Landborne Gas Assessment

Site Ref: 6366
Site Name: 190 Goldhurst Terrace, London NW6 3HN

Well	Date	Methane Peak	Methane Steady	Methane GSV	Carbon Dioxide Peak	Carbon Dioxide Steady	Carbon Dioxide GSV	Oxygen	Atmos.	Flow	Response Zone	Depth to Water	CO	H2S	VOC
		%v/v	%v/v	l/hr	%v/v	%v/v	l/hr	%v/v	mbar	l/hr	m bgl	m bgl	ppm	ppm	ppm
BH1	03.03.16	0.1	0.1	0.0000	0.6	0.3	0.0000		1003	0.0		0.67	0	0	
	10.03.16	0.1	0.1	0.0001	0.4	0.1	0.0004	21.7	1017	0.1		0.56	0	0	
BH2	03.03.16	0.1	0.1	0.0000	3.8	3.8	0.0000		1003	0.0		5.91	0	0	
	10.03.16	0.1	0.1	0.0001	3.7	3.7	0.0037	17.5	1017	0.1		5.43	0	0	

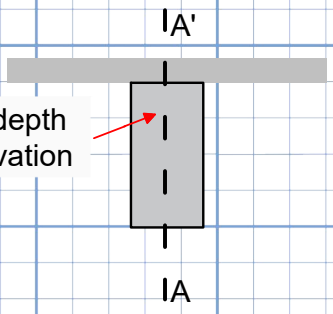
Notes

NR = Not recorded
Values in Red exceed CIRIA 665 criteria (CO_2 >5.0% and CH_4 >1.0%)

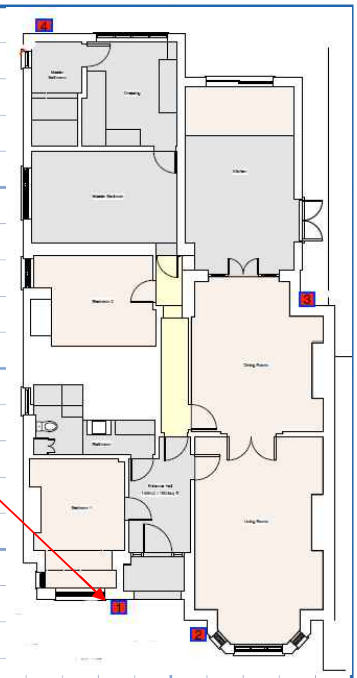
MILVUM Engineering Services

TITLE	192 Goldhurst Terrace - TP1	
NAME	PIL	DATE 20/06/2022

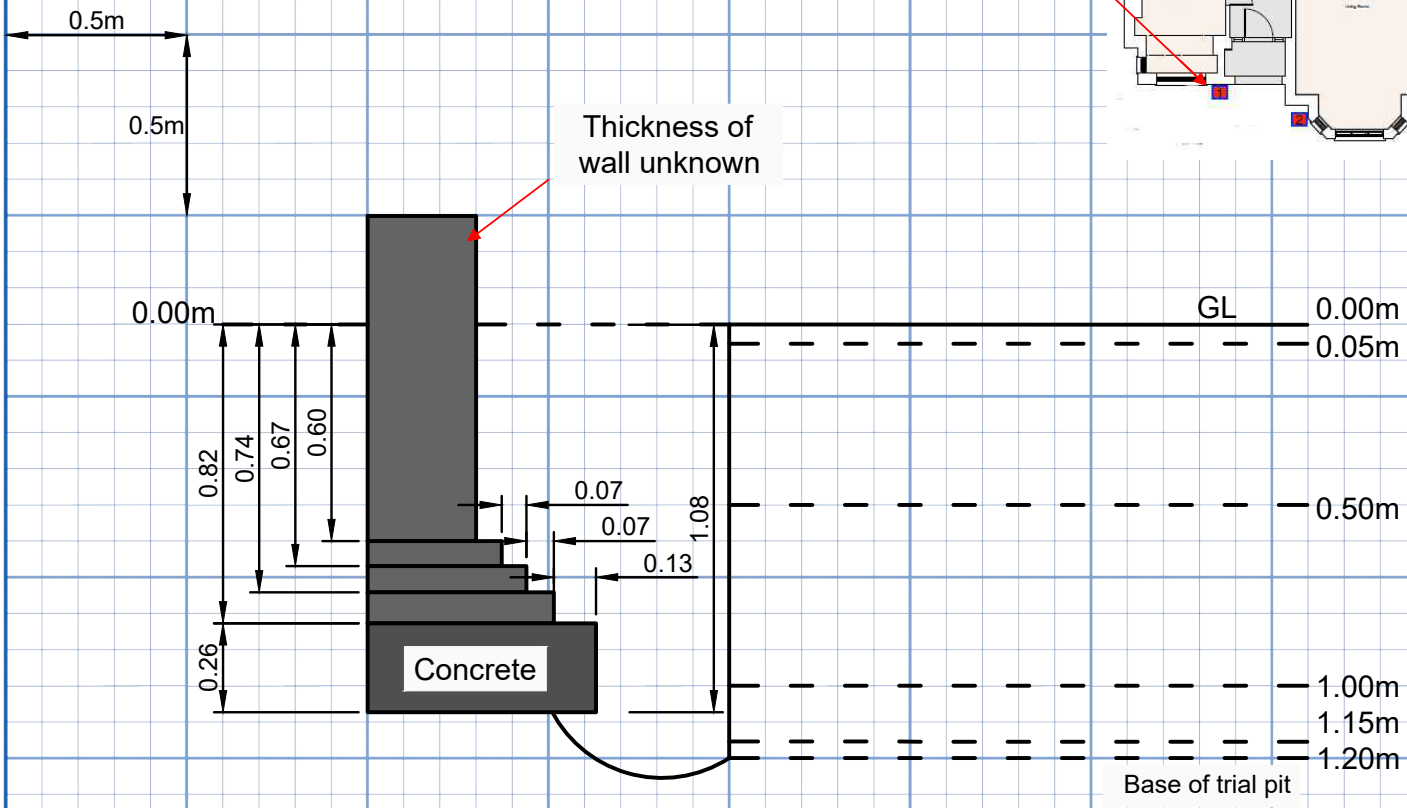
Plan View



Key Plan



Cross Section A-A'



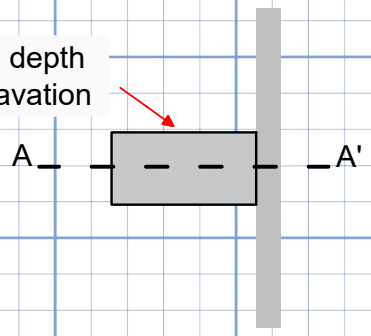
Masonry wall on to brick corbels on to concrete strip footing

0.00-0.05m Decorative stone over membrane
0.05-0.50m MADE GROUND: brown clayey gravelly sand with occasional brick and rare concrete cobbles
0.50-1.00m MADE GROUND: brown sandy gravelly clay with occasional brick and rare concrete cobbles
1.00-1.15m MADE GROUND: brown sandy gravelly clay
1.15-1.20m HEAD: brown sandy gravelly CLAY. Gravel of subrounded flint. Rootlets

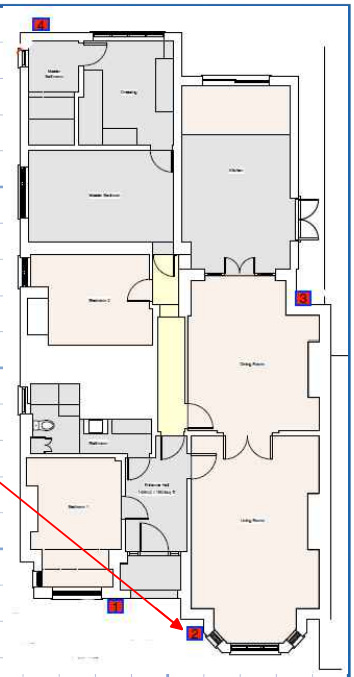
MILVUM Engineering Services

TITLE	192 Goldhurst Terrace - TP2	
NAME	PIL	DATE 20/06/2022

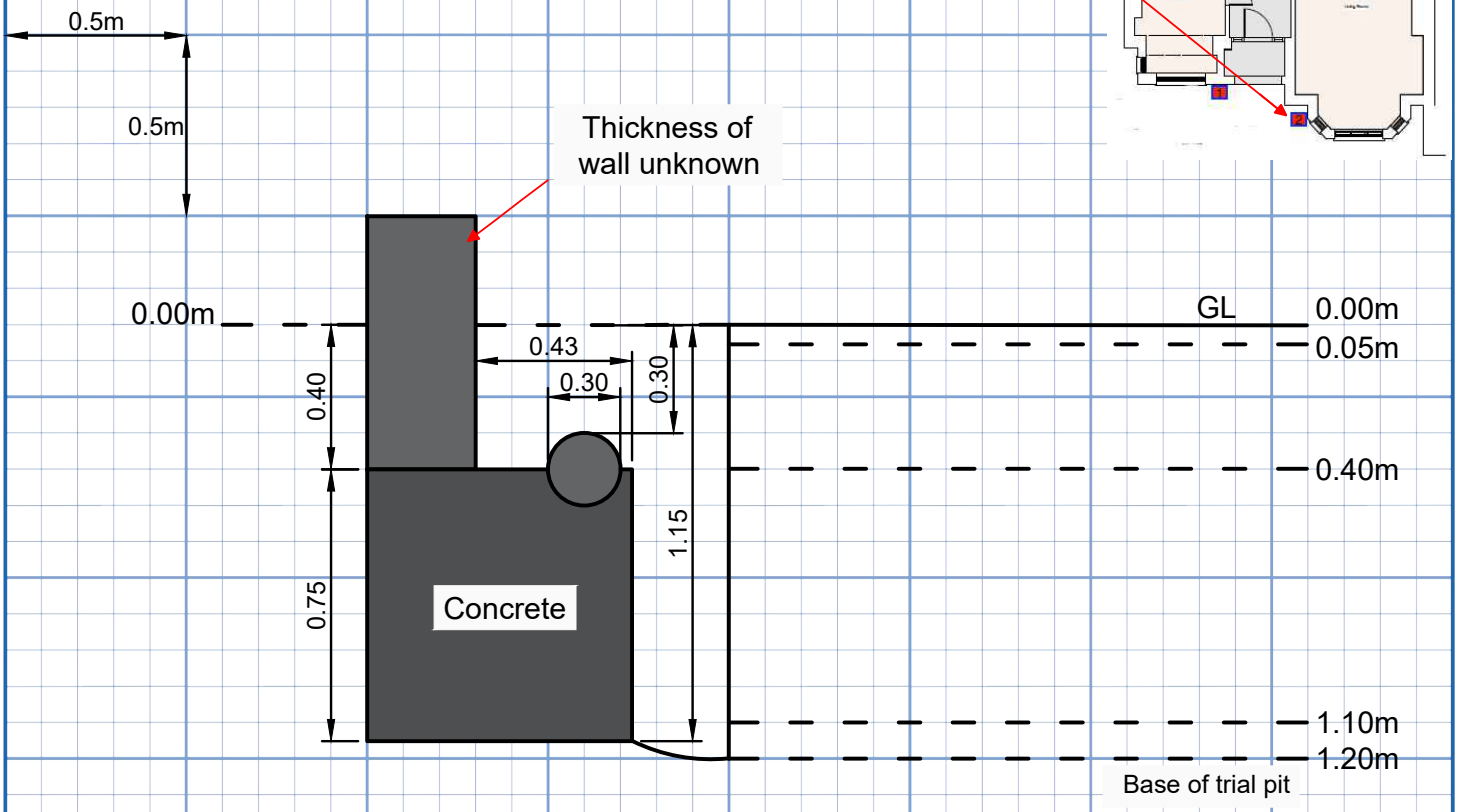
Plan View



Key Plan



Cross Section A-A'



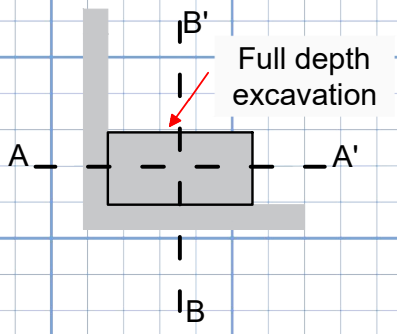
Masonry wall on to concrete strip footing

0.00-0.05m Decorative stone over membrane
0.05-0.40m MADE GROUND: brown clayey gravelly sand with rootlets
0.40-1.10m MADE GROUND: brown sandy gravelly clay with rare brick cobbles
1.10-1.20m HEAD: brown sandy gravelly CLAY. Gravel of subrounded flint

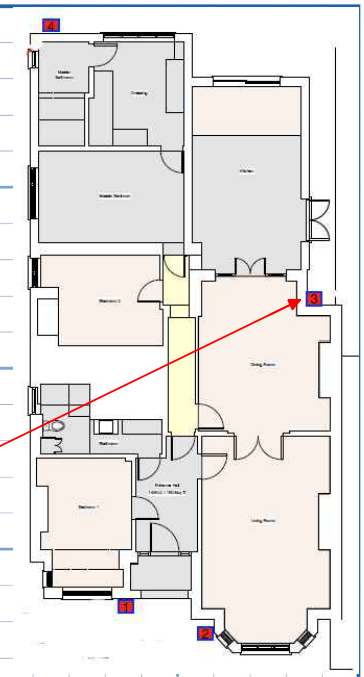
MILVUM Engineering Services

TITLE	192 Goldhurst Terrace - TP3	
NAME	PIL	DATE 20/06/2022

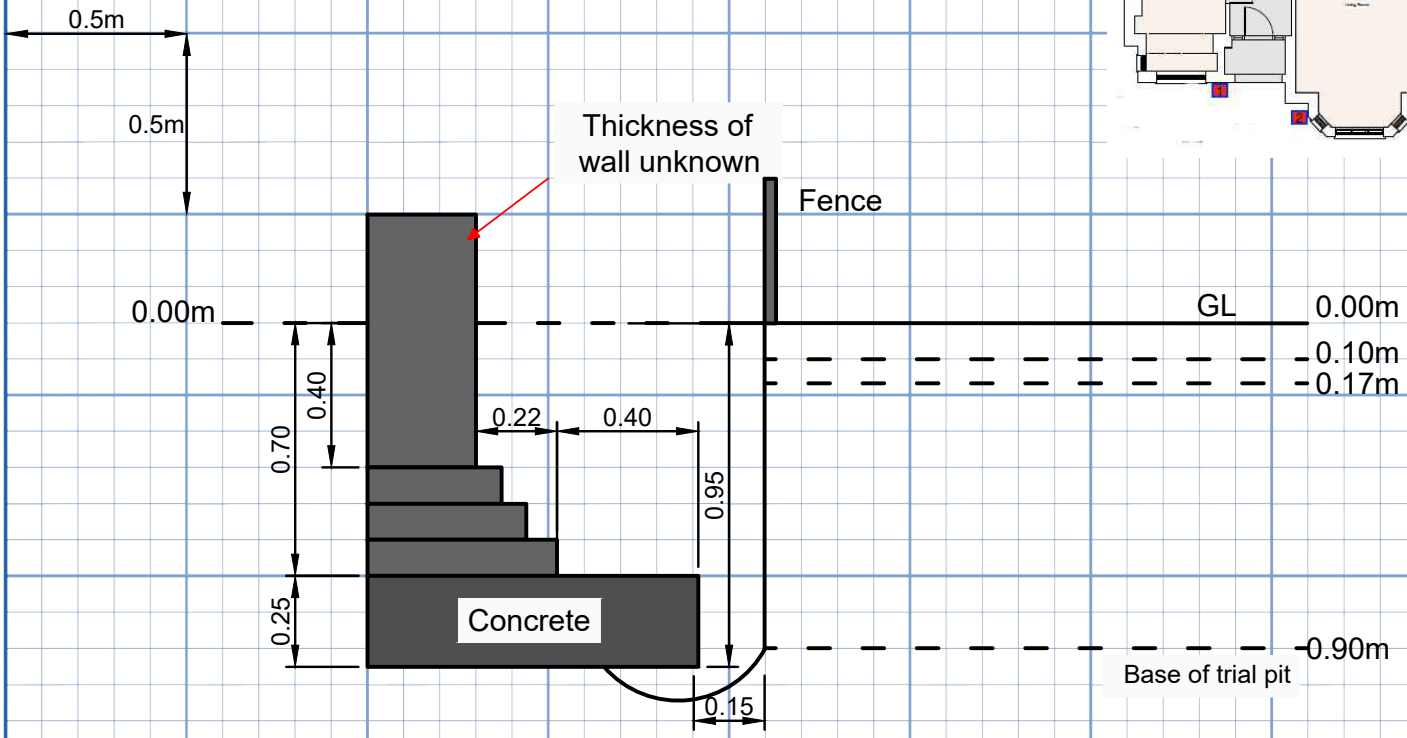
Plan View



Key Plan



Cross Section A-A'



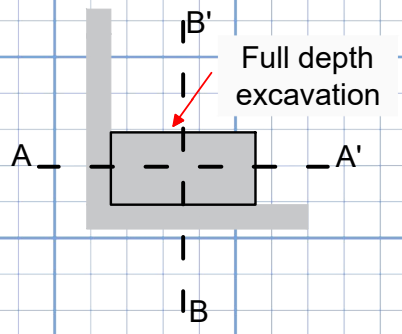
Masonry wall on to brick corbels on to concrete strip footing.

0.00 - 0.10m: Paving stone over yellow brown sand
0.10 - 0.17m: MADE GROUND: dark brown clay
0.17 - 0.90m: MADE GROUND: brown sandy gravelly clay with occasional brick cobbles.
0.90m: HEAD: Brown CLAY.

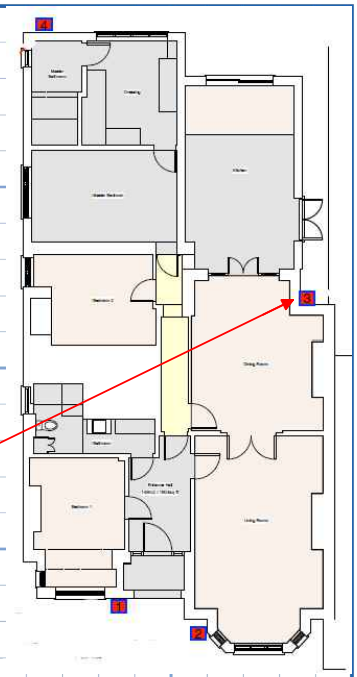
MILVUM Engineering Services

TITLE	192 Goldhurst Terrace - TP3	
NAME	PIL	DATE 20/06/2022

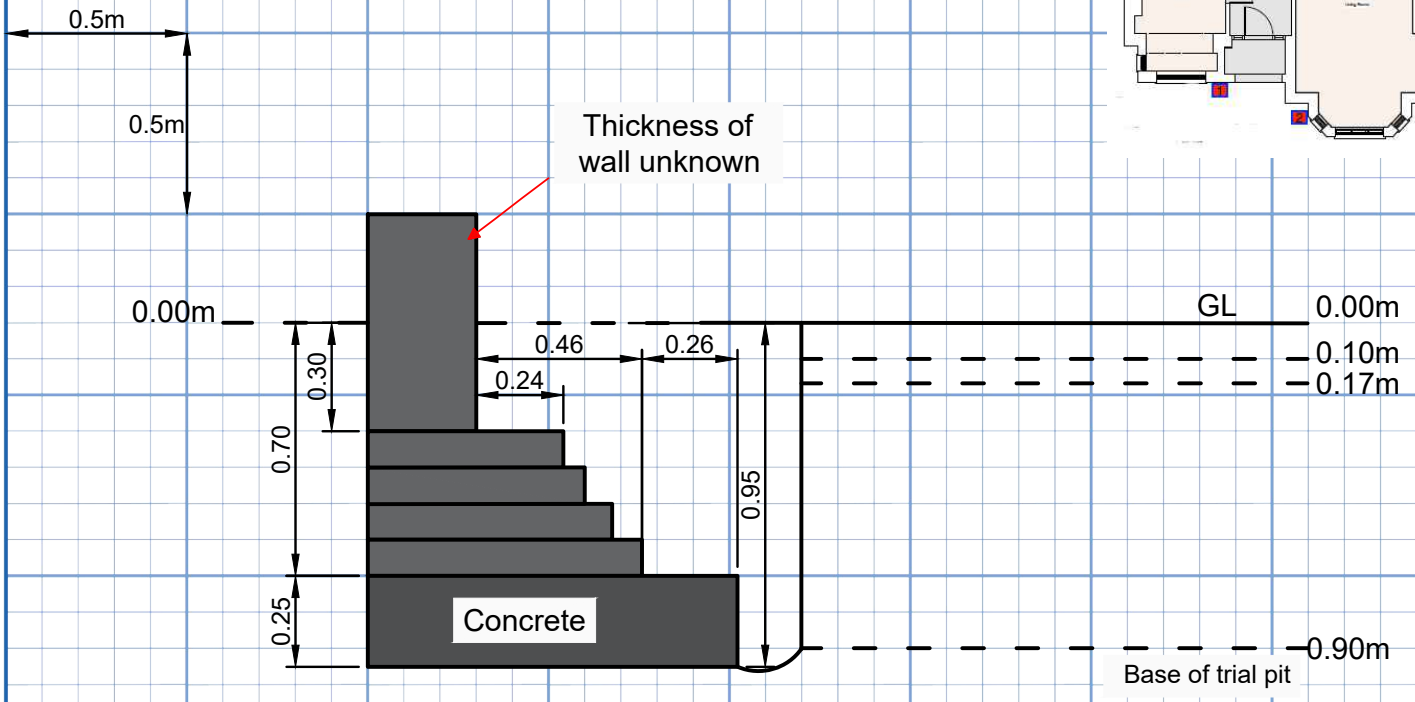
Plan View



Key Plan



Cross Section B-B'



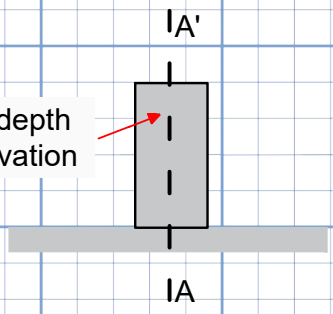
Masonry wall on to brick corbels on to concrete strip footing.

0.00 - 0.10m: Paving stone over yellow brown sand
0.10 - 0.17m: MADE GROUND: dark brown clay
0.17 - 0.90m: MADE GROUND: brown sandy gravelly clay with occasional brick cobbles.
0.90m: HEAD: Brown CLAY.

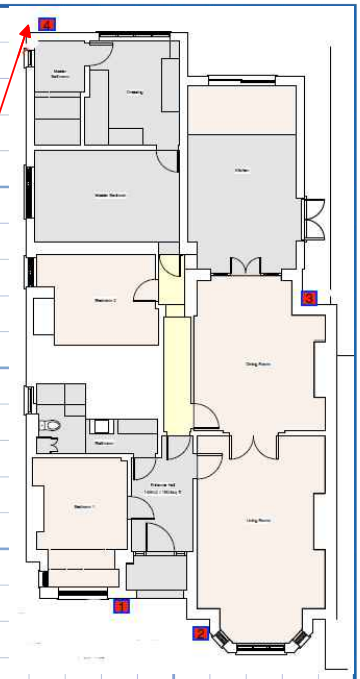
MILVUM Engineering Services

TITLE	192 Goldhurst Terrace - TP4	
NAME	PIL	DATE 20/06/2022

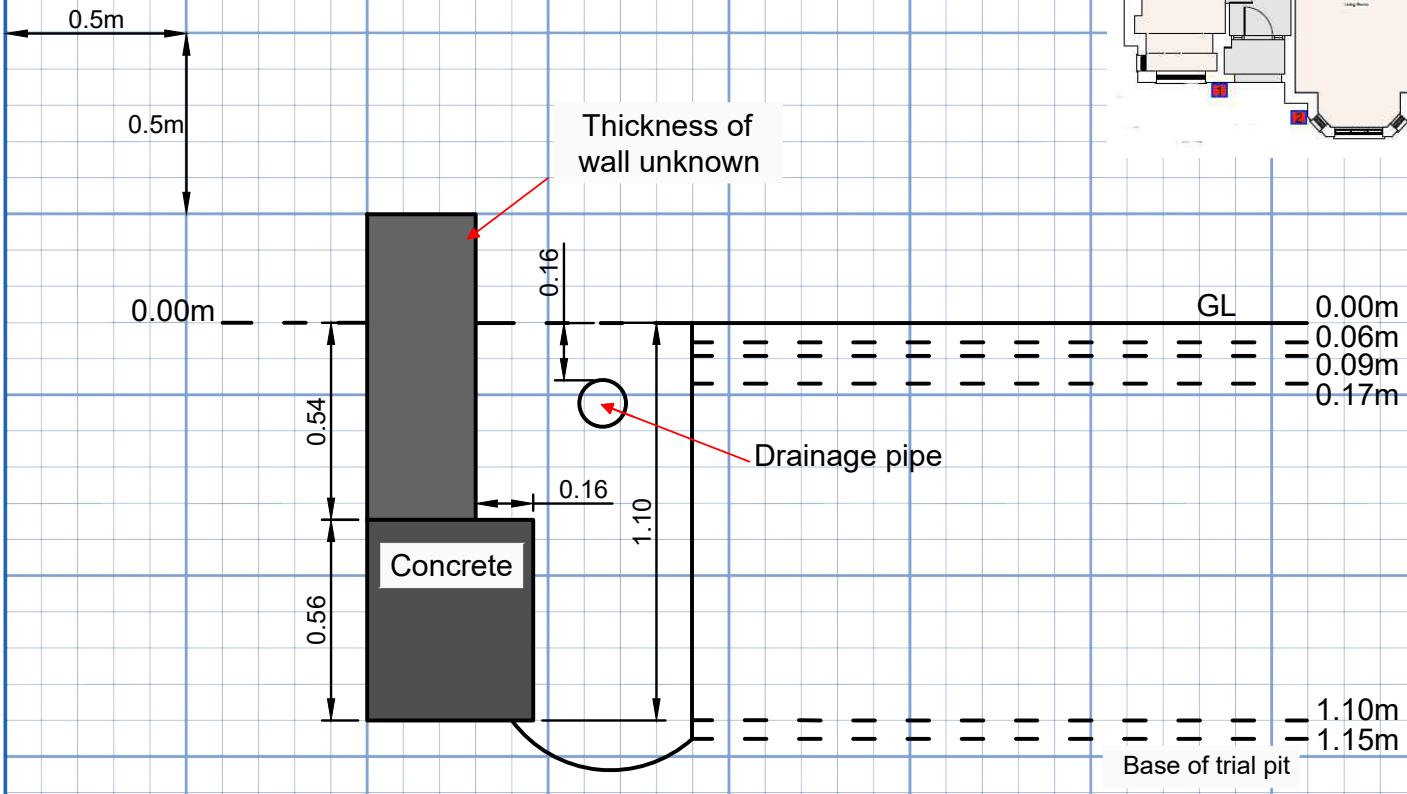
Plan View



Key Plan



Cross Section A-A'



Masonry wall on to concrete strip footing

0.00 - 0.06m: Astroturf over yellow brown sand
0.06 - 0.09m: Paving stone
0.09 - 0.17m: MADE GROUND: yellow brown sand with occasional brick and concrete cobbles
0.17 - 1.10m: MADE GROUND: brown to dark brown sandy gravelly clay with occasional brick and concrete cobbles
1.10 - 1.15m: HEAD: brown sandy gravelly CLAY. Gravel of subrounded flint

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

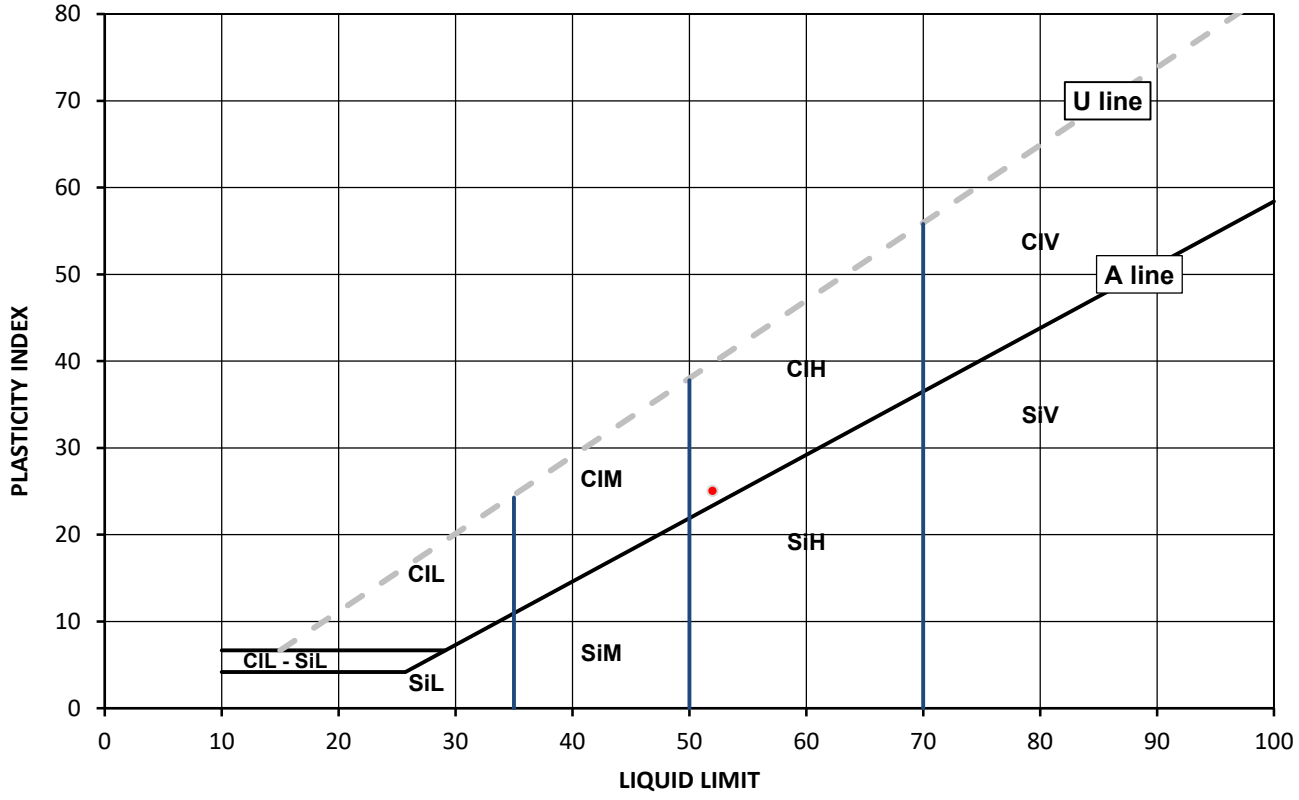
Client:	Milvum Engineering Services Ltd	Client Reference:	192GT
Client Address:	71-75 Shelton Street, London, WC2H 9JQ	Job Number:	22-66623
		Date Sampled:	20/06/2022
		Date Received:	21/06/2022
Contact:	Graham Kite	Date Tested:	06/07/2022
Site Address:	192 Goldhurst Terrace	Sampled By:	Client - Philip Lewis LMB

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2323612	Depth Top [m]:	1.18
Hole No.:	TP1	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown slightly gravelly slightly sandy CLAY		
Sample Preparation:	Tested after washing to remove >425um		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
20	52	27	25	73



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 13/07/2022

GF 232.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

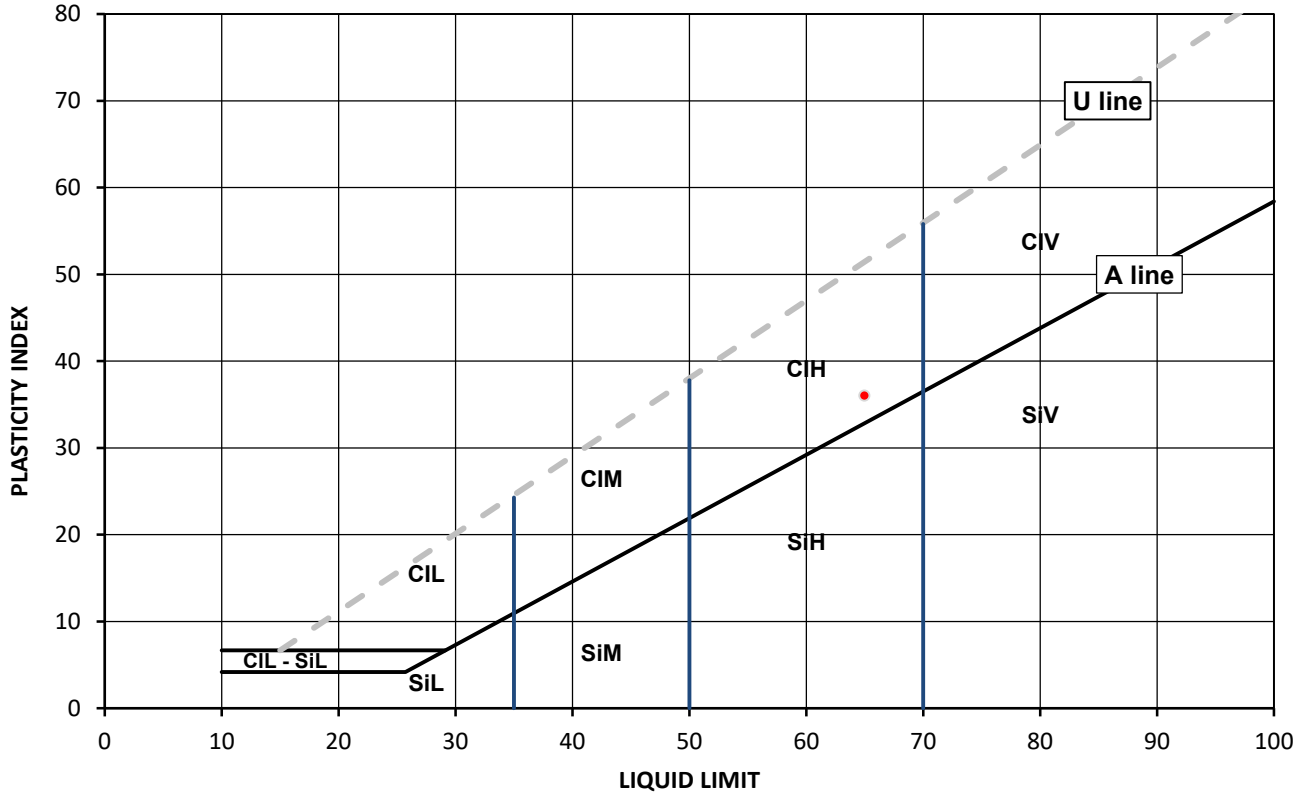
Client:	Milvum Engineering Services Ltd	Client Reference:	192GT
Client Address:	71-75 Shelton Street, London, WC2H 9JQ	Job Number:	22-66623
		Date Sampled:	20/06/2022
		Date Received:	21/06/2022
Contact:	Graham Kite	Date Tested:	06/07/2022
Site Address:	192 Goldhurst Terrace	Sampled By:	Client - Philip Lewis LMB

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2323613	Depth Top [m]:	0.92
Hole No.:	TP3	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown slightly gravelly sandy CLAY		
Sample Preparation:	Tested after >425um removed by hand		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
29	65	29	36	92



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 13/07/2022

GF 232.12

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client:	Milvum Engineering Services Ltd	Client Reference:	192GT
Client Address:	71-75 Shelton Street, London, WC2H 9JQ	Job Number:	22-66623
		Date Sampled:	20/06/2022
		Date Received:	21/06/2022
Contact:	Graham Kite	Date Tested:	06/07/2022
Site Address:	192 Goldhurst Terrace	Sampled By:	Client - Philip Lewis LMB

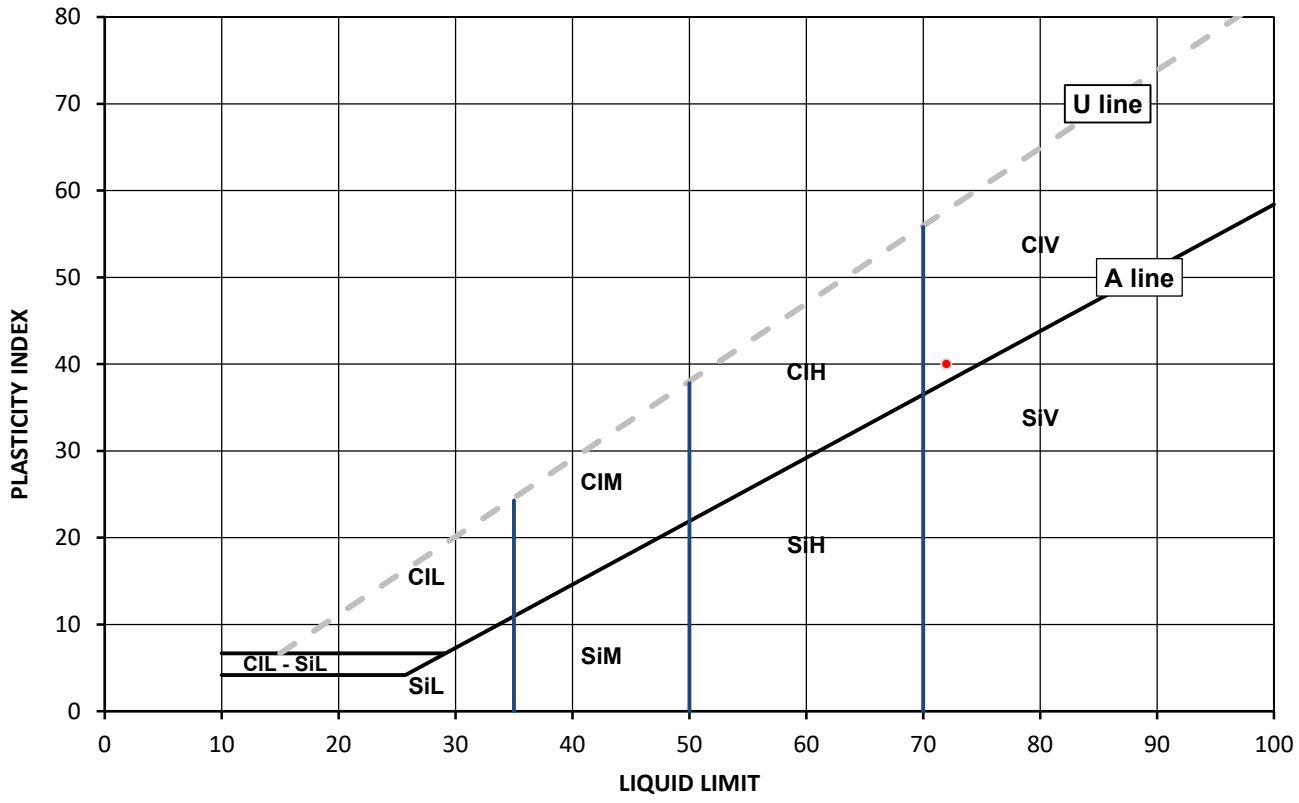
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2323614	Depth Top [m]:	1.12
Hole No.:	TP4	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown slightly gravelly CLAY		

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
21	72	32	40	79



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed: Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 13/07/2022

GF 232.12

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

Water Content by BS 1377-2:1990: Clause 3.2; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: Milvum Engineering Services Ltd

Client Address: 71-75 Shelton Street, London, WC2H 9JQ

Contact: Graham Kite

Site Address: 192 Goldhurst Terrace

Client Reference: 192GT
Job Number: 22-66623
Date Sampled: 20/06/2022
Date Received: 21/06/2022
Date Tested: 06/07/2022
Sampled By: Client - Philip Lewis LMB

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-1 [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
2323612	TP1	Not Given	1.18	Not Given	D	Brown slightly gravelly slightly sandy CLAY	Atterberg 1 Point	20		73	52	27	25						
2323613	TP3	Not Given	0.92	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 1 Point	29		92	65	29	36						
2323614	TP4	Not Given	1.12	Not Given	D	Brown slightly gravelly CLAY	Atterberg 1 Point	21		79	72	32	40						

Note: # Non accredited; NP - Non plastic

Comments:

Signed: Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Date Reported: 13/07/2022

Graham Kite
Milvum Engineering Services Ltd
71-75 Shelton Street
London
WC2H 9JQ

e: gkite@milvumgroup.com

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 : 22-66617

Project / Site name:	192 Goldhurst Terrace	**Samples received on:**	21/06/2022
Your job number:	192GT	**Samples instructed on/ Analysis started on:**	22/06/2022
Your order number:		**Analysis completed by:**	01/07/2022
Report Issue Number:	1	**Report issued on:**	01/07/2022
Samples Analysed:	6 soil samples		

Signed:

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

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

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

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

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

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

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

Analytical Report Number: 22-66617
Project / Site name: 192 Goldhurst Terrace

Lab Sample Number				2323486	2323487	2323488	2323489	2323490
Sample Reference				TP1	TP1	TP2	TP3	TP4
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.18	0.70	0.50	0.40
Date Sampled				20/06/2022	20/06/2022	20/06/2022	20/06/2022	20/06/2022
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	14	12	9.7	18	18
Total mass of sample received	kg	0.001	NONE	0.6	0.4	0.6	0.6	0.6
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8	7.9	7.7	8.1	7.9
Total Sulphate as SO4	%	0.005	MCERTS	0.127	0.04	0.1	0.064	0.049
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.042	0.049	0.039	0.027	0.052
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	42.4	49.1	39	26.6	51.5
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	4.1	3.7	3	1.9	4.8
Total Sulphur	%	0.005	MCERTS	0.079	0.024	0.069	0.037	0.037
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	2.5	3.7	3.6	2.6
Heavy Metals / Metalloids								
Magnesium (water soluble)	mg/kg	5	NONE	6.2	6.1	7.8	< 5.0	5.9
Magnesium (leachate equivalent)	mg/l	2.5	NONE	3.1	3	3.9	< 2.5	2.9

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

Analytical Report Number: 22-66617
Project / Site name: 192 Goldhurst Terrace

Lab Sample Number				2323491
Sample Reference				TP4
Sample Number				None Supplied
Depth (m)				1.12
Date Sampled				20/06/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	20
Total mass of sample received	kg	0.001	NONE	0.4

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.5
Total Sulphate as SO4	%	0.005	MCERTS	0.019
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.026
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	25.7
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	5.2
Total Sulphur	%	0.005	MCERTS	0.013
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	< 0.5
Ammonium as NH4 (10:1 leachate equivalent)	mg/l	0.05	MCERTS	< 0.05
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	< 5.0
Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5

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

Analytical Report Number : 22-66617
Project / Site name: 192 Goldhurst Terrace

* 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 *
2323486	TP1	None Supplied	0.5	Brown loam and clay with gravel and vegetation.
2323487	TP1	None Supplied	1.18	Light brown clay and sand with gravel and vegetation.
2323488	TP2	None Supplied	0.7	Brown loam and clay with gravel and vegetation.
2323489	TP3	None Supplied	0.5	Brown loam and clay with gravel and vegetation.
2323490	TP4	None Supplied	0.4	Brown loam and clay with gravel and vegetation.
2323491	TP4	None Supplied	1.12	Light brown clay and sand with gravel.