



Client:

Cringle Rd Developments Ltd
7 Leegate Close
Heaton Moor
Stockport
SK4 3NN

Consultant/Engineer:

Verification Report Plots 15 to 18, 23 to 25, and 55

Residential Development at Land off Cringle Road, Levenshulme, Manchester,

Oct 2024

Site Ref: 6048/VCR V1.00 PVR3

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Client:
Cringle Rd Developments Ltd
7 Leegate Close
Heaton Moor
Stockport
SK4 3NN

Consultant:

Verification Report Plots 15 to 18, 23 to 25, and 55

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Client:

Cringle Rd Developments Ltd
7 Leegate Close
Heaton Moor
Stockport
SK4 3NN

Consultant:

Verification Report Plots 15 to 18, 23 to 25, and 55

1. Introduction

This report has been produced in order to provide information to verify that the remedial measures as detailed within the following reports have been applied as specified. All of which have been submitted in consideration of condition 8 Ground Conditions of the planning consent and discharged as acceptable by the relevant department of the LPA:

Author	Date	Ref	Title / description
GeoAssist Ltd	Oct 2020	6048/VCR-RSDP v1.01	Remediation Strategy and Deployment Plan
GeoAssist Ltd	March 2021	6048/VCR-GRA v1.00	Gas Risk Assessment
GeoAssist Ltd	Oct 2022	6048/VCR-GRAU V2.00	Gas Risk Assessment Update
GeoAssist Ltd	May 2023	Technical Note 090523 Gas Risk	Explanatory note and justification based on LPA queries

Table 1 Reports submitted to the LPA in support of planning conditions including agreed remediation strategy and deployment plan.

The approximate grid reference for the centre of the site is 388410, 393160 and the total area of the site is approximately 16,700 1.6ha. The total site area of the site is outlined with a red line on the site plan in Appendix A1. The blue line represents the plots which are covered by this verification report ie Plots 15 to 18, 23 to 25 and 55.

Verification reports for Plot 1 to 8 and 46 to 50 and for Plots 9 to 14 and 51 to 54 have been previously submitted.

Author	Date	Ref	Title / description
GeoAssist Ltd	Oct 2023	6048/VCR- PVR v1.00	Verification Report Plots 1 to 8 and 46 to 50 Information submitted in support of a phased discharge of condition 8b
GeoAssist Ltd	Apr 2024	6048/VCR- PVR2 v1.00	Verification Report Plots 9 to 14 and 51 to 54 Information submitted in support of a phased discharge of condition 8b

Table 2 Phased verification reports previously submitted to the LPA in support of planning conditions

2. Scope of Works

GeoAssist have been engaged to specifically look at providing the evidence required by the LPA to demonstrate that development has been carried out in accordance with the recommendations of the above reports and technical notes listed in table 1.

3. Description of the Site

3.1 Previous

The site is located on Land off Cringle Road, Levenshulme, Manchester. Access is off Cringle Road. The site forms an irregular shape, the topography of which is generally flat and level with the surrounding area. The land has previously been used as stables and associated pasture.

The site boundary is formed by Highfield Country Park to the north and west, Cringle Road forms part of the site boundary to the south, followed by residential property. Nelstrop Road North borders the east of the site, over which lies grazed paddocks.

3.2 Present

The development in process incorporates 57 residential dwelling units with vehicular access from Cringle Road and carparking with ancillary green space, landscaping and other works.

4. Remediation

4.1 Methodology

In summary the Approved Remediation Strategy and deployment plan recommended the following remediation treatments were implemented in limited areas of the site as depicted in the plan which forms appendix A1 to this report:

- Removal of Made Ground in affected areas to such depths that a minimum thickness of 600mm clean capping layer can be implemented in private residential garden soft landscaped areas of the site.
- The Installation of a clean cover system to be a minimum of 600mm in thickness in some residential gardens.
- Testing of the cover system at a rate of 1 sample per 50m³ for Topsoil. And 1 sample per 50m³ for subsoil.
- Segregation of contaminated soils in accessible areas at the location of WS5 (restricted by the presence of proposed dwelling houses) by means of excavating and installation of a marker membrane where appropriate.
- The incorporation of a Ground Gas membrane into the foundations of plots 8 to 25 inclusive.
- The incorporation of a standard/proprietary damp proof membrane into the foundations of plots 1 to 7 and 26 to 57 inclusive.

The remediation methodology pursued on this site follows a relatively simple engineered capping approach involving the removal, treatment and replacement of a quantity of subsoils in order to form capping where necessary.

5. Verification

5.1 Volumes of Imported Soils.

10 loads of soils have been imported to site for use in the rear gardens. The soil import invoices form appendix B2.

5.2 Testing to Confirm Compliance with Objectives

The plots requiring remediation and capping with 600mm or down to the natural stratigraphy which ever is the less are plot 15 and the front of plot 16 and 17. The front of both plots 17 and 18 are underlain by a precautionary orange marker membrane with 600mm clean capping as required by the approved remediation strategy. The marker membrane covers the area of an infilled shallow pond as indicated on the plan in Appendix A1. Photographic evidence of the membrane being placed in 2023 forms Appendix 1. Photographs of the subsequent B4 capping test sampling to confirm the depth of clean topsoil can be found in appendix C1. The presence of the marker membrane was noted at between 600 and 650mm in both of the verification trial pits in the front of plots 17 and 18. The Membrane was not penetrated. Arisings from this exercise were covered and fenced off and tests were undertaken to confirm the presence or otherwise of Asbestos fibres. Waste transfer notes associated with removal of the segregated material arising from the former pond area form appendix B1 to this report. The analytical test certificate for the segregated pond area upper materials are also included within page Appendix B1 and demonstrate that ultimately very little ACM and Asbestos fibre material was identified as being present.

The results of the verification sampling at plots 15, 16, 17, 18 and 55 confirm the depth of the capping to natural ground and the placed soils meet the clean up criteria set out in the approved remediation plan.

Chrysotile fibre was detected in 2 of the samples submitted for analysis. Subsequent quantification returned results below the limit of detection (< 0.001%). These isolated sporadic occurrences do not present a significant risk as a function of the very limited volume of identified source material and contaminant adhesion to damp soils. Consequently, no further mitigation action is considered to be necessary. The photographic record of the verification sampling and the associated laboratory certificates and analysis of results with remediation Criteria are presented in Appendix C1 to C3.

5.3 Verification of Installed Gas Measures

The Installation of gas resistant membranes at this site have been undertaken by a specialist subcontractor and have been independently certified and guaranteed by Octopus Building Services. The installation and Guarantee certificates for plots 15 to 18 and 23 to 25 by address are provided in appendix D1.

Elsewhere plot 55 has adopted a standard/proprietary 1200gauge Damp Proof Membrane as per the remediation strategy. For these membranes the contractor elected to purchase a membrane welding tool in order to make the installation process more efficient and of a higher quality.

6. Final Site Conditions

Evidence provided herein demonstrates that the approved remediation measures have been correctly applied to the soils at Plots 15 to 18 and 55. Insitu testing of imported soils has demonstrated that the soils are suitable for incorporation into the development and that they do not pose a risk to site end users by means of substances within. Third party installation and guarantee certification covers plots 15 to 18 and 23 to 25. The site has been developed in accordance with the planning requirements for contaminated land. A further report will follow incorporating only gas membrane details as the next phase of development is complete and applications are made for discharge of conditions.

The developer and all contractors employed by the developer were required to monitor for, and report any, evidence of contamination found during construction which had not been previously identified. None was encountered or reported.

The evidence presented herein demonstrates that all reasonably practicable steps as set out in the Remediation Plan have been taken to ensure the site is fit for residential purposes and the risk to the occupiers from ground contamination is low in all reasonably foreseeable circumstances.

§ .



Matthew Benson MSc GMICE
Geotechnical/Environmental Engineer



Mark Richardson MSc CEng MICE
Technical Director

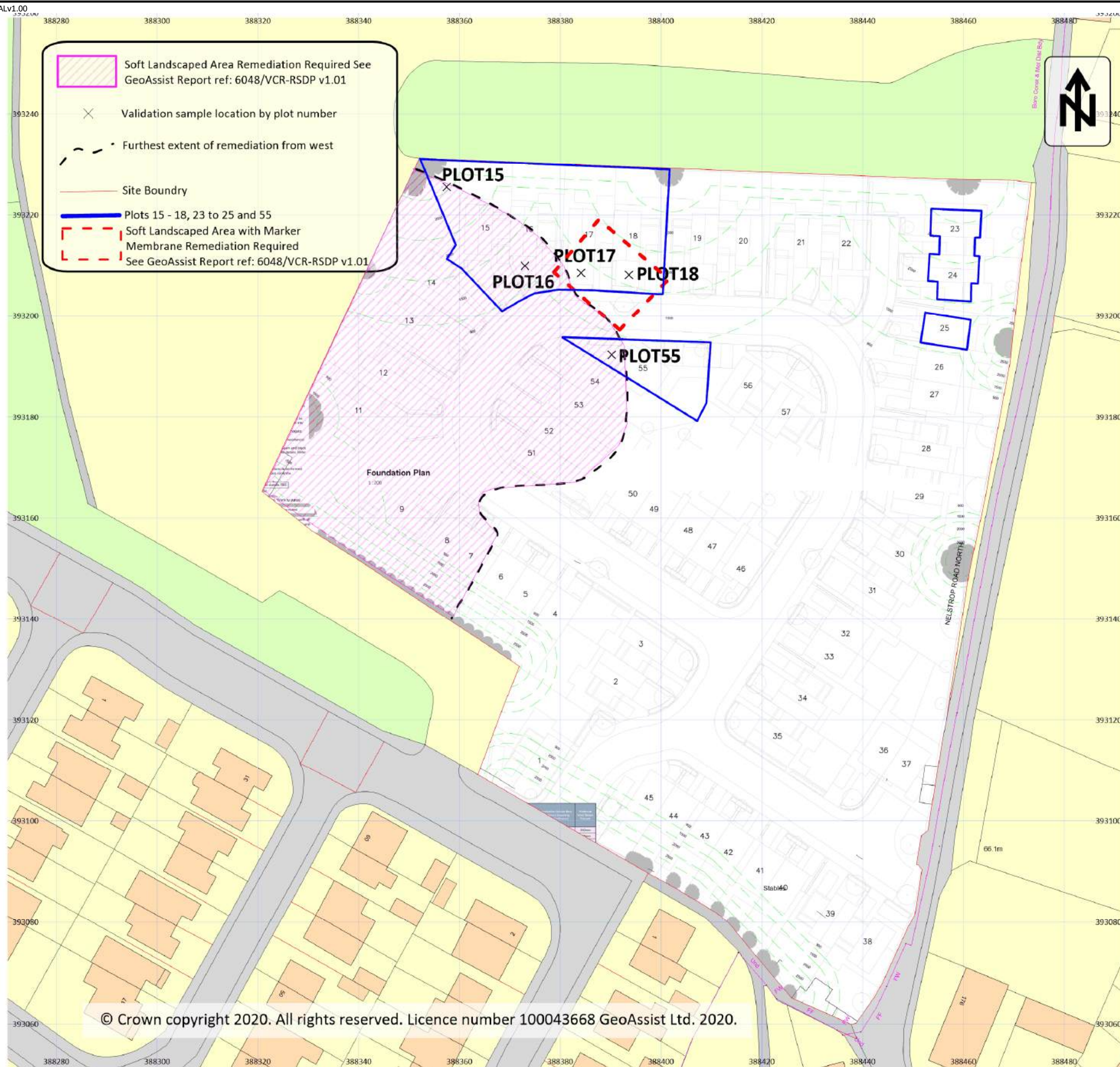
GeoAssist are not liable for any errors, omissions or facts contained within data provided by third parties.

Field investigations have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions are, and can be, variable and have only been tested at isolated locations across the site. Therefore, the potential exists for ground conditions to be encountered which are different to those considered in this report. Chemical analysis was conducted for a number of parameters based on an expert understanding of the historical and operational data available at the time and it should not be inferred or otherwise, that other chemical species are not present.

This report has been prepared by GeoAssist Limited with all reasonable professional skill, care and diligence within the terms of the contract with Cringle Rd Developments Ltd. The report is confidential to Cringle Rd Developments Ltd, their/the named persons advisors and bankers, and GeoAssist Limited accepts no responsibility of whatever nature to third parties to whom this report may be divulged. GeoAssist Limited owns the copyright in this report. All rights are reserved, and unauthorised use is prohibited. Cringle Rd Developments Ltd may use the report for their/her/his own purposes.

Appendix A

A1 Site Plan



A1. Site Plan

Site Name	Land off Cringle Road
Location	Levenshulme, Manchester
GeoAssist Ref	
Client	Cringle Rd Developments Ltd
Planning Consultant	
NGR (centre of site)	388410,393160
Production Date	Oct 2024
Survey Method	
Surveyor	Others
Status	Final v1.00
Base Survey	OSGB36

Appendix B

- B1 Waste Transfer Notes muck away
- B2 Soil Import Invoices
- B3 Analytical Test Results for Segregated Pond Area Material
- B4 Pond Area Marker Membrane Photographs and Segregated Material Removal Photographs

SALES INVOICE

**Customer Address:**

Cringle Road Developments Ltd
16c Hesketh Avenue
Didsbury
M20 2QW

P.P O'Connor Recycling Ltd

61 Mosley Road, Trafford Park,
Manchester, M17 1GJ

0161 776 0333

salesledger@ppoconnor.co.uk

www.ppoconnor.co.uk

Invoice Date: 29/06/23

Invoice No: 23080150

Customer Account: TOW002

Your Ref:

Due Date: 29/07/23

Description	Price (£)	VAT Rate	Total (exc. VAT) (£)
Asbestos Disposal at Cringle Rd, Levenshulme			
1 Load, Ticket 455952, 21/06/2023	381.00	20.00%	381.00
1 Load, Ticket 455953, 21/06/2023	381.00	20.00%	381.00

VAT Analysis	Vatable (£)	VAT (£)	TOTAL (Exc. VAT)	£	762.00
S1 Sales Standard Rate	762.00	152.40	VAT	£	152.40
			TOTAL (Inc. VAT)	£	914.40

VAT shown is your output tax due to HMRC. The tax point is the SL Invoice date.

Page 1 of 1

Payment Due: 29/07/23

Payment to Bank:

PP O' Connor Recycling Limited

Sort Code: 23-05-80

Account No: 42076635

P.P. O'CONNOR

Committed To Excellence

61 Mosley Road, Trafford Park
Manchester M17 1GJ

This material has been produced in accordance with P.P. O'Connor's
Protocol for the production of Recycled Aggregates

R= 23080150

Conveyance Note

Nº 455952

Delivery Code

825

Waste Carriers Licence Number CBDU101751

Contract No:

Customers Name: TOWER HOUSE

Drivers Name

Vehicle Registration

Signature

PHILL

MU73WNL

P

Delivery/Collection Address

Date and Time

CRINGLE RD
LEVENSHURNE

21 6 23

Off Site Material Category

Weight

Tonne

Spoil - inert

Spoil - Non

Hazardous

Spoil -

Hazardous

Other - State

ASBESTOS

GROSS WEIGHT OF
VEHICLE

3100

TARE WEIGHT OF
VEHICLE

17400

Imported Materials

Material

Description

Recycled

Aggregate

Quarried

Aggregate

Other State

NETT WEIGHT

19600

TIME ON SITE

8:44

TIME OFF SITE

9 00

WAITING TIME

DAYWORK

STATE REASON FOR WAITING TIME

CUSTOMERS SIGNATURE

PRINT NAME

D. ANCHER

D. ANCHER

Conditions of Sale: It is essential that all of the written particulars entered above should be checked by the consignee note once signed by the consignee represents formal acceptance of the materials in good order and condition, and/or the removal off site of the waste produced, and subsequent complaints and or claims cannot be accepted by P.P. O'Connor. All complaints, whatever in nature must be made to the driver of the vehicle and be confirmed in writing to P.P. O'Connor immediate.

P.P.O'Connor's Terms and Conditions prevail at all times

£381

P.P. O'CONNOR

Committed To Excellence

61 Mosley Road, Trafford Park
Manchester M17 1GJThis material has been produced in accordance with P.P. O'Connor's
Protocol for the production of Recycled AggregatesR-23080150
Conveyance Note
Nº 455953

Delivery Code

P25

Waste Carriers Licence Number CBDU101751

Contract No:

Customers Name: Tower House

Drivers Name

Vehicle Registration

Signature

Delivery/Collection Address

Date and Time

Off Site Material Category

Weight

Tonne

Spoil - inert

Spoil - Non

Hazardous

Spoil -

Hazardous

Other - State

GROSS WEIGHT OF
VEHICLETARE WEIGHT OF
VEHICLE

NETT WEIGHT

Imported Materials

Material

Description

Recycled

Aggregate

Quarried

Aggregate

Other State

TIME ON SITE

TIME OFF SITE

WAITING TIME

DAYWORK

CUSTOMERS SIGNATURE

STATE REASON FOR WAITING TIME

PRINT NAME

Conditions of Sale: It is essential that all of the written particulars entered above should be checked by the consignee note once signed by the consignee represents formal acceptance of the materials in good order and condition, and/or the removal off site of the waste produced, and subsequent complaints and or claims cannot be accepted by P.P. O'Connor. All complaints, whatever in nature must be made to the driver of the vehicle and be confirmed in writing to P.P. O'Connor immediate.

P.P.O'Connor's Terms and Conditions prevail at all times

TAX INVOICE

Cringle Road Developments Ltd
16C Hesketh Avenue
Manchester
Manchester
M20 2QW
GBR

Invoice Date
13 Sep 2024

Invoice Number
INV-17202

Reference
26065,66

VAT Number
151405209

Huperade Limited
Bridge House Farm
Brook Drive
Timperley
Cheshire
WA15 7DQ
0161 980 5350
gary.cash@huperade.co.uk

Description	Quantity	Unit Price	VAT	Amount GBP
General Purpose Soil delivered to: 26065,66	1.00	400.00	20%	400.00
General Purpose Soil delivered to: 26065,66	1.00	400.00	20%	400.00
Subtotal				800.00
TOTAL VAT 20%				160.00
TOTAL GBP				960.00

Due Date: 13 Oct 2024

Bank details:
Account Name: Huperade Limited
Account Number: 03312526
Sort Code: 55.50.10
Please quote invoice number

PAYMENT ADVICE

To: Huperade Limited
Bridge House Farm
Brook Drive
Timperley
Cheshire
WA15 7DQ
0161 980 5350

gary.cash@huperade.co.uk

Customer Cringle Road Developments Ltd
Invoice Number INV-17202
Amount Due **960.00**
Due Date 13 Oct 2024
Amount Enclosed

Enter the amount you are paying above

TAX INVOICE

Cringle Road Developments Ltd
16C Hesketh Avenue
Manchester
Manchester
M20 2QW
GBR

Invoice Date
19 Sep 2024

Invoice Number
INV-17213

Reference
27984, 86 Mc Kenna cringle
road developments

VAT Number
151405209

Huperade Limited
Bridge House Farm
Brook Drive
Timperley
Cheshire
WA15 7DQ
0161 980 5350
gary.cash@huperade.co.uk

Description	Quantity	Unit Price	VAT	Amount GBP
General Purpose Soil delivered to: cringle road developments	1.00	400.00	20%	400.00
General Purpose Soil delivered to: cringle road developments	1.00	400.00	20%	400.00
			Subtotal	800.00
			TOTAL VAT 20%	160.00
			TOTAL GBP	960.00

Due Date: 19 Oct 2024

Bank details:
Account Name: Huperade Limited
Account Number: 03312526
Sort Code: 55.50.10
Please quote invoice number

PAYMENT ADVICE

To: Huperade Limited
Bridge House Farm
Brook Drive
Timperley
Cheshire
WA15 7DQ
0161 980 5350

gary.cash@huperade.co.uk

Customer Cringle Road Developments Ltd
Invoice Number INV-17213
Amount Due **960.00**
Due Date 19 Oct 2024
Amount Enclosed

Enter the amount you are paying above

TAX INVOICE

Cringle Road Developments Ltd
16C Hesketh Avenue
Manchester
Manchester
M20 2QW
GBR

Invoice Date
27 Sep 2024

Invoice Number
INV-17238

Reference
26128, 29, 30 Cringle road

VAT Number
151405209

Huperade Limited
Bridge House Farm
Brook Drive
Timperley
Cheshire
WA15 7DQ
0161 980 5350
gary.cash@huperade.co.uk

Description	Quantity	Unit Price	VAT	Amount GBP
General Purpose Soil delivered to: Cringle road 20 tonnes	1.00	400.00	20%	400.00
General Purpose Soil delivered to: Cringle road 20 tonnes	1.00	400.00	20%	400.00
General Purpose Soil delivered to: Cringle road 20 tonnes	1.00	400.00	20%	400.00
			Subtotal	1,200.00
			TOTAL VAT 20%	240.00
			TOTAL GBP	1,440.00

Due Date: 27 Oct 2024

Bank details:
Account Name: Huperade Limited
Account Number: 03312526
Sort Code: 55.50.10
Please quote invoice number

PAYMENT ADVICE

To: Huperade Limited
Bridge House Farm
Brook Drive
Timperley
Cheshire
WA15 7DQ
0161 980 5350

gary.cash@huperade.co.uk

Customer Cringle Road Developments Ltd
Invoice Number INV-17238
Amount Due **1,440.00**
Due Date 27 Oct 2024
Amount Enclosed

Enter the amount you are paying above

TAX INVOICE

Cringle Road Developments Ltd
16C Hesketh Avenue
Manchester
Manchester
M20 2QW
GBR

Invoice Date
8 Oct 2024

Invoice Number
INV-17271

Reference
26139, 40, 41 Cringle road

VAT Number
151405209

Huperade Limited
Bridge House Farm
Brook Drive
Timperley
Cheshire
WA15 7DQ
0161 980 5350
gary.cash@huperade.co.uk

Description	Quantity	Unit Price	VAT	Amount GBP
General Purpose Soil delivered to: Cringle road 20 tonnes General Purpose soil	1.00	400.00	20%	400.00
General Purpose Soil delivered to: Cringle road 20 tonnes General Purpose soil	1.00	400.00	20%	400.00
General Purpose Soil delivered to: Cringle road 20 tonnes General Purpose soil	1.00	400.00	20%	400.00
			Subtotal	1,200.00
			TOTAL VAT 20%	240.00
			TOTAL GBP	1,440.00

Due Date: 7 Nov 2024

Bank details:
Account Name: Huperade Limited
Account Number: 03312526
Sort Code: 55.50.10
Please quote invoice number

PAYMENT ADVICE

To: Huperade Limited
Bridge House Farm
Brook Drive
Timperley
Cheshire
WA15 7DQ
0161 980 5350

gary.cash@huperade.co.uk

Customer Cringle Road Developments Ltd
Invoice Number INV-17271

Amount Due **1,440.00**
Due Date 7 Nov 2024

Amount Enclosed

Enter the amount you are paying above



Matthew Benson
GeoAssist Ltd
Unit 4, Sheffield Street
Heaton Norris
Stockport
Cheshire
SK4 1RU

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

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

e: info@geoassist.co.uk

Analytical Report Number : 23-33586

Project / Site name:	Land off Cringle Road, Manchester	Samples received on:	12/05/2023
Your job number:	6048 VCR	Samples instructed on/ Analysis started on:	12/05/2023
Your order number:	2230512	Analysis completed by:	24/05/2023
Report Issue Number:	1	Report issued on:	24/05/2023
Samples Analysed:	3 soil samples		


Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

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

Analytical Report Number: 23-33586

Project / Site name: Land off Cringle Road, Manchester

Your Order No: 2230512

Lab Sample Number				2677816	2677817	2677818
Sample Reference				E-C1	E-C2	E-C3
Sample Number				Stockpile	Stockpile	Stockpile
Depth (m)				None Supplied	None Supplied	None Supplied
Date Sampled				11/05/2023	11/05/2023	11/05/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	18	17
Total mass of sample received	kg	0.001	NONE	1	1	1

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile & Amosite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SCA

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.9	14	8.1
Barium (aqua regia extractable)	mg/kg	1	MCERTS	150	180	95
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.75	0.98	0.76
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	1	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.6	0.3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	20	22	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	41	50	23
Lead (aqua regia extractable)	mg/kg	1	MCERTS	67	93	40
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	23	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	28	23
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	110	150	53

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



Analytical Report Number: 23-33586
Project / Site name: Land off Cringle Road, Manchester
Your Order No: 2230512

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2677816	E-C1		175	Loose Fibres	Chrysotile & Amosite	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.



Analytical Report Number : 23-33586

Project / Site name: Land off Cringle Road, Manchester

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2677816	E-C1	Stockpile	None Supplied	Brown clay and loam with gravel.
2677817	E-C2	Stockpile	None Supplied	Brown clay and loam with gravel.
2677818	E-C3	Stockpile	None Supplied	Brown clay and loam with gravel.

Analytical Report Number : 23-33586
Project / Site name: Land off Cringle Road, Manchester

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE

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

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

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

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

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



P1 Marker Membrane being laid	P2 Outer edge of membrane
P3 Quarantined materials	P4 Quarantined Materials Being excavated and loaded
P5 PP O'Connor removing quarantined materials	

B4 Photos

Marker Membrane,
ACM Quarantine and
Removal

Site Name	Land off Cringle Road
Location	Levenshulme, Manchester
GeoAssist Ref	6048VCR
Client	Cringle Rd Developments Ltd
	7 Leegate Close Heaton Moor Stockport SK4 3NN
Planning Consultant	
NGR (centre of site)	388410,393160
Production Date	Oct 2024
Survey Method	
Surveyor	Others
Status	Final v1.00
Base Survey	OSGB36

Appendix C

- C1 Plots 15 to 18 and 55 Remediation and Sampling Photographs
- C2 I2 Analytical Test Results
- C3 Analytical Results with Assessment Criteria



C1 Site Photos

Site Name	Land off Cringle Road
Location	Levenshulme, Manchester
GeoAssist Ref	6048VCR
Client	Cringle Rd Developments Ltd
Planning Consultant	
NGR (centre of site)	388410,393160
Production Date	Oct 2024
Survey Method	
Surveyor	Others
Status	Final v1.00
Base Survey	OSGB36

Validation sampling Photographs Plots 15 to 18 and 55



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Analytical Report Number : 24-046296

Project / Site name:	Land off Cringle Road Manchester	Samples received on:	07/10/2024
Your job number:	6048 VCR	Samples instructed on/ Analysis started on:	07/10/2024
Your order number:	2241003	Analysis completed by:	16/10/2024
Report Issue Number:	1	Report issued on:	16/10/2024
Samples Analysed:	8 soil samples		

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

Excel copies of reports are only valid when accompanied by this PDF certificate.

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

Analytical Report Number: 24-046296

Project / Site name: Land off Cringle Road Manchester

Your Order No: 2241003

Lab Sample Number				340551	340552	340553	340554	340555
Sample Reference				PLOT 15	PLOT 15	PLOT 16	PLOT 16	PLOT 17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.50	0.10	0.50	0.10
Date Sampled				04/10/2024	04/10/2024	04/10/2024	04/10/2024	04/10/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	52.1	< 0.1
Moisture Content	%	0.01	NONE	27	32	21	14	18
Total mass of sample received	kg	0.1	NONE	0.3	0.7	0.8	0.7	0.8

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MMI	MMI	MMI	MMI	MMI
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.7	7.3	7.4	9.5	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	%	0.005	MCERTS	0.067	0.088	0.073	0.118	0.052
Sulphide	mg/kg	1	MCERTS	< 1.0	1.2	2.2	10	1.3
Total Sulphur	mg/kg	50	MCERTS	490	660	370	580	320
Total Sulphur	%	0.005	MCERTS	0.049	0.066	0.037	0.058	0.032

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.19	0.13	0.07	0.11	0.08
Acenaphthylene	mg/kg	0.05	MCERTS	0.1	< 0.05	0.07	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.17	0.39	0.13	0.16	0.17
Fluorene	mg/kg	0.05	MCERTS	0.1	0.27	0.1	0.12	0.12
Phenanthrene	mg/kg	0.05	MCERTS	1.1	2.9	0.99	1	1.5
Anthracene	mg/kg	0.05	MCERTS	0.26	0.66	0.28	0.24	0.47
Fluoranthene	mg/kg	0.05	MCERTS	2.9	5	2.5	1.9	4.2
Pyrene	mg/kg	0.05	MCERTS	2.8	4.5	2.5	1.9	3.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.3	1.8	1.3	0.81	1.7
Chrysene	mg/kg	0.05	MCERTS	1.6	2.2	1.3	1	2
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.4	2.2	1.7	1.4	2.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.85	1	0.8	0.56	0.84
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.3	1.9	1.7	1.5	1.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.75	0.98	0.74	0.49	0.98
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.17	0.27	0.16	0.09	0.26
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.81	1.1	0.84	0.59	1.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	17.8	25.5	15.2	11.9	21.3
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Analytical Report Number: 24-046296

Project / Site name: Land off Cringle Road Manchester

Your Order No: 2241003

Lab Sample Number				340551	340552	340553	340554	340555
Sample Reference				PLOT 15	PLOT 15	PLOT 16	PLOT 16	PLOT 17
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.50	0.10	0.50	0.10
Date Sampled				04/10/2024	04/10/2024	04/10/2024	04/10/2024	04/10/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	15	14	7.7	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	140	150	110	110	100
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.73	0.83	0.66	0.62	0.64
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	1.5	0.8	1.3	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	0.6	0.4	0.4	0.4
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	20	15	20	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	76	53	43	39	41
Lead (aqua regia extractable)	mg/kg	1	MCERTS	100	130	110	59	100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.3	0.4	0.4	< 0.3	0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	17	14	16	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	26	27	20	22	19
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	150	98	83	88

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

Analytical Report Number: 24-046296

Project / Site name: Land off Cringle Road Manchester

Your Order No: 2241003

Lab Sample Number				340556	340557	340558
Sample Reference				PLOT 17	PLOT 18	PLOT 18
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.10	0.50
Date Sampled				04/10/2024	04/10/2024	04/10/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			

Stone Content	%	0.1	NONE	< 0.1	< 0.1	27.9
Moisture Content	%	0.01	NONE	16	16	16
Total mass of sample received	kg	0.1	NONE	0.7	0.8	0.8

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	MMI	MMI	MMI
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected
Amosite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	-	Detected	Detected
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	Not-detected

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	< 0.001	< 0.001
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Loose Fibres	Loose Fibres
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.6	8	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	%	0.005	MCERTS	0.037	0.048	0.043
Sulphide	mg/kg	1	MCERTS	3.3	3.4	6.2
Total Sulphur	mg/kg	50	MCERTS	320	370	340
Total Sulphur	%	0.005	MCERTS	0.032	0.037	0.034

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.1	0.1	0.09
Acenaphthylene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.22	0.18	0.14
Fluorene	mg/kg	0.05	MCERTS	0.17	0.13	0.11
Phenanthrene	mg/kg	0.05	MCERTS	2.1	1.2	1.2
Anthracene	mg/kg	0.05	MCERTS	0.52	0.32	0.32
Fluoranthene	mg/kg	0.05	MCERTS	4	2.7	2.8
Pyrene	mg/kg	0.05	MCERTS	4	2.6	2.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.9	1.3	1.3
Chrysene	mg/kg	0.05	MCERTS	2	1.3	1.4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.8	1.4	1.7
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.1	0.74	0.58
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.8	1.2	1.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.98	0.73	0.78
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.18	0.1	0.14
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1	0.81	0.79

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	22	14.7	15.3
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Analytical Report Number: 24-046296

Project / Site name: Land off Cringle Road Manchester

Your Order No: 2241003

Lab Sample Number				340556	340557	340558
Sample Reference				PLOT 17	PLOT 18	PLOT 18
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.10	0.50
Date Sampled				04/10/2024	04/10/2024	04/10/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)						
	Units	Test Limit of detection	Test Accreditation Status			

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	12	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	99	110	99
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.63	0.62	0.63
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.5	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent) Low Level	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	15	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	38	37	37
Lead (aqua regia extractable)	mg/kg	1	MCERTS	91	86	100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	13	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	20	20	22
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	79	110	82

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



Analytical Report Number: 24-046296
Project / Site name: Land off Cringle Road Manchester
Your Order No: 2241003

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
340557	PLOT 18	0.10	122	Loose Fibres	Chrysotile	< 0.001	< 0.001
340558	PLOT 18	0.50	122	Loose Fibres	Chrysotile	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 24-046296

Project / Site name: Land off Cringle Road Manchester

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

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

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
340551	PLOT 15	None Supplied	0.1	Brown clay and loam with gravel and vegetation
340552	PLOT 15	None Supplied	0.5	Brown loam and clay with gravel and vegetation
340553	PLOT 16	None Supplied	0.1	Brown clay and loam with gravel and vegetation
340554	PLOT 16	None Supplied	0.5	Brown loam and clay with gravel and vegetation
340555	PLOT 17	None Supplied	0.1	Brown loam and clay with gravel and vegetation
340556	PLOT 17	None Supplied	0.5	Brown loam and clay with gravel and vegetation
340557	PLOT 18	None Supplied	0.1	Brown loam and clay with gravel and vegetation
340558	PLOT 18	None Supplied	0.5	Brown loam and clay with vegetation and stones

Analytical Report Number : 24-046296

Project / Site name: Land off Cringle Road Manchester

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Hexavalent chromium in soil (low level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	NONE
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS



Analytical Report Number : 24-046296

Project / Site name: Land off Cringle Road Manchester

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS

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

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

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

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

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

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

Soils Risk Assessment

Site Reference: 6048 VCR
Project Site: Land off Cringle Road
Project Location: Levenshulme, Manchester
Client: Cringle Rd Developments Ltd

i2 Reference	Residential	PLOT 6 - C1	PLOT 7 - C1	PLOT 7 - C2	PLOT 7A - C1	PLOT 55 - C1	PLOT 15	PLOT 15	PLOT 16	PLOT 16	PLOT 17	PLOT 17	PLOT 18	PLOT 18
Customer Sample Ref:	C4SL / S4UL	0.50	0.50	0.50	0.50	0.10	0.10	0.50	0.10	0.50	0.10	0.50	0.10	0.50
	SOM 1% GAC	22/03/2024	22/03/2024	22/03/2024	22/03/2024	22/03/2024	04/10/2024	04/10/2024	04/10/2024	04/10/2024	04/10/2024	04/10/2024	04/10/2024	04/10/2024
Determinand	LQM II													
Arsenic	27					14	12	15	14	7.7	13	11	12	14
Boron (water-soluble)	290					0.7	0.9	1.5	0.8	1.3	0.9	0.6	0.5	0.9
Cadmium	22					0.2	0.5	0.6	0.4	0.4	0.4	0.2	0.2	0.2
Chromium*	910					20	19	20	15	20	14	14	15	16
Chromium VI	21					1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Copper	2400					54	76	53	43	39	41	38	37	37
Cyanide(Total)	-					1	1	1	1	1	1	1	1	1
Cyanide(free)**	34					1	1	1	1	1	1	1	1	1
Lead	200					110	100	130	110	59	100	91	86	100
Mercury	1.2					0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3
Nickel	130					16	16	17	14	16	13	13	13	16
pH	-					7.8	7.7	7.3	7.4	9.5	7.7	7.6	8	7.7
Phenols(Mono)	280					1	1	1	1	1	1	1	1	1
Selenium	250					1	1	1	1	1	1	1	1	1
SO4(Total)	-					0.063	0.067	0.088	0.073	0.118	0.052	0.037	0.048	0.043
Sulphide	-					1	1	1.2	2.2	10	1.3	3.3	3.4	6.2
Sulphur(Free)	-					500	490	660	370	580	320	320	370	340
Thiocyanate	-					0	0	0	0	0	0	0	0	0
Zinc	3700					100	120	150	98	83	88	79	110	82
Acenaphthene	1100					0.3	0.17	0.39	0.13	0.16	0.17	0.22	0.18	0.14
Acenaphthylene	920					0.05	0.1	0.05	0.07	0.05	0.05	0.08	0.05	0.05
Anthracene	11000					0.58	0.26	0.66	0.28	0.24	0.47	0.52	0.32	0.32
Benzo(a)Anthracene	-					1.6	1.3	1.8	1.3	0.81	1.7	1.9	1.3	1.3
Benzo(a)Pyrene SM	5					1.9	2.3	1.9	1.7	1.5	1.8	1.8	1.2	1.4
Benzo(b)Fluoranthene	-					2.2	2.4	2.2	1.7	1.4	2.2	1.8	1.4	1.7
Benzo(ghi)Perylene	-					1	0.81	1.1	0.84	0.59	1.1	1.1	0.81	0.79
Benzo(k)Fluoranthene	-					0.74	0.85	1	0.8	0.56	0.84	1.1	0.74	0.58
Chrysene	-					1.8	1.6	2.2	1.3	1	2	2	1.3	1.4
Dibenzo(ah)Anthracene	-					0.3	0.17	0.27	0.16	0.09	0.26	0.18	0.1	0.14
Fluoranthene	890					3.7	2.9	5	2.5	1.9	4.2	4	2.7	2.8
Fluorene	860					0.19	0.1	0.27	0.1	0.12	0.12	0.17	0.13	0.11
Indeno(123-cd)Pyrene	-					0.88	0.75	0.98	0.74	0.49	0.98	0.98	0.73	0.78
Naphthalene	13					0.09	0.19	0.13	0.07	0.11	0.08	0.1	0.1	0.09
Phenanthrene	440					2.2	1.1	2.9	0.99	1	1.5	2.1	1.2	1.2
Pyrene	2000					3.4	2.8	4.5	2.5	1.9	3.9	4	2.6	2.7
PAH(total)	500					20.8	17.8	25.5	15.2	11.9	21.3	22	14.7	15.3
Asbestos (% total)	Not-detected					Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	< 0.001	< 0.001
All Units mg/kg unless otherwise stated														
Indicates Exceedence of Applicable Level														
SM = Surrogate Marker														
*Criteria Assumes Chromium III														
**Criteria is derived considering acute effects on 1-2yo Female Receptor ingesting a single dose of 3g of soil														
*Criteria is derived considering Total TPH (C10 to C35) is formed entirely of a 50:50 Aliphatic and Aromatic Split C8-C10 range														
Basis of Assessment Criteria:														
EA 2005 WAC (Human Health Value)														
C4SL														
LQM S4UL														
Atrisk 06														

Appendix D

D1 Third Party Membrane Installation Certs



**Octopus
Building Services**

Guarantee

This is to certify that Octopus Building Services Ltd formally guarantee the structural Gas proofing works carried out:

at:

Address: 27 Claypit Crescent, Levenshulme, MANCHESTER, M19 2ZL

For a period of 10 years from:

19th July 2024

To

19th July 2034

The guarantee covers the owner of the property against any ingress of Gas on any part of the internal element of the structure which was lined by Octopus Building Services Ltd with Visqueen Membrane and related products.

Specific exclusions: relevant to this project:

- 1. Any Gas ingress as a result of action by a third party breaching any element of the structural Gas proofing.**
- 2. Gas ingress as a result of structural movement in the building,**

Should you wish to claim against this guarantee please contact Octopus Building Services Ltd on the details below to arrange an initial inspection.

Signed:

Phill Knowles: Director

Octopus Building Services Ltd. 227 Chapeltown Road, Leeds, LS7 3DX

Tel: 0113 2109 486 Fax 0113 2109 734

Mob: 07867 505658

email: phill@dothebasement.co.uk. Limited Company Reg No: 6584919



**Octopus
Building Services**

Guarantee

This is to certify that Octopus Building Services Ltd formally guarantee the structural Gas proofing works carried out:

at:

Address: 29 Claypit Crescent, Levenshulme, MANCHESTER, M19 2ZL

For a period of 10 years from:

19th July 2024

To

19th July 2034

The guarantee covers the owner of the property against any ingress of Gas on any part of the internal element of the structure which was lined by Octopus Building Services Ltd with Visqueen Membrane and related products.

Specific exclusions: relevant to this project:

- 1. Any Gas ingress as a result of action by a third party breaching any element of the structural Gas proofing.**
- 2. Gas ingress as a result of structural movement in the building,**

Should you wish to claim against this guarantee please contact Octopus Building Services Ltd on the details below to arrange an initial inspection.

Signed:

Phill Knowles: Director

Octopus Building Services Ltd, 227 Chapeltown Road, Leeds, LS7 3DX
Tel: 0113 2109 486 Fax 0113 2109 734
Mob: 07867 505658
email: phill@dothebasement.co.uk. Limited Company Reg No: 6584919



**Octopus
Building Services**

Guarantee

This is to certify that Octopus Building Services Ltd formally guarantee the structural Gas proofing works carried out:

at:

Address: 31 Claypit Crescent, Levenshulme, MANCHESTER, M19 2ZL

For a period of 10 years from:

19th July 2024

To

19th July 2034

The guarantee covers the owner of the property against any ingress of Gas on any part of the internal element of the structure which was lined by Octopus Building Services Ltd with Visqueen Membrane and related products.

Specific exclusions: relevant to this project:

- 1. Any Gas ingress as a result of action by a third party breaching any element of the structural Gas proofing.**
- 2. Gas ingress as a result of structural movement in the building,**

Should you wish to claim against this guarantee please contact Octopus Building Services Ltd on the details below to arrange an initial inspection.

Signed:

Phill Knowles: Director

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Tel: 0113 2109 486 Fax 0113 2109 734
Mob: 07867 505658
email: phill@dothebasement.co.uk. Limited Company Reg No: 6584919



**Octopus
Building Services**

Guarantee

This is to certify that Octopus Building Services Ltd formally guarantee the structural Gas proofing works carried out:

at:

Address: 33 Claypit Crescent, Levenshulme, MANCHESTER, M19 2ZL

For a period of 10 years from:

19th July 2024

To

19th July 2034

The guarantee covers the owner of the property against any ingress of Gas on any part of the internal element of the structure which was lined by Octopus Building Services Ltd with Visqueen Membrane and related products.

Specific exclusions: relevant to this project:

- 1. Any Gas ingress as a result of action by a third party breaching any element of the structural Gas proofing.**
- 2. Gas ingress as a result of structural movement in the building,**

Should you wish to claim against this guarantee please contact Octopus Building Services Ltd on the details below to arrange an initial inspection.

Signed:

Phill Knowles: Director

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Tel: 0113 2109 486 Fax 0113 2109 734
Mob: 07867 505658
email: phill@dothebasement.co.uk. Limited Company Reg No: 6584919



**Octopus
Building Services**

Guarantee

This is to certify that Octopus Building Services Ltd formally guarantee the structural Gas proofing works carried out:

at:

Address: 43, Claypit Crescent, Levenshulme, Manchester, M19 2ZL

For a period of 10 years from:

7th October 2024

To

7th October 2034

The guarantee covers the owner of the property against any ingress of Gas on any part of the internal element of the structure which was lined by Octopus Building Services Ltd with Visqueen membrane and related products.

Specific exclusions: relevant to this project:

- 1. Any Gas ingress as a result of action by a third party breaching any element of the structural Gas proofing.**
- 2. Gas ingress as a result of structural movement in the building,**

Should you wish to claim against this guarantee please contact Octopus Building Services Ltd on the details below to arrange an initial inspection.

Signed:

Phill Knowles: Director

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Tel: 0113 2109 486 Fax 0113 2109 734
Mob: 07867 505658
email: phill@dothebasement.co.uk. Limited Company Reg No: 6584919



**Octopus
Building Services**

Guarantee

This is to certify that Octopus Building Services Ltd formally guarantee the structural Gas proofing works carried out:

at:

Address: 45, Claypit Crescent, Levenshulme, Manchester, M19 2ZL

For a period of 10 years from:

7th October 2024

To

7th October 2034

The guarantee covers the owner of the property against any ingress of Gas on any part of the internal element of the structure which was lined by Octopus Building Services Ltd with Visqueen membrane and related products.

Specific exclusions: relevant to this project:

- 1. Any Gas ingress as a result of action by a third party breaching any element of the structural Gas proofing.**
- 2. Gas ingress as a result of structural movement in the building,**

Should you wish to claim against this guarantee please contact Octopus Building Services Ltd on the details below to arrange an initial inspection.

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Mob: 07867 505658
email: phill@dothebasement.co.uk. Limited Company Reg No: 6584919



**Octopus
Building Services**

Guarantee

This is to certify that Octopus Building Services Ltd formally guarantee the structural Gas proofing works carried out:

at:

Address: 47, Claypit Crescent, Levenshulme, Manchester, M19 2ZL

For a period of 10 years from:

7th October 2024

To

7th October 2034

The guarantee covers the owner of the property against any ingress of Gas on any part of the internal element of the structure which was lined by Octopus Building Services Ltd with Visqueen membrane and related products.

Specific exclusions: relevant to this project:

- 1. Any Gas ingress as a result of action by a third party breaching any element of the structural Gas proofing.**
- 2. Gas ingress as a result of structural movement in the building,**

Should you wish to claim against this guarantee please contact Octopus Building Services Ltd on the details below to arrange an initial inspection.

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