Analytical Report Number : 17-64780

Project / Site name: 72 Marsefield Gardens, NW3 5TD

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

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

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.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
WS1	P+J	S	17-64780	841472	b	BTEX in soil (Monoaromatics)	L073B-PL	b
WS1	P+J	S	17-64780	841472	b	Total BTEX in soil (Poland)	L073-PL	b
WS2	P+J	S	17-64780	841474	b	BTEX in soil (Monoaromatics)	L073B-PL	b
WS2	P+J	S	17-64780	841474	b	Total BTEX in soil (Poland)	L073-PL	b

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

Emma Hucker
Jomas Associates Ltd
Lakeside House
1 Furzeground Way
Stockley Park
UB11 1BD

e: Jomas Group

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 : 17-64778

Project / Site name:	72 Marsfield Gardens, NW3 5TD	**Samples received on:**	20/10/2017
Your job number:	JJ1222	**Samples instructed on:**	20/10/2017
Your order number:	P1170JJ1222.3	**Analysis completed by:**	30/10/2017
Report Issue Number:	1	**Report issued on:**	30/10/2017
Samples Analysed:	6 soil samples		

Signed:

Dr Claire Stone
Quality Manager
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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Analytical Report Number: 17-64778

Project / Site name: 72 Marsfield Gardens, NW3 5TD
Your Order No: P1170JJ1222.3

Lab Sample Number				841458	841459	841460	841461	841462
Sample Reference				WS1	WS1	WS3	WS3	WS4
Sample Number				P+J	P	P+J	P	P+J
Depth (m)				0.50	1.00	0.50	1.00	0.25
Date Sampled				17/10/2017	17/10/2017	17/10/2017	17/10/2017	17/10/2017
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
Moisture Content	%	N/A	NONE	-	14	11	11	5.7
Total mass of sample received	kg	0.001	NONE	-	0.47	1.5	2.0	1.4
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-	-
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	7.3	7.3	7.5	7.4
Total Cyanide	mg/kg	1	MCERTS	-	-	< 1	-	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	-	-	190	-	380
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	-	-	15	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.013	0.0086	0.0073	0.015
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	-	8.6	7.3	14.9
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	0.4	-	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	< 1.0	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	0.23	-	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	0.36	-	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	-	0.30	-	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	0.21	-	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	-	0.23	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	-	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	1.33	-	< 0.80

Analytical Report Number: 17-64778

Project / Site name: 72 Marsfield Gardens, NW3 5TD
Your Order No: P1170JJ1222.3

Lab Sample Number				841458	841459	841460	841461	841462
Sample Reference				WS1	WS1	WS3	WS3	WS4
Sample Number				P+J	P	P+J	P	P+J
Depth (m)				0.50	1.00	0.50	1.00	0.25
Date Sampled				17/10/2017	17/10/2017	17/10/2017	17/10/2017	17/10/2017
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	-	-	6.2	-	13
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	0.7	-	0.8
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	-	-	24	-	32
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	17	-	26
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	48	-	490
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	< 0.3	-	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	5.8	-	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	< 1.0	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	41	-	89
Petroleum Hydrocarbons								
Petroleum Range Organics (C6 - C10)	mg/kg	0.1	MCERTS	-	-	< 0.1	-	< 0.1
TPH (C10 - C12)	mg/kg	2	MCERTS	-	-	< 2.0	-	< 2.0
TPH (C12 - C16)	mg/kg	4	MCERTS	-	-	< 4.0	-	< 4.0
TPH (C16 - C21)	mg/kg	1	MCERTS	-	-	< 1.0	-	5.8
TPH (C21 - C40)	mg/kg	10	MCERTS	-	-	< 10	-	< 10

Analytical Report Number: 17-64778

Project / Site name: 72 Marsfield Gardens, NW3 5TD
Your Order No: P1170JJ1222.3

Lab Sample Number				841463				
Sample Reference				WS4				
Sample Number				P				
Depth (m)				2.00				
Date Sampled				17/10/2017				
Time Taken				None Supplied				
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1				
Moisture Content	%	N/A	NONE	14				
Total mass of sample received	kg	0.001	NONE	0.44				
Asbestos in Soil	Type	N/A	ISO 17025	-				
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.7				
Total Cyanide	mg/kg	1	MCERTS	-				
Total Sulphate as SO_4	mg/kg	50	MCERTS	-				
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-				
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.014				
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-				
Total Organic Carbon (TOC)	%	0.1	MCERTS	0.5				
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-				
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-				
Acenaphthylene	mg/kg	0.05	MCERTS	-				
Acenaphthene	mg/kg	0.05	MCERTS	-				
Fluorene	mg/kg	0.05	MCERTS	-				
Phenanthrene	mg/kg	0.05	MCERTS	-				
Anthracene	mg/kg	0.05	MCERTS	-				
Fluoranthene	mg/kg	0.05	MCERTS	-				
Pyrene	mg/kg	0.05	MCERTS	-				
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-				
Chrysene	mg/kg	0.05	MCERTS	-				
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-				
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-				
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-				
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-				
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-				
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-				

Analytical Report Number: 17-64778

Project / Site name: 72 Marsfield Gardens, NW3 5TD
Your Order No: P1170JJ1222.3

Lab Sample Number				841463				
Sample Reference				WS4				
Sample Number				P				
Depth (m)				2.00				
Date Sampled				17/10/2017				
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	-				
Boron (water soluble)	mg/kg	0.2	MCERTS	-				
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-				
Chromium (hexavalent)	mg/kg	4	MCERTS	-				
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-				
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-				
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-				
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-				
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-				
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-				
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-				
Petroleum Hydrocarbons								
Petroleum Range Organics (C6 - C10)	mg/kg	0.1	MCERTS	-				
TPH (C10 - C12)	mg/kg	2	MCERTS	-				
TPH (C12 - C16)	mg/kg	4	MCERTS	-				
TPH (C16 - C21)	mg/kg	1	MCERTS	-				
TPH (C21 - C40)	mg/kg	10	MCERTS	-				

Analytical Report Number : 17-64778

Project / Site name: 72 Marsfield Gardens, NW3 5TD

* 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 *
841458	WS1	P+J	0.50	-
841459	WS1	P	1.00	Brown sandy clay.
841460	WS3	P+J	0.50	Brown sandy clay with gravel and vegetation.
841461	WS3	P	1.00	Brown clay and loam with gravel and vegetation.
841462	WS4	P+J	0.25	Brown loam and sand with gravel and brick.
841463	WS4	P	2.00	Light brown sandy clay with vegetation.

Analytical Report Number : 17-64778

Project / Site name: 72 Marsfield Gardens, NW3 5TD

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

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 disperion 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
Hexavalent chromium in soil	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	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
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	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
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
PRO (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-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
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
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 based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (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 based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPH in (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method, TPH with carbon banding.	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.

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
WS3	P+J	S	17-64778	841460	b	PRO (Soil)	L088-PL	b
WS4	P+J	S	17-64778	841462	b	PRO (Soil)	L088-PL	b

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

APPENDIX 8 – GEOTECHNICAL LABORATORY TEST RESULTS

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

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

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.3 & 5: Definitive Method

Client:	Jomas Associates Ltd	Client Reference:	JJ1222
Client Address:	Lakeside House 1 Furzeground Way Stockley Park UB11 1BD	Job Number:	17-64977
		Date Sampled:	Not Given
		Date Received:	20/10/2017
Contact:	Emma Hucker	Date Tested:	03/11/2017
Site Name:	72 Marsefield Gardens NW3 5TD	Sampled By:	Not Given
Site Address:	72 Marsefield Gardens NW3 5TD		

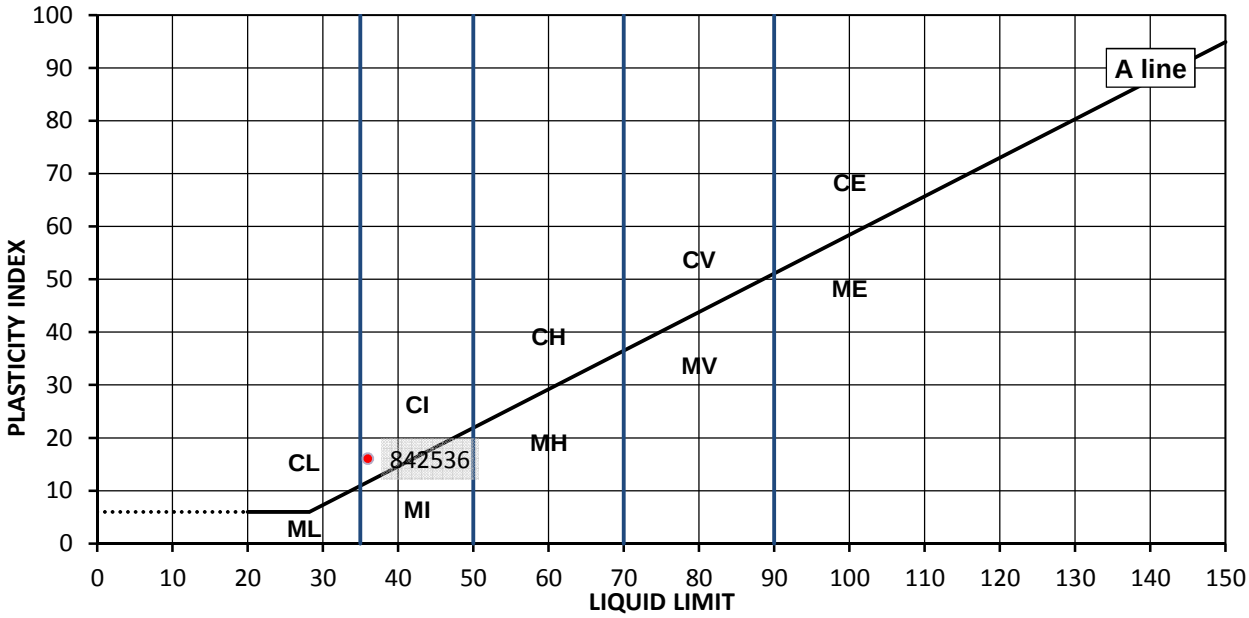
TEST RESULTS

Laboratory Reference: 842536
Sample Reference: Not Given

Description: Dark brown slightly gravelly sandy CLAY
Location: WS1
Sample Preparation: Tested after washing to remove >425um

Sample Type: D
Depth Top [m]: 1.00
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
18	36	20	16	78



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Remarks

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 10/11/2017

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

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

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.3 & 5: Definitive Method

Client:	Jomas Associates Ltd	Client Reference:	JJ1222
Client Address:	Lakeside House 1 Furzeground Way Stockley Park UB11 1BD	Job Number:	17-64977
		Date Sampled:	Not Given
		Date Received:	20/10/2017
Contact:	Emma Hucker	Date Tested:	03/11/2017
Site Name:	72 Marsefield Gardens NW3 5TD	Sampled By:	Not Given
Site Address:	72 Marsefield Gardens NW3 5TD		

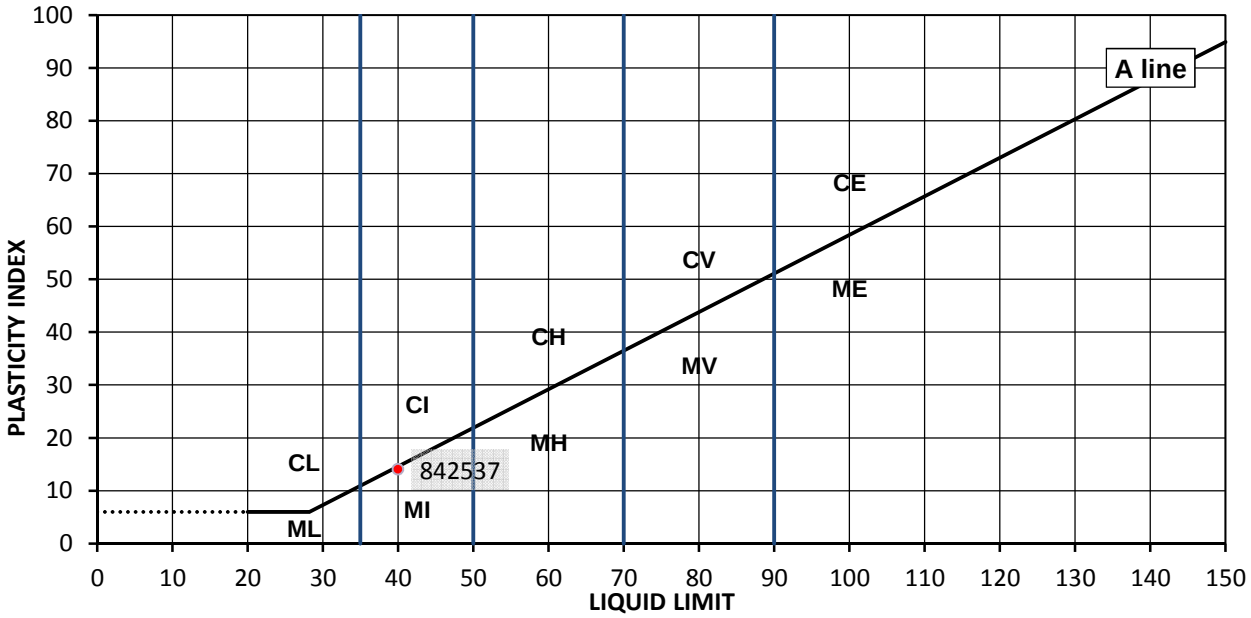
TEST RESULTS

Laboratory Reference: 842537
Sample Reference: Not Given

Description: Dark brown slightly gravelly sandy CLAY with rootlets
Location: WS2
Sample Preparation: Tested after washing to remove >425um

Sample Type: D
Depth Top [m]: 0.50
Depth Base [m]: Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
22	40	26	14	74



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Remarks

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 10/11/2017

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Liquid and Plastic Limits

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

UKAS TESTING 4041

Tested in Accordance with BS1377-2: 1990: Clause 4.3 & 5: Definitive Method

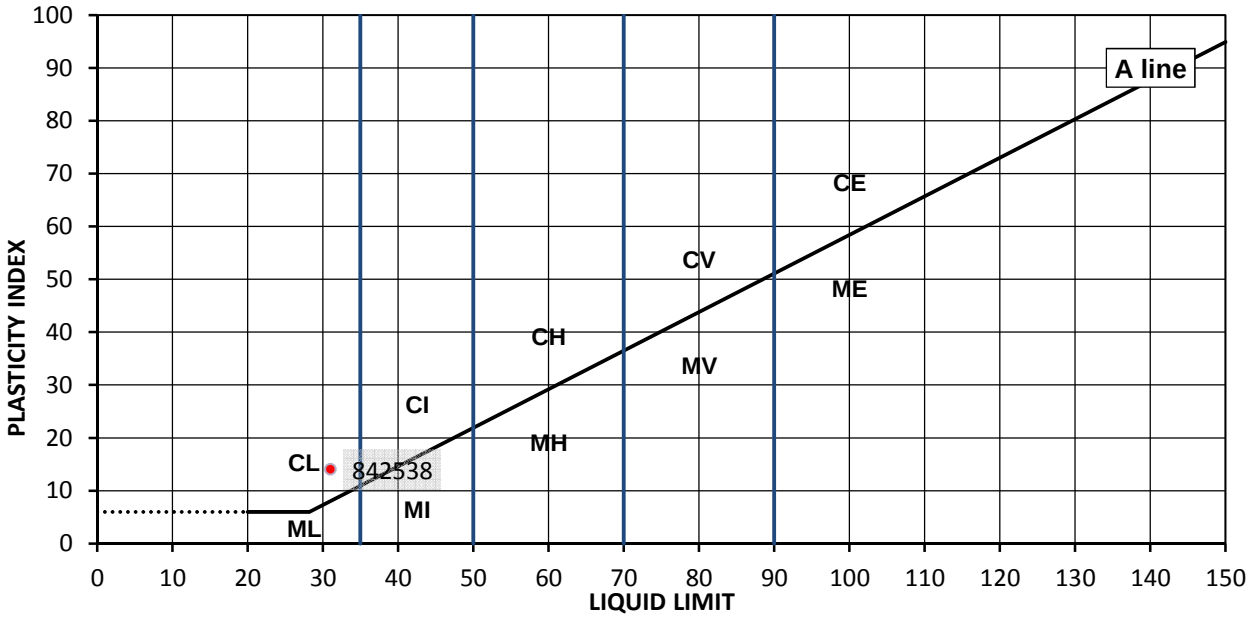
Client:	Jomas Associates Ltd	Client Reference:	JJ1222
Client Address:	Lakeside House 1 Furzeground Way Stockley Park UB11 1BD	Job Number:	17-64977
		Date Sampled:	Not Given
		Date Received:	20/10/2017
Contact:	Emma Hucker	Date Tested:	03/11/2017
Site Name:	72 Marsefield Gardens NW3 5TD	Sampled By:	Not Given
Site Address:	72 Marsefield Gardens NW3 5TD		

TEST RESULTS

Laboratory Reference: 842538
Sample Reference: Not Given

Description:	Dark brown slightly gravelly very sandy CLAY	Sample Type:	D
Location:	WS4	Depth Top [m]:	2.00
Sample Preparation:	Tested in natural condition	Depth Base [m]:	Not Given

As Received Moisture Content [%]	Liquid Limit [%]	Plastic Limit [%]	Plasticity Index [%]	% Passing 425µm BS Test Sieve
19	31	17	14	81



Legend, based on BS 5930:2015 Code of practice for site investigations

		Plasticity		Liquid Limit
C	Clay	L	Low	below 35
M	Silt	I	Medium	35 to 50
		H	High	50 to 70
		V	Very high	70 to 90
		E	Extremely high	exceeding 90
	Organic	O	append to classification for organic material (eg CHO)	

Remarks

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 10/11/2017

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Summary of Classification Test Results

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

Environmental Science

Client: Jomas Associates Ltd
Client Address: Lakeside House
1 Furzeground Way
Stockley Park
UB11 1BD
Contact: Emma Hucker
Site Name: 72 Marsefield Gardens NW3 5TD
Site Address: 72 Marsefield Gardens NW3 5TD

Client Reference: JJ1222
Job Number: 17-64977
Date Sampled: Not Given
Date Received: 20/10/2017
Date Tested: 03/11/2017
Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Soil Description	Density		M/C	Atterberg				PD
		Reference	Top depth [m]	Base depth [m]	Type		bulk Mg/m3	dry Mg/m3	%	% Passing 425um %	LL %	PL %	PI %	Mg/m3
842536	WS1	Not Given	1.00	Not Given	D	Dark brown slightly gravelly sandy CLAY			18	78	36	20	16	
842537	WS2	Not Given	0.50	Not Given	D	Dark brown slightly gravelly sandy CLAY with rootlets			22	74	40	26	14	
842538	WS4	Not Given	2.00	Not Given	D	Dark brown slightly gravelly very sandy CLAY			19	81	31	17	14	

Comments:

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Date Reported: 10/11/2017

Signed:

Darren Berrill
Geotechnical General Manager

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

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

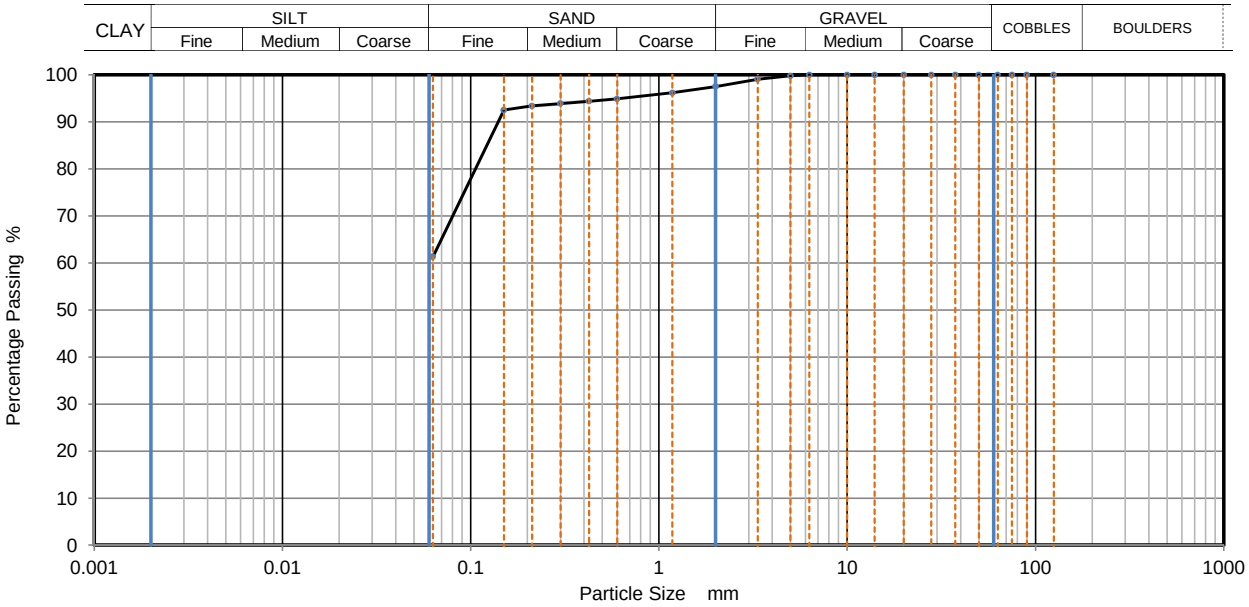
4041

Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Client:	Jomas Associates Ltd	Client Reference:	JJ1222
Client Address:	Lakeside House 1 Furzeground Way Stockley Park UB11 1BD	Job Number:	17-64977
		Date Sampled:	Not Given
		Date Received:	20/10/2017
Contact:	Emma Hucker	Date Tested:	03/11/2017
Site Name:	72 Marsefield Gardens NW3 5TD	Sampled By:	Not Given
Site Address:	72 Marsefield Gardens NW3 5TD		

TEST RESULTS Laboratory Reference: 842530 Sample Reference: Not Given

Sample description:	Yellowish brown slightly gravelly sandy CLAY	Sample Type:	D
Location:	WS1	Depth Top [m]:	2.00
Supplier:	Not Given	Depth Base [m]:	Not Given



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	98		
1.18	96		
0.6	95		
0.425	94		
0.3	94		
0.212	93		
0.15	93		
0.063	61		

Dry Mass of sample [g]: 200

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	2.50
Sand	36.20
Fines <0.063mm	61.30

Grading Analysis		
D100	mm	6.3
D60	mm	
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 10/11/2017

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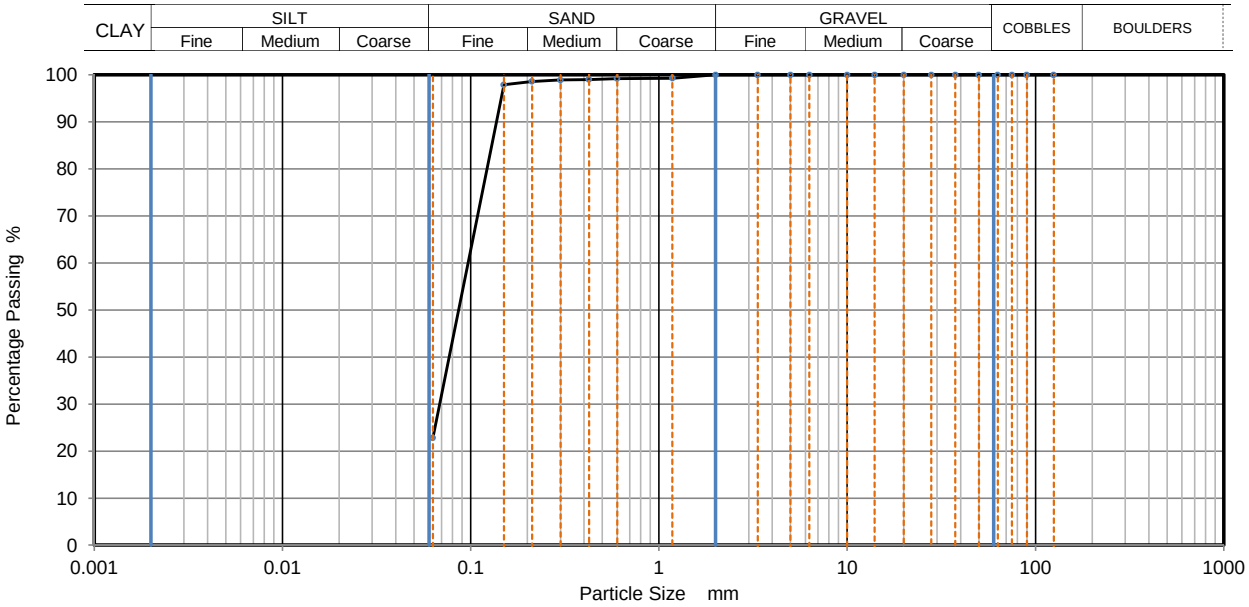
Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Client:	Jomas Associates Ltd	Client Reference:	JJ1222
Client Address:	Lakeside House 1 Furzeground Way Stockley Park UB11 1BD	Job Number:	17-64977
		Date Sampled:	Not Given
		Date Received:	20/10/2017
Contact:	Emma Hucker	Date Tested:	03/11/2017
Site Name:	72 Marsefield Gardens NW3 5TD	Sampled By:	Not Given
Site Address:	72 Marsefield Gardens NW3 5TD		

TEST RESULTS Laboratory Reference: 842531

Sample description:	Yellowish brown very clayey SAND	Sample Reference:	Not Given
Location:	WS1	Sample Type:	D
Supplier:	Not Given	Depth Top [m]:	3.00
		Depth Base [m]:	Not Given



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.6	99		
0.425	99		
0.3	99		
0.212	99		
0.15	98		
0.063	23		

Dry Mass of sample [g]: 176

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	0.00
Sand	77.20
Fines <0.063mm	22.80

Grading Analysis		
D100	mm	2
D60	mm	0.0968
D30	mm	0.0685
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 10/11/2017

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

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Croxley Green Business Park
Watford Herts WD18 8YS

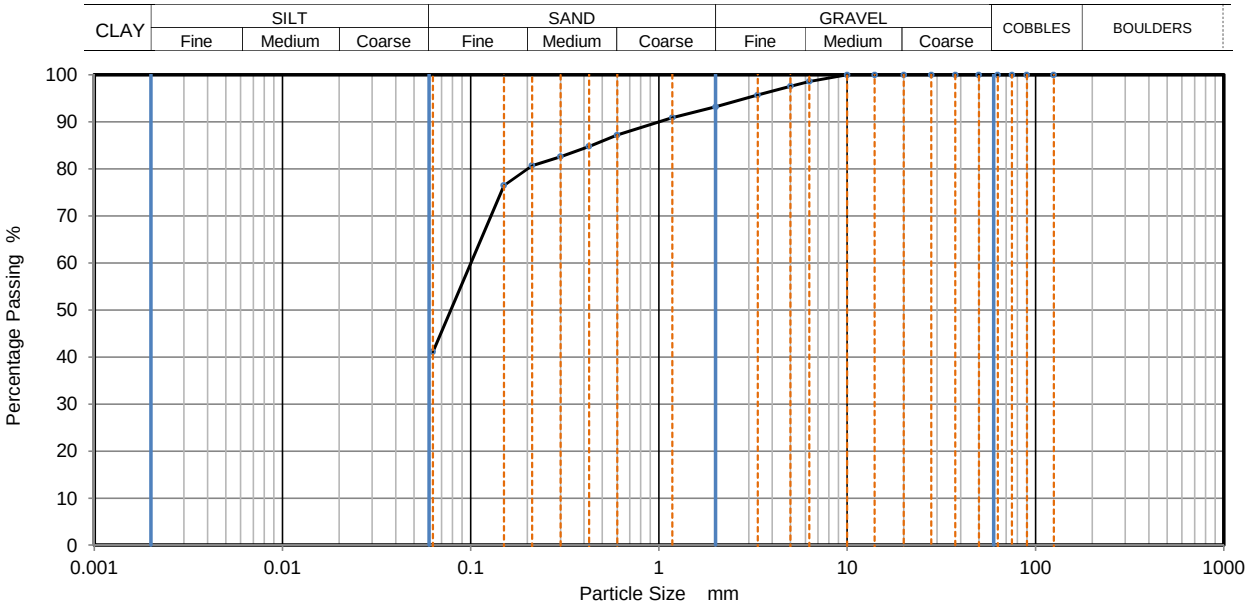
4041

Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Client:	Jomas Associates Ltd	Client Reference:	JJ1222
Client Address:	Lakeside House 1 Furzeground Way Stockley Park UB11 1BD	Job Number:	17-64977
		Date Sampled:	Not Given
		Date Received:	20/10/2017
Contact:	Emma Hucker	Date Tested:	03/11/2017
Site Name:	72 Marsefield Gardens NW3 5TD	Sampled By:	Not Given
Site Address:	72 Marsefield Gardens NW3 5TD		

TEST RESULTS Laboratory Reference: 842532

Sample description:	Dark brown gravelly very clayey SAND	Sample Reference:	Not Given
Location:	WS2	Sample Type:	D
Supplier:	Not Given	Depth Top [m]:	1.00
		Depth Base [m]:	Not Given



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	98		
3.35	96		
2	93		
1.18	91		
0.6	87		
0.425	85		
0.3	83		
0.212	81		
0.15	77		
0.063	41		

Dry Mass of sample [g]: 202

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	6.80
Sand	52.10
Fines <0.063mm	41.10

Grading Analysis		
D100	mm	10
D60	mm	0.1
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 10/11/2017

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

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

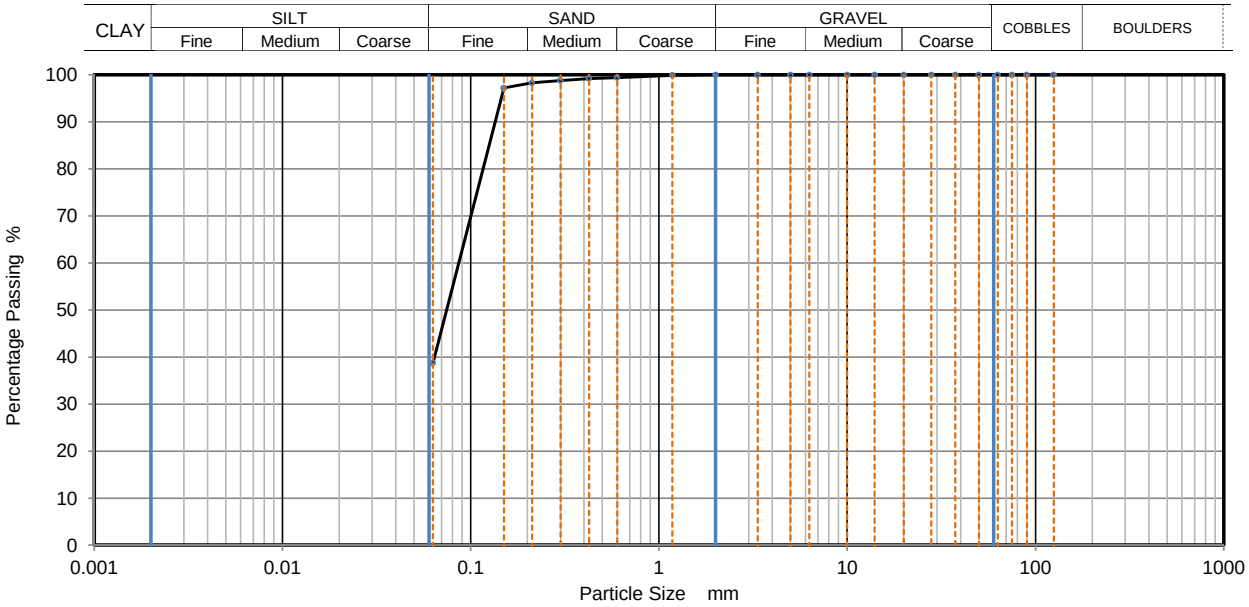
4041

Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Client:	Jomas Associates Ltd	Client Reference:	JJ1222
Client Address:	Lakeside House 1 Furzeground Way Stockley Park UB11 1BD	Job Number:	17-64977
		Date Sampled:	Not Given
		Date Received:	20/10/2017
Contact:	Emma Hucker	Date Tested:	03/11/2017
Site Name:	72 Marsefield Gardens NW3 5TD	Sampled By:	Not Given
Site Address:	72 Marsefield Gardens NW3 5TD		

TEST RESULTS Laboratory Reference: 842533

Sample description:	Yellowish brown very clayey SAND	Sample Reference:	Not Given
Location:	WS2	Sample Type:	D
Supplier:	Not Given	Depth Top [m]:	4.00
		Depth Base [m]:	Not Given



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	99		
0.3	99		
0.212	98		
0.15	97		
0.063	39		

Dry Mass of sample [g]: 199

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	0.00
Sand	61.30
Fines <0.063mm	38.70

Grading Analysis		
D100	mm	2
D60	mm	0.0864
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 10/11/2017

for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

Determination of Particle Size Distribution

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

UKAS TESTING 4041

Tested in Accordance with BS1377:Part 2:1990, clause 9.2

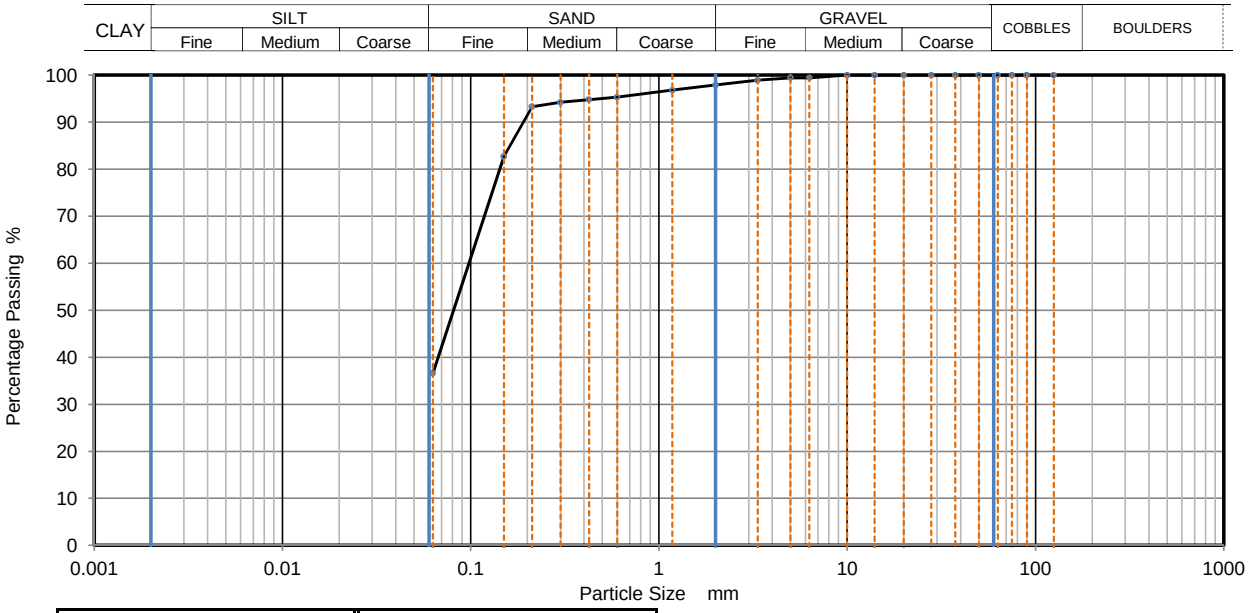
Client:	Jomas Associates Ltd	Client Reference:	JJ1222
Client Address:	Lakeside House 1 Furzeground Way Stockley Park UB11 1BD	Job Number:	17-64977
		Date Sampled:	Not Given
		Date Received:	20/10/2017
Contact:	Emma Hucker	Date Tested:	03/11/2017
Site Name:	72 Marsefield Gardens NW3 5TD	Sampled By:	Not Given
Site Address:	72 Marsefield Gardens NW3 5TD		

TEST RESULTS Laboratory Reference: 842534 Sample Reference: Not Given

Sample description: Yellowish brown slightly gravelly very clayey SAND Sample Type: D

Location: WS3 Depth Top [m]: 3.00

Supplier: Not Given Depth Base [m]: Not Given



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99		
2	98		
1.18	97		
0.6	95		
0.425	95		
0.3	94		
0.212	93		
0.15	83		
0.063	37		

Dry Mass of sample [g]: 211

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	2.10
Sand	61.30
Fines <0.063mm	36.60

Grading Analysis		
D100	mm	10
D60	mm	0.0979
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

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Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

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TEST CERTIFICATE

Determination of Particle Size Distribution

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Croxley Green Business Park
Watford Herts WD18 8YS

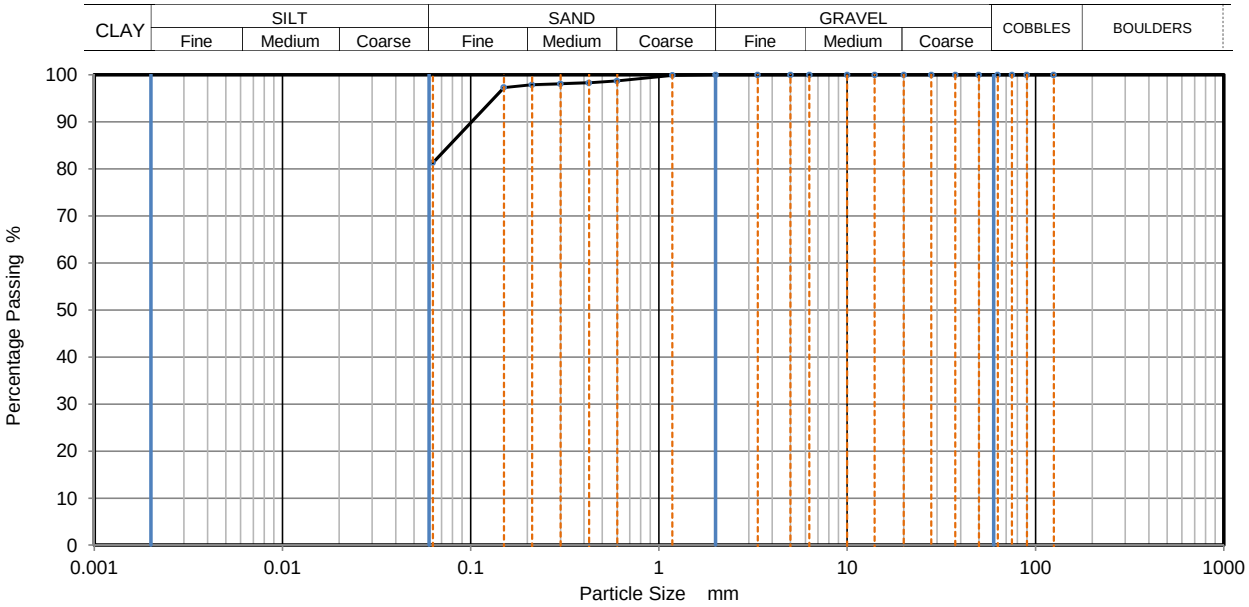
4041

Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Client:	Jomas Associates Ltd	Client Reference:	JJ1222
Client Address:	Lakeside House 1 Furzeground Way Stockley Park UB11 1BD	Job Number:	17-64977
		Date Sampled:	Not Given
		Date Received:	20/10/2017
Contact:	Emma Hucker	Date Tested:	03/11/2017
Site Name:	72 Marsefield Gardens NW3 5TD	Sampled By:	Not Given
Site Address:	72 Marsefield Gardens NW3 5TD		

TEST RESULTS Laboratory Reference: 842535

Sample description:	Light brown slightly sandy CLAY	Sample Reference:	Not Given
Location:	WS4	Sample Type:	D
Supplier:	Not Given	Depth Top [m]:	3.00
		Depth Base [m]:	Not Given



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	98		
0.3	98		
0.212	98		
0.15	97		
0.063	81		

Dry Mass of sample [g]: 210

Sample Proportions	% dry mass
Very coarse	0.00
Gravel	0.00
Sand	18.70
Fines <0.063mm	81.30

Grading Analysis		
D100	mm	2
D60	mm	
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

Approved:

Dariusz Piotrowski
PL Laboratory Manager
Geotechnical Section

Signed:

Darren Berrill
Geotechnical General Manager

Date Reported: 10/11/2017

for and on behalf of i2 Analytical Ltd

APPENDIX 9 – SOIL GAS MONITORING TEST RESULTS

GAS AND GROUNDWATER MONITORING BOREHOLE RECORD SHEET

Site: Marsfield Gardens	**Operative(s):** AM	**Date:** 26/10/17	**Time:** 12:14	**Round: 1**	**Page:** 1

MONITORING EQUIPMENT

Instrument Type	**Instrument Make**	**Serial No.**	**Date Last Calibrated**
Analox	GA5000		19/06/2017
PID	Phocheck tiger		20/05/2016
Dip Meter	GeoTech		

MONITORING CONDITIONS

Weather Conditions: Overcast	**Ground Conditions: Wet**	**Temperature**: 10°C
Barometric Pressure (mbar): 1014	**Barometric Pressure Trend (24hr): Rising**	**Ambient Concentration: 0.0**%CH_4, 0.1%CO_2, 20.6%O_2

MONITORING RESULTS

Monitoring Point Location	Flow		Atmospheric Pressure (mbar)	CH_4 %	CH_4 % LEL	CO_2 %	O_2 %	VOC (ppm)*		H_2S (ppm)	CO (ppm)	Depth to product (mbgl)	Depth to water (mbgl)	Depth to Base of well (mbgl)
	Peak	Steady						Peak	Steady					
WS1	+0.2	+0.2	1014	0.0	/	1.5	19.6	-	-	0	0	/	Dry	3.43
WS2	+0.1	+0.1	1014	0.0	/	5.1	17.0	-	-	0	0	/	3.83	3.96
WS3	+0.1	+0.1	1014	0.0	/	2.0	19.0	-	-	0	0	/	3.68	3.83

*VOC's not recorded due to faulty PID

GAS AND GROUNDWATER MONITORING BOREHOLE RECORD SHEET

Site: Marsfield Gardens	**Operative(s):** AM	**Date:** 01/11/17	**Time:** 10:30	**Round: 2**	**Page:** 1

MONITORING EQUIPMENT

Instrument Type	**Instrument Make**	**Serial No.**	**Date Last Calibrated**
Analox	GA5000		19/06/2017
PID	Phocheck tiger		20/05/2016
Dip Meter	GeoTech		

MONITORING CONDITIONS

Weather Conditions: Overcast	**Ground Conditions: Dry**	**Temperature**: 10°C
Barometric Pressure (mbar): 1009	**Barometric Pressure Trend (24hr): Falling**	**Ambient Concentration: 0.0**%CH_4, 0.1%CO_2, 20.9%O_2

MONITORING RESULTS

Monitoring Point Location	Flow		Atmospheric Pressure (mbar)	CH_4 %	CH_4 % LEL	CO_2 %	O_2 %	VOC (ppm)*		H_2S (ppm)	CO (ppm)	Depth to product (mbgl)	Depth to water (mbgl)	Depth to Base of well (mbgl)
	Peak	Steady						Peak	Steady					
WS1	+0.1	+0.1	1009	0.0	/	1.5	20.2	5	2	0	0	/	3.17	3.43
WS2	+0.2	+0.2	1009	0.0	/	5.0	18.1	3	1	0	0	/	3.80	3.96
WS3	+0.1	+0.1	1009	0.0	/	1.9	19.8	2	1	0	1	/	3.70	3.83

GAS AND GROUNDWATER MONITORING BOREHOLE RECORD SHEET

Site: Marsfield Gardens	**Operative(s):** AM	**Date:** 07/11/17	**Time:** 12.47	**Round: 3**	**Page:** 1

MONITORING EQUIPMENT

Instrument Type	**Instrument Make**	**Serial No.**	**Date Last Calibrated**
Analox	GA5000		19/06/2017
PID	Phocheck tiger		20/05/2016
Dip Meter	GeoTech		

MONITORING CONDITIONS

Weather Conditions: Light rain	**Ground Conditions: Dry**	**Temperature**: 11°C
Barometric Pressure (mbar): 1005	**Barometric Pressure Trend (24hr): Falling**	**Ambient Concentration:** 0.0%CH_4, 0.0%CO_2, 20.9%O_2

MONITORING RESULTS

Monitoring Point Location	Flow		Atmospheric Pressure (mbar)	CH_4 %	CH_4 % LEL	CO_2 %	O_2 %	VOC (ppm)*		H_2S (ppm)	CO (ppm)	Depth to product (mbgl)	Depth to water (mbgl)	Depth to Base of well (mbgl)
	Peak	Steady						Peak	Steady					
WS1	+0.3	+0.3	1005	0.1	-	1.4	20.2	4	2	0	0	-	3.16	3.43
WS2	+0.3	+0.3	1006	0.0	-	5.4	18.0	3	2	0	0	-	3.83	3.96
WS3	+0.2	+0.2	1006	0.0	-	1.7	19.8	2	1	0	0	-	Damp	3.83

GAS AND GROUNDWATER MONITORING BOREHOLE RECORD SHEET					
Site: Marsfield Gardens	**Operative(s):** AM	**Date:** 30/01/18	**Time:** 10.30	**Round: 4**	**Page:** 1

MONITORING EQUIPMENT			
Instrument Type	**Instrument Make**	**Serial No.**	**Date Last Calibrated**
Analox	GA5000		19/06/2017
PID	Phocheck tiger		20/05/2016
Dip Meter	GeoTech		

MONITORING CONDITIONS		
Weather Conditions:	**Ground Conditions: -**	**Temperature**: -
Barometric Pressure (mbar):	**Barometric Pressure Trend (24hr):**	**Ambient Concentration: -**

MONITORING RESULTS

Monitoring Point Location	Flow		Atmospheric Pressure (mbar)	CH_4 %	CH_4 % LEL	CO_2 %	O_2 %	VOC (ppm)*		H_2S (ppm)	CO (ppm)	Depth to product (mbgl)	Depth to water (mbgl)	Depth to Base of well (mbgl)
	Peak	Steady						Peak	Steady					
WS1	-	-	-	-	-	-	-	-	-	-	-	-	3.02	3.35
WS2	-	-	-	-	-	-	-	-	-	-	-	-	3.56	3.94
WS3	-	-	-	-	-	-	-	-	-	-	-	-	3.40	3.74