Technical Note 05/10/2023 Additional SI and updated risk Assessment 5(ii) and 5(iv)

This technical note has been issued to provide further information as requested by MCC Environmental Health internal memorandum section dated 14 August 2023 planning reference 776371 following the LPAs review of the Geotechnical and Geo-environmental Interpretative Report (GIR) Including Remediation & Verification Strategy for Plot F, Great Jackson Street, Manchester referenced 03558AA_R_002B_CT - GIR.docx produced by Coffey. The required items of further information are summarised in section 5i to 5vi of the environmental health memorandum.

The response to each item is set out below using the same numbering format:

Following the recent submission of the results of additional targeted asbestos testing across Plot F2 as a separate report referenced 6131VJS ACM-F Ground Investigation – Targeted Asbestos/ACMSoil Sampling September 2023 (appendix A2) and as proposed in Geoassist technical note 050923 issued 05/09/2023. A series of dynamic drive sampled holes were undertaken across the site at the locations indicated on the attached Plan (appendix A1) Justification for the location of the additional holes was provided in Technical Note 050923 (appendix A3). The BH Logs for the additional exploratory holes (WS201 to WS206) form appendix B1 to this Technical Note. Nine number soil subsamples were submitted from the made ground profile and tested for a range of determinands in line with those already used in the previous investigations across the site. The samples were found to conform with the Generic assessment Criteria for residential land use and were free from asbestos fibres. The risk assessment indicates that the original Conceptual Site Model is not impacted by the additional ground investigations and only the risks/exceedances identified previously need to be addressed. The laboratory analysis certificates from the additional SI and testing form appendix C1 and the risk assessment using the generic assessment criteria for residential end use form appendix C2.

Matthew Benson MSc. GMICE
Geotechnical/Environmental Engineer

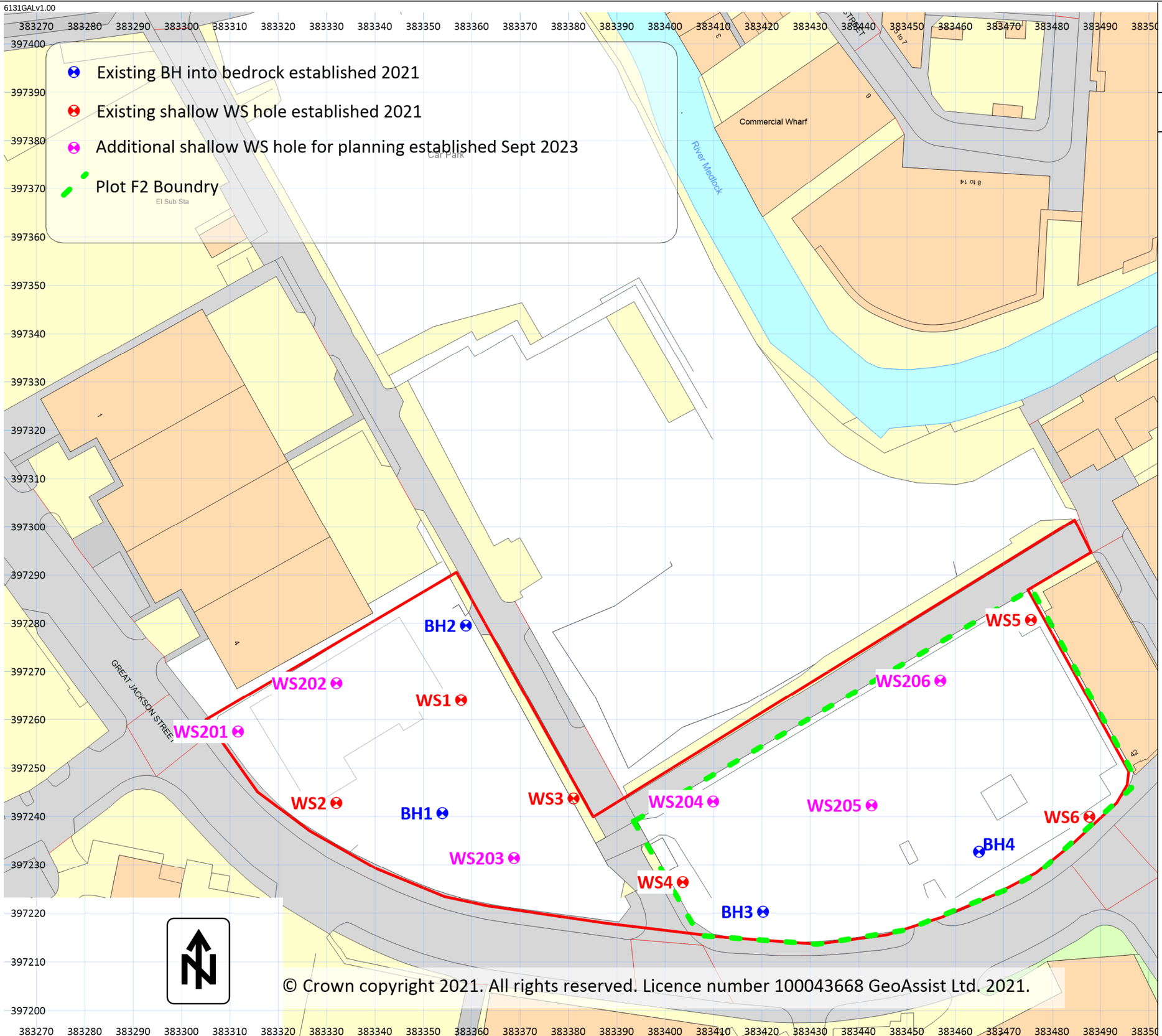
Mark Richardson MSc CEng MICE
Technical Director

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Appendix A

A1 Site Plan
A2 Targeted Asbestos /ACM Report
A3 Technical Note 050923

6131GALv1.00



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GeoAssist Limited
Civil, Environmental & Geotechnical
Telephone: +44 (0) 161 480 8885 e-mail : info@geoassist.co.uk

A1 Site Plan With Exploratory Hole Positions

Site Name	Great Jackson Street Plot F2
Location	Manchester
GeoAssist Ref	6131VJS
Client	Renaker Build Limited
	Renaker Build Ltd. 1st Floor, NQ Building 47 Bengal Street Ancoats Manchester M4 6BB
Planning Consultant	
NGR (centre of site)	
Production Date	5th Oct 2023
Survey Method	
Surveyor	Others
Status	v1.00
Base Survey	OSGB36

Note:

ace consultancy engineering business environment

GeoAssist Limited
Civil, Environmental & Geotechnical

Client:
Renaker Build Ltd.
1st Floor, NQ Building
47 Bengal Street
Ancoats
Manchester
M4 6BB

Main Contractor:

Ground Investigation – Targeted Asbestos/ACM Soil Sampling

Great Jackson Street Plot F2, Manchester

Unit 4
Sheffield Street
Heaton Norris
Stockport
Cheshire
SK4 1RU
Telephone : 0161 480 8885
e-mail : info@geoassist.co.uk

Sept 2023 Site Ref: 6131/VJS-ACM-F

Client:
Renaker Build Ltd.
1st Floor, NQ Building
47 Bengal Street
Ancoats
Manchester
M4 6BB

Main Contractor:

Ground Investigation – GeoEnvironmental, Targeted Asbestos/ACM Soil Sampling

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Appendices

A1. Site Plan & Exploratory Hole Locations

B1. Asbestos Quantification Test Results

Client:
Renaker Build Limited
Renaker Build Ltd.
1st Floor, NQ Building
47 Bengal Street
Ancoats
Manchester
M4 6BB

Main Contractor:

Ground Investigation - GeoEnvironmental Targeted Asbestos/ACM Soil Sampling

1. Introduction

This report is a factual account of a targeted Asbestos Cement ground investigation carried out by GeoAssist Limited at the request of Renaker Build Limited as the owners and developers of the site at Owen Street, Manchester.

The purpose of this investigation is to provide additional information in respect of the likely extent of the ACM identified within the made ground in BH4 during the original ground investigation.

This report seeks to act on the findings in respect of the presence of Asbestos Cement noted in the GeoAssist factual report.

The approximate grid reference for the centre of the particular part of the site to be investigated is 383415, 397262 and the area of this section of the site is approximately 24m^2. The total area of the site is outlined with a solid red line on the site plan in Appendix A1 the are scheduled for targeted investigation is outlined in green. The positions of exploratory holes are also indicated on the plan.

2. Description of the Site

2.1 Present

The approximate grid reference for the centre of the site is 383410, 397240 and the total area of the site is approximately 7,800 m^2.

The site is situated to the south and adjacent to the current Deansgate One Development and by Great Jackson Street forms the southern boundary of the site.

The section of the site to be investigated is surfaced with concrete and was formerly used as a compound for the neighbouring Deansgate One Development.

2.2 Proposed

It is understood that the proposed construction will be achieved by removal of the all of the made ground/drift material across the entire site down to, and in to, bedrock with foundations formed directly onto the bedrock.

3. Intrusive Investigation

3.1 Intrusive Investigation objectives

The objective of this targeted site investigation was to collect additional data to confirm whether or not the ACM fragments found in the starter pit in BH4 are relatively localised and consequently do not pose a significant risk during the development of the site.

3.2 Intrusive Investigation Strategy

The ground investigation was carried out in accordance with British Standard 5930: 1999 Code of Practice for Site Investigations and BS BS10175: 2011 Investigation of potentially contaminated sites.

All fieldwork was supervised by suitably qualified GeoAssist Limited Environmental Engineers.

The testing of the samples was carried out in an independent UKAS accredited Laboratory.

3.3 Method of Forming Exploratory Holes

The exploratory holes established across the site as part of this investigation were established using trial pitting techniques and damping down where appropriate.

A plan showing the locations of the additional exploratory holes established as part of the investigation forms Appendix A1 to this report.

3.4 Exploratory Hole Programme

The fieldwork was completed in two visits on the 29/08/2023 and 07/09/2023 in mainly dry weather conditions.

All intrusive work was carried out in accordance with:

- British Standard 5930: 1999 Code of Practice for Site Investigations
- British Standard 10175: 2011 where applicable

3.5 Field Sampling and Testing

For this site investigation samples A-BH4-C1 to C4 were obtained on roughly 1.00m to 1.50m concentric pattern centred around BH4 and an additional sample TPBH4 approximately 3.5m to the north of BH4.

4. Contamination Testing

Originally (2021) one sample recovered from the starter pit undertaken for BH4 was collected and subjected to Asbestos Quantification conducted by i2Analysis Laboratories under UKAS Testing No 4041. The results of the original tests concluded that the ACM fragments from BH4 contained approximately 1% Chrysotile Asbestos.

Subsequently, on examination of the samples recovered from the additional sampling undertaken in September 2023 around BH4 a single sample detected loose chrysotile fibres at less than 0.001%wt/wt. Moreover, no further evidence of Asbestos Cement Sheet fragments was identified within the exploratory holes.

5. Subsurface Stratigraphy

The subsoil profile obtained from the limited depth exploratory holes consists of made ground to the full depth of the exploratory holes.

The made ground consists generally of concrete over, sandy gravel, brick rubble and concrete fragments with cinders and rare random building debris.

All of the exploratory holes were terminated in the made ground deposits.

6. Asbestos in Soils

Chrysotile asbestos fibre was confirmed to be present within sample A-BH4-C3. At a level of the limit of detection ie 0.001%. However, this does not preclude the possibility that further sporadic and low intensity (SALI) occurrences of Asbestos or ACM could occur within the made ground on site. There is no immediate risk from this issue provided the current use remains the same. Earth works contractors are those most at risk and it is the duty of the principal contractor to apply appropriate measures under the Health & Safety at Work Act 1974 and the Control of Asbestos Regulations 2012. The developer and the contractor should be aware that any excavations may need a specific and detailed method statement and they should satisfy themselves that where applicable the CAR 2012 regulations have been adhered to. The asbestos content of soils on samples submitted to the laboratory is 0.001%w/w or less and would ordinarily not be treated as hazardous waste and is of a very low combined hazard and exposure ranking according to the JIWG decision support tool. The soils samples submitted to the laboratory are likely to be representative of those found on site. However, this does not preclude the possibility that further occurrences or pockets of Asbestos or ACM could occur within the made ground on site and the contractor should put in place method statement to deal with any out of specification materials should they be encountered.

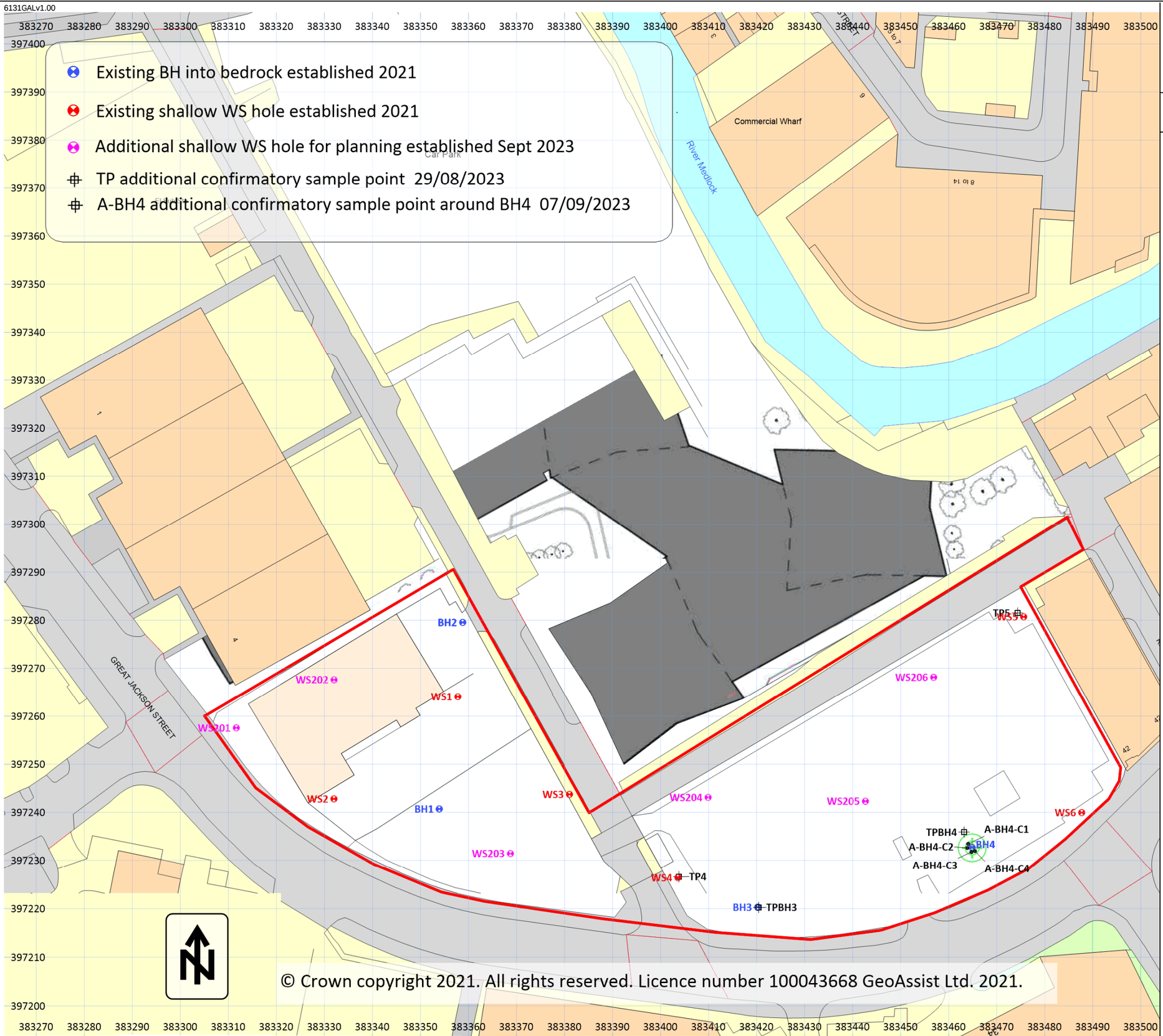
Matthew Benson MSc GMICE
Geotechnical/Environmental Engineer

Mark Richardson MSc CEng MICE
Technical Director

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.

This report has been prepared by GeoAssist Limited with all reasonable professional skill, care and diligence within the terms of the contract with Renaker Build Limited. The report is confidential to Renaker Build Limited, 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. Renaker Build Limited may use the report for their/her/his own purposes.

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GeoAssist Limited
Civil, Environmental & Geotechnical
Telephone: +44 (0) 161 480 8885 e-mail : info@geoassist.co.uk

A1 Additional GI Plan

Site Name	Great Jackson Street Plot F2 & F1
Location	Manchester
GeoAssist Ref	6131VJS
Client	Renaker Build Limited
	Renaker Build Ltd. 1st Floor, NQ Building 47 Bengal Street Ancoats Manchester M4 6BB
Planning Consultant	
NGR (centre of site)	
Production Date	20th Sept 2023
Survey Method	
Surveyor	Others
Status	Draft v1.10
Base Survey	OSGB36

Note:

ace
consultancy engineering business environment

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Herts,
WD18 8YS

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

Analytical Report Number : 23-54065

Project / Site name:	Great Jackson Street, Plot F2, Manchester	**Samples received on:**	31/08/2023
Your job number:	6131 VJS	**Samples instructed on/ Analysis started on:**	31/08/2023
Your order number:	2230830	**Analysis completed by:**	11/09/2023
Report Issue Number:	1	**Report issued on:**	11/09/2023
Samples Analysed:	4 soil samples		

Signed:

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

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

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

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

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

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

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-54065
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230830

Lab Sample Number				2797571	2797572	2797573	2797574
Sample Reference				TPB3-C1	TPB4-C1	TPW4-C1	TPW5-C1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.30	0.90	0.80
Date Sampled				29/08/2023	29/08/2023	29/08/2023	29/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	15	17	11
Total mass of sample received	kg	0.001	NONE	0.4	0.4	0.4	0.4
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	KWB	N/A	N/A
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	7.8	8.7	7.5	8.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO4	%	0.005	MCERTS	0.031	0.104	0.055	0.062
Sulphide	mg/kg	1	MCERTS	6.9	11	9.4	4.2
Total Sulphur	%	0.005	MCERTS	0.023	0.06	0.027	0.03
Total Phenols							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.16	< 0.05	2.3
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	1.1
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.36	< 0.05	4.3
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.2	< 0.05	5.2
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	2.4	< 0.05	34
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.48	< 0.05	8.4
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	3.7	0.06	42
Pyrene	mg/kg	0.05	MCERTS	< 0.05	3.3	0.06	40
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	1.5	< 0.05	20
Chrysene	mg/kg	0.05	MCERTS	< 0.05	1.7	< 0.05	21
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	1.9	< 0.05	22
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.85	< 0.05	11
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	1.5	< 0.05	20
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.92	< 0.05	9.6
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.2	< 0.05	2.7
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	1	< 0.05	11
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	20.2	< 0.80	254

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-54065
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230830

Lab Sample Number				2797571	2797572	2797573	2797574
Sample Reference				TPB3-C1	TPB4-C1	TPW4-C1	TPW5-C1
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.30	0.90	0.80
Date Sampled				29/08/2023	29/08/2023	29/08/2023	29/08/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	19	23	15
Barium (aqua regia extractable)	mg/kg	1	MCERTS	97	370	97	130
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	1	1.2	1.2	1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.4	0.3	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	23	17	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	34	99	100	55
Lead (aqua regia extractable)	mg/kg	1	MCERTS	61	390	150	240
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.5	0.3	0.9
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	29	17	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	30	34	31	24
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	47	420	46	84

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

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-54065
Project / Site name: Great Jackson Street, Plot F2, 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 *
2797571	TPB3-C1	None Supplied	0.5	Brown clay and sand with gravel.
2797572	TPB4-C1	None Supplied	0.3	Brown clay and sand with gravel.
2797573	TPW4-C1	None Supplied	0.9	Brown clay and sand with gravel and vegetation.
2797574	TPW5-C1	None Supplied	0.8	Brown clay and sand with gravel.

Analytical Report Number : 23-54065
Project / Site name: Great Jackson Street, Plot F2, 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
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 (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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 (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
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
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
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
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 (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil (Lower 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
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-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.

UKAS TESTING
4041

Environmental Science

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

Analytical Report Number : 23-55614

Project / Site name:	Great Jackson Street, Plot F2, Manchester	**Samples received on:**	08/09/2023
Your job number:	6131-VJS	**Samples instructed on/ Analysis started on:**	08/09/2023
Your order number:	2230907	**Analysis completed by:**	15/09/2023
Report Issue Number:	1	**Report issued on:**	15/09/2023
Samples Analysed:	4 soil samples		

Signed: JSzwagrak

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

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

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

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

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

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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

4041

Analytical Report Number: 23-55614
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230907

Lab Sample Number				2806422	2806423	2806424	2806425
Sample Reference				A-BH4-C1	A-BH4-C2	A-BH4-C3	A-BH4-C4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.50	0.50	0.50
Date Sampled				07/09/2023	07/09/2023	07/09/2023	07/09/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	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	IZJ	IZJ	IZJ	IZJ

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

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UKAS TESTING
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Analytical i2 Environmental Science

Analytical Report Number: 23-55614
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230907

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
2806424	A-BH4-C3	0.50	123	Loose Fibrous Debris	**Chrysotile**	0.001	**0.001**

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

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

4041

Analytical Report Number : 23-55614
Project / Site name: Great Jackson Street, Plot F2, 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	A001-PL	D	ISO 17025
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.

Technical Note 05/09/2023

This technical note has been issued to provide further information as requested by MCC Environmental Health internal memorandum section dated 14 August 2023 planning reference 776371 following the LPAs review of the Geotechnical and Geo-environmental Interpretative Report (GIR) Including Remediation & Verification Strategy for Plot F, Great Jackson Street, Manchester referenced 03558AA_R_002B_CT - GIR.docx produced by Coffey. The required items of further information are summarised in section 5i to 5vi of the environmental health memorandum.

The response to each item is set out below using the same numbering format:

5(i) *Calibration certificate for the gas monitoring equipment for the last monitoring rounds as the submitted one only covers until 11/8/21 and the last round was on the 25th August.*

Please find attached calibration certificates for the first cert covers the gas monitoring equipment serial number 13237 from period 11/08/2020 to 11/08/2021. This covers the all but the final set of gas readings submitted to the LPA. The second calibration certificate covers the period 05/11/2021 to 05/11/2022. This does not cover the final set of readings which were conducted on 25/08/2021. The calibration certificates demonstrate that the unit was within tolerance both before and after the readings period and hence the readings obtained on the 25/08/2021 are valid.

An additional set of readings has been obtained August 2023. The calibration certificate applicable to the additional gas monitoring is attached.

Date - Time	BH	CH4 (%)	CO2 (%)	O2 (%)	H2S (ppm)	CO (ppm)	LEL (%)	aP (mb)	Flw (l/h)	H2O (m)
23/08/2023	WS1	0.0	1.8	18.5	0.0	0.0	0.0	1015	0.0	
23/08/2023	WS2	0.0	0.6	20.2	0.0	0.0	0.0	1015	0.0	
23/08/2023	WS3	0.0	3.8	14.7	0.0	0.0	0.0	1015	0.0	
23/08/2023	WS4	0.0	0.0	21.0	0.0	0.0	0.0	1015	0.0	
23/08/2023	WS5	Not Accessible/Damaged								
23/08/2023	WS6	0.0	0.0	21.0	0.0	0.0	0.0	1015	0.0	

5(ii) *A building and a site compound were present on site, a further phase of SI will need to be undertaken post demolition and once the compound has been removed.*

Pursuant to undertaking the actions requested by the LPA It is proposed that 6 to 8 dynamic drive sample holes (window sampler) be established at the locations indicated and to the depths stated on the following plan. it is not anticipated that these holes will encounter groundwater. All investigation and sub sampling will follow the established procedures set out within to BS 5930: 1999+A2 2010, BS 5930: 2015, BS 10175 : 2011 + A2 2017 wherever possible.

The location of the boreholes cover Plot F1 in the footprint of the former building and within the storage compounds across both Plots F1 and F2.

The spacing of the proposed holes along with previous holes WS1 to WS6 cover the site at a spatial resolution that is appropriate (according to Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination. R&D Technical Report P5-066/TR) for a main investigation given the sensitivity of the receptor and the nature of the proposed development, In this case, residential. The proposals for the site are to form 2 and 3 levels of basement car parking. It is proposed that almost the entire site area will be excavated and experience on adjacent sites indicate that excavations will extend to the natural bedrock formation thus removing the vast majority of the made ground off site for disposal at an appropriate facility. The opportunity for an established pathway from existing on site contaminated soils to end user receptors of the site is considered negligible in such circumstances. The testing will be guided in part by applicable DoE industry profiles based on neighbouring historical industries, the Geo-environmental engineers experience and the results of analytical tests from WS1 to WS6 and BH1 to BH4.

Please see attached location plan for further ground investigation planned to be be undertaken in September 2023.

Table 1.00 It is anticipated that between 6 to 8 soil samples will be submitted to a UKAS accredited laboratory to test for the following analytical determinants or parts thereof:

Soils		Water
Arsenic	Acenaphthene	Water testing will only be conducted where ground water is encountered
Boron (water-soluble)	Acenaphthylene	
Cadmium	Anthracene	Leachate testing only to be conducted where water samples have not been obtained and the soils on site have been determined to pose an unacceptable risk to any underlying aquifers. ie no significant aquiclude has been proved by the investigation and the levels of determinands within the soils are likely to give rise to unacceptable levels of soluble contaminants and non aqueous phase liquids contaminating groundwater resources. Where this is the case the Environment Agency (The Regulator) shall be consulted.
Chromium	Benzo(a)Anthracene	
Chromium VI	Benzo(a)Pyrene	
Copper	Benzo(b/k)Fluoranthene	
Cyanide(Total)	Benzo(ghi)Perylene	
Cyanide(free)	Chrysene	
Lead	Dibenzo(ah)Anthracene	
Mercury	Fluoranthene	
Nickel	Fluorene	
pH	Indeno(123-cd)Pyrene	
Phenols(Mono)	Naphthalene	
Selenium	Phenanthrene	
SO4(Total)	Pyrene	
Sulphide	TPH testing where PID test results indicate a requirement	
Sulphur(Free)	TPH (C8-C10 aliphatic) (C10-C12 aliphatic) (C12-C16 aliphatic) (C16-C21 aliphatic) (C21-C35 aliphatic)	
Thiocyanate	TPH (C8-C10 aromatic) (C10-C12 aromatic) (C12-C16 aromatic) (C12-C16 aromatic) (C16-C21 aromatic) (C21-C35 aromatic)	
Zinc	BTEX	
Asbestos ID		

A Photo Ionisation detector will be used to determine the likely presence of volatile compounds and assess the risk. The proposed dynamic drive sample holes (window sampler) will be bored to a depth of 5.00m/refusal from ground level.
The results of the above Ground Investigation will be collated and used to update the CSM as appropriate.

5(iii) *Additional groundwater monitoring round to be undertaken in the winter months.*

Please see attached additional groundwater monitoring summary covering winter months.

5(iv) *Risk assessment to be updated following the additional SI.*

The Contaminated Land Risk Assessment will be reappraised and updated as necessary following the additional Ground Investigation as outlined in section 5(ii) above.

5(v) *Detailed remediation and verification strategy to be produced.*

A detailed remediation and verification strategy will be produced based on the existing and additional GI.

5(vi) *Condition 12b - After completion of site works, a verification report is required to validate that the work undertaken conforms to the remediation proposals received and agreed by this Section*

A verification report will be produced upon completion of the remediation.

Matthew Benson MSc. GMICE
Geotechnical/Environmental Engineer

Mark Richardson MSc CEng MICE
Technical Director

This report has been prepared by GeoAssist Limited with all reasonable professional skill, care and diligence within the terms of the contract with Renaker Build Limited. The report is confidential to Renaker Build Limited, 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. Renaker Build Limited may use the report for their/her/his own purposes.

TEST DATE AND CONDITIONS		
Date	11/08/2020	
Atmospheric Pressure	999	mB
Ambient Temperature	21.9	°C
Environics Serial No.	5089	

GFM436 Final Inspection & Calibration Check Certificate

GAS DATA LTD
Unit 4, Fairfield Court
Seven Stars Estate
Wheler Rd
Coventry
CV3 4LJ
Tel 02476303311 Fax 02476307711

Customer	GeoAssist
Certificate Number	121929
Order Number	326396

Serial Number	13237
Software Version	G436-00.0027/0010

Recalibration DUE Date
11/08/21

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	400	*Accept > 200 cc/min*	Pump Flow @ -200mB	300	*Accept > 200 cc/min*
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
Sensor	CH_4		CO_2		O_2	
	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %
	60	60	40	40	20.9	20.9
	Accept ±3.0		*Accept ±3.0*		*Accept ±0.5*	
	5	5	4.9	5	6	6
	Accept ±0.3		*Accept ±0.3*		*Accept ±0.3*	
Zero Reading 100% N2	0	0	0	0	0	0
	Accept ±0.0		*Accept ±0.0*		*Accept ±0.1*	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings *(ppm)*			
Gas Type	Range *(ppm)*		Zero Reading		Instrument Gas Reading	
H2S	5000	*1500*	0	*Accept ±0.0*	1500	*Accept ±5.0*
CO	2000	*1000*	0	*Accept ±0.0*	999	*Accept ±5.0*
Hexane	*2.0%*	2.0%	0	*Accept ±0.0*	1.99	*Accept ±10.0*

Cross Gas Effects									
Applied Gas *(ppm)*		Instrument Readings *(ppm)*							
Gas Type	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:	HEX		
H2S	*1500*	1500		0		0			
CO	*1000*	40		999		0			
Hexane	*2.0%*	0		0		1.99			

Pressure Checks			
Atmospheric Pressure [AP] *(mB)*			
Current Atmospheric Pressure (mB)		Instrument Atmospheric Pressure Reading (mB)	
AP Open Ports		999	*Accept ±2.0*
AP Port (Internal)	*+800 mB*	800	*Accept ±5.0*
	+1200mb	1200	*Accept ±5.0*

Flow Checks					
Borehole Flow			Differential Pressure		
Applied Reading *(l/h)*	Instrument Reading *(l/h)*		Applied Pressure *(Pa)*	Instrument Reading *(Pa)*	
-30	-30	*Accept ±3.0*	-250	-250	*Accept ±50*
-3	-3	*Accept ±1.0*	-15	-14	*Accept ±6.0*
0	0	*Accept ±0.0*	0	0	*Accept ±0.5*
3	3	*Accept ±0.5*	16	16	*Accept ±3.0*
30	30	*Accept ±3.0*	321	319	*Accept ±50*
60	60	*Accept ±6.0*	955	953	*Accept ±130*
90	90.7	*Accept ±9.0*	1858	1897	*Accept ±250*

Temperature Checks		
Calibration Temperature Applied Temperature ^{0}C	Instrument Temperature Reading ^{0}C	
-10	-10	*Accept ±2.0*
0	0	*Accept ±1.0*
30	30	*Accept ±1.0*
60	60	*Accept ±1.0*
100	100	*Accept ±1.0*

Technician:	Date Tested:
Jack Rutland	*12/08/2020*

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.

TEST DATE AND CONDITIONS	
Date	05/11/21
Atmospheric pressure	1002mb
Ambient Temp	23.4°C
Environics Serial No.	2633

GAS DATA LTD
Unit 4 Fairfield court
Seven Stars Estate
Coventry
CV3 4LJ, UK
+44 (0) 24 7630 3311

GAS DATA
LISTEN · ANALYSE · INFORM

GFM436-1 FINAL INSPECTION & CALIBRATION CHECK CERTIFICATE

INSTRUMENT DETAILS	
Serial No	Customer
13237	GeoAssist

INSTRUMENT CHECKS			
Keyboard	✓	Pump Flow	500cc/min
Display Contrast	✓	Pump Flow @ -200mB	325cc/min
Clock Set / Running	✓	S/W Version	G436.0027/0010
Labels Fitted	✓	Recalibration Date	05/11/22

GAS CHECKS							
Calibration Gas		Instrument Gas Channels Read					
Gas Type	Applied Conc.	CH4 (%)	tol. (% vol.)	CO2 (%)	tol. (% vol.)	O2 (%)	tol. (% vol.)
N2	100%	0.0	0.0	0.0	0.0	0.0	+/-0.1
CH4	5%	5.0	+/-0.3	0.0	0.0	0.0	+/-0.1
	60%	59.7	+/-3.0	0.0	0.0	0.0	+/-0.1
CO2	5%	0.0	0.0	5.0	+/-0.3	0.0	+/-0.1
	40%	0.0	0.0	40.2	+/-3.0	0.0	+/-0.1
O2	20.9%	0.0	0.0	0.1	+0.1	20.9	+/-0.5

OPTIONAL GAS CHECKS								
Calibration Gas		Instrument Gas Channels Read						
Gas Type	Applied Conc.	Label	H2S	CO			Hexane	tol. (% vol.)
		Range	5000ppm	2000ppm			2.00%	
N2	100%		0	0			0	0.0
H2S	1500ppm		1510	0				+/- 5.0
CO	1000ppm		50	998				+/- 5.0
Hexane	2.00%						1.908	+/- 10.0

PRESSURE CHECKS							
Calibration Pressure		Instrument Pressure Channels Read					
Pressure @	Applied Pressure	Atmospheric [Ap] (mB)	tol. (mB)				
All Ports	Current Atmospheric	1001	+/-2.0				
Ap Port (Internal)	+800mB(a)	798	+/-5.0				
	+1200mB(a)	1200	+/-5.0				

TEST DATE AND CONDITIONS	
Date	05/11/21
Atmospheric pressure	1002mb
Ambient Temp	23.4°C
Environics Serial No.	2633

GAS DATA LTD
Unit 4 Fairfield court
Seven Stars Estate
Coventry
CV3 4LJ, UK
+44 (0) 24 7630 3311

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GFM436-1 FINAL INSPECTION & CALIBRATION CHECK CERTIFICATE

FLOW CHECKS					
Calibration Flow		Instrument Flow Channels Read			
Applied Flow (l/hour)	Applied Pressure (Pa)	Flow [Flow] (l/hour)	tol. (l/hour)	Differential Pressure [Dp] (Pa)	tol. (Pa)
-30.0	-455	-30.6	+/-3.0	-465	+/-50
-3.0	-20	-3.1	+/-1.0	-18	+/-6
0.0	0	0.0	0.0	0	0.0
+3.0	17	3.0	+/-0.5	18	+/-3
+30.0	329	30.0	+/-3.0	382	+/-50
+60.0	1164	60.2	+/-6.0	1163	+/-130
+90.0	2309	90.7	+/-9.0	2357	+/-250

TEMPERATURE CHECK		
Calibration Temperature	Instrument Temperature Channel Read	
Applied Equivalent Temperature (°C)	Temperature [Temp] (°C)	tol. (°C)
-10.0	-10.0	+/- 2.0
0.0	0.0	+/- 1.0
30.0	30.0	+/- 1.0
60.0	60.0	+/- 1.0
100.0	100.0	+/- 1.0

Notes:

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015, BS EN ISO 14001:2015 and BS EN ISO 45001:2018 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.

Gas Data Ltd is certified to: BS EN ISO 9001:2015
BS EN ISO 14001:2015
BS EN ISO 45001:2018

TEST DATE AND CONDITIONS		
Date	23/11/2022	
Atmospheric Pressure	967	mB
Ambient Temperature	19.6	°C
Environics Serial No.	5089	

GFM436 Final Inspection & Calibration Check Certificate

GAS DATA LTD
Unit 4, Fairfield Court
Seven Stars Estate
Wheler Rd
Coventry
CV3 4LJ
Tel 02476303311 Fax 02476307711

Customer	GeoAssist Ltd
Certificate Number	123690
Order Number	332653

Serial Number	13237
Software Version	G436-00.0027/0010

Recalibration DUE Date
23/11/23

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	450	*Accept > 200 cc/min*	Pump Flow @ -200mB	300	*Accept > 200 cc/min*
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
	CH_4		CO_2		O_2	
	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %
Sensor	59.7	60	40.1	40	20.9	20.9
	Accept ±3.0		*Accept ±3.0*		*Accept ±0.5*	
	5.1	5	5.1	5	6.0	6
	Accept ±0.3		*Accept ±0.3*		*Accept ±0.3*	
Zero Reading 100% N2	0.0	0	0.0	0	0.0	0
	Accept ±0.0		*Accept ±0.0*		*Accept ±0.1*	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings *(ppm)*			
			Zero Reading		Instrument Gas Reading	
Gas Type	Range *(ppm)*					
H2S	5000	*1500*	0	*Accept ±0.0*	1500	*Accept ±5.0*
CO	2000	*1000*	0	*Accept ±0.0*	999	*Accept ±5.0*
Hexane	*2.0%*	2.0%	0	*Accept ±0.0*	1.99	*Accept ±10.0*

Cross Gas Effects									
Applied Gas *(ppm)*		Instrument Readings *(ppm)*							
Gas Type	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:	HEX		
H2S	*1500*	1500		0		0			
CO	*1000*	30		999		0			
Hexane	*2.0%*	0		0		1.99			

Pressure Checks			
Atmospheric Pressure [AP] *(mB)*			
Current Atmospheric Pressure (mB)		Instrument Atmospheric Pressure Reading (mB)	
AP Open Ports		967	*Accept ±2.0*
AP Port (Internal)	*+800 mB*	800	*Accept ±5.0*
	+1200mb	1200	*Accept ±5.0*

Flow Checks					
Borehole Flow			Differential Pressure		
Applied Reading *(l/h)*	Instrument Reading *(l/h)*		Applied Pressure *(Pa)*	Instrument Reading *(Pa)*	
-30	-29.8	*Accept ±3.0*	-346	-348	*Accept ±50*
-3	-3.0	*Accept ±1.0*	-18	-18	*Accept ±6.0*
0	0.0	*Accept ±0.0*	0	0	*Accept ±0.5*
3	3.0	*Accept ±0.5*	17	17	*Accept ±3.0*
30	30.0	*Accept ±3.0*	388	386	*Accept ±50*
60	60.5	*Accept ±6.0*	1191	1201	*Accept ±130*
90	92.2	*Accept ±9.0*	2349	>>>>>	*Accept ±250*

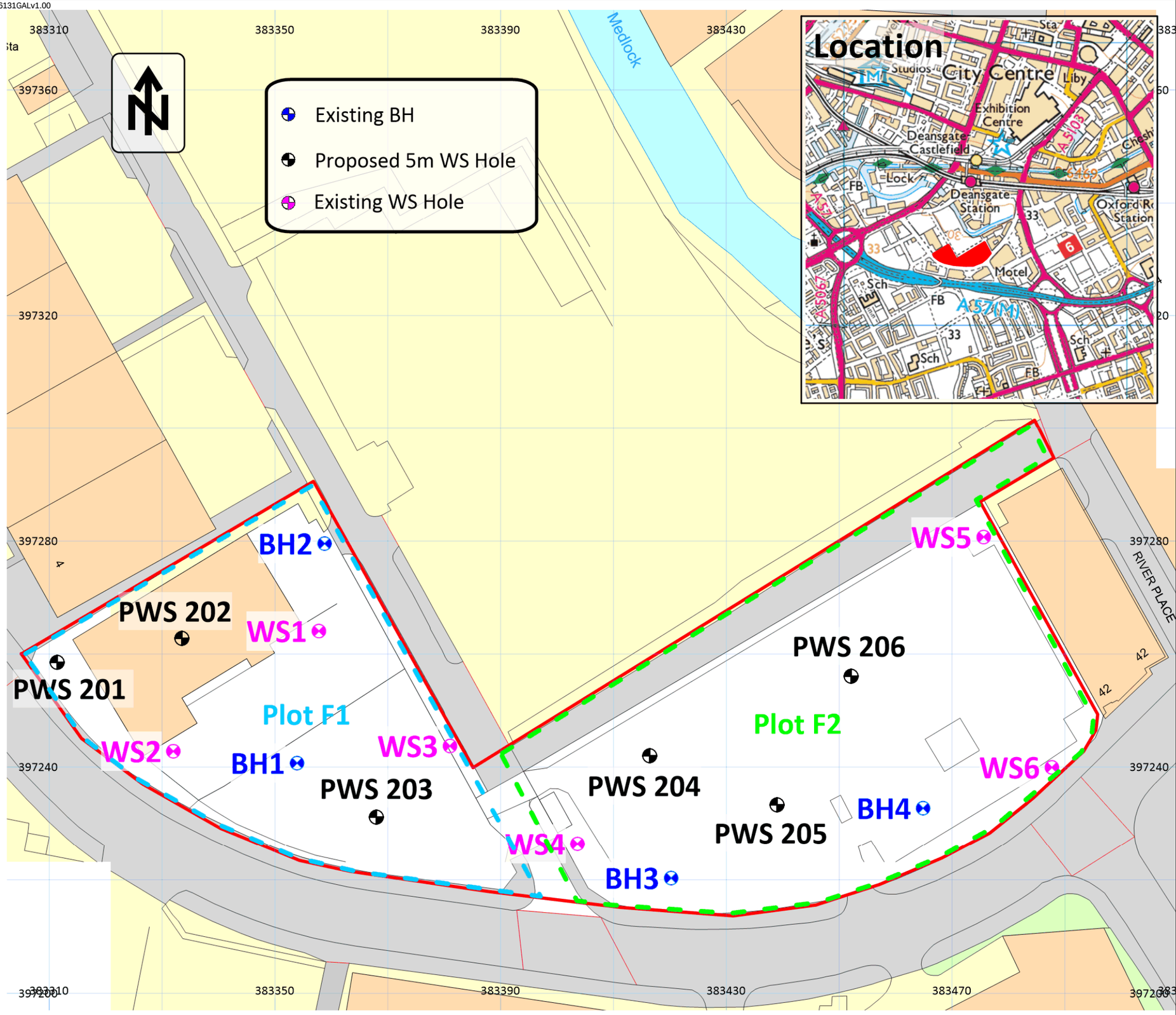
Temperature Checks		
Calibration Temperature Applied Temperature ^{0}C	Instrument Temperature Reading ^{0}C	
-10	-10.0	*Accept ±2.0*
0	0.0	*Accept ±1.0*
30	30.0	*Accept ±1.0*
60	60.0	*Accept ±1.0*
100	100.0	*Accept ±1.0*

Technician:	Date Tested:
Jack Rutland	*23/11/2022*

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.

Gas Data Ltd is certified to BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018.

6131GALv1.00



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GeoAssist Limited
Civil, Environmental & Geotechnical
Telephone: +44 (0) 161 480 8885 e-mail : info@geoassist.co.uk

A1 Proposed GI Plan

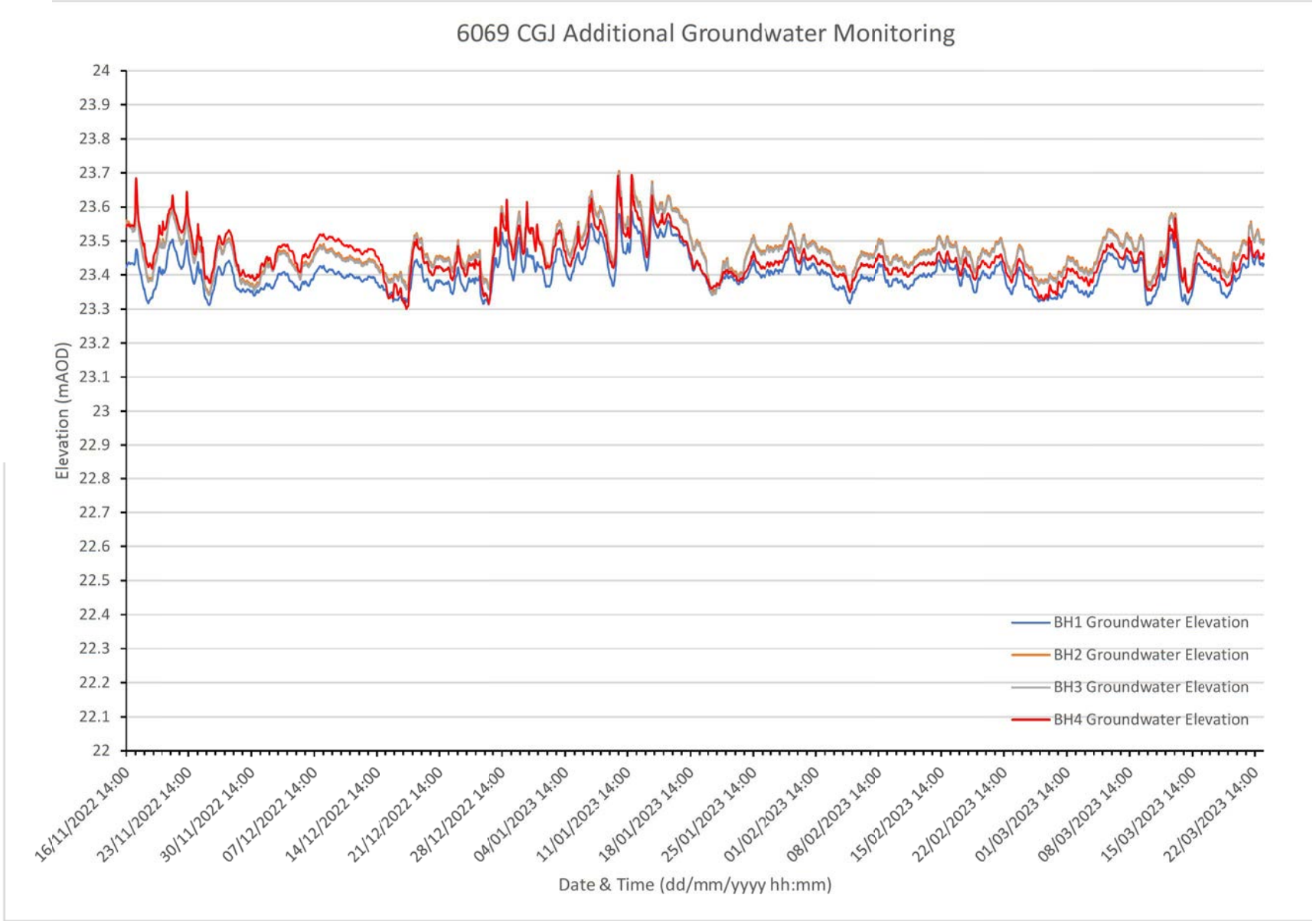
Site Name	Great Jackson Street Plot F2
Location	Manchester
GeoAssist Ref	6131VJS
Client	Renaker Build Limited
	Renaker Build Ltd. 1st Floor, NQ Building 47 Bengal Street Ancoats Manchester M4 6BB
Planning Consultant	
NGR (centre of site)	
Production Date	5th Sept 2023
Survey Method	
Surveyor	Others
Status	Draft v1.10
Base Survey	OSGB36

Note:
Exploratory hole positions are approximate and may vary due to the presence of surface and subsurface obstructions (utilities & services buried concrete structures etc.)

ace
consultancy engineering business environment

6069 CGJ Additional Groundwater Monitoring

Date (dd/mm/yyyy)	Time (hh:mm:ss)	BH1 Groundwater (mAOD)	Temp	BH2 Groundwater (mAOD)	Temp	BH3 Groundwater (mAOD)	Temp	BH4 Groundwater (mAOD)	Temp
16/11/2022	14:00:00	23.42		23.56		23.55		23.54	
23/11/2022	12:00:00	23.47		23.55		23.54		23.59	
30/11/2022	12:00:00	23.35		23.37		23.37		23.39	
07/12/2022	12:00:00	23.39		23.46		23.45		23.48	
14/12/2022	12:00:00	23.38		23.43		23.42		23.45	
21/12/2022	12:00:00	23.38		23.46		23.45		23.43	
28/12/2022	12:00:00	23.51		23.60		23.59		23.58	
04/01/2023	12:00:00	23.43		23.50		23.50		23.47	
11/01/2023	12:00:00	23.48		23.56		23.55		23.52	
18/01/2023	12:00:00	23.45		23.52		23.51		23.47	
25/01/2023	12:00:00	23.43		23.51		23.50		23.46	
01/02/2023	12:00:00	23.42		23.49		23.48		23.45	
08/02/2023	12:00:00	23.42		23.49		23.49		23.45	
15/02/2023	12:00:00	23.44		23.51		23.50		23.45	
22/02/2023	12:00:00	23.41		23.48		23.47		23.44	
01/03/2023	12:00:00	23.36		23.43		23.43		23.40	
08/03/2023	12:00:00	23.44		23.51		23.50		23.47	
15/03/2023	12:00:00	23.35		23.39		23.39		23.37	
22/03/2023	12:00:00	23.43		23.50		23.50		23.45	


6069 CGJ Additional Groundwater Monitoring
Elevation (mAOD)
24
23.9
23.8
23.7
23.6
23.5
23.4
23.3
23.2
23.1
23
22.9
22.8
22.7
22.6
22.5
22.4
22.3
22.2
22.1
22
16/11/2022 14:00
23/11/2022 14:00
30/11/2022 14:00
07/12/2022 14:00
14/12/2022 14:00
21/12/2022 14:00
28/12/2022 14:00
04/01/2023 14:00
11/01/2023 14:00
18/01/2023 14:00
25/01/2023 14:00
01/02/2023 14:00
08/02/2023 14:00
15/02/2023 14:00
22/02/2023 14:00
01/03/2023 14:00
08/03/2023 14:00
15/03/2023 14:00
22/03/2023 14:00
Date & Time (dd/mm/yyyy hh:mm)
BH1 Groundwater Elevation
BH2 Groundwater Elevation
BH3 Groundwater Elevation
BH4 Groundwater Elevation

Appendix C7

Appendix B

B1 Exploratory Hole Logs WS 201 to WS 206

GeoAssist Limited

Exploratory Hole Record Sheet

Ref: WS201
Sheet: 1

Consultant: 0

Client: Renaker Build Limited

Project: Great Jackson Street Plot F2
Location: Manchester

Equipment: Archway Dart Rig

Ground Level: 32.6 m.AOD
Co-ordinates: Easting: 383311.7(m)
Northing: 397257.5(m)
Dates: 18/09/2023 to 18/09/2023

Drilling Foreman: M Walton
Engineer/Geologist: M Benson

STRATUM DESCRIPTION	Depth (Thick) (m)	Reduced Level (mAOD)	Strata Legend/ Standpipe Backfill	Samples/Tests: Depth (m) from to	Sample Type/No	Blow Count N/(U)	Field Records
Grey/brown sandy gravel - MADE GROUND	0.30	32.30		0.30	C1		
Brown clayey sandy gravel with brick fragments - MADE GROUND	(1.80)			0.50	CP1	10	
				0.80	C2		
				1.00	CP2	10	PID at 1.50m - 1.3ppm
				1.90	C3		PID at 1.80m - 1.9ppm
	2.10	30.50		2.00	CP3	13	PID at 2.10m - 0.8ppm
Stiff to very stiff brown slightly gravelly very silty CLAY	(2.90)						PID at 2.50m - 1.4ppm
				3.00	CP4	11	PID at 2.90m - 1ppm
							PID at 3.10m - 4.4ppm
							PID at 3.50m - 0.4ppm
				4.00	CP5	11	PID at 3.90m - 5ppm
							PID at 4.10m - 12.7ppm
							PID at 4.50m - 5.8ppm
	5.00	27.60		4.90	CP6	24	PID at 4.90m - 4.2ppm
Exploratory Hole complete at 5.00m							18/09/2023: On completion of exploratory hole at 5.00m. Casing at 3.00m. Standing water level Nil with casing. On withdrawal of casing exploratory hole backfilled and reinstated.

Remarks: 18/09/2023: Inspection pit excavated to 1.00m to avoid services

The groundwater conditions entered on the exploratory hole logs are those observed at the time of the drilling operations and the water level may not have reached equilibrium with the surrounding water level prior to the record being taken.
Standing groundwater levels will be subject to seasonal variation or changes in local drainage conditions and could be higher at certain times of the year particularly after periods of heavy rainfall.

Logged: M Benson
Date: 19/09/2023
Checked: M Richardson
Date: 19/09/2023
Site Ref: 6131/VJS
Scale 1:50

GeoAssist Limited

Exploratory Hole Record Sheet

Ref: WS202
Sheet: 1

Consultant: 0

Client: Renaker Build Limited

Project: Great Jackson Street Plot F2
Location: Manchester

Equipment: Archway Dart Rig

Ground Level: 32.18 m.AOD
Co-ordinates: Easting: 383332(m)
Northing: 397267.6(m)
Dates: 19/09/2023 to 19/09/2023

Drilling Foreman: M Walton
Engineer/Geologist: M Benson

STRATUM DESCRIPTION	Depth (Thick) (m)	Reduced Level (mAOD)	Strata Legend/ Standpipe Backfill	Samples/Tests: Depth (m) from to	Sample Type/No	Blow Count N/(U)	Field Records
0 CONCRETE	0.10	32.08					
Grey/brown sandy gravel - MADE GROUND	(0.80)			0.50	CP1	47	PID at 0.20m - 1.5ppm PID at 0.50m - 1.2ppm
	0.90	31.28		0.90	C1		PID at 0.90m - 3.2ppm
-1 Orange/brown and grey gravelly sandy silty clay - MADE GROUND	(0.70)			1.00 1.30	CP2 C2	28	PID at 1.10m - 2.1ppm
	1.60	30.58					PID at 1.50m - 0.4ppm
Stiff to very stiff brown slightly gravelly very silty CLAY							
-2				2.00	CP3	10	PID at 1.90m - 0.2ppm PID at 2.10m - 1.3ppm
							PID at 2.50m - 0.1ppm
-3	(2.80)			3.00	CP4	15	PID at 2.90m - 1.1ppm PID at 3.10m - 0.1ppm
							PID at 3.50m - 14.2ppm
-4				4.00	CP5	10	PID at 3.90m - 0.8ppm PID at 4.10m - 1.2ppm
	4.40	27.78					
Very stiff brown gravelly very sandy silty CLAY							PID at 4.50m - 0.9ppm
	(0.60)						
-5	5.00	27.18		4.90	CP6	30	PID at 4.90m - 0.1ppm
Exploratory Hole complete at 5.00m							18/09/2023: On completion of exploratory hole at 5.00m. Casing at 2.00m. Standing water level Nil with casing. On withdrawal of casing exploratory hole backfilled and reinstated.
-6							
-7							
-8							
-9							
10							

Remarks: 19/09/2023: Inspection pit excavated to 1.00m to avoid services

The groundwater conditions entered on the exploratory hole logs are those observed at the time of the drilling operations and the water level may not have reached equilibrium with the surrounding water level prior to the record being taken.
Standing groundwater levels will be subject to seasonal variation or changes in local drainage conditions and could be higher at certain times of the year particularly after periods of heavy rainfall.

Logged: M Benson
Date: 19/09/2023
Checked: M Richardson
Date: 19/09/2023
Site Ref: 6131/VJS
Scale 1:50

GeoAssist Limited

Exploratory Hole Record Sheet

Ref: WS203
Sheet: 1

Consultant: 0

Client: Renaker Build Limited

Project: Great Jackson Street Plot F2
Location: Manchester

Equipment: Archway Dart Rig

Ground Level: 32.43 m.AOD
Co-ordinates: Easting: 383368.7(m)
Northing: 397231.4(m)
Dates: 18/09/2023 to 18/09/2023

Drilling Foreman: M Walton
Engineer/Geologist: M Benson

STRATUM DESCRIPTION	Depth (Thick) (m)	Reduced Level (mAOD)	Strata Legend/ Standpipe Backfill	Samples/Tests: Depth (m) from to	Sample Type/No	Blow Count N/(U)	Field Records
Thin tarmac over grey/brown sandy gravel - MADE GROUND	0.30	32.13		0.30	C1		
Brown/grey clayey sand and gravel with organic inclusions - MADE GROUND	(0.40) 0.70	31.73		0.50	CP1	7	
Soft to firm orange/brown with grey slightly sandy very silty CLAY with organic inclusions	(1.20) 1.90	30.53		0.80 1.00	C2 CP2	Nil	PID at 1.10m - 0.1ppm PID at 1.50m - 0.1ppm
Loose grey/brown clayey SAND and GRAVEL	(0.70) 2.60	29.83		2.00	CP3	3	PID at 1.90m - 0.2ppm PID at 2.10m - 2.2ppm Wet at 2.40m PID at 2.50m - 2.4ppm
Stiff to very stiff brown slightly gravelly very silty CLAY	(1.90) 4.50	27.93		3.00 4.00	CP4 CP5	12 4	PID at 2.90m - 0.8ppm PID at 3.10m - 0.2ppm PID at 3.50m - 0.2ppm PID at 3.90m - 0.4ppm PID at 4.10m - 0.4ppm PID at 4.50m - 4.2ppm
Very stiff brown gravelly very sandy silty CLAY	(0.50) 5.00	27.43		4.90	CP6	6	PID at 4.90m - 0.4ppm
Exploratory Hole complete at 5.00m							18/09/2023: On completion of exploratory hole at 5.00m. Casing at 3.00m. Standing water level Nil with casing. On withdrawal of casing exploratory hole backfilled and reinstated.

Remarks: 18/09/2023: Inspection pit excavated to 1.00m to avoid services

The groundwater conditions entered on the exploratory hole logs are those observed at the time of the drilling operations and the water level may not have reached equilibrium with the surrounding water level prior to the record being taken.
Standing groundwater levels will be subject to seasonal variation or changes in local drainage conditions and could be higher at certain times of the year particularly after periods of heavy rainfall.

Logged: M Benson
Date: 19/09/2023
Checked: M Richardson
Date: 19/09/2023
Site Ref: 6131/VJS
Scale 1:50

GeoAssist Limited

Exploratory Hole Record Sheet

Ref: WS204
Sheet: 1

Project: Great Jackson Street Plot F2
Location: Manchester

Consultant: 0

Client: Renaker Build Limited

Equipment: Archway Dart Rig

Ground Level: 32.11 m.AOD
Co-ordinates: Easting: 383409.9(m)
Northing: 397243.1(m)
Dates: 12/09/2023 to 12/09/2023

Drilling Foreman: M Walton
Engineer/Geologist: M Benson

STRATUM DESCRIPTION	Depth (Thick) (m)	Reduced Level (mAOD)	Strata Legend/ Standpipe Backfill	Samples/Tests: Depth (m) from to	Sample Type/No	Blow Count N/(U)	Field Records
Grey/brown sandy gravel, brick and concrete fragments - MADE GROUND	(1.10)			0.50	CP1	54	PID at 0.10m - 1.2ppm PID at 0.50m - 0.2ppm
	1.10	31.01		1.00	CP2	38	PID at 0.90m - 1.5ppm
Brown/grey clayey sandy gravel with brick fragments - MADE GROUND	(1.50)			1.10 2.00	C1 CP3	5	PID at 1.10m - 1.9ppm PID at 1.50m - 0.9ppm PID at 1.90m - 0.4ppm PID at 2.10m - 3.5ppm
	2.60	29.51					PID at 2.50m - 1.5ppm
Stiff brown slightly gravelly very silty CLAY	(0.70)			3.00	CP4	24	PID at 2.90m - 0.2ppm PID at 3.10m - 0.5ppm
	3.30	28.81					
Medium dense brown silty fine to medium SAND	(1.20)			4.00	CP5	23	PID at 3.50m - 0.1ppm PID at 3.90m - 0.4ppm PID at 4.10m - 1.6ppm Wet at 4.30m
	4.40	27.71					
Very stiff brown gravelly very sandy silty CLAY	(0.60)			4.90	CP6	24	PID at 4.50m - 0.1ppm PID at 4.90m - 0.1ppm
	5.00	27.11					
Exploratory Hole complete at 5.00m							12/09/2023: On completion of exploratory hole at 5.00m. Casing at 2.00m. Standing water level Nil with casing. On withdrawal of casing exploratory hole backfilled and reinstated.

Remarks:

The groundwater conditions entered on the exploratory hole logs are those observed at the time of the drilling operations and the water level may not have reached equilibrium with the surrounding water level prior to the record being taken.
Standing groundwater levels will be subject to seasonal variation or changes in local drainage conditions and could be higher at certain times of the year particularly after periods of heavy rainfall.

Logged: M Benson
Date: 13/09/2023
Checked: M Richardson
Date: 13/09/2023
Site Ref: 6131/VJS
Scale 1:50

GeoAssist Limited

Exploratory Hole Record Sheet

Ref: WS205

Sheet: 1

Consultant: 0

Client: Renaker Build Limited

Project: Great Jackson Street Plot F2

Location: Manchester

Equipment: Archway Dart Rig

Ground Level: 32.7 m.AOD

Co-ordinates: Easting: 383442.6(m) Northing: 397242.3(m)

Dates: 12/09/2023 to 12/09/2023

Drilling Foreman: M Walton

Engineer/Geologist: M Benson

STRATUM DESCRIPTION	Depth (Thick) (m)	Reduced Level (mAOD)	Strata Legend/ Standpipe Backfill	Samples/Tests: Depth (m) from to	Sample Type/No	Blow Count N/(U)	Field Records
Brown/grey clayey sandy gravel with brick and concrete fragments - MADE GROUND	(1.40)			0.50	CP1	4	PID at 0.10m - 21.6ppm PID at 0.50m - 3.3ppm
	1.40	31.30		1.00 1.00	CP2 C1	3	PID at 0.90m - 0ppm PID at 1.10m - 113.2ppm
Grey organic very silty clay - MADE GROUND	1.70	31.00		1.50	C2		PID at 1.50m - 69.5ppm
Grey/brown gravelly sandy silty CLAY	2.00	30.70		2.00	CP3	4	PID at 1.90m - 1.1ppm
Loose brown with grey very sandy GRAVEL	(1.00)						PID at 2.10m - 27ppm PID at 2.50m - 3.7ppm
	3.00	29.70		3.00	CP4	10	Wet at 2.80m PID at 2.90m - 1.3ppm PID at 3.10m - 1.9ppm
Stiff brown slightly gravelly very silty CLAY	(1.00)						PID at 3.50m - 0.4ppm
	4.00	28.70		4.00	CP5	8	PID at 3.90m - 0.3ppm
Very stiff brown gravelly very sandy silty CLAY	(1.00)						PID at 4.10m - 34.3ppm PID at 4.50m - 3.3ppm
	5.00	27.70		4.90	CP6	60	PID at 4.90m - 1.8ppm
Exploratory Hole complete at 5.00m							12/09/2023: On completion of exploratory hole at 5.00m. Casing at 4.00m. Standing water level Nil with casing. On withdrawal of casing exploratory hole backfilled and reinstated.

Remarks:

The groundwater conditions entered on the exploratory hole logs are those observed at the time of the drilling operations and the water level may not have reached equilibrium with the surrounding water level prior to the record being taken.
Standing groundwater levels will be subject to seasonal variation or changes in local drainage conditions and could be higher at certain times of the year particularly after periods of heavy rainfall.

Logged: M Benson
Date: 13/09/2023
Checked: M Richardson
Date: 13/09/2023
Site Ref: 6131/VJS
Scale 1:50

GeoAssist Limited

Exploratory Hole Record Sheet

Ref: WS206

Sheet: 1

Consultant: 0

Client: Renaker Build Limited

Project: Great Jackson Street Plot F2

Location: Manchester

Equipment: Archway Dart Rig

Ground Level: 32.6 m.AOD

Co-ordinates: Easting: 383456.9(m) Northing: 397268.1(m)

Dates: 12/09/2023 to 12/09/2023

Drilling Foreman: M Walton

Engineer/Geologist: M Benson

STRATUM DESCRIPTION	Depth (Thick) (m)	Reduced Level (mAOD)	Strata Legend/ Standpipe Backfill	Samples/Tests: Depth (m) from to	Sample Type/No	Blow Count N/(U)	Field Records
0 Brown/grey clayey sandy gravel with brick and concrete fragments - MADE GROUND	(1.60)			0.50	CP1	15	PID at 0.10m - 4ppm PID at 0.50m - 3.2ppm
				0.90	CI		PID at 0.90m - 1.1ppm
1				1.00	CP2	7	PID at 1.10m - 4.1ppm
	1.60	31.00					PID at 1.50m - 0.1ppm
Grey/brown slightly gravelly sandy silty CLAY	(0.60)						PID at 1.90m - 0.6ppm
2	2.20	30.40		2.00	CP3	6	PID at 2.10m - 2.9ppm
Brown with grey SAND and GRAVEL	(0.50)						PID at 2.50m - 0.1ppm
	2.70	29.90					Wet at 2.70m
Stiff brown slightly gravelly very silty CLAY with silt inclusions							PID at 2.90m - 0.5ppm
3	(0.90)			3.00	CP4	6	
	3.60	29.00					PID at 3.50m - 0ppm
Very stiff brown gravelly very sandy silty CLAY							PID at 3.90m - 0.2ppm
4	(0.90)			4.00	CP5	45	PID at 4.10m - 0.5ppm PID at 4.25m - 0.1ppm
	4.50	28.10					12/09/2023: On completion of exploratory hole at 4.50m. Casing at 4.00m. Standing water level Nil with casing. On withdrawal of casing exploratory hole backfilled and reinstated.
Exploratory Hole complete at 4.50m							PID at 4.50m - 0.1ppm
5							
6							
7							
8							
9							
10							

Remarks:

The groundwater conditions entered on the exploratory hole logs are those observed at the time of the drilling operations and the water level may not have reached equilibrium with the surrounding water level prior to the record being taken.
Standing groundwater levels will be subject to seasonal variation or changes in local drainage conditions and could be higher at certain times of the year particularly after periods of heavy rainfall.

Logged: M Benson
Date: 13/09/2023
Checked: M Richardson
Date: 13/09/2023
Site Ref: 6131/VJS
Scale 1:50

Appendix C

C1 I2 Analytical Test Results

C2 Analytical Results with Assessment Criteria

Matthew Benson
GeoAssist Ltd☐
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Heaton Norris
Stockport
Cheshire
SK4 1RU

e: info@geoassist.co.uk

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

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

Analytical Report Number : 23-57710

Project / Site name:	Great Jackson Street, Plot F1, Manchester	**Samples received on:**	20/09/2023
Your job number:	6131 VJS	**Samples instructed on/ Analysis started on:**	20/09/2023
Your order number:	2230919	**Analysis completed by:**	27/09/2023
Report Issue Number:	1	**Report issued on:**	28/09/2023
Samples Analysed:	6 soil samples		

Signed:

Anna Goc
PL Head of Reporting Team
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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-57710
Project / Site name: Great Jackson Street, Plot F1, Manchester
Your Order No: 2230919

Lab Sample Number				2818736	2818737	2818738	2818739	2818740
Sample Reference				WS201-C2	WS201-C3	WS202-C1	WS202-C2	WS203-C2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	1.90	0.90	1.30	0.80
Date Sampled				19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	37	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8	9.1	15	8.5	8.4
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.2	0.3	0.3
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	SSZ	SSZ	SSZ
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.5	8.3	7.5	7.7	8.4
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 SO4	%	0.005	MCERTS	0.087	0.03	0.023	0.029	0.086
Sulphide	mg/kg	1	MCERTS	17	< 1.0	2.6	< 1.0	7.4
Total Sulphur	%	0.005	MCERTS	0.051	0.025	0.025	0.014	0.046
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.11	< 0.05	< 0.05	< 0.05	0.14
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05	0.11
Fluorene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05	< 0.05	0.07
Phenanthrene	mg/kg	0.05	MCERTS	0.52	0.1	< 0.05	< 0.05	0.78
Anthracene	mg/kg	0.05	MCERTS	0.12	< 0.05	< 0.05	< 0.05	0.16
Fluoranthene	mg/kg	0.05	MCERTS	1	0.13	< 0.05	< 0.05	1.3
Pyrene	mg/kg	0.05	MCERTS	0.94	0.14	< 0.05	< 0.05	1.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.58	0.11	< 0.05	< 0.05	0.7
Chrysene	mg/kg	0.05	MCERTS	0.59	0.12	< 0.05	< 0.05	0.74
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.86	0.21	< 0.05	< 0.05	0.95
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.29	< 0.05	< 0.05	< 0.05	0.34
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.66	0.14	< 0.05	< 0.05	0.78
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.36	0.07	< 0.05	< 0.05	0.38
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	< 0.05	0.11
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.45	0.11	< 0.05	< 0.05	0.51
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	6.71	1.13	< 0.80	< 0.80	8.18

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-57710
Project / Site name: Great Jackson Street, Plot F1, Manchester
Your Order No: 2230919

Lab Sample Number				2818736	2818737	2818738	2818739	2818740
Sample Reference				WS201-C2	WS201-C3	WS202-C1	WS202-C2	WS203-C2
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.80	1.90	0.90	1.30	0.80
Date Sampled				19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	13	7.8	9.2	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	120	200	76	100	130
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.6	1	0.64	0.8	0.66
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.5	0.6	0.4	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	10	20	18	19	11
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	46	19	16	52
Lead (aqua regia extractable)	mg/kg	1	MCERTS	180	93	26	15	170
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.6	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	29	8.7	26	12
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	17	34	26	27	19
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	97	96	36	58	88

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

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-57710
Project / Site name: Great Jackson Street, Plot F1, Manchester
Your Order No: 2230919

Lab Sample Number				2819949
Sample Reference				WS203-C1
Sample Number				None Supplied
Depth (m)				0.30
Date Sampled				19/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	5.2
Total mass of sample received	kg	0.001	NONE	0.4
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO4	%	0.005	MCERTS	0.048
Sulphide	mg/kg	1	MCERTS	9
Total Sulphur	%	0.005	MCERTS	0.031

Total Phenols

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

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.1
Fluorene	mg/kg	0.05	MCERTS	0.06
Phenanthrene	mg/kg	0.05	MCERTS	0.67
Anthracene	mg/kg	0.05	MCERTS	0.15
Fluoranthene	mg/kg	0.05	MCERTS	1.3
Pyrene	mg/kg	0.05	MCERTS	1.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.6
Chrysene	mg/kg	0.05	MCERTS	0.69
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.79
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.35
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.69
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.4
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.08
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.42

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	7.47

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-57710
Project / Site name: Great Jackson Street, Plot F1, Manchester
Your Order No: 2230919

Lab Sample Number				2819949
Sample Reference				WS203-C1
Sample Number				None Supplied
Depth (m)				0.30
Date Sampled				19/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.3
Barium (aqua regia extractable)	mg/kg	1	MCERTS	97
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.31
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	9.2
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	10
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	88

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

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 23-57710
Project / Site name: Great Jackson Street, Plot F1, 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 *
2818736	WS201-C2	None Supplied	0.8	Brown sand with gravel and stones.
2818737	WS201-C3	None Supplied	1.9	Brown sand with gravel.
2818738	WS202-C1	None Supplied	0.9	Brown clay and sand with gravel.
2818739	WS202-C2	None Supplied	1.3	Brown sand with gravel.
2818740	WS203-C2	None Supplied	0.8	Brown sand with gravel.
2819949	WS203-C1	None Supplied	0.3	Brown clay and sand with gravel.

Analytical Report Number : 23-57710
Project / Site name: Great Jackson Street, Plot F1, 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
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 (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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 (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
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
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
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
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 (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil (Lower 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
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
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.

Analytical Report Number : 23-57710
Project / Site name: Great Jackson Street, Plot F1, 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

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.

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Analytical Report Number : 23-56658

Project / Site name:	Great Jackson Street, Plot F2, Manchester	**Samples received on:**	14/09/2023
Your job number:	6131-VJS	**Samples instructed on/ Analysis started on:**	14/09/2023
Your order number:	2230913	**Analysis completed by:**	26/09/2023
Report Issue Number:	1	**Report issued on:**	26/09/2023
Samples Analysed:	3 soil samples		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 23-56658
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230913

Lab Sample Number				2812131	2812132	2812133
Sample Reference				WS204	WS205	WS206
Sample Number				C1	C1	C1
Depth (m)				1.10	1.00	0.90
Date Sampled				13/09/2023	13/09/2023	13/09/2023
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	5.5	10	13
Total mass of sample received	kg	0.001	NONE	0.4	0.4	0.4
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JBH	JBH	JBH
General Inorganics						
pH - Automated	pH Units	N/A	MCERTS	8.4	8.4	8.4
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 SO4	%	0.005	MCERTS	0.055	0.03	0.034
Sulphide	mg/kg	1	MCERTS	5.1	1.6	1.6
Total Sulphur	%	0.005	MCERTS	0.039	0.017	0.024
Total Phenols						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	0.34	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.77	0.06	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.61	0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	3.7	0.4	0.37
Anthracene	mg/kg	0.05	MCERTS	1	0.13	0.11
Fluoranthene	mg/kg	0.05	MCERTS	5.3	0.93	0.67
Pyrene	mg/kg	0.05	MCERTS	4.8	0.85	0.65
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.3	0.41	0.3
Chrysene	mg/kg	0.05	MCERTS	2.3	0.4	0.38
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	2.6	0.45	0.36
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1	0.14	0.19
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.3	0.38	0.29
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	0.19	0.15
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.26	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.4	0.2	0.19
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	29.9	4.59	3.66

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Analytical Report Number: 23-56658
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230913

Lab Sample Number				2812131	2812132	2812133
Sample Reference				WS204	WS205	WS206
Sample Number				C1	C1	C1
Depth (m)				1.10	1.00	0.90
Date Sampled				13/09/2023	13/09/2023	13/09/2023
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	6.6	10
Barium (aqua regia extractable)	mg/kg	1	MCERTS	150	85	96
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.59	0.65	0.84
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	16	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	38	13	38
Lead (aqua regia extractable)	mg/kg	1	MCERTS	100	31	78
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	13	17	18
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	19	20	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	66	35	54

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

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Analytical Report Number : 23-56658
Project / Site name: Great Jackson Street, Plot F2, 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 *
2812131	WS204	C1	1.1	Brown loam and clay with gravel and rubble.
2812132	WS205	C1	1	Brown clay and sand with gravel.
2812133	WS206	C1	0.9	Brown clay and sand with gravel.

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Analytical Report Number : 23-56658
Project / Site name: Great Jackson Street, Plot F2, 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
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 (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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 (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
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
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
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
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 (Skalar)	L080-PL	W	MCERTS
Hexavalent chromium in soil (Lower 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
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

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Analytical Report Number : 23-56657

Project / Site name:	Great Jackson Street, Plot F2, Manchester	**Samples received on:**	14/09/2023
Your job number:	6131-VJS	**Samples instructed on/ Analysis started on:**	14/09/2023
Your order number:	2230914	**Analysis completed by:**	25/09/2023
Report Issue Number:	1	**Report issued on:**	25/09/2023
Samples Analysed:	1 soil sample		

Signed:

Dominika Warjan
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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Analytical Report Number: 23-56657
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230914

Lab Sample Number				2812130
Sample Reference				WS205-C2
Sample Number				None Supplied
Depth (m)				1.50
Date Sampled				13/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	30
Total mass of sample received	kg	0.001	NONE	0.3

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO4	%	0.005	MCERTS	0.088
Sulphide	mg/kg	1	MCERTS	16
Total Sulphur	%	0.005	MCERTS	0.156

Total Phenols

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

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.06
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.08
Pyrene	mg/kg	0.05	MCERTS	0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05

Total PAH

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

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.8
Barium (aqua regia extractable)	mg/kg	1	MCERTS	100
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.72
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	26
Lead (aqua regia extractable)	mg/kg	1	MCERTS	57
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	10
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	24
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	31

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Analytical Report Number: 23-56657
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230914

Lab Sample Number				2812130
Sample Reference				WS205-C2
Sample Number				None Supplied
Depth (m)				1.50
Date Sampled				13/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Monoaromatics & Oxygenates				
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0##
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
Petroleum Hydrocarbons				
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	9.9
TPH-CWG - Aliphatic >EC35 - EC40 $_{EH_CU_1D_AL}$	mg/kg	10	NONE	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.1	NONE	< 0.10
TPH-CWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC35 - EC40 $_{EH_CU_1D_AR}$	mg/kg	10	NONE	12
TPH Total C5 - C40 $_{EH_CU+HS_1D_TOTAL}$	mg/kg	10	NONE	32

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Analytical Report Number: 23-56657
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230914

Lab Sample Number				2812130
Sample Reference				WS205-C2
Sample Number				None Supplied
Depth (m)				1.50
Date Sampled				13/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
VOCs				
Chloromethane	µg/kg	5	ISO 17025	< 5.0
Chloroethane	µg/kg	5	NONE	< 5.0
Bromomethane	µg/kg	5	ISO 17025	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0
Trichlorofluoromethane	µg/kg	5	NONE	< 5.0
1,1-dichloroethene	µg/kg	5	NONE	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	NONE	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	NONE	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	NONE	< 5.0
1,1-dichloroethane	µg/kg	5	ISO 17025	< 5.0
2,2-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Chloroform	µg/kg	5	NONE	< 5.0
1,1,1-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,2-dichloroethane	µg/kg	5	ISO 17025	< 5.0
1,1-Dichloropropene	µg/kg	5	ISO 17025	< 5.0##
Cis-1,2-dichloroethene	µg/kg	5	ISO 17025	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Carbontetrachloride	µg/kg	5	NONE	< 5.0
1,2-dichloropropane	µg/kg	5	ISO 17025	< 5.0
Trichloroethene	µg/kg	5	ISO 17025	< 5.0##
Dibromomethane	µg/kg	5	ISO 17025	< 5.0
Bromodichloromethane	µg/kg	5	ISO 17025	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Trans-1,3-dichloropropene	µg/kg	5	ISO 17025	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0##
1,1,2-Trichloroethane	µg/kg	5	ISO 17025	< 5.0
1,3-Dichloropropane	µg/kg	5	ISO 17025	< 5.0
Dibromochloromethane	µg/kg	5	ISO 17025	< 5.0
Tetrachloroethene	µg/kg	5	NONE	< 5.0
1,2-Dibromoethane	µg/kg	5	ISO 17025	< 5.0
Chlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-xylene	µg/kg	5	MCERTS	< 5.0
Styrene	µg/kg	5	ISO 17025	< 5.0
Bromoform	µg/kg	5	NONE	< 5.0
o-xylene	µg/kg	5	MCERTS	< 5.0
Isopropylbenzene	µg/kg	5	ISO 17025	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	ISO 17025	< 5.0
Bromobenzene	µg/kg	5	NONE	< 5.0
N-Propylbenzene	µg/kg	5	ISO 17025	< 5.0
2-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
4-Chlorotoluene	µg/kg	5	ISO 17025	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0##
Tert-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	ISO 17025	< 5.0
Sec-Butylbenzene	µg/kg	5	ISO 17025	< 5.0
1,3-dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
P-Isopropyltoluene	µg/kg	5	ISO 17025	< 5.0
1,4-dichlorobenzene	µg/kg	5	ISO 17025	< 5.0
1,2-dichlorobenzene	µg/kg	5	ISO 17025	< 5.0

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Analytical Report Number: 23-56657
Project / Site name: Great Jackson Street, Plot F2, Manchester
Your Order No: 2230914

Lab Sample Number				2812130
Sample Reference				WS205-C2
Sample Number				None Supplied
Depth (m)				1.50
Date Sampled				13/09/2023
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Butylbenzene	µg/kg	5	NONE	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	5	ISO 17025	< 5.0
1,2,4-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0
Hexachlorobutadiene	µg/kg	5	NONE	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	ISO 17025	< 5.0

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

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Analytical Report Number : 23-56657
Project / Site name: Great Jackson Street, Plot F2, 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 *
2812130	WS205-C2	None Supplied	1.5	Brown clay and sand with gravel.

Analytical Report Number : 23-56657
Project / Site name: Great Jackson Street, Plot F2, 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
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
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 (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
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 (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards. Refer to CoA for analyte specific accreditation.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
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
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
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
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 (Skalar)	L080-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS. Individual components MCERTS accredited	In-house method based on USEPA8260. Refer to CoA for analyte specific accreditation	L073B-PL	W	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID. Refer to CoA for band specific accreditation.	In-house method with silica gel split/clean up.	L088/76-PL	D	MCERTS
Hexavalent chromium in soil (Lower 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
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

Analytical Report Number : 23-56657
Project / Site name: Great Jackson Street, Plot F2, 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
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

- Quality control parameter has a high recovery (outside of limit); however the associated result is below the reporting limit, other checks applied prior to reporting the data have been accepted. The result should be considered as being deviating and may be compromised.

Soils Risk Assessment

Site Reference: 6131 VJS
Project Site: Great Jackson Street Plot F2
Project Location: Manchester
Client: Renaker Build Limited

i2 Reference	Residential	WS201-C2	WS201-C3	WS202-C1	WS202-C2	WS203-C2	WS203-C1	WS204 - C1	WS205 - C1	WS205-C2	WS206 - C1
Customer Sample Ref:	C4SL / S4UL	0.80	1.90	0.90	1.30	0.80	0.30	1.10	1.00	1.50	0.90
	SOM 1% GAC	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	13/09/2023	13/09/2023	13/09/2023	13/09/2023
Determinand	LQM II										
Arsenic	27	14	13	7.8	9.2	14	9.3	10	6.6	8.8	10
Boron (water-soluble)	290	0.7	0.5	0.6	0.4	0.5	0.4	0.4	0.2	1.5	0.2
Cadmium	22	0.7	0.2	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2
Chromium*	910	10	20	18	19	11	9.2	14	16	15	18
Chromium VI	21	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Copper	2400	110	46	19	16	52	22	38	13	26	38
Cyanide(Total)	-	1	1	1	1	1	1	1	1	1	1
Cyanide(free)**	34	1	1	1	1	1	1	1	1	1	1
Lead	200	180	93	26	15	170	160	100	31	57	78
Mercury	40	0.3	0.6	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Nickel	130	12	29	8.7	26	12	7.9	13	17	10	18
pH	-	8.5	8.3	7.5	7.7	8.4	9.4	8.4	8.4	7.3	8.4
Phenols(Mono)	1100	1	1	1	1	1	1	1	1	1	1
Selenium	250	1	1	1	1	1	1	1	1	1	1
SO4(Total)	-	0.087	0.03	0.023	0.029	0.086	0.048	0.055	0.03	0.088	0.034
Sulphide	-	17	1	2.6	1	7.4	9	5.1	1.6	16	1.6
Sulphur(Free)	-	0.051	0.025	0.025	0.014	0.046	0.031	0.039	0.017	0.156	0.024
Thiocyanate	-	0	0	0	0	0	0	0	0	0	0
Zinc	3700	97	96	36	58	88	88	66	35	31	54
Acenaphthene	1100	0.07	0.05	0.05	0.05	0.11	0.1	0.77	0.06	0.05	0.05
Acenaphthylene	920	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Anthracene	11000	0.12	0.05	0.05	0.05	0.16	0.15	1	0.13	0.05	0.11
Benzo(a)Anthracene	-	0.58	0.11	0.05	0.05	0.7	0.6	2.3	0.41	0.05	0.3
Benzo(a)Pyrene SM	5	0.66	0.14	0.05	0.05	0.78	0.69	2.3	0.38	0.05	0.29
Benzo(b)Fluoranthene	-	0.86	0.21	0.05	0.05	0.95	0.79	2.6	0.45	0.05	0.36
Benzo(ghi)Perylene	-	0.45	0.11	0.05	0.05	0.51	0.42	1.4	0.2	0.05	0.19
Benzo(k)Fluoranthene	-	0.29	0.05	0.05	0.05	0.34	0.35	1	0.14	0.05	0.19
Chrysene	-	0.59	0.12	0.05	0.05	0.74	0.69	2.3	0.4	0.05	0.38
Dibenzo(ah)Anthracene	-	0.09	0.05	0.05	0.05	0.11	0.08	0.26	0.05	0.05	0.05
Fluoranthene	890	1	0.13	0.05	0.05	1.3	1.3	5.3	0.93	0.08	0.67
Fluorene	860	0.05	0.05	0.05	0.05	0.07	0.06	0.61	0.05	0.05	0.05
Indeno(123-cd)Pyrene	-	0.36	0.07	0.05	0.05	0.38	0.4	1.3	0.19	0.05	0.15
Naphthalene	13	0.11	0.05	0.05	0.05	0.14	0.05	0.34	0.05	0.05	0.05
Phenanthrene	440	0.52	0.1	0.05	0.05	0.78	0.67	3.7	0.4	0.06	0.37
Pyrene	2000	0.94	0.14	0.05	0.05	1.2	1.2	4.8	0.85	0.05	0.65
PAH(total)	500	6.71	1.13	0.8	0.8	8.18	7.47	29.9	4.59	0.8	3.66
Asbestos	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	-	Not-detected
TPH (C6-C8 aliphatic)	530	-	-	-	-	-	-	-	-	0.1	-
TPH (C8-C10 aliphatic)	150	-	-	-	-	-	-	-	-	0.1	-
TPH (C10-C12 aliphatic)	760	-	-	-	-	-	-	-	-	1	-
TPH (C12-C16 aliphatic)	4300	-	-	-	-	-	-	-	-	2	-
TPH (C16-C21 aliphatic)	110000	-	-	-	-	-	-	-	-	8	-
TPH (C21-C35 aliphatic)	110000	-	-	-	-	-	-	-	-	9.9	-
TPH (C5-C7 aromatic)	300	-	-	-	-	-	-	-	-	0.1	-
TPH (C7-C8 aromatic)	660	-	-	-	-	-	-	-	-	0.1	-
TPH (C8-C10 aromatic)	190	-	-	-	-	-	-	-	-	0.1	-
TPH (C10-C12 aromatic)	380	-	-	-	-	-	-	-	-	1	-
TPH (C12-C16 aromatic)	660	-	-	-	-	-	-	-	-	2	-
TPH (C16-C21 aromatic)	930	-	-	-	-	-	-	-	-	10	-
TPH (C21-C35 aromatic)	1700	-	-	-	-	-	-	-	-	10	-
Benzene	2.4	-	-	-	-	-	-	-	-	0.005	-
Toluene	7.5	-	-	-	-	-	-	-	-	0.005	-
EthylBenzene	260	-	-	-	-	-	-	-	-	0.005	-
M/P Xylene	310	-	-	-	-	-	-	-	-	0.005	-
O Xylene	330	-	-	-	-	-	-	-	-	0.005	-

All Units mg/kg unless otherwise stated — Indicates Exceedance of Applicable Level

*Criteria Assumes Chromium III

**Criteria is derrived considering acute effects on 1-2yo Female Receptor ingesting a single dose of 3g of soil

**Criteria is derrived considering Total TPH (C10 to C35) is formed entirley 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

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