APPENDIX III

Gas & Groundwater Monitoring Certificate

Arc Environmental Ground Gas & Groundwater Monitoring Certificate

Site:	Sheriffhall south east, Gilmerton road, Lasswade, EH18 1BD
Ref:	17-115

Visit	Date	Time	Equipment	Weather	Initials	Comments	Borehole	Gas Flow (l/hr)	Atmospheric Pressure (mb)	Trend	Methane (% v/v)		Methane (% LEL)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Hydrocarbons (GFM 435 only)		Other Gases (PPM)			Depth to Water (m bgl)
										R/F/S	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Hex %	PID Cf	PID (Isobutylene)	H_2S	CO	
1	02/06/2017	12.30PM	GFM435	Slight rain	KC		1	<0.1	1003	Steady	0.0	0.0	0.0	0.0	0.3	0.3	20.4	20.4						3.98
							3	<0.1	1003	Steady	0.0	0.0	0.0	0.0	0.2	0.2	20.5	20.5						3.86
							4	<0.1	1003	Steady	0.0	0.0	0.0	0.0	0.5	0.5	20.3	20.3						2.88
2	14/06/2017	1.00pm	GFM435	Overcast , Dry	KC		1	<0.1	1003	Rising	0.0	0.0	0.0	0.0	0.3	0.3	20.3	20.3						2.02
							3	<0.1	1004	Rising	0.0	0.0	0.0	0.0	0.3	0.3	20.1	20.1						3.89
							4	<0.1	1003	Rising	0.0	0.0	0.0	0.0	0.6	0.6	19.6	19.6						2.86
3																								
4																								
5																								
6																								

Notes:

Detection limits - Methane = 0.0%, Carbon Dioxide = 0.0%, LEL = 0.0%, Oxygen = 0.0%, Flow = 0.1l/hr

Monitoring order is from **Left to Right** across table

Monitoring should be for **Not Less** than 3 minutes However, if high concentrations of gasses initially recorded, monitoring should be for up to 10 minutes

N/A = Not applicable

Cf = PID compensation Factor (1-10) - Must be used to multiply the PID reading to give an accuate measure of the total hydrocarbons in the borehole when methane is present

Hex = Hexane (Valid and in range up to 2.000%) - Recorded when abnormally high methane is present.

PID = Photo Ionisation Detector (Calibrated to Isobutylene)

APPENDIX IV

Laboratory Testing Results

LABORATORY REPORT

4043

Contract Number: PSL17/2335

Report Date: 01 June 2017

Client's Reference: 17-115

Client Name: Arc Environmental
Solum House
Unit 1 Elliott Court
St Johns Road, Meadowfield
Durham
DH7 8PN

For the attention of: Matthew Robson

Contract Title: Sherriffhall South East, Gilmerton Road

Date Received: 17/5/2017
Date Commenced: 17/5/2017
Date Completed: 1/6/2017

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

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awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH01		B	0.45	1.00	Brown slightly gravelly very silty SAND.
BH02		B	0.68	1.00	Brown very gravelly slightly silty SAND.
BH03		B	1.00		Brown slightly gravelly silty SAND.
BH04		B	0.58	0.80	Brown slightly gravelly slightly clayey silty SAND.
BH05		B	0.78	1.00	Brown very gravelly slightly silty SAND.
TP06		B	1.60		Brown slightly gravelly silty SAND.
TP07		B	0.60		Brown very gravelly slightly silty SAND.
TP10		B	3.00		Brown very sandy SILT.
TP11		B	1.00	1.20	Brown slightly gravelly very silty SAND.
TP12		B	1.50	1.20	Brown very sandy SILT.
TP15		B	0.60	0.80	Brown slightly gravelly sandy CLAY.
TP15		B	2.00	2.10	Dark brown very gravelly very sandy CLAY.
TP16		B	0.80	1.00	Brown slightly gravelly sandy CLAY.
CP1		B	6.50	7.00	Brown slightly gravelly very silty SAND.
CP2		B	2.00	3.00	Brown slightly gravelly very silty SAND.
CP2		B	11.00	12.00	Brown slightly gravelly very sandy SILT.
CP3		B	3.00	4.00	Brown slightly gravelly very silty SAND.
CP3		B	14.00	15.00	Brown slightly gravelly sandy CLAY.

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: PSL17/2335

Client Ref: 17-115

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
TP15		B	0.60	0.80	20			33	20	13	93	Low plasticity CL.

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

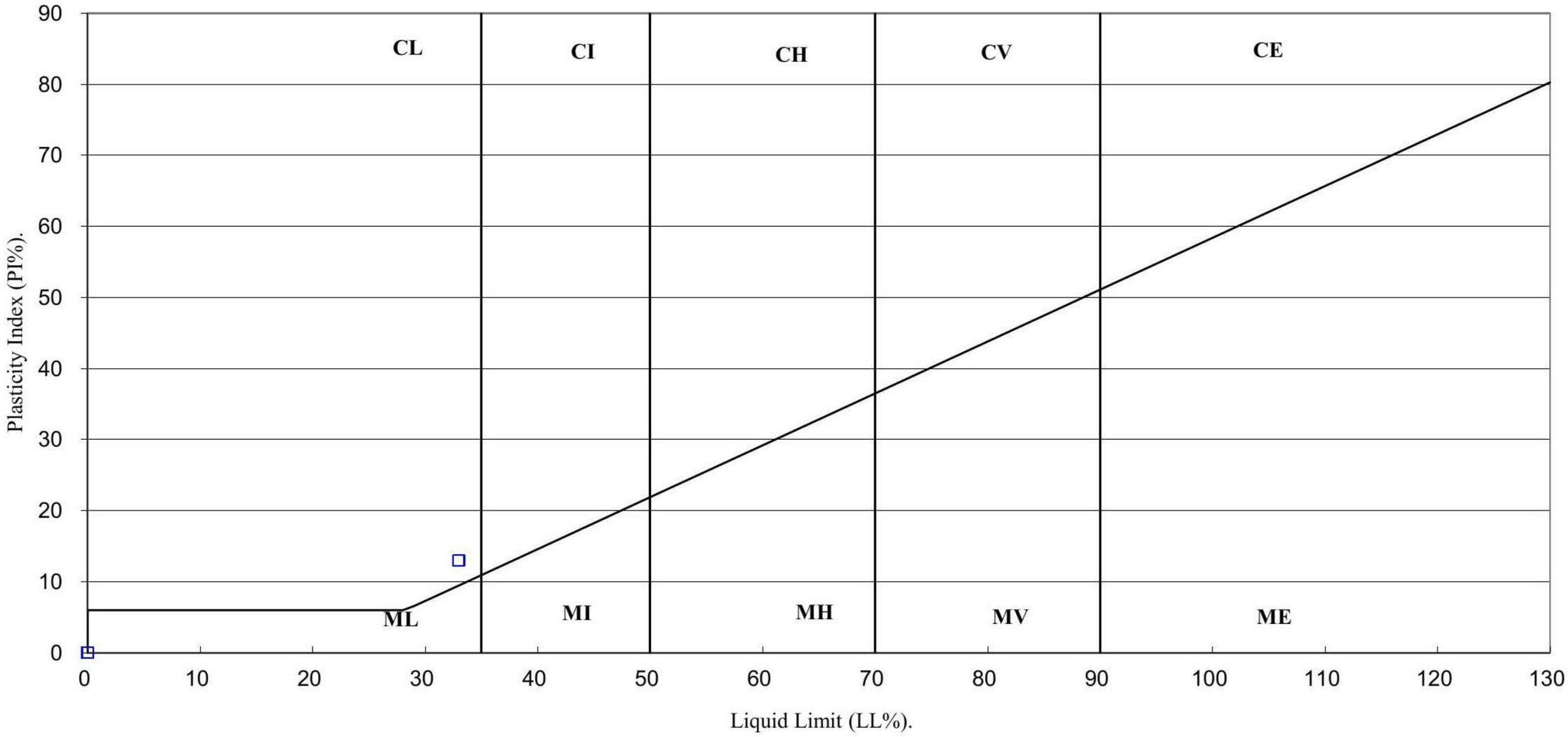
PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No:
PSL17/2335
Client Ref:
17-115

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(BS5930 :2015)



UKAS TESTING 4043	PSL Professional Soils Laboratory	**Sherriffhall South East, Gilmerton Road**	**Contract No:** PSL17/2335 **Client Ref:** 17-115

SUMMARY OF SOIL DENSITY RELATED TESTS

(BS1377 : PART 2 & 4 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content %	Bulk Density Mg/m^3	Dry Density Mg/m^3	Retained 20mm %	Retained 37.5mm %	Method of compaction kg	Maximum Dry Density Mg/m^3	Minimum Dry Density Mg/m^3	Remarks
BH03		B	1.00		6.4	1.98	1.86						
BH04		B	0.58	0.80	14	1.95	1.71						
CP2		B	2.00	3.00	17	2.05	1.75						
CP3		B	3.00	4.00	18	2.10	1.78						

PARTICLE SIZE DISTRIBUTION TEST

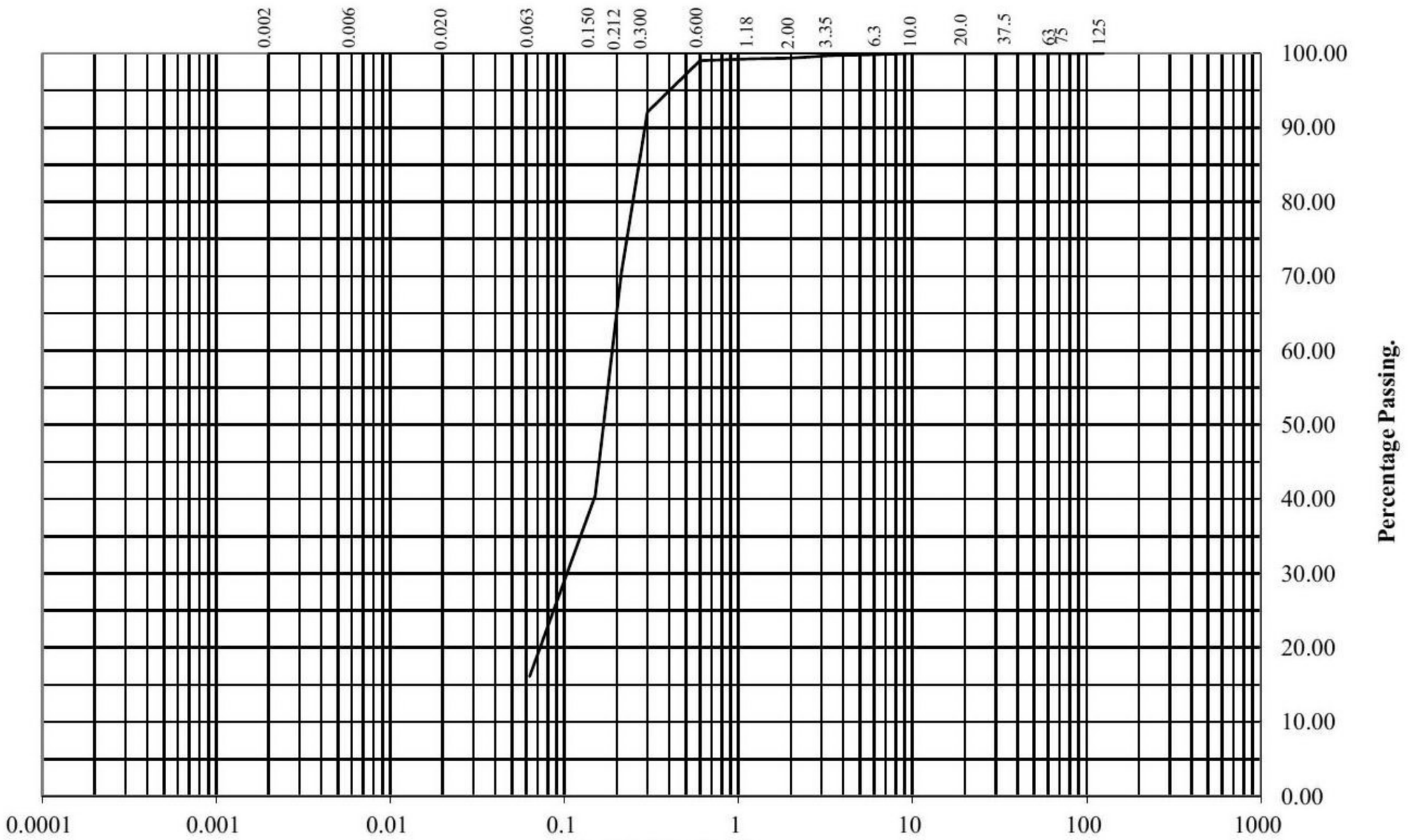
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **BH01** **Top Depth (m):** **0.45**

Sample Number: **Base Depth(m):** **1.00**

Sample Type: **B**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	99
1.18	99
0.6	99
0.3	92
0.212	70
0.15	40
0.063	16

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	83
Silt/Clay	16

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: **PSL17/2335**

Client Ref: **17-115**

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

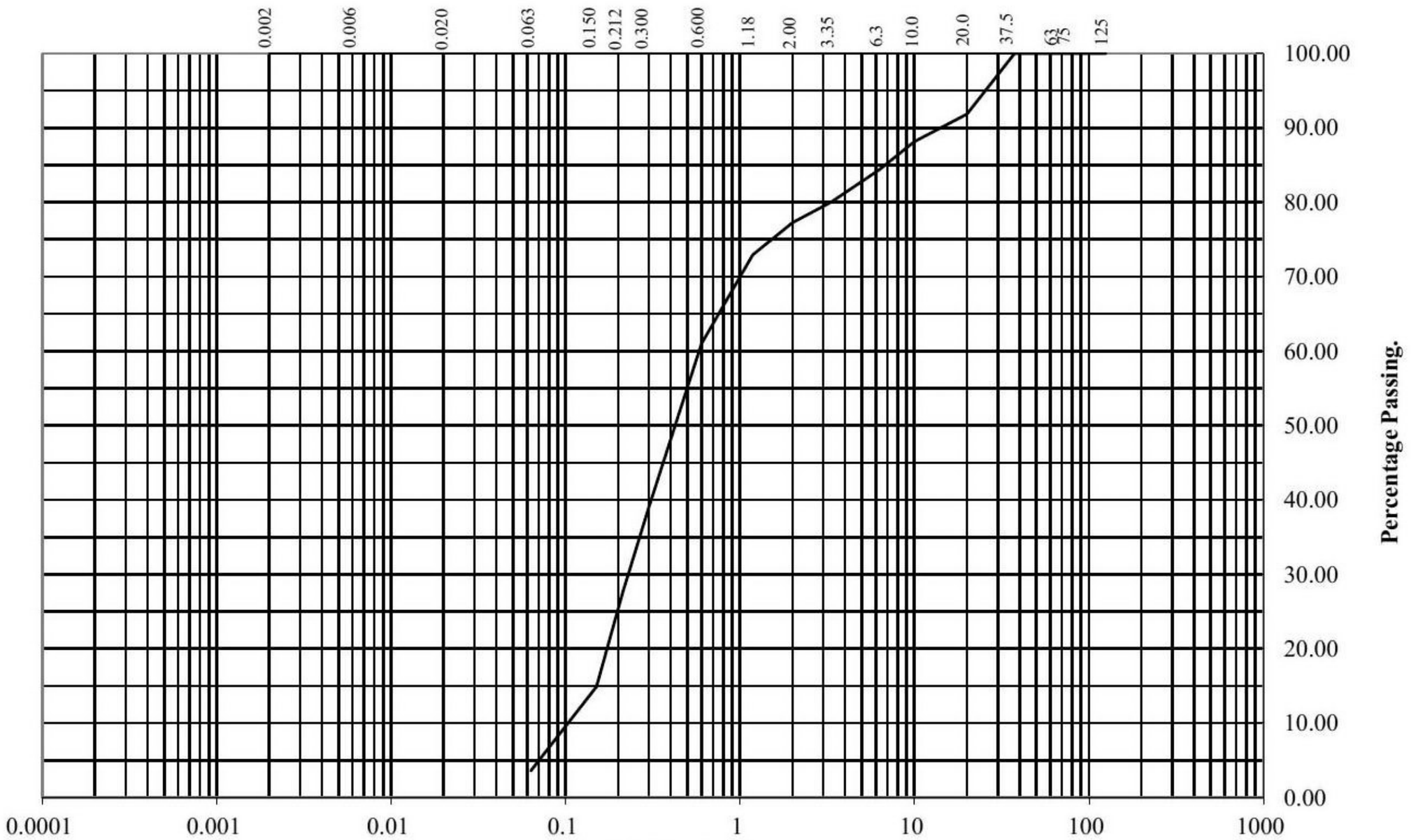
Hole Number: **BH02**

Top Depth (m): **0.68**

Sample Number:

Base Depth(m): **1.00**

Sample Type: **B**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	92
10	88
6.3	84
3.35	80
2	77
1.18	73
0.6	61
0.3	39
0.212	28
0.15	15
0.063	4

Soil Fraction	Total Percentage
Cobbles	0
Gravel	23
Sand	73
Silt/Clay	4

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: **PSL17/2335**

Client Ref: **17-115**

PARTICLE SIZE DISTRIBUTION TEST

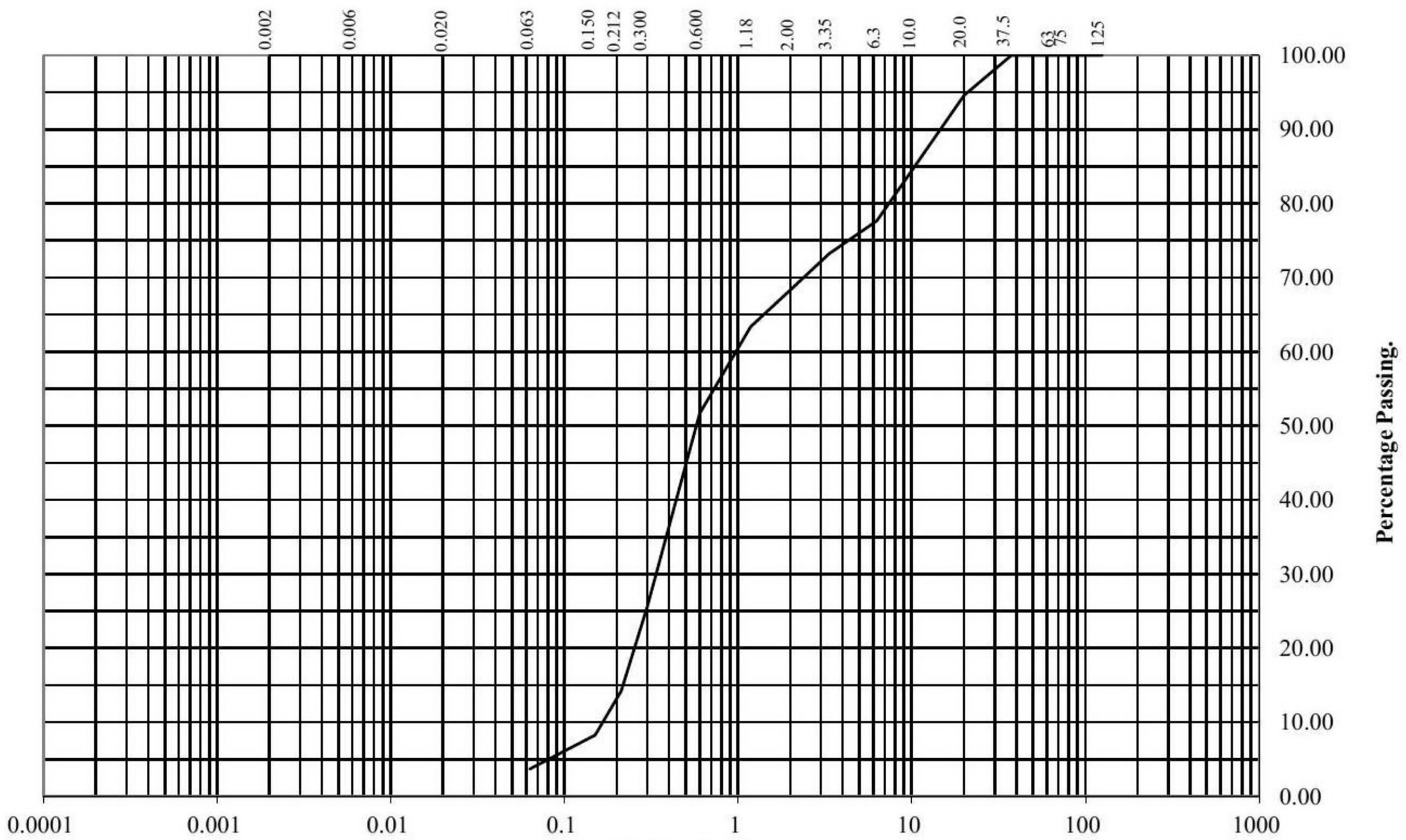
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH05 **Top Depth (m):** 0.78

Sample Number: **Base Depth(m):** 1.00

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	95
10	84
6.3	78
3.35	73
2	68
1.18	63
0.6	52
0.3	26
0.212	14
0.15	8
0.063	4

Soil Fraction	Total Percentage
Cobbles	0
Gravel	32
Sand	64
Silt/Clay	4

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: PSL17/2335

Client Ref: 17-115

PARTICLE SIZE DISTRIBUTION TEST

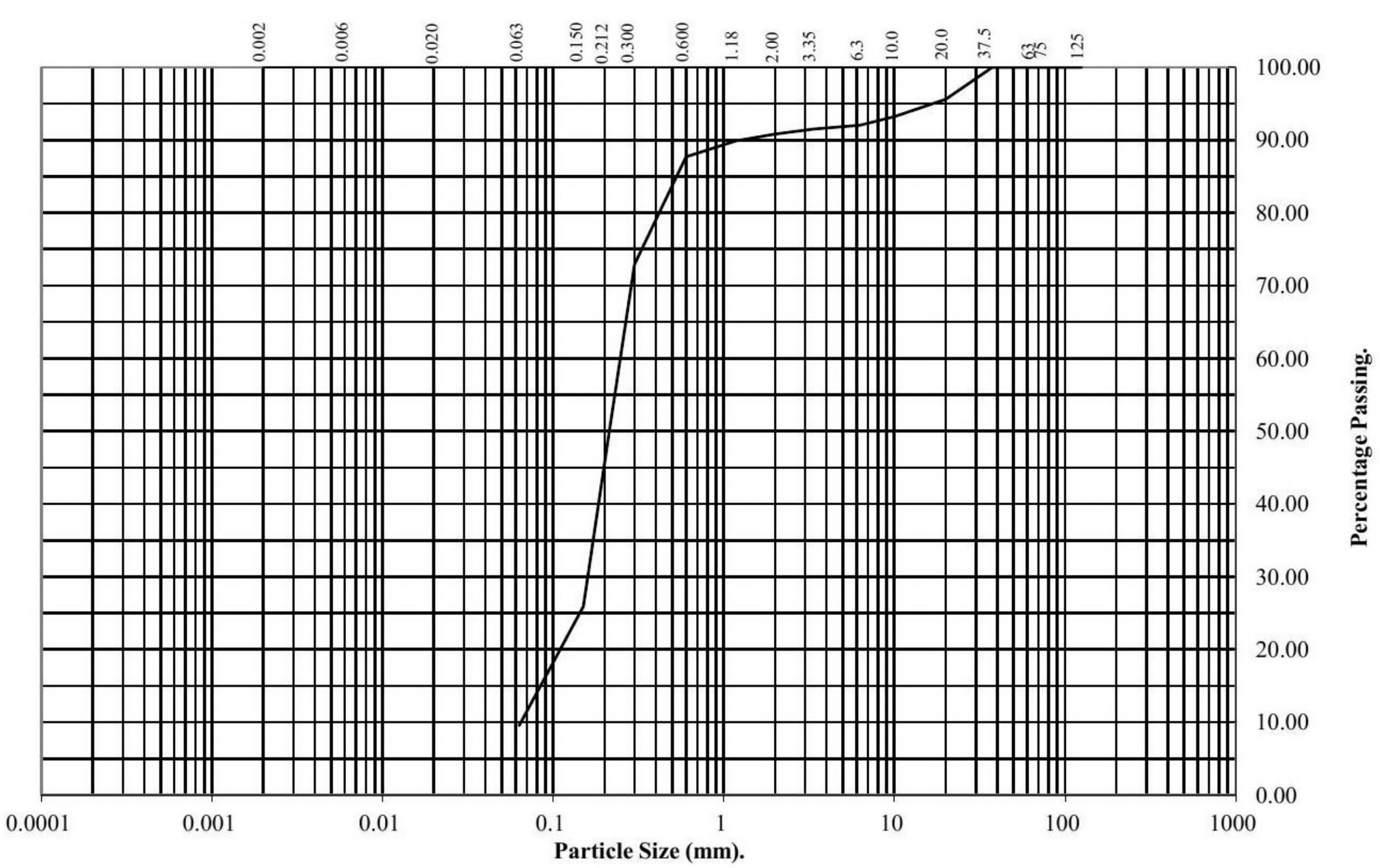
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP06** **Top Depth (m):** **1.60**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	96
10	93
6.3	92
3.35	92
2	91
1.18	90
0.6	88
0.3	73
0.212	50
0.15	26
0.063	10

Soil Fraction	Total Percentage
Cobbles	0
Gravel	9
Sand	81
Silt/Clay	10

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: PSL17/2335

Client Ref: 17-115

PARTICLE SIZE DISTRIBUTION TEST

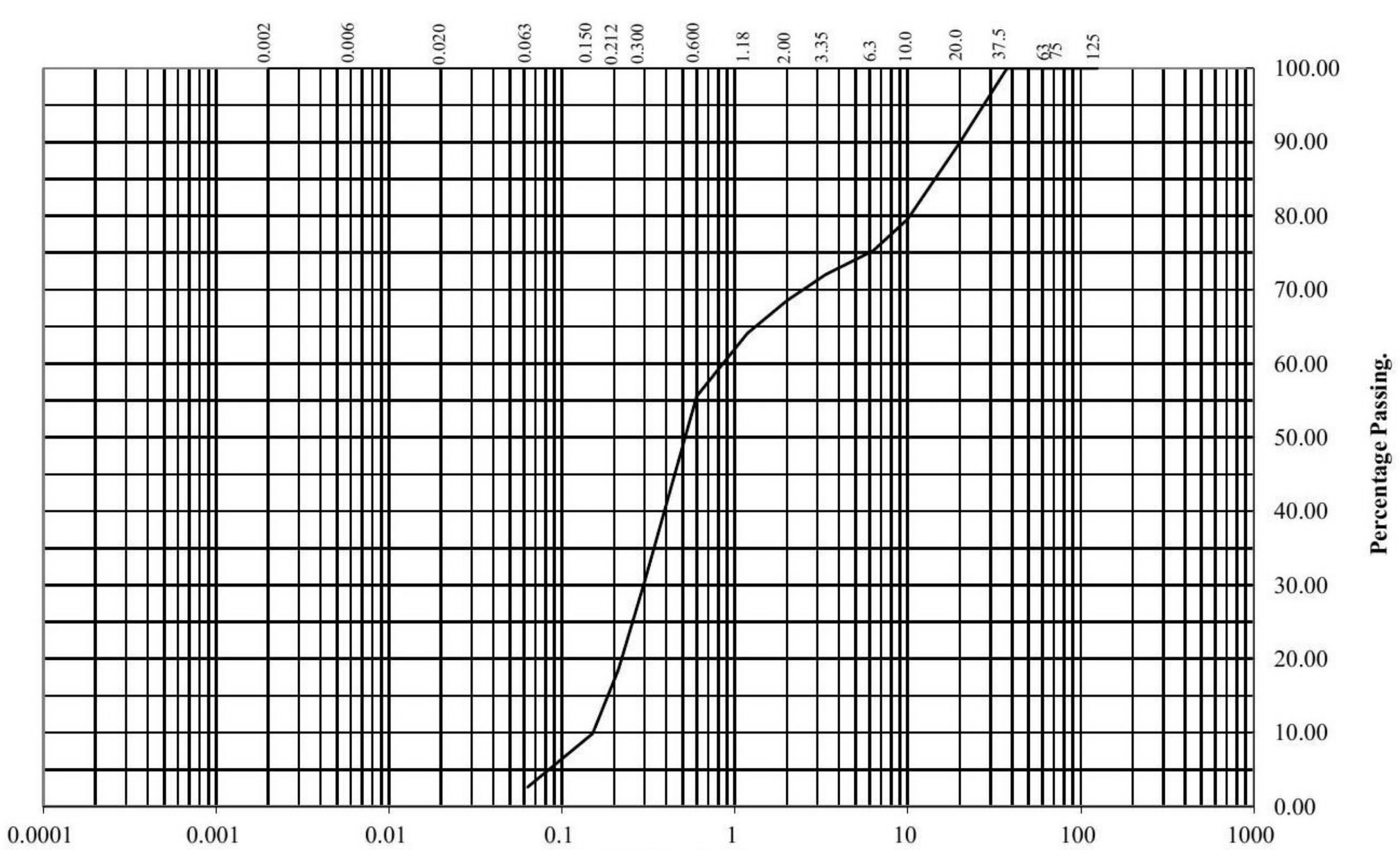
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP07 **Top Depth (m):** 0.60

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	90
10	80
6.3	75
3.35	72
2	69
1.18	64
0.6	56
0.3	30
0.212	19
0.15	10
0.063	3

Soil Fraction	Total Percentage
Cobbles	0
Gravel	31
Sand	66
Silt/Clay	3

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: PSL17/2335

Client Ref: 17-115

PARTICLE SIZE DISTRIBUTION TEST

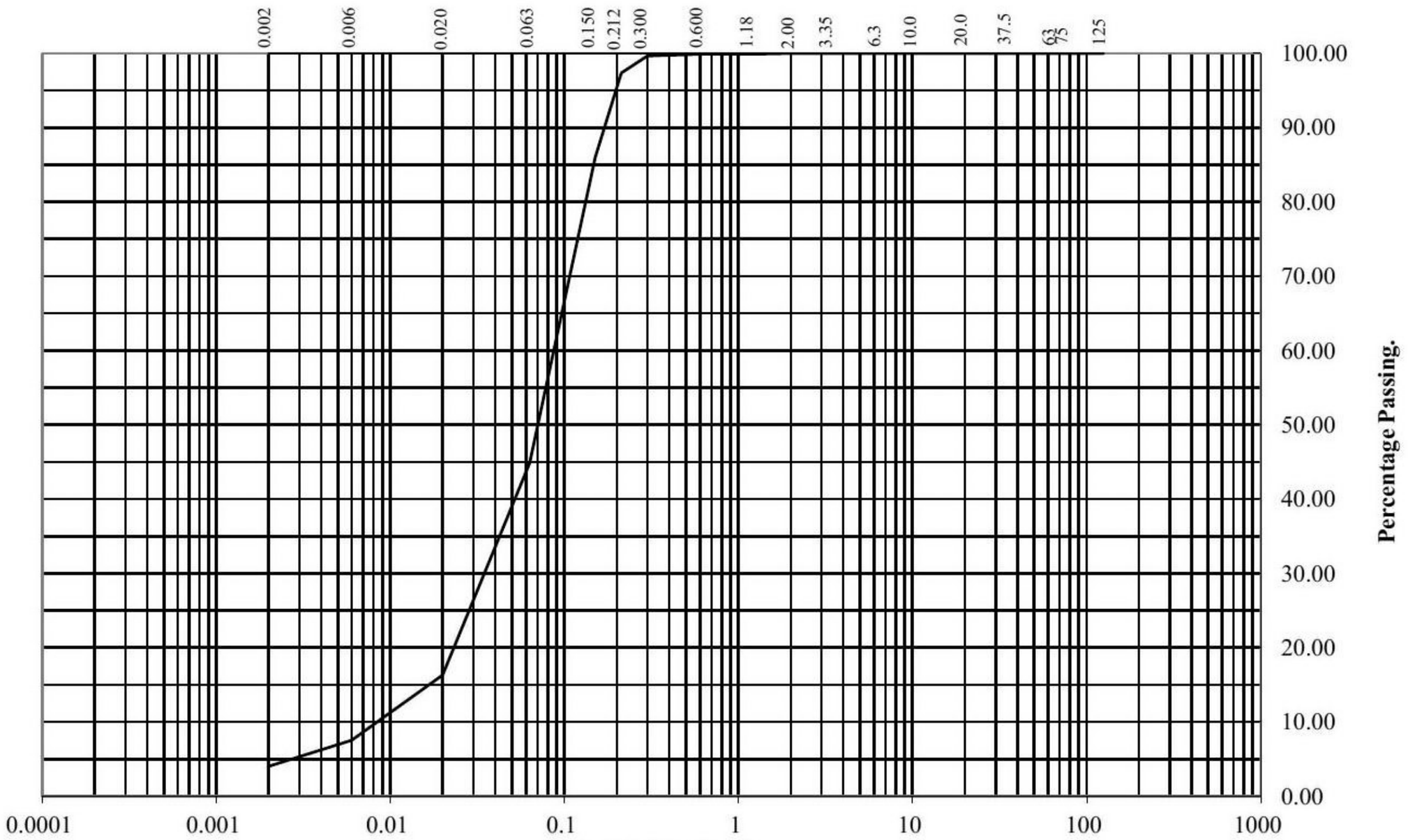
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP10 **Top Depth (m):** 3.00

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	100
1.18	100
0.6	100
0.3	100
0.212	97
0.15	86
0.063	45

Particle Diameter	Percentage Passing
0.02	16
0.006	8
0.002	4

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	55
Silt	41
Clay	4

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: PSL17/2335

Client Ref: 17-115

PARTICLE SIZE DISTRIBUTION TEST

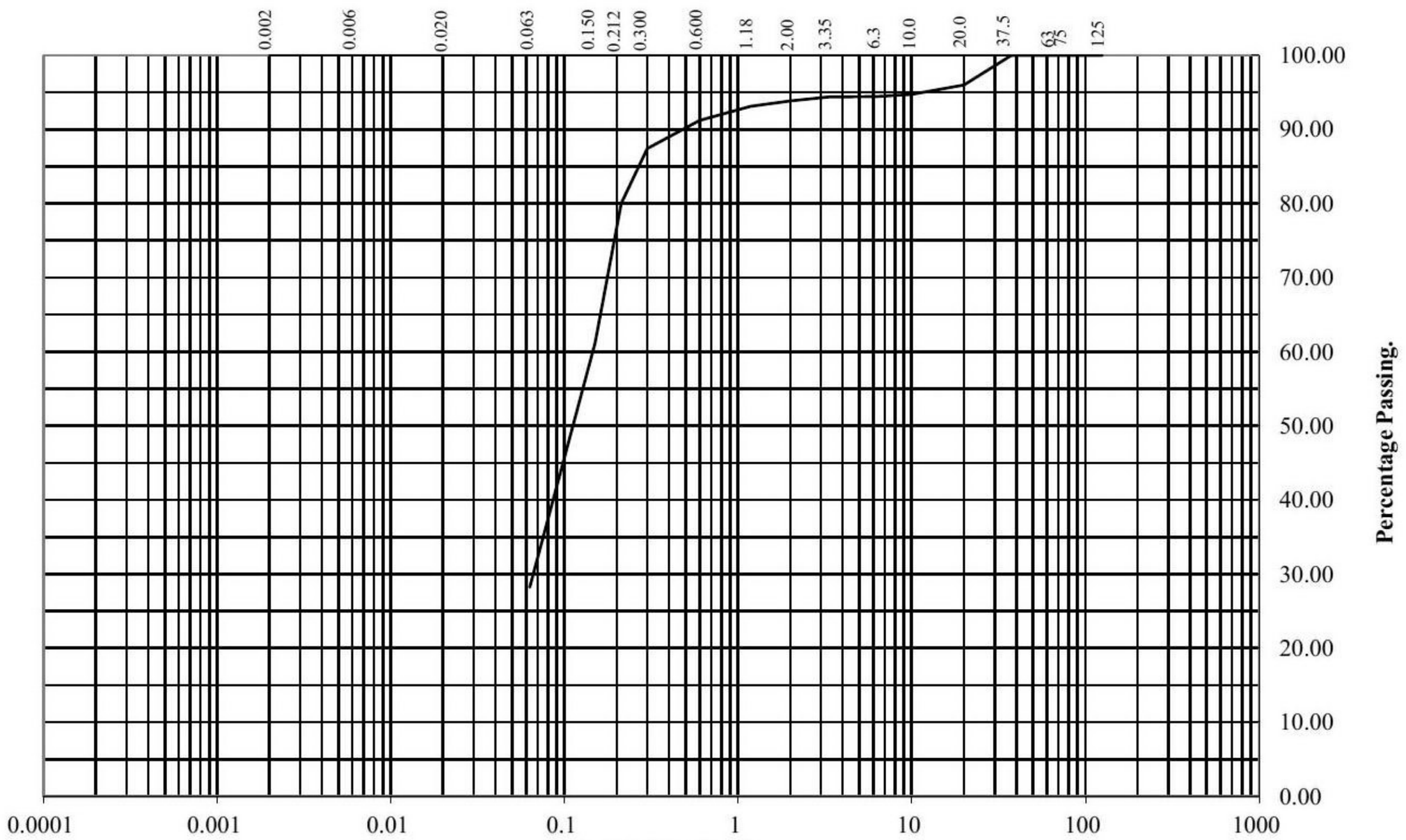
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP11 **Top Depth (m):** 1.00

Sample Number: **Base Depth(m):** 1.20

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	96
10	95
6.3	94
3.35	94
2	94
1.18	93
0.6	91
0.3	87
0.212	80
0.15	61
0.063	28

Soil Fraction	Total Percentage
Cobbles	0
Gravel	6
Sand	66
Silt/Clay	28

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: PSL17/2335

Client Ref: 17-115

PARTICLE SIZE DISTRIBUTION TEST

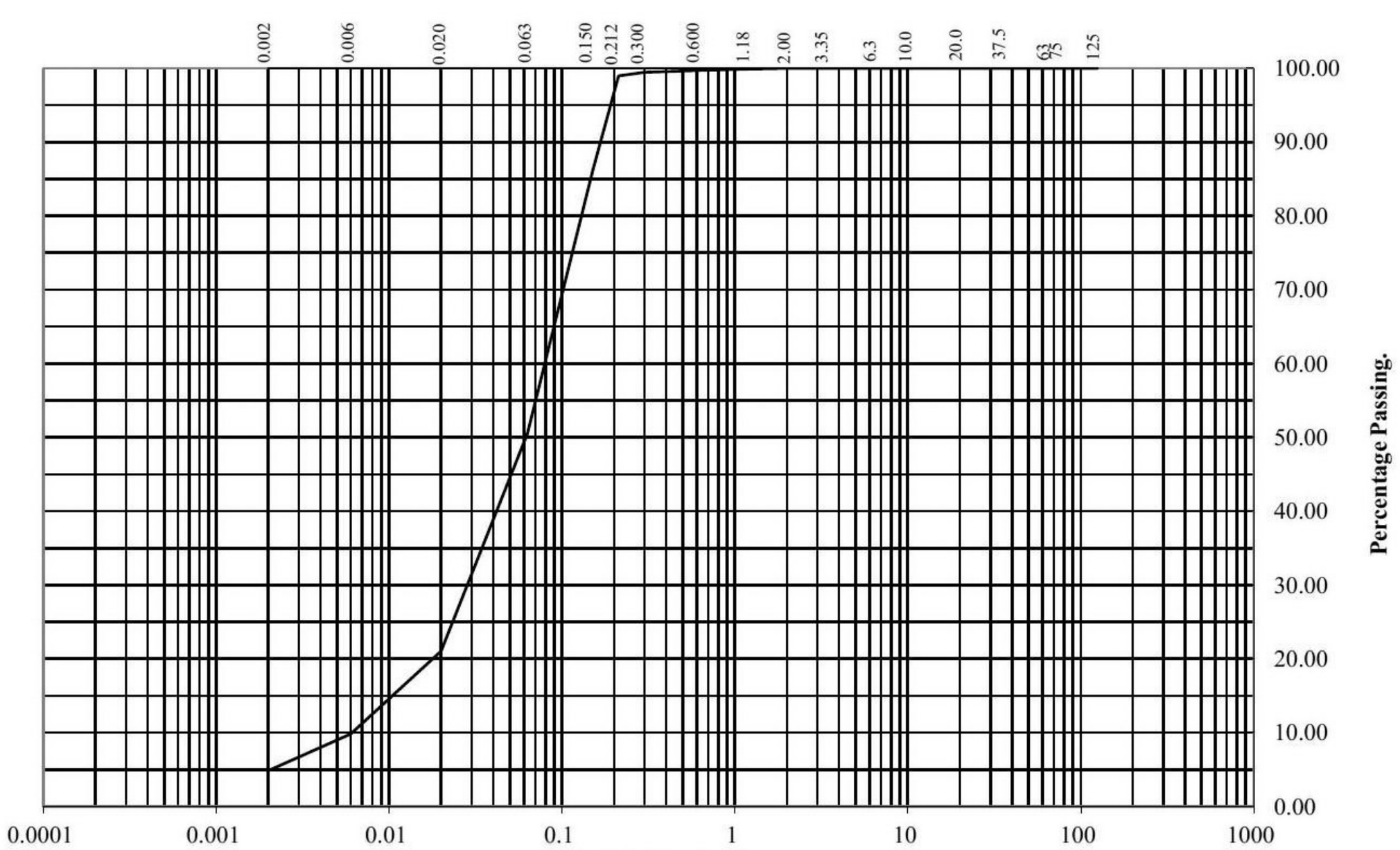
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP12 **Top Depth (m):** 1.50

Sample Number: **Base Depth(m):** 2.00

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	100
1.18	100
0.6	100
0.3	99
0.212	99
0.15	86
0.063	51

Particle Diameter	Percentage Passing
0.02	21
0.006	10
0.002	5

Soil Fraction	Total Percentage
Cobbles	0
Gravel	0
Sand	49
Silt	46
Clay	5

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: PSL17/2335

Client Ref: 17-115

PARTICLE SIZE DISTRIBUTION TEST

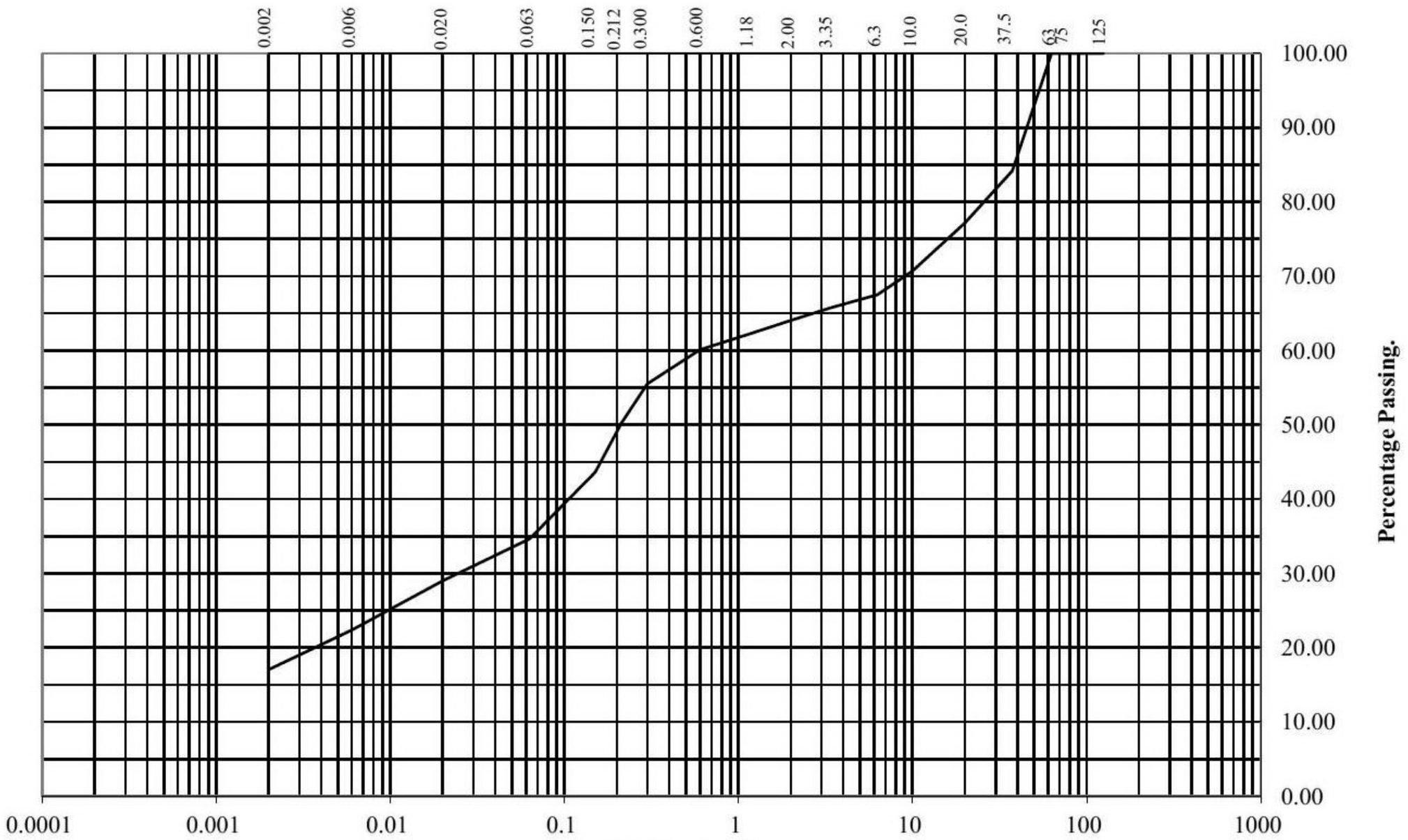
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP15 **Top Depth (m):** 2.00

Sample Number: **Base Depth(m):** 2.10

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	84
20	77
10	71
6.3	68
3.35	66
2	64
1.18	62
0.6	60
0.3	56
0.212	50
0.15	44
0.063	35

Particle Diameter	Percentage Passing
0.02	29
0.006	22
0.002	17

Soil Fraction	Total Percentage
Cobbles	0
Gravel	36
Sand	29
Silt	18
Clay	17

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No:
PSL17/2335
Client Ref:
17-115

PARTICLE SIZE DISTRIBUTION TEST

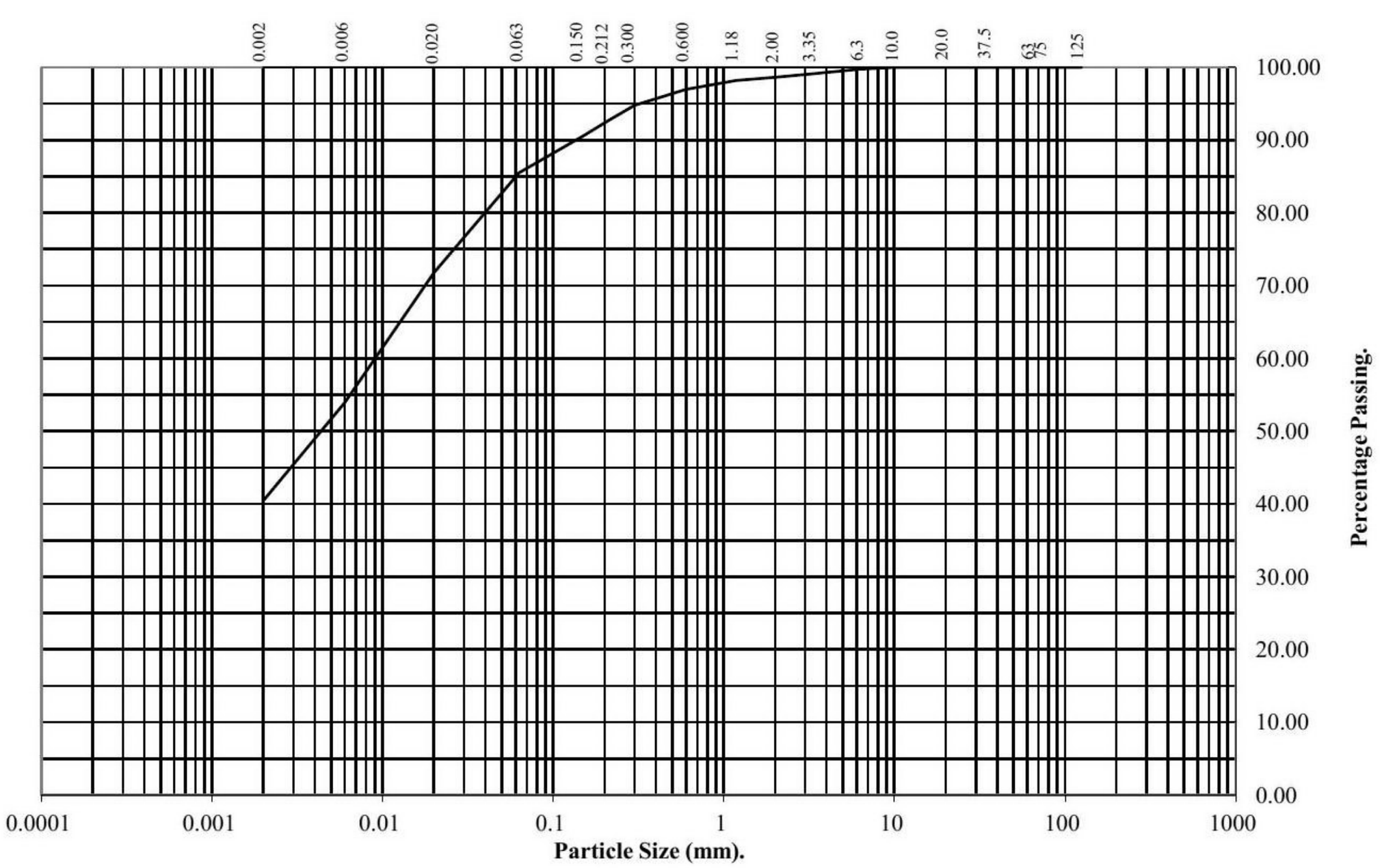
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: TP16 **Top Depth (m):** 0.80

Sample Number: **Base Depth(m):** 1.00

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	99
2	99
1.18	98
0.6	97
0.3	95
0.212	93
0.15	91
0.063	86

Particle Diameter	Percentage Passing
0.02	72
0.006	54
0.002	40

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	13
Silt	46
Clay	40

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No:
PSL17/2335
Client Ref:
17-115

PARTICLE SIZE DISTRIBUTION TEST

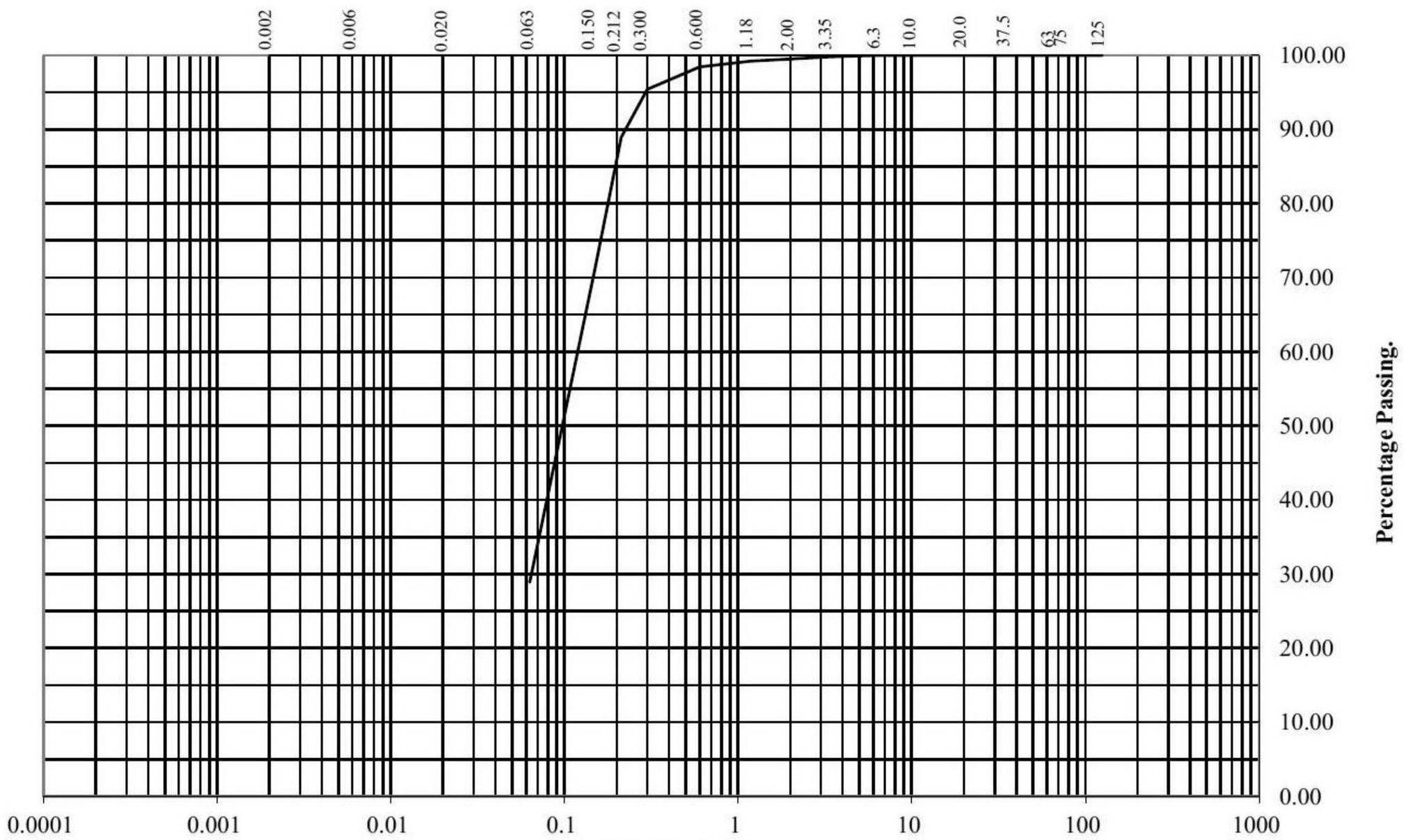
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: CP1 **Top Depth (m):** 6.50

Sample Number: **Base Depth(m):** 7.00

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	99
1.18	99
0.6	98
0.3	95
0.212	89
0.15	71
0.063	29

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	70
Silt/Clay	29

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No: PSL17/2335

Client Ref: 17-115

PARTICLE SIZE DISTRIBUTION TEST

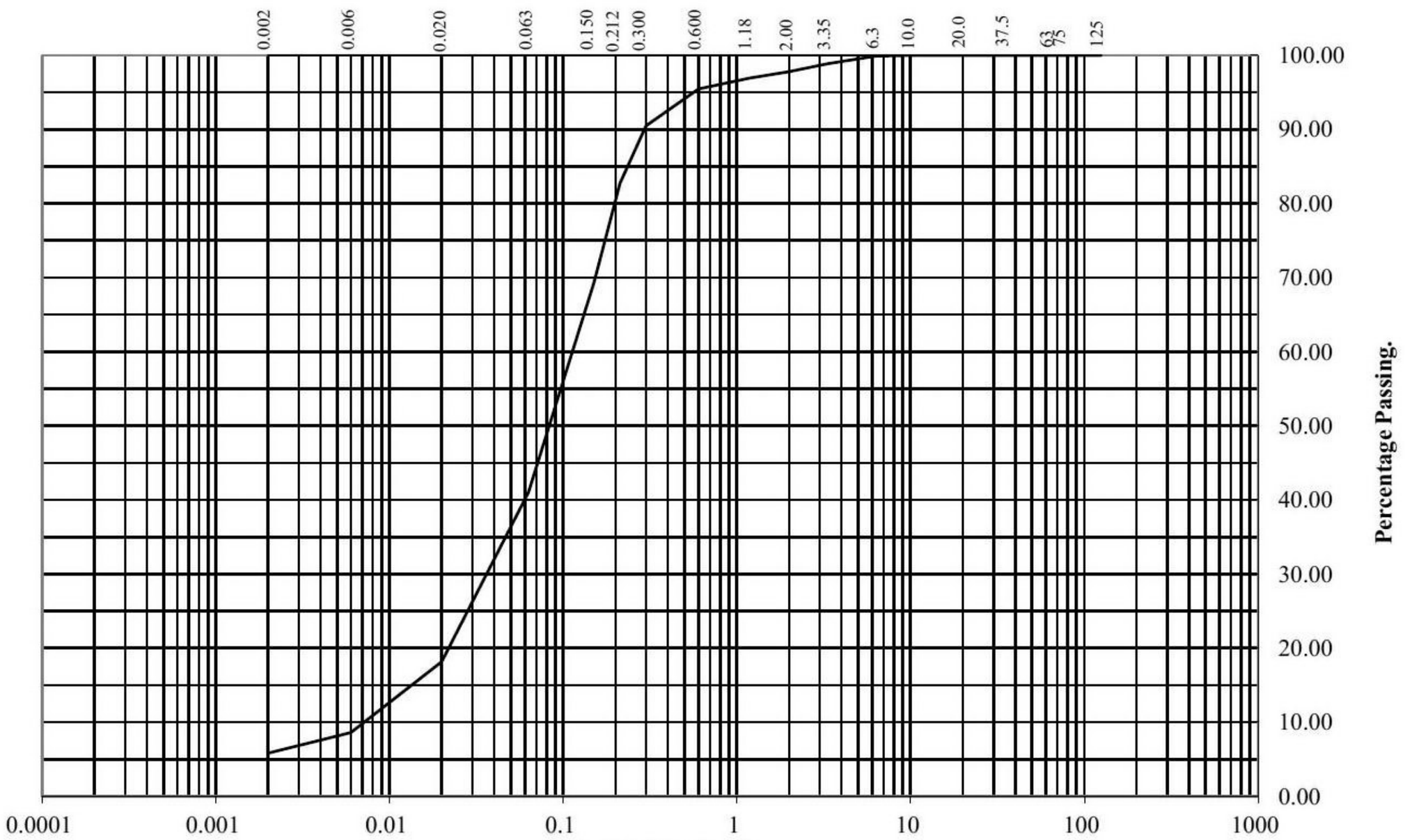
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: CP2 **Top Depth (m):** 11.00

Sample Number: **Base Depth(m):** 12.00

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	99
2	98
1.18	97
0.6	95
0.3	90
0.212	83
0.15	69
0.063	41

Particle Diameter	Percentage Passing
0.02	18
0.006	9
0.002	6

Soil Fraction	Total Percentage
Cobbles	0
Gravel	2
Sand	57
Silt	35
Clay	6

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No:
PSL17/2335
Client Ref:
17-115

PARTICLE SIZE DISTRIBUTION TEST

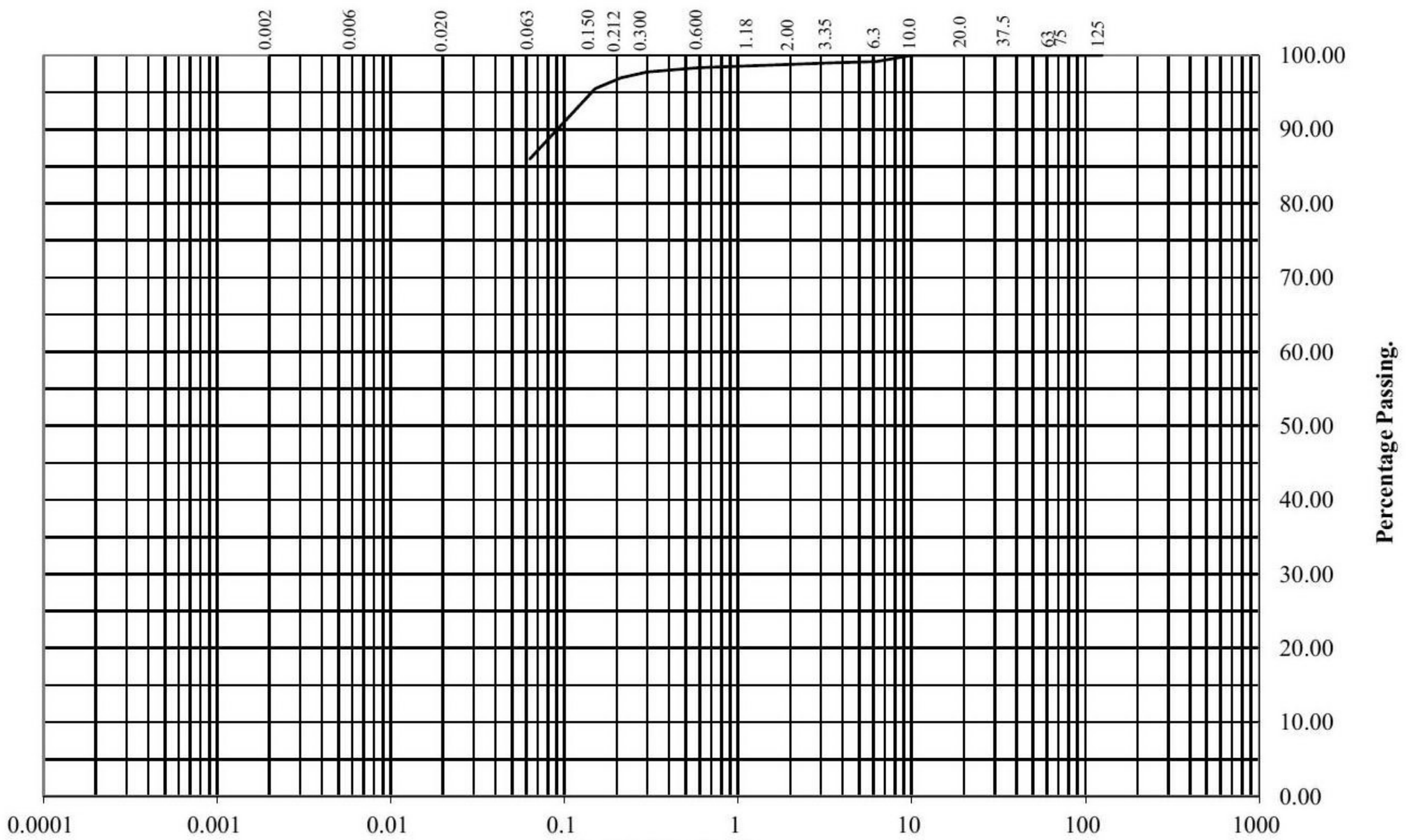
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: CP3 **Top Depth (m):** 14.00

Sample Number: **Base Depth(m):** 15.00

Sample Type: B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	99
3.35	99
2	99
1.18	99
0.6	98
0.3	98
0.212	97
0.15	96
0.063	86

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	13
Silt/Clay	86

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract No:
PSL17/2335
Client Ref:
17-115

LABORATORY REPORT

4043

Contract Number: PSL17/2686

Report Date: 21 June 2017

Client's Reference: 17-115

Client Name: Arc Environmental
Solum House
Unit 1 Elliott Court
St Johns Road, Meadowfield
Durham
DH7 8PN

For the attention of: Matthew Robson

Contract Title: Sherriffhall South East, Gilmerton Road

Date Received: 7/6/2017
Date Commenced: 7/6/2017
Date Completed: 21/6/2017

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

R Gunson (Director)	A Watkins (Director)	R Berriman (Quality Manager)
[redacted]		
L Knight (Senior Technician)	S Eyre (Senior Technician)	A Fry (Senior Technician)

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SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP01/02/03		AMAL			Brown slightly gravelly SAND.
TP04/05/08		AMAL			Brown slightly gravelly slightly clayey SAND.

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherrifhall South East, Gilmerton

Contract No:
PSL17/2686
Client Ref:
17-115

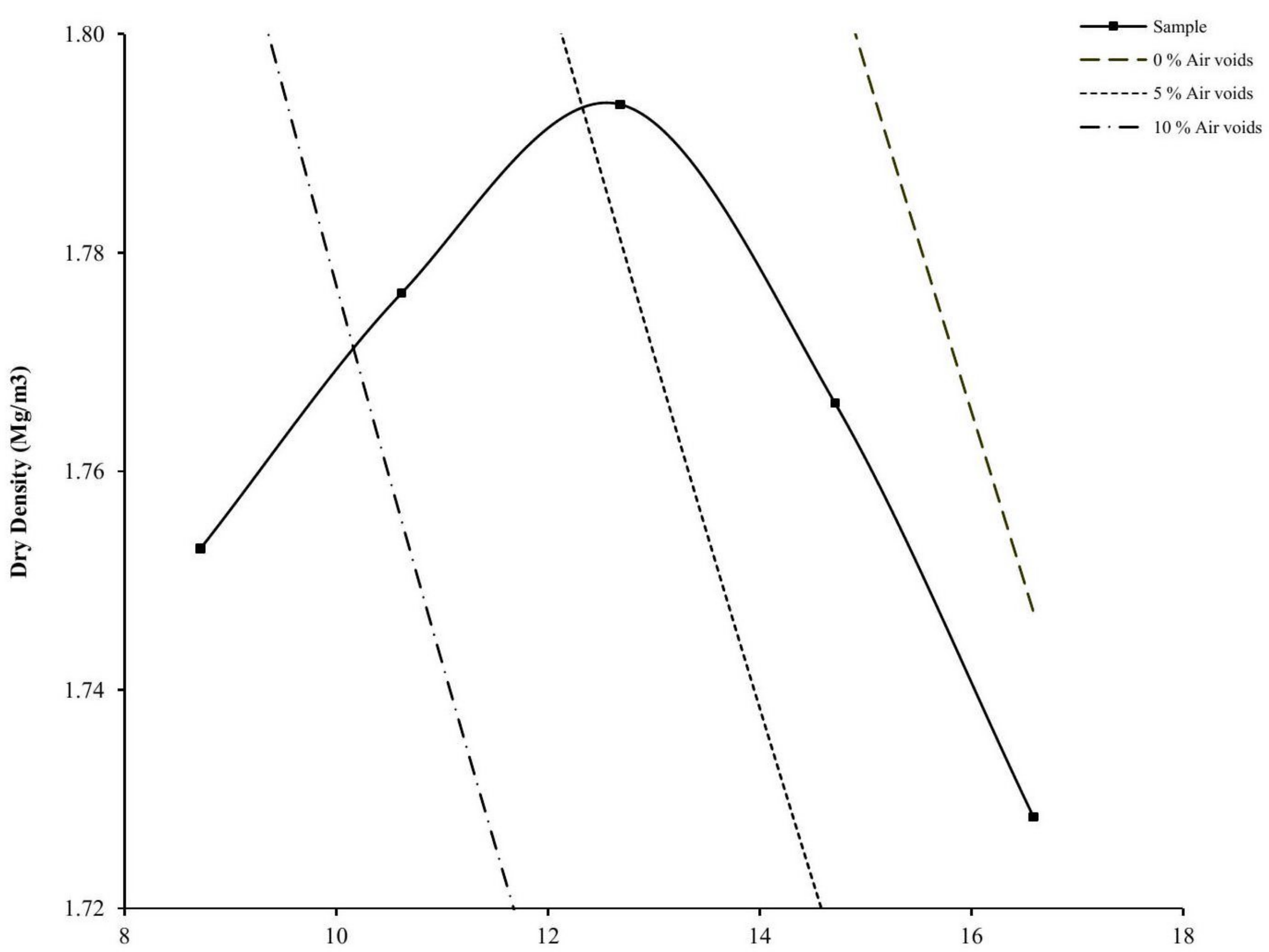
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : 1990

Hole Number: TP01/02/03 **Top Depth (m) :**

Sample Number: **Base Depth (m) :**

Sample Type: AMAL



Initial Moisture Content:		8.7	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.46	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.78	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		13			
Remarks See summary of soil descriptions					

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract
PSL17/2686
Client Ref
17-115

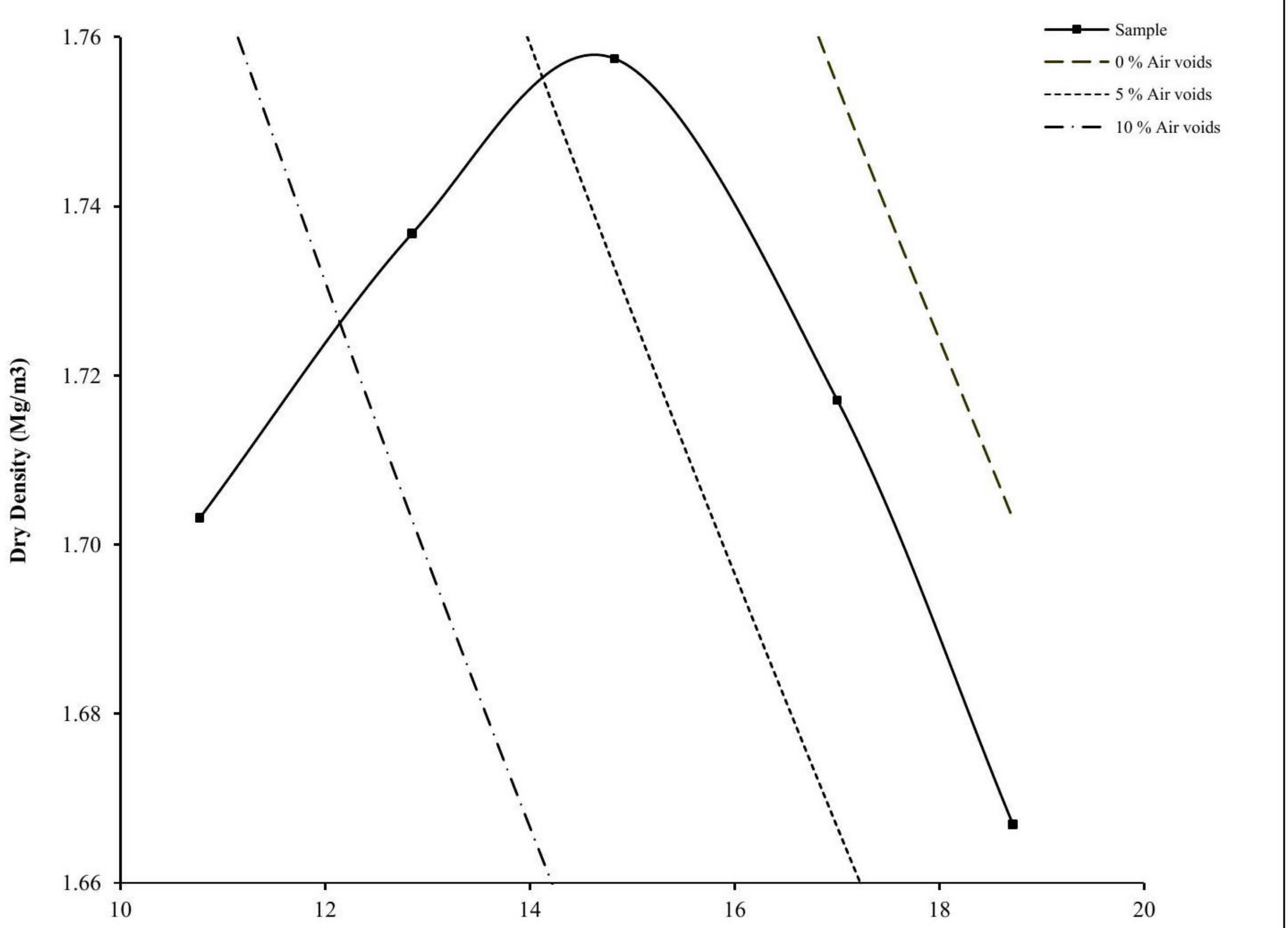
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : 1990

Hole Number: TP04/05/08 **Top Depth (m) :**

Sample Number: **Base Depth (m) :**

Sample Type: AMAL



Initial Moisture Content:		11	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.50	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.76	Material Retained on 20.0 mm Test Sieve (%):		2
Optimum Moisture Content (%):		15			
Remarks See summary of soil descriptions					

UKAS TESTING 4043

PSL Professional Soils Laboratory

Sherriffhall South East, Gilmerton Road

Contract
PSL17/2686
Client Ref
17-115

UKAS TESTING
2531

mCERTS
THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

CHEMTECH environmental

ANALYTICAL TEST REPORT

Contract no: 64936

Contract name: Sherriffhall South East, Gilmerton Road

Client reference: 17-115

Clients name: ARC Environmental

Clients address: Solum House, Unit 1 Elliott Court
St Johns Road
Meadowfield
DH7 8PN

Samples received: 16 May 2017

Analysis started: 16 May 2017

Analysis completed 23 May 2017

Report issued: 23 May 2017

Notes:
Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key:
U UKAS accredited test
M MCERTS & UKAS accredited test
$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing
NAD No Asbestos Detected

Approved by: [redacted]

Dave Bowerbank
Customer Services Co-ordinator

Chemtech Environmental Limited

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.
Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
64936-1	BH01	1.20-1.80	Sand with Gravel	-	-	6.0
64936-2	BH02	0.00-0.50	Sand with Gravel	-	-	8.2
64936-3	BH03	0.00-0.30	Loamy Sand with Gravel	-	-	10.3
64936-4	BH04	0.00-0.58	Sand with Gravel	-	-	4.6
64936-5	BH04	0.80-1.00	Sand with Gravel	-	-	8.3
64936-6	BH05	5.00	Sand	-	-	19.1
64936-7	CP1	11.00-12.00	Sandy Clay	-	-	20.8
64936-9	TP01	0.10	Sand with Gravel	-	-	10.1
64936-10	TP01	0.30	Sand with Gravel	-	-	6.3
64936-11	TP03	0.70	Sand with Gravel	-	-	6.2
64936-12	TP04	1.20	Sand with Gravel	-	-	7.1
64936-13	TP05	0.20	Sand with Gravel	-	-	12.6
64936-14	TP12	1.50	Silty Sandy Clay	-	-	24.3
64936-15	TP13	1.80-2.00	Silty Clay	-	-	23.8
64936-16	TP14	1.20-1.40	Clay	-	-	22.4

Chemtech Environmental Limited

SOILS

Lab number			64936-1	64936-2	64936-3	64936-4	64936-5	64936-6
Sample id			BH01	BH02	BH03	BH04	BH04	BH05
Depth (m)			1.20-1.80	0.00-0.50	0.00-0.30	0.00-0.58	0.80-1.00	5.00
Date sampled			12/05/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017
Test	**Method**	**Units**						
Arsenic (total)	CE127 M	mg/kg As	-	6.8	6.8	7.3	-	-
Cadmium (total)	CE127 M	mg/kg Cd	-	0.3	0.3	0.4	-	-
Chromium (total)	CE127 M	mg/kg Cr	-	97	98	94	-	-
Chromium (III)	-	mg/kg CrIII	-	97	98	94	-	-
Chromium (VI)	CE146	mg/kg CrVI	-	<1	<1	<1	-	-
Copper (total)	CE127 M	mg/kg Cu	-	21	23	32	-	-
Lead (total)	CE127 M	mg/kg Pb	-	50	61	75	-	-
Mercury (total)	CE127 M	mg/kg Hg	-	<0.5	<0.5	<0.5	-	-
Nickel (total)	CE127 M	mg/kg Ni	-	23	23	28	-	-
Selenium (total)	CE127 M	mg/kg Se	-	0.7	0.8	0.9	-	-
Zinc (total)	CE127 M	mg/kg Zn	-	111	119	139	-	-
pH	CE004 M	units	7.9	7.8	7.6	7.7	7.3	8.1
Sulphate (2:1 water soluble)	CE061 M	mg/l SO_4	11	<10	11	10	<10	17
Cyanide (free)	CE077	mg/kg CN	-	<1	<1	<1	-	-
Total Organic Carbon (TOC)	CE072 M	% w/w C	-	2.11	2.77	4.20	-	-
PAH								
Acenaphthene	CE087 M	mg/kg	-	<0.01	<0.01	<0.01	-	-
Acenaphthylene	CE087 M	mg/kg	-	<0.01	<0.01	0.02	-	-
Anthracene	CE087 U	mg/kg	-	<0.02	<0.02	0.03	-	-
Benzo(a)anthracene	CE087 U	mg/kg	-	0.09	0.10	0.14	-	-
Benzo(a)pyrene	CE087 U	mg/kg	-	0.12	0.13	0.18	-	-
Benzo(b)fluoranthene	CE087 M	mg/kg	-	0.16	0.16	0.23	-	-
Benzo(ghi)perylene	CE087 M	mg/kg	-	0.09	0.10	0.14	-	-
Benzo(k)fluoranthene	CE087 M	mg/kg	-	0.05	0.07	0.09	-	-
Chrysene	CE087 M	mg/kg	-	0.11	0.11	0.17	-	-
Dibenz(ah)anthracene	CE087 M	mg/kg	-	<0.02	<0.02	0.03	-	-
Fluoranthene	CE087 M	mg/kg	-	0.20	0.24	0.35	-	-
Fluorene	CE087 U	mg/kg	-	<0.01	<0.01	<0.01	-	-
Indeno(123cd)pyrene	CE087 M	mg/kg	-	0.08	0.09	0.13	-	-
Naphthalene	CE087 M	mg/kg	-	<0.01	<0.01	<0.01	-	-
Phenanthrene	CE087 M	mg/kg	-	0.08	0.09	0.13	-	-
Pyrene	CE087 M	mg/kg	-	0.18	0.21	0.30	-	-
PAH (total of USEPA 16)	CE087	mg/kg	-	1.16	1.28	1.93	-	-
Benzo(j)fluoranthene	CE087	mg/kg	-	<0.02	0.02	0.03	-	-
PAH (total of OIL 8)	CE087	mg/kg	-	0.61	0.68	1.00	-	-
TPH								
VPH (>C5-C7)	CE067	mg/kg	-	<0.1	<0.1	<0.1	-	-
VPH (>C7-C8)	CE067	mg/kg	-	<0.1	<0.1	<0.1	-	-
VPH (>C8-C10)	CE067	mg/kg	-	<0.1	<0.1	<0.1	-	-
EPH (>C10-C12)	CE033 M	mg/kg	-	<4	<4	<4	-	-
EPH (>C12-C16)	CE033 M	mg/kg	-	<4	<4	<4	-	-

Chemtech Environmental Limited

SOILS

Lab number			64936-1	64936-2	64936-3	64936-4	64936-5	64936-6
Sample id			BH01	BH02	BH03	BH04	BH04	BH05
Depth (m)			1.20-1.80	0.00-0.50	0.00-0.30	0.00-0.58	0.80-1.00	5.00
Date sampled			12/05/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017	12/05/2017
Test	**Method**	**Units**						
EPH (>C16-C21)	CE033 M	mg/kg	-	6	7	9	-	-
EPH (>C21-C35)	CE033 M	mg/kg	-	48	53	59	-	-
EPH (>C35-C44)	CE033 M	mg/kg	-	10	12	16	-	-
Subcontracted analysis								
Asbestos (qualitative)	$	-	-	NAD	NAD	NAD	-	-

Chemtech Environmental Limited

SOILS

Lab number			64936-7	64936-9	64936-10	64936-11	64936-12	64936-13
Sample id			CP1	TP01	TP01	TP03	TP04	TP05
Depth (m)			11.00-12.00	0.10	0.30	0.70	1.20	0.20
Date sampled			09/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Test	**Method**	**Units**						
Arsenic (total)	CE127 M	mg/kg As	-	7.0	-	-	-	7.5
Cadmium (total)	CE127 M	mg/kg Cd	-	0.3	-	-	-	0.4
Chromium (total)	CE127 M	mg/kg Cr	-	97	-	-	-	91
Chromium (III)	-	mg/kg CrIII	-	97	-	-	-	91
Chromium (VI)	CE146	mg/kg CrVI	-	<1	-	-	-	<1
Copper (total)	CE127 M	mg/kg Cu	-	19	-	-	-	23
Lead (total)	CE127 M	mg/kg Pb	-	56	-	-	-	58
Mercury (total)	CE127 M	mg/kg Hg	-	0.7	-	-	-	<0.5
Nickel (total)	CE127 M	mg/kg Ni	-	21	-	-	-	23
Selenium (total)	CE127 M	mg/kg Se	-	0.7	-	-	-	0.8
Zinc (total)	CE127 M	mg/kg Zn	-	104	-	-	-	117
pH	CE004 M	units	7.9	7.6	7.4	7.6	7.4	7.5
Sulphate (2:1 water soluble)	CE061 M	mg/l SO_4	34	11	<10	<10	10	24
Cyanide (free)	CE077	mg/kg CN	-	<1	-	-	-	<1
Total Organic Carbon (TOC)	CE072 M	% w/w C	-	1.86	-	-	-	2.29
PAH								
Acenaphthene	CE087 M	mg/kg	-	<0.01	-	-	-	<0.01
Acenaphthylene	CE087 M	mg/kg	-	<0.01	-	-	-	<0.01
Anthracene	CE087 U	mg/kg	-	<0.02	-	-	-	0.02
Benzo(a)anthracene	CE087 U	mg/kg	-	0.06	-	-	-	0.23
Benzo(a)pyrene	CE087 U	mg/kg	-	0.08	-	-	-	0.29
Benzo(b)fluoranthene	CE087 M	mg/kg	-	0.11	-	-	-	0.37
Benzo(ghi)perylene	CE087 M	mg/kg	-	0.06	-	-	-	0.20
Benzo(k)fluoranthene	CE087 M	mg/kg	-	0.04	-	-	-	0.16
Chrysene	CE087 M	mg/kg	-	0.06	-	-	-	0.25
Dibenz(ah)anthracene	CE087 M	mg/kg	-	<0.02	-	-	-	0.04
Fluoranthene	CE087 M	mg/kg	-	0.14	-	-	-	0.42
Fluorene	CE087 U	mg/kg	-	<0.01	-	-	-	<0.01
Indeno(123cd)pyrene	CE087 M	mg/kg	-	0.06	-	-	-	0.19
Naphthalene	CE087 M	mg/kg	-	<0.01	-	-	-	<0.01
Phenanthrene	CE087 M	mg/kg	-	0.05	-	-	-	0.11
Pyrene	CE087 M	mg/kg	-	0.13	-	-	-	0.39
PAH (total of USEPA 16)	CE087	mg/kg	-	0.80	-	-	-	2.68
Benzo(j)fluoranthene	CE087	mg/kg	-	<0.02	-	-	-	0.04
PAH (total of OIL 8)	CE087	mg/kg	-	0.41	-	-	-	1.80
TPH								
VPH (>C5-C7)	CE067	mg/kg	-	<0.1	-	-	-	<0.1
VPH (>C7-C8)	CE067	mg/kg	-	<0.1	-	-	-	<0.1
VPH (>C8-C10)	CE067	mg/kg	-	<0.1	-	-	-	<0.1
EPH (>C10-C12)	CE033 M	mg/kg	-	<4	-	-	-	<4
EPH (>C12-C16)	CE033 M	mg/kg	-	<4	-	-	-	<4

Chemtech Environmental Limited

SOILS

Lab number			64936-7	64936-9	64936-10	64936-11	64936-12	64936-13
Sample id			CP1	TP01	TP01	TP03	TP04	TP05
Depth (m)			11.00-12.00	0.10	0.30	0.70	1.20	0.20
Date sampled			09/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017	02/05/2017
Test	**Method**	**Units**						
EPH (>C16-C21)	CE033 M	mg/kg	-	8	-	-	-	9
EPH (>C21-C35)	CE033 M	mg/kg	-	62	-	-	-	63
EPH (>C35-C44)	CE033 M	mg/kg	-	16	-	-	-	22
Subcontracted analysis								
Asbestos (qualitative)	$	-	-	NAD	-	-	-	NAD

Chemtech Environmental Limited

SOILS

Lab number			64936-14	64936-15	64936-16
Sample id			TP12	TP13	TP14
Depth (m)			1.50	1.80-2.00	1.20-1.40
Date sampled			02/05/2017	02/05/2017	02/05/2017
Test	**Method**	**Units**			
Arsenic (total)	CE127 M	mg/kg As	-	-	-
Cadmium (total)	CE127 M	mg/kg Cd	-	-	-
Chromium (total)	CE127 M	mg/kg Cr	-	-	-
Chromium (III)	-	mg/kg CrIII	-	-	-
Chromium (VI)	CE146	mg/kg CrVI	-	-	-
Copper (total)	CE127 M	mg/kg Cu	-	-	-
Lead (total)	CE127 M	mg/kg Pb	-	-	-
Mercury (total)	CE127 M	mg/kg Hg	-	-	-
Nickel (total)	CE127 M	mg/kg Ni	-	-	-
Selenium (total)	CE127 M	mg/kg Se	-	-	-
Zinc (total)	CE127 M	mg/kg Zn	-	-	-
pH	CE004 M	units	7.4	7.4	7.5
Sulphate (2:1 water soluble)	CE061 M	mg/l SO_4	14	67	37
Cyanide (free)	CE077	mg/kg CN	-	-	-
Total Organic Carbon (TOC)	CE072 M	% w/w C	-	-	-
PAH					
Acenaphthene	CE087 M	mg/kg	-	-	-
Acenaphthylene	CE087 M	mg/kg	-	-	-
Anthracene	CE087 U	mg/kg	-	-	-
Benzo(a)anthracene	CE087 U	mg/kg	-	-	-
Benzo(a)pyrene	CE087 U	mg/kg	-	-	-
Benzo(b)fluoranthene	CE087 M	mg/kg	-	-	-
Benzo(ghi)perylene	CE087 M	mg/kg	-	-	-
Benzo(k)fluoranthene	CE087 M	mg/kg	-	-	-
Chrysene	CE087 M	mg/kg	-	-	-
Dibenz(ah)anthracene	CE087 M	mg/kg	-	-	-
Fluoranthene	CE087 M	mg/kg	-	-	-
Fluorene	CE087 U	mg/kg	-	-	-
Indeno(123cd)pyrene	CE087 M	mg/kg	-	-	-
Naphthalene	CE087 M	mg/kg	-	-	-
Phenanthrene	CE087 M	mg/kg	-	-	-
Pyrene	CE087 M	mg/kg	-	-	-
PAH (total of USEPA 16)	CE087	mg/kg	-	-	-
Benzo(j)fluoranthene	CE087	mg/kg	-	-	-
PAH (total of OIL 8)	CE087	mg/kg	-	-	-
TPH					
VPH (>C5-C7)	CE067	mg/kg	-	-	-
VPH (>C7-C8)	CE067	mg/kg	-	-	-
VPH (>C8-C10)	CE067	mg/kg	-	-	-
EPH (>C10-C12)	CE033 M	mg/kg	-	-	-
EPH (>C12-C16)	CE033 M	mg/kg	-	-	-

Chemtech Environmental Limited

SOILS

Lab number			64936-14	64936-15	64936-16
Sample id			TP12	TP13	TP14
Depth (m)			1.50	1.80-2.00	1.20-1.40
Date sampled			02/05/2017	02/05/2017	02/05/2017
Test	**Method**	**Units**			
EPH (>C16-C21)	CE033 M	mg/kg	-	-	-
EPH (>C21-C35)	CE033 M	mg/kg	-	-	-
EPH (>C35-C44)	CE033 M	mg/kg	-	-	-
Subcontracted analysis					
Asbestos (qualitative)	$	-	-	-	-

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
-	Chromium (III)	Calculation: Cr (total) - Cr (VI)	Dry		1	mg/kg CrIII
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE004	pH	Based on BS 1377, pH Meter	Wet	M	-	units
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	M	10	mg/l SO_4
CE077	Cyanide (free)	Extraction, Continuous Flow Colorimetry	Wet		1	mg/kg CN
CE072	Total Organic Carbon (TOC)	Removal of IC by acidification, Carbon Analyser	Dry	M	0.1	% w/w C
CE087	Acenaphthene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	Wet	U	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	Wet	U	0.02	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	Wet	U	0.02	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	Wet	U	0.01	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Naphthalene	Solvent extraction, GC-MS	Wet	M	0.01	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	Wet	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	Wet		0.27	mg/kg
CE087	Benzo(j)fluoranthene	Solvent extraction, GC-MS	Wet		0.02	mg/kg
CE087	PAH (total of OIL 8)	Solvent extraction, GC-MS	Wet		0.15	mg/kg
CE067	VPH (>C5-C7)	Headspace GC-FID	Wet		0.1	mg/kg
CE067	VPH (>C7-C8)	Headspace GC-FID	Wet		0.1	mg/kg
CE067	VPH (>C8-C10)	Headspace GC-FID	Wet		0.1	mg/kg
CE033	EPH (>C10-C12)	Solvent extraction, GC-FID	Wet	M	4	mg/kg
CE033	EPH (>C12-C16)	Solvent extraction, GC-FID	Wet	M	4	mg/kg
CE033	EPH (>C16-C21)	Solvent extraction, GC-FID	Wet	M	4	mg/kg
CE033	EPH (>C21-C35)	Solvent extraction, GC-FID	Wet	M	6	mg/kg
CE033	EPH (>C35-C44)	Solvent extraction, GC-FID	Wet	M	10	mg/kg
$	Asbestos (qualitative)	HSG 248, Microscopy	Dry	U	-	-

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

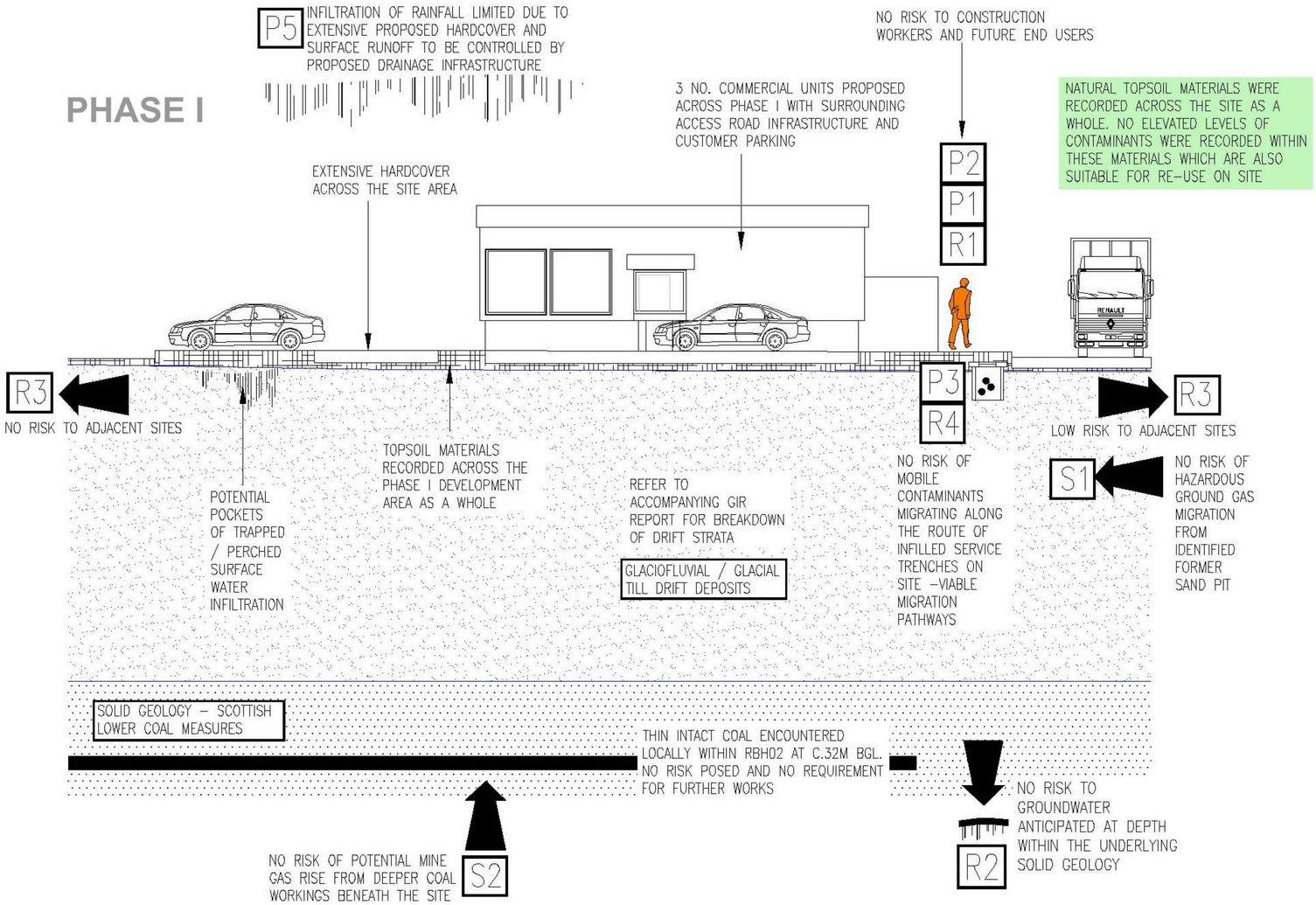
N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
IT	Sample not cooled
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
64936-1	BH01	1.20-1.80	N	
64936-2	BH02	0.00-0.50	N	
64936-3	BH03	0.00-0.30	N	
64936-4	BH04	0.00-0.58	N	
64936-5	BH04	0.80-1.00	N	
64936-6	BH05	5.00	N	
64936-7	CP1	11.00-12.00	N	
64936-9	TP01	0.10	N	
64936-10	TP01	0.30	N	
64936-11	TP03	0.70	N	
64936-12	TP04	1.20	N	
64936-13	TP05	0.20	N	
64936-14	TP12	1.50	N	
64936-15	TP13	1.80-2.00	N	
64936-16	TP14	1.20-1.40	N	

APPENDIX V

Conceptual Site Model (CSM)

PHASE I



CRITICAL POLLUTANT LINKAGES	
SOURCE **S**	1. POSSIBLE ON SITE GENERATION OF GROUND GAS FROM FORMER REFUSE TIP BENEATH PHASE 3 TO THE WEST – NO ELEVATED LEVELS RECORDED 2. POSSIBLE STYTHE GAS RISE FROM MINE WORKINGS AT DEPTH BENEATH THE SITE – NO ELEVATED LEVELS RECORDED
PATHWAY **P**	1. INGESTION & DERMAL CONTACT 2. INHALATION OF INDOOR / OUTDOOR AIR 3. MIGRATION THROUGH EXISTING SERVICES 4. DIRECT CONTACT WITH BUILDING MATERIALS 5. SURFACE RUNOFF & INFILTRATION
RECEPTOR **R**	1. HUMAN HEALTH (END USERS AND CONSTRUCTION WORKFORCE) 2. GROUNDWATER – AT DEPTH (NOT CONSIDERED TO BE AT SIGNIFICANT RISK) 3. ADJACENT SITES 4. BUILDING MATERIALS & PROTECTION OF WATER SUPPLY PIPES 5. FLORA AND FAUNA – NEGLIGIBLE

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rev.	date	amendments	drawn	chckd

Client:
BUCCLEUCH PROPERTY (SHERRIFFHALL SOUTH) LTD

Project Title:
Proposed Development (Phase I)
Sherriffhall South East, Gilmerton Road
Lasswade, Midlothian

Drawing Title:
Conceptual Site Model

Scale at A3:	Date:	Drawn by:	Approved by:
NTS @ A3	23.06.17	P.D	M.R.B

Job Ref:	Drg no:	Rev:
17–115	–	–

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Buccleuch ro erty Sheri hall South

Mining es Stu y Sheri hall South

e ruary 2010

Buccleuch Property (Sheriffhall South)

Mining Desk Study

Sheriffhall South

February 2010

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CONTENTS

FIGURES

APPENDICES

1 INTRODUCTION

1.1 General

In November 2009, Grontmij was commissioned by Buccleuch Property (Sheriffhall South) Ltd to produce a Mining Desk Study for a development site at Sheriffhall, Midlothian.

The purpose of the Desk Study is to review the mineral stability of the site and allow an assessment of its suitability for the proposed use.

Recommendations for Ground Investigation and outline abnormal costs are included.

1.2 Scope of Works

This Desk Study report has been undertaken in accordance with current UK best practice (*BS5930).* The work undertaken included the following specific tasks:

(1) A ***site reconnaissance*** to observe existing conditions.

(2) Research available ***geological information*** and ***mining information*** to establish the ground conditions of the site.

(3) ***Review the history*** of site use principally through the use of historical Ordnance Survey maps in order to further assess any additional information.

(4) Provide ***recommendations*** as to any further actions necessary and the scope and costing of a likely mineral investigation.

This report focuses specifically upon mining. Geo environmental issues such as infilled quarries and previous land use are outwith the scope of this report

2 THE SITE

2.1 Location

The site is located off the A7 (which traverses the site) south of the Sheriffhall Junction, Midlothian. The site covers an area of approximately 20 ha and can be accessed from the A7 cutting in a north to south direction across the middle of the site, and to the south by the A772 and B6392 (Gilmerton Road). The National Grid Reference for the site centre is 331720,667670.

The site location is shown in ***Figure 1***.

2.2 Walk Over Survey

The site was visited on 3rd December 2009 by a geotechnical engineer:-

- No obvious features related to mining subsidence were noted during the walkover.
- The site comprises ploughed fields, and arable land with bordering woodland. A burn is present at the northern boundary of the site and electricity pylons running north to south cross the easterly sites as shown on **Figure 1**. The presence of these should be noted for any proposed ground investigation.
- A strip of woodland is present running east to west across the middle portion of the site and either side of the A7.

2.3 Site Topography and Drainage

The site is approximately 70 to 80m above sea level with a general elevation up to the south.

The Park Burn (also known as the Dean Burn) flowing west forms the northern boundary of the site and is culverted beneath the A7. The site appears to be free draining. Field drains may be present associated with the agricultural use of the site.

2.4 General District Description and Adjoining Land Uses

Current site abutters are as follows:-

North: Park Burn adjacent, with agricultural field and embankment of the City Bypass and Sheriffhall Roundabout and Old Dalkeith Road. The remainder of the area is mainly open fields on the outskirts of Edinburgh.

East: Woodland along the edges of Melville Gate Road situated adjacent, with an office and open grounds of Elginhaugh, and dismantled railway beyond. The remainder of the area is mainly open fields on the outskirts of Eskbank.

South: Gilmerton Road adjacent, with the Edinburgh Insect World and Butterfly Farm to the south west. The A7 stretches south through mainly agricultural land, woodland, a golf course and the grounds of Melville Castle towards Eskbank.

West: Trees are present on Lugton Bog adjacent, beyond which are a disused Sewage Works and a pond. Agricultural land and the city bypass stretches west.

2.5 Current Use

The site is occupied by a field given over to agriculture with a strip of woodland presently running east to west across the middle portion of the site and either side of the A7. Overhead power lines also traverse north to south mainly across the eastern section (field) along with two pylons, before crossing the A7 and the northern most of the western section (field).

2.6 Summary of Site History

Ordnance Survey maps from 1854 were consulted to provide a summary of the site history (historical maps reviewed are available within ***Appendix D***).

From the earliest ordnance survey map (1854) available the site has remained relatively unchanged as agricultural land with the strip of woodland in the middle portion of the site. The only notable additions are the construction of the A7 main road which was shown on the 1993 edition map across the site centre leading north, and pylons and associated overhead electric power lines shown on the 1976 edition map.

An old shaft was shown to have been present on earlier edition maps (1854 to 1978) approximately 70m to the north and situated across from Park Burn. Old Shafts have also been noted over 1km to the north, west and south of the site.

The 1932 edition map showed a small Sand Pit to have been present approximately 60m to the south east, which was later shown on the 1948-1949 edition map as a small refuse tip adjacent to the boundary of the site.

Early editions maps also show the presence of the North British Railway to have been present approximately 60m to the east and buildings and a Dove Cot of Sheriffhall approximately 130m to the north.

The Melville Nurseries was shown to have been present to the south west of the site by 1948 (later expanded and currently known as the Edinburgh Butterfly & Insect World). Lugton Bogs have remained as such to the west of the site. The pond, Sheriffhall Junction and Edinburgh City Bypass were built by 1990 to the north. Offices were built to the east by 1988.

3 GEOLOGY

3.1 General

Anticipated geological, hydrogeological, and mining conditions in the site area were established using Geological Map Sheet NT36NW (Solid and Drift) and the Groundwater Vulnerability Map of Scotland (1:625, 000 scale, 1995).

3.2 Artificial Deposits

Geological maps do not indicate the presence of made ground.

3.3 Superficial Geology

Geological maps indicate the site is underlain by drift deposits of boulder clay in the northern half and fluvio glacial sand and gravel in the southern half around 10m thick.

3.4 Solid Geology

The solid geology below the site comprises Carboniferous Age sedimentary strata belong to the Lower Coal Measures comprising inter-bedded sandstones, siltstones and mudstones with seams of coal.

The strata below the site dip to the east with the outcrops of a number of coal seams recorded on the map running north south as shown in **Figure 1**:-

The following seams are noted as outcropping:-

- Dalkeith Under Coal
- Whitehill Great Seam
- Whitehill Rough Coal
- Whitehill Splint Coal
- Parrot Rough Coal
- Jewel of Whitehill Coal

Borehole and mining data on the geological map suggests a range of dip of the strata from seven to thirty one degrees to the east, although as will be noted later in the report the dip is considered more likely to be at the shallower end of this range.

A major fault (“the Sheriffhall Fault”) is present to the north of the site which throws the strata to the north some 175m down exposing the Middle Coal Measures.

3.5 Hydrology

There are no surface watercourses on the site. The Dean Burn flows westward (to the River North Esk) and is situated adjacent at the northern boundary of the site. The Burn has not currently been classified by SEPA under the new draft River Basin Management Plan (RBMP).

The online SEPA Flood Map[1] shows the site is within an area recorded as being susceptible to flooding from rivers.

3.6 Hydrogeology

The Groundwater Vulnerability Map (Map of Scotland, 1:625, 000) shows that the site is underlain by a "*minor or moderately permeable aquifer-fractured or potentially fractured rocks which do not have a high primary permeability or other formations of variable permeability*".

The Hydrogeological Map of Scotland 1:625,000 (1988) indicates the site is situated above an "*aquifer in which flow is dominantly in fissures and other discontinuities*".

[1] The online SEPA Flood Map shows areas in Scotland estimated to have a 1 in 200 or greater chance of being flooded in any given year.

4 MINING STUDIES

4.1 Introduction

The mining assessment has been compiled using the following data sources:-

- Geological Map Sheet NT36NW (Solid and Drift) Planning for development Mapping Map No. 5 Shafts and Adits NT19SW (1:10,560 scale, 1985);
- The Coal Authority, Coal Mining Report, November 2009;
- Mine Abandonment Plan (Various)
- Geological Survey of Great Britain – the Geology of the Midlothian Coalfield1958 (“the memoir”)
- The British Geological Survey, historical borehole information;

4.2 Geological Map Sheet NT36NW

The outcrops of the following seams are noted as present at relatively shallow depth under the site on the stratigraphic column:-

- Dalkeith Under Coal 1.06m
- Quarry Coal 0.45m
- Whitehill Great Seam1.82m
- Whitehill Rough Coal 0.76m
- Whitehill Splint Coal 1.82m
- Parrot Rough Coal 0.83m
- Jewel of Whitehill Coal 1.52m
- Melvile Group (not recorded outcropping on the site) Variable thickness

The drift is indicated to be typically around 10m to 15m thick.

4.3 Coal Authority Report Findings

A Coal Mining Report was obtained from the Coal Authority for the study site and is available within ***Appendix A***. The report states the following:

- The site is in the likely zone of influence from workings in 5 seams of coal at shallow to 770m depth, and last worked in 1985.
- The site is not presently in the likely zone of influence of any present underground coal workings.
- The site is not within an area in which The Coal Authority is determining whether to grant a licence to remove coal using underground methods.
- The property is not in an area that is likely to be affected at the surface from any planned future workings however reserves of coal do exist in the local area that could be worked at some point in the future.
- There is one known coal mine entries on, or within, 20m of the site boundary.
- The site has not been within the boundary of an opencast site and currently does not lie within 200m of the boundary of an opencast site.
- The site will not be within 800m of an opencast site for which The Coal Authority is determining to grant a licence to remove coal in the future.

- In addition, there were no known instability or subsidence issues, no known mine gas issue and no remedial works undertaken.

4.4 Review of Mine Plans

A search was commissioned from the mine abandonment plan archives of Coal Authority. The Authority provided copies of plans appropriate to the site and those considered of particular relevance to the site are discussed in Table 1 below.

It should be noted that a number of deeper seams than those listed below have also been mined under the site but these are considered to be too deep to affect the surface stability.

Table 1. Mine Abandonment Plan Consultation

Mine and Ref.		Approx. Date	Depth m bgl	Dip	Location of Mining on site	Conjectured Seams	Section	Type of Extraction	Other
Underground									
S3416	**Fig 2**	1832	-	-	North West	Whitehill Splint	-	Not indicated	Mining Extends from Sheriffhall Fault southward and terminates against a ***fault not recorded on geological mapping*** trending approximately east west.
S2949	**Fig 3**	1894	2 No. (presumed) bores denote the coal at 42m and 65m	-	Centre of site T3	"Cowpits" •	-	Not indicated	The Cowpits Coal normally relates to the Dalkeith Under coal, however the plotted position of the workings do not concur. Therefore it is considered likely that this seam relates to either workings within the Whitehill Jewel or possibly to the workings noted in S3416 in the Whitehill Splint. Unplotted fault noted in S3416 also noted.
S675 Easthouses Colliery	**Fig 4**	1967	594m		East	Great Seam [2]	1.57m coal and dirt	Modern Longwall	Workings at such a depth and of an age that ground movement is likely to have ceased

- Plan S883 was provided by the Coal Authority this however show workings at some 750m depth off site to the north of the Sheriffhall Fault.
- Plans S779 were provided by the Coal Authority this however show workings at some 750m depth off site to the south of the site.

[2] Great Seam, sits within the Limestone Coal Group some 600m below the site and should not be confused with the Whitehill Great Seam Coal

4.5 Geological Survey of Great Britain – the Geology of the Midlothian

4.5.1 General

The memoir was reviewed for additional background information regarding historical mining in the study area. It should be noted that this memoir was published whilst mining was active in the area. A brief summary of the information of relevance to the site are noted below in descending stratigraphical order:-

4.5.2 Dalkeith Under Coal

The Dalkeith Under is noted as some 2 feet 8 inches in (0.50m) in the general vicinity of the site.

No workings are mentioned in the memoir in the Sheriffhall area.

4.5.3 Quarry Coal

The Quarry Coal was noted as some 55 feet below the Dalkeith under and around 1 foot 5 inches thick in the area.

No workings are mentioned in the memoir in the Sheriffhall area.

4.5.4 Whitehill Great Seam

The Whitehill Great Seam lies some 26 feet above the Whitehill Splint at Polton (and the thickness varies greatly across the coalfield) The coal was noted as being absent from the succession at Glenesk nearby.

No workings are mentioned in the memoir in the Sheriffhall area.

4.5.5 Whitehill Rough

The Whitehill Rough in the vicinity lies some 21 to 40 feet above the Whitehill Splint occurs in three leaves as follows:-

Coal (good clean) 5 inches
Stone 1 inch
Coal 1 foot 1 inch
Stone and coaly blaes 2 inches
Coal 8 inches

No workings are mentioned in the memoir in the Sheriffhall area.

4.5.6 Whitehill Splint

The Whitehill Splint lies typically 8 feet above the Parrot Rough (at Newbattle) and a typical section is as follows:-

Coal 7 inch
Blaes 3 inch
Coal 1 inch
Blaes 5 inch

Good Splint Coal 4 feet 2 inches

No workings are mentioned in the memoir in the Sheriffhall area.

4.5.7 Jewel of Whitehill and Parrot Rough

The Jewel of Whitehill reportedly lies some 55 feet above the Melville Group and is noted to be a good coal about 2 feet 6 inches thick. The Parrot Rough lies some 5 feet above the Jewel and varies in thickness from almost 2 feet to 4 feet in thickness.

No workings are mentioned in the memoir in the Sheriffhall area.

4.5.8 Melville Group

In the general area of the site the thickness of the various coals consisting the Melville Group was reported to range from 3 foot 9 inches to 6 feet. He overall thickness of the colas and inventing strata was noted as some 50 feet.

No workings are mentioned in the memoir in the Sheriffhall area.

4.6 Historical Mineral Boreholes

The geological map sheet NT36NW and British Geological Survey (BGS) borehole archives were searched for historical boreholes on the site. Many of the historical bores are undated and may be exploratory drilling for the mining that has since taken place in the locality.

The bores of interest to the site that show signs of possible mining activity are shown on **Figure 1** and in the table below (reproduced in **Appendix B**). Other bores that showed no obvious indication of mining activity are not noted.

Borehole	Rockhead	Description	Depth (m)	Approx Rock Cover (m)	Interpretation
Sheriffhall No 2	11.8m	Waste	17.3m	5.3m	Unrecorded workings in Whitehill Splint(BGS)
NT36NW376	12.10m	Stoop?	28.65m	15.15m	
	12.10m	Stoop	34.0m	21.3m	
	12.10m	Stoop	37.45m	24.85m	
NT36NW100695/ 388	8.80m	Possible Workings (part air loss)	31.90m	21.5m	

It is noted that a number of other boreholes have been drilled to varying depths around the periphery of the site. None that were examined at the BGS indicated definitive signs of mine workings although many denoted iron staining in rock overlying coal seams which can be mining related.

4.7 Other Sources

Discussions with an ex Coal Board Geologist who is known to Grontmij suggest that in the region of Dobbies (to the due south of the site) the actual position of the coal outcrops lie

around 140m further west than plotted[3]. The effect of this variation is indicated in the Revised Principal Projection in Section 7.

No information was available as to whether the seams at shallow level under the site had been subject to unrecorded workings.

4.8 Summary

In summary the site is underlain by a number of shallow coal seams with recorded mining known to have taken place. Specific issues with respect to mining are summarised below:-

Coal Seam	Depth on site	Summary
Dalkeith Under Coal	Shallow, noted as outcropping on the site	No recorded workings. Unrecorded workings possible.
Quarry Coal	Shallow, although not noted as outcropping on the site on the geological mappping	No recorded workings. Suggestions coal is relatively thin
Whitehill Great Seam	Shallow, noted as outcropping on site.	No recorded workings. Unrecorded workings possible.
Whitehill Rough Coal	Shallow, noted as outcropping	No recorded workings. Suggestions coal is relatively thin, however unrecorded workings possible.
Whitehill Splint Coal	Shallow, noted as outcropping on site. Recorded workings in north of site	Recorded Workings in north of site Unrecorded workings suggested by bore data at outcrop, other unrecorded workings possible
Parrot Rough Coal	Shallow, noted as outcropping on the site	No recorded workings. Unrecorded workings possible.
Jewel of Whitehill Coal	Shallow, noted as outcropping on the site	No recorded workings. Unrecorded workings possible. Possible recorded workings in “Cowpits “ coal plan S2949
Melville Group (not recorded outcropping on the site) Variable thickness	Shallow, although not noted as outcropping on the site on the geological mapping	No recorded workings. Unrecorded workings possible.

[3] This assertion is supported by:-

- The strata typically dip at less than 10 degrees on the geological mapping
- This is contradicted by the presence of Summerside Bore No. 5, which notes the Whitehill Great Seam at some 43m depth some 66m from the mapped outcrop (suggests a dip of 33 degrees)
- If the crop of the Whitehill Great was actually140m west than the plotted location then this would suggest a dip of around 11 degrees which is more in line with the general geology in the area and supports the theory that the crops are wrongly plotted on the mapping

5 STABILITY ANALYSIS

When voids are present in the ground there is a risk of these migrating through the overlying strata to produce subsidence holes on the surface or crownholes. Whether the void actually reaches the surface or manifests itself in a general surface subsidence is dependant upon the behaviour of the rock and drift deposits and also the depth of mining. The stability of such workings was analysed by Piggott et al (1977) and is referenced in the CIRIA report of 1984, the approach being widely used. It postulates that the maximum height above a worked seam in which roof collapse can migrate to is a function of several variables; bulking factor, void height and lateral extent of voiding and is typically between six and ten times seam thickness for a typical range of coal measure strata.

The following Risk Zones are postulated based around 10 times seam thickness to assess the likely worse case ground treatment zonings:-

Red- Known workings with rock cover less than 10 times seam thickness in a single seam
Orange- High Risk of Shallow Unrecorded Workings with rock cover less than 10 times seam thickness
Yellow- Moderate Risk of Shallow Unrecorded Workings with rock cover less than 10 times seam thickness
Green- Low Risk of Shallow Unrecorded Workings with less than 10 times rock cover and /or known workings with greater than 10 times rock cover.

Table 2. Stability Risk Summary

Coal Seam	Notes	Assessed Seam thickness	Recorded Underground Workings	Unrecorded Underground Workings	Stability Risk from Underground Workings	Preliminary Risk Zone	Recommendations
Dalkeith Under Coal		0.50m	None	Possible	Investigation required to confirm area is free of unrecorded workings	Yellow	General investigation should confirm overall stability of yellow zone
Quarry Coal		0.45m	None	Possible but unlikely	Investigation required to confirm area is free of	Green	General investigation should confirm stability

Coal Seam	Notes	Assessed Seam thickness	Recorded Underground Workings	Unrecorded Underground Workings	Stability Risk from Underground Workings	Preliminary Risk Zone	Recommendations
					unrecorded workings		
Whitehill Great Seam		1.82m	None	Probable in areas	Investigation required to confirm extent (if any) unrecorded workings	Orange	General investigation should confirm extent of unrecorded workings within orange zone
Whitehill Rough Coal		0.76m	None	Possible	Investigation required to confirm area is free of unrecorded workings	Yellow	General investigation should confirm overall stability of remaining yellow zone
Whitehill Splint Coal		1.67m	Recorded at Shallow	Proven in BGS bore, probable elsewhere	Investigation required to confirm area of recorded workings and that remaining extent (if any) unrecorded workings	Red Orange	General investigation should confirm area of recorded workings for treatment (red zone) and confirm extent of unrecorded workings within orange zone
Parrot Rough Coal		1.2m	None	Probable in areas	Investigation required to confirm extent (if any) unrecorded workings	Orange	General investigation should confirm extent of unrecorded workings within orange zone
Jewel of Whitehill Coal	###	0.76m	Possible recorded workings in “Cowpits “ coal plan S2949	Probable in areas	Investigation required to confirm extent (if any) unrecorded workings	Orange	General investigation should confirm extent of unrecorded workings within orange zone
Melville Group (not recorded outcropping on the site) Variable		Unknown	None	Probable in areas	Investigation required to confirm extent (if any) unrecorded	Orange	General investigation should confirm extent of unrecorded workings within orange zone

Coal Seam	Notes	Assessed Seam thickness	Recorded Underground Workings	Unrecorded Underground Workings	Stability Risk from Underground Workings	Preliminary Risk Zone	Recommendations
thickness					workings		

6 MINE ENTRIES AND GROUND GAS

6.1 Recorded

The Coal Mining report has indicated one mineshaft is present on site. There is no treatment associated with the shaft and it would therefore present a stability risk to any development in the vicinity.

It is therefore recommended that this recorded mineshaft is located and stabilised prior to development, or else once located a suitably large sterilised zone adopted around the location.

6.2 Unrecorded

The information presented above suggests that some unrecorded mining beneath the site has taken place. It therefore follows that there is a probability that these workings may have been accessed through similarly unrecorded mine entries.

It is therefore recommended that any unrecorded mine entries are located and stabilised prior to development, or else once located a suitably large sterilised zone adopted around the locations.

Location of unrecorded mine entries may be undertaken by topsoil strip and formation inspection by a suitably qualified person.

6.3 Ground Gas

Ground gas (methane, carbon monoxide, carbon dioxide and hydrogen sulphide) can be associated with coal mining. It is recommended that a full geoenvironmental assessment is undertaken in terms of both Coal Authority requirements for both ground investigation and treatment and for future site use.

7 FINDINGS AND RECOMMENDATIONS

7.1 Findings

The site is underlain by eight coal seams at relatively shallow depth with at least one of these seams known to have been mined within influencing depth of the surface. However, of the remaining seams on the site unrecorded workings are a considered a distinct possibility in five of these seams. The regional geology dip[s to the east at around 7 degrees.

It should be noted that the geological mapping as interpreted by the BGS is considered suspect and this may have impact upon the treatment areas.

The site has been zoned on **Figure 5** as per the following:-

Red- Known workings with rock cover less than 10 times seam thickness..
Orange- Moderate to High Risk of Shallow Unrecorded Workings with rock cover less than 10 times seam thickness
Yellow- Moderate Risk of Shallow Unrecorded Workings with rock cover less than 10 times seam thickness
Green- Low Risk of Shallow Unrecorded Workings with less than 10 times rock cover and /or known workings with greater than 10 times rock cover.

It should be noted that the zonings overlap and that multiple seam treatment may well be required in areas due to the spacing between seams.

Budget Costs are provided in Section 7.3 below. It should be noted that anticipated conditions may change from those shown on **Figure 5.**

The extent of the orange zoning is significant. The extent of workings and therefore treatment requirements is unknown in this area and an abnormal cost estimate has been undertaken by an estimated probability assessment of the chances of workings being encountered. The effects of this assessment can be seen in section 7.3. Investigations are required in particular to assess this likelihood.

7.2 Recommended Works

Risks from recorded, unrecorded underground mining exist on the site. The extent of the unrecorded mining is critical to the extent and cost of treatment required.

It is recommended that a Phase 1 ground investigation is undertaken to allow these risks to be characterised and better understood and allow a budget to be developed.

A budget has been estimated using Grontmij's term contract rates with local contractors assuming the use of air flush drilling will prove acceptable to the Coal Authority (whose permission is required for such works). The selection of drilling flushing medium has been the subject of a HSE "position statement" following a fatality involving possible mine gases.

The following investigation is recommended:-

	No. of mineral bores	Preliminary Investigation
Plot 1	14	£21,000
Plot 2	6	£10,000
Plot 3	7	£12,500
Plot 4	11	£17,000

Given the abnormal cost budget is primarily driven by the likelihood of unrecorded mine workings being present a relatively large number of bores has been suggested to characterise conditions.

The above budgets exclude engineering fees and a Coal Authority permit will also be required.

It should be noted that additional works may be required over and above the phase 1 budgets to allow full design of grouting grids or should conditions not be as required and additional information be required

7.3 Summary and Ground Treatment

Abnormal Costs for the development blocks indicated are estimated as a range in the table below. Grouting Costs estimates have been assessed using competitive commercial rates in the range of £28/m2 to £37/m2 *per seam* for similar ground conditions. It should be noted that areas of projected ground treatment overlap and therefore multiple seam treatment is considered likely to be required.

The abnormal cost estimates are reproduced in **Appendix C** and are summarised below.

A principal projection has been developed using the rates noted above (commercial/competitive) with what is considered a likely assessment of the areas require treatment. In this assessment the following areas require treatment:-

- 100% Red Zone
- Between 25% And 90% Orange Zone
- 10 % Yellow Zone.
- 0% Green Zone

Principal Projection	
	Cost Estimate
Plot 1	£1,132,916
Plot 2	£510,028
Plot 3	£87,138
Plot 4	£1,179,506
Shaft (plot 4)	£40,000
Allowance for Unrecorded Shafts (plots 1 and 4)	£200,000
Principal Projection Total	**£3,149,588**

A revised principal projection has been developed using the rates noted above (commercial/competitive) with what is considered a likely assessment of the areas require treatment, assuming the geological mapping is wrongly plotted as adjusted as shown in **Figure 1.** In this assessment the following areas require treatment:-

- 100% Red Zone
- Between 25% And 90% Orange Zone
- 10 % Yellow Zone.
- 0% Green Zone

Revised Principal Projection	
	Cost Estimate
Plot 1	£1,225,204
Plot 2	£143,191
Plot 3	£94,474
Plot 4	£661,523
Shaft (plot 4)	£40,000
Allowance for Unrecorded Shafts (plots 1 and 4)	£200,000
Revised Principal Projection Total	**£2,364,392**

An upper bound assessment (pessimistic) has been developed using the rates noted above (commercial/competitive) with what is considered a worst case assessment of the areas require treatment. In this assessment the following areas require treatment:-

- 100% Red Zone
- 100% Orange Zone
- 25 % Yellow Zone.
- 0% Green Zone

Upper Bound	
	Cost Estimate
Plot 1	£2,270,369
Plot 2	£1,176,982
Plot 3	£314,232
Plot 4	£1,837,946
Shaft (plot 4)	£40,000
Allowance for Unrecorded Shafts (plots 1 and 4)	£480,000
Upper Bound Total	**£6,119,529**

A lower bound assessment (optimistic) has been developed using the rates noted above (commercial/competitive) with what is considered a worst case assessment of the areas require treatment. In this assessment the following areas require treatment:-

- 100% Red Zone
- 0% Orange Zone
- 0 % Yellow Zone.
- 0% Green Zone

Lower Bound	
	Cost Estimate
Plot 1	£0
Plot 2	£0
Plot 3	£0
Plot 4	£296,101
Shaft (plot 4)	£40,000
Allowance for Unrecorded Shafts (plots 1 and 4)	£0
Lower Bound Total	**£336,101**

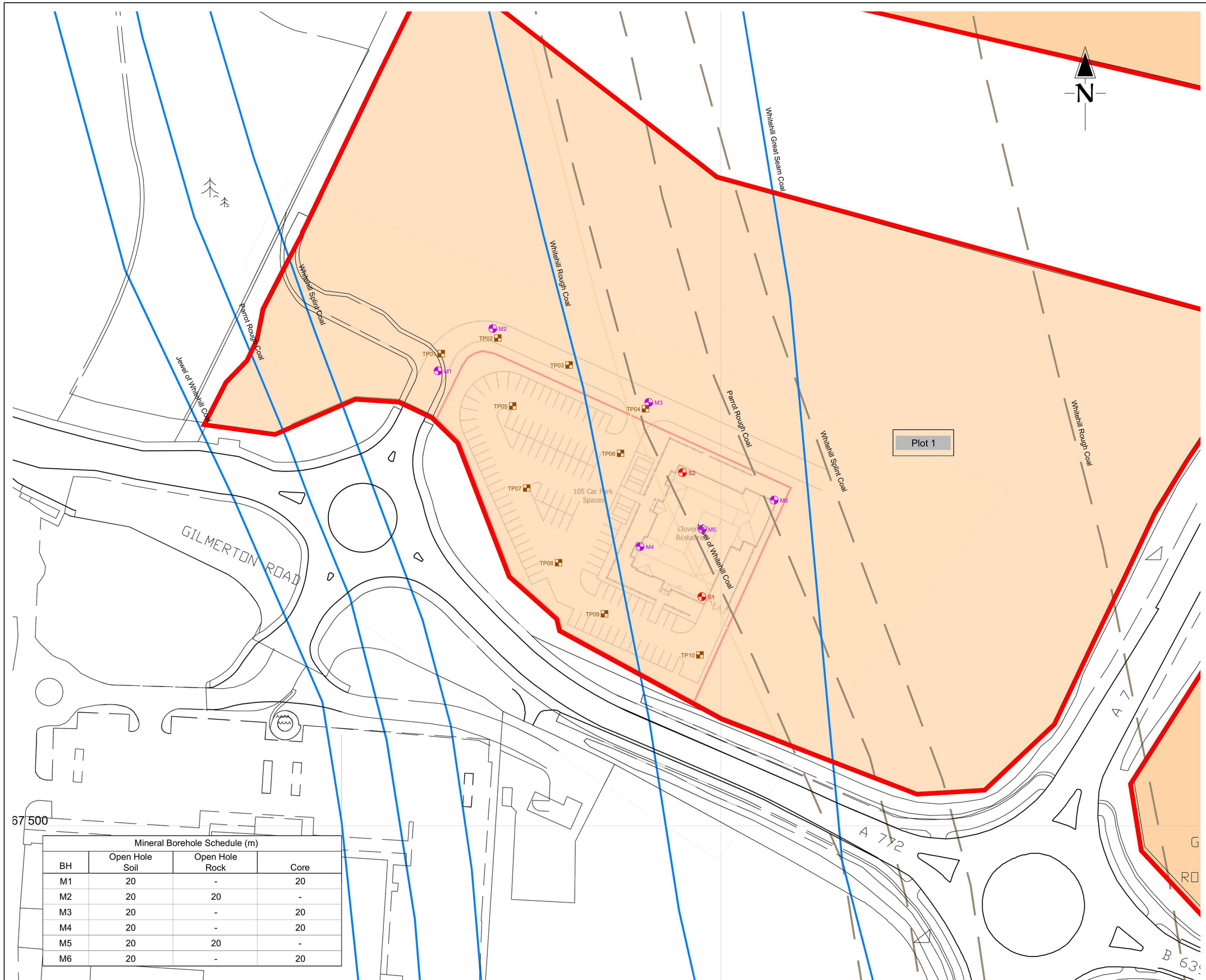
The key issue is considered to be the orange zoning and the effect of this zoning on budgets. Ground investigation is required to quantify this risk further.

An allowance has been made for location and treatment of unrecorded mine entries. It is suggested that as part of the development process topsoil and made ground are removed and a formation inspection is made by a suitably qualified person. Additionally if the mining investigation proves the presence of areas of unrecorded workings then a concentrated search for the associated mine entries is recommended.

□ront□ i□

Site Investigations Jan 2013

Mineral Borehole Logs



67 500

Mineral Borehole Schedule (m)			
BH	Open Hole Soil	Open Hole Rock	Core
M1	20	-	20
M2	20	20	-
M3	20	-	20
M4	20	-	20
M5	20	20	-
M6	20	-	20

Notes:-

1. Based Upon British Geological Survey Mapping With The Permission of The British Geological Survey.© NERC All Rights Reserved. Grontmij Group Licence No: C08/038-CSL.
2. Accuracy of Map Image Not Guaranteed Due to Reproduction Methods.
3. If Alternative Seam Outcrop Positions Are Present Green Zone Increases Primarily In Plot 2.
4. Multiple Seam Treatment Likely

Legend:-

- Site Boundary
- Outcrop
- Alternative Outcrop Positions
- Known workings with rock cover less than 10 times seam thickness.
- Moderate to High Risk of Shallow Unrecorded Workings with rock cover less than 10 times seam thickness.
- Moderate Risk of Shallow Unrecorded Workings with rock cover less than 10 times seam thickness.
- Low Risk of Shallow Unrecorded Workings with less than 10 times rock cover and /or known workings with greater than 10 times rock cover.
- Mine Shaft Location (Coal Authority)
- TP01 Proposed Trial Pit Location
- S1 Proposed Cable Percussive Bore Hole (15m)
- M1 Proposed Mineral Bore Hole

No.	Date	Revision	By	Chk
0	-	First Issue	-	-

Drawn D McAllister Date October 2012
Checked A Lewis Date October 2012
Approved RW Apted Date October 2012

Client / Project

BUCCLEUCH PROPERTY

Sheriffhall South Ground Investigation

Title

Proposed G.I. November 2012

File Ref : SS-SK-03 | Drawing No : 76.0900/SK03
Original Drawing Size: 841x594 - A1 | Scale : 1:1250 | Rev : 0

Grontmij

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Leeds. London. Peterborough. Reading. Solihull. Wrexham.

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M01

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 27.50
Rotary Core Drilling to 47.80

Progress	Sample Depth	Samples and Tests Type	Samples and Tests Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
17/12 2012	0.00	RO-S					0.10	# TOPSOIL # SAND and GRAVEL				
							1.25	# SAND				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 33.50m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	27.50	16.60
110	47.80	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
									Full	Air	47.80

Fig No: B3
Sheet 1 of 5
Scale 1:50

Style: BOREHOLE File: P:\GINTWMPROJECTS\22869.GPJ+44 (0) 1698 710999 Printed: 16/01/2013 13:21:15 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M01

Inspection Pit to 1.20
Rotary Open Hole to 27.50
Rotary Core Drilling to 47.80

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	0.00							....see previous sheet				
17/12							12.75	# Brown sandy CLAY				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 33.50m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	27.50	16.60
110	47.80	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	**Final**

Ground-water: Struck	Rose To	Time(mins)	Cut Off

Water Added: From	To

Chiselling: From	To	Time(hr)

Flush: Returns	Type	To Depth
Full	Air	47.80

RAEBURN

Fig No: B3
Sheet 2 of 5
Scale 1:50

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M01

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 27.50
Rotary Core Drilling to 47.80

Progress	Sample Depth	Samples and Tests Type	Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	0.00							....see previous sheet				
	26.90	RO-R					26.90					
			TCR SCR RQD FI				27.50	# MUDSTONE				
	27.50	CORE	100 78 57 13	16.60				Medium strong and strong pale grey fine and medium grained SANDSTONE. Slightly weathered, rust stained bedding planes and short steep joints				27.50
												28.00

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 33.50m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	27.50	16.60
110	47.80	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	**Final**

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
									Full	Air	47.80

RAEBURN

Fig No: B3
Sheet 3 of 5
Scale 1:50

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RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M01

Inspection Pit to 1.20
Rotary Open Hole to 27.50
Rotary Core Drilling to 47.80

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests Type	Result				Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	27.50										....see previous sheet				
	30.50	CORE	100	87	73	15				30.90					
											Medium strong grey SILTSTONE, unweathered, plants				
										31.35					
										31.55	Weak and very weak grey MUDSTONE, unweathered, abundant plant stems. Dip <5°				
											COAL, unweathered, bright, some dull and fusainous laminae				
										32.85					
	33.50	CORE	82	65	40	19					Medium strong grey SILTSTONE, unweathered, plants; 8cm irony sandstone		▼		
										35.80					
										36.00	COAL, unweathered, mostly bright				
										36.20	Medium strong dark grey SILTSTONE, unweathered, plant stems and roots				
	36.50	CORE	100	87	77	12					COAL, unweathered, dull and splinty in top 50cms, mostly bright from 36.70m				
										37.30					
											Medium strong pale SANDSTONE, unweathered, some rooty siltstone bands				
										38.00					
											Weak grey MUDSTONE, unweathered, rooty at top; plants				
										38.90					
											COAL, unweathered, bright with dull laminae				
										39.25					
18/12										39.50	Medium strong dark grey SILTSTONE, unweathered, plants				
	39.50	CORE	98	92	86	7				39.70	15cm recovery of COAL, fresh, bright, broken				
											Strong pale grey fine and medium grained SANDSTONE, unweathered, silty and rooty at top				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 33.50m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	27.50	16.60
110	47.80	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
33.50									Full	Air	47.80

RAEBURN

Fig No: B3
Sheet 4 of 5
Scale 1:50

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M01

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 27.50
Rotary Core Drilling to 47.80

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	39.50							....see previous sheet				
	42.50	CORE	98 92 62 13									
	45.55	CORE	100 51 36 >20									
19/12							44.00	Weak grey MUDSTONE, unweathered, silty at top, thin irony ribs				
							44.95	COAl, fresh, bright with dull and fusainous laminae				
							45.70	Weak grey SEAT MUDSTONE, mostly unweathered, some slight rust staining near base				
							46.40	Medium strong pale grey fine grained SANDSTONE, unweathered, rooty at top; badly broken and jointed				
							47.80	END OF BOREHOLE				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 33.50m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	27.50	16.60
110	47.80	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
									Full	Air	47.80

RAEBURN

Fig No: B3
Sheet 5 of 5
Scale 1:50

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RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M02

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 46.00

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
10/12/2012	0.00	RO-S				0.10	# TOPSOIL # SAND and GRAVEL				
						1.45	# SAND				
10/12											

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 44.20m.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	46.00	13.60

Driller	Originator
PH	DMcM
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)

Flush: Returns	Type	To Depth
Full	Air	46.00

Fig No: B4
Sheet 1 of 5
Scale 1:50

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RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M02

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 46.00

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	0.00							....see previous sheet				
							12.70	# Brown sandy CLAY with traces of gravel at base				13.50
												14.00

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 44.20m.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	46.00	13.60

Driller	Originator
PH	DMcM
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
									Full	Air	46.00

Fig No: B4
Sheet 2 of 5
Scale 1:50

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M02

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 46.00

Progress	Sample Depth	Samples and Tests Type	Samples and Tests Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	0.00							....see previous sheet				
	25.90	RO-R					25.90	# SANDSTONE				
							27.80	# Dark MUDSTONE with coal ribs				
							28.10	# MUDSTONE				
							29.20	# SANDSTONE				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 44.20m.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	46.00	13.60

Driller	Originator
PH	DMcM
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
									Full	Air	46.00

Fig No: B4
Sheet 3 of 5
Scale 1:50

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M02

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 46.00

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	25.90							....see previous sheet				
							30.65	# MUDSTONE with sandstone bands				
							32.85	# COAL				
							34.30	# MUDSTONE with sandstone ribs				
							38.20					
							38.40	# Dirty COAL				
								# SANDSTONE with mudstone bands				
							39.45	# Dark MUDSTONE with coal ribs				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 44.20m.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	46.00	13.60

Driller	Originator
PH	DMcM
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
									Full	Air	46.00

Fig No: B4
Sheet 4 of 5
Scale 1:50

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RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M02

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 46.00

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	25.90							....see previous sheet				
							40.65					
							40.80	# COAL				
								# MUDSTONE				
							41.30					
								# SANDSTONE				
							45.15					
								# MUDSTONE				
	11/12			13.60			46.00	END OF BOREHOLE				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 44.20m.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	46.00	13.60

Driller	Originator
PH	DMcM
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
44.20									Full	Air	46.00

Fig No: B4
Sheet 5 of 5
Scale 1:50

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RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M03

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 18.00
Rotary Core Drilling to 39.50

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
14/12/2012	0.00	RO-S					0.10	# TOPSOIL # SAND and GRAVEL				
							1.55	# SAND				

Remarks:

Description based on Driller's log.
An Inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 38.30m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	18.00	13.60
110	39.50	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
									Full	Air	39.50

RAEBURN

Fig No: B5
Sheet 1 of 4
Scale 1:50

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RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M03

Inspection Pit to 1.20
Rotary Open Hole to 18.00
Rotary Core Drilling to 39.50

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 25D; Air Flush

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	0.00							....see previous sheet				
							12.75	# Brown sandy CLAY				
	17.60	RO-R				13.60	17.60	# SANDSTONE				
			TCR 100 SCR 80 RQD 62 FI 17				18.00	Medium strong and strong pale grey fine grained SANDSTONE, slightly weathered, rust stained, sharp base				18.00
	18.00	CORE				13.60	18.35	COAL, unweathered, bright and dull (broken non-intact recovery)				18.50
							18.82	Weak and medium strong grey SEAT MUDSTONE, slightly weathered, faintly rust stained, becoming silty to base				
							19.35	Medium strong and strong off-white cross bedded fine and medium grained SANDSTONE, slightly weathered, highly rust stained in places				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 38.30m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	18.00	13.60
110	39.50	

Driller	Originator	Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
PH	FCB										Full	Air	39.50
Chk & App	Status												
WTG	Final												

Fig No: B5
Sheet 2 of 4
Scale 1:50

Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M03

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 18.00
Rotary Core Drilling to 39.50

Progress	Sample Depth	Samples and Tests Type	Result				Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	18.00										....see previous sheet				
										20.80					
	21.05	CORE	93	69	54	10					Medium strong and strong off-white and cream medium and coarse grained SANDSTONE, slightly to moderate weathered, some highly rust stained patches, some broken and jointed bands with subvertical open rust stained joints				
	23.75	CORE	100	87	72	9									
14/12	26.75	CORE	100	97	97	9				26.75	Medium strong and strong off-white and cream medium and coarse grained, very coarse in places SANDSTONE, becoming unweathered, gritty in basal 1.00m, some broken and jointed bands with subvertical open, sharp base				
	29.75	CORE	98	91	83	6									

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 38.30m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	18.00	13.60
110	39.50	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
									Full	Air	39.50

Fig No: B5
Sheet 3 of 4
Scale 1:50

RAEBURN DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M03

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 18.00
Rotary Core Drilling to 39.50

Progress	Sample Depth	Samples and Tests Type	Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	29.75						....see previous sheet				
	32.40	CORE	85 60 41 14								
	35.30	CORE	100 77 45 19								
	38.30	CORE	83 50 42 13								
17/12				13.60							

34.80 Medium strong and weak grey MUDSTONE, unweathered, silty with sandy laminae at top, plants, abundant to base. Dip 15°

37.00 COAL, unweathered, bright, some dull laminae

38.30 Weak and very weak grey SEAT MUDSTONE, unweathered, passing to siltstone at base

39.50 END OF BOREHOLE

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 38.30m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	18.00	13.60
110	39.50	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
38.30									Full	Air	39.50

RAEBURN

Fig No: B5
Sheet 4 of 4
Scale 1:50

Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com
+44 (0) 1698 710999

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Style: BOREHOLE

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M04

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 19.50
Rotary Core Drilling to 39.10

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
11/12 2012	0.00	RO-S					0.10	# TOPSOIL # SAND and GRAVEL				
							1.45	# SAND				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 33.75m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	19.50	13.60
110	39.10	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
									Full	Air	39.10

RAEBURN

Fig No: B6
Sheet 1 of 4
Scale 1:50

Style: BOREHOLE File: P:\GINTW\PROJECTS\22869.GPJ+44 (0) 1698 710999 Printed: 16/01/2013 13:21:29 Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M04

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 19.50
Rotary Core Drilling to 39.10

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	0.00							....see previous sheet				
							12.85	# Brown sandy CLAY				
	11/12											
	18.85	RO-R										
	19.50	CORE	TCR 98, SCR 94, RQD 88, FI 8			13.60						
							18.85	# SANDSTONE				
							19.50	....see next sheet				19.50
												20.00

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 33.75m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	19.50	13.60
110	39.10	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
									Full	Air	39.10

RAEBURN

Fig No: B6
Sheet 2 of 4
Scale 1:50

RAEBURN DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M04

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 19.50
Rotary Core Drilling to 39.10

Progress	Sample Depth	Samples and Tests Type	Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	19.50						Medium strong and strong cross bedded off-white medium and coarse grained SANDSTONE, slightly and moderately weathered with some highly rust stained patches and joints; a few broken and jointed bands with subvertical jointing; 15cm mudstone at 26.40m ? clastic inclusion, sharp base				
	21.90	CORE 100 83 76 9									
	24.60	CORE 100 67 62 14									
	27.20	CORE 100 84 84 8									
						29.80	Medium strong grey SILTSTONE, slightly weathered, faint rust staining	× × × ×			

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 33.75m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	19.50	13.60
110	39.10	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
									Full	Air	39.10

RAEBURN

Fig No: B6
Sheet 3 of 4
Scale 1:50

RAEBURN DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M04

Inspection Pit to 1.20
Rotary Open Hole to 19.50
Rotary Core Drilling to 39.10

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests Type	Result				Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	27.20									30.05	....see previous sheet				
	30.25	CORE	100	90	80	10					Medium strong grey SILTSTONE, unweathered, plants, some sandy laminae. Dip >5°				
	33.25	CORE	93	61	43	>20				33.30					
											Weak grey and dark grey MUDSTONE, unweathered, abundant plant debris, mainly stems				
										33.75					
											COAL, unweathered, bright, some dull fusainous laminae				
										35.00					
											Weak and medium strong grey SEAT MUDSTONE, unweathered, passing to siltstone				
	36.05	CORE	100	95	92	9				36.25					
											Strong off-white cross bedded fine grained SANDSTONE, unweathered				
										38.80					
	12/12						13.60			39.10	Medium strong grey SILTSTONE, unweathered, sandy laminae				
											END OF BOREHOLE				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
Ground-water was encountered at a depth of 33.75m.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	19.50	13.60
110	39.10	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
33.75									Full	Air	39.10

Fig No: B6
Sheet 4 of 4
Scale 1:50

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M05

Inspection Pit to 1.20
Rotary Open Hole to 38.00

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Progress	Sample Depth	Samples and Tests Type	Samples and Tests Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
19/12/2012	0.00	RO-S					0.10	# TOPSOIL # SAND and GRAVEL				0.15
							1.60	# SAND				0.90 1.00

Remarks:
Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
A 50mm diameter perforated standpipe was installed to a depth of 12.00m.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	38.00	13.60

Driller	Originator	Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
PH	DMcM										Full	Air	38.00
Chk & App	Status												
WTG	Final												

Fig No: B7
Sheet 1 of 4
Scale 1:50

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M05

Inspection Pit to 1.20
Rotary Open Hole to 38.00

Location: NT 316674 | Orientation: Vertical | Equipment: Tractor (County) Mounted Dando 250; Air Flush

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	0.00							....see previous sheet				
							12.35	# Brown sandy CLAY				12.00
												12.60
	19.15	RO-R					19.15	# MUDSTONE				
							19.85	# SANDSTONE				

Remarks:
Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
A 50mm diameter perforated standpipe was installed to a depth of 12.00m.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	38.00	13.60

Driller	Originator
PH	DMcM
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
									Full	Air	38.00

Fig No: B7
Sheet 2 of 4
Scale 1:50

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M05

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 38.00

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	19.15							....see previous sheet				

Remarks:
Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
A 50mm diameter perforated standpipe was installed to a depth of 12.00m.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	38.00	13.60

Driller	Originator
PH	DMcM
Chk & App	Status
WTG	Final

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
									Full	Air	38.00

RAEBURN

Fig No: B7
Sheet 3 of 4
Scale 1:50

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M05

Inspection Pit to 1.20
Rotary Open Hole to 38.00

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; Air Flush

Progress	Sample Depth	Samples and Tests: Type	Samples and Tests: Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill: Symbol	Backfill: Depth
	19.15							....see previous sheet				
19/12							32.65	# SANDSTONE with mudstone bands				
							35.00	# MUDSTONE				
							35.55	# COAL				
							36.85	# MUDSTONE				
20/12							38.00	END OF BOREHOLE				38.00
				13.60								

Remarks:
Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
A 50mm diameter perforated standpipe was installed to a depth of 12.00m.

Diam	To Depth: Boring	To Depth: Casing
170	6.00	
120	38.00	13.60

Driller	Originator
PH	DMcM
Chk & App	Status
WTG	**Final**

Ground-water: Struck	Rose To	Time(mins)	Cut Off	Water Added: From	To	Chiselling: From	To	Time(hr)	Flush: Returns	Type	To Depth
									Full	Air	38.00

Fig No: B7
Sheet 4 of 4
Scale 1:50

Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

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RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M06

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 19.50
Rotary Core Drilling to 39.70

Progress	Sample Depth	Samples and Tests Type	Samples and Tests Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
13/12 2012	0.00	RO-S				0.10	# TOPSOIL # SAND and GRAVEL				
						1.45	# SAND				

Remarks:
Description based on Driller's log.
An Inspection pit was excavated by hand to a depth of 1.20m to clear services.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	19.50	13.60
110	39.70	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
									Full	Air	39.70

Fig No: B8
Sheet 1 of 4
Scale 1:50

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RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M06

Inspection Pit to 1.20
Rotary Open Hole to 19.50
Rotary Core Drilling to 39.70

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests Type	Samples and Tests Result	Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	0.00							....see previous sheet				
							12.50	# Brown sandy CLAY				
	19.20	RO-R					19.20					
			TCR SCR RQD FI				19.50	# SANDSTONE				19.50
	19.50	CORE	100 81 66 12		13.60		19.70	Strong pale grey medium grained SANDSTONE, slightly weathered, rust stained; sharp erosive base COAL, unweathered, laminated bright and dull (broken non-intact recovery)				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	19.50	13.60
110	39.70	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
									Full	Air	39.70

Fig No: B8
Sheet 2 of 4
Scale 1:50

Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

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RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M06

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Inspection Pit to 1.20
Rotary Open Hole to 19.50
Rotary Core Drilling to 39.70

Progress	Sample Depth	Samples and Tests Type	Result	Casing Depth	Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	19.50					20.10	....see previous sheet				
							Medium strong grey SEAT SILTSTONE, slightly weathered, some rust stained joints				
						21.00					
							Strong off-white medium grained SANDSTONE, slightly weathered, rust stained				
						21.85					
	21.85	CORE 100 83 70 14					Medium strong and strong off-white mostly coarse grained SANDSTONE, slightly to moderate weathered, some highly rust stained patches and joints; a few broken and jointed bands; some very coarse grained bands, occasional clayey clasts; sharp base				
	24.85	CORE 100 93 87 11									
	27.85	CORE 97 87 80 13									

Remarks:
Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	19.50	13.60
110	39.70	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
									Full	Air	39.70

Fig No: B8
Sheet 3 of 4
Scale 1:50

RAEBURN
DRILLING AND GEOTECHNICAL LTD

Site: SHERIFFHALL SOUTH, MIDLOTHIAN

Client: Buccleuch Property (Sheriffhall South) Ltd

Engineer: Grontmij Limited

Contract No: 22869

Borehole No: M06

Inspection Pit to 1.20
Rotary Open Hole to 19.50
Rotary Core Drilling to 39.70

Location: NT 316674

Orientation: Vertical

Equipment: Tractor (County) Mounted Dando 250; 412 Core Barrel; Air Flush

Progress	Sample Depth	Samples and Tests Type	Result				Casing Depth		Level (mOD)	Depth	Description of Strata	Legend	Water Depth	Backfill Symbol	Backfill Depth
	27.85										....see previous sheet				
13/12	30.85	CORE	100	93	87	9									
	33.85	CORE	95	58	45	18									
	36.85	CORE	100	70	53	>20									
										35.35	Medium strong grey SILTSTONE, unweathered, some lenticular sandy laminae, plant debris, muddy in basal 30cms with abundant plant stems. Dip <5°				
										37.85	COAL, unweathered, bright with dull laminae				
										39.20	Weak and very weak grey SEAT MUDSTONE, unweathered				
14/12							13.60			39.70	END OF BOREHOLE				

Remarks:

Description based on Driller's log.
An inspection pit was excavated by hand to a depth of 1.20m to clear services.
The rock core descriptions were provided by Mining Consultant, Mr Findlay Black, who was appointed by the Consulting Engineers.

Diam	To Depth Boring	To Depth Casing
170	6.00	
120	19.50	13.60
110	39.70	

Driller	Originator
PH	FCB
Chk & App	Status
WTG	Final

Ground-water Struck	Rose To	Time(mins)	Cut Off	Water Added From	To	Chiselling From	To	Time(hr)	Flush Returns	Type	To Depth
									Full	Air	39.70

Fig No: B8
Sheet 4 of 4
Scale 1:50

Raeburn Drilling and Geotechnical, Whistleberry Rd, Hamilton ML3 0HP Tel: 01698-711177 E-mail: enquiries@raeburndrilling.com

Appendix 2

WALKOVER SURVEY RECORD

Project Name: Sherrifhall South
Project Number: P20-504
Date of Survey: March 2021
Surveyed By: P. Rourke
Weather: Overcast.

VICINITY OF THE SITE		DESCRIPTION
Are there any street/house/locality/pub names indicating current or former land use?	N/A	
What are the neighbouring land uses?	NORTH	Agricultural Land
	EAST	Generally agricultural land. RBS Data building on Melville Gate Rd
	SOUTH	Generally vacant land
	WEST	Agricultural. Retail development approx. 300m to the west.
Potential off-site receptors		None noted

ACCESSES

Describe the site accesses - type, width and headroom.		Access from B6392
Describe any access difficulties for SI plant		Part of the site is heavily wooded with undulating, steep ground. Overhead cables area pr4esent across the site.

SITE DESCRIPTION - GENERAL

What is the current land use?		Agricultural Land/Wooded
What is the topography?		Flat lying within the agricultural area and undulating within the woodland
What is the surface cover?		Topsoil/Leaf mould.
Are there any waterlogged areas?	NO	
How are the boundaries formed?		Walls/Fences
Does the topography suggest filling or platforming?	YES	Potential landfill area – Rubbish on surface of wooded area
Are there any subsidence features?	NO	None noted

EXISTING BUILDINGS

What proportion of the site do the buildings cover?	-	0%
Do the building(s) show any evidence of distress?	N/A	N/A
Indicate building usage on available site plan.	N/A	N/A
Indicate nature and location of materials in storage.	N/A	N/A
What processes are evident in the facility?	N/A	N/A

TANKS AND WASTE STORAGE

Are there any fuel or chemical storage tanks (surface and underground)? For each tank record whether it is above/under ground, nature of contents, whether full or empty, bunded/unbunded/leaking bund, presence of staining. Mark locations on plan.		None noted
Is there any evidence of waste storage or disposal?	NO	None noted
Are there any chemical drums or other containers?	NO	None noted
Are there any discharges to surface water?	NO	None noted

HYDROLOGY

Describe any groundwater sources - including flow rate.		None noted
Record positions all springs, ponds and other water on site.	N/A	None noted

PUBLIC UTILITIES

Are there any overhead cables - indicate type and location?	YES	Two sets of overhead cable including large pylons
Are there any manholes - describe?	NO	None noted
Are there other indications of utilities?	NO	None noted
Are there any electricity transformers	NO	None noted

HAZARDS

Describe any obvious public health hazards.		Apparent landfill area within south of site

SPILLAGES AND CONTAMINATION

Are there any indications of oil or other spillages?	NO	None noted
Is their evidence of contaminated soils?	YES	Apparent landfill area within south of site
Is there evidence of distress to vegetation?	NO	None noted
Describe constituents of any flytipping.	NO	Apparent landfill area within south of site. Ash, metal and glass. Separate flytipping within agricultural field.
Is there surface evidence of asbestos contaminated soil?	NO	None Noted
Are there any noxious smells?	NO	None Noted

GEOLOGY

Soil and rock – record and describe any exposed soils or rocks that are present.	N/A	

MINING AND QUARRYING

Are there any signs of mineral extraction in the area, such as old mine buildings, derelict or hummocky land, surface depressions, evidence of infilling or spoil heaps.	YES	Hummocky land within south of the site.
Is their evidence of any quarrying?	YES	Potential superficial extraction within south of the site

SLOPE STABILITY

Are there any risks of slope instability?	NO	None Noted
Is there evidence of previous land slipping?	NO	None Noted

INVASIVE PLANTS

Are there any obvious invasive plants?	YES	Giant Hogweed present close to entrance from B6392

Photographs

Google Maps Extract (above). Entrance from Melville Gate Road (below).

Wooded area (above). Agricultural area (below)

Overhead power cables (above). Wooded area (below)

Fly tipping within agricultural area (above).

Appendix 3

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
276311335_1_1

Customer Reference:
P20-504 PR

National Grid Reference:
331850, 667480

Slice:
A

Site Area (Ha):
2.7

Search Buffer (m):
1000

Site Details:
Site at 331820, 667460

Client Details:
Ms P Morton
Mason Evans Partnership
The Piazza
95 Morrison Street
(office side door on Dalentober St)
Glasgow
G5 8BE

Contents

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Report Version v53.0

Contents

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 4			2	9
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 7				1
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 7		Yes		
Pollution Incidents to Controlled Waters					
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 7				1
Substantiated Pollution Incident Register					
Water Abstractions					
Water Industry Act Referrals					
Groundwater Vulnerability	pg 7	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Source Protection Zones					
River Flood Data (Scotland)	pg 7		Yes	n/a	n/a
OS Water Network Lines	pg 7		7	18	26
Waste					
BGS Recorded Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)					
Local Authority Landfill Coverage		1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 14				1
Registered Landfill Sites	pg 14				1
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 15	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites	pg 15			1	3
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 15	Yes	n/a	n/a	n/a
Mining Instability	pg 15	Yes	n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 15	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 16		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 16	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 16	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 16	Yes	Yes	n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 17			3	7
Fuel Station Entries	pg 17				2
Gas Pipelines					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 19	1	3	3	3
Areas of Adopted Green Belt	pg 19	1		1	
Areas of Unadopted Green Belt					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
National Scenic Areas					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	0	1	331950 667550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (E)	0	1	331847 667485
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	42	1	331850 667600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	42	1	331950 667600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (N)	49	1	331847 667600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	92	1	331900 667650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (S)	96	1	331847 667300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	99	1	331847 667650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	99	1	331850 667650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (S)	99	1	331800 667300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	101	1	332050 667600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (S)	114	1	331900 667300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	139	1	332050 667650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (N)	142	1	331900 667700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (S)	146	1	331847 667250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (S)	148	1	331800 667250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (N)	148	1	331847 667700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (S)	163	1	331750 667250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	171	1	332100 667650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	177	1	332050 667700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	190	1	331600 667650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	202	1	331650 667700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (W)	204	1	331550 667600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (N)	204	1	331800 667750
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	206	1	332150 667650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	209	1	332100 667700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	214	1	332000 667250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (W)	225	1	331500 667350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	228	1	331600 667700
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	242	1	332150 667700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	247	1	332100 667750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	261	1	331550 667700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (NW)	269	1	331600 667750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (SW)	274	1	331700 667150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (SE)	275	1	332100 667250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	284	1	332050 667200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	291	1	331650 667150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	292	1	331950 667850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	298	1	331550 667750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	310	1	331600 667150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (NE)	310	1	332050 667850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	318	1	332150 667800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	331	1	331550 667150
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	334	1	332300 667650

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	346	1	331847 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	346	1	331850 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	347	1	331800 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SW (N)	352	1	331800 667900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	354	1	331750 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (SW)	356	1	331600 667100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	365	1	331950 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	367	1	331700 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NW (SW)	376	1	331550 667100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	380	1	332350 667650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	383	1	332250 667800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (SW)	385	1	331650 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A19SW (NE)	388	1	332200 667850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SE (N)	392	1	331950 667950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	393	1	332100 667100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	396	1	331847 667000
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	418	1	332300 667800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A19SW (NE)	421	1	332250 667850
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A7NE (SW)	427	1	331450 667100
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A19SW (NE)	427	1	332200 667900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (SE)	432	1	332100 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NW (S)	432	1	331650 667000

Agency & Hydrological

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SW (NW)	438	1	331650 667950
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A19SW (NE)	459	1	332250 667900
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12SE (SW)	460	1	331350 667150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	463	1	332150 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (E)	463	1	332450 667600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (NW)	479	1	331350 667800
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A9NW (SE)	485	1	332250 667100
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A19SW (NE)	491	1	332300 667900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	492	1	331950 668050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SW (N)	494	1	331850 668050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A9NW (SE)	495	1	332200 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A7NE (SW)	497	1	331400 667050
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A19SW (NE)	497	1	332250 667950
1	**Discharge Consents** Operator: Scottish Widows Property Type: Not Supplied Location: Datacentre Melville Gate Dalkeith Authority: Scottish Environment Protection Agency, East Region Catchment Area: Esk Reference: Wpc/E/5482 Permit Version: 1 Effective Date: Not Supplied Issued Date: 2nd December 1988 Revocation Date: Not Supplied Discharge Type: Surface Water Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A8NE (SE)	421	2	332170 667120
2	**Discharge Consents** Operator: Walker Homes... Property Type: Not Supplied Location: Larkfield Housing Dev. Eskbank Dalkeith Authority: Scottish Environment Protection Agency, East Region Catchment Area: Esk Reference: Wpc/E/6627 Permit Version: 1 Effective Date: Not Supplied Issued Date: 31st January 1994 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A8NE (S)	422	2	331950 666990

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Macfarlane, Colin T Property Type: Not Supplied Location: Proposed Golf Driving Range South Melville Farm Lasswade Authority: Scottish Environment Protection Agency, East Region Catchment Area: Esk Reference: Wpc/E/5974 Permit Version: 1 Effective Date: Not Supplied Issued Date: 12th June 1991 Revocation Date: Not Supplied Discharge Type: Non Water Company (Private) Sewage: Septic Tank Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	628	2	331250 667010
4	**Discharge Consents** Operator: Esw Property Type: Not Supplied Location: Gilmerton Stw Authority: Scottish Environment Protection Agency, East Region Catchment Area: Not Supplied Reference: Wpc/E/833 Permit Version: 1 Effective Date: Not Supplied Issued Date: 28th October 1974 Revocation Date: Not Supplied Discharge Type: Sewage Treatment Works Final Effluent - Part Biological Treatement Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	652	2	331170 667840
5	**Discharge Consents** Operator: Melville, J Property Type: Not Supplied Location: Lugton Brae, 29 Dalkeith Midlothian Authority: Scottish Environment Protection Agency, East Region Catchment Area: Not Supplied Reference: Wpc/E/4261 Permit Version: 1 Effective Date: Not Supplied Issued Date: 29th May 1984 Revocation Date: Not Supplied Discharge Type: Septic tank Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	685	2	332680 667500
6	**Discharge Consents** Operator: Walker Group... Property Type: Not Supplied Location: Westfield Cottage Lasswade Road South Melville Eskbank, Dalkeith Authority: Scottish Environment Protection Agency, East Region Catchment Area: Esk Reference: Wpc/E/6530 Permit Version: 1 Effective Date: Not Supplied Issued Date: 13th August 1993 Revocation Date: Not Supplied Discharge Type: Non Water Company (Private) Sewage: Septic Tank Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A8SE (S)	697	2	331870 666700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	**Discharge Consents** Operator: Esw Property Type: Not Supplied Location: Esk, North & South Sso Authority: Scottish Environment Protection Agency, East Region Catchment Area: Not Supplied Reference: Wpc/E/6 Permit Version: 1 Effective Date: Not Supplied Issued Date: 4th June 1956 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	714	2	332500 667010
8	**Discharge Consents** Operator: Esw Property Type: Not Supplied Location: Gilmerton Stw Authority: Scottish Environment Protection Agency, East Region Catchment Area: Not Supplied Reference: Wpc/E/836 Permit Version: 1 Effective Date: Not Supplied Issued Date: 13th April 1967 Revocation Date: Not Supplied Discharge Type: Storm Water Overflow Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	773	2	331030 667830
9	**Discharge Consents** Operator: Esw Property Type: Not Supplied Location: Esk, North Septic Tank Authority: Scottish Environment Protection Agency, East Region Catchment Area: Not Supplied Reference: Wpc/E/7 Permit Version: 1 Effective Date: Not Supplied Issued Date: 4th June 1956 Revocation Date: Not Supplied Discharge Type: Public Sewage: Septic Tank Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	833	2	332680 667040
10	**Discharge Consents** Operator: Prentice, D Property Type: Not Supplied Location: Melville Grange Farm, Gilmerton, Edinburgh Authority: Scottish Environment Protection Agency, East Region Catchment Area: Not Supplied Reference: Wpc/E/3946 Permit Version: 1 Effective Date: Not Supplied Issued Date: 18th May 1982 Revocation Date: Not Supplied Discharge Type: Septic tank Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A12NW (W)	879	2	330900 667795

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: Esw Property Type: Not Supplied Location: Gilmerton Stw Gilmerton Edinburgh Authority: Scottish Environment Protection Agency, East Region Catchment Area: Esk Reference: Wpc/E/4060 Permit Version: 1 Effective Date: Not Supplied Issued Date: 7th January 1983 Revocation Date: Not Supplied Discharge Type: Storm Water Overflow Discharge Environment: Not Supplied Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A12NW (W)	881	2	330900 667800
11	**Local Authority Pollution Prevention and Controls** Name: Conoco Ltd Location: Saltire Filling Station, Old Edinburgh Road, Dalkeith, Eh221ju Authority: Scottish Environment Protection Agency, East Region Permit Reference: Apc/E/0020227 Dated: 7th December 1998 Process Type: Air Pollution Controls (Part B Processes) Description: Not Supplied **Status: Not Supplied** Positional Accuracy: Manually positioned to the address or location	A15SW (E)	987	2	332980 667458
	Nearest Surface Water Feature	A13SE (E)	160	-	332141 667448
	River Quality Name: Not Supplied GQA Grade: River Quality C Reach: Not Supplied Estimated Distance (km): Not Supplied Flow Rate: Not Supplied Flow Type: Not Supplied Year: 1990	A8SE (S)	776	3	332004 666638
	Groundwater Vulnerability Geological Classification: Minor or Moderately Permeable Aquifer - Fractured or potentially fractured rocks which do not have a high primary permeability or other formations of variable permeability Soil Classification: Not classified Map Sheet: Map of Scotland Scale: 1:625,000	A13NW (E)	0	3	331847 667485
	Drift Deposits None				
	River Flood Data (Scotland) Type: Flood Plain Depth 0 -1 Metres Flood Plain Type: 0-1m estimated 100yr flood depth Source: Centre for Ecology and Hydrology	A13SW (S)	197	4	331850 667200
12	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 39.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (NE)	180	5	332136 667626
13	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (NE)	180	5	332129 667638

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 51.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (NE)	182	5	332127 667641
15	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 253.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (N)	203	5	331899 667768
16	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 39.5 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (NE)	210	5	332012 667757
17	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (NE)	230	5	332051 667761
18	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.4 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (NE)	238	5	332063 667765
19	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 58.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (NE)	254	5	332061 667783
20	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.7 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (NE)	293	5	332116 667796
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 17.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A18SW (N)	296	5	331808 667845
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 34.2 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A18SW (N)	298	5	331791 667844

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 36.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A13NE (NE)	305	5	332125 667803
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 928.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A18SW (N)	306	5	331757 667844
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 249.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 2	A8NW (S)	328	5	331697 667093
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.8 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A18SE (NE)	338	5	332135 667837
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 227.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 1	A8NW (S)	347	5	331684 667077
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 287.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 1	A8NW (SW)	350	5	331605 667105
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 121.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 1	A8NW (S)	360	5	331820 667036
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1308.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 1	A8NE (S)	373	5	331996 667057
31	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 211.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A8NE (S)	373	5	331941 667039

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 103.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A18SE (NE)	374	5	332158 667865
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A18SE (NE)	448	5	332145 667959
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.6 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A19SW (NE)	461	5	332241 667910
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 183.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A19SW (NE)	465	5	332242 667915
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 130.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A12SE (SW)	486	5	331324 667141
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 785.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 1	A7NE (SW)	519	5	331332 667083
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A12SE (SW)	521	5	331261 667170
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 96.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A12SE (SW)	533	5	331260 667151
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 397.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A8NE (S)	578	5	331983 666837

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.3 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A19SW (NE)	610	5	332402 667969
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 865.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A19SW (NE)	613	5	332406 667969
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1037.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A18NE (N)	624	5	332125 668159
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 180.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A19SW (NE)	638	5	332304 668085
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 49.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 2	A14SE (E)	647	5	332629 667381
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 47.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 1	A14SE (E)	652	5	332630 667367
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 73.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 1	A14SE (E)	667	5	332653 667406
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 46.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A14NE (E)	680	5	332675 667502
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1212.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River North Esk Catchment Name: River Esk (Lothian) Primacy: 1	A14SE (E)	704	5	332697 667464

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 47.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A19NW (NE)	818	5	332363 668263
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 336.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A19NW (NE)	818	5	332400 668238
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 309.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A8SW (S)	863	5	331721 666539
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.4 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A17SW (W)	898	5	330891 667821
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A12NW (W)	900	5	330881 667804
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.7 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A12NW (W)	924	5	330847 667784
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A12NW (W)	925	5	330845 667781
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.4 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A11NE (W)	928	5	330837 667771
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 228.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A11NE (W)	930	5	330834 667767

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.8 Watercourse Level: Underground Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A11NE (W)	970	5	330742 667561
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 50.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Dean Burn Catchment Name: River Esk (Lothian) Primacy: 1	A11NE (W)	973	5	330739 667554
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1336.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A17NE (NW)	985	5	331230 668363
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 164.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: River Esk (Lothian) Primacy: 1	A17NE (NW)	985	5	331230 668363

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: Midlothian Council - Has supplied landfill data		0	6	331847 667485
	Local Authority Landfill Coverage Name: City of Edinburgh Council - Has supplied landfill data		404	7	331774 667949
63	**Local Authority Recorded Landfill Sites** Location: South Melville Farm Reference: Not Supplied Authority: Midlothian Council, Waste Management Department **Last Reported Status: Closed** Types of Waste: Soils Date of Closure: 31/12/1990 Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	A7SE (SW)	711	6	331400 666801
64	**Registered Landfill Sites** Licence Holder: Morrison Construction Ltd Licence Reference: 23/90 Site Location: South Melville Farm, Lasswade, Bonnyrigg, Midlothian Licence Easting: 331400 Licence Northing: 666800 Operator Location: West Mains Road, West Mains Industrial Estate, Grangemouth, Stirlingshire Authority: Scottish Environment Protection Agency, East Region Site Category: Landfill Max Input Rate: Undefined Waste Source Restrictions: Waste produced/controlled by licence holder Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st April 1990 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Accuracy: Not Applicable Authorised Waste Sub/Other Soils From Dalkeith By-Pass Prohibited Waste Other Ind./Domestic/Com. Waste	A7NE (SW)	612	2	331456 666883

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Scottish Coal Measures Group	A13NW (E)	0	1	331847 667485
65	**BGS Recorded Mineral Sites** Site Name: Summerside Shaft Location: Eskbank, Dalkeith, Midlothian Source: British Geological Survey, National Geoscience Information Service Reference: 231679 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Scottish Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	426	1	331618 667927
66	**BGS Recorded Mineral Sites** Site Name: Westfield Shaft Location: Eskbank, Dalkeith, Midlothian Source: British Geological Survey, National Geoscience Information Service Reference: 231685 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Scottish Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A8SW (S)	637	1	331780 666761
67	**BGS Recorded Mineral Sites** Site Name: Glenesk Colliery Location: Eskbank, Dalkeith, Midlothian Source: British Geological Survey, National Geoscience Information Service Reference: 231686 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Scottish Lower Coal Measures Formation Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	712	1	332337 666881
68	**BGS Recorded Mineral Sites** Site Name: Kennels Sand Pit Location: Lasswade, Midlothian Source: British Geological Survey, National Geoscience Information Service Reference: 80022 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Sheet Deposits Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A12NW (W)	798	1	330950 667700
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13NW (E)	0	8	331847 667485
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13NW (E)	0	-	331847 667485
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	331847 667485
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	116	1	331690 667319
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	129	1	331880 667273

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	331847 667485
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	116	1	331602 667390
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	119	1	331690 667319
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	129	1	331880 667273
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	179	1	331714 667698
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	215	1	332110 667706
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	331847 667485
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	331847 667485
	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	57	1	331850 667339
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	103	1	331868 667298
	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	156	1	331760 667253
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	221	1	331638 667231
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	331847 667485
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	119	1	331690 667319
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	129	1	331880 667273
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	1	331855 667442
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	331847 667485
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (N)	44	1	331859 667626
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	331847 667485
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NW (E)	0	1	331847 667485

Industrial Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	**Contemporary Trade Directory Entries** Name: Criterium Cycles Location: Unit 3, Melville Nurseries, From Melville Nurseries to A772 Gilmerton Road, Lasswade, EH18 1AZ Classification: Recycling Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	289	-	331418 667409
70	**Contemporary Trade Directory Entries** Name: R & B Nursery Location: Melville Nurseries, Lasswade, Midlothian, EH18 1AZ Classification: Agricultural Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	353	-	331354 667475
70	**Contemporary Trade Directory Entries** Name: Melvins Ltd Location: Melville Nurseries, Lasswade, Midlothian, EH18 1AZ Classification: Lawnmowers & Garden Machinery - Sales & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	377	-	331329 667467
71	**Contemporary Trade Directory Entries** Name: Chips Away Location: 6, Orchard View, Dalkeith, Midlothian, EH22 3JZ Classification: Car Body Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	527	-	332000 666896
72	**Contemporary Trade Directory Entries** Name: Personal Car Care Location: 40, Lasswade Road, Dalkeith, Midlothian, EH22 3EF Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	666	-	332032 666761
73	**Contemporary Trade Directory Entries** Name: Grandison Gas Services Location: 33, Lasswade Road, Dalkeith, Midlothian, EH22 3EE Classification: Boilers - Servicing, Replacements & Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	741	-	332105 666707
74	**Contemporary Trade Directory Entries** Name: Orocco Joinery Location: Campend Farm,750 Old Dalkeith Road, Dalkeith, Midlothian, EH22 1RS Classification: Joinery Manufacturers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A18NW (N)	788	-	331557 668287
75	**Contemporary Trade Directory Entries** Name: Clearway Landscaping Location: Campend Farm, Dalkeith, EH22 1RS Classification: Fuel Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	844	-	331527 668336
76	**Contemporary Trade Directory Entries** Name: Sportline Motor Co Location: 22, Old Edinburgh Road, Dalkeith, Midlothian, EH22 1JL Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (E)	939	-	332932 667455
77	**Contemporary Trade Directory Entries** Name: Saltire Location: 14, Old Edinburgh Road, Dalkeith, Midlothian, EH22 1JD Classification: Petrol Filling Stations **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A15SW (E)	998	-	332969 667295
78	**Fuel Station Entries** Name: Inchview Car Sales Location: Eskbank Toll , , Dalkeith, Midlothian, EH22 3DX Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	932	-	332483 666716

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	**Fuel Station Entries** Name: Condor Self Drive Location: 30, Eskbank Road , , Dalkeith, Midlothian, EH22 3BQ Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	983	-	332822 666982

Sensitive Land Use

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
80	**Ancient Woodland** Name: Not Supplied Reference: 35566 Area(m²): 74200.63 Type: Long-Established Woodland of Plantation Origin	A13NE (SE)	0	9	331852 667477
81	**Ancient Woodland** Name: Not Supplied Reference: 35563 Area(m²): 128651.01 Type: Long-Established Woodland of Plantation Origin	A13NE (N)	3	9	331880 667583
82	**Ancient Woodland** Name: Not Supplied Reference: 35567 Area(m²): 241094.69 Type: Ancient Woodland of Plantation Origin	A13SW (SW)	51	9	331761 667365
83	**Ancient Woodland** Name: Not Supplied Reference: 35568 Area(m²): 38078.65 Type: Long-Established Woodland of Plantation Origin	A14SW (E)	203	9	332195 667476
84	**Ancient Woodland** Name: Not Supplied Reference: 35550 Area(m²): 439416.4 Type: Long-Established Woodland of Plantation Origin	A13NE (NE)	336	9	332176 667801
85	**Ancient Woodland** Name: Not Supplied Reference: 35573 Area(m²): 152913.88 Type: Ancient and Semi-Natural Woodland	A8NW (S)	355	9	331693 667066
86	**Ancient Woodland** Name: Not Supplied Reference: 35562 Area(m²): 108051.63 Type: Long-Established Woodland of Plantation Origin	A14NW (NE)	368	9	332301 667718
87	**Ancient Woodland** Name: Not Supplied Reference: 35569 Area(m²): 28706.59 Type: Ancient and Semi-Natural Woodland	A14SW (SE)	590	9	332453 667143
88	**Ancient Woodland** Name: Not Supplied Reference: 35570 Area(m²): 38106.68 Type: Ancient and Semi-Natural Woodland	A9NW (SE)	610	9	332382 667043
89	**Ancient Woodland** Name: Not Supplied Reference: 35571 Area(m²): 16462 Type: Ancient Woodland with a short-break in continuity	A12SW (W)	756	9	331010 667146
90	**Areas of Adopted Green Belt** Authority: Midlothian Council Plan Name: Midlothian Local Development Plan **Status: Adopted** Plan Date: 7th November 2017	A13NW (E)	0	10	331847 667485
91	**Areas of Adopted Green Belt** Authority: City of Edinburgh Council Plan Name: Edinburgh Local Development Plan **Status: Adopted** Plan Date: 24th November 2016	A18SW (N)	405	7	331773 667949

Data Currency

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
City of Edinburgh Council	January 2015	Annual Rolling Update
East Lothian Council	January 2015	Annual Rolling Update
Scottish Environment Protection Agency - Head Office	June 2020	Annually
Midlothian Council	October 2017	Annual Rolling Update
Discharge Consents		
Scottish Environment Protection Agency - East Region	June 2001	Not Applicable
Enforcement and Prohibition Notices		
Scottish Environment Protection Agency - East Region	January 2012	Not Applicable
Integrated Pollution Controls		
Scottish Environment Protection Agency - Head Office	February 1998	Variable
Scottish Environment Protection Agency - East Region	March 2002	Variable
Local Authority Pollution Prevention and Controls		
Scottish Environment Protection Agency - East Region	March 2002	Not Applicable
Local Authority Pollution Prevention and Control Enforcements		
Scottish Environment Protection Agency - East Region	June 2001	Variable
Nearest Surface Water Feature		
Ordnance Survey	January 2021	
Prosecutions Relating to Authorised Processes		
Scottish Environment Protection Agency - East Region	March 2007	Not Applicable
Prosecutions Relating to Controlled Waters		
Scottish Environment Protection Agency - East Region	March 2007	Annual Rolling Update
Registered Radioactive Substances		
Scottish Environment Protection Agency - East Region	April 1996	Not Applicable
Scottish Environment Protection Agency - Head Office	January 1998	Not Applicable
River Quality		
Scottish Environment Protection Agency - East Region	December 1990	Not Applicable
Scottish Environment Protection Agency - Head Office	December 1990	Not Applicable
Water Abstractions		
Scottish Government - Agriculture, Environment and Fisheries Department	December 1997	Not Applicable
Water Industry Act Referrals		
Scottish Environment Protection Agency - East Region	April 1996	As Designated
Groundwater Vulnerability		
Scottish Environment Protection Agency - East Region	December 1995	Not Applicable
Scottish Environment Protection Agency - Head Office	December 1995	Not Applicable
Drift Deposits		
Scottish Environment Protection Agency - East Region	December 1995	Not Applicable
Scottish Environment Protection Agency - Head Office	December 1995	Not Applicable
River Flood Data (Scotland)		
Centre for Ecology and Hydrology	September 1999	Not Applicable
OS Water Network Lines		
Ordnance Survey	September 2020	Quarterly
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	Annually

Data Currency

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Integrated Pollution Control Registered Waste Sites		
Scottish Environment Protection Agency - Head Office	January 1998	Not Applicable
Scottish Environment Protection Agency - East Region	March 2002	Not Applicable
Local Authority Landfill Coverage		
City of Edinburgh Council	May 2000	Not Applicable
East Lothian Council	May 2000	Not Applicable
Midlothian Council - Waste Management Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
City of Edinburgh Council	May 2000	Not Applicable
East Lothian Council	May 2000	Not Applicable
Midlothian Council - Waste Management Department	May 2000	Not Applicable
Registered Landfill Sites		
Scottish Environment Protection Agency - East Region	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Alloa Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Arboath Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Galashiels Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Glenrothes Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Perth Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Stirling Office	December 2005	Not Applicable
Scottish Environment Protection Agency - Head Office	December 2005	Not Applicable
Registered Waste Transfer Sites		
Scottish Environment Protection Agency - East Region	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Alloa Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Arboath Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Galashiels Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Glenrothes Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Perth Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Stirling Office	December 2005	Not Applicable
Scottish Environment Protection Agency - Head Office	December 2005	Not Applicable
Registered Waste Treatment or Disposal Sites		
Scottish Environment Protection Agency - East Region	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Alloa Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Arboath Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Galashiels Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Glenrothes Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Perth Office	December 2005	Not Applicable
Scottish Environment Protection Agency - East Region - Stirling Office	December 2005	Not Applicable
Scottish Environment Protection Agency - Head Office	December 2005	Not Applicable

Data Currency

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements City of Edinburgh Council - City Development Department East Lothian Council - Planning Department Midlothian Council - Planning Department	 February 2016 February 2016 February 2016	 Variable Variable Variable
Planning Hazardous Substance Consents City of Edinburgh Council - City Development Department East Lothian Council - Planning Department Midlothian Council - Planning Department	 February 2016 February 2016 February 2016	 Variable Variable Variable
Geological	**Version**	**Update Cycle**
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2020	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Data Currency

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2021	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2021	Quarterly
Gas Pipelines National Grid	January 2021	
Sensitive Land Use	**Version**	**Update Cycle**
Ancient Woodland Scottish Natural Heritage	July 2014	Bi-Annually
Areas of Adopted Green Belt City of Edinburgh Council East Lothian Council Midlothian Council	 June 2020 June 2020 June 2020	 As notified As notified As notified
Areas of Unadopted Green Belt City of Edinburgh Council East Lothian Council Midlothian Council	 June 2020 June 2020 June 2020	 As notified As notified As notified
Environmentally Sensitive Areas Scottish Government	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves City of Edinburgh Council East Lothian Council Midlothian Council	 February 2018 February 2018 February 2018	 Bi-Annually Bi-Annually Bi-Annually
Marine Nature Reserves Scottish Natural Heritage	July 2019	Bi-Annually
National Nature Reserves Scottish Natural Heritage	June 2018	Bi-Annually
National Parks Scottish Government	December 2013	Bi-Annually
National Scenic Areas Scottish Government	December 2013	Bi-Annually
Nitrate Vulnerable Zones Scottish Government	July 2019	Annually
Ramsar Sites Scottish Natural Heritage	April 2019	Bi-Annually
Sites of Special Scientific Interest Scottish Natural Heritage	March 2019	Bi-Annually
Special Areas of Conservation Scottish Natural Heritage	August 2020	Bi-Annually
Special Protection Areas Scottish Natural Heritage	February 2021	Bi-Annually

Data Suppliers

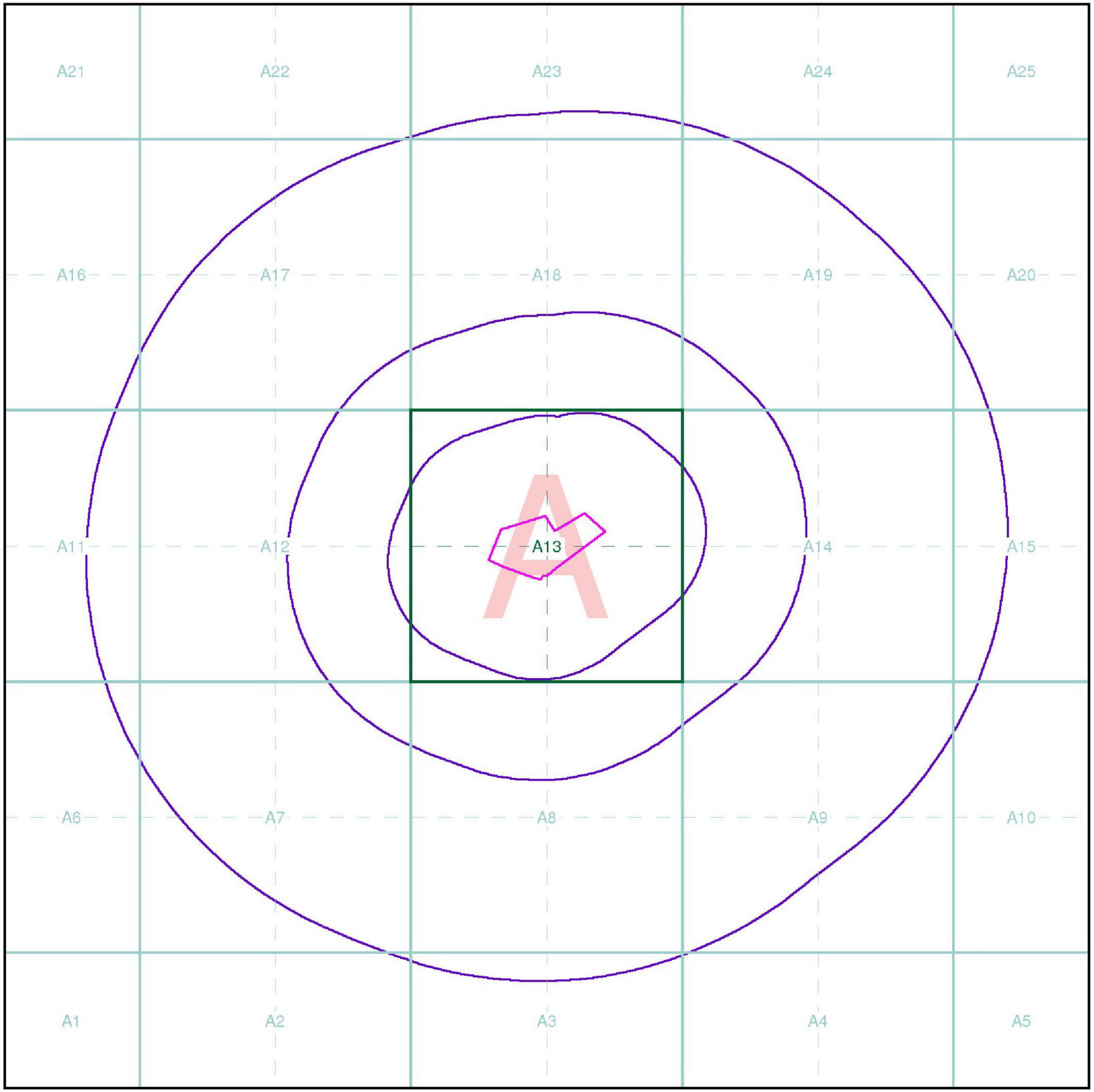
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Stantec UK Ltd	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Scottish Environment Protection Agency - East Region** Clearwater House, Heriot Watt Research Park, Avenue North, Riccarton, Edinburgh, Midlothian, EH14 4AP	Telephone: 0131 449 7296 Fax: 0131 449 7277
3	**Scottish Environment Protection Agency - Head Office** Erskine Court, The Castle Business Park, Stirling, Stirlingshire, FK9 4TR	Telephone: 01786 457700 Fax: 01786 446885
4	**Centre for Ecology and Hydrology** Maclean Building, Crowmarsh Gifford, WALLINGFORD, Oxfordshire, OX10 8BB	Telephone: 01491 838800 Fax: 01491 692424
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**Midlothian Council - Waste Management Department** Fairfield House, 8 Lothian Road, Dalkeith, Midlothian, EH22 3AA	Telephone: 0131 271 3337 Website: www.midlothian.gov.uk
7	**City of Edinburgh Council** Council Headquarters, Wellington Court, 10 Waterloo Place, Edinburgh, EH1 3EG	Telephone: 0131 200 2000 Email: council.info@edinburgh.gov.uk Website: www.edinburgh.gov.uk
8	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
9	**Scottish Natural Heritage** 12 Hope Terrace, Edinburgh, Midlothian, EH9 2AS	Telephone: 01463 725000
10	**Midlothian Council** Midlothian House, Buccleuch Street, Dalkeith, Lothian, EH22 1DN	Telephone: 0131 270 7500 Fax: 0131 271 3050 Website: www.midlothian.gov.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.



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Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Map data
British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL
SEPA Scottish Environment Protection Agency
SCOTTISH NATURAL HERITAGE

Envirocheck reports are compiled from 136 different sources of data.

Client Details

Ms P Morton, Mason Evans Partnership, The Piazza, 95 Morrison Street, (office side door on Dalentober St), Glasgow, G5 8BE

Order Details

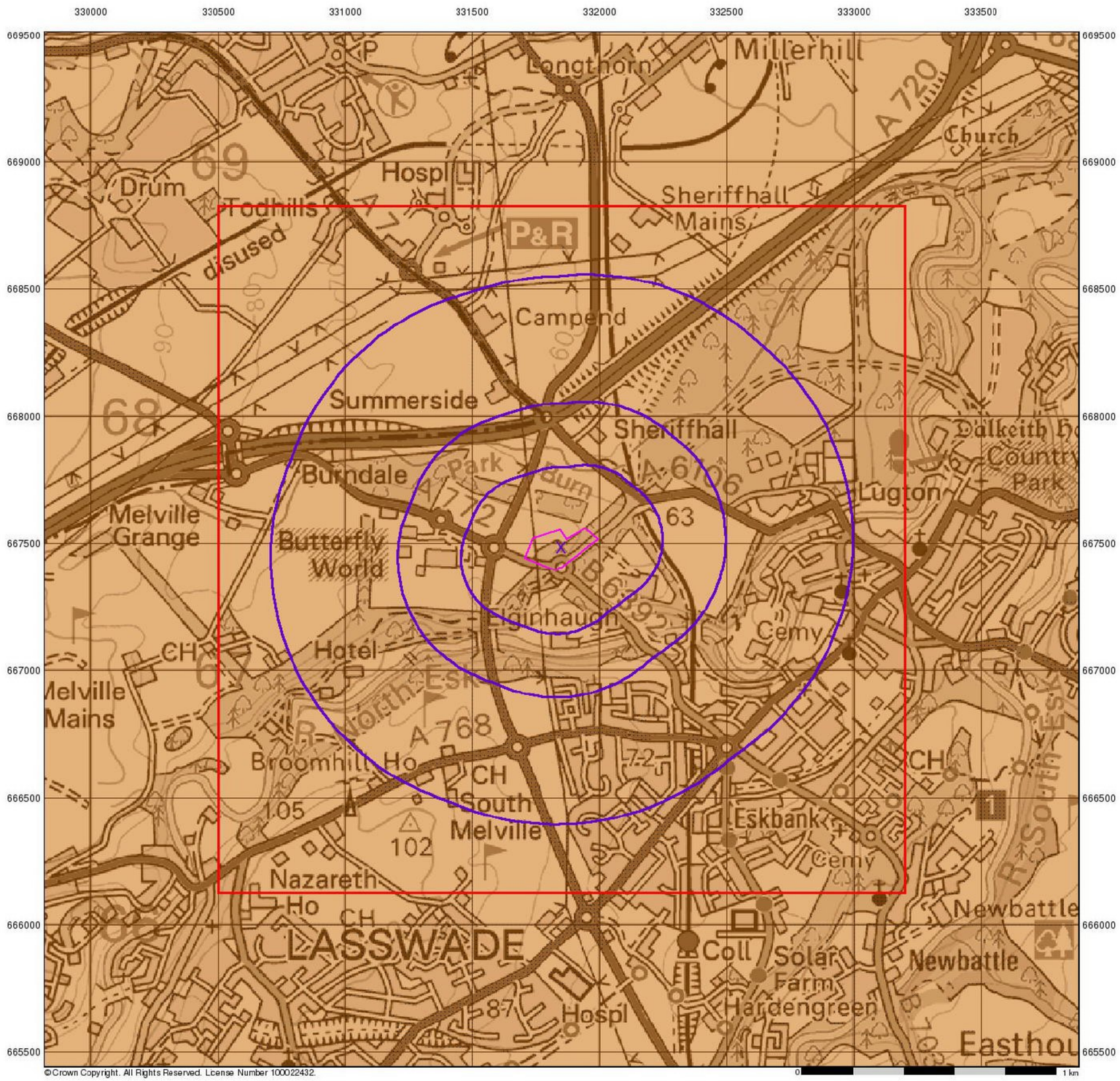
Order Number:	276311335_1_1
Customer Ref:	P20-504 PR
National Grid Reference:	331840, 667480
Site Area (Ha):	2.7
Search Buffer (m):	1000

Site Details

Site at 331820, 667460

Full Terms and Conditions can be found on the following link:
http://www.landmarkinfo.co.uk/Terms/Show/515

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



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Groundwater Vulnerability

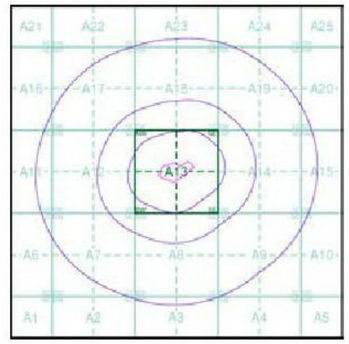
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Geological Classes	Soil Classes
Highly Permeable	High
	Intermediate
	Low
Moderately Permeable	
Weakly Permeable	
Water or Sea	
Drift Deposit	

Site Sensitivity Context Map - Slice A



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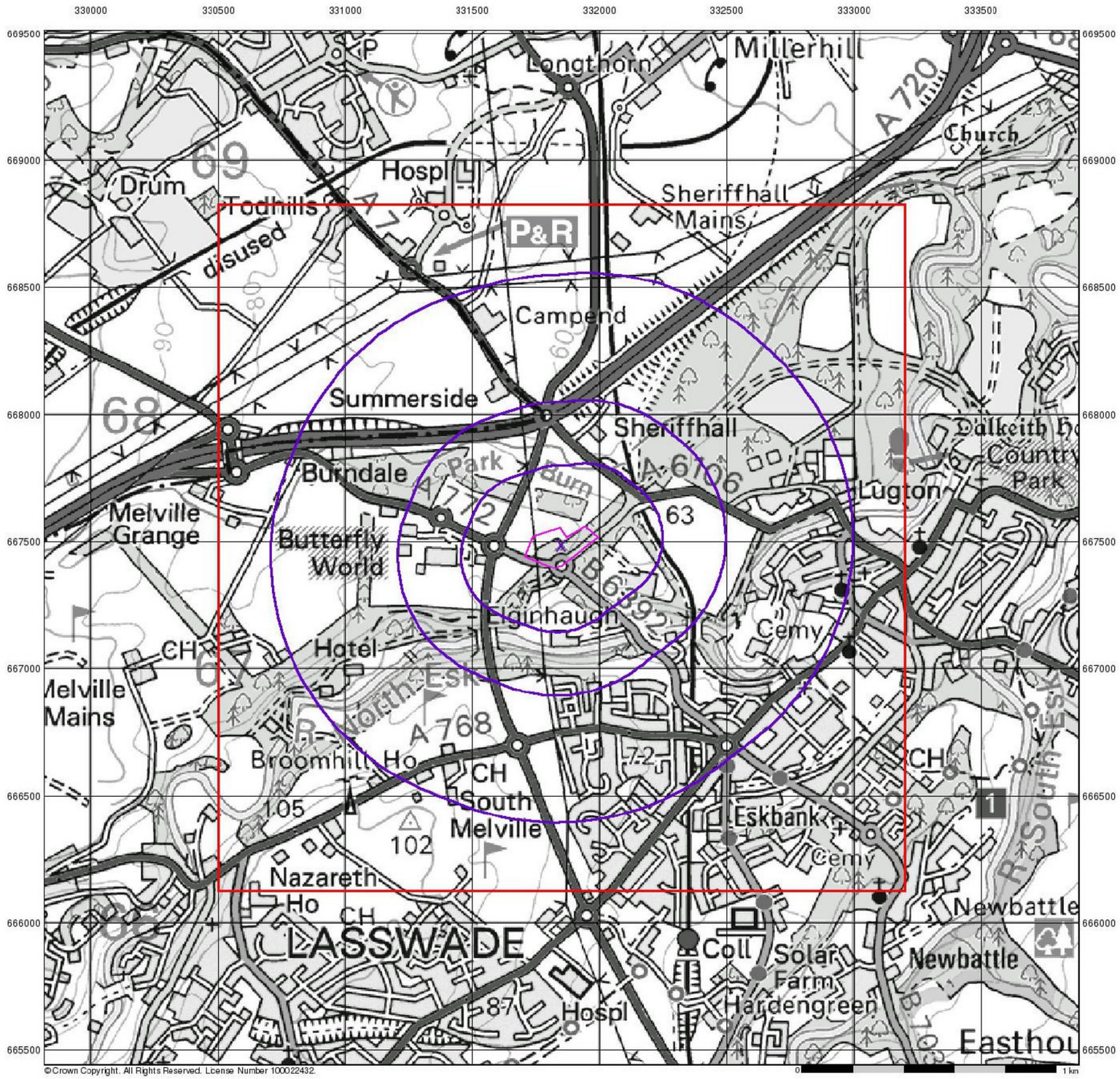

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Source Protection Zones

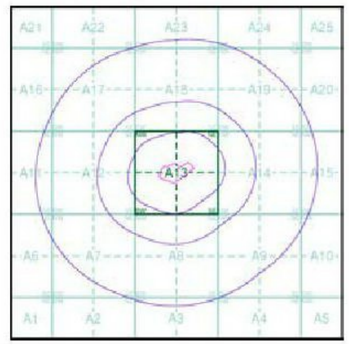
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



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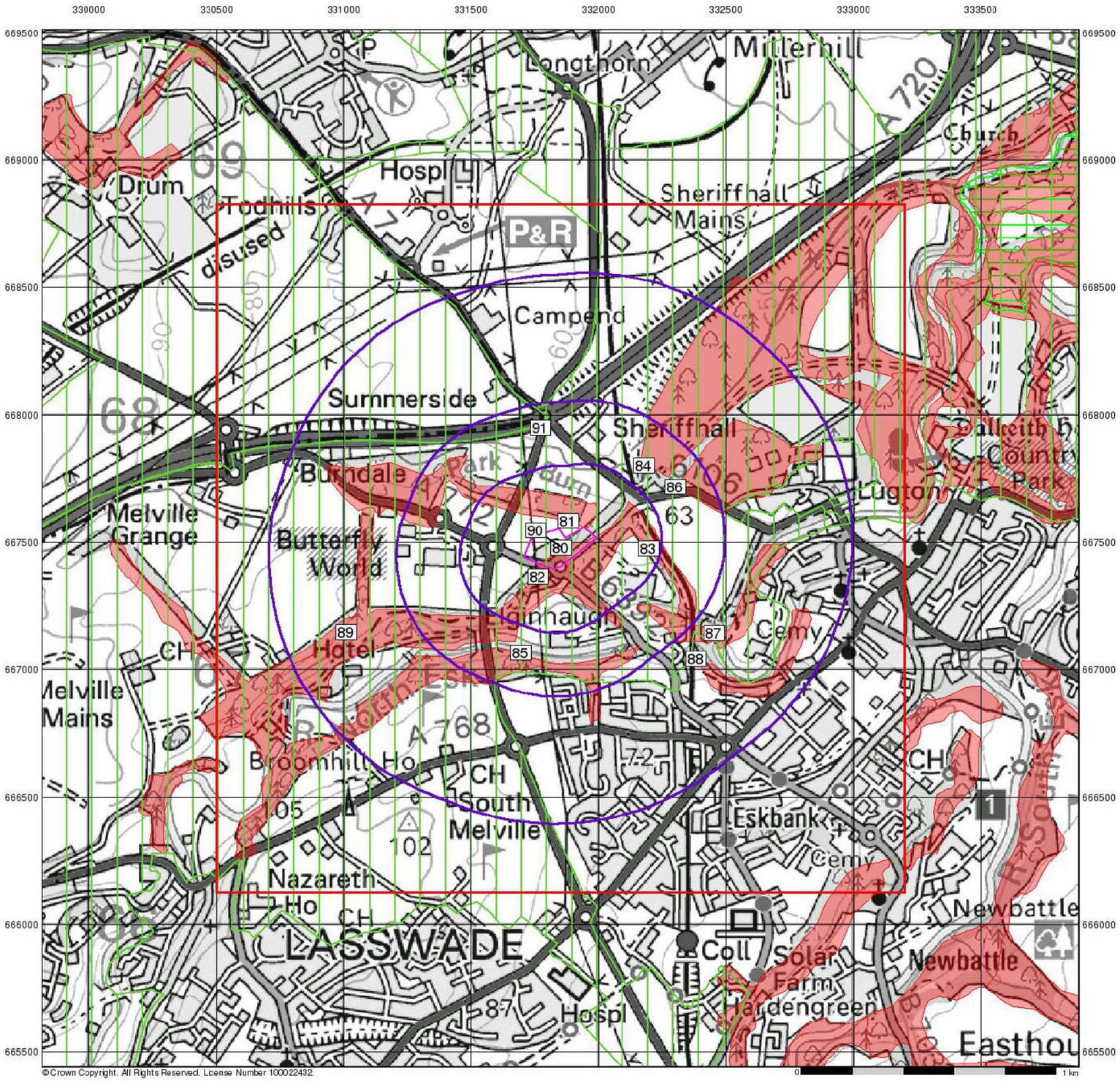

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Sensitive Land Uses

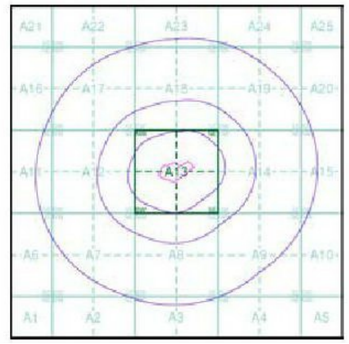
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- National Scenic Area
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



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