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

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 19/04774
Issue Number: 1 **Date:** 03 June, 2019

Client: City Excavations
241-243 Monton Road
Eccles
Manchester
M30 9PS

Project Manager: James Wright
Project Name: Soil Testing
Project Ref: Not specified
Order No: ENW-JW-01
Date Samples Received: 17/05/19
Date Instructions Received: 20/05/19
Date Analysis Completed: 03/06/19

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Richard Wong
Client Manager

Envirolab Job Number: 19/04774

Client Project Name: Soil Testing

Client Project Ref: Not specified

Lab Sample ID	19/04774/1	19/04774/2	19/04774/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	A	B	C							
Depth to Top										
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil	Soil							
Sample Matrix Code	4A	4AE	4AE							
% Stones >10mm$_A$	3.3	22.5	17.8					% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.63	7.59	7.69					pH	0.01	A-T-031s
Arsenic$_D$$^{M\#}$	7	7	14					mg/kg	1	A-T-024s
Cadmium$_D$$^{M\#}$	<0.5	0.6	1.1					mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	46	112	72					mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	13	35	19					mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<2	<2					mg/kg	1	A-T-040s
Chromium (trivalent)	13	35	19					mg/kg	1	Calc
Lead$_D$$^{M\#}$	69	136	176					mg/kg	1	A-T-024s
Mercury$_D$	<0.17	0.22	0.30					mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	13	19	20					mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	108	244	173					mg/kg	5	A-T-024s
VPH total (>C5-C10)$_A$$^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s

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Lab Sample ID	19/04774/1	19/04774/2	19/04774/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	A	B	C							
Depth to Top										
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil	Soil							
Sample Matrix Code	4A	4AE	4AE							
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_D^{\#}$	NAD	NAD	NAD							A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	N/A	N/A							
EPH Banded 2										
>C10-C25$_A^{M\#}$	72	151	135					mg/kg	5	A-T-007s
>C25-C36$_A^{M\#}$	301	383	326					mg/kg	1	A-T-007s

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Lab Sample ID	19/04774/1	19/04774/2	19/04774/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	A	B	C							
Depth to Top										
Depth To Bottom										
Date Sampled										
Sample Type	Soil	Soil	Soil							
Sample Matrix Code	4A	4AE	4AE							
PAH-16MS inc b(j)f TIC										
Acenaphthene$_A^{M\#}$	0.02	0.15	0.02					mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.02	0.07	0.01					mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.07	0.34	0.03					mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.51	0.75	0.10					mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.53	0.62	0.15					mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.69	0.90	0.24					mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.30	0.30	0.13					mg/kg	0.05	A-T-019s
Benzo(b)(j)(k)fluoranthene$_A$	0.98	1.20	0.31					mg/kg	0.07	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.28	0.30	0.08					mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.52	0.76	0.17					mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.08	0.08	<0.04					mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.62	1.65	0.16					mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.02	0.14	0.03					mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.40	0.39	0.16					mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.06	0.14	0.06					mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.22	1.31	0.12					mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.61	1.44	0.21					mg/kg	0.07	A-T-019s
Total PAH-16MS inc b(j)f TIC$_A$	5.93	10.5	1.98					mg/kg	0.01	A-T-019s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

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

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

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

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

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

Client: City Excavations, 241-243 Monton Road, Eccles, Manchester, M30 9PS

Project: Soil Testing

Clients Project No:

Project No: 19/04774

Date Received: 20/05/2019 (am)

Cool Box Temperatures (°C): 18.1

Lab Sample ID	19/04774/1	19/04774/2	19/04774/3
Client Sample No			
Client Sample ID/Depth	A	B	C
Date Sampled			
Deviation Code			
E (no date)	✓	✓	✓

Key
E (no date) *No sampling date provided (all results affected if not provided)*

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