightly moist, friable, very slightly calcareous loamy sand with a single grain structure. The soil samples are shown to be largely compliant with BS3882:2015 specification for topsoil multipurpose grade with the exception of a high sand content. The soil was therefore considered to be suitable for import. Source testing results for subsoil were not required in accordance with Curtins Remediation Strategy. It is assumed that the imported material to be from a greenfield source.

Imported topsoil inspected on-site comprised soft, black / dark brown, very sandy, slightly gravelly clay and subsoil comprised loose, reddish brown, clayey, slightly gravelly sand.

Curtins Remediation Strategy states that 1 sample per 250m^3 of greenfield topsoil/subsoil is required per source (minimum of 3 samples), and 1 sample per 100m^3 of re-used/site won soils is required per source (minimum of 8 samples). Approximately 285.7m^3 of topsoil and 872.1m^3 of subsoil has been imported to site, with Curtins obtaining eight soil samples detailed below:

- 15th September 2023:
  - Topsoil Samples: Plot 104 (back), Plot 105 (front), Plots 8 (back), Plot 5 (back); and,
  - Subsoil Samples: Plot 108 (back), Plots 2 + 3 (front).
- 16th November 2023:
  - Subsoil Samples: HP29 and HP32.

The above samples have been analysed for a contamination suite in accordance with the Curtins Remediation Strategy. No exceedances were recorded above the "maximum permissible concentrations" and no asbestos containing materials or fibres were identified.

Testing was undertaken by Envirolab, a UKAS and MCERTs accredited laboratory, and schedule for the suite of analytes described in *Table 2.*

Table 2 – Environmental Chemical Analysis Suite

Suite Ref.	Analyte	LOD
Soils Suite A	Asbestos Screen, pH and Soil Organic Matter (SOM)	-
	Arsenic, Chromium, Chromium VI, Copper, Lead, Selenium, Zinc, Nickel	1 - 5 mg/kg
	Boron (water soluble)	1 mg/kg
	Cadmium	0.5 mg/kg
	Mercury	0.17 mg/kg
	Cyanide (total)	1 mg/kg
	Phenols (screen)	0.2 mg/kg
	PAHs (USEPA 16)	0.01 – 0.08 mg/kg
	TPH (Aro/Ali Split)	0.01 to 1 mg/kg

Copies of the environmental chemistry testing certificates are presented in *Appendix C.* The screening criteria for which soil chemical testing results were assessed against, Curtins GACs: *Residential with Gardens End-Use with SOM of 2.5%,* are presented in *Appendix D*.

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No visual contaminants were evident on sampling and inspection, and each of the soil samples did not record any chemical concentrations which exceeded the nominated screening criteria. The imported topsoil is therefore deemed 'suitable for use'.

2.3.2 Validation of Engineered Capping Layer

On the 15th September, 3rd October, 16th November and 23rd November 2023, Curtins visited site to carry out independent inspections of depth and quality of imported topsoil and confirm the presence of a geotextile layer at the base.

The geotextile layer used in construction of the soft landscaping areas is Wrekin Fastrack Orange Standard Grade Woven Geotextile. The specification guide is included in *Appendix E*.

With reference to Figures 1 and 2, trial holes were undertaken in the areas detailed in Table 3, confirming the required thickness of topsoil and subsoil underlain by an orange geotextile membrane.

Table 3 – Recorded Capping Thickness

Location		Date	Thickness			Geotextile membrane?	Pass / Fail
Hand Pit	Plot		Topsoil	Subsoil	Total		
HP01	Plot 104 (Rear)	15/09/2023	300mm	380mm	680mm	Yes	Pass
HP02	Plot 105 (Rear)	15/09/2023	270mm	420mm	690mm	Yes	Pass
HP03	Plot 106 (Rear)	15/09/2023	240mm	460mm	700mm	Yes	Pass
HP04	Plot 107 (Rear)	15/09/2023	180mm	490mm	670mm	Yes	Pass
HP05	Plot 108 (Rear)	15/09/2023	150mm	450mm	600mm	Yes	Pass
HP06	Plot 109 (Rear)	15/09/2023	160mm	440mm	600mm	Yes	Pass
HP07	Plot 105 (Front)	15/09/2023	200mm	270mm	470mm	Yes	Pass
HP08	Plot 109 (Front)	15/09/2023	170mm	300mm	470mm	Yes	Pass
HP09	Plot 1 (Rear)	15/09/2023	160mm	520mm	680mm	Yes	Pass
HP10	Plot 2 (Rear)	03/10/2023	350mm	400mm	750mm	Yes	Pass
HP11	Plot 3 (Rear)	03/10/2023	150mm	560mm	710mm	Yes	Pass
HP12	Plot 4 (Rear)	03/10/2023	490mm	170mm	660mm	Yes	Pass
HP13	Plot 5 (Rear)	03/10/2023	330mm	310mm	640mm	Yes	Pass
HP14	Plot 6 (Rear)	03/10/2023	310mm	310mm	620mm	Yes	Pass
HP15	Plot 7 (Rear)	15/09/2023	290mm	360mm	650mm	Yes	Pass
HP16	Plot 8 (Rear)	15/09/2023	180mm	420mm	600mm	Yes	Pass
HP17	Plot 9 (Rear)	15/09/2023	170mm	440mm	610mm	Yes	Pass
HP18	Plot 10 (Rear)	03/10/2023	200mm	410mm	610mm	Yes	Pass

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Location		Date	Thickness			Geotextile membrane?	Pass / Fail
Hand Pit	Plot		Topsoil	Subsoil	Total		
HP19	Plot 11 (Rear)	03/10/2023	190mm	410mm	600mm	Yes	Pass
HP20	Plot 12 (Rear)	03/10/2023	410mm	250mm	660mm	Yes	Pass
HP21	Plot 2 & 3 (Front)	15/09/2023	200mm	300mm	500mm	Yes	Pass
HP22	Plot 6 (Front)	15/09/2023	160mm	240mm	400mm	Yes	Pass
HP23	Plot 8 (Front)	15/09/2023	210mm	250mm	460mm	Yes	Pass
HP24	Plot 12 (Front)	03/10/2023	150mm	400mm	550mm	Yes	Pass
HP25	-	16/11/2023	210mm	240mm	450mm	Yes	Pass
HP26	-	16/11/2023	200mm	220mm	420mm	Yes	Pass
HP27	-	16/11/2023	180mm	320mm	500mm	Yes	Pass
HP28	-	16/11/2023	200mm	280mm	480mm	Yes	Pass
HP29	-	16/11/2023	200mm	260mm	460mm	Yes	Pass
HP30	-	16/11/2023	150mm	150mm	300mm	Yes	Pass
HP31	-	16/11/2023	200mm	270mm	470mm	Yes	Pass
HP32	-	16/11/2023	200mm	300mm	500mm	Yes	Pass
HP33	-	16/11/2023	190mm	360mm	550mm	Yes	Pass
HP34	-	16/11/2023	150mm	250mm	400mm	Yes	Pass
HP35	-	16/11/2023	210mm	280mm	490mm	Yes	Pass
HP36	-	16/11/2023	300mm	300mm	600mm	Yes	Pass
HP37	-	16/11/2023	200mm	200mm	400mm	Yes	Pass
HP38	-	16/11/2023	220mm	420mm	640mm	Yes	Pass
HP39	-	16/11/2023	160mm	240mm	400mm	Yes	Pass
HP40	-	16/11/2023	170mm	230mm	400mm	Yes	Pass
HP41	-	16/11/2023	150mm	280mm	430mm	Yes	Pass
HP42	-	16/11/2023	150mm	270mm	420mm	Yes	Pass
HP43	-	16/11/2023	150mm	190mm	340mm	Yes	Pass
HP44	-	23/11/2023	230mm	170mm	400mm	Yes	Pass

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Location		Date	Thickness			Geotextile membrane?	Pass / Fail
Hand Pit	Plot		Topsoil	Subsoil	Total		
HP45	-	23/11/2023	200mm	200mm	400mm	Yes	Pass
HP46	-	23/11/2023	230mm	200mm	430mm	Yes	Pass
HP47	-	23/11/2023	200mm	240mm	440mm	Yes	Pass

The locations are shown in Curtins Drawing Ref. 067694-CUR-00-XX-DR-GE-80001-P03 and 067694-CUR-00-XX-DR-GE-80002-P04 presented in *Appendix A* and a photographic log of each verified area is presented in *Appendix B.*

Kenny Contracting and Curtins records demonstrate an orange geotextile membrane has been used beneath all proposed soft landscaped areas at formation with subsoil and topsoil placed above, breaking PPL 3 in these areas.

2.4 Remedial Action 4 - Installation of Contaminant Resistant Water Supply Pipes

Remedial Action 4 required the installation of contaminant resistant water supply pipes, as requested by Manchester City Council, due to the elevated concentrations of heavy metals, PAHs and heavy fraction TPHs identified in the Curtins Phase 2 Site Investigation (Ref. 2).

Curtins were not present on-site during groundworks activities and were only instructed to attend site during the engineered capping validation phase. The groundworks have been carried out by Kelly Contracting Ltd and the following details have been provided by EQUANS.

In correspondence with EQUANS, dated 18th September 2023, it was confirmed that new 25mm barrier pipe was installed, and evidence in the form of photographs (*Appendix B*) and certificates of compliance (*Appendix G*) from the Water Industry Approved Plumbers Scheme (WIAPS) verifying that new 25mm barrier piping was installed.

2.4.1 Validation of Contaminant Resistant Water Supply Pipes

Photographs taken during groundworks have been provided by EQUANS and are appended within the photographic log in *Appendix B.*

Certificates of Compliance for the installation of contaminant resistant water supply pipes have been provided by EQUANS and are appended within *Appendix G*.

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3 CONCLUSION

Considering the available evidence, Curtins can confirm the following:

- The engineered capping layer is present in front and rear gardens along with public soft landscaping areas within Site 1 (North) Site 2 (South) and forms an effective barrier between end users and contaminated soils, verified through a visual inspection by Curtins with associated photographic records obtained;
- Imported topsoil source testing and on-site testing has been undertaken in accordance with the Remediation Strategy. Results have been assessed against the maximum permissible concentrations and no exceedances have been found. Therefore, the soil may be considered clean and suitable for use in the development.

Additionally, EQUANS have confirmed and provided evidence for:

- Where any contaminated soils (Naphthalene hotspots) or asbestos containing materials / fibres were identified, these were removed from the site,
- The water supply piping installed fits the agreed upon specification with United Utilities. and,
- No further unexpected contamination or contaminative incidents other than those described in Section 2 were identified during construction.

In the soft landscaping areas, the Potential Pollutant Linkages, identified in Section 1.3, no longer present an unacceptable risk to site users and visitors, and the site may be considered suitable for use.

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4 REFERENCES

1. Curtins (2020) Gorton Lane Remediation Strategy (Ref. 067694-CUR-00-XX-RP-GE-001).
2. Curtins (2018) Phase 2 Site Investigation for Gorton Lane, Manchester (Ref. 068244-CUR-00-XX-RP-GE-001-V02).
3. Curtins (2018) Phase 1 Preliminary Risk Assessment, Gorton Lane Sites (Ref. 067694-CUR-00-XX-RP-GE-001-V02).

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5 APPENDICES

Appendix A – Drawings

Appendix B – Photographic Records

Appendix C – Imported Soil Analysis

Appendix D – Generic Assessment Criteria

Appendix E – Geotextile Specification

Appendix F – E-mail Correspondence

Appendix G – Certificates

Appendix H – Waste Consignment Tickets

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Appendix A - Drawings

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REVISION	DATE	DESCRIPTION
C01	31.01.22	PRELIMINARY ISSUE
C02	18.02.22	CONSTRUCTION ISSUE

KEY

- SITE BOUNDARY
- PAVING TO PRIVATE EXTERNAL AREAS
- RESIDENTS PARKING COURT
- PRIVATE GARDEN
- NEW TREES
- EXISTING TREES RETAINED
- 1:12 PROPOSED GRADIENTS
- SLOT DRAIN CHANNEL SHOWN INDICATIVELY **TO DRAINAGE ENGINEERS DESIGN AND DETAIL**
- 215MM WIDE GRAVEL MARGIN WITH FLUSH PIN KERBS

PROPOSED SITE LEVELS INDICATED IN RED

EXISTING SITE LEVELS INDICATED IN BLUE

REFER TO LANDSCAPE ARCHITECTS DRAWINGS FOR HARD AND SOFT LANDSCAPE SPECIFICATION AND DETAIL

CONSTRUCTION ISSUE

OMIArchitects

31Blackfriars Road, Salford, Manchester, M3 7AQ
+44(0)161 832 3242 / info@omiarchitects.com / www.omiarchitects.com

PROJECT	GORTON LANE, GORTON				
DRAWING	SITE 01 - SITE LAYOUT GROUND FLOOR PLAN				
DATE	JAN 22'	DRAWN BY	TB	SCALE	1:200 @A1
JOB NO.	1405	DWG.NO.	8790-OMI-XX-00-PL-L1040 C02		

REVISION	DATE	DESCRIPTION
C01	30.10.20	PRELIMINARY ISSUE
C02	25.11.20	GROUND JUNCTION KEY ADDED
C03	04.01.21	SITE LEVELS AMENDED/ADDED AS CLOUDED
C04	19.01.21	PLOT NUMBERS ADDED

KEY

- SITE BOUNDARY
- NEW TREES
- EXISTING TREES

PROPOSED SITE LEVELS INDICATED IN RED

EXISTING SITE LEVELS INDICATED IN RED BLUE

- REFER TO DETAIL A2010
- REFER TO DETAIL A2011
- REFER TO DETAIL A2080
- REFER TO DETAIL A2081
- REFER TO DETAIL A2100
- REFER TO DETAIL A2101
- REFER TO DETAIL A2102
- REFER TO DETAIL A2103
- REFER TO DETAIL A2104
- REFER TO DETAIL A2105
- REFER TO DETAIL A2106
- REFER TO DETAIL A2150

CONSTRUCTION ISSUE

OMI Architects

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PROJECT	GORTON LANE, MANCHESTER				
DRAWING	SITE 02 - SITE LAYOUT GF PLAN				
DATE	DEC 19	DRAWN BY	RA	SCALE	1:200 @ A1
JOB NO.	1405	DWG NO.	8790-OMI-XX-00-PL-A-L1030 C04		



HAND EXCAVATED TRIAL HOLE

PASSED

INCOMPLETE

FAILED

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Birmingham • Bristol • Cambridge • Cardiff • Douglas • Dublin • Edinburgh • Glasgow • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status:
INFORMATION

Project:
GORTON LANE
MANCHESTER

Drg Title:
GARDEN PLOT VALIDATION - 'SITE 1'

Scale:	Size:	First Issue:	Drawn:	Checked:
NTS	A3	03/10/2023	LW	RBJ

Drg No: **067694-CUR-00-XX-DR-GE-80001**

Rev: **P03**

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HAND EXCAVATED TRIAL HOLE

PASSED

INCOMPLETE

FAILED

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Status:
INFORMATION

Project:
GORTON LANE MANCHESTER

Drg Title:
GARDEN PLOT VALIDATION - 'SITE 2'

Scale:	Size:	First Issue:	Drawn:	Checked:
NTS	A3	19/09/2023	LW	RBJ

Drg No: **067694-CUR-00-XX-DR-GE-80002**

Rev: **P04**

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Appendix B – Photographic Records & Inspection Sheets

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Photographic Record: Naphthalene Removal

Project: Gorton Lane, Site 1 – CP1.
Sheet: 1



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Photographic Record: Naphthalene Removal

Project: Gorton Lane, Site 2 – CP2
Sheet: 1





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Photographic Record: Naphthalene Removal

Project: Gorton Lane, Site 2 – TP11.
Sheet: 1





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, South, 'Site 2'.
Sheet: 1

Plot: 104 (Rear)
Hole: HP01









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, South, 'Site 2'.
Sheet: 2

Plot: 105 (Rear)
Hole: HP02









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, South, 'Site 2'.
Sheet: 3

Plot: 106 (Rear)
Hole: HP03









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, South, 'Site 2'.
Sheet: 4

Plot: 107 (Rear)
Hole: HP04









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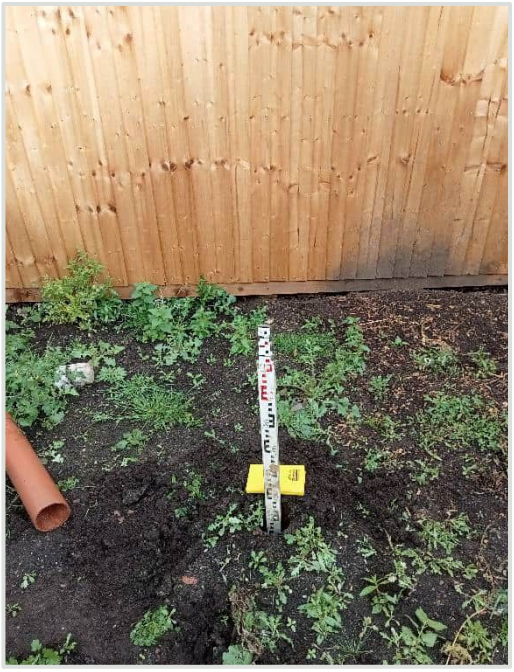
Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, South, 'Site 2'.
Sheet: 5

Plot: 108 (Rear)
Hole: HP05









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, South, 'Site 2'.
Sheet: 6

Plot: 109 (Rear)
Hole: HP06









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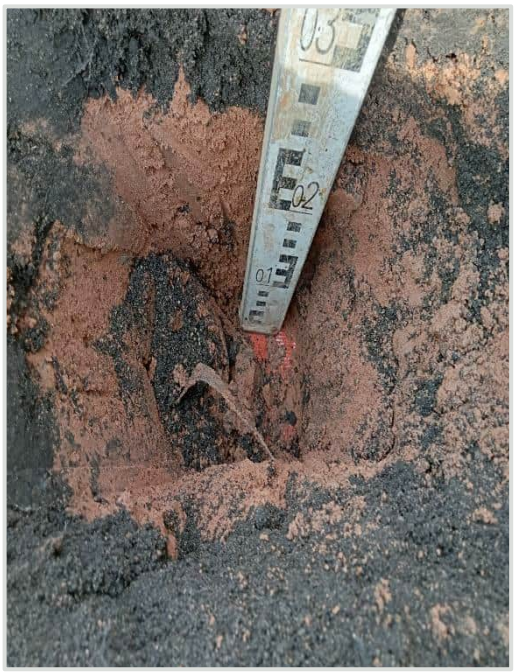
Project: Gorton Lane, South, 'Site 2'.
Sheet: 7

Plot: 105 (Front)
Hole: HP07









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, South, 'Site 2'.
Sheet: 8

Plot: 109 (Front)
Hole: HP08









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, South, 'Site 2'.
Sheet: 9

Plot: Plots 105 - 109 Fronts.





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 1

Plot: 1 (Rear)
Hole: HP09









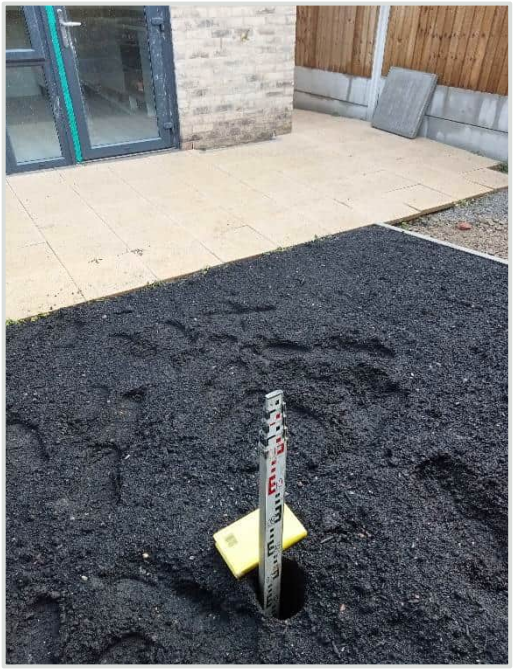
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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 2

Plot: 2 (Rear)
Hole: HP10









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 3

Plot: 3 (Rear)
Hole: HP11









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 4

Plot: 4 (Rear)
Hole: HP12









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 5

Plot: 5 (Rear)
Hole: HP13







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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 6

Plot: 6 (Rear)
Hole: HP14









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 7

Plot: 7 (Rear)
Hole: HP15









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 8

Plot: 8 (Rear)
Hole: HP16



(Photograph taken on 03.10.23)



(Photograph taken on 03.10.23)



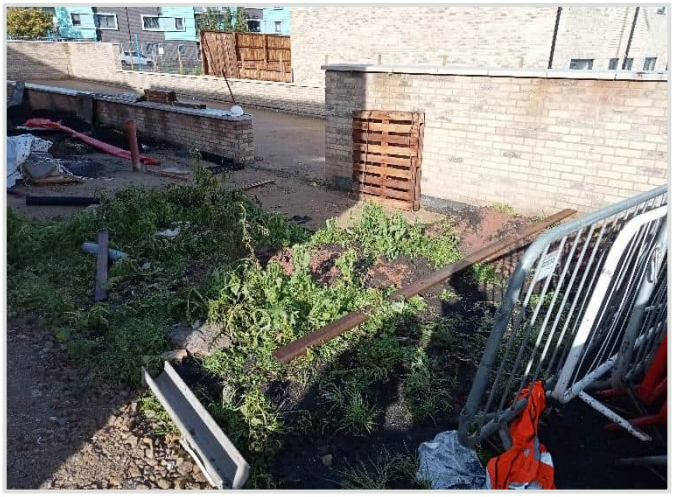
(Photograph taken on 15.09.23)

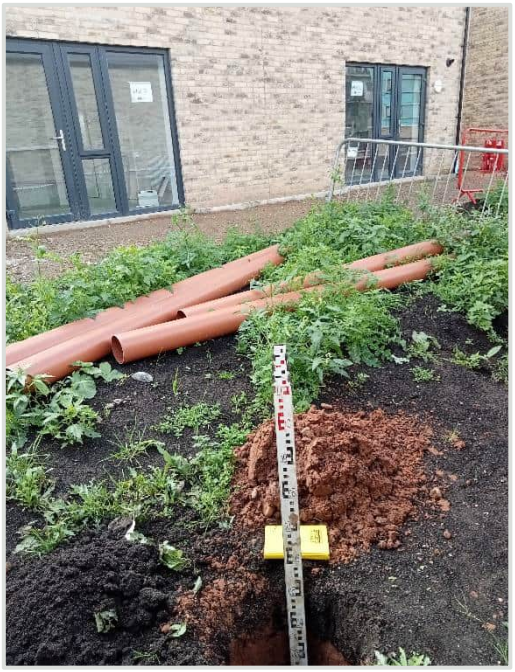
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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 9

Plot: 9 (Rear)
Hole: HP20









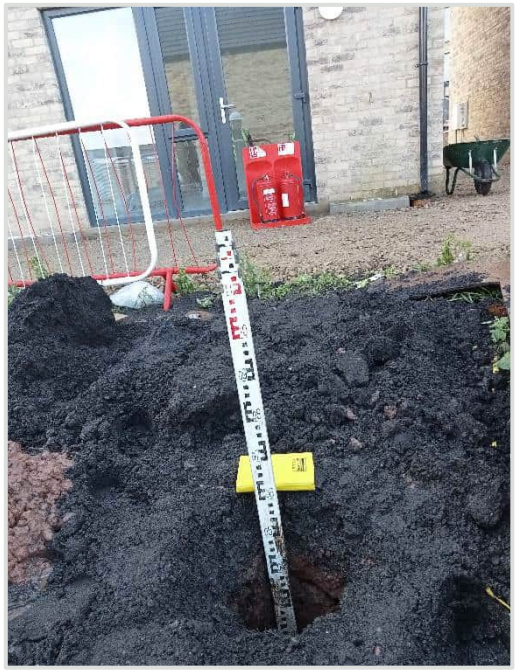
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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 10

Plot: 10 (Rear)
Hole: HP19









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 11

Plot: 11 (Rear)
Hole: HP18







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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 12

Plot: 12 (Rear)
Hole: HP17







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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 13

Plot: 2+3 (Shared Front)
Hole: HP21









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 14

Plot: 6 (Front)
Hole: HP22









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 15

Plot: 8 (Front)
Hole: HP23







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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 1'.
Sheet: 16

Plot: 12 (Front)
Hole: HP24









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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 1

Hole: HP28





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 2

Hole: HP29





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 3

Hole: HP30





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 4

Hole: HP31





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 5

Hole: HP32





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 6

Hole: HP33





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 7

Hole: HP34





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 8

Hole: HP35





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 9

Hole: HP36





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 10

Hole: HP37





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 11

Hole: HP38





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 12

Hole: HP39





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 13

Hole: HP40





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 14

Hole: HP41





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 15

Hole: HP42





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Photographic Record: Capping Layer Depth Validation

Project: Gorton Lane, North, 'Site 2'.
Sheet: 16

Hole: HP43





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Photographic Record: Barrier Pipe Installation

Project: Gorton Lane, South.
Sheet: 1









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Photographic Record: Barrier Pipe Installation

Project: Gorton Lane, South.
Sheet: 2





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Appendix C – Imported Soils Analysis

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TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Mr Nathan Birchenall
Tarmac Topscape
Manchester Road
Congleton
Cheshire, CW12 2LU

1st July 2022
Our Ref: TOHA/22/7546/SS
Your Ref: PO 00509067

Tarmac Topscape

Dear Sirs

Topsoil Analysis Report: Topscape Topsoil (Crown Farm)

We have completed the analysis of the soil sample recently submitted, referenced *Topscape Topsoil (Crown Farm)*, and have pleasure reporting our findings.

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil *(BS3882:2015 – Specification for Topsoil - Table 1, Multipurpose Topsoil)*.

This report presents the results of analysis for the sample recently submitted to our office, and it should be considered 'indicative' of the topsoil source. The report and results should therefore not be used by third parties as a means of verification or validation testing or waste designation purposes, especially after the topsoil has left the Tarmac Topscape site.

SAMPLE EXAMINATION

The sample was described as a dark brown (Munsell Colour 10YR 3/3), slightly moist, friable, very slightly calcareous LOAMY SAND with a single grain structure*. The sample was slightly stony and contained a moderately high proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed

.*This appraisal of soil structure was made from examination of a disturbed sample(s). Structure is a key soil characteristic that may only be accurately assessed by examination in an in-situ state.

Tim O'Hare Associates LLP
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ANALYTICAL SCHEDULE

The sample was submitted to a UKAS and MCERTS accredited laboratory for a range of physical and chemical tests to confirm the composition and fertility of the soil, and the concentration of selected potential contaminants. The following parameters were determined:

- detailed particle size analysis (% 5 sands, silt, clay);
- stone content (2-20mm, 20-50mm, >50mm);
- pH and electrical conductivity values;
- exchangeable sodium percentage;
- major plant nutrients (N, P, K, Mg);
- organic matter content;
- C:N ratio;
- heavy metals (As, B, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn);
- total cyanide and total (mono) phenols;
- speciated PAHs (US EPA16 suite);
- aromatic and aliphatic TPH (C5-C35 banding);
- benzene, toluene, ethylbenzene, xylene (BTEX);
- asbestos screen.

The results are presented on the attached Certificate of Analysis and an interpretation of the results is given below.

RESULTS OF ANALYSIS

Detailed Particle Size Analysis and Stone Content

The sample fell into the *loamy sand* texture class, with a sand content that exceeded our maximum recommended value of 85%. However, further detailed particle size analysis revealed the sample to have a relatively narrow particle size distribution with a predominance of *fine sand* (0.15-0.25mm) and *medium sand* (0.25-0.50mm). This, along with the organic matter content of the soil, should offset the slightly high sand content and provide a suitable growing medium for general landscape applications.

The stone content of the sample was low and, as such, stones should not restrict the use of the soil for general landscape purposes.

pH and Electrical Conductivity Values

The sample was strongly alkaline in reaction (pH 8.4). This pH value would be considered suitable for general landscape purposes providing species with a wide pH tolerance or those known to prefer alkaline soils are selected for planting, turfing and seeding.

The electrical conductivity (salinity) value (water extract) was moderate, which indicates that soluble salts should not be present at levels that would be harmful to plants.

The electrical conductivity value by $CaSO_4$ extract (*BS3882* requirement) fell below the maximum specified value (3300 µS/cm) given in *BS3882:2015 – Table 1*.

Organic Matter and Fertility Status

The sample was well supplied with organic matter and all major plant nutrients.

The C:N ratio of the sample was acceptable for general landscape purposes.

Tarmac Topscape

Potential Contaminants

With reference to *BS3882:2015 - Table 1*: Notes 3 and 4, there is a recommendation to confirm levels of potential contaminants in relation to the topsoil's proposed end use. This includes human health, environmental protection and metals considered toxic to plants. In the absence of site-specific assessment criteria, the concentrations that affect human health have been compared with the *residential with home-grown produce* land use in the Suitable For Use Levels (S4ULs) presented in *The LQM/CIEH S4ULs for Human Health Risk Assessment* (2015) and the DEFRA SP1010: *Development of Category 4 Screening Levels* (C4SLs) *for Assessment of Land Affected by Contamination – Policy Companion Document* (2014).

Of the potential contaminants determined, none was found at levels that exceeded their guideline values.

Phytotoxic Contaminants

Of the phytotoxic (toxic to plants) contaminants determined (copper, nickel, zinc), none was found at levels that exceeded the maximum permissible levels specified in *BS3882:2015 – Table 1*.

CONCLUSION

The purpose of the analysis was to determine the suitability of the sample for general landscape purposes (trees, shrubs, amenity grass). In addition, this sample has been assessed to determine its compliance with the requirements of the British Standard for Topsoil *(BS3882:2015 – Specification for Topsoil - Table 1, Multipurpose Topsoil)*.

From the soil examination and subsequent laboratory analysis, the sample was described as a strongly alkaline, non-saline, very slightly calcareous loamy sand with a single grain structure and low stone content. The sample was well supplied with organic matter and all major plant nutrients. Of the potential contaminants determined, none exceeded their guideline values.

The organic matter level of the sample was found to be moderately high. This may not affect the growth of trees and shrubs; however, it may result in variable settlement across amenity grass areas. As organic matter decomposes, the topsoil volume reduces, leading to an uneven surface which may be undesirable in lawn areas.

To conclude, based on our findings, the topsoil represented by this sample would be considered suitable for general landscape purposes (trees, shrubs and amenity grass (low foot-traffic only)), provided species with a wide pH tolerance or those known to prefer alkaline soils are selected and the physical condition of the soil is satisfactory.

The sample was largely compliant with the requirements of the British Standard for Topsoil *(BS3882:2015 – Specification for Topsoil – Table 1, Multipurpose Topsoil)* with the exception of a high sand content.

Soil Handling Recommendations

It is important to maintain the physical condition of the soil and avoid structural damage during all phases of soil handling (e.g. stockpiling, respreading, cultivating, planting, seeding or turfing). As a consequence, soil handling operations should be carried out when soil is reasonably dry and non-plastic (friable) in consistency.

It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking by site machinery, and soil handling should be stopped during and after heavy rainfall and not continued until the soil is friable in consistency. If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

Further details on soil handling are provided in Annex A of *BS3882:2015*.

Tarmac Topscape

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if we can be of further assistance.

Yours faithfully

Harriet MacRae
BSc MSc
Graduate Soil Scientist

Tim White
BSc MSc MISoilSci CSci
Senior Associate

For & on behalf of Tim O'Hare Associates LLP

Tarmac Topscape

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**Tarmac Topsport**
Project:	**Topscape Topsoil (Crown Farm)**
Job:	**Topsoil Analysis - BS3882:2015**
Date:	**01/07/2022**
Job Ref No:	**TOHA/22/7546/SS**

Sample Reference			**Topscape Topsoil (Crown Farm)**
		Accreditation	
Clay (<0.002mm)	%	UKAS	8
Silt (0.002-0.05mm)	%	UKAS	5
Very Fine Sand (0.05-0.15mm)	%	UKAS	19
Fine Sand (0.15-0.25mm)	%	UKAS	25
Medium Sand (0.25-0.50mm)	%	UKAS	38
Coarse Sand (0.50-1.0mm)	%	UKAS	4
Very Coarse Sand (1.0-2.0mm)	%	UKAS	1
Total Sand (0.05-2.0mm)	%	UKAS	87
Texture Class (UK Classification)	--	UKAS	LS
Stones (2-20mm)	% DW	QLP	4
Stones (20-50mm)	% DW	QLP	0
Stones (>50mm)	% DW	QLP	0

pH Value (1:2.5 water extract)	units	UKAS	8.4
Electrical Conductivity (1:2.5 water extract)	uS/cm	UKAS	846
Electrical Conductivity (1:2 $CaSO_4$ extract)	uS/cm	UKAS	2976
Exchangeable Sodium Percentage	%	UKAS	6.6
Organic Matter (LOI)	%	UKAS	10.9
Total Nitrogen (Dumas)	%	UKAS	0.50
C : N Ratio	ratio	UKAS	13
Extractable Phosphorus	mg/l	UKAS	58
Extractable Potassium	mg/l	UKAS	879
Extractable Magnesium	mg/l	UKAS	136

Total Arsenic (As)	mg/kg	MCERTS	4
Total Cadmium (Cd)	mg/kg	MCERTS	< 0.2
Total Chromium (Cr)	mg/kg	MCERTS	6.5
Hexavalent Chromium (Cr VI)	mg/kg	MCERTS	U/S
Total Copper (Cu)	mg/kg	MCERTS	15
Total Lead (Pb)	mg/kg	MCERTS	19
Total Mercury (Hg)	mg/kg	MCERTS	< 0.3
Total Nickel (Ni)	mg/kg	MCERTS	6.1
Total Selenium (Se)	mg/kg	MCERTS	< 1.0
Total Zinc (Zn)	mg/kg	MCERTS	37
Water Soluble Boron (B)	mg/kg	MCERTS	1.4
Total Cyanide (CN)	mg/kg	MCERTS	< 1.0
Total (mono) Phenols	mg/kg	MCERTS	< 1.0

Naphthalene	mg/kg	MCERTS	< 0.05
Acenaphthylene	mg/kg	MCERTS	< 0.05
Acenaphthene	mg/kg	MCERTS	< 0.05
Fluorene	mg/kg	MCERTS	< 0.05
Phenanthrene	mg/kg	MCERTS	< 0.05
Anthracene	mg/kg	MCERTS	< 0.05
Fluoranthene	mg/kg	MCERTS	< 0.05
Pyrene	mg/kg	MCERTS	< 0.05
Benzo(a)anthracene	mg/kg	MCERTS	< 0.05
Chrysene	mg/kg	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(k)fluoranthene	mg/kg	MCERTS	< 0.05
Benzo(a)pyrene	mg/kg	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	MCERTS	< 0.05
Dibenzo(a,h)anthracene	mg/kg	MCERTS	< 0.05
Benzo(g,h,i)perylene	mg/kg	MCERTS	< 0.05
Total PAHs (sum USEPA16)	mg/kg	MCERTS	< 0.80

Aliphatic TPH >C5 - C6	mg/kg	MCERTS	< 0.001
Aliphatic TPH >C6 - C8	mg/kg	MCERTS	< 0.001
Aliphatic TPH >C8 - C10	mg/kg	MCERTS	< 0.001
Aliphatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aliphatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aliphatic TPH >C16 - C21	mg/kg	MCERTS	< 8.0
Aliphatic TPH >C21 - C35	mg/kg	MCERTS	< 8.0
Aliphatic TPH (C5 - C35)	mg/kg	MCERTS	< 10
Aromatic TPH >C5 - C7	mg/kg	MCERTS	< 0.001
Aromatic TPH >C7 - C8	mg/kg	MCERTS	< 0.001
Aromatic TPH >C8 - C10	mg/kg	MCERTS	< 0.001
Aromatic TPH >C10 - C12	mg/kg	MCERTS	< 1.0
Aromatic TPH >C12 - C16	mg/kg	MCERTS	< 2.0
Aromatic TPH >C16 - C21	mg/kg	MCERTS	< 10
Aromatic TPH >C21 - C35	mg/kg	MCERTS	< 10
Aromatic TPH (C5 - C35)	mg/kg	MCERTS	< 10

Benzene	mg/kg	MCERTS	< 0.001
Toluene	mg/kg	MCERTS	< 0.001
Ethylbenzene	mg/kg	MCERTS	< 0.001
o-xylene	mg/kg	MCERTS	< 0.001
MTBE (Methyl Tertiary Butyl Ether)	mg/kg	MCERTS	< 0.001

Asbestos	NDID	ISO 17025	Not detected

LS = LOAMY SAND

Visual Examination

The sample was described as a dark brown (Munsell Colour 10YR 3/3), slightly moist, friable, very slightly calcareous LOAMY SAND with a single grain structure. The sample was slightly stony and contained a moderately high proportion of organic fines and occasional woody fragments. No unusual odours, deleterious materials, roots or rhizomes of pernicious weeds were observed.

H.MacRae

Harriet MacRae
BSc MSc
Graduate Soil Scientist

Results of analysis should be read in conjunction with the report they were issued with

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Topscape

Certificate of Analysis

Originator:
SOIL

Lab ID: 35078 - 579898
Sample ID: SB-TOPSOIL
Sample Weight: 836g

Date Received: 21/09/2022
Date Reported: 30/09/2022

BS 3882 : 2015 SPECIFICATION FOR TOPSOIL
Multi Purpose Grade

					Compliant with range (Y/N)					
					Multi-P	Acid	Calc	Low-F	Low-F Acid	Low-F Calc
		Unit	Result							
Texture:	Clay	% w/w	11							
	Silt	% w/w	15			*See area of permitted soil textural*				
	Sand	% w/w	74			*classes in Fig. 1.*				
	Textural Class		Sandy Loam		Y	Y	Y	Y	Y	Y
Organic Matter:		% w/w	3.9		Y	Y	Y	Y	Y	Y
Coarse	>2 mm	% w/w	0.7		Y	Y	Y	Y	Y	Y
Fragment	>20 mm	% w/w	0.0		Y	Y	Y	Y	Y	Y
Content:	>50 mm	% w/w	0.0		Y	Y	Y	Y	Y	Y
Soil pH:			7.7		Y	N	Y	Y	N	Y
Carbonate:		% w/w	<1				N			N
Available	Nitrogen	% w/w	0.184		Y	Y	Y			
Plant	Phosphorus	mg/l	515.0	(1)*	Y	N	N	N	N	N
Nutrients:	Potassium	mg/l	635.6	(5)*	Y	Y	Y			
	Magnesium	mg/l	128.6	(3)*	Y	Y	Y			
Carbon:Nitrogen Ratio:		:1	12.3		Y	Y	Y	Y	Y	Y
Exchangeable Sodium Percentage:		%	9.8							
Phytotoxic	Total Zinc	mg/kg	42.4		Y	Y	Y	Y	Y	Y
Contaminants:	Total Copper	mg/kg	14.0		Y	Y	Y	Y	Y	Y
	Total Nickel	mg/kg	12.0		Y	Y	Y	Y	Y	Y
Visible	> 2mm	% w/w	0.01		Y	Y	Y	Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y	Y	Y	Y
	Number of Sharps		0		Y	Y	Y	Y	Y	Y
Additional	Available Sodium	mg/l	200.6							
Analysis:	Available Calcium	mg/l	1073.1							
	Conductivity	uS/cm	2738		Y					
Compliancy:					**Y**	**N**	**N**	**N**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: *Myles Nicholson* **Date: 30/09/2022**

DECLARATION: I certify that this sample has been analysed by NRM in accordance with BS 3882 Specification for Topsoil (2015).

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www**.nrm.uk.com

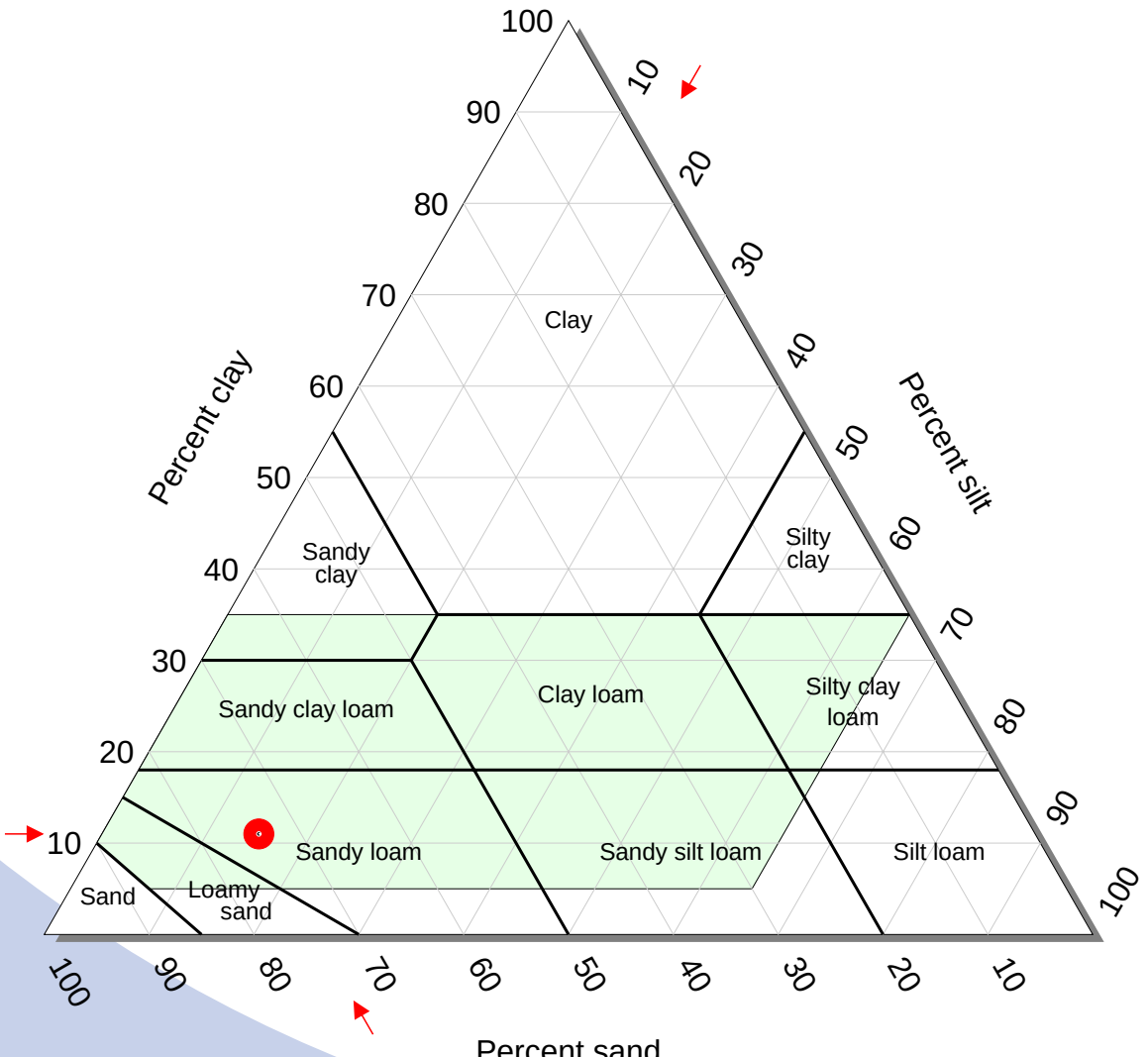
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Analytical Report

Lab ID: 35078 - 579898
Sample ID: SB-TOPSOIL
Sample Weight: 836g

Date Received: 21/09/2022
Date Reported: 30/09/2022

Fig. 1. Textural Class: Sandy Loam (compliant)



Key

Area within which texture of topsoil is required to fall.

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www**.nrm.uk.com

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Certificate of Analysis

Client: STUART BALDWIN
(T283) SED SERVICES LTD
LANDGATE FARM
LANDGATE LANE
BRYN
WIGAN WN4 0EJ

Originator: TOPSOIL
SOIL

Lab ID: 51693 - 603032
Sample ID: TOPSOIL B
Sample Weight: 889g

Date Received: 11/01/2023
Date Reported: 25/01/2023

BS 3882 : 2015 SPECIFICATION FOR TOPSOIL
Multipurpose Grade

		Unit	Result		Compliant with range (Y/N) Multi-P	Acid	Calc	Low-F	Low-F Acid	Low-F Calc
Texture:	Clay	% w/w	8							
	Silt	% w/w	8			*See area of permitted soil textural*				
	Sand	% w/w	84			*classes in Fig. 1.*				
	Textural Class		Loamy Sand		Y	Y	Y	Y	Y	Y
Organic Matter:		% w/w	4.5		Y	Y	Y	Y	Y	Y
Coarse	>2 mm	% w/w	1.6		Y	Y	Y	Y	Y	Y
Fragment	>20 mm	% w/w	0.0		Y	Y	Y	Y	Y	Y
Content:	>50 mm	% w/w	0.0		Y	Y	Y	Y	Y	Y
Soil pH:			8.2		Y	N	Y	Y	N	Y
Carbonate:		% w/w	6.2				Y			Y
Available	Nitrogen	% w/w	0.305		Y	Y	Y			
Plant	Phosphorus	mg/l	45.4	(3)*	Y	Y	Y	N	N	N
Nutrients:	Potassium	mg/l	727.1	(5)*	Y	Y	Y			
	Magnesium	mg/l	123.8	(3)*	Y	Y	Y			
Carbon:Nitrogen Ratio:		:1	8.6		Y	Y	Y	Y	Y	Y
Exchangeable Sodium Percentage:		%	6.0							
Phytotoxic	Total Zinc	mg/kg	61.5		Y	Y	Y	Y	Y	Y
Contaminants:	Total Copper	mg/kg	16.7		Y	Y	Y	Y	Y	Y
	Total Nickel	mg/kg	<10		Y	Y	Y	Y	Y	Y
Visible	> 2mm	% w/w	0.03		Y	Y	Y	Y	Y	Y
Contaminants:	Plastics	% w/w	0.00		Y	Y	Y	Y	Y	Y
	Number of Sharps		0		Y	Y	Y	Y	Y	Y
Additional	Available Sodium	mg/l	142.0							
Analysis:	Available Calcium	mg/l	1345.3							
	Conductivity	uS/cm	2899		Y					
Compliancy:					**Y**	**N**	**Y**	**N**	**N**	**N**

Results are expressed on a dry matter basis.
* Soil indices from RB209

Released by: *Myles Nicholson* **Date: 25/01/2023**

DECLARATION: I certify that this sample has been analysed by NRM in accordance with BS 3882 Specification for Topsoil (2015).

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
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Analytical Report

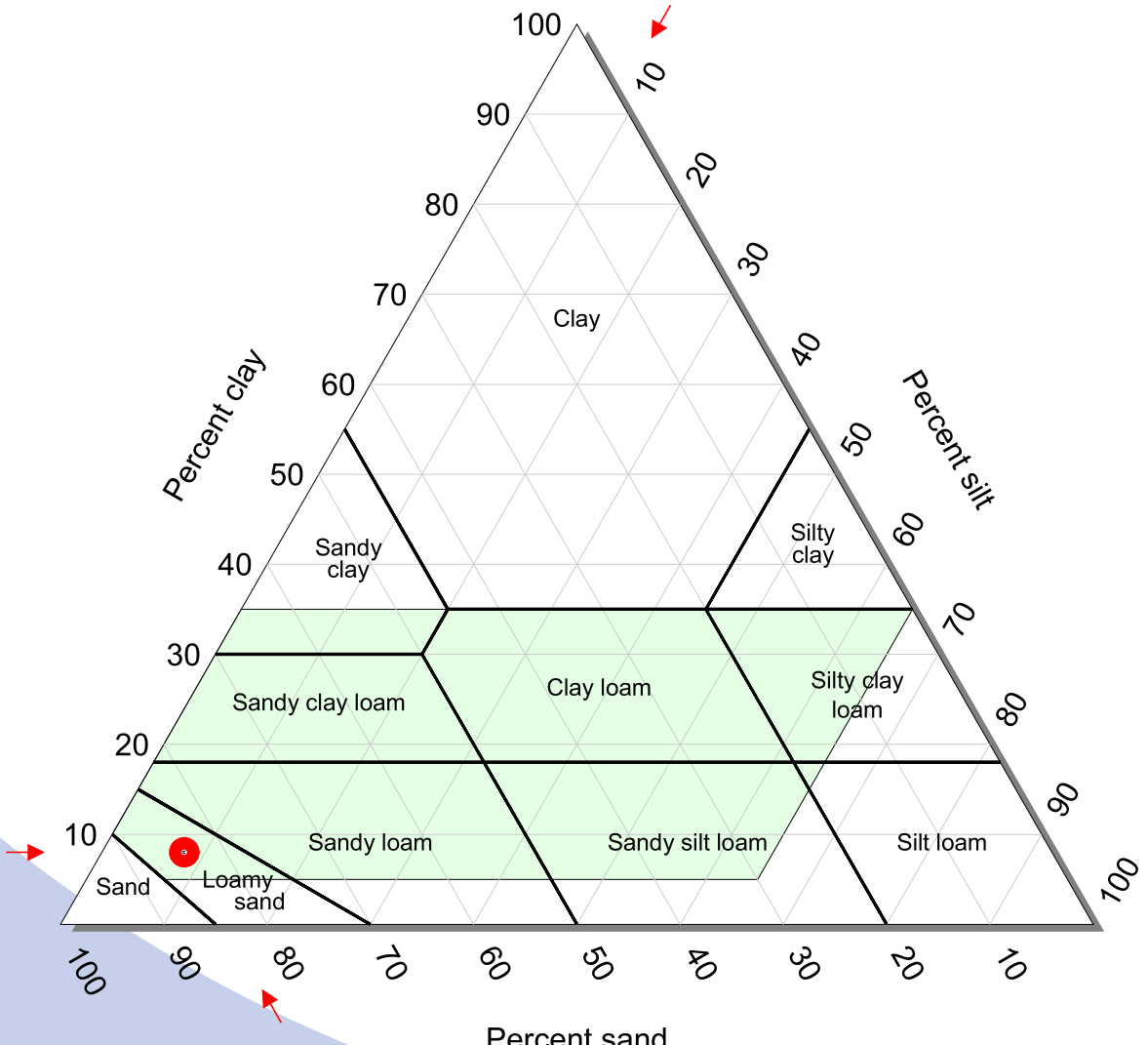
Client: STUART BALDWIN
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LANDGATE FARM
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WIGAN WN4 0EJ

Originator: TOPSOIL
SOIL

Lab ID: 51693 - 603032
Sample ID: TOPSOIL B
Sample Weight: 889g

Date Received: 11/01/2023
Date Reported: 25/01/2023

Fig. 1. Textural Class: Loamy Sand (compliant)



Key

Area within which texture of topsoil is required to fall.

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

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/09259
Issue Number: 1 **Date:** 25 September, 2023

Client: Curtins Consulting (Manchester)
Merchant Exchange
17-19 Whitworth Street
Manchester
UK
M1 5WG

Project Manager: Jonathan Lord/Lucy Woods/Rebecca Baksh-Jones
Project Name: Gorton Lane
Project Ref: 067694
Order No: 9485
Date Samples Received: 18/09/23
Date Instructions Received: 19/09/23
Date Analysis Completed: 25/09/23

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

Envirolab Job Number: 23/09259

Client Project Name: Gorton Lane

Client Project Ref: 067694

Lab Sample ID	23/09259/1	23/09259/2	23/09259/3	23/09259/4	23/09259/5	23/09259/6		Units	Limit of Detection	Method ref
Client Sample No	T.S.	S.S.	T.S.	T.S.	S.S.	T.S.				
Client Sample ID	Plot 104 (back)1	Plot 108 (back)	Plot 105 (front)	Plot 8 (back)	Plots 2+3 (front)	Plot 5 (back)				
Depth to Top	0.10	0.30	0.10	0.00	0.25	0.10				
Depth To Bottom	0.20	0.40	0.20	0.10	0.35	0.15				
Date Sampled	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23				
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES				
Sample Matrix Code	4A	5A	4AE	4A	4A	4AE				
% Moisture at <40C$_A$	20.7	10.5	21.0	24.9	11.8	22.6		% w/w	0.1	A-T-044
% Stones >10mm$_A$	1.0	18.4	<0.1	<0.1	5.1	<0.1		% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.73	8.32	7.80	8.16	7.92	7.76		pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	0.12	0.02	0.14	0.08	0.08	<0.01		g/l	0.01	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		mg/kg	0.2	A-T-050s
Organic Matter$_D$$^{M\#}$	5.8	0.3	5.7	9.5	1.2	8.6		% w/w	0.1	A-T-032s
Arsenic$_D$$^{M\#}$	4	2	3	2	2	3		mg/kg	1	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	1.1	<1.0	1.6	1.5	<1.0	<1.0		mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	18	6	19	24	7	13		mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	13	10	10	29	7	10		mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	33	4	26	30	9	22		mg/kg	1	A-T-024s
Mercury$_D$	0.23	<0.17	<0.17	<0.17	<0.17	<0.17		mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	9	11	6	12	6	8		mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	42	13	51	49	13	31		mg/kg	5	A-T-024s

Envirolab Job Number: 23/09259

Client Project Name: Gorton Lane

Client Project Ref: 067694

Lab Sample ID	23/09259/1	23/09259/2	23/09259/3	23/09259/4	23/09259/5	23/09259/6		Units	Limit of Detection	Method ref
Client Sample No	T.S.	S.S.	T.S.	T.S.	S.S.	T.S.				
Client Sample ID	Plot 104 (back)1	Plot 108 (back)	Plot 105 (front)	Plot 8 (back)	Plots 2+3 (front)	Plot 5 (back)				
Depth to Top	0.10	0.30	0.10	0.00	0.25	0.10				
Depth To Bottom	0.20	0.40	0.20	0.10	0.35	0.15				
Date Sampled	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23				
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES				
Sample Matrix Code	4A	5A	4AE	4A	4A	4AE				
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	NAD	NAD	NAD				A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-				A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-				A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	N/A	N/A				A-T-045

Envirolab Job Number: 23/09259

Client Project Name: Gorton Lane

Client Project Ref: 067694

Lab Sample ID	23/09259/1	23/09259/2	23/09259/3	23/09259/4	23/09259/5	23/09259/6		Units	Limit of Detection	Method ref
Client Sample No	T.S.	S.S.	T.S.	T.S.	S.S.	T.S.				
Client Sample ID	Plot 104 (back)1	Plot 108 (back)	Plot 105 (front)	Plot 8 (back)	Plots 2+3 (front)	Plot 5 (back)				
Depth to Top	0.10	0.30	0.10	0.00	0.25	0.10				
Depth To Bottom	0.20	0.40	0.20	0.10	0.35	0.15				
Date Sampled	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23				
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES				
Sample Matrix Code	4A	5A	4AE	4A	4A	4AE				
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.02	<0.01	0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.05	<0.02	0.04	0.04	<0.02	<0.02		mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.36	<0.04	0.25	0.28	<0.04	0.17		mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.45	<0.04	0.32	0.32	<0.04	0.14		mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.52	<0.05	0.41	0.41	<0.05	0.21		mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.34	<0.05	0.28	0.24	<0.05	0.12		mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.22	<0.07	0.16	0.17	<0.07	0.10		mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.42	<0.06	0.32	0.35	<0.06	0.18		mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A$	0.06	<0.04	<0.04	<0.04	<0.04	<0.04		mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.57	<0.08	0.49	0.48	<0.08	0.21		mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.02	<0.01	0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.41	<0.03	0.34	0.29	<0.03	0.17		mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03^U	<0.03^U	<0.03^U	<0.03^U	<0.03^U	<0.03^U		mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.20	<0.03	0.16	0.13	<0.03	0.08		mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.55	<0.07	0.44	0.43	<0.07	0.18		mg/kg	0.07	A-T-019s
Total PAH-16MS$_A$	4.19	<0.08	3.23	3.14	<0.08	1.56		mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/09259

Client Project Name: Gorton Lane

Client Project Ref: 067694

Lab Sample ID	23/09259/1	23/09259/2	23/09259/3	23/09259/4	23/09259/5	23/09259/6		Units	Limit of Detection	Method ref
Client Sample No	T.S.	S.S.	T.S.	T.S.	S.S.	T.S.				
Client Sample ID	Plot 104 (back)1	Plot 108 (back)	Plot 105 (front)	Plot 8 (back)	Plots 2+3 (front)	Plot 5 (back)				
Depth to Top	0.10	0.30	0.10	0.00	0.25	0.10				
Depth To Bottom	0.20	0.40	0.20	0.10	0.35	0.15				
Date Sampled	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23	15-Sep-23				
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES				
Sample Matrix Code	4A	5A	4AE	4A	4A	4AE				
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	<0.01	0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	4	<1	4	5	<1	4		mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	51	<1	38	41	6	43		mg/kg	1	A-T-055s
Total Aliphatics$_A$	55	<1	42	47	6	47		mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	3	<1	<1	<1		mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	<1	<1		mg/kg	1	A-T-055s
Aro >C12-C16$_A^{M\#}$	5	<1	3	3	<1	3		mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	27	<1	11	12	1	9		mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	75	2	38	36	5	23		mg/kg	1	A-T-055s
Total Aromatics$_A$	107	2	54	51	6	35		mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	162	3	96	97	13	81		mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		mg/kg	0.01	A-T-022s

Report Notes

General
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The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

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

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

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

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^{o}C / 11550µS/cm @ 20^{o}C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

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

Client: Curtins Consulting (Manchester), Merchant Exchange, 17-19 Whitworth Street , Manchester, UK, M1 5WG

Project: Gorton Lane

Clients Project No: 067694

Project No: 23/09259

Date Received: 19/09/2023 (am)

Cool Box Temperatures (°C): 15.4

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/09259/1	23/09259/2	23/09259/3	23/09259/4	23/09259/5	23/09259/6
Client Sample No	T.S.	S.S.	T.S.	T.S.	S.S.	T.S.
Client Sample ID/Depth	Plot 104 (back)1 0.10-0.20m	Plot 108 (back) 0.30-0.40m	Plot 105 (front) 0.10-0.20m	Plot 8 (back) 0.00-0.10m	Plots 2+3 (front) 0.25-0.35m	Plot 5 (back) 0.10-0.15m
Date Sampled	15/09/23	15/09/23	15/09/23	15/09/23	15/09/23	15/09/23
A-T-019s	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
A-T-022s	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023
A-T-024s	25/09/2023	25/09/2023	25/09/2023	25/09/2023	25/09/2023	25/09/2023
A-T-026s	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023
A-T-027s	25/09/2023	25/09/2023	25/09/2023	25/09/2023	25/09/2023	25/09/2023
A-T-031s	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023
A-T-032s	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023
A-T-040s	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023
A-T-042sTCN	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
A-T-044	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
A-T-045	20/09/2023	20/09/2023	20/09/2023	20/09/2023	20/09/2023	20/09/2023
A-T-050s	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023
A-T-055s	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023
Calc-As Recd	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023	22/09/2023

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

End of Report

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

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/11412
Issue Number: 1 **Date:** 27 November, 2023

Client:
Curtins Consulting (Manchester)
Merchant Exchange
17-19 Whitworth Street
Manchester
UK
M1 5WG

Project Manager: Jonathan Lord/Lucy Woods/Russell Taylor
Project Name: Gorton Lane, Manchester
Project Ref: 067694
Order No: 10971
Date Samples Received: 17/11/23
Date Instructions Received: 20/11/23
Date Analysis Completed: 27/11/23

Approved by:



Sophie France
Client Manager

Envirolab Job Number: 23/11412

Client Project Name: Gorton Lane, Manchester

Client Project Ref: 067694

Lab Sample ID	23/11412/1	23/11412/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	HP29	HP32								
Depth to Top	0.30	0.30								
Depth To Bottom	0.40	0.40								
Date Sampled	16-Nov-23	16-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	3A	1A								
% Moisture at <40C$_A$	13.6	16.1						% w/w	0.1	A-T-044
% Stones >10mm$_A$	<0.1	<0.1						% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.42	8.60						pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	<0.01	<0.01						g/l	0.01	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1						mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2						mg/kg	0.2	A-T-050s
Organic Matter$_D$$^{M\#}$	0.2	0.1						% w/w	0.1	A-T-032s
Arsenic$_D$$^{M\#}$	1	1						mg/kg	1	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0						mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	<0.5						mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	10	5						mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	17	8						mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1						mg/kg	1	A-T-040s
Lead$_D$$^{M\#}$	3	2						mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17						mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	15	7						mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1						mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	23	11						mg/kg	5	A-T-024s

Envirolab Job Number: 23/11412

Client Project Name: Gorton Lane, Manchester

Client Project Ref: 067694

Lab Sample ID	23/11412/1	23/11412/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	HP29	HP32								
Depth to Top	0.30	0.30								
Depth To Bottom	0.40	0.40								
Date Sampled	16-Nov-23	16-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	3A	1A								
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD								A-T-045
Asbestos Matrix (visual)$_{D}$	-	-								A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-								A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A								A-T-045

Envirolab Job Number: 23/11412

Client Project Name: Gorton Lane, Manchester

Client Project Ref: 067694

Lab Sample ID	23/11412/1	23/11412/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	HP29	HP32								
Depth to Top	0.30	0.30								
Depth To Bottom	0.40	0.40								
Date Sampled	16-Nov-23	16-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	3A	1A								
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	<0.01						mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01						mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02						mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	<0.04						mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	<0.04						mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	<0.05						mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.05						mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07						mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	<0.06						mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A$	<0.04	<0.04						mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	<0.08						mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01						mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	<0.03						mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03						mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	<0.03						mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	<0.07						mg/kg	0.07	A-T-019s
Total PAH-16MS$_A$	<0.08	<0.08						mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/11412

Client Project Name: Gorton Lane, Manchester

Client Project Ref: 067694

Lab Sample ID	23/11412/1	23/11412/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	HP29	HP32								
Depth to Top	0.30	0.30								
Depth To Bottom	0.40	0.40								
Date Sampled	16-Nov-23	16-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	3A	1A								
TPH CWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1						mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	<1						mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1						mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1						mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1						mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1	<1						mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	<1						mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C35)$_A$	<1	<1						mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s

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None of the above symbols	Analysis unaccredited
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Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
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IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

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

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

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

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^{o}C / 11550µS/cm @ 20^{o}C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

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

Client: Curtins Consulting (Manchester), Merchant Exchange, 17-19 Whitworth Street , Manchester, UK, M1 5WG

Project: Gorton Lane, Manchester

Clients Project No: 067694

Project No: 23/11412

Date Received: 20/11/2023 (am)

Cool Box Temperatures (°C): 12.9

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/11412/1	23/11412/2
Client Sample No		
Client Sample ID/Depth	HP29 0.30-0.40m	HP32 0.30-0.40m
Date Sampled	16/11/23	16/11/23
A-T-019s	22/11/2023	22/11/2023
A-T-022s	22/11/2023	22/11/2023
A-T-024s	24/11/2023	24/11/2023
A-T-026s	23/11/2023	23/11/2023
A-T-027s	27/11/2023	27/11/2023
A-T-031s	23/11/2023	23/11/2023
A-T-032s	23/11/2023	23/11/2023
A-T-040s	23/11/2023	23/11/2023
A-T-042sTCN	22/11/2023	22/11/2023
A-T-044	23/11/2023	23/11/2023
A-T-045	21/11/2023	21/11/2023
A-T-050s	23/11/2023	23/11/2023
A-T-055s	22/11/2023	22/11/2023
Calc-As Recd	22/11/2023	22/11/2023

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

End of Report

Appendix D – Generic Assessment Criteria

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Adopted Soil Generic Assessment Criteria
Sandy loam with 6% SOM

curtins

Contaminants	Residential with home grown produce	Residential without home grown produce	Allotments	Commercial	Public open space near residential housing POS_{resi}	Public park POS_{park}
Metals						
Beryllium	***1.7***	***1.7***	***35***	***12***	***2.2***	***63***
Boron	***290***	***11,000***	***45***	***240,000***	***21,000***	***46,000***
Cadmium	**10**[13] 22	**85**[13] 150	**1.8** 3.9	**230** 410	***120*** 220	***560*** 880
Chromium III	***910***	***910***	***18,000***	***8,600***	***1,500***	***33,000***
Chromium VI	***6*** 21	***6*** 21	***1.8*** 170	***33*** 49	***7.7*** 21	***220*** 250
Lead	200	310	80	2,300	630	1,300
Mercury ***(elemental)***	**1**	**1**	**26**	**26**	***16***	**26**[8] [***30***]
Mercury (inorganic)	**170**	**240**	**80**	**3600**	***120***	***240***
Nickel	***130***[10]	***180***[10]	***53***[11]	***980***[10]	***230***	***800***
Vanadium	***410***	***1200***	***91***	***9000***	***2000***	***5000***
Copper	***2400***	***7100***	***520***	***68000***	***12000***	***44000***
Zinc	***3700***	***40000***	***620***	***730000***	***81000***	***170000***
Semi-Metals and non-metals						
Arsenic	**32**[12] 37	**35**[12] 40	**43**[12] 49	**640**[12] 640	***79*** 79	***170*** 170
Antimony		***550***		***7500***	***1500***	***3300***
Selenium	**350**	**600**	**120**	**13000**	***1100***	***1800***
Inorganic chemicals						
Cyanide	34	34	34	34	34	34
Organic contaminants						
Aliphatic risk banded hydrocarbons - TPHCWG method						
$EC_{>5}$ - EC_6	***160***	***160***	***3900***	***12000***	***600000***	***180000***
$EC_{>6}$ - EC_8	***530***	***530***	***13000***	***40000***	***620000***	***320000***
$EC_{>8}$ - EC_{10}	***150***	***150***	***1700***	***11000***	***13000***	***21000***
EC_{10}-EC_{12}	***760***	***770***	***7300***	***47000***	***13000***	***24000***
EC_{12}-EC_{16}	***4300***	***4400***	***13000***	***90000***	***13000***	***26000***
$EC_{>16}$ - EC_{35}	***110000***	***110000***	***270000***	***1800000***	***250000***	***490000***
$EC>_{35}$ - EC_{44}	***110000***	***110000***	***270000***	***1800000***	***250000***	***490000***
Aromatic risk banded hydrocarbons - TPHCWG method						
$EC>_5$ - EC_7	***300***	***1400***	***57***	***86000***	***56000***	***92000***
$EC>_7$ - EC_8	***660***	***3900***	***120***	***180000***	***56000***	***100000***
$EC_{>8}$ - EC_{10}	***190***	***270***	***51***	***17000***	***5000***	***9300***
EC_{10} - EC_{12}	***380***	***1200***	***74***	***34000***	***5000***	***10000***
EC_{12} - EC_{16}	***660***	***2500***	***130***	***38000***	***5000***	***10000***
$EC_{>16}$ - EC_{21}	***930***	***1900***	***260***	***28000***	***3800***	***7800***
$EC_{>21}$ - EC_{35}	***1700***	***1900***	***1600***	***28000***	***3800***	***7900***
$EC>_{35}$ - EC_{44}	***1700***	***1900***	***1600***	***28000***	***3800***	***7900***
Aliph + Arom EC >44-70	***1900***	***1900***	***3000***	***28000***	3800	7900
Aromatic						
Benzene	**0.33** 0.87	**1.0** 3.3	**0.07** 0.18	**95** 98	***73*** 140	***110*** 230
Ethyl benzene	**350**	**840**	**90**	**2800**[8] [66000]	**2800**[8] [***25000***]	**2800**[8] [***27000***]
Toluene	**610**	**2700**	**120**	**4400**[8] [190000]	**4400**[8] [***56000***]	**4400**[8] [***100000***]
Xylene[9]	**230**	**290**	**160**	**2600**[8] [32000]	**2600**[8] [***43000***]	**2600**[8] [***31000***]
Phenol	**420**	**520**	**280**	**3200**[14] (38000)	**3200**[14] (***10000***)	**3200**[14] (***9300***)
Polycyclic Aromatic Hydrocarbons (PAH)						
Naphthalene	***13***	***13***	***24***	***1100***	***4900***	***3000***
Acenaphthylene	***920***	***6000***	***160***	***100000***	***15000***	***30000***
Acenaphthene	***1100***	***6000***	***200***	***100000***	***15000***	***30000***
Fluorene	***860***	***4500***	***160***	***71000***	***9900***	***20000***
Phenanthrene	***440***	***1500***	***90***	***23000***	***3100***	***6300***
Anthracene	***11000***	***37000***	***2200***	***540000***	***74000***	***150000***
Fluoranthene	***890***	***1600***	***290***	***23000***	***3100***	***6400***
Pyrene	***2000***	***3800***	***620***	***54000***	***7400***	***15000***
Benz(a)anthracene	***13***	***15***	***13***	***180***	***29***	***62***
Chrysene	***27***	***32***	***19***	***350***	***57***	***120***
Benzo(b)fluoranthene	***3.7***	***4.0***	***3.9***	***45***	***7.2***	***16.0***
Benzo(k)fluoranthene	***100***	***110***	***130***	***1200***	***190***	***440***
Benzo(a)pyrene	***3.0*** 5.0	***3.2*** 5.3	***3.5*** 5.7	***36*** 77	***5.7*** 10	***13*** 21
Indeno(123cd)pyrene	***41***	***46***	***39***	***510***	***82***	***180***
Dibenzo(ah)anthracene	***0.3***	***0.32***	***0.43***	***3.6***	***0.58***	***1.4***
Benzo(ghi)perylene	***350***	***360***	***640***	***4000***	***640***	***1600***
Chlorinated Aliphatic Hydrocarbons						
Vinyl chloride	***0.0014***	***0.0015***	***0.0018***	***0.12***	***3.5***	***5.4***
Trichloroethene (TCE)	***0.075***	***0.08***	***0.21***	***5.7***	***120***	***120***
1,1,1,2 Tetrachlorethane	***6.4***	***8.2***	***4.4***	***560***	***1400***	***2100***
Tetrachlorethene (PCE)	***0.90***	***0.92***	***3.6***	***95***	***1400***	***1500***
1,1,1 Trichlorethane	***39***	***40***	***240***	***3000***	***140000***	***100000***

Notes

1. All values above are in mg/kg
2. **Numbers in bold are SGVs or GAC that are derived based on SGV report input parameters**, ***numbers in italics are S4ULs*** , ***numbers in bold-italics are based on EIC/AGS/CL:AIRE numbers & input parameters*** and underlined numbers are C4SLs
3. Soil organic matter (SOM) is assumed to be 6% - DEFAULT VALUE
4. Soil type is assumed to be sandy loam - DEFAULT SOIL TYPE
5. For residential, the building type is conservatively assumed to be a small terrace house where the development includes bungalows change to more conservative bungalow setting in computer model
6. For commercial, the building type is conservatively assumed to be a pre 1970s office building, where the proposed development comprises houses, flat with living spaces changes setting in model accordingly
7. For classrooms consider increasing the dust loading fator in the 'Soil and Building Data' of the CLEA 1.04 model from 50 to 100µg m^{-3}
8. Based on vapour saturation limt as suggested by EA / [ ] model value
9. Lowest of o-, m- and p-xylene
10. Based on comparison of inhalation exposure with inhalation TDI
11. Based on comparison of oral, dermal, and inhalation exposure with the oral TDI
12. Based on a comparison of oral and dermal soil exposure with oral Index Dose only
13. Averaged over and based on lifetime exposure
14. Based on critical concentration for skin irritation in humans arising from contact with phenol in aqueous solution (number in brackets based on health effects following long term exposure for illustration)
15. NA: Not applicable

Adopted Soil Generic Assessment Criteria
Sandy loam with 2.5% SOM

curtins

Contaminants	Residential with home grown produce	Residential without home grown produce	Allotments	Commercial	Public open space near residential housing POS_{resi}	Public park POS_{park}
Metals						
Beryllium	***1.7***	***1.7***	***35***	***12***	***2.2***	***63***
Boron	***290***	***11,000***	***45***	***240,000***	***21,000***	***46,000***
Cadmium	**10**[13] 22	**85**[13] 150	**1.8** 3.9	**230** 410	***120*** 220	***560*** 880
Chromium III	***910***	***910***	***18,000***	***8,600***	***1,500***	***33,000***
Chromium VI	***6*** 21	***6*** 21	***1.8*** 170	***33*** 49	***7.7*** 21	***220*** 250
Lead	200	310	80	2,300	630	1,300
Mercury ***(elemental)***	**1**	**1**	**26**	**26**	***16***	**26**[8] [***30***]
Mercury (inorganic)	**170**	**240**	**80**	**3600**	***120***	***240***
Nickel	***130***[10]	***180***[10]	***53***[11]	***980***[10]	***230***	***800***
Vanadium	***410***	***1200***	***91***	***9000***	***2000***	***5000***
Copper	***2400***	***7100***	***520***	***68000***	***12000***	***44000***
Zinc	***3700***	***40000***	***620***	***730000***	***81000***	***170000***
Semi-Metals and non-metals						
Arsenic	**32**[12] 37	**35**[12] 40	**43**[12] 49	**640**[12] 640	***79*** 79	***170*** 170
Antimony		***550***		***7500***	***1500***	***3300***
Selenium	**350**	**600**	**120**	**13000**	***1100***	***1800***
Inorganic chemicals						
Cyanide	34	34	34	34	34	34
Organic contaminants						
Aliphatic risk banded hydrocarbons - TPHCWG method						
$EC_{>5}$ - EC_6	***78***	***78***	***1700***	***5900***	***590000***	***130000***
$EC_{>6}$ - EC_8	***230***	***230***	***5600***	***17000***	***610000***	***220000***
$EC_{>8}$ - EC_{10}	***65***	***65***	***770***	***4800***	***13000***	***18000***
EC_{10}-EC_{12}	***330***	***330***	***4400***	***23000***	***13000***	***23000***
EC_{12}-EC_{16}	***2400***	***2400***	***13000***	***82000***	***13000***	***25000***
$EC_{>16}$ - EC_{35}	***92000***	***92000***	***270000***	***1700000***	***250000***	***480000***
$EC_{>35}$ - EC_{44}	***92000***	***92000***	***270000***	***1700000***	***250000***	***480000***
Aromatic risk banded hydrocarbons - TPHCWG method						
$EC_{>5}$ - EC_7	***140***	***690***	***27***	***46000***	***56000***	***84000***
$EC_{>7}$ - EC_8	***290***	***1800***	***51***	***110000***	***56000***	***95000***
$EC_{>8}$ - EC_{10}	***83***	***110***	***21***	***8100***	***5000***	***8500***
EC_{10} - EC_{12}	***180***	***590***	***31***	***28000***	***5000***	***9700***
EC_{12} - EC_{16}	***330***	***2300***	***57***	***37000***	***5100***	***10000***
$EC_{>16}$ - EC_{21}	***540***	***1900***	***110***	***28000***	***3800***	***7700***
$EC_{>21}$ - EC_{35}	***1500***	***1900***	***820***	***28000***	***3800***	***7800***
$EC_{>35}$ - EC_{44}	***1500***	***1900***	***820***	***28000***	***3800***	***7800***
Aliph + Arom EC >44-70	***1800***	***1900***	***2100***	***28000***	3800	7800
Aromatic						
Benzene	**0.16**	**0.49**	**0.035**	**50**	***72***	***100***
Ethyl benzene	**150**	**380**	**39**	**1200**[8] [35000]	**1200**[8] [***24000***]	**1200**[8] [***22000***]
Toluene	**270**	**1300**	**51**	**1900**[8] [110000]	**1900**[8] [***56000***]	**1900**[8] [***95000***]
Xylene[9]	**98**	**120**	**70**	**1200**[8] [14000]	**1200**[8] [***42000***]	**1200**[8] [***23000***]
Phenol	**290**	**420**	**140**	**1500**[14] (35000)	**1500**[14] (***10000***)	**1500**[14] (***8300***)
Polycyclic Aromatic Hydrocarbons (PAH)						
Naphthalene	***5.6***	***5.6***	***10***	***460***	***4900***	***1900***
Acenaphthylene	***420***	***4600***	***69***	***97000***	***15000***	***30000***
Acenaphthene	***510***	***4700***	***85***	***97000***	***15000***	***30000***
Fluorene	***400***	***3800***	***67***	***68000***	***9900***	***20000***
Phenanthrene	***220***	***1500***	***38***	***22000***	***3100***	***6200***
Anthracene	***5400***	***35000***	***950***	***540000***	***74000***	***150000***
Fluoranthene	***560***	***1600***	***130***	***23000***	***3100***	***6300***
Pyrene	***1200***	***3800***	***270***	***54000***	***7400***	***15000***
Benz(a)anthracene	***11***	***14***	***6.5***	***170***	***29***	***56***
Chrysene	***22***	***31***	***9.4***	***350***	***57***	***110***
Benzo(b)fluoranthene	***3.3***	***4.0***	***2.1***	***44***	***7.2***	***15***
Benzo(k)fluoranthene	***93***	***110***	***75***	***1200***	***190***	***410***
Benzo(a)pyrene	***2.7***	***3.2***	***2***	***35***	***5.7***	***12***
Indeno(123cd)pyrene	***36***	***46***	***21***	***510***	***82***	***170***
Dibenzo(ah)anthracene	***0.28***	***0.32***	***0.27***	***3.6***	***0.57***	***1.3***
Benzo(ghi)perylene	***340***	***360***	***470***	***4000***	***640***	***1500***
Chlorinated Aliphatic Hydrocarbons						
Vinyl chloride	***0.00087***	***0.001***	***0.001***	***0.077***	***3.5***	***5***
Trichloroethene (TCE)	***0.034***	***0.036***	***0.091***	***2.6***	***120***	***91***
1,1,1,2 Tetrachlorethane	***2.8***	***3.5***	***1.9***	***250***	***1400***	***1800***
Tetrachlorethene (PCE)	***0.39***	***0.4***	***1.5***	***42***	***1400***	***1100***
1,1,1 Trichlorethane	***18***	***18***	***110***	***1300***	***140000***	***76000***

Notes

1. All values above are in mg/kg
2. **Numbers in bold are SGVs or GAC that are derived based on SGV report input parameters**, ***numbers in italics are S4ULs*** , ***numbers in bold-italics are based on EIC/AGS/CL:AIRE numbers & input parameters*** and underlined numbers are C4SLs
3. Soil organic matter (SOM) is assumed to be 2.5% - DEFAULT VALUE
4. Soil type is assumed to be sandy loam - DEFAULT SOIL TYPE
5. For residential, the building type is conservatively assumed to be a small terrace house where the development includes bungalows change to more conservative bungalow setting in computer model
6. For commercial, the building type is conservatively assumed to be a pre 1970s office building, where the proposed development comprises houses, flat with living spaces changes setting in model accordingly
7. For classrooms consider increasing the dust loading fator in the 'Soil and Building Data' of the CLEA 1.04 model from 50 to 100µg m^{-3}
8. Based on vapour saturation limt as suggested by EA / [ ] model value
9. Lowest of o-, m- and p-xylene
10. Based on comparison of inhalation exposure with inhalation TDI
11. Based on comparison of oral, dermal, and inhalation exposure with the oral TDI
12. Based on a comparison of oral and dermal soil exposure with oral Index Dose only
13. Averaged over and based on lifetime exposure
14. Based on critical concentration for skin irritation in humans arising from contact with phenol in aqueous solution (number in brackets based on health effects following long term exposure for illustration)
15. NA: Not applicable

Adopted Soil Generic Assessment Criteria
Sandy loam with 1% SOM

curtins

Contaminants	Residential with home grown produce	Residential without home grown produce	Allotments	Commercial	Public open space near residential housing POS_{resi}	Public park POS_{park}
Metals						
Beryllium	***1.7***	***1.7***	***35***	***12***	***2.2***	***63***
Boron	***290***	***11,000***	***45***	***240,000***	***21,000***	***46,000***
Cadmium	**10**[13] 22	**85**[13] 150	**1.8** 3.9	**230** 410	***120*** 220	***560*** 880
Chromium III	***910***	***910***	***18,000***	***8,600***	***1,500***	***33,000***
Chromium VI	***6*** 21	***6*** 21	***1.8*** 170	***33*** 49	***7.7*** 21	***220*** 250
Lead	200	310	80	2,300	630	1,300
Mercury ***(elemental)***	**1**	**1**	**26**	**26**	***16***	**26**[8] [***30***]
Mercury (inorganic)	**170**	**240**	**80**	**3600**	***120***	***240***
Nickel	***130***[10]	***180***[10]	***53***[11]	***980***[10]	***230***	***800***
Vanadium	***410***	***1200***	***91***	***9000***	***2000***	***5000***
Copper	***2400***	***7100***	***520***	***68000***	***12000***	***44000***
Zinc	***3700***	***40000***	***620***	***730000***	***81000***	***170000***
Semi-Metals and non-metals						
Arsenic	**32**[12] 37	**35**[12] 40	**43**[12] 49	**640**[12] 640	***79*** 79	***170*** 170
Antimony		***550***		***7500***	***1500***	***3300***
Selenium	**350**	**600**	**120**	**13000**	***1100***	***1800***
Inorganic chemicals						
Cyanide	34	34	34	34	34	34
Organic contaminants						
Aliphatic risk banded hydrocarbons - TPHCWG method						
$EC_{>5}$ - EC_6	***42***	***42***	***730***	***3200***	***570000***	***95000***
$EC_{>6}$ - EC_8	***100***	***100***	***2300***	***7800***	***600000***	***150000***
$EC_{>8}$ - EC_{10}	***27***	***27***	***320***	***2000***	***13000***	***14000***
EC_{10}-EC_{12}	***130***	***130***	***2200***	***9700***	***13000***	***21000***
EC_{12}-EC_{16}	***1100***	***1100***	***11000***	***59000***	***13000***	***25000***
$EC_{>16}$ - EC_{35}	***65000***	***65000***	***260000***	***1600000***	***250000***	***450000***
$EC>_{35}$ - EC_{44}	***65000***	***65000***	***260000***	***1600000***	***250000***	***450000***
Aromatic risk banded hydrocarbons - TPHCWG method						
$EC>_5$ - EC_7	***70***	***370***	***13***	***26000***	***56000***	***76000***
$EC>_7$ - EC_8	***130***	***860***	***22***	***56000***	***56000***	***87000***
$EC_{>8}$ - EC_{10}	***34***	***47***	***8.6***	***3500***	***5000***	***7200***
EC_{10} - EC_{12}	***74***	***250***	***13***	***16000***	***5000***	***9200***
EC_{12} - EC_{16}	***140***	***1800***	***23***	***36000***	***5100***	***10000***
$EC_{>16}$ - EC_{21}	***260***	***1900***	***46***	***28000***	***3800***	***7600***
$EC_{>21}$ - EC_{35}	***1100***	***1900***	***370***	***28000***	***3800***	***7800***
$EC>_{35}$ - EC_{44}	***1100***	***1900***	***370***	***28000***	***3800***	***7800***
Aliph + Arom EC >44-70	***1600***	***1900***	***1200***	***28000***	3800	7800
Aromatic						
Benzene	**0.08**	**0.3**	**0.017**	**28**	***72***	***90***
Ethyl benzene	**65**	**170**	**16**	**520**[8] [17000]	**520**[8] ***[24000]***	**520**[8] ***[17000]***
Toluene	**120**	**610**	**22**	**860**[8] [59000]	**860**[8] ***[56000]***	**860**[8] ***[87000]***
Xylene[9]	**41**	**53**	**28**	**480**[8] [69000]	**480**[8] ***[41000]***	**480**[8] ***[17000]***
Phenol	**180**	**310**	**66**	**760**[14] (31000)	**760**[14] ***(10000)***	**760**[14] ***(7600)***
Polycyclic Aromatic Hydrocarbons (PAH)						
Naphthalene	***2.3***	***2.3***	***4.1***	***190***	***4900***	***1200***
Acenaphthylene	***170***	***2900***	***28***	***83000***	***15000***	***29000***
Acenaphthene	***210***	***3000***	***34***	***84000***	***15000***	***29000***
Fluorene	***170***	***2800***	***27***	***63000***	***9900***	***20000***
Phenanthrene	***95***	***1300***	***15***	***22000***	***3100***	***6200***
Anthracene	***2400***	***31000***	***380***	***520000***	***74000***	***150000***
Fluoranthene	***280***	***1500***	***52***	***23000***	***3100***	***6300***
Pyrene	***620***	***3700***	***110***	***54000***	***7400***	***15000***
Benz(a)anthracene	***7.2***	***11***	***2.9***	***170***	***29***	***49***
Chrysene	***15***	***30***	***4.1***	***350***	***57***	***93***
Benzo(b)fluoranthene	***2.6***	***3.9***	***0.99***	***44***	***7.1***	***13***
Benzo(k)fluoranthene	***77***	***110***	***37***	***1200***	***190***	***370***
Benzo(a)pyrene	***2.2***	***3.2***	***0.97***	***35***	***5.7***	***11***
Indeno(123cd)pyrene	***27***	***45***	***9.5***	***500***	***82***	***150***
Dibenzo(ah)anthracene	***0.24***	***0.31***	***0.14***	***3.5***	***0.57***	***1.1***
Benzo(ghi)perylene	***320***	***360***	***290***	***3900***	***640***	***1400***
Chlorinated Aliphatic Hydrocarbons						
Vinyl chloride	***0.00064***	***0.00077***	***0.00055***	***0.059***	***3.5***	***4.8***
Trichloroethene (TCE)	***0.016***	***0.017***	***0.041***	***1.2***	***120***	***70***
1,1,1,2 Tetrachlorethane	***1.2***	***1.5***	***0.79***	***110***	***1400***	***1500***
Tetrachlorethene (PCE)	***0.18***	***0.18***	***0.65***	***19***	***1400***	***810***
1,1,1 Trichlorethane	***8.8***	***9***	***48***	***660***	***140000***	***57000***

Notes

1. All values above are in mg/kg
2. **Numbers in bold are SGVs or GAC that are derived based on SGV report input parameters**, ***numbers in italics are S4ULs*** , ***numbers in bold-italics are based on EIC/AGS/CL:AIRE numbers & input parameters*** and underlined numbers are C4SLs
3. Soil organic matter (SOM) is assumed to be 1% - DEFAULT VALUE
4. Soil type is assumed to be sandy loam - DEFAULT SOIL TYPE
5. For residential, the building type is conservatively assumed to be a small terrace house where the development includes bungalows change to more conservative bungalow setting in computer model
6. For commercial, the building type is conservatively assumed to be a pre 1970s office building, where the proposed development comprises houses, flat with living spaces changes setting in model accordingly
7. For classrooms consider increasing the dust loading fator in the 'Soil and Building Data' of the CLEA 1.04 model from 50 to 100µg m^{-3}
8. Based on vapour saturation limt as suggested by EA / [ ] model value
9. Lowest of o-, m- and p-xylene
10. Based on comparison of inhalation exposure with inhalation TDI
11. Based on comparison of oral, dermal, and inhalation exposure with the oral TDI
12. Based on a comparison of oral and dermal soil exposure with oral Index Dose only
13. Averaged over and based on lifetime exposure
14. Based on critical concentration for skin irritation in humans arising from contact with phenol in aqueous solution (number in brackets based on health effects following long term exposure for illustration)
15. NA: Not applicable

Appendix E – Geotextile Specification

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FASTRACK Orange

Standard Grade (SG) woven geotextile

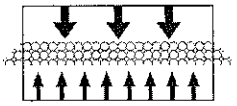
Based on our popular 609 geotextile, FASTRACK Orange prevents the intermixing of contaminated and uncontaminated soils and its bright colour also alerts users and future users to the potential danger of further excavation. It is designed and manufactured to conform to the old Department of Transport & Highways specification for road and earthworks separation.

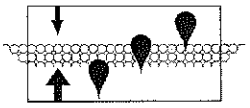
Applications for FASTRACK Orange:

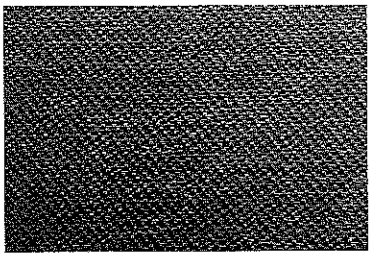
- Highly visible 'Warning layer'
- Separating/Strengthening - layer under access roads and areas of hard standing
- Separation – layers under stone foundations for new buildings
- Separation – layers under new roads, car parks & industrial areas
- Separation – granular fill from sub soils and other fill types

Mechanical properties	Test	Units	FASTRACK Orange
Tensile strength - MD	EN ISO 10319	kN/m	16
Tensile strength - XD	EN ISO 10319	kN/m	11.5
Elongation at break - MD	EN ISO 10319	%	18.5
Elongation at break - XD	EN ISO 10319	%	18.5
CBR puncture resistance	EN ISO 12236	N	1500
Hydraulic properties			
Water flow normal to the plane	EN ISO 11058	l/m²/s	17
Characteristic opening (pore) size	EN ISO 12956	µm	250
Physical properties			
Thickness under 2 kPa	EN ISO 9863-1	mm	0.4
Weight	EN ISO 9864	g/m²	75
Roll width		cm	450
Roll length		m	100




SEPARATION


FILTRATION



Link-up
Registered

UK

CE

1. Wrekin Products Ltd reserves the right to alter product specifications without prior notice.
2. It is the responsibility of all users to satisfy themselves that the above data is current.
3. The above figures are average values obtained in testing to current EN geotextiles test standards. Although not guaranteed these results do, to the best of our knowledge, offer a true and accurate record of the product's performance.
4. Polypropylene is the constituent polymer used in the production of Fastrack Orange.
5. Wrekin cannot be held responsible for the performance of these products as conditions of use are beyond our control.
6. Installation details are available on request.

52-1312A

Other grades of geotextiles within the Wrekin range include:
High Flow and High Strength woven fabrics and Thermal-bonded & Needle Punched non-wovens.

WREKIN PRODUCTS LIMITED Europa Way, Britannia Enterprise Park, Lichfield, WS14 9TZ
www.wrekinproducts.com
T: 01543 440440
F: 01543 440444
E: sales@wrekinproducts.com

Appendix F – E-mail Correspondence

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RE: [External] Gorton Lane - Garden Plot Validation

robert.lynch@equans.com <robert.lynch@equans.com>

Thu 16/11/23 12:22

To:Jonathan Lord <Jonathan.Lord@curtins.com>;Lucy Woods <Lucy.Woods@curtins.com>
Cc:oliver.bennison@equans.com <oliver.bennison@equans.com>;kenzo.iluobe@equans.com <kenzo.iluobe@equans.com>;rachel.eatson@equans.com <rachel.eatson@equans.com>; lee.jones@equans.com <lee.jones@equans.com>;Jordan.SLATTERY@equans.com <Jordan.SLATTERY@equans.com>;Russell Taylor <Russell.Taylor@curtins.com>;Niall Farnworth <Niall.Farnworth@curtins.com>

Good Afternoon Jonathan

Just to clarify the following;

'Whilst the ground works were being carried out that there was no further contamination was found during the works'.

Can you please confirm what further/outstanding information you require for Remediation/Validation?

1st soil validation visit was carried to site 2 today.
Final visit booked for 23/11/23.

Kind Regards

Rob

EQUANS

ROB LYNCH MCIOB
Operations Manager
Places and Communities

UK & IRELAND

M 07583 097 722
THE Lighthouse,Salford Quays
Salford.M50 3BF

www.equans.co.uk

Please consider the environment before printing this message

From: Jonathan Lord <Jonathan.Lord@curtins.com>
Sent: Friday, November 10, 2023 9:53 AM
To: LYNCH Robert (EQUANS UK) <robert.lynch@equans.com>; Lucy Woods <Lucy.Woods@curtins.com>
Cc: BENNISON Oliver (EQUANS UK) <oliver.bennison@equans.com>; ILUOBE Kenzo (EQUANS UK) <kenzo.iluobe@equans.com>; EATSON Rachel (EQUANS UK) <rachel.eatson@equans.com>; JONES Lee (EQUANS UK) <lee.jones@equans.com>; SLATTERY Jordan (EQUANS UK) <Jordan.SLATTERY@equans.com>; Russell Taylor <Russell.Taylor@curtins.com>; Niall Farnworth <Niall.Farnworth@curtins.com>
Subject: RE: [External] Gorton Lane - Garden Plot Validation

RE: [External] Gorton Lane - Garden Plot Validation

robert.lynch@equans.com <robert.lynch@equans.com>

Thu 23/11/23 11:40

To:Jonathan Lord <Jonathan.Lord@curtins.com>;Lucy Woods <Lucy.Woods@curtins.com>
Cc:oliver.bennison@equans.com <oliver.bennison@equans.com>;lee.jones@equans.com <lee.jones@equans.com>

2 attachments (1 MB)

Asbestos Management Process.pdf; Asbestos Management Plan.docx;

Good Morning Jonathan

Further to previous emails and correspondence with regards Asbestos Management etc.

- Besides asbestos that was noted in the SI report, and remediated accordingly(evidence provided previously),no further or additional asbestos was discovered during the ground works and piling works.
- I have attached for your information a copy of our generic Asbestos Management Process and Asbestos Management Plan which would utilised should any additional asbestos be discovered during the works.
- All Equans Site Management receive regular Asbestos Awareness training as part of Company policy and procedure, this is to ensure that they recognise asbestos if discovered and what to actions to be taken if this is the case.
- On this site, due to asbestos being noted in the SI report-the Site Management team also received specific Asbestos in soils training.
- All operatives who attended site during the Groundworks phase, were also made aware as part of the induction process that there was potential asbestos on site and what they must do should they discover asbestos or suspected asbestos(i.e. Stop work immediately, cordon off the area and report to their site supervisor who would then notify Equans Management -who would then implement asbestos management process and plan -in conjunction with in house SHEQ team.
- Groundworkers supervisor and staff also receive asbestos awareness training to ensure that they know what to do in the event of discovering asbestos(as noted above).

I hope that this is sufficient for you to close out this item, please advise if you require further.

Kind Regards
Rob

EQUANS

ROB LYNCH MCIOB
Operations Manager
Places and Communities

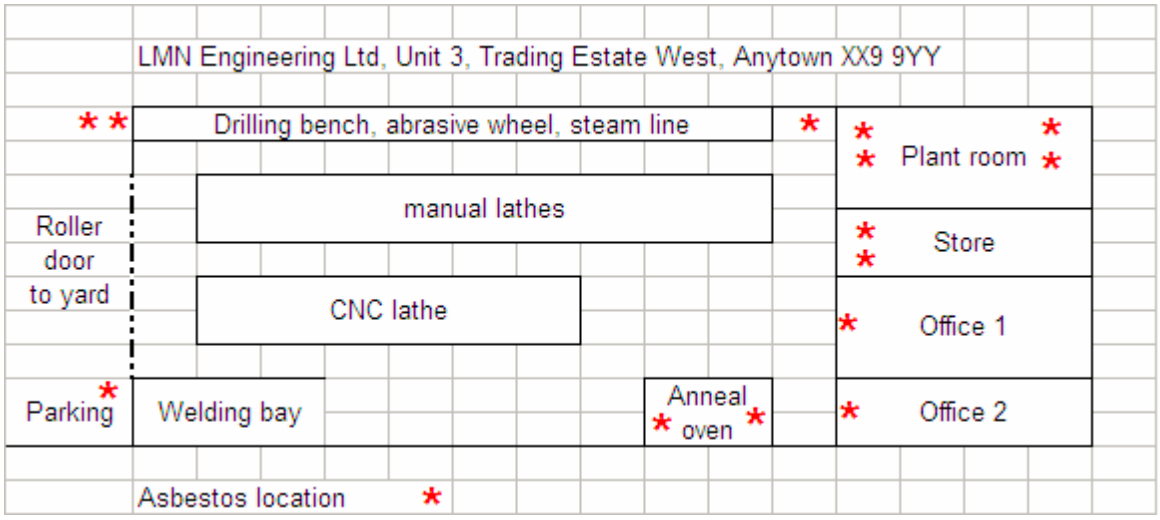
From: Jonathan Lord <Jonathan.Lord@curtins.com>
Sent: Thursday, October 26, 2023 11:02 AM

Appendix G – Documentation

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Asbestos Management Plan

Site Plan



These areas contain or may contain asbestos.

- Roof
- Downpipes
- Van brakes
- Plant Room – boiler, flue, steam pipe insulation, electric switch-box
- Work Room – steam pipe insulation, oven insulation, heat-proof gloves
- Store – floor tiles, ceiling tiles
- Office 1 – fire door
- Office 2 – board screwed to fire door

Asbestos Management Plan

Asbestos Register

Insert Asbestos Register here

Asbestos Management Plan

Asbestos Action Plan

Where	Product	Action	By When	By Whom

Responsible Person		Date		Monitoring Date	

Asbestos Management Plan

Communication Plan

1 Stickers

2 Staff

3 Maintenance

4 Contractors

5 Others

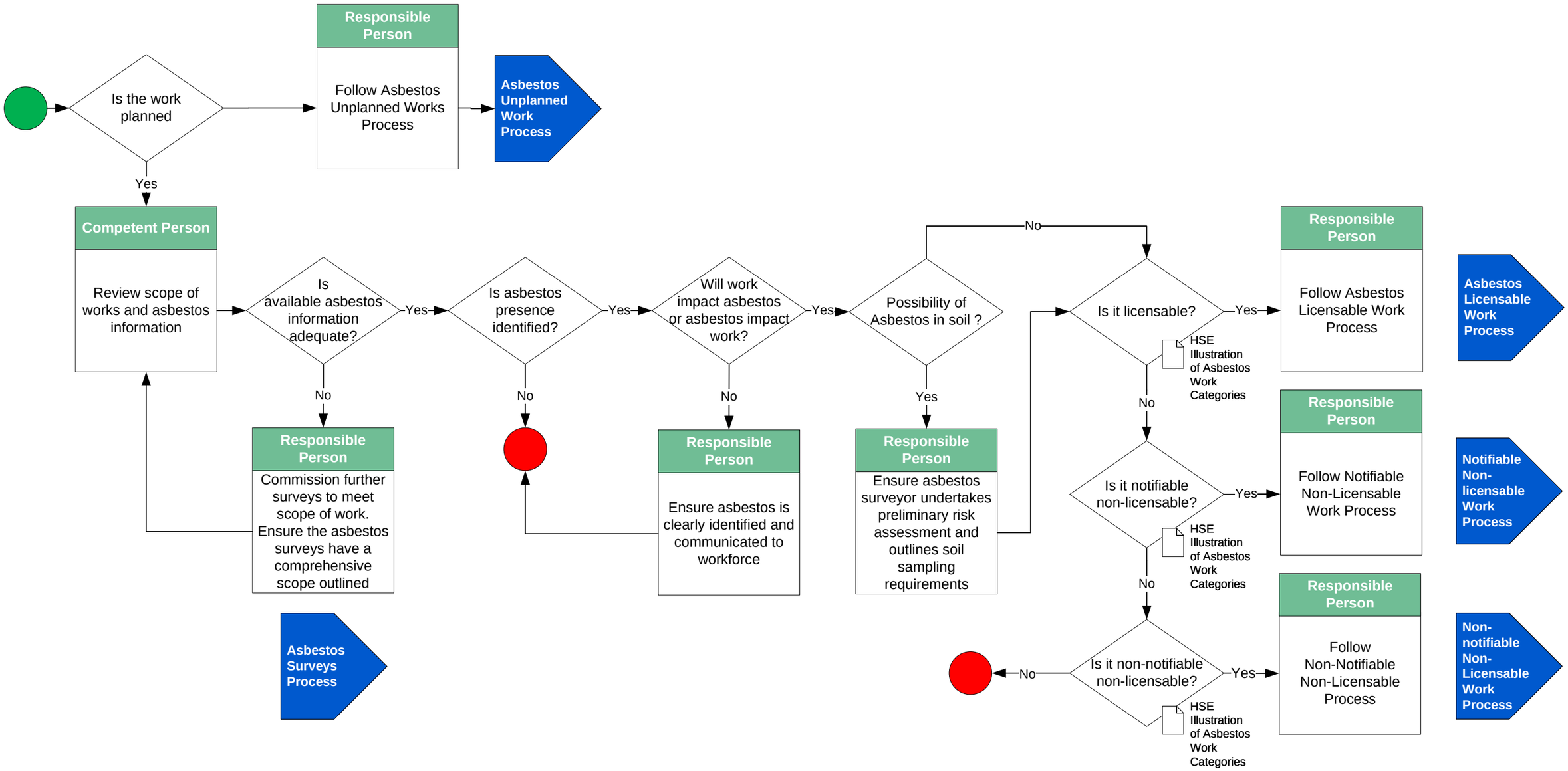
All Asbestos works must be undertaken by an asbestos competent contractor. Under no circumstances should this work be carried out by EQUANS employees as we are not insured for this type of work.

Feedback

EQUANS

Asbestos Management Process

Process



Outputs

Guidance

Asbestos Management Process Guidance

Process

Feedback

EQUANS

No	Process Step	Guidance Notes	Who	Deliverables
1	Review scope and asbestos information.	• Review if built or refurbished before 2000 – assume asbestos present • Review Asbestos Register • Review Asbestos Survey – management or R&D or archetype (10% minimum) is permitted where there has been samples taken. • If post 2000 we just need a statement in the H&S file to confirm this.	Responsible Person	
2	Is available asbestos information adequate ?	• Where available information is inadequate commission further surveys to meet the scope of works. Ensure the scope of the asbestos survey is clearly outlined to the asbestos surveyor. Ensure it is agreed with the Client who is responsible for payment of surveys.	Responsible Person	
3	Will asbestos impact on works or work impact on asbestos ?	• If no : ensure asbestos is clearly identified and communicated to the workforce. • If yes : follow yes arrow.	Responsible Person	
4	Possibility of asbestos in soil ?	• Ensure asbestos surveyor undertakes preliminary risk assessment and outlines soil sampling requirements and asbestos risks and appropriate control measures.	Responsible Person	
5	Follow Asbestos Licensable Work Process.	• Where there is known potential of asbestos exposure refer to the Asbestos Licensable Work Process. • For example Loose or damaged Asbestos Insulation Board	Responsible Person	
6	Follow Notifiable Non-Licensable Work Process.	• Ensure that Notifiable Non-Licensable Work Process is followed. • For example short duration works on Asbestos Insulation Board	Responsible Person	
7	Follow Non-notifiable Non-licensable Work Process.	• Ensure that the Non-notifiable Non-licensable Work Asbestos Process is followed. • For example maintenance works, low fibre release, good condition asbestos cement	Responsible Person	

RISK ASSESSMENT

Workplace	[LOCATION]	**Assessment Number**	X 2617
Task / Activity	Contaminated land		

Date Conducted:	04.01.21	**Review by Date:**	On commencement	**Date Reviewed**	
Assessment Team	M.Mcstravik -Kellys Groundworks Contracts Manager -Risk Assessment for hazardous/contaminated ground				

1 Hazard (something with the potential to cause harm, how will it be realised and what is the potential injury?)	**2 At Risk**	**Risk** 3 Severity	4 Probability	5 Risk	**6 Control Measures**	**Risk** 7 Severity	8 Probability	9 Risk
Unknown contaminant, Unsafe access/Egress and Inadequate hygiene facilities, major/minor illness or fatality	A	**5**	**3**	**15**	• Contamination report • Must have safe access and egress for plant • Adequate hygiene facilities must be provided			
Untrained operatives, Inadequate PPE, mobile plane and waste disposal. Serious injuries or illness	A	**4**	**3**	**12**	• Trained and competent operatives • Banksman for plant reversing • Waste disposal notes in place • Licensed tip used • Correct PPE provided and worn			
Disposal of waste Waste contaminating land	A	**5**	**3**	**15**	• Waste must be disposed of in bins/skips whilst on site • Waste is to be segregated before being placed into skips on site • The skips must be taken to a licenced waste disposal site by a licenced contractor • Any waste taken back to our depot must be done so by a licenced carrier • Any waste taken back to our depot must be then disposed of responsibly • When transferring waste consignment notices must be collected and kept on file • Any employees found fly-tipping will be reported to the police	**5**	**1**	**5**
Purchase of materials Causing unnecessary pollution	A	**5**	**3**	**15**	• Materials must always be purchased from suppliers who can prove that their products are environmentally friendly • Suppliers must be chosen with regard to their environmental credentials • Suppliers must inform us of any changes in their recycling policy	**5**	**1**	**5**
Further Actions	(Further control measures that could be implemented to improve safety)					**Action by who & date**		

At Risk (column 2)	**Severity** (column 3 and 7)		**Probability** (column 4 and 8)		**Risk Rating** (column 5 and 9)		
E - Employees	**1**	No Injury, property damage	**1**	Very Unlikely	Severity X Probability = **1 to 5**	**Low**	Y – acceptable risk, work can start
C - Contractors	**2**	Minor Injury	**2**	Unlikely			
V - Visitors	**3**	+7 Day Absence	**3**	Likely	Severity X Probability = **6 to 14**	**Med**	Y **or N** – may need further consideration
P - Public	**4**	Specified Injury	**4**	Very Likely			
A - All	**5**	Death	**5**	Virtually Certain	Severity X Probability = **15 to 25**	**High**	**N** – Unacceptable risk Do not start work

RISK ASSESSMENT

Workplace	[LOCATION]	**Assessment Number**	X 2617
Task / Activity	Contaminated land		

Additional Comments	(Actions identified by personnel on site to make the task safer)	
Authorised by The Responsible Manager	**Name:** **D.Summers** **Position:Project Manager** **Signature:**	**Dated:**

At Risk (column 2)	**Severity (**column 3 and 7)		**Probability** (column 4 and 8)	**Risk Rating** (column 5 and 9)		
E - Employees	**1**	No Injury, property damage	**1** Very Unlikely	Severity X Probability = **1 to 5**	**Low**	Y – acceptable risk, work can start
C - Contractors	**2**	Minor Injury	**2** Unlikely			
V - Visitors	**3**	+7 Day Absence	**3** Likely	Severity X Probability = **6 to 14**	**Med**	Y **or N** – may need further consideration
P - Public	**4**	Specified Injury	**4** Very Likely			
A - All	**5**	Death	**5** Virtually Certain	Severity X Probability = **15 to 25**	**High**	**N** – Unacceptable risk Do not start work

FNW|369832

Supplied by : Bolton C&L
A Trading Brand of Huws Gray Limited

Tel: 01204 862222

ADVICE/DELIVERY NOTE
COPY

Invoice To:
KELLY CONTRACTING LIMITED
Alvanley Industrial Estate
Stockport Road East
Bredbury
STOCKPORT
SK6 2DJ
Phone:0161 406 6228

Deliver To:
KELLY CONTRACTING LIMITED
Gorton Lane
Gorton
Manchester
Lee 07818595731
M12 5HD
Mobile:0161 406 6228

Order No :FNW/369832/ 2
Page : 1
Doc Date :15/06/2023 10:18
Deliver On :16/06/2023
Driver :
Vehicle Reg :
Type Of Sale:Credit Delivered
Customer Acc:OLL0063/ 0

Oper Customer Ref 1/2
TH12 293/AM

Special Message/Comment

ORDERED	PRODUCT NO	DESCRIPTION	THIS DELIVERY	BALANCE TO FOLLOW
25	2310042	ACO RAINDRAIN & GALV STEEL GRATING A15 1.M 47000	25	0
6	2394502	MATRIX UU SPEC BOUNDARY BOX 25MM E8951	6	0
12	2394062	PROTECTA-LINE 25MM X 3/4IN M/I END CONN 44151608	12	0
1	2340257	POLYGUARD 25MM END CAP PGF40925	1	0
2	3410146	PROSOLVE PETRO TAPE 75MMX10M	2	0
2	P027179	POLYGUARD PIPE 25MM X 50M COIL PGP2550	2	0

Goods Received By

Printed:

Signed:

IT IS THE CUSTOMER'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND SUPPLY ANY RELEVANT EQUIPMENT REQUIRED TO ENABLE MATERIALS TO BE LEFT ON THE HIGHWAY.TERMS AND CONDITIONS AVAILABLE AT WWW.HUWSGRAY.CO.UK/TERMSANDCONDITIONS

FNW1370142

Supplied by : Bolton C&L Tel: 01204 862222
A Trading Brand of Huws Gray Limited

ADVICE/DELIVERY NOTE

Invoice To:
KELLY CONTRACTING LIMITED
Alvanley Industrial Estate
Stockport Road East
Bredbury
STOCKPORT
SK6 2DJ
Phone:0161 406 6228

Deliver To:
KELLY CONTRACTING LIMITED
Gorton Lane
Gorton
Manchester
Lee 07818595731
M12 5HD
Mobile:0161 406 6228

Order No :FNW/370142/ 1
Page : 1
Doc Date :20/06/2023 14:39
Deliver On :21/06/2023
Driver :
Vehicle Reg :
Type Of Sale:Credit Delivered
Customer Acc:OLL0063/ 0

Special Message/Comment

Oper Customer Ref 1 2
TH12 293 AM

ORDERED	PRODUCT NO	DESCRIPTION	THIS DELIVERY	BALANCE TO FOLLOW
6	4908229	TELE BARRIER M.BOX 1/4T MATRIX LID 3/4 MBB1100FC	6	0

Goods Received By

Printed: Lauren Brown

Signed:

IT IS THE CUSTOMER'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND SUPPLY ANY RELEVANT EQUIPMENT REQUIRED TO ENABLE MATERIALS TO BE LEFT ON THE HIGHWAY.TERMS AND CONDITIONS AVAILABLE AT WWW.HUWSGRAY.CO.UK/TERMSANDCONDITIONS

WIAPS
WATER INDUSTRY APPROVED PLUMBERS' SCHEME

CERTIFICATE OF COMPLIANCE

WIAPS
WATER INDUSTRY APPROVED PLUMBERS' SCHEME

White copy: Customer **Blue copy:** Water Company **Green copy:** retain for records

NEW SUPPLY Yes ☑ No ☐ Internal ☑ External ☑

Water Company Application/Reference Number:

Member's Name: ANDREW MITCHELL

Membership No: CW 6253

Company Name: KELLY CONTRACTING LTD

Membership Expiry Date: 03/07/23.

Telephone Number: 07973 164397

Email address: ANDY@KELLYCONTRACTING.CO.UK

Address where work carried out (please include plot numbers where applicable):

EQUANS - SITE 2 - GORTON LANE NE12 5HD

Plot No:	Plot No:	Plot No:	Plot No:	Plot No:	Plot No:
104	109				

Name and address of the person who commissioned the work (the customer):

EQUANS NEWCASTLE UPON TYNE NE12 8BU

Telephone Number: 07989 214 733

Email address: SORORAN.SLATTERY@EQUANS.COM

Please give a brief description of the work completed and its location within the premises:

NEW 25mm BARRIER PIPE LAID FROM UNDER KITCHEN SINK TO EXTERNAL APLAS BOX THEN TO REAR OF FOOT PATH (INSULATED UNDER FLOOR 750mm COVER TO PIPE.

I confirm that the work carried out complies with the Water Supply (Water Fittings) Regulations 1999, Water Supply (Water Fittings) (Scotland) Byelaws 2014 or Water Supply (Water Fittings) Regulations (Northern Ireland) 2009.

Signed: [signature]

Date: 26/6/23.

Print: A MITCHELL

Certificate No: P 360154

CERTIFICATE OF COMPLIANCE

WIAPS — WATER INDUSTRY APPROVED PLUMBERS' SCHEME

White copy: Customer **Blue copy:** Water Company **Green copy:** retain for records

NEW SUPPLY Yes [✓] No [ ] Internal [✓] External [✓]

Water Company Application/Reference Number:

Member's Name: ANDREW MITCHELL

Membership No: CU 6253

Company Name: KELLY CONTRACTING LTD

Membership Expiry Date: 31/7/24

Telephone Number: 07973 164 397

Email address: ANDY@KELLYCONTRACTING-CO.UK

Address where work carried out (please include plot numbers where applicable):

EQUANS SITE 2 POLESWORTH CLOSE GORTON M12 5WD

Plot No:	Plot No:	Plot No:	Plot No:	Plot No:	Plot No:
105	106	107	108		

Name and address of the person who commissioned the work (the customer):

EQUANS NEWCASTLE UPON TYNE NE12 8BU

Telephone Number: 07989 214 733

Email address: GORDON.SUTTON@EQUANS.COM

Please give a brief description of the work completed and its location within the premises:

NOLD 25mm BARRIER PIPE. LAID FROM UNDER SINK TO EXTERNAL APLUS BOX THEN TO REAR OF FOOTPATH (INSULATED UNDER FLOOR) 750mm COVER.

I confirm that the work carried out complies with the Water Supply (Water Fittings) Regulations 1999, Water Supply (Water Fittings) (Scotland) Byelaws 2014 or Water Supply (Water Fittings) Regulations (Northern Ireland) 2009.

Signed: [signature]

Date: 7/8/23.

Print: A MITCHELL

Certificate No: P 360157

CERTIFICATE OF COMPLIANCE

WIAPS — WATER INDUSTRY APPROVED PLUMBERS SCHEME

White copy: Customer **Blue copy:** Water Company **Green copy:** retain for records

NEW SUPPLY Yes [✓] No [ ] Internal [✓] External [✓]

Water Company Application/Reference Number:

Member's Name: ANDREW MITCHELL Membership No: GW 6283

Company Name: KELLY CONTRACTING LTD Membership Expiry Date: 03/07/23.

Telephone Number: 07973 164 397 Email address: ANDY@KELLYCONTRACTING.CO.UK.

Address where work carried out (please include plot numbers where applicable):

EQUANS - SITE 1 - GORTON LANE M12 5DF

Plot No:	Plot No:	Plot No:	Plot No:	Plot No:	Plot No:
7	8	9	10	11	12

Name and address of the person who commissioned the work (the customer):

EQUANS NEWCASTLE UPON TYNE NE12 8BU

Telephone Number: 07984 214 733 Email address: GORDON.SLATTERY@EQUANS.COM

Please give a brief description of the work completed and its location within the premises:

NEW 25mm BARRIER PIPE LAID FROM UNDER KITCHEN SINK TO EXTERNAL APLIS BOX THEN TO REAR OF FOOTPATH. INSULATED UNDER FLOOR. 750mm COVER TO PIPES.

I confirm that the work carried out complies with the Water Supply (Water Fittings) Regulations 1999, Water Supply (Water Fittings) (Scotland) Byelaws 2014 or Water Supply (Water Fittings) Regulations (Northern Ireland) 2009.

Signed: [signature] Date: 5/6/23.

Print: A MITCHELL Certificate No: P 360153

WIAPS — WATER INDUSTRY APPROVED PLUMBERS SCHEME

CERTIFICATE OF COMPLIANCE

White copy: Customer **Blue copy:** Water Company **Green copy:** retain for records

NEW SUPPLY Yes [✓] No [ ] Internal [✓] External [✓]

Water Company Application/Reference Number:

Member's Name: ANDREW MITCHELL Membership No: 6253 GW

Company Name: KELLY CONTRACTING LTD Membership Expiry Date: 03/07/23.

Telephone Number: 07973 164 397 Email address: ANDY@KELLYCONTRACTING.CO.UK

Address where work carried out (please include plot numbers where applicable):

EQUANS - SITE 1 GORTON LANE M12 5DF

Plot No:	Plot No:	Plot No:	Plot No:	Plot No:	Plot No:
1	2	3	4	5	6

Name and address of the person who commissioned the work (the customer):

EQUANS NEWCASTLE UPON TYNE NE12 8BU

Telephone Number: 07984 214 733 Email address: GORDON.SLATTERY@EQUANS.COM

Please give a brief description of the work completed and its location within the premises:

NEW 25mm BARRIER PIPE LAID FROM UNDER KITCHEN SINK TO EXTERNAL APLIS BOX THEN TO REAR OF FOOTPATH ON GORTON LANE. INSULATED UNDER FLOOR 750mm COVER TO PIPES.

I confirm that the work carried out complies with the Water Supply (Water Fittings) Regulations 1999, Water Supply (Water Fittings) (Scotland) Byelaws 2014 or Water Supply (Water Fittings) Regulations (Northern Ireland) 2009.

Signed: [signature] Date: 5/6/23.

Print: A MITCHELL Certificate No: P 360152

Appendix H –Waste Consignment Tickets

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VEOLIA

SITE TRANSACTION TICKET
CONTROLLED WASTE TRANSFER NOTE

Veolia ES (UK) Ltd
210 Pentonville Road
London, N1 9JY
Tel: 020 7812 5000 Fax: 020 7812 5001

OUR ORDER NO : WMLON88148
CUSTOMER ORDER NO :

Consignor confirms that the waste hierarchy has been applied.

Whitemoss Landfill Site, White Moss Road South, , , WN8 9TH. 01695 559948
DP3639LM

VAT Registration No: GB 530 0088 93

SIC Code : 43.12
WBWML27352

Ticket No.			
Con. No.	Date	Time	First Weight
I:0047046	09/04/2021	11:26	29.300 t
Con. No.	Date	Time	Second Weight
I:0047051	09/04/2021	11:38	13.600 t
Cust Ref: Cust Account No. 0237WM			Net Weight 15.700 t

Material:Soil - Haz

A tallyroll copy of this transaction is available for inspection for six months.

Load Date : 09/04/2021 11:26 Checked by: BRIAN MCGONIGLE
Customer : W.Maher & Sons Ltd.
Vehicle : MK21BXZ
Address : W.Maher & Sons Ltd. Soapstone Way Off Fairhills Road Irlam Manchester M44 6RA — Kelly Contracting Ltd Gorton Lane Manchester M12 5WF
Carrier : W.Maher & Sons Ltd. CBDU90617

EWC Code: 170605
EWC Description: HAZ construction materials containing asbestos

Weighed By: DAVE ROUTLEDGE Changed By: DAVE ROUTLEDGE

Driver's Name (Block Capitals) and Signature
Sean Davenport

Weighbridge Operator's Name and Signature
DAVE ROUTLEDGE
D Routledge

VES242 10/14

Maher

CN 221823

W. MAHER & SONS LTD.
Rixton Old Hall, Manchester Road, Rixton, Warrington WA3 6EW
T: 0161 776 2200 E: enquiries@wmaherandsons.com

Bulk Excavation & Disposal • Ground Remediation
Quarried & Recycled Aggregates • Site Preparation

CONSIGNMENT NOTE

Customer: Kirby	Date: 9 4 21
Loaded at: Cadishead	
Delivered to: Warrington West Stores	
Driver: Tom	Veh. Reg. [illegible]
Tick ☐ 1 x 8 wh. load: Off Site	Material: Inert Waste
Tick ☐ 1 x 8 wh. load: Delivered	Material:

Daywork / Sitework	Hours Worked		Travel Time		Total Hours	

Foreman or Agent's Signature: T. Plant

CONDITIONS OF SALE: It is essential that all written particulars entered above should be carefully checked by the consignee since this delivery note, once signed by the consignee, represents formal acceptance of the material in good order and condition and subsequent complaints cannot be accepted.
All complaints whether in respect of material or circumstances of delivery must be made to the driver of the vehicle and be confirmed in writing direct to the company immediately.
All materials and title to same remain the property of supplier until paid in full.

THIS IS NOT A WASTE TRANSFER NOTE | Form MAH/OD/16 V.06 04/19

Maher
W.Maher & Sons Ltd.
Civil Engineering Contractors

W. MAHER & SONS LTD.
Rixton Old Hall, Manchester Road, Rixton, Warrington WA3 6EW
T : 0161 776 2200 F: 0161 848 7357
E : enquiries@wmaherandsons.com
W : www.wmaherandsons.com

Waste Transfer Note

SECTION A - DESCRIPTION OF WASTE (To be completed by Holder/Producer of the waste)

EWC Code (*Tick one box only*)

	17:01:01	Concrete	✓	17:05:04	Naturally occurring sub-soil and crushed stone
	17:01:02	Bricks		17:09:04	Mixed construction and demolition waste
	17:01:07	Concrete, brick and tile			Other: Insert EWC and describe below
					Acn <0.001%

How is the waste Contained

8 Wheel Tipper ☑

SECTION B - HOLDER / PRODUCER OF THE WASTE

SIC

Holder / Producer: _____

Location/address of the Collection Point: _____

Declaration (by Holder)
I have fulfilled my duty to apply the waste hierarchy as required by Regulation 12 of the Waste (England & Wales) Regulations 2011.

Name: | Signature:

SECTION C - PERSON COLLECTING THE WASTE (CARRIER)

SIC 4 9 4 1 0

Carrier: W Maher & Sons Ltd

Carrier Address: Rixton Old Hall, Manchester Road, Rixton, Warrington WA3 6EW

Carrier Registration No.: CBDU90617 Expiry Date: 25/03/2022 Issued by: Environment Agency

Date of Transfer: 25-3-22 (for multiple consignments state duration, max 12 months)

Name: M. Fouchal | Signature:

SECTION D - DISPOSAL / RECOVERY FACILITY (Indicate facility used)

Facility Operator: Churchill Enviro Ltd

Facility Address: ☑ Fletcher Bank, Ramsbottom, BL0 0HD ☐ Hutchbank, Haslingden, BB4 4PB

Facility Permit No.: EPR/GP3733 FE EPR/BB 3702 HL

Date of Transfer: 25-3-23 (for multiple consignments, state duration, max 12 months)

Name: M. MALONE | Signature:

IF WASTE IS SENT DIRECTLY TO LANDFILL SITE IN ENGLAND OR WALES THE FOLLOWING DECLARATION MUST BE SIGNED (BY CARRIER).

I/We confirm that the waste delivered by the above named company has been treated as highlighted below.

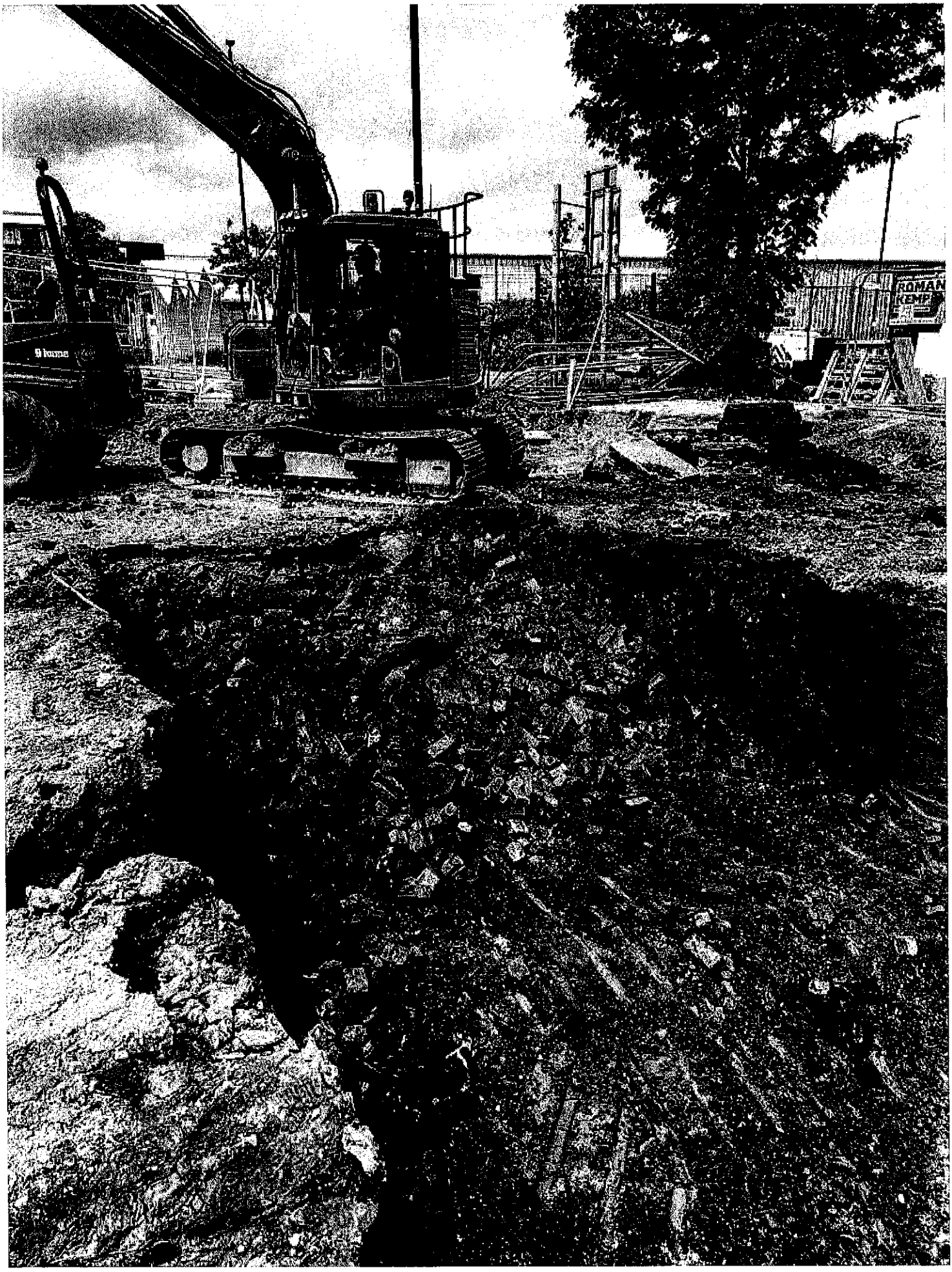
The material has gone through a physical, thermal, chemical or biological process including: sorting characteristics of the waste have been changed/volume has been reduced/ hazardous nature has been reduced/handling has been facilitated/recovery has been enhanced. (Delete as required)

Name: | Signature:

DISTRIBUTION: WHITE-HOLDER | YELLOW-OFFICE | BLUE-FACILITY OPERATOR

THIS DOCUMENT MUST BE RETAINED UNTIL 2 YEARS AFTER LAST TRANSFER DATE SHOWN IN SECTION D

SITE 1 CP1



SITE 2

VEOLIA

SITE TRANSACTION TICKET
CONTROLLED WASTE TRANSFER NOTE

Veolia ES (UK) Ltd
210 Pentonville Road
London, N1 9JY
Tel: 020 7812 5000 Fax: 020 7812 5001

OUR ORDER NO : WMLON88148
CUSTOMER ORDER NO :

Consignor confirms that the waste hierarchy has been applied.

Whitemoss Landfill Site, White Moss Road South, , , WN8 9TH. 01695 559948
DP3639LM

VAT Registration No: GB 530 0088 93

SIC Code : 43.12

Ticket No.			
			WBWM 27352
Con. No.	Date	Time	First Weight
I:0047046	09/04/2021	11:26	29.300 t
Con. No.	Date	Time	Second Weight
I:0047051	09/04/2021	11:38	13.600 t
Cust Ref:			Net Weight
Cust Account No.	0237MM		15.700 t

Load Date : 09/04/2021 11:26 Checked by: BRIAN MCSONIGLE
Customer : W.Maher & Sons Ltd.
Vehicle : MK21BXZ
Address : W.Maher & Sons Ltd. Kelly Contracting Ltd
: Snapstone Way Gorton Lane
: Off Fairhills Road
: Irlam
: Manchester Manchester
:
: M44 6RA M12 5WF
Carrier : W.Maher & Sons Ltd. CBDU90617

Material:Soil - Haz

A tallyroll copy of this transaction is available for inspection for six months.

EWC Code: 170605
EWC Description: HAZ construction materials containing asbestos

Weighed By: DAVE ROUTLEDGE Changed By: DAVE ROUTLEDGE

Driver's Name (Block Capitals) and Signature
Sean Davenport

Weighbridge Operator's Name and Signature
DAVE ROUTLEDGE D Routledge

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CONSIGNMENT NOTE

Customer: Kelly	Date: 9 4 21
Loaded at: Carr L	
Delivered to: Whitemoss Stan	
Driver: Tony	Veh. Reg. [illegible]
Tick ☐ 1 x 8 wh. load: Off Site	Material Soil Subbase
Tick ☐ 1 x 8 wh. load: Delivered	Material

Daywork / Sitework	Hours Worked		Travel Time		Total Hours	
Foreman or Agent's Signature		[illegible]				

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