

UNCONSOLIDATED UNDRAINED TRIAXIAL COMPRESSION

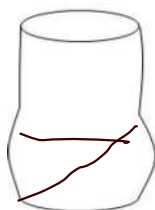
Location BH7
 Sample Ref 5
 Depth (m) 18.50-18.95
 Sample Type U

Description:

Very stiff dark grey silty CLAY.

Specimen Details

Specimen conditions	Undisturbed
Length (mm)	202.0
Diameter (mm)	102.0
Moisture content (%)	21.9
Bulk density (Mg/m ³)	1.98
Dry density (Mg/m ³)	1.62
Test Details	
Latex membrane thickness (mm)	0.3
Specimen height prior to shearing (mm)	202.0
Membrane correction (kPa)	1.0
Mean rate of shear (%/min)	2.0
Cell pressure (kPa)	370
Strain at failure (%)	16.3
Maximum deviator stress (kPa)	386
Shear Stress Cu (kPa)	193

Mode of failure

Orientation of the sample

Vertical

Distance from top of tube mm

40

Tested by SB

Checked and Approved by

S Burke - Senior Technician
 02/02/2022

Project Number:

GEO / 34598

Project Name:

ASHLEY ROAD DEPOT
J21294



GEOLABS®		Client		Geotechnical & Environmental Associates Limited			TEST RESTRICTION		
		Project No.		34598					
		Project Name		ASHLEY ROAD DEPOT					
The following tests have been scheduled on the above project and <u>CANNOT</u> be performed for the reason stated. If alternative samples are available for the restricted tests, please supply details.									
Laboratory ID	BH / TP No.	Sample Ref.	Depth (m)	Type	Test(s) Scheduled			Reason for Restriction	Description
425442	BH1		2.00	D		UU TXL		Sample provided in a bag broken up. Not suitable for testing.	Soft brown sandy CLAY with occasional fine to medium gravel.
Comments / remarks		Test restriction raised by 							



GEA

www.gea-ltd.co.uk

Herts | 01727 824666 Notts | 01509 674888

SPT & Cohesion / Depth Graph

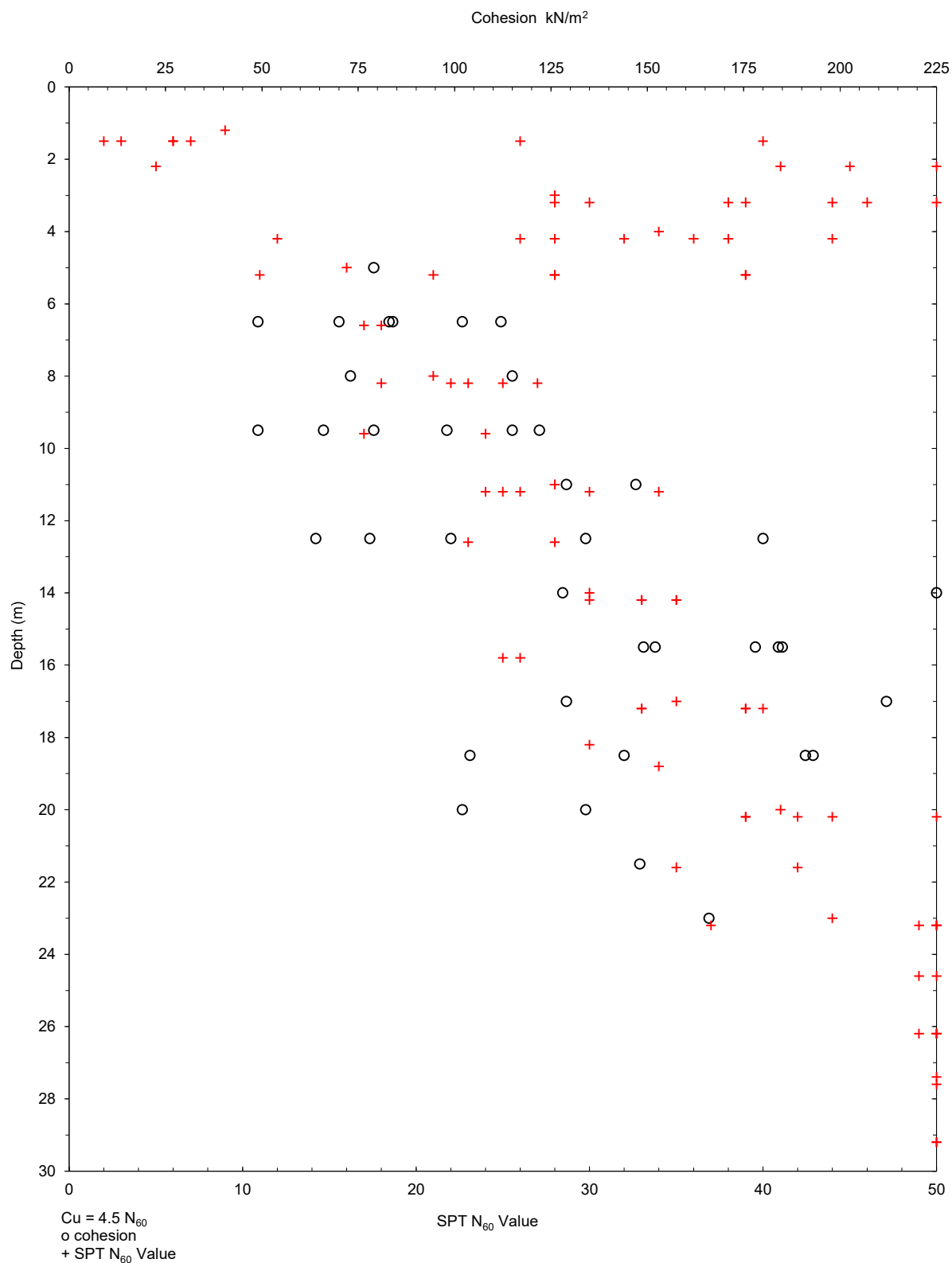
Site Ashley Road Depot, Ashley Road, London

Client Haringey Council

Engineer Civic Engineers

Job Number
J21294

Sheet
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In Situ California Bearing Ratio (CBR)

Job Ref 31192
CBR No. CBR1

Site Name Ashley Road Depot, Ashley Road, Tottenham N17 9AZ
Depth m 0.40
Project No. J21294 Client GEA Date of Test 07/12/2021

Soil Description Reddish brown sandy GRAVEL (gravel comprising of fmc brick fragments)

Test Method BS1377 : Part 9 : 1990, clause 4.3 CBR Test Number 1

Note: Test only applicable when maximum particle size beneath the plunger does not exceed 20mm

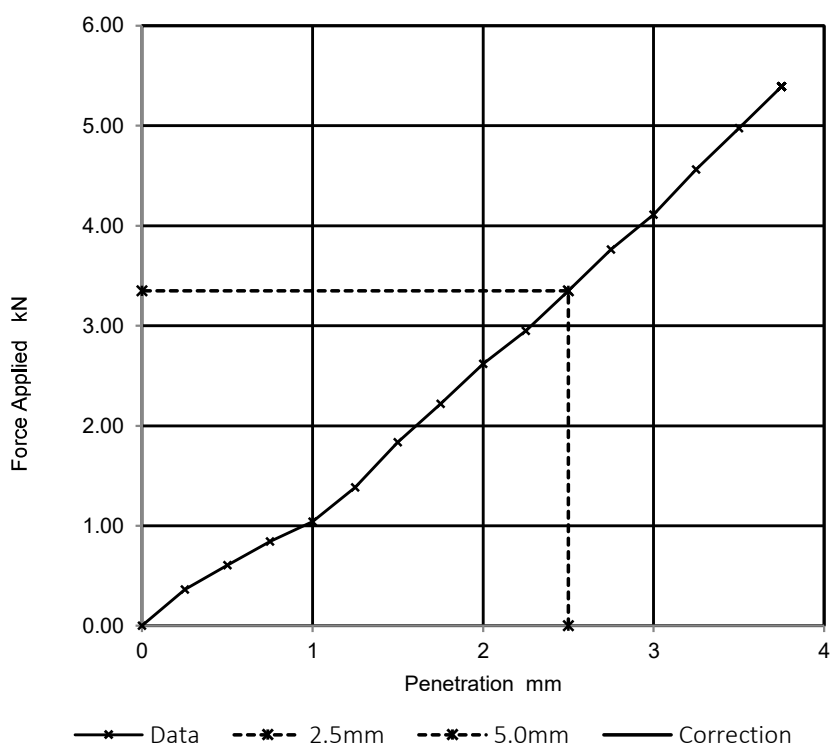
Rate of Strain 1.00 mm/min
Mass of Surcharge 4.5 kg
Proving Ring Factor 7.14 N/div

Temperature 5 °C
Environmental Conditions Overcast, slightly rain

Readings

Penetration of Plunger mm	Force on Plunger	
	Dial Reading	Load kN
0.00	0	0.00
0.25	51	0.36
0.50	85	0.61
0.75	118	0.84
1.00	146	1.04
1.25	194	1.39
1.50	257	1.83
1.75	311	2.22
2.00	367	2.62
2.25	413	2.95
2.50	469	3.35
2.75	527	3.76
3.00	576	4.11
3.25	639	4.56
3.50	697	4.98
3.75	755	5.39
4.00		
4.25		
4.50		
4.75		
5.00		
5.25		
5.50		
5.75		
6.00		
6.25		
6.50		
6.75		
7.00		
7.25		
7.50		

Force versus Penetration Plot



Remarks

Maximum kentledge reached

Results

Curve correction applied	CBR Values, %			Moisture Content
	Penetration		CBR Value	
	2.5mm	5mm		%
No	25	-	25	20



Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 14/12/2021



In Situ California Bearing Ratio (CBR)

Job Ref 31192
CBR No. CBR1

Site Name Ashley Road Depot, Ashley Road, Tottenham N17 9AZ
Project No. J21294 Client GEA Date of Test 07/12/2021

Soil Description Brown gravelly SAND (gravel is fmc and sub-angular to rounded)

Test Method BS1377 : Part 9 : 1990, clause 4.3 CBR Test Number 2

Note: Test only applicable when maximum particle size beneath the plunger does not exceed 20mm

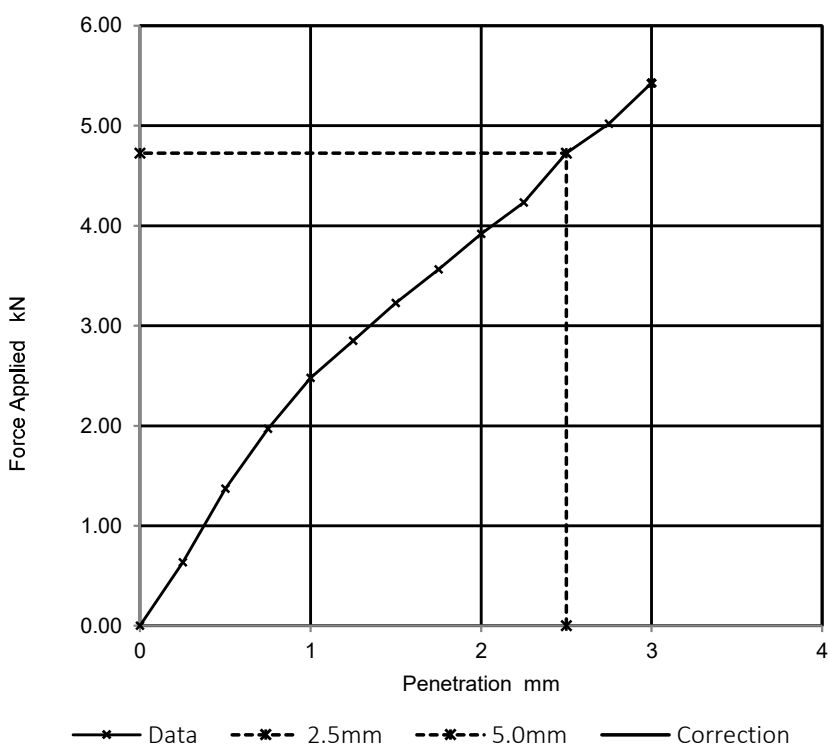
Rate of Strain 1.00 mm/min
Mass of Surcharge 4.5 kg
Proving Ring Factor 7.14 N/div

Temperature 5 °C
Environmental Conditions Overcast, slightly rain

Readings

Penetration of Plunger mm	Force on Plunger	
	Dial Reading	Load kN
0.00	0	0.00
0.25	89	0.64
0.50	192	1.37
0.75	276	1.97
1.00	347	2.48
1.25	399	2.85
1.50	452	3.23
1.75	499	3.56
2.00	549	3.92
2.25	593	4.23
2.50	662	4.73
2.75	703	5.02
3.00	760	5.43
3.25		
3.50		
3.75		
4.00		
4.25		
4.50		
4.75		
5.00		
5.25		
5.50		
5.75		
6.00		
6.25		
6.50		
6.75		
7.00		
7.25		
7.50		

Force versus Penetration Plot



Remarks

Maximum kentledge reached

Results

Curve correction applied	CBR Values, %			Moisture Content
	Penetration		CBR Value	
	2.5mm	5mm		%
No	36	-	36	26



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Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

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Date: 14/12/2021



In Situ California Bearing Ratio (CBR)

Job Ref 31192
CBR No. CBR2

Site Name Ashley Road Depot, Ashley Road, Tottenham N17 9AZ Depth m 0.40

Project No. J21294 Client GEA Date of Test 07/12/2021

Soil Description Dark grey sandy GRAVEL with frequent clinker and metal fragments (gravel is fmc and sub-angular)

Test Method BS1377 : Part 9 : 1990, clause 4.3 CBR Test Number 3

Note: Test only applicable when maximum particle size beneath the plunger does not exceed 20mm

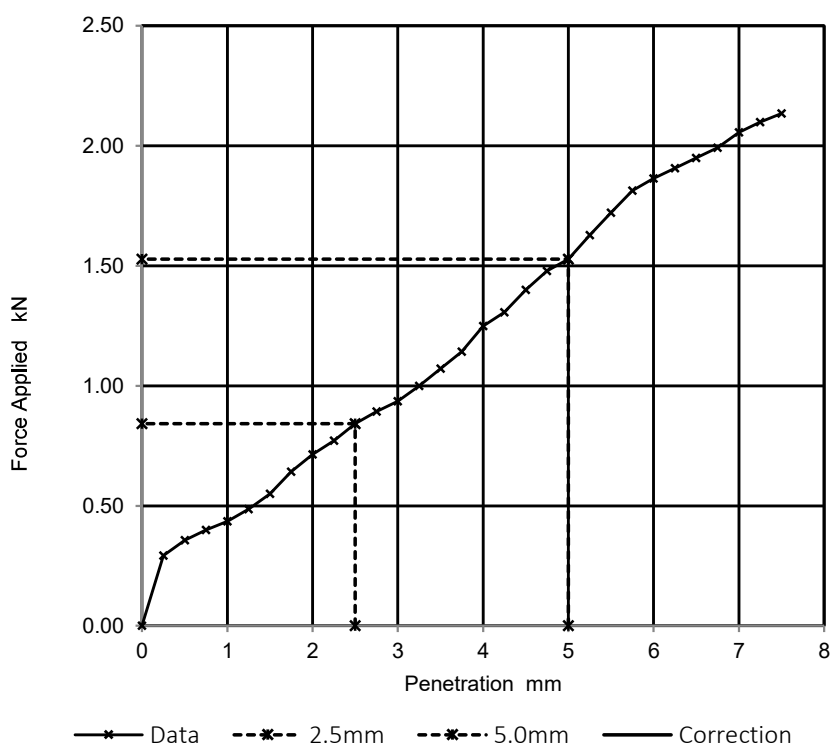
Rate of Strain 1.00 mm/min
Mass of Surcharge 4.5 kg
Proving Ring Factor 7.14 N/div

Temperature 5 °C
Environmental Conditions Overcast, slightly rain

Readings

Penetration of Plunger mm	Force on Plunger	
	Dial Reading	Load kN
0.00	0	0.00
0.25	41	0.29
0.50	50	0.36
0.75	56	0.40
1.00	61	0.44
1.25	68	0.49
1.50	77	0.55
1.75	90	0.64
2.00	100	0.71
2.25	108	0.77
2.50	118	0.84
2.75	125	0.89
3.00	131	0.94
3.25	140	1.00
3.50	150	1.07
3.75	160	1.14
4.00	175	1.25
4.25	183	1.31
4.50	196	1.40
4.75	207	1.48
5.00	214	1.53
5.25	228	1.63
5.50	241	1.72
5.75	254	1.81
6.00	261	1.86
6.25	267	1.91
6.50	273	1.95
6.75	279	1.99
7.00	288	2.06
7.25	294	2.10
7.50	299	2.13

Force versus Penetration Plot



Remarks

Results

Curve correction applied	CBR Values, %			Moisture Content
	Penetration		CBR Value	
	2.5mm	5mm		%
No	6.4	7.6	7.6	22



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Date: 14/12/2021



In Situ California Bearing Ratio (CBR)

Job Ref 31192
CBR No. CBR2

Site Name Ashley Road Depot, Ashley Road, Tottenham N17 9AZ Depth m 0.60

Project No. J21294 Client GEA Date of Test 07/12/2021

Soil Description Dark grey sandy GRAVEL with frequent clinker and metal fragments (gravel is fmc and sub-angular)

Test Method BS1377 : Part 9 : 1990, clause 4.3 CBR Test Number 4

Note: Test only applicable when maximum particle size beneath the plunger does not exceed 20mm

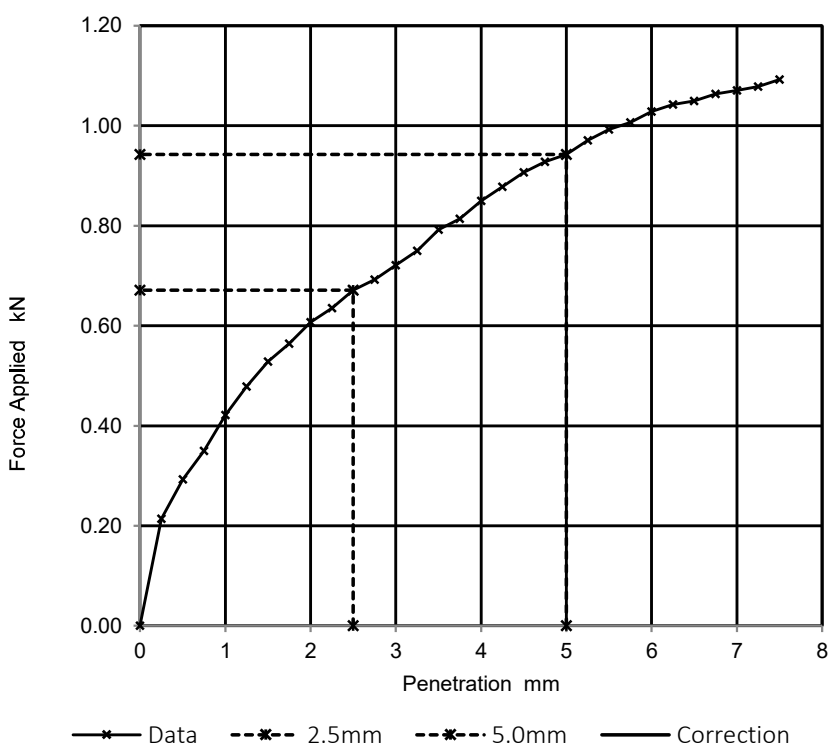
Rate of Strain 1.00 mm/min
Mass of Surcharge 4.5 kg
Proving Ring Factor 7.14 N/div

Temperature 5 °C
Environmental Conditions Overcast, slightly rain

Readings

Penetration of Plunger mm	Force on Plunger	
	Dial Reading	Load kN
0.00	0	0.00
0.25	30	0.21
0.50	41	0.29
0.75	49	0.35
1.00	59	0.42
1.25	67	0.48
1.50	74	0.53
1.75	79	0.56
2.00	85	0.61
2.25	89	0.64
2.50	94	0.67
2.75	97	0.69
3.00	101	0.72
3.25	105	0.75
3.50	111	0.79
3.75	114	0.81
4.00	119	0.85
4.25	123	0.88
4.50	127	0.91
4.75	130	0.93
5.00	132	0.94
5.25	136	0.97
5.50	139	0.99
5.75	141	1.01
6.00	144	1.03
6.25	146	1.04
6.50	147	1.05
6.75	149	1.06
7.00	150	1.07
7.25	151	1.08
7.50	153	1.09

Force versus Penetration Plot



Remarks

Results

Curve correction applied	CBR Values, %			Moisture Content
	Penetration		CBR Value	
	2.5mm	5mm		%
No	5.1	4.7	5.1	24



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Watford Herts WD18 9RU

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Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 14/12/2021



In Situ California Bearing Ratio (CBR)

Job Ref 31192
CBR No. CBR3

Site Name Ashley Road Depot, Ashley Road, Tottenham N17 9AZ

Depth m 0.60

Project No. J21294 Client GEA Date of Test 07/12/2021

Soil Description Brown sandy GRAVEL with occasional lumps of brown silty clay (gravel is fmc and sub-angular to sub-rounded)

Test Method BS1377 : Part 9 : 1990, clause 4.3 CBR Test Number 5

Note: Test only applicable when maximum particle size beneath the plunger does not exceed 20mm

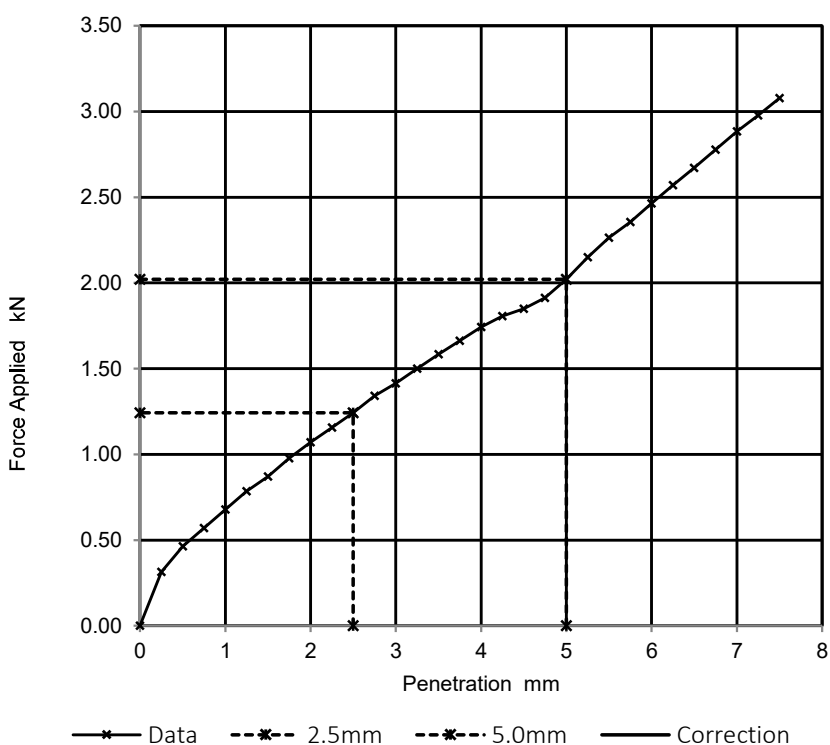
Rate of Strain 1.00 mm/min
Mass of Surcharge 4.5 kg
Proving Ring Factor 7.14 N/div

Temperature 5 °C
Environmental Conditions Overcast, slightly rain

Readings

Penetration of Plunger mm	Force on Plunger	
	Dial Reading	Load kN
0.00	0	0.00
0.25	44	0.31
0.50	65	0.46
0.75	80	0.57
1.00	95	0.68
1.25	110	0.79
1.50	122	0.87
1.75	137	0.98
2.00	150	1.07
2.25	162	1.16
2.50	174	1.24
2.75	188	1.34
3.00	198	1.41
3.25	210	1.50
3.50	222	1.59
3.75	233	1.66
4.00	244	1.74
4.25	253	1.81
4.50	259	1.85
4.75	268	1.91
5.00	283	2.02
5.25	301	2.15
5.50	317	2.26
5.75	330	2.36
6.00	345	2.46
6.25	360	2.57
6.50	374	2.67
6.75	389	2.78
7.00	404	2.88
7.25	417	2.98
7.50	431	3.08

Force versus Penetration Plot



Remarks

Results

Curve correction applied	CBR Values, %			Moisture Content
	Penetration		CBR Value	
	2.5mm	5mm		%
No	9.4	10	10	13



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Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 14/12/2021

Soakage Test Results

Site Ashley Road Depot, Ashley Road, Tottenham

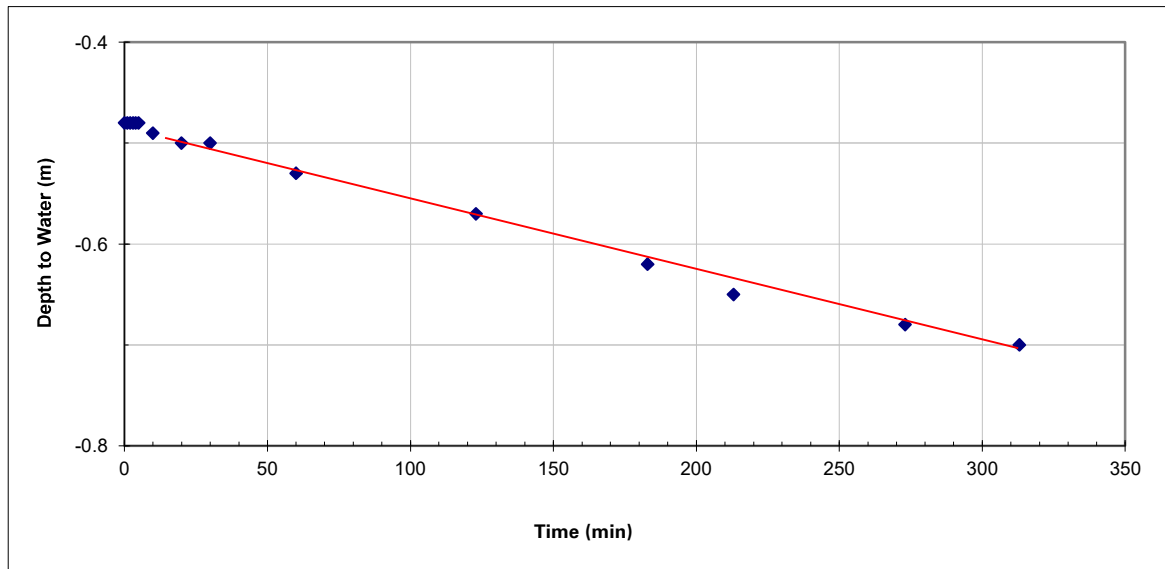
Client Haringey Council

Engineer Madlins

Job Number
J21294

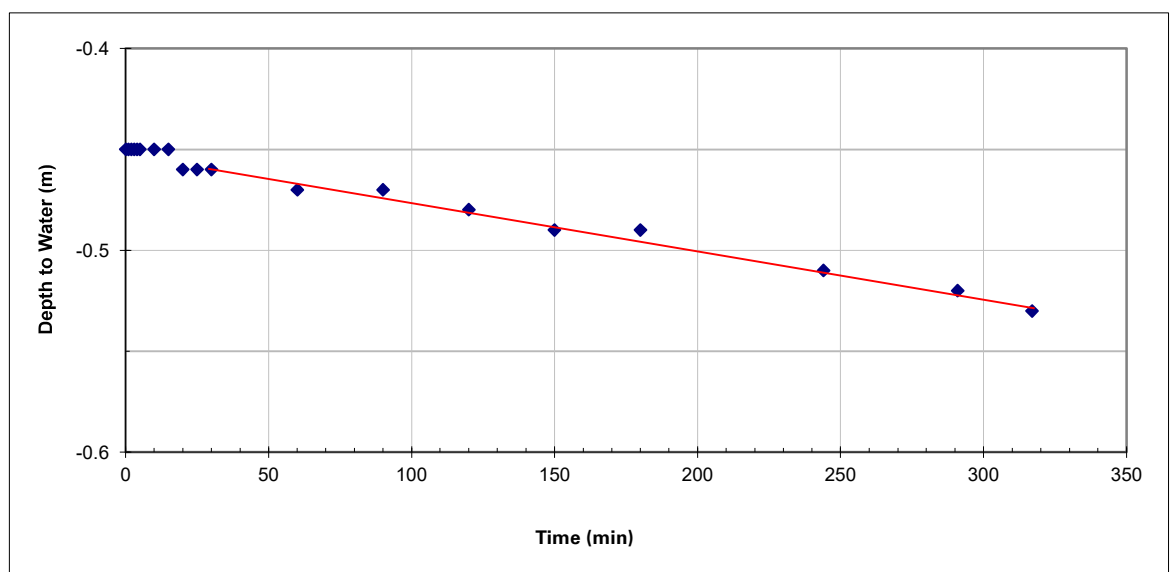
Sheet
1 / 2

Trial Pit No. IT1 Soakage Test No. 1
Pit Length (m) 1.00 Pit Width (m) 1.00 Pit Depth (m) 1.00



Design Soakage Rate 4.3E-06 m/s (based on linear portion of graph as shown)
0.37 m/day

Trial Pit No. IT1 Soakage Test No. 2
Pit Length (m) 1.00 Pit Width (m) 1.00 Pit Depth (m) 1.00



Design Soakage Rate 1.3E-06 m/s (based on linear portion of graph as shown)
0.12 m/day

Soakage Test Results

Site Ashley Road Depot, Ashley Road, Tottenham

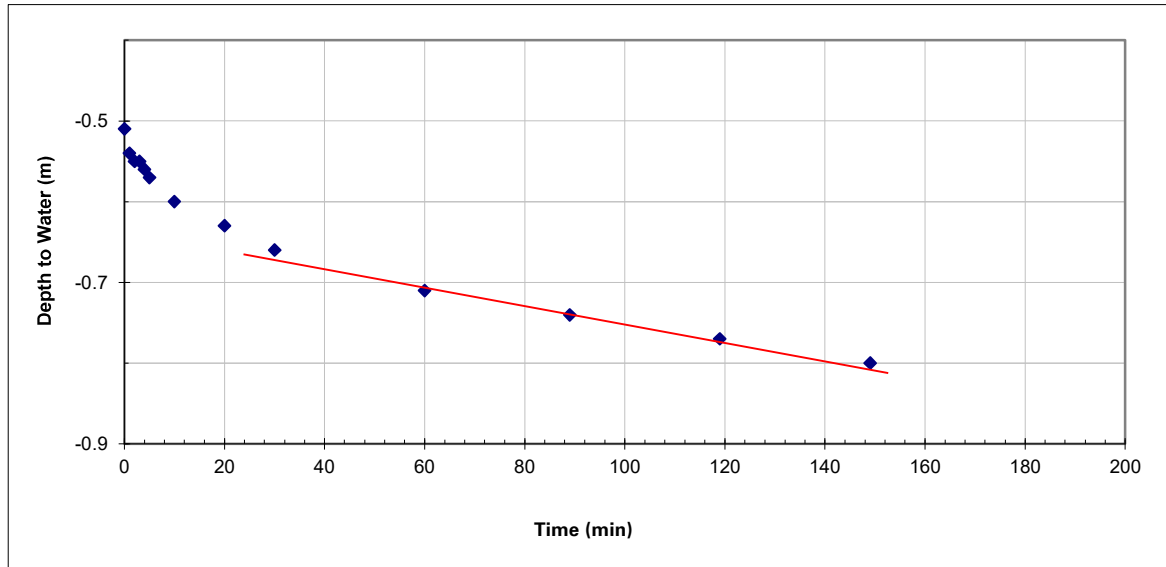
Client Haringey Council

Engineer Madlins

Job Number
J21294

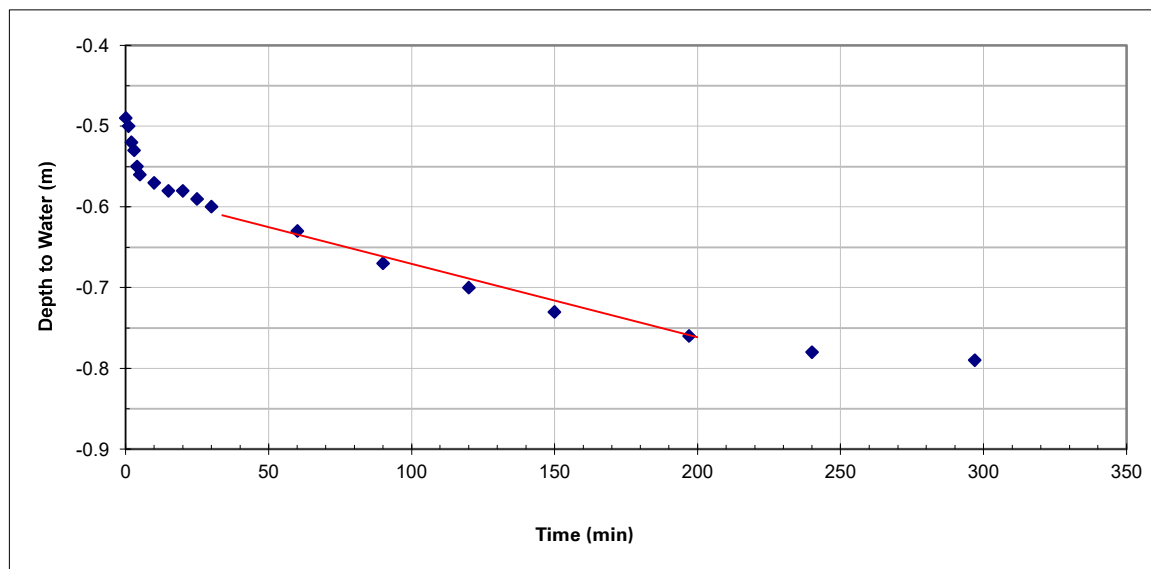
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1 / 2

Trial Pit No. IT2 Soakage Test No. 1
Pit Length (m) 1.00 Pit Width (m) 1.00 Pit Depth (m) 1.00



Design Soakage Rate 9.4E-06 m/s (based on linear portion of graph as shown)
0.81 m/day

Trial Pit No. IT2 Soakage Test No. 2
Pit Length (m) 1 Pit Width (m) 1 Pit Depth (m) 1



Design Soakage Rate 6.4E-06 m/s (based on linear portion of graph as shown)
0.55 m/day

Soakage Test Results

Site	Ashley Road Depot, Ashley Road, Tottenham
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Client	Haringey Council
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Engineer Madlins

Job Number	J21294
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Sheet
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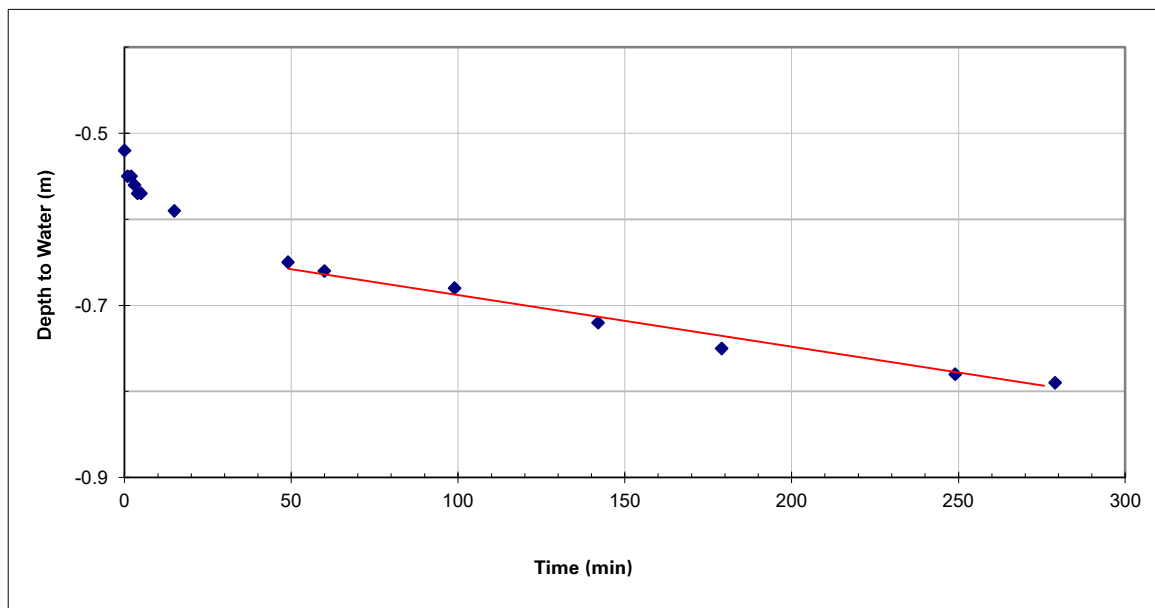
Trial Pit No. IT2

Soakage Test No. 3

Pit Length (m)	1.00
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Pit Width (m)	1.00
---------------	------

Pit Depth (m)	1.00
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Design Soakage Rate	4.5E-06	m/s	(based on linear portion of graph as shown)
	0.39	m/day	

Soakage Test Results

Site Ashley Road Depot, Ashley Road, Tottenham

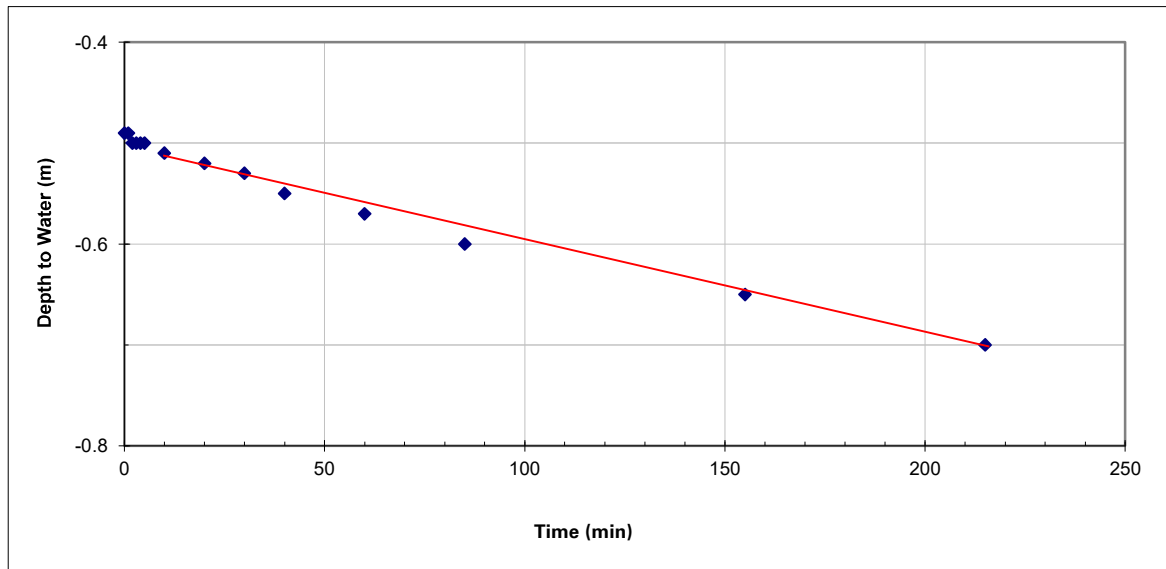
Client Haringey Council

Engineer Madlins

Job Number
J21294

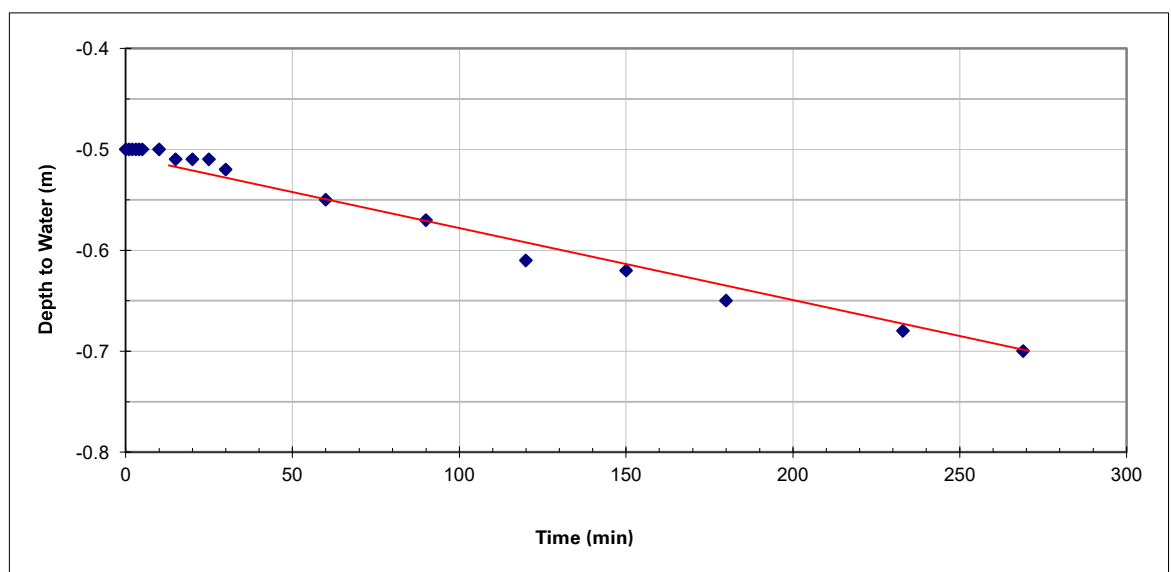
Sheet
1 / 2

Trial Pit No. IT3 Soakage Test No. 1
Pit Length (m) 1.00 Pit Width (m) 1.00 Pit Depth (m) 1.00



Design Soakage Rate 6.3E-06 m/s (based on linear portion of graph as shown)
0.54 m/day

Trial Pit No. IT3 Soakage Test No. 2
Pit Length (m) 1.00 Pit Width (m) 1.00 Pit Depth (m) 1.00



Design Soakage Rate 4.7E-06 m/s (based on linear portion of graph as shown)
0.41 m/day

Soakage Test Results

Site Ashley Road Depot, Ashley Road, Tottenham

Client Haringey Council

Engineer Madlins

Job Number
J21294

Sheet
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Trial Pit No. IT3

Soakage Test No. 3

Pit Length (m)

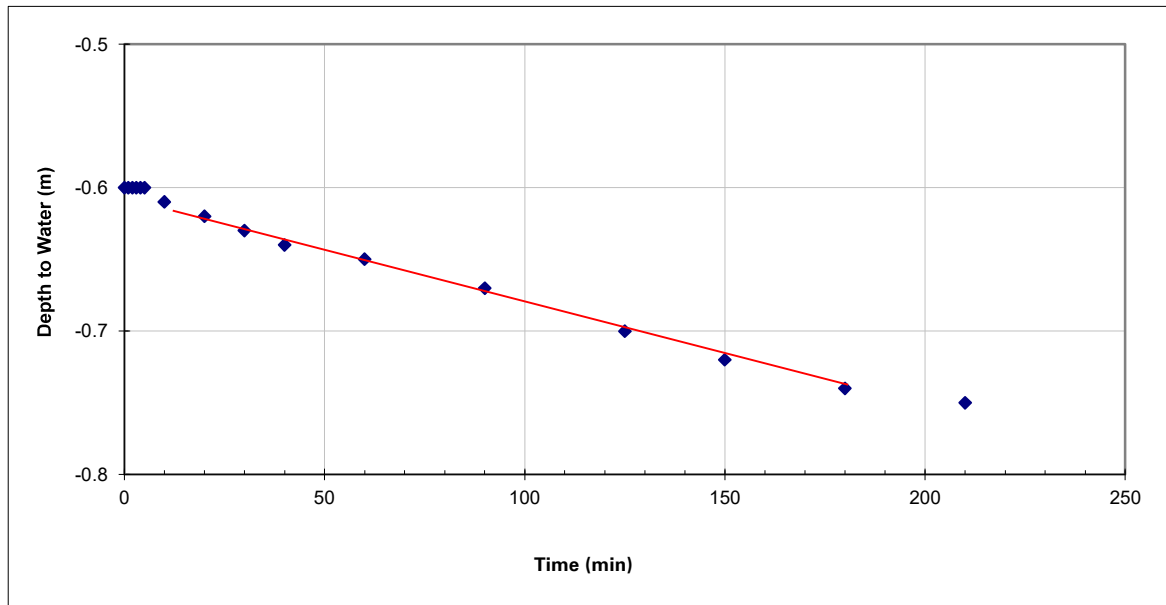
1.00

Pit Width (m)

1.00

Pit Depth (m)

1.00



Design Soakage Rate

4.7E-06

m/s

(based on linear portion of graph as shown)

0.41

m/day

Jordan Wood

Geotechnical & Environmental Associates
Widbury Barn
Widbury Hill
Ware
Hertfordshire
SG127QE

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

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: jordan@gea-ltd.co.uk

Analytical Report Number : 21-21100

Project / Site name:	Ashley Road	Samples received on:	05/11/2021
Your job number:	J21294	Samples instructed on/ Analysis started on:	05/11/2021
Your order number:		Analysis completed by:	15/11/2021
Report Issue Number:	1	Report issued on:	15/11/2021
Samples Analysed:	4 soil samples		

Signed:

Izabela Wójcik

Izabela Wójcik
Technical Reviewer (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.

Analytical Report Number: 21-21100
Project / Site name: Ashley Road

Lab Sample Number				2073171	2073172	2073173	2073174
Sample Reference				BH2	BH5	BH6	BH8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.50	0.75	0.50
Date Sampled				29/10/2021	03/11/2021	04/11/2021	27/10/2021
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	11	14	14	10
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	1.0

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
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General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.9	9.3	10.2	9.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	4500	3100	990	1100
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.91	0.16	0.21	0.26
Sulphide	mg/kg	1	MCERTS	38	9.1	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	180	60	80	500
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.7	2.0	0.6	0.6

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	2.4	< 0.05	< 0.05	2.3
Anthracene	mg/kg	0.05	MCERTS	0.60	< 0.05	< 0.05	0.70
Fluoranthene	mg/kg	0.05	MCERTS	5.4	0.38	< 0.05	3.2
Pyrene	mg/kg	0.05	MCERTS	4.9	0.38	< 0.05	2.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.9	0.25	< 0.05	1.4
Chrysene	mg/kg	0.05	MCERTS	2.8	0.24	< 0.05	1.3
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.4	< 0.05	< 0.05	1.5
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	2.3	< 0.05	< 0.05	0.82
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.4	< 0.05	< 0.05	1.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.7	< 0.05	< 0.05	0.62
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.41	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.9	< 0.05	< 0.05	0.72

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	32.1	1.25	< 0.80	16.8
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Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	150	77	10	17
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	120	47	33	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	3500	970	35	90
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1600	2200	65	89
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	840	78	19	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	2300	1900	100	140

Analytical Report Number: 21-21100

Project / Site name: Ashley Road

Lab Sample Number				2073171	2073172	2073173	2073174
Sample Reference				BH2	BH5	BH6	BH8
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.50	0.75	0.50
Date Sampled				29/10/2021	03/11/2021	04/11/2021	27/10/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons							
TPH C10 - C40	mg/kg	10	MCERTS	280	42	210	39
TPH (C8 - C10)	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	8.7	< 4.0	< 4.0	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	50	4.3	2.7	12
TPH (C21 - C35)	mg/kg	1	MCERTS	170	21	150	21

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 21-21100

Project / Site name: Ashley Road

* 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 *
2073171	BH2	None Supplied	0.5	Brown clay and loam with gravel.
2073172	BH5	None Supplied	0.5	Brown clay and loam with gravel.
2073173	BH6	None Supplied	0.75	Brown clay and sand with gravel.
2073174	BH8	None Supplied	0.5	Brown clay and sand with gravel.

Analytical Report Number : 21-21100

Project / Site name: Ashley Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
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 disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	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
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-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
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	W	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

Analytical Report Number : 21-21100
Project / Site name: Ashley Road

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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.

Analytical Report Number : 21-21100

Project / Site name: Ashley Road

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH2	None Supplied	S	2073171	c	Sulphide in soil	L010-PL	c
BH2	None Supplied	S	2073171	c	Total cyanide in soil	L080-PL	c
BH8	None Supplied	S	2073174	c	Sulphide in soil	L010-PL	c
BH8	None Supplied	S	2073174	c	Total cyanide in soil	L080-PL	c

**Jordan Wood**

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Analytical Report Number : 21-27207

Project / Site name:	Ashley Road Depot	Samples received on:	06/12/2021
Your job number:	J21214	Samples instructed on/ Analysis started on:	06/12/2021
Your order number:		Analysis completed by:	17/12/2021
Report Issue Number:	1	Report issued on:	17/12/2021
Samples Analysed:	3 bulk samples - 9 soil samples		

Signed: *Karolina Marek*

Karolina Marek
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.

Analytical Report Number: 21-27207
Project / Site name: Ashley Road Depot

Lab Sample Number				2106367	2106368	2106369	2106370	2106371
Sample Reference				TP101	TP102	TP103	BH09	BH11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.40	0.30	0.90	0.60
Date Sampled				30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021
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	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	12	7.2	9.8	11	11
Total mass of sample received	kg	0.001	NONE	1.0	1.0	0.60	1.0	1.0

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.018	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.018	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SCA	SCA	SCA

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.0	8.5	8.1	8.6	10.6
Total Cyanide	mg/kg	1	MCERTS	2.1	< 1.0	1.1	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2800	7300	7400	5200	6000
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.27	2.0	3.5	0.40	0.45
Sulphide	mg/kg	1	MCERTS	86	170	89	4.8	56
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	170	160	280	2600	1400
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.8	4.8	3.7	3.1	1.6

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.43	0.37	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.35	0.25	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.37	0.20	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	7.2	2.4	1.7	0.85	0.45
Anthracene	mg/kg	0.05	MCERTS	1.8	0.71	0.50	0.29	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	11	4.6	4.1	1.6	0.84
Pyrene	mg/kg	0.05	MCERTS	9.7	4.0	3.8	1.4	0.88
Benzo(a)anthracene	mg/kg	0.05	MCERTS	6.9	3.4	3.6	0.80	0.56
Chrysene	mg/kg	0.05	MCERTS	4.4	2.3	2.9	0.66	0.36
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	5.6	4.2	3.7	0.67	0.47
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.1	1.4	1.9	0.45	0.33
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.4	2.8	2.9	0.67	0.43
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.6	2.4	2.3	0.56	0.26
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.1	0.75	0.84	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	4.0	3.1	< 0.05	0.72	0.31

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	64.3	32.8	28.1	8.66	4.89
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Analytical Report Number: 21-27207
Project / Site name: Ashley Road Depot

Lab Sample Number				2106367	2106368	2106369	2106370	2106371
Sample Reference				TP101	TP102	TP103	BH09	BH11
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.40	0.30	0.90	0.60
Date Sampled				30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021
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	48	78	110	160	50
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.9	3.7	4.1	5.7	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	49	62	64	52	41
Copper (aqua regia extractable)	mg/kg	1	MCERTS	570	790	880	940	810
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2400	1500	1900	2500	1100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.1	2.2	1.5	< 0.3	0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	81	100	100	150	60
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1900	1800	1800	1800	1500

Petroleum Hydrocarbons

TPH C10 - C40 EH_CU_ID_TOTAL	mg/kg	10	MCERTS	310	470	190	35	150
TPH (C8 - C10) HS_ID_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) EH_CU_ID_TOTAL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) EH_CU_ID_TOTAL	mg/kg	4	MCERTS	4.0	< 4.0	< 4.0	< 4.0	< 4.0
TPH (C16 - C21) EH_CU_ID_TOTAL	mg/kg	1	MCERTS	52	36	25	7.7	17
TPH (C21 - C35) EH_CU_ID_TOTAL	mg/kg	1	MCERTS	190	320	110	28	110
TPH Total C8 - C35 EH_CU+HS_ID_TOTAL	mg/kg	10	MCERTS	240	350	140	35	120

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-27207
Project / Site name: Ashley Road Depot

Lab Sample Number				2106372	2106373	2106374	2106375
Sample Reference				BH11	BH1	BH3	BH3
Sample Number				None Supplied	None Supplied	S1	S2
Depth (m)				1.40	0.50	0.50	2.00
Date Sampled				30/11/2021	30/11/2021	30/11/2021	30/11/2021
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	33	21	< 0.1
Moisture Content	%	0.01	NONE	10	13	9.0	12
Total mass of sample received	kg	0.001	NONE	1.0	1.0	1.0	0.30

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

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.6	10.8	11.3	8.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2200	3500	3600	620
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.69	0.20	0.15	0.087
Sulphide	mg/kg	1	MCERTS	120	27	7.5	48
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	5100	69	100	27
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.1	1.4	1.0	0.3

Total Phenols

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

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

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80
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Analytical Report Number: 21-27207
Project / Site name: Ashley Road Depot

Lab Sample Number				2106372	2106373	2106374	2106375
Sample Reference				BH11	BH1	BH3	BH3
Sample Number				None Supplied	None Supplied	S1	S2
Depth (m)				1.40	0.50	0.50	2.00
Date Sampled				30/11/2021	30/11/2021	30/11/2021	30/11/2021
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	19	87	56	13
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	< 0.2	2.9	0.3
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	44	59	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	240	1400	2100	25
Lead (aqua regia extractable)	mg/kg	1	MCERTS	380	1300	2100	21
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.1	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	92	75	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	380	1300	4000	74
Petroleum Hydrocarbons							
TPH C10 - C40 _{EH,CU,ID_TOTAL}	mg/kg	10	MCERTS	< 10	19	28	250
TPH (C8 - C10) _{HS,ID_TOTAL}	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) _{EH,CU,ID_TOTAL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	9.3
TPH (C12 - C16) _{EH,CU,ID_TOTAL}	mg/kg	4	MCERTS	< 4.0	< 4.0	6.7	95
TPH (C16 - C21) _{EH,CU,ID_TOTAL}	mg/kg	1	MCERTS	< 1.0	< 1.0	15	120
TPH (C21 - C35) _{EH,CU,ID_TOTAL}	mg/kg	1	MCERTS	< 1.0	19	6.8	20
TPH Total C8 - C35 _{EH,CU+HS,ID_TOTAL}	mg/kg	10	MCERTS	< 10	19	28	250

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 21-27207
Project / Site name: Ashley Road Depot
Your Order No:

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
2106368	TP102	0.40	195	Hard/Cement Type Material	Chrysotile	0.018	0.018

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



Analytical Report Number: 21-27207
Project / Site name: Ashley Road Depot

Lab Sample Number				2106376	2106377	2106378
Sample Reference				TP101	TP102	TP103
Sample Number				S2	S2	S2
Depth (m)				0.40	0.40	0.30
Date Sampled				30/11/2021	30/11/2021	30/11/2021
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Bulk Analysis)	Units	Limit of detection	Accreditation Status			
Asbestos Identification				Chrysotile - Hard/Cement Type Material	Chrysotile - Hard/Cement Type Material	Chrysotile - Hard/Cement Type Material
				Type	N/A	ISO 17025

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 21-27207
Project / Site name: Ashley Road Depot

* 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 *
2106367	TP101	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
2106368	TP102	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
2106369	TP103	None Supplied	0.3	Brown loam and clay with gravel and vegetation.
2106370	BH09	None Supplied	0.9	Brown loam and clay with gravel and vegetation.
2106371	BH11	None Supplied	0.6	Brown loam and clay with gravel and vegetation.
2106372	BH11	None Supplied	1.4	Brown clay and sand with gravel.
2106373	BH1	None Supplied	0.5	Brown clay and sand with gravel and stones.
2106374	BH3	S1	0.5	Brown loam and sand with gravel and stones.
2106375	BH3	S2	2	Brown clay and sand.

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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
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
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 Bulks	Asbestos Identification in bulk material with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	W	ISO 17025
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry.	In-house method	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
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-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
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	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/deanup.	L076-PL	D	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/deanup.	L076-PL	W	MCERTS

Analytical Report Number : 21-27207
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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 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' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' 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

**Jordan Wood**

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Analytical Report Number : 21-28347

Project / Site name:	Ashley Road Depot	Samples received on:	10/12/2021
Your job number:	J21294	Samples instructed on/ Analysis started on:	10/12/2021
Your order number:		Analysis completed by:	24/12/2021
Report Issue Number:	1	Report issued on:	24/12/2021
Samples Analysed:	1 bulk sample - 19 soil samples		

Signed: *Karolina Marek*

Karolina Marek
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.

Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot

Lab Sample Number				2112256	2112257	2112258	2112259	2112260
Sample Reference				BH10	BH10	BH12	BH13	BH14
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.60	1.50	0.50	0.50	0.90
Date Sampled				08/12/2021	08/12/2021	08/12/2021	08/12/2021	08/12/2021
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	< 0.1	51
Moisture Content				%	0.01	NONE	16	16
Total mass of sample received				kg	0.001	NONE	0.80	0.30

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SZS		SZS	SZS	

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.4	8.5	8.4	9.3	8.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	61	1.7
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2500	1100	1100	1800	2100
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.45	0.63	0.16	0.13	0.34
Sulphide	mg/kg	1	MCERTS	23	50	17	47	1400
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	230	380	60	150	310
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.5	3.9	1.7	1.3	0.9

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	2.9	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.43	0.54
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.31	0.84	1.7
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.31	0.66	1.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.27	0.54	0.53
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.19	0.43	0.59
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.27	0.70	0.56
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.11	0.20	0.18
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.23	0.44	0.31
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.31	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.37	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	1.69	4.92	5.70
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Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot

Lab Sample Number	2112256	2112257	2112258	2112259	2112260
Sample Reference	BH10	BH10	BH12	BH13	BH14
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.60	1.50	0.50	0.50	0.90
Date Sampled	08/12/2021	08/12/2021	08/12/2021	08/12/2021	08/12/2021
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	66	25	49	44	32
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	4.5	1.6	< 0.2	< 0.2	15
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	46	25	30	33	35
Copper (aqua regia extractable)	mg/kg	1	MCERTS	840	210	190	250	140
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2000	520	730	1100	2200
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.8	1.5	0.8	0.8	1.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	86	31	64	47	33
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	1.5	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1500	220	290	790	1300

Petroleum Hydrocarbons

TPH C10 - C40 _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	< 10	< 10	66	58	860
TPH (C8 - C10) _{HS_1D_TOTAL}	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH (C10 - C12) _{EH_CU_1D_TOTAL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH (C12 - C16) _{EH_CU_1D_TOTAL}	mg/kg	4	MCERTS	< 4.0	< 4.0	4.5	< 4.0	22
TPH (C16 - C21) _{EH_CU_1D_TOTAL}	mg/kg	1	MCERTS	< 1.0	< 1.0	9.1	8.3	160
TPH (C21 - C35) _{EH_CU_1D_TOTAL}	mg/kg	1	MCERTS	< 1.0	< 1.0	37	36	540
TPH Total C8 - C35 _{EH_CU+HS_1D_TOTAL}	mg/kg	10	MCERTS	< 10	< 10	50	44	720

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot

Lab Sample Number				2112261	2112262	2112263	2112264	2112265
Sample Reference				BH16A	BH17	BH17	CBR2	CBR3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	0.50	2.40	0.30	0.40
Date Sampled				08/12/2021	08/12/2021	08/12/2021	08/12/2021	08/12/2021
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	< 0.1	28
Moisture Content				%	0.01	NONE	16	9.4
Total mass of sample received				kg	0.001	NONE	0.80	0.80

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	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	SZS	SZS		SZS	SZS

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2	9.1	8.7	8.4	10.6
Total Cyanide	mg/kg	1	MCERTS	1.6	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	770	790	240	3900	3000
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.12	0.29	0.038	0.38	0.15
Sulphide	mg/kg	1	MCERTS	1.4	3.6	16	39	1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	26	53	35	350	250
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.3	1.1	1.7	2.9	0.9

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.1	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.6	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.60
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.54
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.35
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.37
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.50
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.14
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.41
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	2.74	< 0.80	2.91
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Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot

Lab Sample Number				2112261	2112262	2112263	2112264	2112265
Sample Reference				BH16A	BH17	BH17	CBR2	CBR3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0,70	0,50	2,40	0,30	0,40
Date Sampled				08/12/2021	08/12/2021	08/12/2021	08/12/2021	08/12/2021
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	20	20	22	130	41
Cadmium (aqua regia extractable)	mg/kg	0,2	MCERTS	1,9	< 0,2	< 0,2	< 0,2	< 0,2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4,0	< 4,0	< 4,0	< 4,0	< 4,0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	28	19	99	32
Copper (aqua regia extractable)	mg/kg	1	MCERTS	58	66	68	2400	410
Lead (aqua regia extractable)	mg/kg	1	MCERTS	560	430	140	4600	1300
Mercury (aqua regia extractable)	mg/kg	0,3	MCERTS	1,2	1,4	< 0,3	< 0,3	0,3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	26	28	180	56
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1,0	< 1,0	< 1,0	< 1,0	< 1,0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	170	170	140	4900	900
Petroleum Hydrocarbons								
TPH C10 - C40 EH_CU_1D_TOTAL	mg/kg	10	MCERTS	66	120	5400	480	91
TPH (C8 - C10) HS_1D_TOTAL	mg/kg	0,1	MCERTS	< 0,1	< 0,1	4,6	< 0,1	< 0,1
TPH (C10 - C12) EH_CU_1D_TOTAL	mg/kg	2	MCERTS	< 2,0	< 2,0	7,6	< 2,0	< 2,0
TPH (C12 - C16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	6,8	9,5	330	< 4,0	6,4
TPH (C16 - C21) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	9,1	16	710	36	16
TPH (C21 - C35) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	36	71	3700	380	49
TPH Total C8 - C35 EH_CU+HS_1D_TOTAL	mg/kg	10	MCERTS	51	96	4700	420	71

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot

Lab Sample Number				2112266	2112268	2112269	2112270	2112271
Sample Reference				TP4	TP1	TP3	TP5	TP6
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.40	0.60	0.40	0.50
Date Sampled				08/12/2021	08/12/2021	08/12/2021	08/12/2021	08/12/2021
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	36	< 0.1
Moisture Content				%	0.01	NONE	8.5	16
Total mass of sample received				kg	0.001	NONE	0.80	0.80

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	SZS	SZS	DBU	DBU	DBU

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	10.3	8.1	9.3	10.2	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	2000	790	1200	2300	800
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.19	0.15	0.37	0.17	0.052
Sulphide	mg/kg	1	MCERTS	5.0	1.1	1.0	10	4.3
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	34	63	27	85	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.5	1.9	1.0	1.7	2.5

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.40	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.38	0.78	1.4	< 0.05	0.38
Pyrene	mg/kg	0.05	MCERTS	0.45	0.72	1.3	< 0.05	0.35
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.57	0.54	0.82	< 0.05	0.24
Chrysene	mg/kg	0.05	MCERTS	0.39	0.39	0.72	< 0.05	0.27
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.39	0.61	0.84	< 0.05	0.40
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.35	0.28	0.37	< 0.05	0.10
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.43	0.55	0.79	< 0.05	0.29
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.34	0.33	0.39	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.51	0.33	0.40	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	3.81	4.53	7.50	< 0.80	2.03
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Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot

Lab Sample Number				2112266	2112268	2112269	2112270	2112271
Sample Reference				TP4	TP1	TP3	TP5	TP6
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0,50	0,40	0,60	0,40	0,50
Date Sampled				08/12/2021	08/12/2021	08/12/2021	08/12/2021	08/12/2021
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	30	27
Cadmium (aqua regia extractable)				mg/kg	0,2	MCERTS	< 0,2	< 0,2
Chromium (hexavalent)				mg/kg	4	MCERTS	< 4,0	< 4,0
Chromium (aqua regia extractable)				mg/kg	1	MCERTS	41	29
Copper (aqua regia extractable)				mg/kg	1	MCERTS	240	74
Lead (aqua regia extractable)				mg/kg	1	MCERTS	550	440
Mercury (aqua regia extractable)				mg/kg	0,3	MCERTS	0,5	1,3
Nickel (aqua regia extractable)				mg/kg	1	MCERTS	41	29
Selenium (aqua regia extractable)				mg/kg	1	MCERTS	< 1,0	< 1,0
Zinc (aqua regia extractable)				mg/kg	1	MCERTS	520	160
Petroleum Hydrocarbons								
TPH C10 - C40 _{EH_CU_1D_TOTAL}				mg/kg	10	MCERTS	660	230
TPH (C8 - C10) _{HS_1D_TOTAL}				mg/kg	0,1	MCERTS	< 0,1	< 0,1
TPH (C10 - C12) _{EH_CU_1D_TOTAL}				mg/kg	2	MCERTS	< 2,0	< 2,0
TPH (C12 - C16) _{EH_CU_1D_TOTAL}				mg/kg	4	MCERTS	8,1	110
TPH (C16 - C21) _{EH_CU_1D_TOTAL}				mg/kg	1	MCERTS	30	120
TPH (C21 - C35) _{EH_CU_1D_TOTAL}				mg/kg	1	MCERTS	350	< 1,0
TPH Total C8 - C35 _{EH_CU+HS_1D_TOTAL}				mg/kg	10	MCERTS	390	230

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot

Lab Sample Number				2112272	2112273	2112274	2112275
Sample Reference				TP7	BH7	BH4	BH4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.50	1.00	1.50
Date Sampled				08/12/2021	08/12/2021	08/12/2021	08/12/2021
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
Moisture Content				%	0.01	NONE	18
Total mass of sample received				kg	0.001	NONE	0.80

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	DBU	DBU	DBU	DBU

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	11.4	7.9	8.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	790	3500	690	740
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.25	0.11	0.095	0.057
Sulphide	mg/kg	1	MCERTS	< 1.0	1.4	6.2	49
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	32	240	49	54
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.0	0.8	2.7	2.3

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.59	< 0.05	0.32	0.30
Pyrene	mg/kg	0.05	MCERTS	0.50	< 0.05	0.28	0.26
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.40	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.39	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.55	< 0.05	0.24	0.25
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.22	< 0.05	0.12	0.11
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.45	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.28	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.27	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	3.65	< 0.80	0.96	0.92
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Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot

Lab Sample Number				2112272	2112273	2112274	2112275
Sample Reference				TP7	BH7	BH4	BH4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0,40	0,50	1,00	1,50
Date Sampled				08/12/2021	08/12/2021	08/12/2021	08/12/2021
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	21	18	18	16
Cadmium (aqua regia extractable)	mg/kg	0,2	MCERTS	< 0,2	< 0,2	< 0,2	< 0,2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4,0	< 4,0	< 4,0	< 4,0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	26	27	29
Copper (aqua regia extractable)	mg/kg	1	MCERTS	65	130	68	85
Lead (aqua regia extractable)	mg/kg	1	MCERTS	380	260	890	460
Mercury (aqua regia extractable)	mg/kg	0,3	MCERTS	1,9	0,5	1,2	1,3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	24	21	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1,0	< 1,0	< 1,0	< 1,0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	140	380	130	120
Petroleum Hydrocarbons							
TPH C10 - C40 _{EH_CU_1D_TOTAL}	mg/kg	10	MCERTS	34	< 10	< 10	< 10
TPH (C8 - C10) _{HS_1D_TOTAL}	mg/kg	0,1	MCERTS	< 0,1	< 0,1	< 0,1	< 0,1
TPH (C10 - C12) _{EH_CU_1D_TOTAL}	mg/kg	2	MCERTS	< 2,0	< 2,0	< 2,0	< 2,0
TPH (C12 - C16) _{EH_CU_1D_TOTAL}	mg/kg	4	MCERTS	< 4,0	< 4,0	< 4,0	< 4,0
TPH (C16 - C21) _{EH_CU_1D_TOTAL}	mg/kg	1	MCERTS	8,9	< 1,0	< 1,0	< 1,0
TPH (C21 - C35) _{EH_CU_1D_TOTAL}	mg/kg	1	MCERTS	25	< 1,0	< 1,0	< 1,0
TPH Total C8 - C35 _{EH_CU+HS_1D_TOTAL}	mg/kg	10	MCERTS	34	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot
Your Order No:

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
2112265	CBR3	0.40	160	Loose Fibres	Chrysotile	< 0.001	< 0.001

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



Analytical Report Number: 21-28347
Project / Site name: Ashley Road Depot

Lab Sample Number				2112267
Sample Reference				TP4
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				08/12/2021
Time Taken				None Supplied
Analytical Parameter (Bulk Analysis)	Units	Limit of detection	Accreditation Status	

Asbestos Identification	Type	N/A	ISO 17025	Chrysotile - Hard/Cement Type Material
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U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-28347

Project / Site name: Ashley Road Depot

* 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 *
2112256	BH10	None Supplied	0,6	Brown clay and loam with gravel and vegetation,
2112257	BH10	None Supplied	1,5	Brown clay and sand with gravel,
2112258	BH12	None Supplied	0,5	Brown clay and sand with gravel,
2112259	BH13	None Supplied	0,5	Brown clay and sand with gravel,
2112260	BH14	None Supplied	0,9	Brown clay and sand with gravel and stones,
2112261	BH16A	None Supplied	0,7	Brown clay and sand with gravel,
2112262	BH17	None Supplied	0,5	Brown clay and sand with gravel,
2112263	BH17	None Supplied	2,4	Brown clay and sand with gravel,
2112264	CBR2	None Supplied	0,3	Brown loam and clay with gravel and vegetation,
2112265	CBR3	None Supplied	0,4	Brown loam and clay with stones and vegetation,
2112266	TP4	None Supplied	0,5	Brown loam and clay with gravel and stones,
2112268	TP1	None Supplied	0,4	Brown clay and loam with gravel and vegetation,
2112269	TP3	None Supplied	0,6	Brown clay and sand with gravel,
2112270	TP5	None Supplied	0,4	Brown clay and sand with gravel,
2112271	TP6	None Supplied	0,5	Brown clay and sand with stones,
2112272	TP7	None Supplied	0,4	Brown clay and sand with gravel,
2112273	BH7	None Supplied	0,5	Brown clay and sand with gravel and stones,
2112274	BH4	None Supplied	1	Brown clay and loam with gravel and vegetation,
2112275	BH4	None Supplied	1,5	Brown clay and loam with gravel and vegetation,