



**A. & H. Construction
& Developments PLC**
Building and Civil Engineering Contractors

**Rhodes Business Park
Silburn Way
Middleton
Rochdale
M24 4NE**



Remediation Validation Report



**A. & H. Construction
& Developments PLC**
Building and Civil Engineering Contractors

REMEDIATION VALIDATION REPORT

Completed By: George Smith

For and on Behalf of A. & H. Construction & Developments PLC

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Landowner / Client:

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1. Introduction

A.& H. Construction & Developments PLC has prepared a Remediation Validation Report for a development at Rhodes Business Park, Silburn Way, Middleton, Rochdale, M24 4NE.

The work involves Erection of 1no. unit (Use Class B2/B8/E(g) (General Industry/Storage & Distribution/Commercial) together with associated service yard, car parking and landscaping.

2. Validation Objective

The objective of the validation works is to provide evidence demonstrating implementation of appropriate remediation measures. The remedial works were carried out in order to make the site suitable for the proposed commercial end use, as per the Soiltechnics Remedial Strategy, reference STV6211-R03-Rev_A, dated January 2025, which is understood to have been accepted by the Local Planning Authority (Rochdale Borough Council)

3. Site Details

Rhodes Business Park is located in Middleton, Greater Manchester—just 5 miles from Manchester city centre and 1 mile from Junction 19 of the M60, with excellent accessibility within the North West's premier logistics corridor.

Rhodes is a high-quality, freehold industrial estate which spans 191,922 sq ft across 10 units, which range in size from 6,990 sq ft to 39,970 sq ft on a substantial 15.18-acre site. With a low 32% site cover and strong tenant covenants (including Ecolab, Milliken, and Premier Stone). The estate also presents a new-build development opportunity, with a 1.3-acre plot having full planning permission for a modern 21,409 sq ft industrial unit.

Commercial/light industrial units associated with the wider Rhodes Business Park are present beyond the northern and western boundaries of the site and include a natural stone supplier, a homeware store, and a boiler supplier. To the south and east is Alkington Woods Nature Reserve beyond the River Irk, the channel of which forms the south-eastern boundary of the site.

The site requires a 'Cut and Fill' earthworks process, to level the site to the required levels using the existing soil materials.

Site plan is shown in Appendix 1.

4. Site Conditions

From the mid-1800s the site was recorded as part of the Calico Print Works and Union Cotton Mills which extend beyond the northern and western boundary of the site.

Filter beds, a disposal pit and tanks were present on site until the 1950s by which time they had been infilled. In the late 1990s hardstanding and soft landscaping similar to the present day configuration was present across the site.

The wider site area was recorded as a print works from the mid-late 1800s to the late 1900s. The print works comprised numerous tanks, filter beds and an artificial channel from the early to mid-1900s.

Numerous reservoirs and sand pits which have since been infilled are recorded within the wider site area. An electrical substation was present approx. 50 m north of the site from the mid to late 1900s.

The key ground investigation reports undertaken in support of the development are as follows.

- George Hutchinson Associates (GHA), Factual Report on Ground Conditions, October 2003 (unreferenced)
- WSP, Geo-environmental Assessment, July 2024 (ref: 70004162-001)
- Soiltechnics Ltd, Ground Investigation Report, January 2024 (ref: STV6211-R02 Rev A).

The Ground Investigation Report identified relevant pollutant linkages that require remedial action. Therefore, the Remediation Strategy and Verification Plan is required to establish the remedial measures and verification plan necessary to ensure the site is suitable for use.

The exploratory hole locations are shown on Appendix 2.



5. Ground Conditions

Stratum	Brief description	Top depth range (m bgl)	Adopted model top depth (m bgl)	Thickness (m)
Soft and hard surfacing	Topsoil in the north of site comprising dark brown sand with rootlets. Asphalt surfacing with granular sub-base.	G.L	G.L.	0.15 – 0.2 0.20 – 0.3
Made Ground	Clayey gravelly sand and sandy gravel including brick, concrete, clinker, coal, glass and ash.	0.15 – 0.30	0.30	1.20 - 2.05
Alluvium	Very loose to loose gravelly silty sand and localised very soft to soft sandy silt/silty clay. Becoming medium dense and dense silty sand below depths of 4.0-5.8m.	1.40 – 2.20	1.9 top of unit 5.0 to competent sands	6.90
Devensian Till	Stiff to very stiff sandy gravelly clay	8.60	8.60	>6.67

6. Environmental Appraisal

Potential sources of contamination associated with historic land use on site and within the surrounding area include the former print works and cotton mills, associated tanks, and infilled filter beds, disposal pits and sand pits.

Inclusions of suspected lime waste were encountered within Made Ground at two locations (WS04 and WS05) from 0.5-1.6 m bgl.

No other significant visual or olfactory evidence of contamination was noted, except for the presence of anthropogenic materials contained within the Made Ground (ash, brick, concrete, clinker-like material).

Laboratory analysis showed occasional elevated heavy metals, PAH and TPH within the Made Ground on site.

No ACMs have been observed on site. Asbestos was recorded at very low concentrations in 2 out of 13 samples, with sporadic occurrences at trace levels elsewhere. Across the site as a whole, asbestos is likely to be <0.001%.

7. Limitations and Uncertainty of the report

This report has been prepared with reasonable skill, care and diligence, taking account of the resources, investigations and testing devoted to it.

8. Certainty of Use

a) Requirement for materials

The existing site materials are suitable for use as sub-base beneath buildings and hardstanding areas, including access roads and yard slabs.

b) Topography and Final Levels



The final levels for the site will be those included in the planning application and therefore, those that have received Planning Consent.

d) Contingency Measures

A watching brief for unexpected contamination, has been carried out by A&H Construction & Developments PLC during the excavation of and the transporting of the material.

Contaminant

Oils and solvents
(gross contamination)

Oils and solvents
(possible gross contamination)

Asbestos containing materials

Other sources of contamination

Underground Storage Tanks (UST)

Criteria - Description

Soils: Black liquid, liquid oil, oil saturated soils in veins or zones, heavily stained or coated surfaces (e.g. sheens), solid tar, strong hydrocarbon odours (e.g. pungent, acrid, pleasant, sweet smells)

Waters: A visible free oil phase seeping from soil or floating on top of groundwater at a measurable thickness, strong odours.

Light to moderate staining in soils, oily sheens on water, or slight to moderate hydrocarbon odours, where these have not been fully delineated.

Suspected bound ACMs identified where frequency of ACMs is greater than sporadic or infrequent inclusions. Any occurrence of suspected loose or friable ACM material (such as pipe lagging or insulation).

Unusual smells or colours.

Bound or degraded macadam materials (e.g. possible coal-tar bound road planings).

Potentially contaminating buried artefacts, such as oil drums, machine and car parts, uncontrolled demolition material, domestic refuse, etc.

USTs and associated infrastructure (pipes, valves, inlets etc.) being encountered on site and during excavation

9. Tracking Systems/Site management

a) Supervision of Site Works

As the Principal Contractor, A. & H. Construction & Developments PLC will be responsible for the earthworks.

The Site Manager will be responsible for the day to day management of the earthworks operation with assistance from the site team.

The earthworks will be supervised by an experienced Site Manager and earthworks Foreman, as part of a larger site team.

A. & H. Construction & Developments PLC will be responsible for undertaking the watching brief for unexpected contamination.

Comprehensive records will be kept by A. & H. Construction & Developments PLC including data in relation to any material which may become necessary to remove from site for disposal.

b) Cross Contamination

There has been no cross contamination, through the careful excavating and placing of any know contaminated materials. This has been managed by the earthworks supervisor and A. & H. Construction & Developments PLC Site Manager.

c) Destination of Materials

The material will be used as sub-base beneath buildings and hard standing. There has been no material encountered which is characterised as unsuitable for re-use. The quantity of material on site balances with the quantified for the cut and fill operation. The only required material import is topsoil.

d) On Site Cover System

A clean cover system has been installed all areas where soft landscaping is overlying Made Ground materials.

Where present, the provision of hardstanding areas will negate the requirement for a clean cover system, and no action is considered necessary.

A cover system of 'clean' suitable soils has been placed to sever the pathway between asbestos encountered within the Made Ground and end-users, thus breaking the pollutant linkage and reducing the risk to acceptable levels.

All site won soils used within cover systems have been inspected and tested to confirm they are chemically and physically suitable for use, in terms of the risk to human health.

As the levels of asbestos in the underlying soils are typically at <0.001% and no ACMs have been encountered, a relatively thin cover system will suffice to achieve a reduction in the risk.

On this basis, capping should comprise the following in all soft landscaped areas:

- Minimum overall thickness: $\geq 150\text{mm}$.
- Composition: Topsoil
- No capillary break layer or no-dig layer is required.

e) Records

A. & H. Construction & Developments PLC will be responsible for record keeping during the construction.

Records have been kept of all material movements along with Duty of Care documentation for any materials removed from site.

A daily diary and a record of events on site should also be kept by the A&H Construction & Developments Plc Project Manager which will include reference to the ongoing watching brief.

f) Other Sites and Hauliers

No other sites are involved in the re-use on this site of the materials derived from this site and no offsite treatment is involved.

Only waste will be removed from site and this will be transported by Registered Waste Carriers only. The responsibility for overseeing this activity lies with A. & H. Construction & Developments PLC.

g) Delivery Notes

Waste Transfer Notes, Registered Carriers Certificates and details of licensed / permitted receiving destinations have been retained in respect of any material removed from site for waste disposal.

10. Discovery strategy

Throughout the project A. & H. Construction & Developments PLC followed the below discovery strategy from the Soiltechnics Ltd, Ground Investigation Report, January 2024 (ref: STV6211-R02 Rev A):

- With the development of any site, there is a residual risk of contamination being found that is unexpected or has not been previously encountered.
- As a precaution, the Principal Contractor should adopt the contamination Discovery Strategy, contained within Appendix B for dealing with unexpected contamination.
- The Principal Contractor should also ensure it is distributed and communicated appropriately to all relevant ground workers.
- A discovery event shall be triggered if any of the following observations are made.

Contaminant	Criteria - Description
-------------	------------------------



Oils and solvents (gross contamination)	Soils: Black liquid, liquid oil, oil saturated soils in veins or zones, heavily stained or coated surfaces (e.g. sheens), solid tar, strong hydrocarbon odours (e.g. pungent, acrid, pleasant, sweet smells) Waters: A visible free oil phase seeping from soil or floating on top of groundwater at a measurable thickness, strong odours.
Oils and solvents (possible gross contamination)	Light to moderate staining in soils, oily sheens on water, or slight to moderate hydrocarbon odours, where these have not been fully delineated.
Asbestos containing materials	Suspected bound ACMs identified where frequency of ACMs is greater than sporadic or infrequent inclusions. Any occurrence of suspected loose or friable ACM material (such as pipe lagging or insulation).
Other sources of contamination	Unusual smells or colours. Bound or degraded macadam materials (e.g. possible coal-tar bound road planings). Potentially contaminating buried artefacts, such as oil drums, machine and car parts, uncontrolled demolition material, domestic refuse, etc.
Underground Storage Tanks (UST)	USTs and associated infrastructure (pipes, valves, inlets etc.) being encountered on site and during excavation

Throughout this project there has been no contamination discovered as highlighted above.

11. Cover System Verification

Following the completion of the cover system, a site visit has been carried out by Brownfield Solutions to undertake a series of hand pits to visually inspect, document, photograph, and sample the soils to verify adherence to this Remediation Strategy.

Inspection pits have been spatially distributed across the soft landscaping areas, with each pit penetrating the full depth of the cover system. The following number of pits have been inspected.

- Public open spaces: 4 pits.

The hand pits demonstrate an adequate thickness of cover, confirm physical suitability, and obtain samples so the chemical suitability can be confirmed through laboratory analysis.

The on site cover system validation has been included in Appendix 3.

The imported top soil information has been included in Appendix 4.

12. Installation of Barrier Pipe

The drinking water infrastructure recommended on this scheme is as follows:

- Protective barrier pipe is recommended for all new below-ground water supply pipes (Protectaline or similar) which is in contact with Made Ground.
- The local water authority should be consulted to inform them of the risk assessment, and to obtain their approval.

The relevant barrier pipe receipt has been included in Appendix 5.

All relevant barrier pipe project photo records have been in Appendix 6.

1. References

1. A. & H. Construction & Developments PLC: Construction Phase Plan - 2015 : Construction Phase Health & Safety Plan
2. Rhodes Business Park, Middleton, Document Title: Remediation Strategy, Document no.: STV6211-R03-Rev_A Date: January 2025, Client: OLF1 PROPCO2 S.A.R.L



KEY
 Red Line Boundary Area: 1.22 Acres / 0.4951 Hectares

Schedule of Accommodation

UNIT 1	UNIT 2	UNIT 3
Warehouse (GIA)	1,886	19,373
Office Area	112	1,205
Total Area	1,888	21,180

2 No. x Level Access Doors

19 Car Parking Spaces (Inc. 2 DDA & 2 EV Spaces)
 10 Cycle Spaces
 1 Motorcycle Space
(Car parking shown to LPH car parking standards 1:100gpm)

Separate Carport

8 Car Parking Spaces (1 Inc. 1 DDA & 2 EV Spaces)
 1 Motorcycle Space
(Car parking shown to LPH parking standards 10% DDA and 2.5% PTW of total parking)

NOTE
 Drawing is based on Topographical survey: Station Number P16156 Revision A, dated 04.06.16.
 The red line boundary is indicative and based on site survey information. Actual site boundary to be confirmed with Land Registry Title Plan.
 All trees are shown indicatively and an Arboricultural Survey will need to be carried out to confirm tree sizes, locations and species. TPO search information and also (RPA) tree root protection areas to be confirmed, to ascertain the full extent of development area.
 Extent of River Irk is shown indicatively for illustrative purposes and a more detailed site survey would be required to confirm the River Irk boundary and extent.
 Environmental Agency Information indicates the site is located within Flood Zone 3.

Revisions:
 PD1: Initial Concept 03. 10.08.23 DM

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PROPOSED SITE PLAN OPTION 03

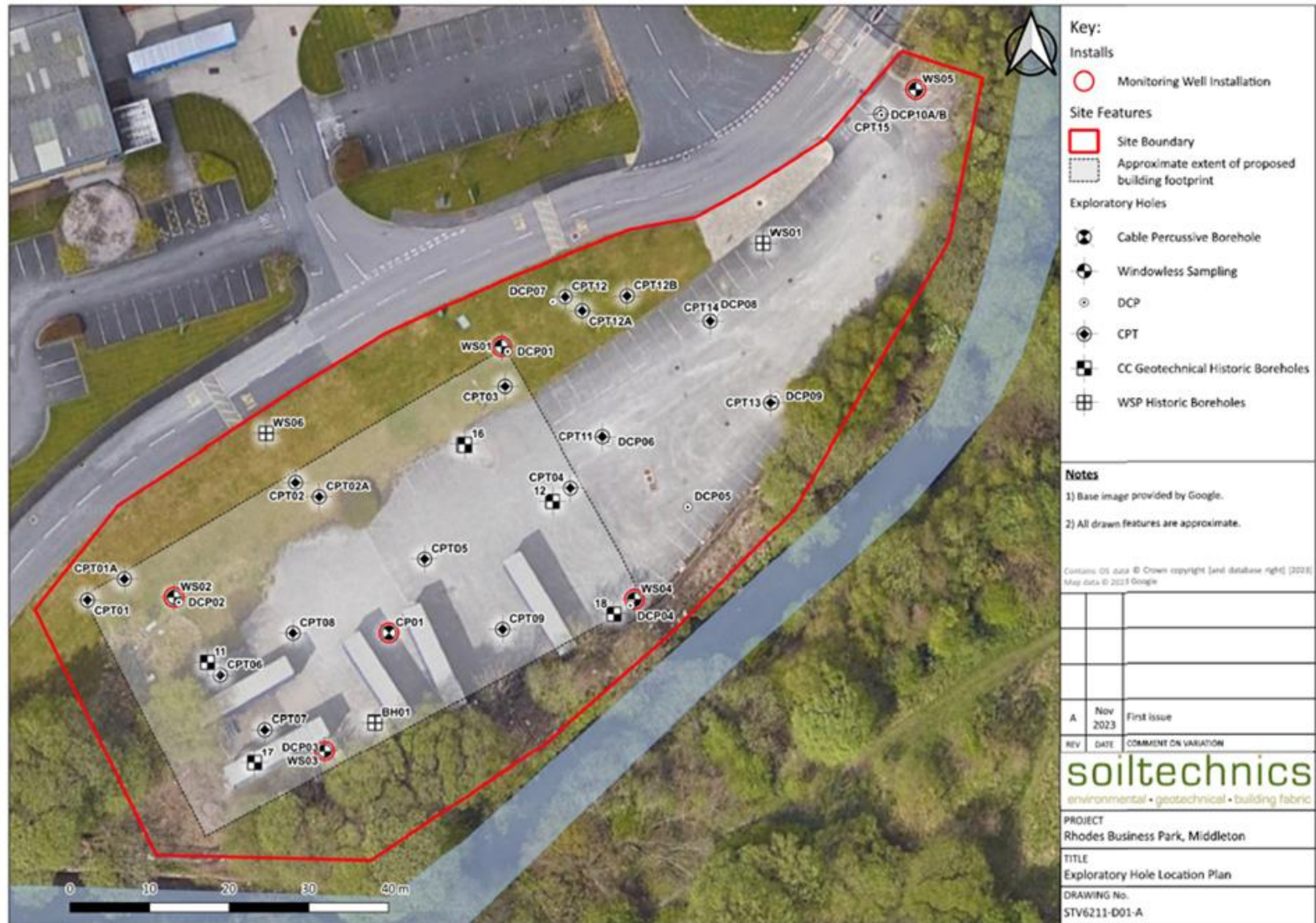
Status: PRELIMINARY
Drawn by: DM **Checked by:** RI
Date: 08/08/2023

Document Number:
 XXX-PHP-ZZ-ZZ-DR-A-4694-005-P01

Scale: A3 1:500
 0 10m 20m

Copyright reserved. Dimensions to be checked on site. Discrepancies to be reported before proceeding.

Appendix 2: Exploratory Hole Location Plan





**A. & H. Construction
& Developments PLC**
Building and Civil Engineering Contractors

Appendix 3: Cover System Validation

AEF/C6624/15348

19th March 2026

A & H Construction
The Counting House
61 Charlotte Street
St Paul's Square
Birmingham
B3 1PX

For the attention of Adèle Aston

Dear Adèle

Re: C602 Unit 1 Rhodes Business Park, Silburn Way, M24 4NE – Clean Cover System Validation

We write to report on the validation testing of the clean cover system at the above site.

Remedial Requirements

The remediation requirements in accordance with the Remediation Strategy report undertaken by Soiltechnics (Report Ref: STV6211-R03-Rev_A) issued in January 2025 were for installation of a clean cover system in soft landscaping areas comprising chemically and physically suitable (“clean”) validated topsoil should be installed. This is required to be a minimum of 150mm in thickness and does not require a capillary break layer or no dig layer.

Once installed, there is a requirement to provide evidence of the chemical suitability and depths of the clean cover system, to be carried out by a suitably qualified Geo-environmental Engineer. Inspection pits are required to be spatially distributed across the soft landscaping areas, with a total of at least 4 pits excavated across the site. The hand pits should demonstrate an adequate thickness of cover, confirm physical suitability, and obtain samples so the chemical suitability can be confirmed through laboratory analysis.

Chemical Suitability

The requirements for testing based on the approved Remediation Strategy are detailed below:

Material	Source	Testing Suite	Sampling Frequency
Topsoil	Recycled Source	BSL Default suite: arsenic, cadmium, chromium (total and hex), copper, nickel, mercury, lead, zinc, selenium, speciated polycyclic hydrocarbons (PAH 16), water soluble sulphate (2:1 extract), soil organic matter and pH. Additional metals Beryllium, Boron Cyanide (free and complex) Asbestos screen TPH CWG inc CTEX and MTBE	1 sample per 100m ³ (minimum of 3 samples per source)

In accordance with the Remediation Strategy, samples are required to be taken after placement of the soils.

BSL visited the site on 13th March 2025 to obtain samples from the placed topsoil within the soft landscaped areas to undertake combined chemical suitability and depth validation in accordance with the requirements of the Remediation Strategy. Hand pits were excavated in the soft landscapes area of the site with locations selected at random by a suitably qualified Geo-Environmental engineer; The locations of which are shown on the Validation Location Plan, Drawing No. C6624/01.

The topsoil comprised generally light to dark brown, slightly clayey to clayey gravelly sand with rootlets. Sand was fine to coarse. Gravel was sub-rounded to sub-angular of mudstone.

As part of the verification works, BSL carried out a visual inspection of the topsoil and did not identify the presence of any cobble or boulder sized materials, any evidence of sharps or other potentially physically harmful materials. No visual or olfactory evidence of contamination was noted in any of the soft landscaping areas, and no evidence of asbestos containing materials was noted.

A&H Construction advised that a total of 410m³ of topsoil had been imported from a single source, noted to be Astley in Greater Manchester. Therefore, to meet the required testing frequency, five samples were taken and tested for a suite of heavy metals, pH, water soluble sulphate, speciated PAHs, Total and free cyanide, asbestos screen, banded petroleum hydrocarbons (TPH CWG), BTEX and MTBE, as was required by the Remediation Strategy. The testing results were compared against the appropriate Generic Assessment Criteria, in this case S4ULs for POS (Park) at 2.5% SOM in accordance with the requirements of the Remediation Strategy. The results of the laboratory analysis are presented in the attached report.

The results show the soils to be below the relevant screening criteria and are therefore considered acceptable for use in garden areas.

Delivery notes have been requested from the contractor and are pending at the time of writing.

Depth Validation

On 13th March 2026, BSL visited site to validate the depth of soil across soft landscaped area of the site. Topsoil was encountered from ground level to a minimum depth of 150mm, as shown in the table below.

Location	Depth/ Stratum	Pass / Fail
TP01	0-200mm Topsoil	Pass
TP02	0-200mm Topsoil	Pass
TP03	0-400mm Topsoil	Pass
TP04	0-200mm Topsoil	Pass
TP05	0-350mm Topsoil	Pass

A photographic record of the validation works is enclosed.

Closing Remarks

Based on our recent site visit and validation works, we confirm that the cover layer within across the site in soft landscaping areas is acceptable at the time of carrying out the validation.

Delivery notes have been requested from the contractor and are pending at the time of writing.

This letter report should be provided to the Local Authority and Warranty Provider to satisfy the planning conditions relating to validation attached to the development.

We trust the above and enclosed meets with your current requirements, however if you have any queries then please do not hesitate to contact us.

Yours sincerely,

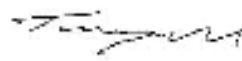
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Enc. Validation Photographs
 Drawing C6624/01 Cover System Validation Plan
 Laboratory Test Results (EMT-26-3973-Batch-1-Report-202603190900)



Photo 1



Photo 2



Photo 3



Photo 4

Photo Descriptions

1: Test area for TP01

2: TP01 - Excavation Location

3: TP01 - Depth measurement at 0.2m

4: TP01 - Arisings

Positions are collected via GPS with the approximate accuracy shown in square brackets



CLIENT

A & H CONSTRUCTION

JOB NO.

C6624

JOB NAME

RHODES BUSINESS PARK, MIDDLETON

PHOTOBOARD TITLE

CLEAN COVER VALIDATION



Photo 5



Photo 6



Photo 7



Photo 8

Photo Descriptions

5: Test area for TP02

6: TP02 – Excavation Location

7: TP02 - Depth measurement at 0.2m

8: TP02 - Arisings

Positions are collected via GPS with the approximate accuracy shown in square brackets



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PHOTOBOARD TITLE

CLEAN COVER VALIDATION



Photo 9



Photo 10



Photo 11



Photo 12

Photo Descriptions

9: Test area for TP03

10: TP03 - Excavation Location

11: TP03 - Depth measurement at 0.4m

12: TP03 - Arisings

Positions are collected via GPS with the approximate accuracy shown in square brackets



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JOB NAME

RHODES BUSINESS PARK, MIDDLETON

PHOTOBOARD TITLE

CLEAN COVER VALIDATION



Photo 13



Photo 14



Photo 15



Photo 16

Photo Descriptions

13: Test area for TP04

14: TP04 - Excavation Location

15: TP04 - Depth measurement at 0.2m

16: Test area for TP05

Positions are collected via GPS with the approximate accuracy shown in square brackets



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A & H CONSTRUCTION

JOB NO.

C6624

JOB NAME

RHODES BUSINESS PARK, MIDDLETON

PHOTOBOARD TITLE

CLEAN COVER VALIDATION



Photo 17



Photo 18



Photo 19



Photo 20

Photo Descriptions

17: Test area for TP05

18: TP05 - Excavation Location

19: TP056 - Depth measurement at 0.35m

20: TP05 - Arisings

Positions are collected via GPS with the approximate accuracy shown in square brackets



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JOB NO.

C6624

JOB NAME

RHODES BUSINESS PARK, MIDDLETON

PHOTOBOARD TITLE

CLEAN COVER VALIDATION

Human Health Assessment Summary - Soils Test Data						Stratum: Location: Depth: Date:	TS01 0.20 13/03/2026	TS02 0.15 13/03/2026	TS03 0.40 13/03/2026	TS04 0.20 13/03/2026	TS05 0.35 13/03/2026
Contaminant	GAC (mg/kg)	No. Samples	Min. Value	Max. Value	No. Samples ≥GAC						
Moisture Content	-	5	30.30	55.10	-	55	30	43	36	34	
Soil Organic Matter	-	5	2.60	12.00	-	7	12.0	2.6	8.2	6.3	
pH	-	5	7.41	8.27	-	8	8.1	8.2	7.8	7.4	
Water Soluble Sulphate (2:1 Leachate Equivalent) (mg/l)	Note mg/l	5	48.40	218.80	-	68	48.4	218.8	92.4	85.8	
Arsenic	170	5	2.70	58.20	0	6	58.2	7.7	2.7	4.6	
Cadmium	532	5	0.30	0.80	0	0	0.8	0.3	<0.3	<0.3	
Chromium (III)	33000	5	0.00	0.00	0	38.7	91.1	44.1	41.7	53.1	
Hexavalent Chromium (VI)	220	5	0.00	<LOD	0	<0.3	<0.3	<0.3	<0.3	<0.3	
Copper	44000	5	19.00	62.00	0	32	62.0	30.0	19.0	24.0	
Lead	1300	5	21.00	407.00	0	53	407.0	55.0	21.0	33.0	
Mercury	30.0	5	0.20	7.90	0	0	7.9	0.2	<0.1	0.3	
Nickel	800	5	12.50	16.40	0	15	14.4	12.5	14.2	16.4	
Selenium	1800	5	1.00	1.00	0	<1	<1	1.0	<1	1.0	
Zinc	170000	5	56.00	197.00	0	197	185.0	158.0	56.0	68.0	
Naphthalene	1900.0	5	0.00	<LOD	0	<0.20	<0.04	<0.04	<0.04	<0.04	
Acenaphthylene	30000	5	0.04	0.04	0	<0.15	<0.03	0.04	<0.03	<0.03	
Acenaphthene	30000	5	0.00	<LOD	0	<0.25	<0.05	<0.05	<0.05	<0.05	
Fluorene	20000	5	0.00	<LOD	0	<0.20	<0.04	<0.04	<0.04	<0.04	
Phenanthrene	62000	5	0.11	0.38	0	<0.15	0.38	0.13	0.11	0.13	
Anthracene	150000	5	0.13	0.13	0	<0.20	0.13	<0.04	<0.04	<0.04	
Fluoranthene	6300	5	0.14	0.72	0	0.6400	0.72	0.53	0.14	0.21	
Pyrene	15000	5	0.12	0.61	0	0.5400	0.61	0.48	0.12	0.20	
Benzo(a)anthracene	56	5	0.08	0.35	0	<0.30	0.35	0.26	0.08	0.12	
Chrysene	110	5	0.08	0.44	0	0.3700	0.44	0.33	0.08	0.15	
Benzo(b)fluoranthene	15.0	5	0.06	0.41	0	<0.25	0.41	0.32	0.06	0.14	
Benzo(k)fluoranthene	410	5	0.03	0.16	0	<0.10	0.16	0.12	0.03	0.05	
Benzo(a)pyrene	12.0	5	0.26	0.39	0	<0.20	0.39	0.26	<0.04	<0.04	
Indeno(1,2,3-cd)pyrene	170	5	0.17	0.22	0	<0.20	0.22	0.17	<0.04	<0.04	
Dibenz(a,h)anthracene	1.30	5	0.05	0.05	0	<0.20	0.05	<0.04	<0.04	<0.04	
Benzo(ghi)perylene	1500	5	0.17	0.23	0	<0.20	0.23	0.17	<0.04	<0.04	
Asbestos Detected (Detected or Not-Detected)	Y	5	0.00	0.00	0	NAD	NAD	NAD	NAD	NAD	
Petroleum Hydrocarbons Aliphatic >EC5-EC6	130000	5	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aliphatic >EC6-EC8	220000	5	0.10	0.10	0	<0.1	<0.1	<0.1	<0.1	0.1	
Petroleum Hydrocarbons Aliphatic >EC8-EC10	18000	5	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aliphatic >EC10-EC12	23000	5	0.00	<LOD	0	<0.2	<0.2	<0.2	<0.2	<0.2	
Petroleum Hydrocarbons Aliphatic >EC12-EC16	25000	5	5.00	5.00	0	<4	<4	<4	5.0	<4	
Petroleum Hydrocarbons Aliphatic >EC16-EC35	480000	5	43.00	109.00	0	60	43.0	58.0	109.0	87.0	
Petroleum Hydrocarbons Aromatic >EC5-EC7	84000	5	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aromatic >EC7-EC8	95000	5	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aromatic >EC8-EC10	8500	5	0.00	<LOD	0	<0.1	<0.1	<0.1	<0.1	<0.1	
Petroleum Hydrocarbons Aromatic >EC10-EC12	9700	5	0.00	<LOD	0	<0.2	<0.2	<0.2	<0.2	<0.2	
Petroleum Hydrocarbons Aromatic >EC12-EC16	10000	5	11.00	12.00	0	<4	<4	<4	12.0	11.0	
Petroleum Hydrocarbons Aromatic >EC16-EC21	7700	5	12.00	43.00	0	22	12.0	21.0	43.0	35.0	
Petroleum Hydrocarbons Aromatic >EC21-EC35	7800	5	121.00	287.00	0	228	121.0	207.0	287.0	204.0	
Benzene	100.00	5	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	
Toluene	95000	5	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	
Ethyl benzene	22000	5	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	
o-Xylene	24000	5	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	
m- & p-Xylene	47000	5	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	
MTBE	84	5	0.00	<LOD	0	<0.005	<0.005	<0.005	<0.005	<0.005	
Water Soluble Boron	21000.0	5	0.00	0.00	0	3.8	1.1	3.2	1.9	2.5	
Beryllium	2.2	5	0.00	0.00	0	0.6	0.8	<0.5	0.5	0.6	
Mean Average SOM 7.1											
Mean Average pH 8.0											
Assessment Scenario Selected: Public open Space (POS) Park 2.5% SOM Job Number: C6624 Client: A & H Construction Site: C602 Unit 1 Rhodes Business Park, Silburn Way Stratum: Topsoil (clean cover)						Values in RED are > the relevant screening levels and further assessment is required. Exceedance of the screening levels alone may not mean a risk is posed.					

Brownfield Solutions Limited
173-183 Witton Street
Northwich
Cheshire
United Kingdom
CW9 5LP



Attention : Tim Mayall
Date : 19th March, 2026
Your reference : C6624
Our reference : Test Report 26/3973 Batch 1
Location : Rhodes Business Park, Middleton
Date samples received : 13th March, 2026
Status : Final Report
Issue : 202603190900

Five samples were received for analysis on 13th March, 2026 of which five were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 18.462 kg of CO2

Scope 1&2&3 emissions - 43.631 kg of CO2

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Brownfield Solutions Limited
Reference: C6624
Location: Rhodes Business Park, Middleton
Contact: Tim Mayall
EMT Job No: 26/3973

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15						Please see attached notes for all abbreviations and acronyms		
Sample ID	TS01	TS02	TS03	TS04	TS05								
Depth	0.20	0.15	0.40	0.20	0.35								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	13/03/2026	13/03/2026	13/03/2026	13/03/2026	13/03/2026								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1						LOD/LOR	Units	Method No.
Date of Receipt	13/03/2026	13/03/2026	13/03/2026	13/03/2026	13/03/2026								
Arsenic #	6.4	58.2	7.7	2.7	4.6						<0.5	mg/kg	TM30/PM15
Beryllium	0.6	0.8	<0.5	0.5	0.6						<0.5	mg/kg	TM30/PM15
Cadmium #	0.3	0.8	0.3	<0.3	<0.3						<0.3	mg/kg	TM30/PM15
Chromium #	38.7	91.1	44.1	41.7	53.1						<0.5	mg/kg	TM30/PM15
Copper #	32	62	30	19	24						<1	mg/kg	TM30/PM15
Lead #	53	407	55	21	33						<5	mg/kg	TM30/PM15
Mercury #	0.2	7.9	0.2	<0.1	0.3						<0.1	mg/kg	TM30/PM15
Nickel #	15.2	14.4	12.5	14.2	16.4						<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	1	<1	1						<1	mg/kg	TM30/PM15
Water Soluble Boron #	3.8	1.1	3.2	1.9	2.5						<0.1	mg/kg	TM74/PM32
Zinc #	197	185	158	56	68						<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.20 ^{AA}	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.15 ^{AA}	<0.03	0.04	<0.03	<0.03						<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.25 ^{AA}	<0.05	<0.05	<0.05	<0.05						<0.05	mg/kg	TM4/PM8
Fluorene #	<0.20 ^{AA}	<0.04	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.15 ^{AA}	0.38	0.13	0.11	0.13						<0.03	mg/kg	TM4/PM8
Anthracene #	<0.20 ^{AA}	0.13	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.64 ^{AA}	0.72	0.53	0.14	0.21						<0.03	mg/kg	TM4/PM8
Pyrene #	0.54 ^{AA}	0.61	0.48	0.12	0.20						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.30 ^{AA}	0.35	0.26	0.08	0.12						<0.06	mg/kg	TM4/PM8
Chrysene #	0.37 ^{AA}	0.44	0.33	0.08	0.15						<0.02	mg/kg	TM4/PM8
Benzo(b)fluoranthene #	<0.35 ^{AA}	0.57	0.44	0.09	0.19						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.20 ^{AA}	0.39	0.26	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.20 ^{AA}	0.22	0.17	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.20 ^{AA}	0.05	<0.04	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.20 ^{AA}	0.23	0.17	<0.04	<0.04						<0.04	mg/kg	TM4/PM8
PAH 16 Total	<3.0 ^{AA}	4.1	2.8	0.6	1.0						<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.25 ^{AA}	0.41	0.32	0.06	0.14						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.10 ^{AA}	0.16	0.12	0.03	0.05						<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	79 ^{AA}	93	99	95	93						<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1						<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	0.1						<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1						<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2						<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	5	<4						<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	11						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	53	36	51	102	76						<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH_CU+HS_1D_AL)	53	36	51	107	87						<19	mg/kg	TM5/PM8/PM16/PM12/PM10

Element Materials Technology

Client Name: Brownfield Solutions Limited
Reference: C6624
Location: Rhodes Business Park, Middleton
Contact: Tim Mayall
EMT Job No: 26/3973

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15						Please see attached notes for all abbreviations and acronyms		
Sample ID	TS01	TS02	TS03	TS04	TS05								
Depth	0.20	0.15	0.40	0.20	0.35								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T								
Sample Date	13/03/2026	13/03/2026	13/03/2026	13/03/2026	13/03/2026								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	13/03/2026	13/03/2026	13/03/2026	13/03/2026	13/03/2026						LOD/LOR	Units	Method No.
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1						<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1						<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1 ^{SV}	<0.1	<0.1 ^{SV}	<0.1 ^{SV}	<0.1						<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2						<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	12	11						<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	22	12	21	43	35						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	228	121	207	287	204						<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	250	133	228	342	250						<19	mg/kg	TM5/PM8/PM16
Total aliphatics and aromatics (C5-35) (EH_CU+HS_1D_Total)	303	169	279	449	337						<38	mg/kg	TM5/PM8/PM16
MTBE #	<5 ^{SV}	<5	<5 ^{SV}	<5 ^{SV}	<5						<5	ug/kg	TM36/PM12
Benzene #	<5 ^{SV}	<5	<5 ^{SV}	<5 ^{SV}	<5						<5	ug/kg	TM36/PM12
Toluene #	<5 ^{SV}	<5	<5 ^{SV}	<5 ^{SV}	9						<5	ug/kg	TM36/PM12
Ethylbenzene #	<5 ^{SV}	<5	<5 ^{SV}	<5 ^{SV}	<5						<5	ug/kg	TM36/PM12
m/p-Xylene #	<5 ^{SV}	<5	<5 ^{SV}	<5 ^{SV}	<5						<5	ug/kg	TM36/PM12
o-Xylene #	<5 ^{SV}	<5	<5 ^{SV}	<5 ^{SV}	<5						<5	ug/kg	TM36/PM12
Natural Moisture Content	55.1	30.3	42.5	35.6	33.6						<0.1	%	PM4/PM0
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3						<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0680	0.0484	0.2188	0.0924	0.0858						<0.0015	g/l	TM38/PM20
Free Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	mg/kg	TM89/PM45
Complex Cyanide	1.2	1.4	1.0	<0.5	0.8						<0.5	mg/kg	TM89/PM45
Organic Matter	6.6	12.0	2.6	8.2	6.3						<0.2	%	TM21/PM24
pH #	8.27	8.08	8.22	7.77	7.41						<0.01	pH units	TM73/PM11

Client Name: Brownfield Solutions Limited
Reference: C6624
Location: Rhodes Business Park, Middleton
Contact: Tim Mayall

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
26/3973	1	TS01	0.20	3	Simon Postlewhite	16/03/2026	General Description (Bulk Analysis)	Brown soil/stones
					Simon Postlewhite	16/03/2026	Asbestos Fibres	NAD
					Simon Postlewhite	16/03/2026	Asbestos Fibres (2)	NAD
					Simon Postlewhite	16/03/2026	Asbestos ACM	NAD
					Simon Postlewhite	16/03/2026	Asbestos ACM (2)	NAD
					Simon Postlewhite	16/03/2026	Asbestos Type	NAD
					Simon Postlewhite	16/03/2026	Asbestos Type (2)	NAD
26/3973	1	TS02	0.15	6	Simon Postlewhite	14/03/2026	General Description (Bulk Analysis)	Brown soil/stones
					Simon Postlewhite	14/03/2026	Asbestos Fibres	NAD
					Simon Postlewhite	14/03/2026	Asbestos Fibres (2)	NAD
					Simon Postlewhite	14/03/2026	Asbestos ACM	NAD
					Simon Postlewhite	14/03/2026	Asbestos ACM (2)	NAD
					Simon Postlewhite	14/03/2026	Asbestos Type	NAD
					Simon Postlewhite	14/03/2026	Asbestos Type (2)	NAD
26/3973	1	TS03	0.40	9	Simon Postlewhite	14/03/2026	General Description (Bulk Analysis)	Brown soil/stones
					Simon Postlewhite	14/03/2026	Asbestos Fibres	NAD
					Simon Postlewhite	14/03/2026	Asbestos Fibres (2)	NAD
					Simon Postlewhite	14/03/2026	Asbestos ACM	NAD
					Simon Postlewhite	14/03/2026	Asbestos ACM (2)	NAD
					Simon Postlewhite	14/03/2026	Asbestos Type	NAD
					Simon Postlewhite	14/03/2026	Asbestos Type (2)	NAD
26/3973	1	TS04	0.20	12	Simon Postlewhite	14/03/2026	General Description (Bulk Analysis)	Brown soil/stones
					Simon Postlewhite	14/03/2026	Asbestos Fibres	NAD
					Simon Postlewhite	14/03/2026	Asbestos Fibres (2)	NAD
					Simon Postlewhite	14/03/2026	Asbestos ACM	NAD
					Simon Postlewhite	14/03/2026	Asbestos ACM (2)	NAD
					Simon Postlewhite	14/03/2026	Asbestos Type	NAD
					Simon Postlewhite	14/03/2026	Asbestos Type (2)	NAD
26/3973	1	TS05	0.35	15	Simon Postlewhite	16/03/2026	General Description (Bulk Analysis)	Brown soil/stones
					Simon Postlewhite	16/03/2026	Asbestos Fibres	NAD
					Simon Postlewhite	16/03/2026	Asbestos Fibres (2)	NAD
					Simon Postlewhite	16/03/2026	Asbestos ACM	NAD
					Simon Postlewhite	16/03/2026	Asbestos ACM (2)	NAD
					Simon Postlewhite	16/03/2026	Asbestos Type	NAD
					Simon Postlewhite	16/03/2026	Asbestos Type (2)	NAD

Client Name: Brownfield Solutions Limited

Reference: C6624

Location: Rhodes Business Park, Middleton

Contact: Tim Mayall

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 26/3973

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).

Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitatively, with a matrix specific limit of detection.

Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x5 Dilution

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 26/3973

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes

EMT Job No: 26/3973

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM74	Analysis of water soluble boron (20:1 extract) by ICP-OES.	PM32	Hot water soluble boron is extracted from dried and ground samples using a 20:1 ratio.	Yes		AD	Yes
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.			AR	Yes



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Appendix 4: Imported Topsoil Information



Freeland Horticulture Ltd
Rosedale Nursery
College Road
Hextable
Kent BR8 7LT

Attention: Philippa Lambourne

Our Ref: SLC-1390-SA

23 June 2025

Dear Philippa

Topsoil Analysis Report: Astley, Greater Manchester Topsoil May 2025

We have completed the analysis of the topsoil sample recently taken from the above site and it has been forwarded to an approved laboratory for analysis and have the pleasure of reporting our findings. The purpose of the analysis was to determine the suitability of the topsoil for general landscaping purposes and its compliance with the current British Standard for topsoil (BS3882).

SOIL SAMPLING & EXAMINATION

At the time of our sampling visit the topsoil was stored in a stockpile. A series of 10 hand augered trial holes were constructed across the stockpile for the purpose of soil examination and sample collection. As the soil examination confirmed a consistent topsoil composition, the ten samples were combined together to form one composite sample for analysis purposes. The soil was described as dark brown, slightly moist and friable with a well-developed, fine to medium granular structure. The soil contained a low fraction of small stones and no deleterious materials (eg. building waste materials, glass, roots or rhizomes of pernicious weeds) or unusual odours (eg. hydrocarbons) were recorded.

LABORATORY ANALYSIS

The topsoil sample was submitted to a UKAS and MCERTS accredited laboratory for routine physical and chemical parameters to confirm the composition and fertility of the soil. The following parameters were determined:

- ⊕ pH & electrical conductivity values;
- ⊕ major plant nutrients (N, P, K, Mg) & organic matter content;
- ⊕ particle size distribution and stone content;
- ⊕ heavy metals & potentially toxic elements (As, Cd, Cr, Cu, Pb, Hg, Ni, Se, Zn, B);
- ⊕ sulphate, sulphur, sulphide;
- ⊕ total cyanide and total (mono) phenols;
- ⊕ speciated PAHs (US EPA16)
- ⊕ banded aromatic and aliphatic petroleum hydrocarbons (C₅-C₃₅).
- ⊕ Asbestos

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

Phone: 01322 619161;

Freeland horticulture Ltd, Registered in England: Rosedale Nursery, College Road, Hextable, Kent BR8 7LT
Company Registration No: 04015968

COMMENTS***pH & Electrical Conductivity (salinity) Values***

The sample was alkaline in nature (pH 8.4) with a pH value that would be considered suitable for general landscaping purposes.

The electrical conductivity (salinity) value using the soil:water extract was (1135 μ S/cm) indicating that soluble salts are not present at levels that would be harmful to plants.

The electrical conductivity values by CaSO₄ extract (BS3882 requirement) fell below the maximum specified value (3300 μ S/cm) given in BS3882:2015.

Organic Matter & Nutrient Status

The sample was rich in organic matter and all major plant nutrients. No further additions of compost or fertiliser are required, or indeed recommended, for at least the first growing season.

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

Particle Size Distribution & Stone Content

The sample contained 73% sand and fell into the sandy loam texture class. This particle size distribution is considered suitable for a broad range of landscape applications, including tree and shrub planting, turfing and seeding.

The sample was Virtually free from stones of 50 mm and upwards in diameter and only contained a slight fraction of smaller stones (12.3%). As such, stones will not restrict the use of the soil for landscaping purposes.

Potential Contaminants

We are not aware of any specified contaminant levels set for the proposed end-use of this topsoil. This includes human health, environmental protection and metals considered toxic to plants. In the absence of any site-specific assessment criteria, the concentrations that affect human health have been compared with the 'residential with homegrown produce' land use in the Suitable For Use Levels presented in 'The LQM/CIEH S4UIs' for Human Health Risk Assessment (2015) and DEFRA SP1010: 'Development of Category 4 Screening Levels' for Assessment of Land Affected by Contamination – Policy Companion Document (2014).

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

CONCLUSION

The purpose of the analysis was to determine the suitability of the topsoil for general landscaping purposes. From the soil examination and laboratory analysis, the soil is described as an alkaline, non-saline, sandy loam. The organic matter and nutrient levels are acceptable, and no significant contamination was found with respect to the parameters determined. This soil would adhere to the current BS3882 specification for 'multipurpose grade'.

To conclude, based on our findings, the topsoil would be considered well-suited to general landscaping purposes provided the physical condition of the soil is maintained.

We hope this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned if you have any queries or comments.

George Longmuir MSc Soil Sci. M.I Soil Sci.

Client	Freeland Horticulture Ltd
Job Name	Topsoil Analysis
Site	Astley, Greater Manchester
Month/Year	May 25
Our Ref	1390-SA
Date	23 June 2025

pH Value & Salinity

pH value (1:2.5 soil/water ext)	units
Electrical Conductivity (1:2.5 soil/water ext)	µS/cm
Electrical Conductivity (1:2.5 soil/CaSO ₄ ext)	µS/cm

Composite sample

8.4
1135
2983

Organic Matter & Nutrient Status

Organic Matter (LOI)	%
Organic Carbon (Derived)	%
Total Nitrogen	%
Carbon:Nitrogen Ratio	:1
Available Phosphorus	mg/l
Available Potassium	mg/l
Available Magnesium	mg/l

5.6
3.3
0.277
0.6
40.6
820
166

Particle Size Analysis & Stones

Clay (<0.002mm)	%
Silt (0.063-0.002mm)	%
Sand (2.0-0.063mm)	%
Texture Class	UK Class

12
15
73
SandyLoam

Stones 2-20mm	% by DW
Stones 20-50mm	% by DW
Stones >50mm	% by DW

11.3
1.8
0.9

Potential Contaminants

Total Arsenic (As)	mg/kg
Total Cadmium (Cd)	mg/kg
Total Chromium (Cr)	mg/kg
Hexavalent Chromium (Cr ^{VI})	mg/kg
Total Copper (Cu)	mg/kg
Total Lead (Pb)	mg/kg
Total Mercury (Hg)	mg/kg
Total Nickel (Ni)	mg/kg
Total Selenium (Se)	mg/kg
Total Zinc (Zn)	mg/kg
Total Beryllium (Be)	mg/kg
Total Barium (Ba)	mg/kg
Total Vanadium (V)	mg/kg
Hot Water Soluble Boron (B)	mg/kg
Total Cyanide (CN)	mg/kg
Elemental Sulphur (S)	mg/kg
Easily Liberated Sulphide (S ⁻²)	mg/kg
Water Soluble Sulphate (SO ₄ ²⁻)	mg/l
Total Phenols Index	mg/kg
Asbestos Screen	-

6.3
0.27
15.6
<0.2
25.0
66.1
<0.2
16.7
0.16
68.7
<1
93.2
13.0
1.2
<1
<5
<1
318
<1
N.D.

Polyaromatic Hydrocarbons

Naphthalene	mg/kg
Acenaphthylene	mg/kg
Acenaphthene	mg/kg
Fluorene	mg/kg
Phenanthrene	mg/kg

0.1
<0.05
0.2
0.2
1.1

Client	Freeland Horticulture Ltd	
Job Name	Topsoil Analysis	
Site	Astley, Greater Manchester	
Month/Year	May 25	
Our Ref	1390-SA	
Date	23 June 2025	
Anthracene	mg/kg	0.2
Fluoranthene	mg/kg	1.3
Pyrene	mg/kg	1.1
Benzo[a]anthracene	mg/kg	0.6
Chrysene	mg/kg	0.6
Benzo[b]fluoranthene	mg/kg	0.7
Benzo[k]fluoranthene	mg/kg	0.3
Benzo[a]pyrene	mg/kg	0.6
Indeno[1,2,3-cd]pyrene	mg/kg	0.4
Dibenzo[a,h]anthracene	mg/kg	0.1
Benzo[g,h,i]perylene	mg/kg	<0.1
Total PAHs sum US EPA 16	mg/kg	8.0

Banded Petroleum Hydrocarbons

Aliphatic TPH >C ₅ -C ₆	mg/kg	<0.05
Aliphatic TPH >C ₆ -C ₈	mg/kg	<0.05
Aliphatic TPH >C ₈ -C ₁₀	mg/kg	<0.05
Aliphatic TPH >C ₁₀ -C ₁₂	mg/kg	<10
Aliphatic TPH >C ₁₂ -C ₁₆	mg/kg	<10
Aliphatic TPH >C ₁₆ -C ₂₁	mg/kg	21.0
Aliphatic TPH >C ₂₁ -C ₃₅	mg/kg	170
Aliphatic TPH >C ₃₅ -C ₄₄	mg/kg	20.0

Aromatic TPH >C ₅ -C ₇	mg/kg	<0.05
Aromatic TPH >C ₇ -C ₈	mg/kg	<0.05
Aromatic TPH >C ₈ -C ₁₀	mg/kg	<0.05
Aromatic TPH >C ₁₀ -C ₁₂	mg/kg	<10
Aromatic TPH >C ₁₂ -C ₁₆	mg/kg	<10
Aromatic TPH >C ₁₆ -C ₂₁	mg/kg	98.0
Aromatic TPH >C ₂₁ -C ₃₅	mg/kg	240
Aromatic TPH >C ₃₅ -C ₄₄	mg/kg	35.0

Total Petroleum Hydrocarbons (C ₅ -C ₄₄)	mg/kg	597
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BTEX

Benzene	mg/kg	<0.02
Toluene	mg/kg	<0.2
Ethyl Benzene	mg/kg	<0.04
m- & p- Xylene	mg/kg	<0.2
o-Xylene	mg/kg	<0.1

Chain of Custody requires a Freeland Ticket - 01322 619161



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Appendix 5: Barrier Pipe Receipt

██████████ ██████████ ██████████ ██████████ ██████████ ██████████

Clayton: 07720 967545
C/o A & H Construction
Rhodes Business Park
Silburn Road
Middleton, Rochdale
M24 4NE

6226/007/PB

Product Code	Description	UOM	Supplied Qty	To Follow Qty
P28505	GPS 32MMX50M P-LINE COIL SDR11 BOUGHT AND SOLD IN 50 METRE COILS MP0731		1	0
CA9328	PLN BARRIER COUPLER 25X25MM		1	0
CA9359	PLN BARRIER END PLUG 32MM		2	0
BE7825	* CPE 100M WATER BLUE DETECTABLE MESH		1	0

23.25 Kg

Ken





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Appendix 6: Barrier Pipe Install Photographs



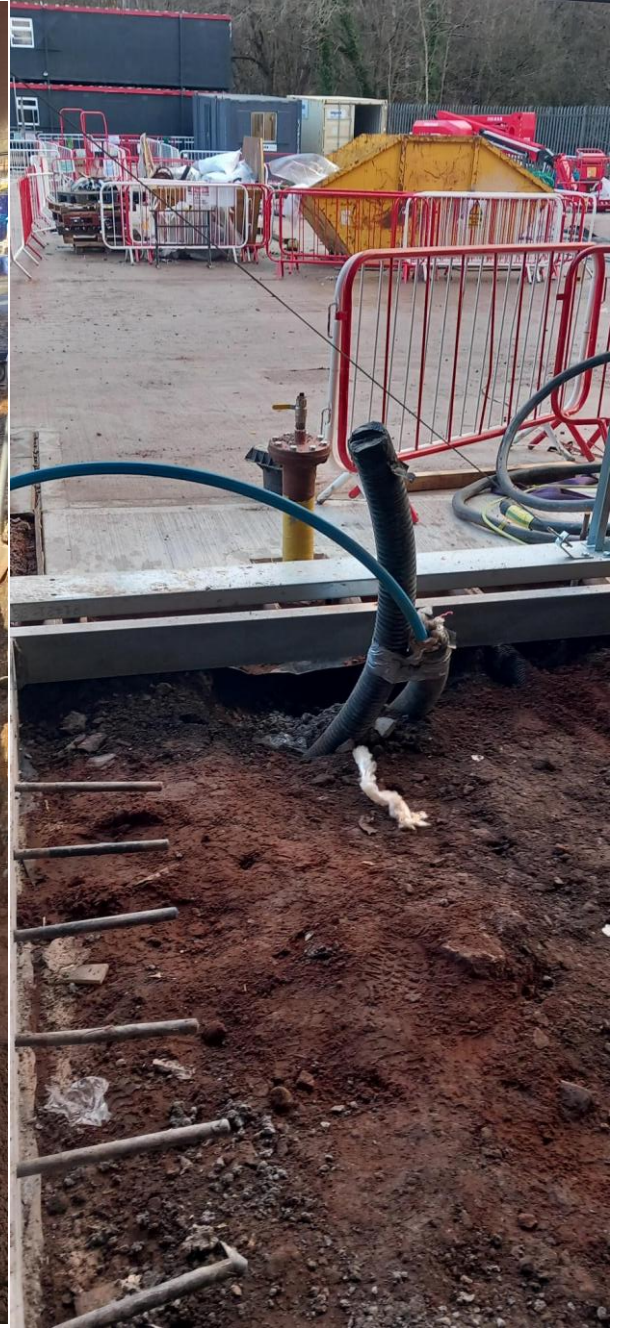
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Barrier Pipe Photographs





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