Appendix 7

Geotechnical Soil Laboratory Test Results

Classification Tests in accordance with BS1377: Part 4

Engineer	Arup
Site	Dub 15 Digital Realty
S.I. File No	5840 / 21
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email info@siteinvestigations.ie
Report Date	10th May 2021

Hole ID	Depth	Sample No	Lab Ref No.	Sample Type	Natural Moisture Content %	Liquid Limit %	Plastic Limit %	Plastic Index %	Min. Dry Density Mg/m^3	Particle Density Mg/m^3	% passing 425um	Comments	**Remarks C**=Clay; **M**=Silt **Plasticity**: **L**=Low; **I**=Intermediate; **H**=High; **V**=Very High; **E**=Extremely High
BH101	1.00	GM02	21/355	B	10.7	33	20	13			44.1		CL
BH101	2.00	GM04	21/356	B	16.4	34	20	14			67.5		CL
BH102	1.00	GM07	21/357	B	13.7	35	20	15			53.2		CL/CI
BH102	2.00	GM9	21/358	B	13.4	34	19	15			70.5		CL
BH102	3.00	GM11	21/359	B	17.0	40	20	20			86.3		CI
BH103	1.00	GM14	21/360	B	16.4	38	19	19			87.8		CI
BH103	2.00	GM16	21/361	B	13.4	32	18	14			42.5		CL
BH103	2.20	GM18	21/362	B	12.5	31	18	13			50.4		CL
BH104	1.00	GM20	21/363	B	16.4	30	18	12			46.6		CL
BH104	2.00	GM22	21/364	B	13.2	29	19	10			43.5		CL
BH104	3.00	GM24	21/365	B	15.4	34	19	15			59.4		CL
BH104	3.50	GM26	21/366	B	12.8	33	19	14			45.4		CL
BH105	1.00	JOT02	21/367	B	30.8	38	21	17			62.3		CL
BH105	2.00	JOT04	21/368	B	11.9	36	21	15			46.5		CI
BH105	3.00	JOT06	21/369	B	11.3	34	18	16			41.0		CL
BH105	3.60	JOT08	21/370	B	12.5	32	18	14			44.7		CL
TP101	1.50	PM51	21/371	B	13.4	37	22	15			48.6		CI
TP101	2.50	PM53	21/372	B	21.7	32	18	14			53.2		CL
TP101	3.50	PM55	21/373	B	18.5	38	20	18			43.2		CI
TP102	0.50	PM17	21/339	B	21.6								
TP102	1.50	PM19	21/340	B	13.8	38	21	17			49.2		CI
TP102	2.50	PM21	21/341	B	24.8								
TP102	3.50	PM23	21/342	B	11.0	34	20	14			51.5		CL
TP103	0.50	PM09	21/343	B	19.6	32	19	13			28.7		CL
TP103	1.50	PM11	21/344	B	7.6								
TP104	1.50	PM45	21/374	B	15.8	32	19	13			48.6		CL

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Site	Dub 15 Digital Realty
S.I. File No	5840 / 21
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email info@siteinvestigations.ie
Report Date	10th May 2021

Hole ID	Depth	Sample No	Lab Ref No.	Sample Type	Natural Moisture Content %	Liquid Limit %	Plastic Limit %	Plastic Index %	Min. Dry Density Mg/m^3	Particle Density Mg/m^3	% passing 425um	Comments	**Remarks C**=Clay; **M**=Silt **Plasticity**: **L**=Low; **I**=Intermediate; **H**=High; **V**=Very High; **E**=Extremely High
TP104	2.50	PM47	21/375	B	15.8	34	20	14			57.1		CL
TP105	0.50	PM13	21/345	B	34.5								
TP105	1.50	PM15	21/346	B	9.7	33	19	14			26.1		CL
TP106	0.50	PM01	21/347	B	16.1	36	20	16			44.1		CI
TP106	1.50	PM03	21/348	B	13.0	33	18	15			27.4		CL
TP107	0.50	PM05	21/349	B	21.8	31	18	13			30.9		CL
TP107	1.50	PM07	21/350	B	11.7								
TP108	2.50	PM27	21/351	B	10.9	33	19	14			42.2		CL
TP108	3.50	PM29	21/352	B	29.8	37	20	17			45.7		CI
TP109	2.50	PM92	21/376	B	20.4	36	20	16			55.4		CI
TP110	0.50	PM31	21/353	B	17.7	32	19	13			47.5		CL
TP110	1.50	PM33	21/354	B	10.9	34	20	14			44.1		CL
TP111	0.50	PM57	21/377	B	6.3	19	NP				10.5		
TP111	1.50	PM59	21/378	B	10.4	37	21	16			56.3		CI
TP112	3.50	PM69	21/379	B	13.7	32	19	13			32.0		CL
TP112	4.50	PM71	21/380	B	14.6	35	20	15			43.2		CL/CI
TP113	3.50	PM97	21/381	B	24.2	36	20	16			57.4		CI
TP113	4.00	PM99	21/382	B	9.5	34	19	15			38.7		CL
TP114	1.50	PM62	21/383	B	18.1	34	20	14			47.9		CL
TP114	2.50	PM64	21/384	B	26.6	38	19	19			43.5		CI
TP115	3.00	PM88	21/385	B	8.1	33	18	15			35.8		CL
TP116	4.00	PM77	21/386	B	10.3	34	19	15			39.7		CL
TP117	0.50	PM79	21/387	B	11.9	32	18	14			34.0		CL
TP117	1.50	PM81	21/388	B	12.3	35	20	15			57.7		CL/CI
TP117	2.50	PM83	21/389	B	10.2	33	18	15			36.7		CL
FP102	1.50	PM42	21/338	B	13.5	33	19	14			36.3		CL

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Site	Dub 15 Digital Realty
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Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email info@siteinvestigations.ie
Report Date	10th May 2021

Hole ID	Depth	Sample No	Lab Ref No.	Sample Type	Natural Moisture Content %	Liquid Limit %	Plastic Limit %	Plastic Index %	Min. Dry Density Mg/m^3	Particle Density Mg/m^3	% passing 425um	Comments	**Remarks** **C**=Clay; **M**=Silt **Plasticity**: **L**=Low; **I**=Intermediate; **H**=High; **V**=Very High; **E**=Extremely High
FP103	1.50	PM37	21/337	B	13.2	33	20	13			30.6		CL

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BS 1377 Particle Size Analysis

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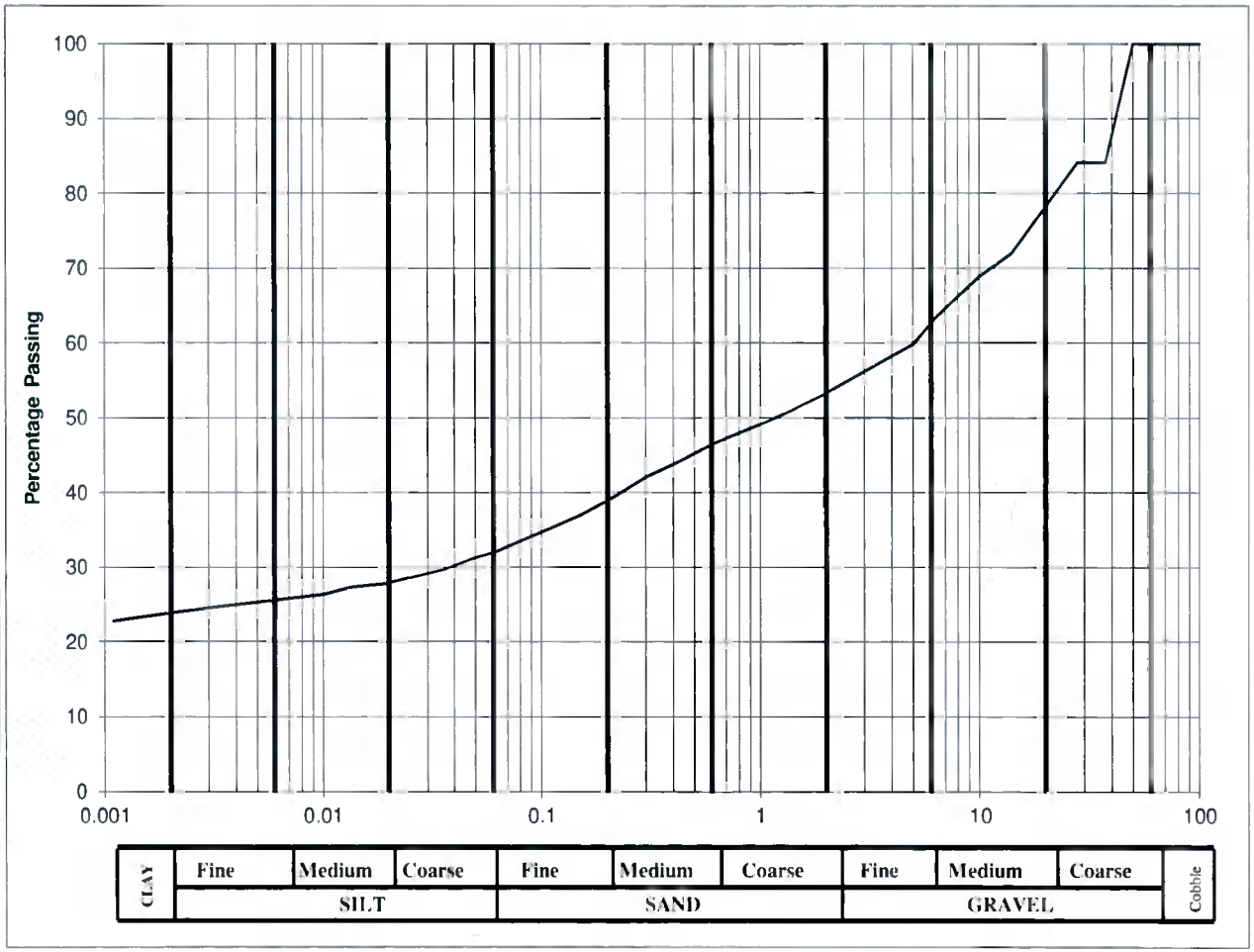
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	32
90	100	**0.0200**	28
75	100	**0.0060**	26
63	100	**0.0020**	24
50	100		
37.5	84.1		
28	84.1		
20	78.2		
14	72		
10	68.8		
6.3	63.3		
5.0	59.8		
2.36	54.5		
2.00	53.3		
1.18	50		
0.600	46.4		
0.425	44.1		
0.300	42		
0.212	39.3		
0.150	36.9		
0.063	32		



Cobbles, %	0
Gravel, %	47
Sand, %	21
Silt, %	8
Clay, %	24

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/355
Sample No :	GM02

Hole ID :	BH 101
Depth, m :	1.00

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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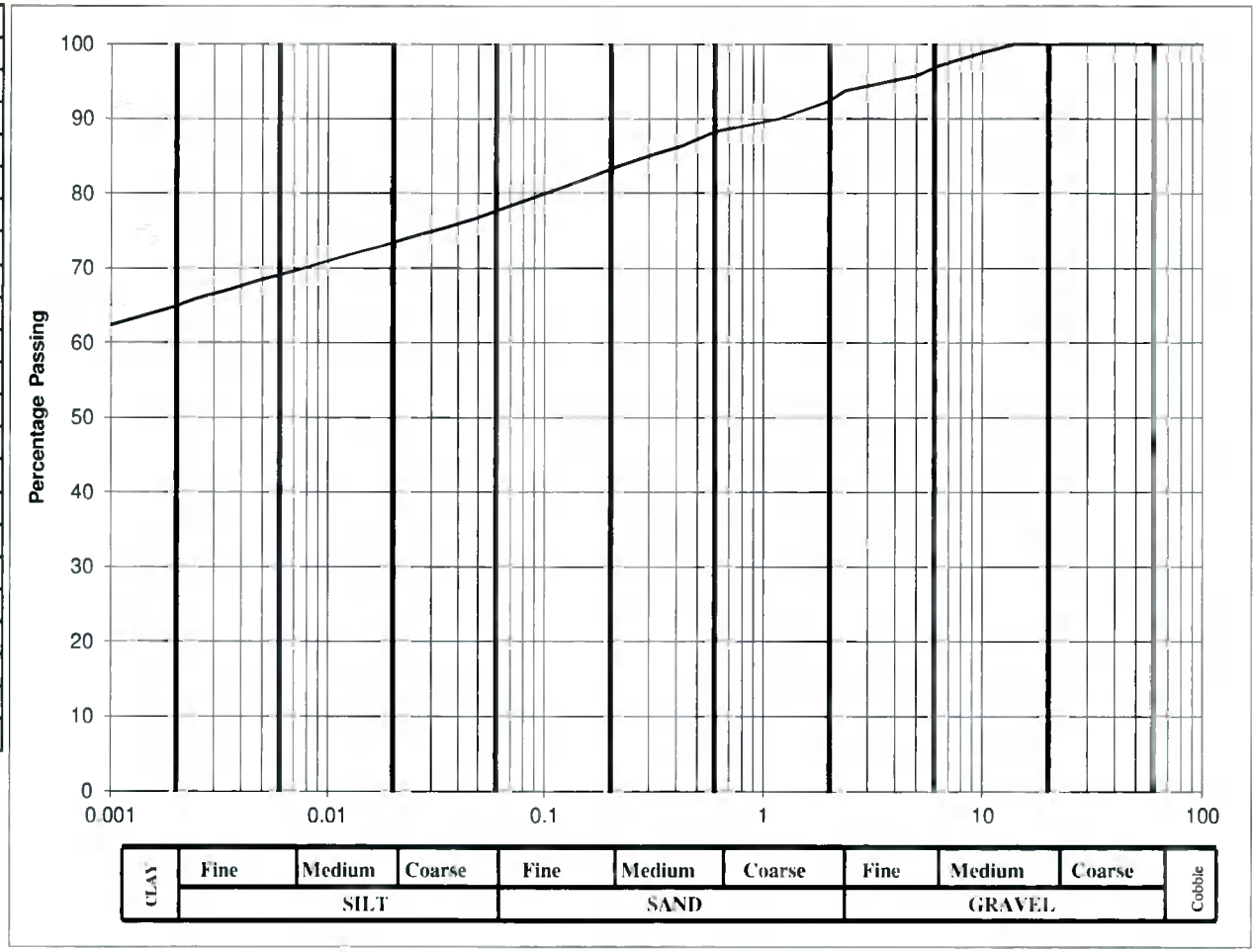
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	78
90	100	**0.0200**	74
75	100	**0.0060**	68
63	100	**0.0020**	65
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	98.8		
6.3	97		
5.0	95.7		
2.36	93.7		
2.00	92.4		
1.18	90		
0.600	88.2		
0.425	86.3		
0.300	85		
0.212	83.5		
0.150	81.8		
0.063	78		

Cobbles, %	0
Gravel, %	8
Sand, %	14
Silt, %	13
Clay, %	65



Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/359
Sample No :	GM11

Hole ID :	BH 102
Depth, m :	3.00

Material description :	slighty sandy slighty gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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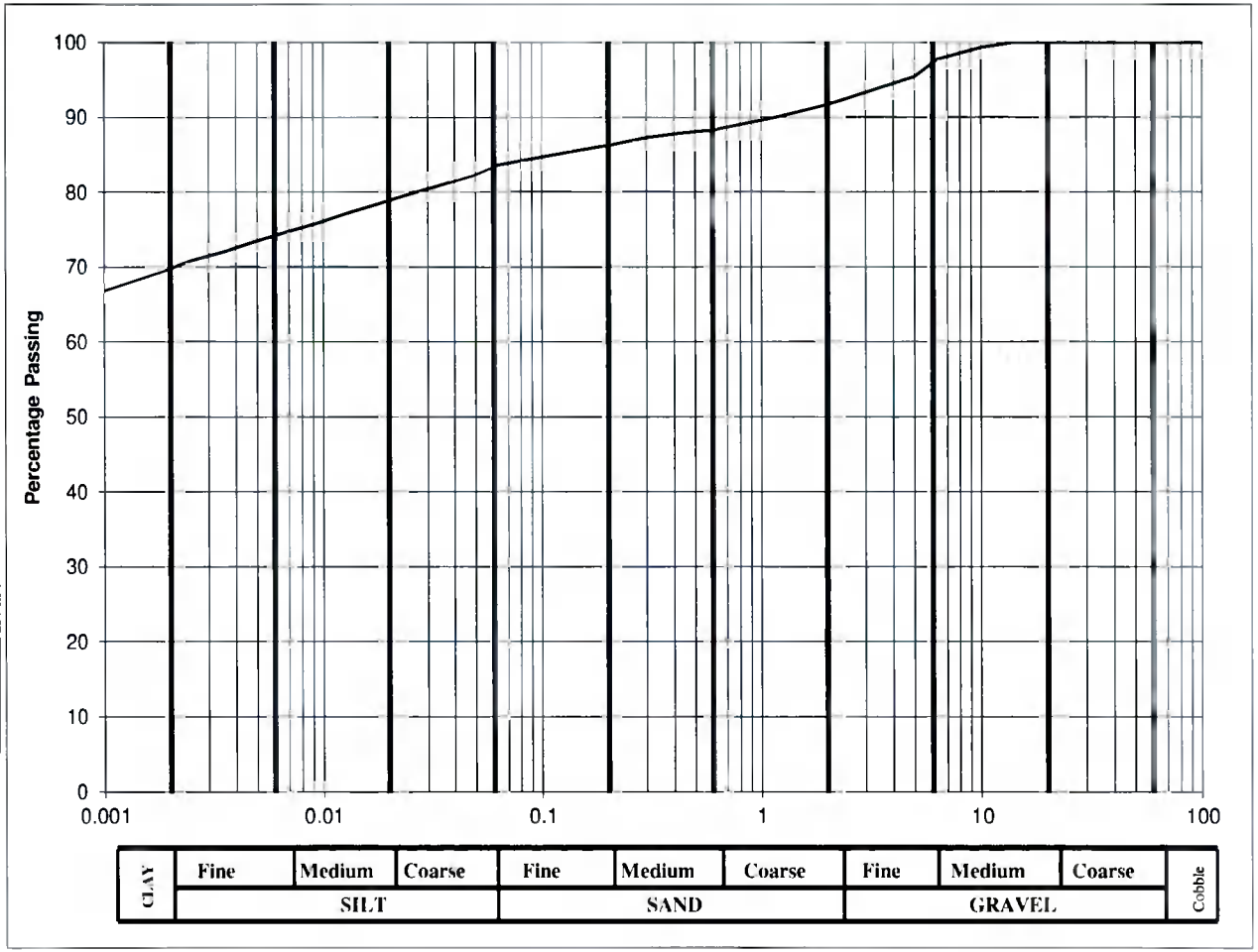
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	84
90	100	**0.0200**	78
75	100	**0.0060**	74
63	100	**0.0020**	70
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99.3		
6.3	97.7		
5.0	95.4		
2.36	92.3		
2.00	91.6		
1.18	90		
0.600	88.2		
0.425	87.8		
0.300	87.2		
0.212	86.3		
0.150	85.6		
0.063	84		



Cobbles, %	0
Gravel, %	8
Sand, %	8
Silt, %	14
Clay, %	70

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/360
Sample No :	GM14

Hole ID :	BH 103
Depth, m :	1.00

Material description :	slighty sandy slighty gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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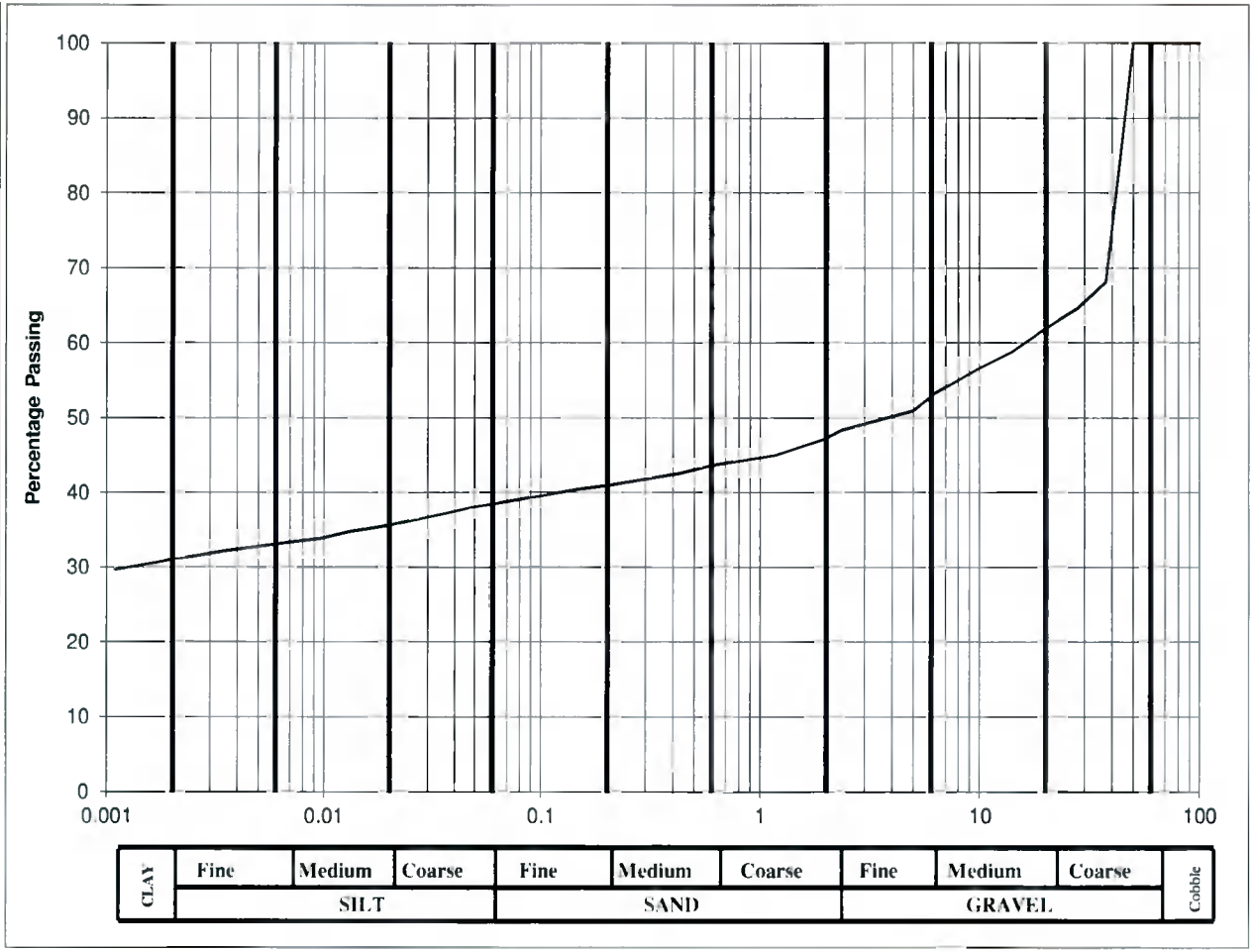
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	39
90	100	**0.0200**	36
75	100	**0.0060**	33
63	100	**0.0020**	31
50	100		
37.5	68.1		
28	64.6		
20	61.9		
14	58.8		
10	56.6		
6.3	53.3		
5.0	50.9		
2.36	48.3		
2.00	47.2		
1.18	45		
0.600	43.6		
0.425	42.5		
0.300	41.8		
0.212	41		
0.150	40.4		
0.063	39		



Cobbles, %	0
Gravel, %	53
Sand, %	8
Silt, %	8
Clay, %	31

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/361
Sample No :	GM16

Hole ID :	BH 103
Depth, m :	2.00

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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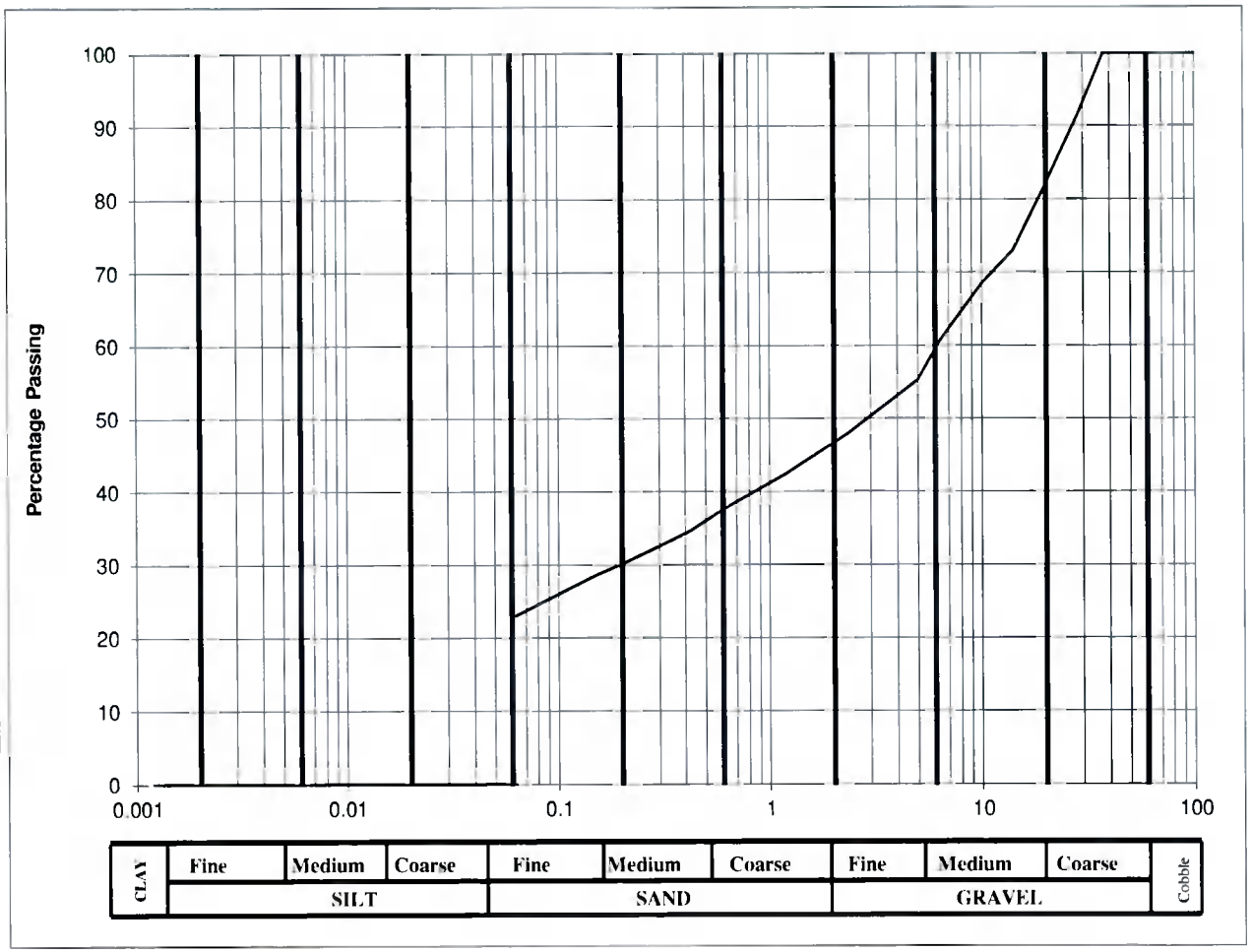
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	91.1		
20	82.1		
14	72.9		
10	68.4		
6.3	60.4		
5.0	55.2		
2.36	48		
2.00	46.6		
1.18	42.3		
0.600	37.5		
0.425	34.6		
0.300	32.5		
0.212	30.4		
0.150	28.5		
0.063	23		

Cobbles, %	0
Gravel, %	53
Sand, %	24
Clay / Silt, %	23



Engineer :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/363
Sample No :	GM20

Hole ID :	BH 104
Depth, m :	1.00

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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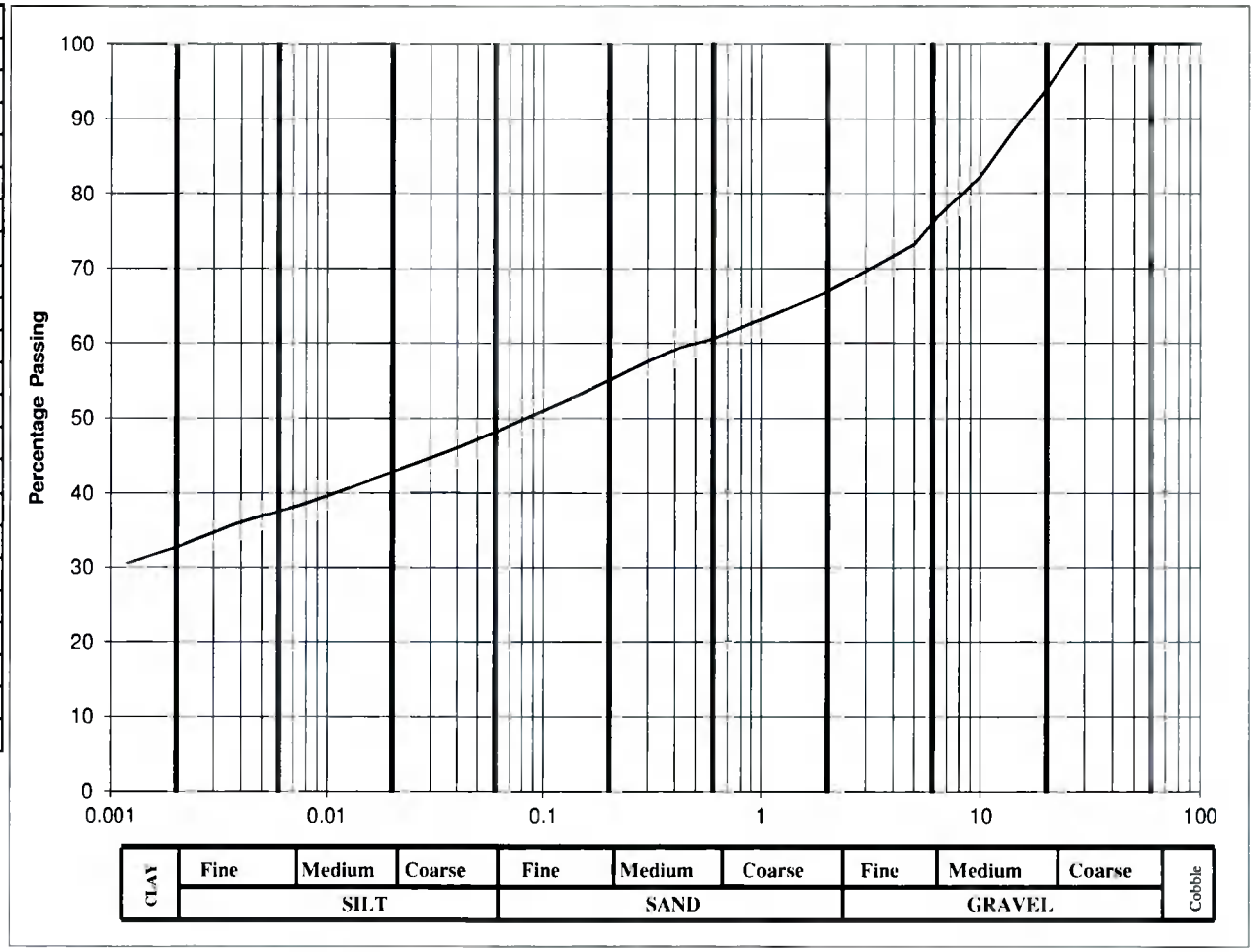
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	48
90	100	**0.0200**	43
75	100	**0.0060**	38
63	100	**0.0020**	32
50	100		
37.5	100		
28	100		
20	94		
14	88.2		
10	82.3		
6.3	76.8		
5.0	73.2		
2.36	68		
2.00	66.9		
1.18	64		
0.600	60.6		
0.425	59.4		
0.300	57.5		
0.212	55.4		
0.150	53.2		
0.063	48		



Cobbles, %	0
Gravel, %	33
Sand, %	19
Silt, %	16
Clay, %	32

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/365
Sample No :	GM24

Hole ID :	BH 104
Depth, m :	3.00

Material description :	slighty sandy slighty gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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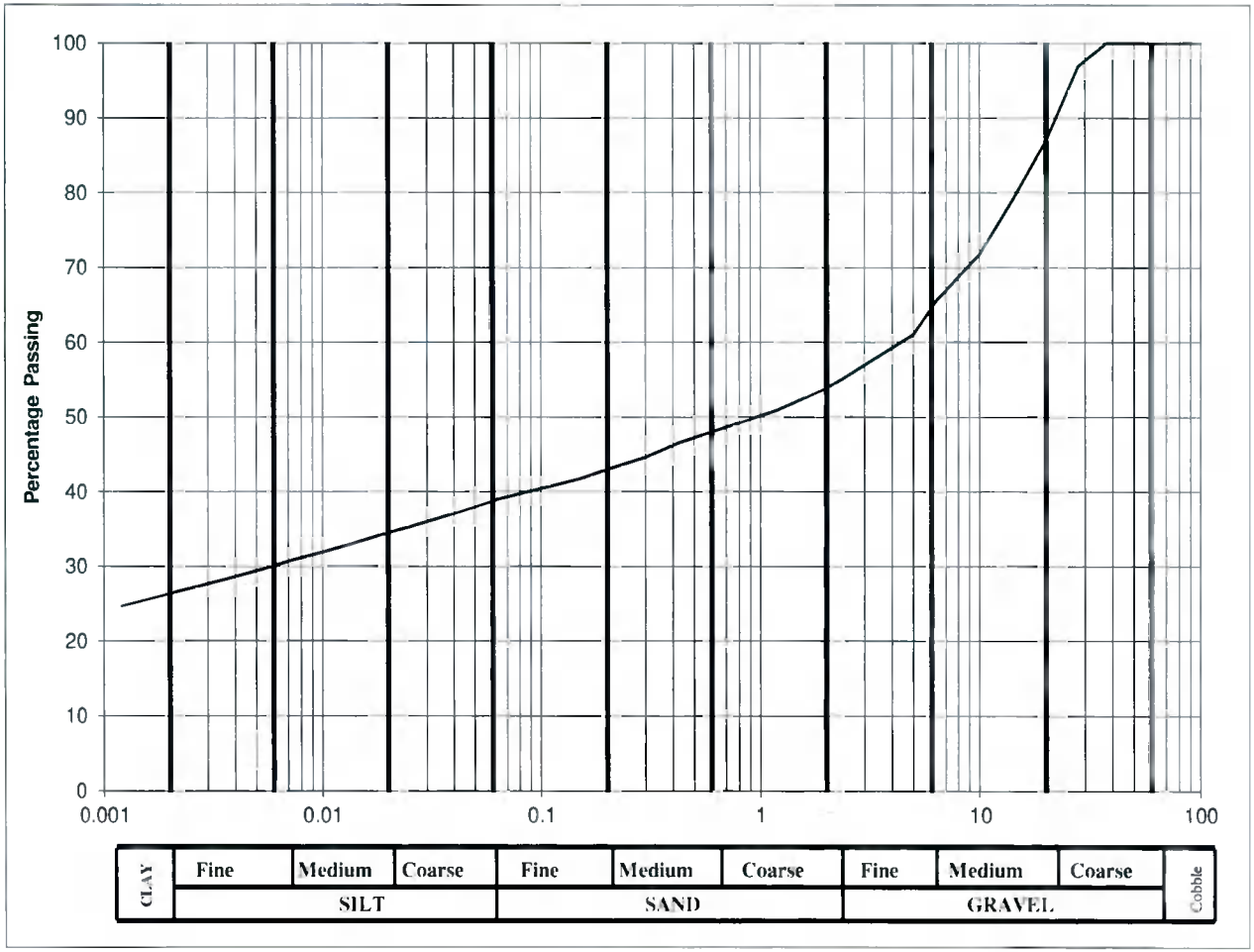
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	39
90	100	**0.0200**	35
75	100	**0.0060**	31
63	100	**0.0020**	27
50	100		
37.5	100		
28	96.9		
20	87		
14	78.9		
10	71.7		
6.3	65.5		
5.0	61		
2.36	55		
2.00	53.9		
1.18	50.8		
0.600	48		
0.425	46.5		
0.300	44.6		
0.212	43.2		
0.150	41.7		
0.063	39		



Cobbles, %	0
Gravel, %	46
Sand, %	15
Silt, %	12
Clay, %	27

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/368
Sample No :	JOT04

Hole ID :	BH 105
Depth, m :	2.00

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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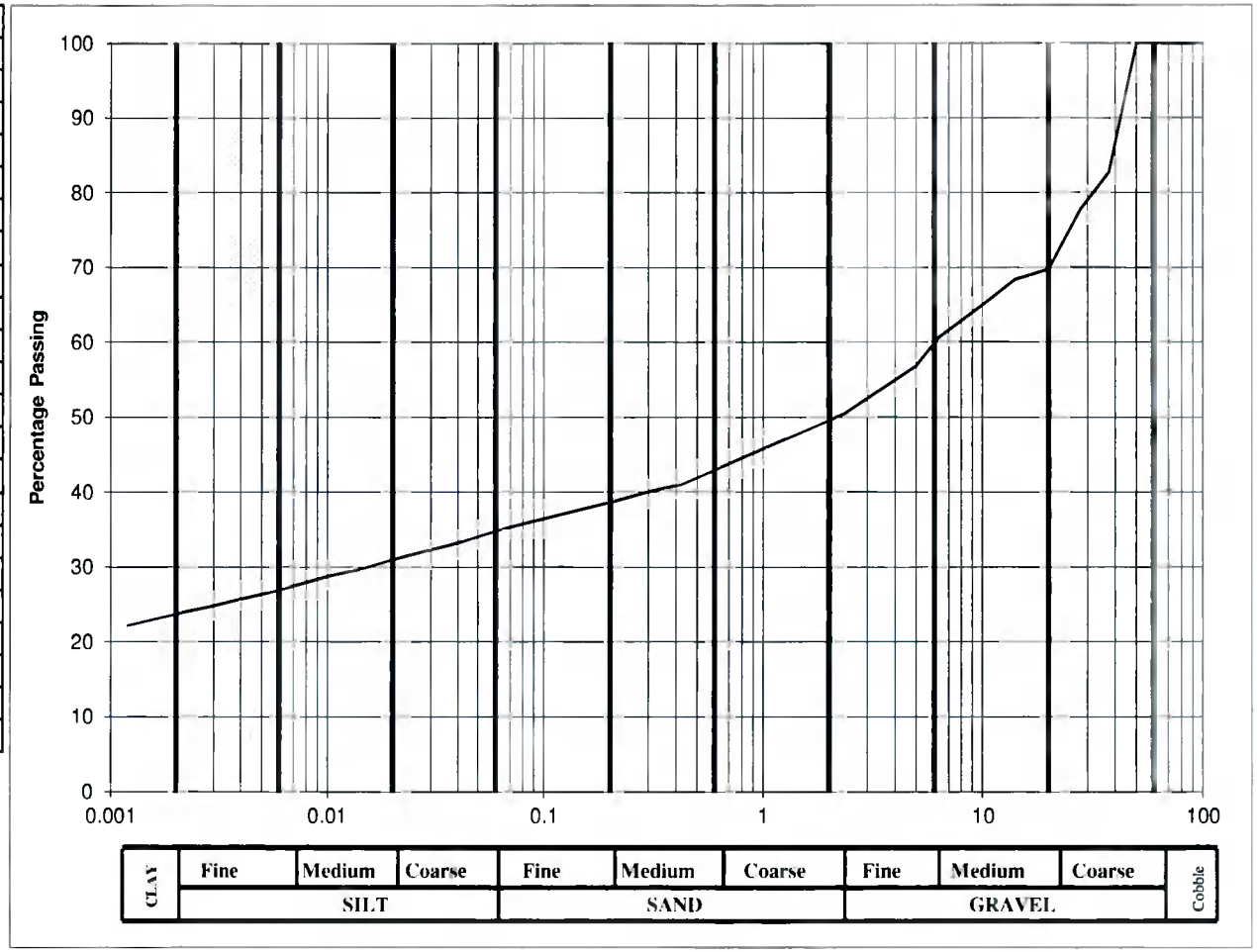
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	35
90	100	**0.0200**	31
75	100	**0.0060**	27
63	100	**0.0020**	24
50	100		
37.5	82.7		
28	77.8		
20	69.7		
14	68.3		
10	64.9		
6.3	60.6		
5.0	56.8		
2.36	50.5		
2.00	49.6		
1.18	46.7		
0.600	42.9		
0.425	41		
0.300	40		
0.212	38.8		
0.150	37.7		
0.063	35		



Cobbles, %	0
Gravel, %	50
Sand, %	15
Silt, %	11
Clay, %	24

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/369
Sample No :	JOT06

Hole ID :	BH 105
Depth, m :	3.00

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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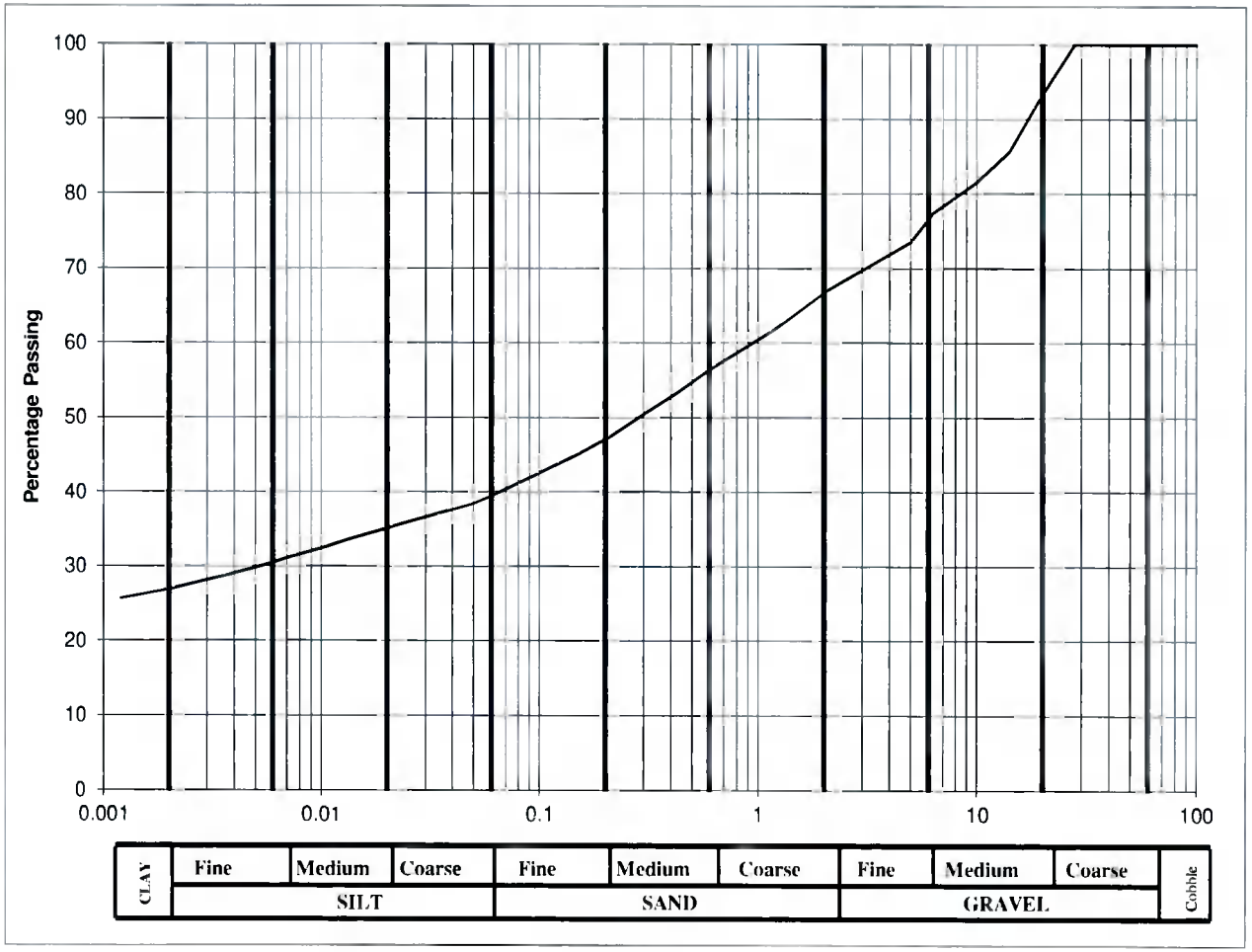
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	40
90	100	**0.0200**	35
75	100	**0.0060**	31
63	100	**0.0020**	27
50	100		
37.5	100		
28	100		
20	93.3		
14	85.6		
10	81.5		
6.3	77.4		
5.0	73.5		
2.36	68		
2.00	66.7		
1.18	61.7		
0.600	56.4		
0.425	53.2		
0.300	50.4		
0.212	47.4		
0.150	45		
0.063	40		



Cobbles, %	0
Gravel, %	33
Sand, %	27
Silt, %	13
Clay, %	27

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/372
Sample No :	PM53

Hole ID :	TP 101
Depth, m :	2.50

Material description :	slighty sandy slighty gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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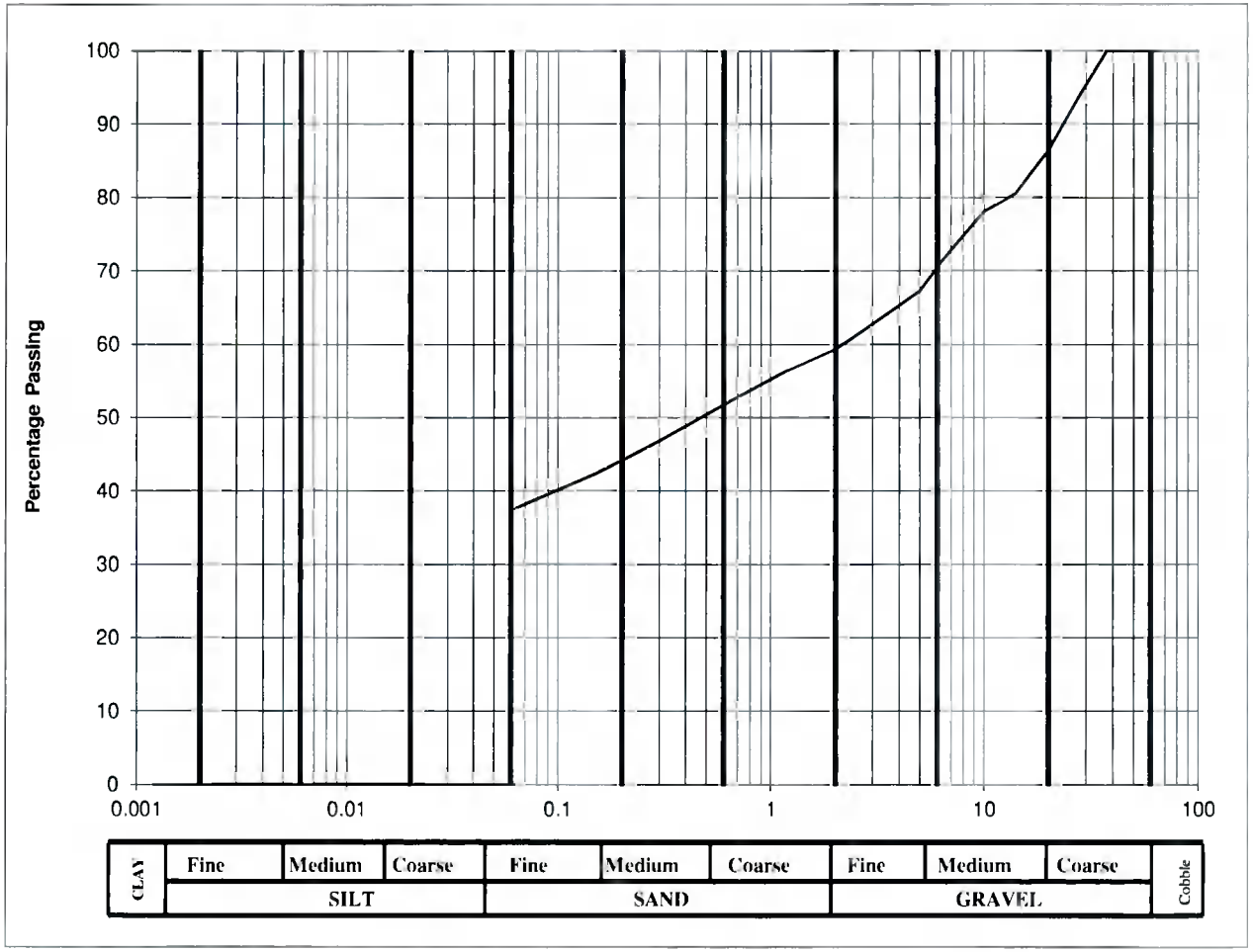
BS 1377 Particle Size Analysis

Site Investigations Limited

BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	100		
28	93.9		
20	86.4		
14	80.5		
10	78		
6.3	71.2		
5.0	67.2		
2.36	60.6		
2.00	59.3		
1.18	56.3		
0.600	51.7		
0.425	49.2		
0.300	46.8		
0.212	44.5		
0.150	42.3		
0.063	38		

Cobbles, %	0
Gravel, %	41
Sand, %	21
Clay / Silt, %	38



Engineer :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/340
Sample No :	PM19

Hole ID :	TP 102
Depth, m :	1.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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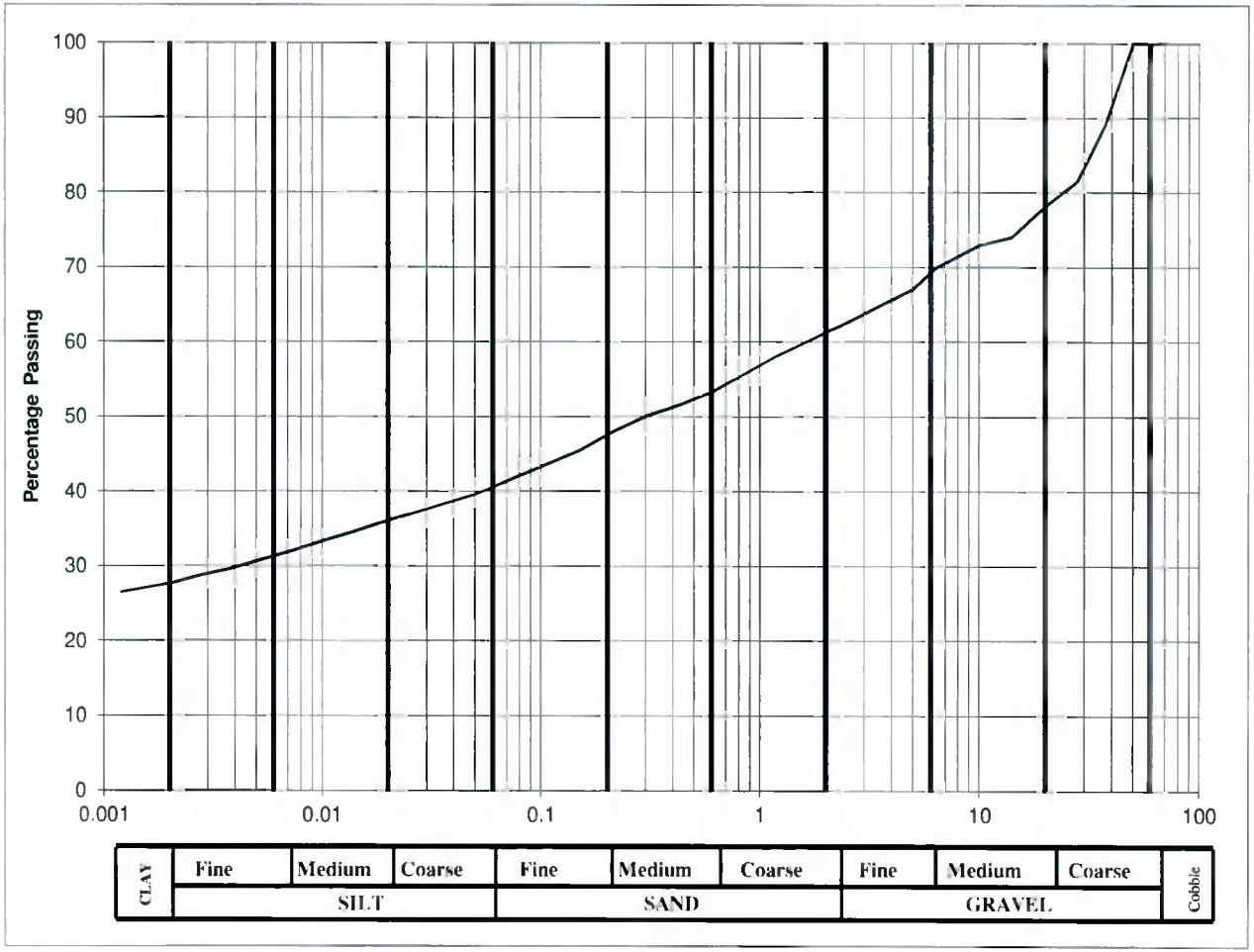
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	41
90	100	**0.0200**	37
75	100	**0.0060**	31
63	100	**0.0020**	28
50	100		
37.5	89.1		
28	81.4		
20	78.1		
14	74		
10	72.9		
6.3	69.8		
5.0	67		
2.36	62.2		
2.00	61.3		
1.18	58		
0.600	53.2		
0.425	51.5		
0.300	50		
0.212	47.9		
0.150	45.4		
0.063	41		

Cobbles, %	0
Gravel, %	39
Sand, %	20
Silt, %	13
Clay, %	28



Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/342
Sample No :	PM23

Hole ID :	TP 102
Depth, m :	3.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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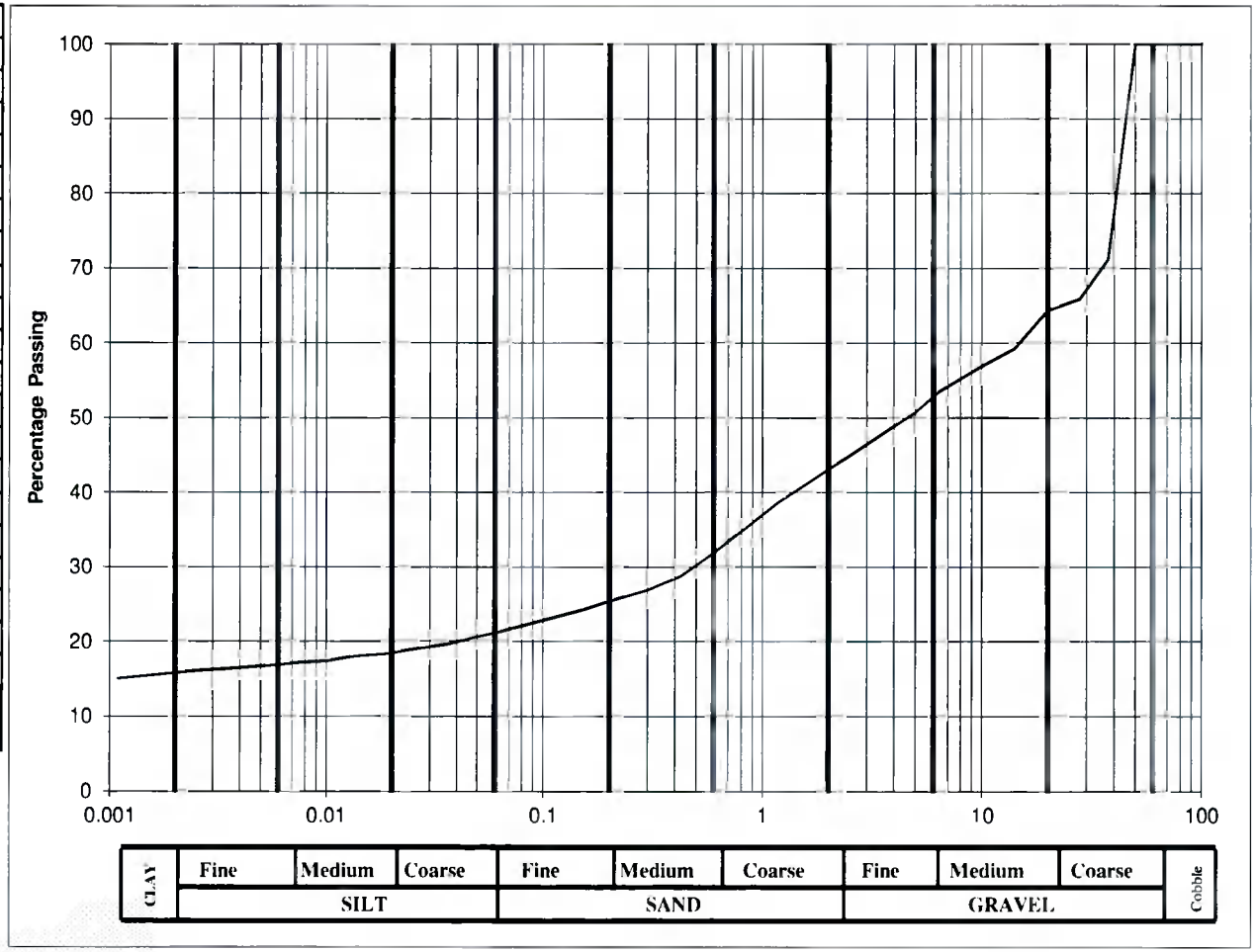
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	21
90	100	**0.0200**	19
75	100	**0.0060**	18
63	100	**0.0020**	17
50	100		
37.5	71.1		
28	65.8		
20	64.3		
14	59.2		
10	56.9		
6.3	53.4		
5.0	50.7		
2.36	44.4		
2.00	43.1		
1.18	38.6		
0.600	31.9		
0.425	28.7		
0.300	26.9		
0.212	25.6		
0.150	24.2		
0.063	21		



Cobbles, %	0
Gravel, %	57
Sand, %	22
Silt, %	4
Clay, %	17

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/343
Sample No :	PM09

Hole ID :	TP 103
Depth, m :	0.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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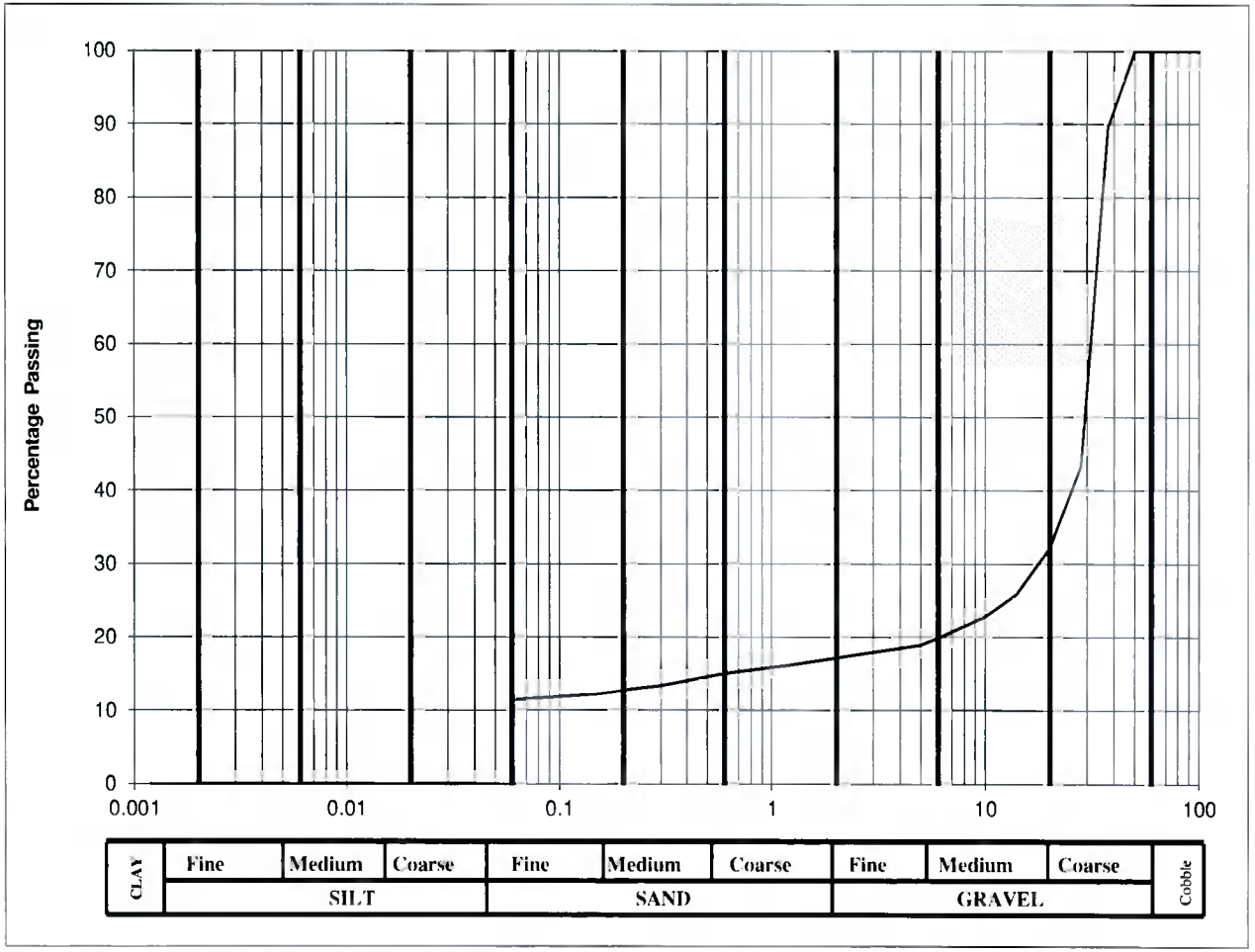
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	100		
37.5	89.6		
28	43.2		
20	32.2		
14	25.8		
10	22.8		
6.3	20.1		
5.0	18.9		
2.36	17.5		
2.00	17.1		
1.18	16.1		
0.600	15		
0.425	14.2		
0.300	13.3		
0.212	12.8		
0.150	12.2		
0.063	12		

Cobbles, %	0
Gravel, %	83
Sand, %	5
Clay / Silt, %	12



Engineer :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/344
Sample No :	PM11

Hole ID :	TP 103
Depth, m :	1.50

Material description :	silty slightly sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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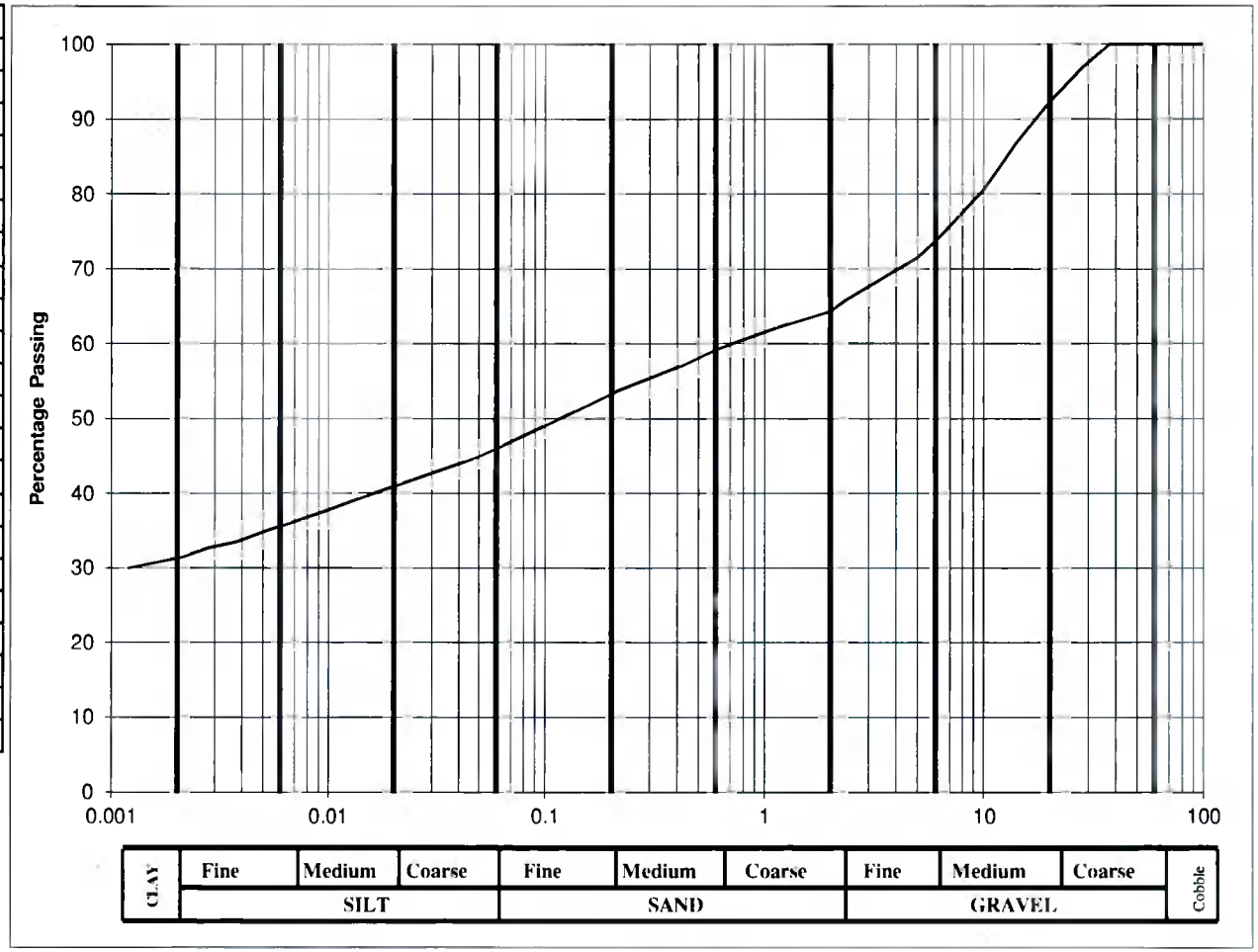
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	46
90	100	**0.0200**	41
75	100	**0.0060**	36
63	100	**0.0020**	31
50	100		
37.5	100		
28	96.7		
20	92.3		
14	86.7		
10	80.5		
6.3	74.3		
5.0	71.5		
2.36	65.8		
2.00	64.3		
1.18	62.3		
0.600	59.2		
0.425	57.1		
0.300	55.4		
0.212	53.6		
0.150	51.5		
0.063	46		



Cobbles, %	0
Gravel, %	36
Sand, %	18
Silt, %	15
Clay, %	31

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/375
Sample No :	PM47

Hole ID :	TP 104
Depth, m :	2.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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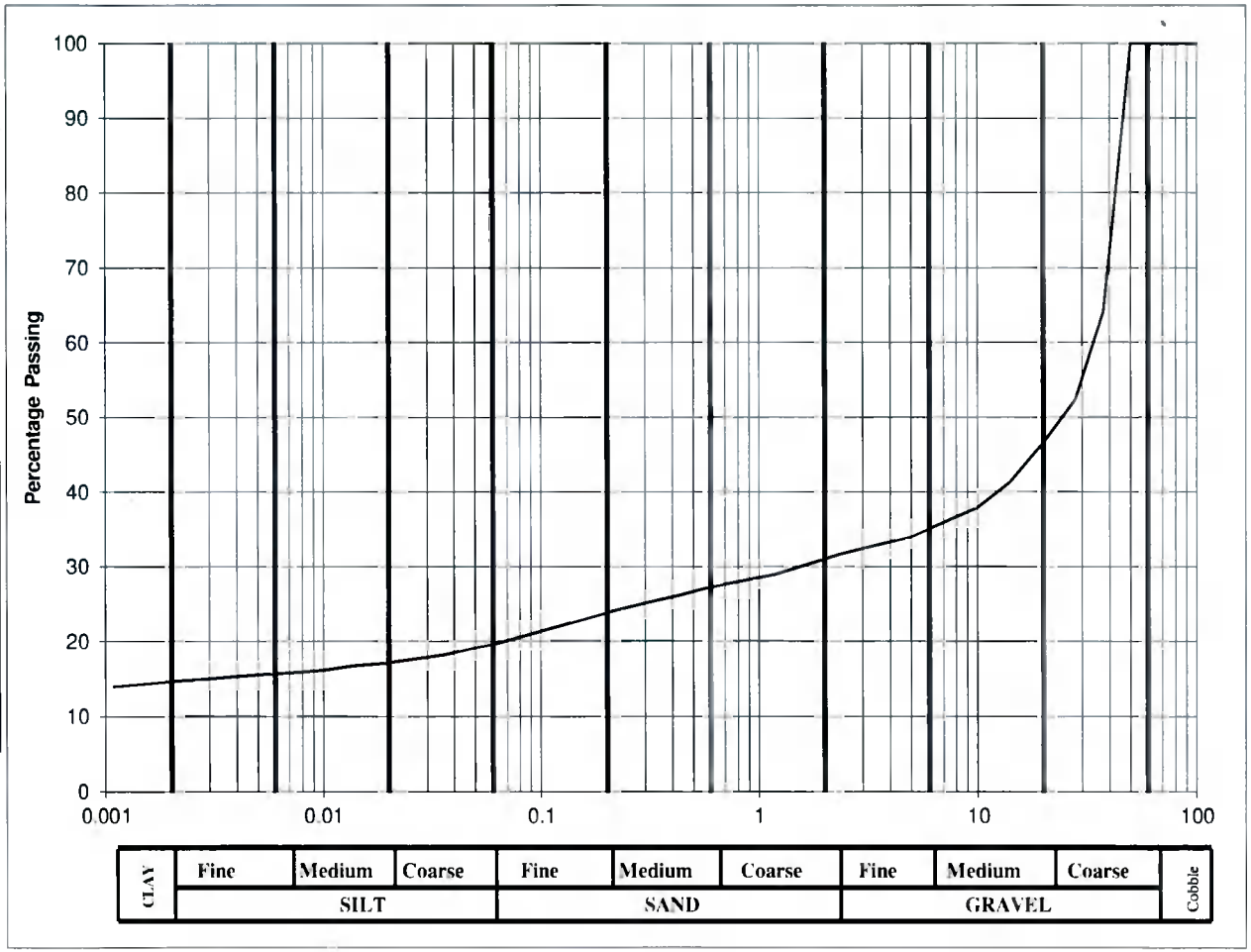
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	20
90	100	**0.0200**	18
75	100	**0.0060**	16
63	100	**0.0020**	15
50	100		
37.5	64.1		
28	52.3		
20	46.6		
14	41.3		
10	37.9		
6.3	35.3		
5.0	34		
2.36	31.6		
2.00	31		
1.18	28.9		
0.600	27.2		
0.425	26.1		
0.300	25.1		
0.212	24		
0.150	22.8		
0.063	20		



Cobbles, %	0
Gravel, %	69
Sand, %	11
Silt, %	5
Clay, %	15

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/346
Sample No :	PM15

Hole ID :	TP 105
Depth, m :	1.50

Material description :	slighty sandy very gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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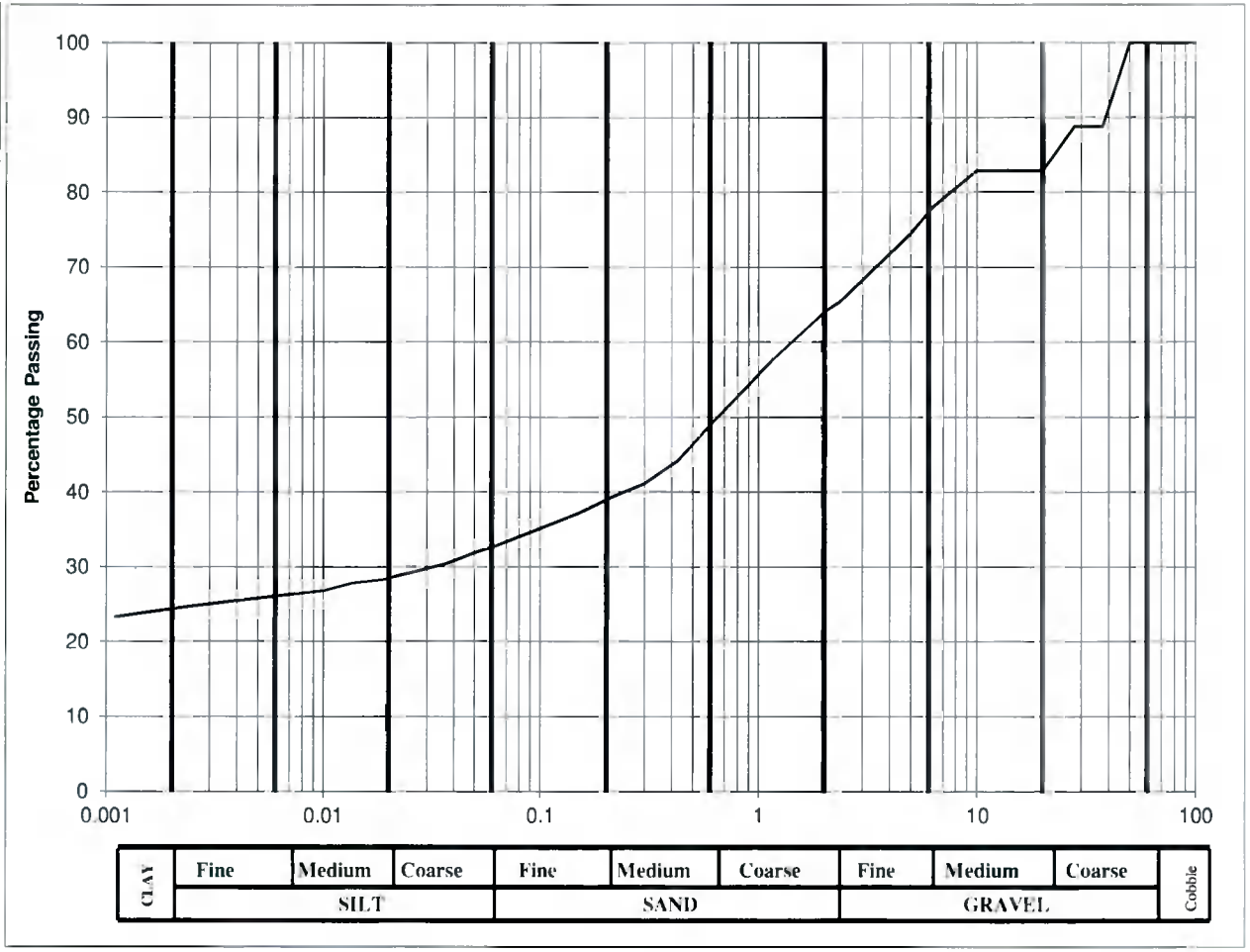
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	33
90	100	**0.0200**	29
75	100	**0.0060**	27
63	100	**0.0020**	25
50	100		
37.5	88.7		
28	88.7		
20	82.8		
14	82.8		
10	82.8		
6.3	78		
5.0	74.5		
2.36	65.3		
2.00	64		
1.18	57.8		
0.600	48.9		
0.425	44.1		
0.300	41.1		
0.212	39.3		
0.150	37.1		
0.063	33		



Cobbles, %	0
Gravel, %	36
Sand, %	31
Silt, %	8
Clay, %	25

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/347
Sample No :	PM01

Hole ID :	TP 106
Depth, m :	0.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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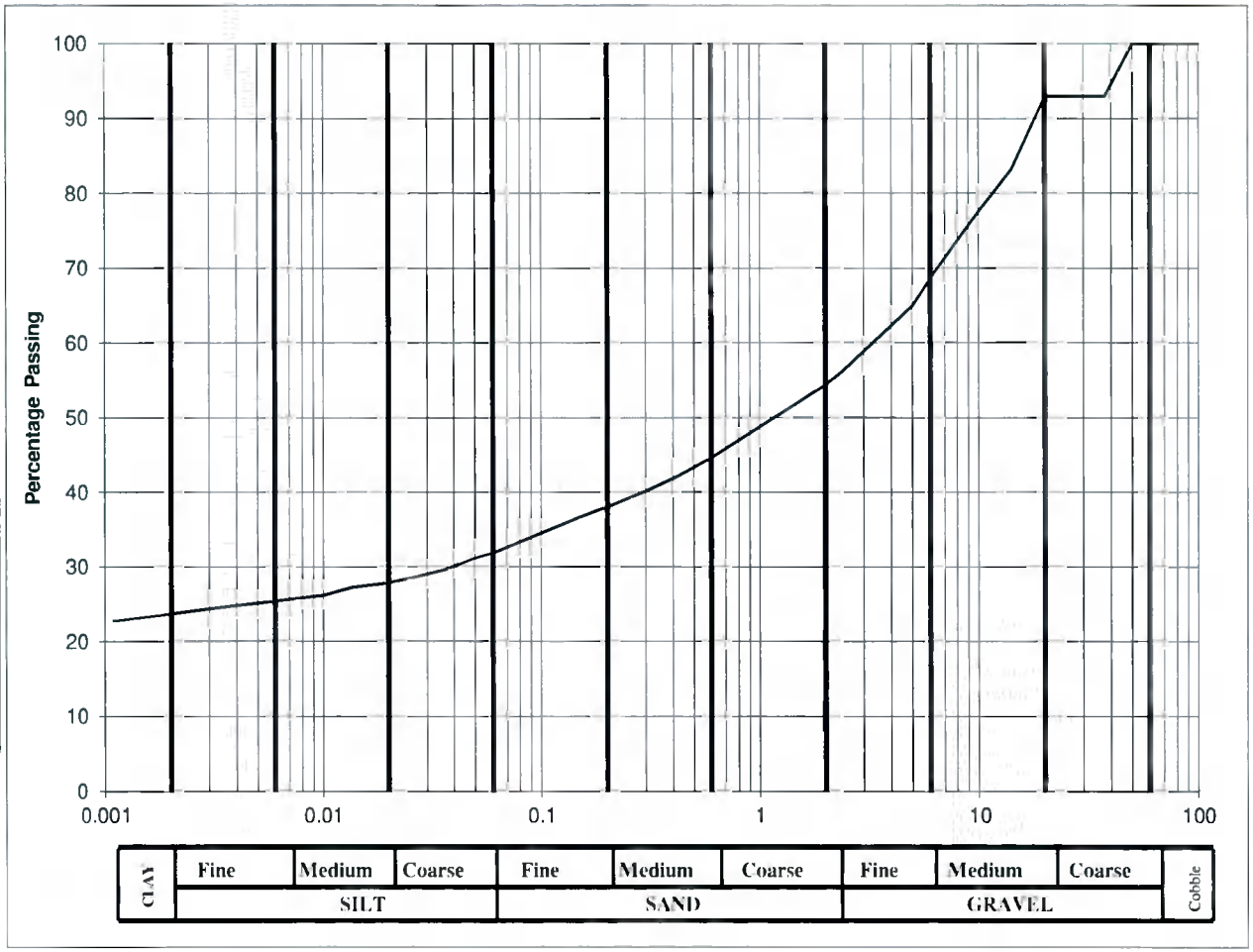
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	32
90	100	**0.0200**	28
75	100	**0.0060**	26
63	100	**0.0020**	24
50	100		
37.5	92.9		
28	92.9		
20	92.9		
14	83.1		
10	77.5		
6.3	69.5		
5.0	64.9		
2.36	56		
2.00	54.4		
1.18	50.1		
0.600	44.6		
0.425	42.2		
0.300	40.1		
0.212	38.3		
0.150	36.6		
0.063	32		



Cobbles, %	0
Gravel, %	46
Sand, %	22
Silt, %	8
Clay, %	24

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/351
Sample No :	PM27

Hole ID :	TP 108
Depth, m :	2.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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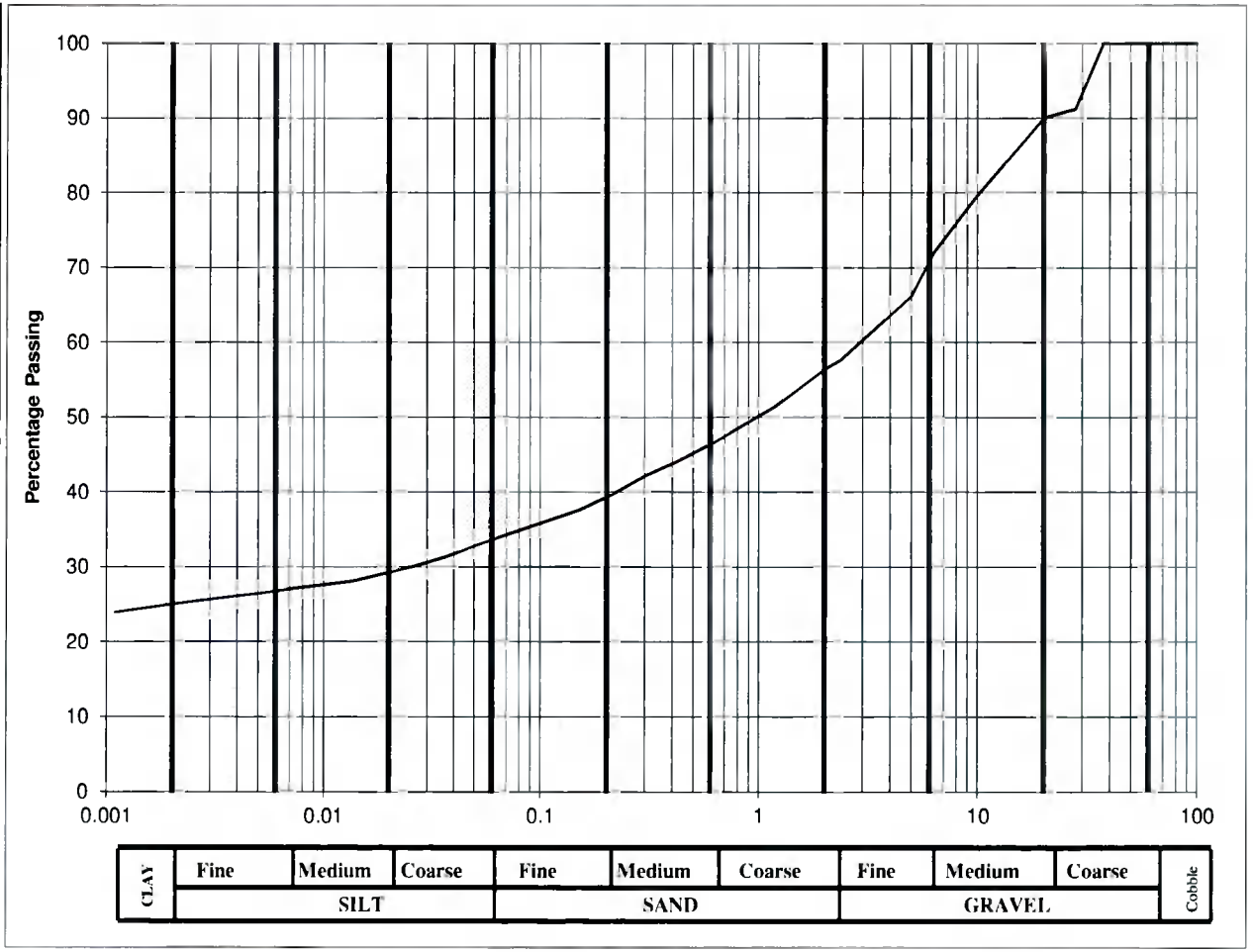
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	34
90	100	**0.0200**	29
75	100	**0.0060**	27
63	100	**0.0020**	26
50	100		
37.5	100		
28	91.1		
20	90		
14	84.7		
10	79.6		
6.3	72		
5.0	66.2		
2.36	57.5		
2.00	56.4		
1.18	51.3		
0.600	46.3		
0.425	44.1		
0.300	42.1		
0.212	39.6		
0.150	37.5		
0.063	34		



Cobbles, %	0
Gravel, %	44
Sand, %	22
Silt, %	8
Clay, %	26

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/354
Sample No :	PM33

Hole ID :	TP 110
Depth, m :	1.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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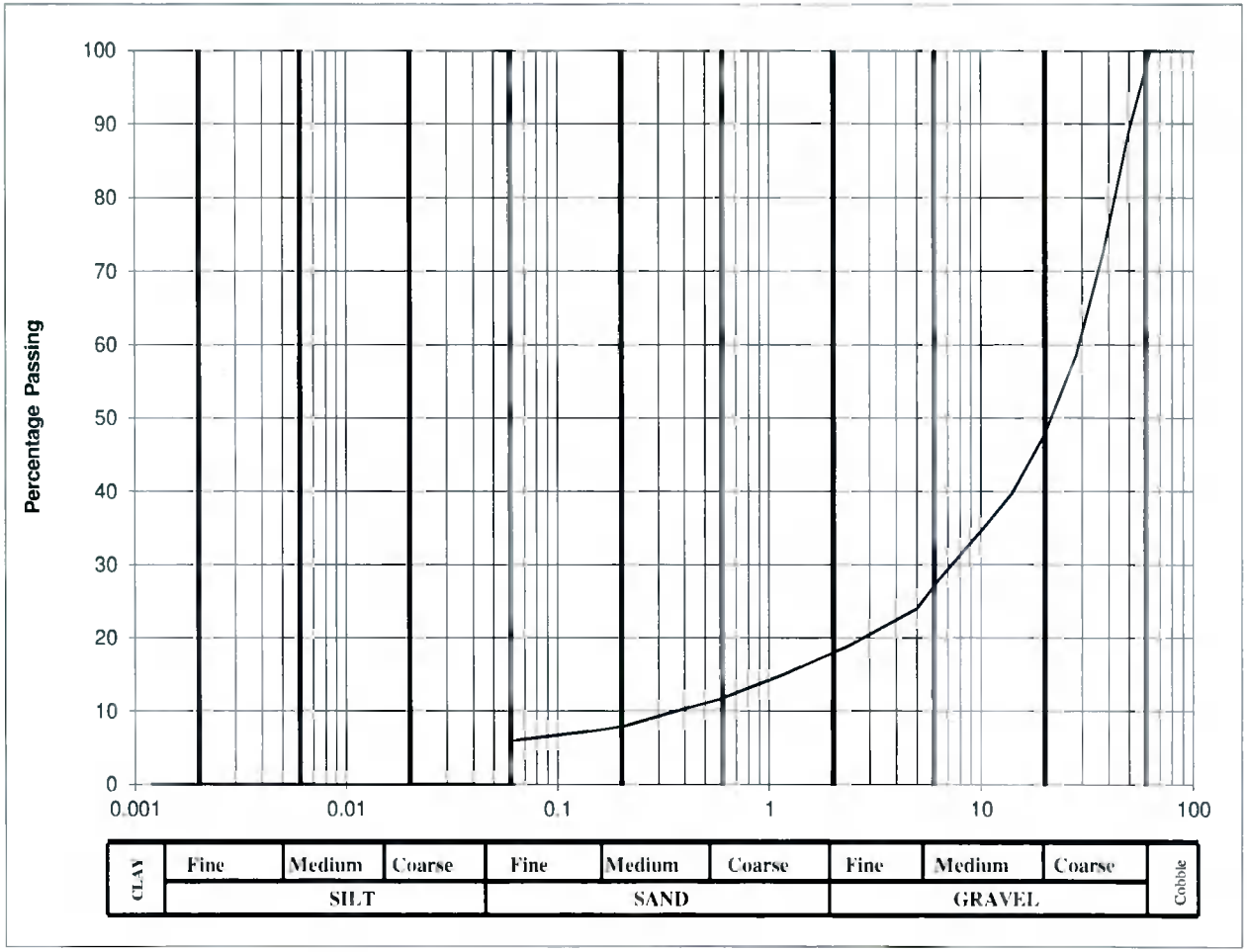
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	
90	100	**0.0200**	
75	100	**0.0060**	
63	100	**0.0020**	
50	89.2		
37.5	72.3		
28	58.5		
20	47.8		
14	39.7		
10	34.5		
6.3	27.8		
5.0	24		
2.36	18.8		
2.00	18		
1.18	15		
0.600	11.7		
0.425	10.5		
0.300	9.3		
0.212	8		
0.150	7.3		
0.063	6		

Cobbles, %	0
Gravel, %	82
Sand, %	12
Clay / Silt, %	6



Engineer :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/377
Sample No :	PM57

Hole ID :	TP 111
Depth, m :	0.50

Material description :	silty sandy GRAVEL
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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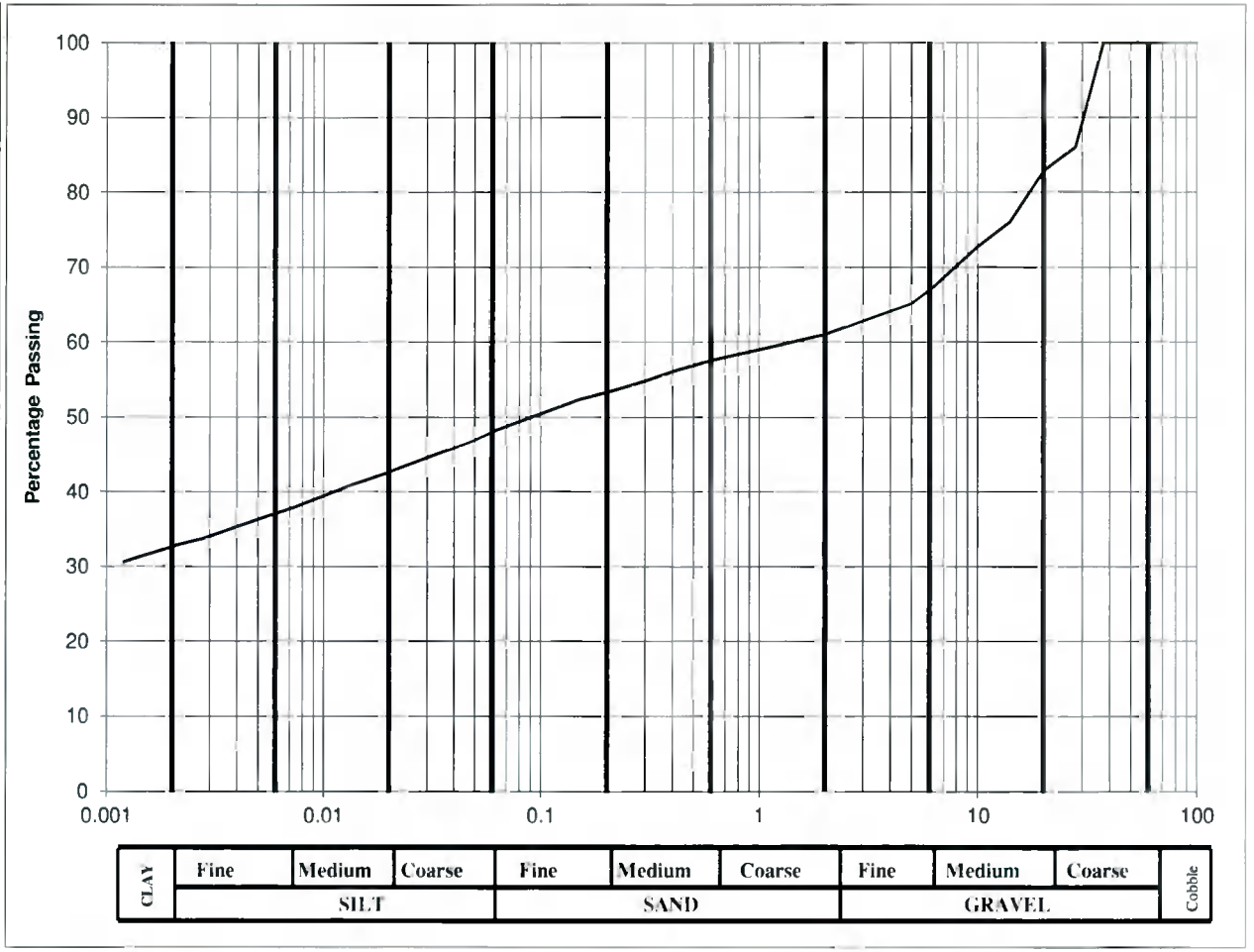
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	48
90	100	**0.0200**	43
75	100	**0.0060**	37
63	100	**0.0020**	32
50	100		
37.5	100		
28	86		
20	82.8		
14	76		
10	72.7		
6.3	67.4		
5.0	65.2		
2.36	61.8		
2.00	61		
1.18	59.4		
0.600	57.5		
0.425	56.3		
0.300	54.8		
0.212	53.5		
0.150	52.3		
0.063	48		



Cobbles, %	0
Gravel, %	39
Sand, %	13
Silt, %	16
Clay, %	32

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/378
Sample No :	PM59

Hole ID :	TP 111
Depth, m :	1.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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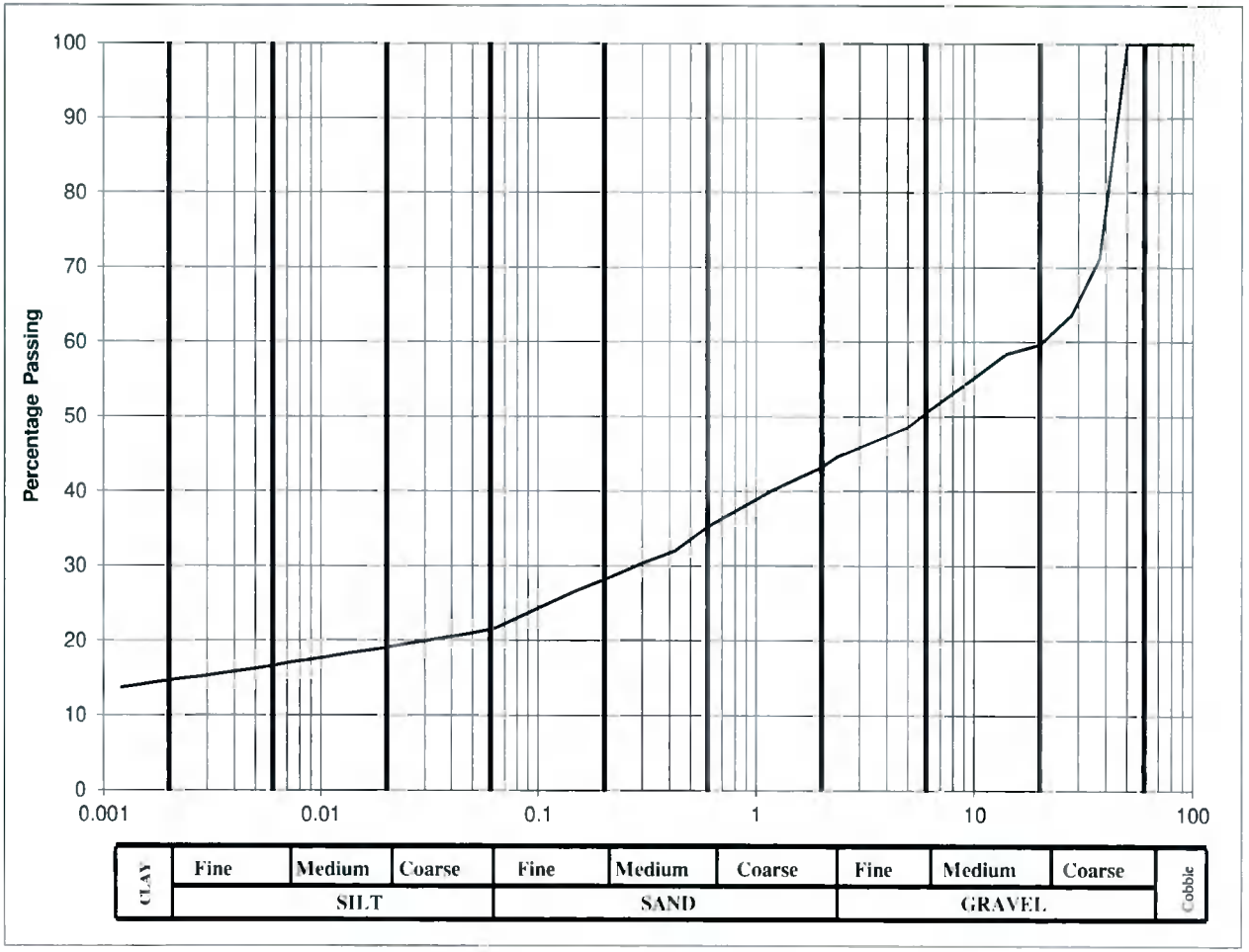
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	22
90	100	**0.0200**	18
75	100	**0.0060**	17
63	100	**0.0020**	15
50	100		
37.5	71.1		
28	63.6		
20	59.6		
14	58.4		
10	55.1		
6.3	50.9		
5.0	48.6		
2.36	44.6		
2.00	43.2		
1.18	40		
0.600	35.2		
0.425	32		
0.300	30.3		
0.212	28.4		
0.150	26.7		
0.063	22		



Cobbles, %	0
Gravel, %	57
Sand, %	21
Silt, %	7
Clay, %	15

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/379
Sample No :	PM69

Hole ID :	TP 112
Depth, m :	3.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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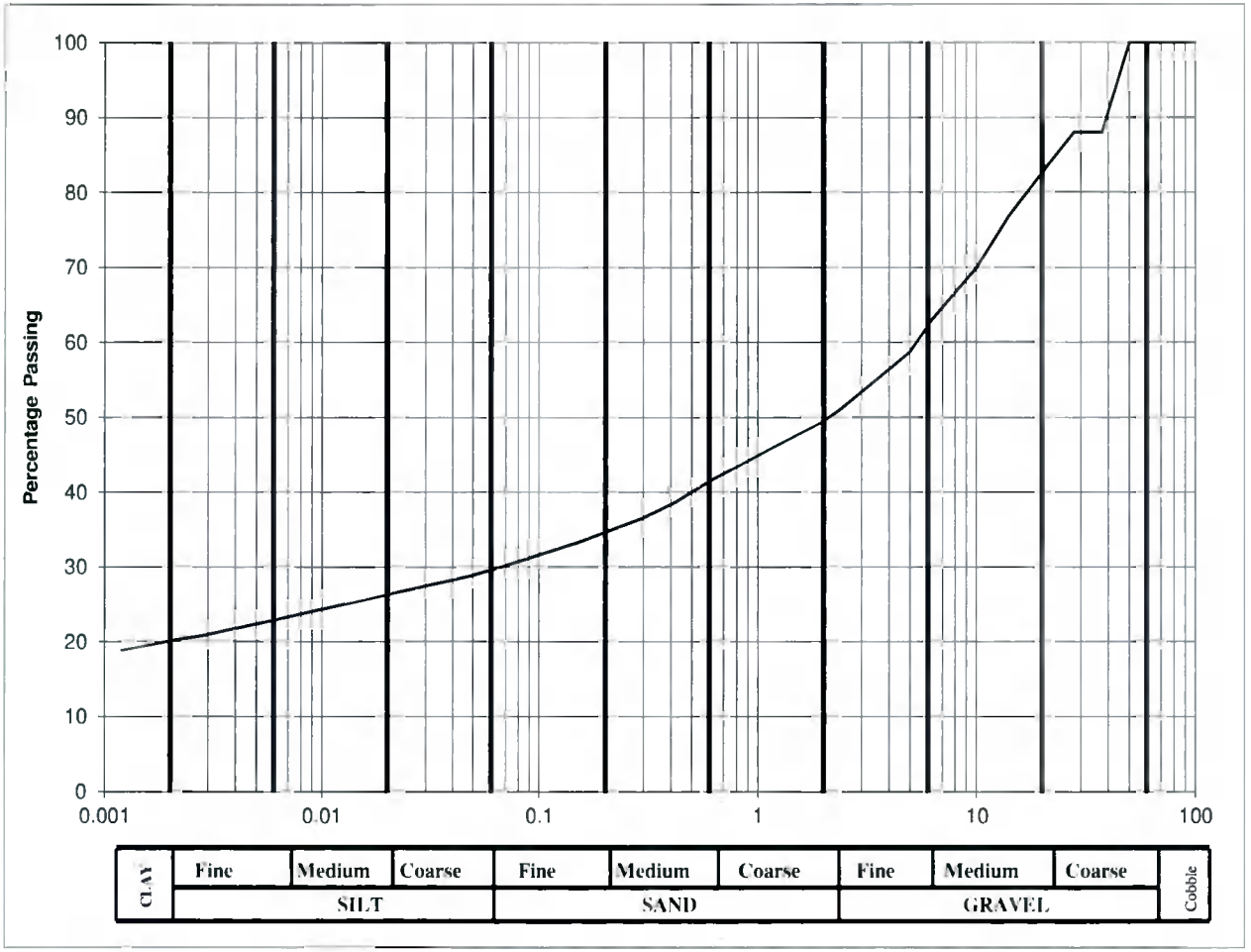
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	30
90	100	**0.0200**	27
75	100	**0.0060**	23
63	100	**0.0020**	20
50	100		
37.5	88		
28	88		
20	82.7		
14	76.8		
10	69.9		
6.3	63.1		
5.0	58.7		
2.36	50.9		
2.00	49.5		
1.18	46		
0.600	41.4		
0.425	38.7		
0.300	36.5		
0.212	34.9		
0.150	33.2		
0.063	30		



Cobbles, %	0
Gravel, %	51
Sand, %	20
Silt, %	10
Clay, %	20

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/382
Sample No :	PM99

Hole ID :	TP 113
Depth, m :	4.00

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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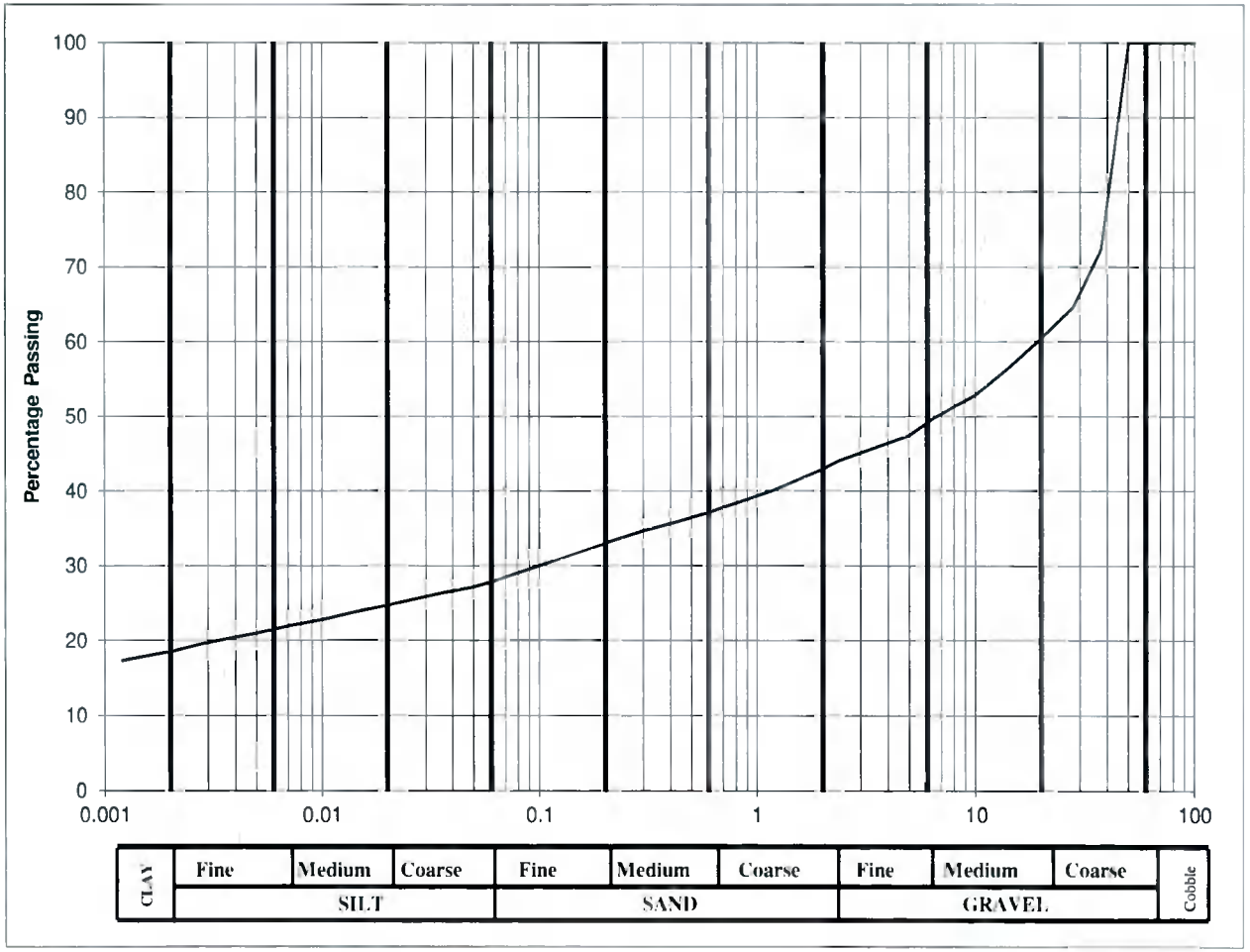
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	28
90	100	**0.0200**	24
75	100	**0.0060**	22
63	100	**0.0020**	18
50	100		
37.5	72.3		
28	64.6		
20	60.4		
14	56.4		
10	52.8		
6.3	49.6		
5.0	47.4		
2.36	44		
2.00	42.9		
1.18	40		
0.600	37.1		
0.425	35.8		
0.300	34.6		
0.212	33.2		
0.150	31.7		
0.063	28		



Cobbles, %	0
Gravel, %	57
Sand, %	15
Silt, %	10
Clay, %	18

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/385
Sample No :	PM88

Hole ID :	TP 115
Depth, m :	3.00

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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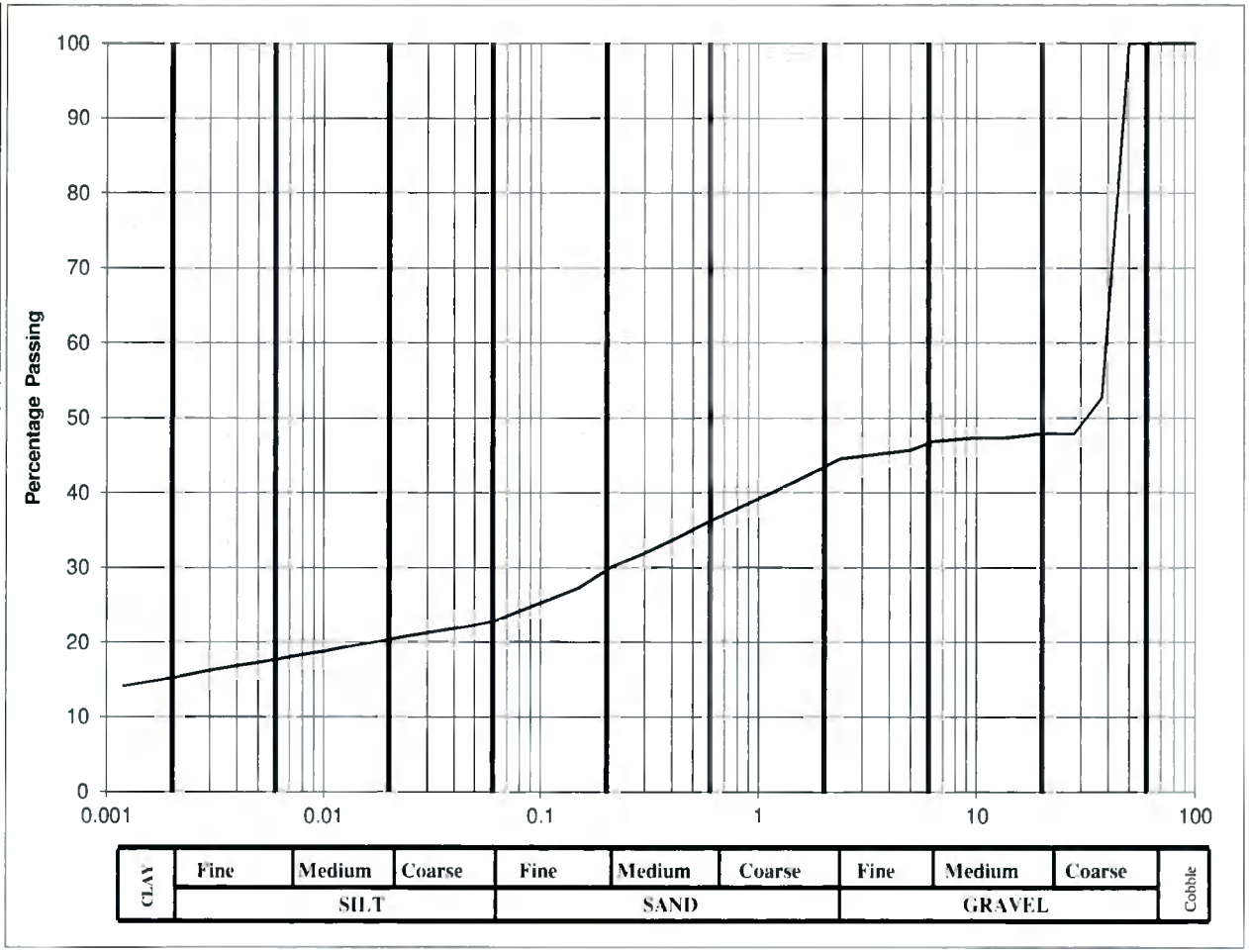
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	23
90	100	**0.0200**	20
75	100	**0.0060**	17
63	100	**0.0020**	15
50	100		
37.5	52.7		
28	47.9		
20	47.9		
14	47.3		
10	47.3		
6.3	46.8		
5.0	45.7		
2.36	44.5		
2.00	43.4		
1.18	40.1		
0.600	36.2		
0.425	34		
0.300	31.9		
0.212	30.1		
0.150	27.2		
0.063	23		



Cobbles, %	0
Gravel, %	57
Sand, %	20
Silt, %	8
Clay, %	15

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/387
Sample No :	PM79

Hole ID :	TP 117
Depth, m :	0.50

Material description :	slighty sandy gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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BS 1377 Particle Size Analysis

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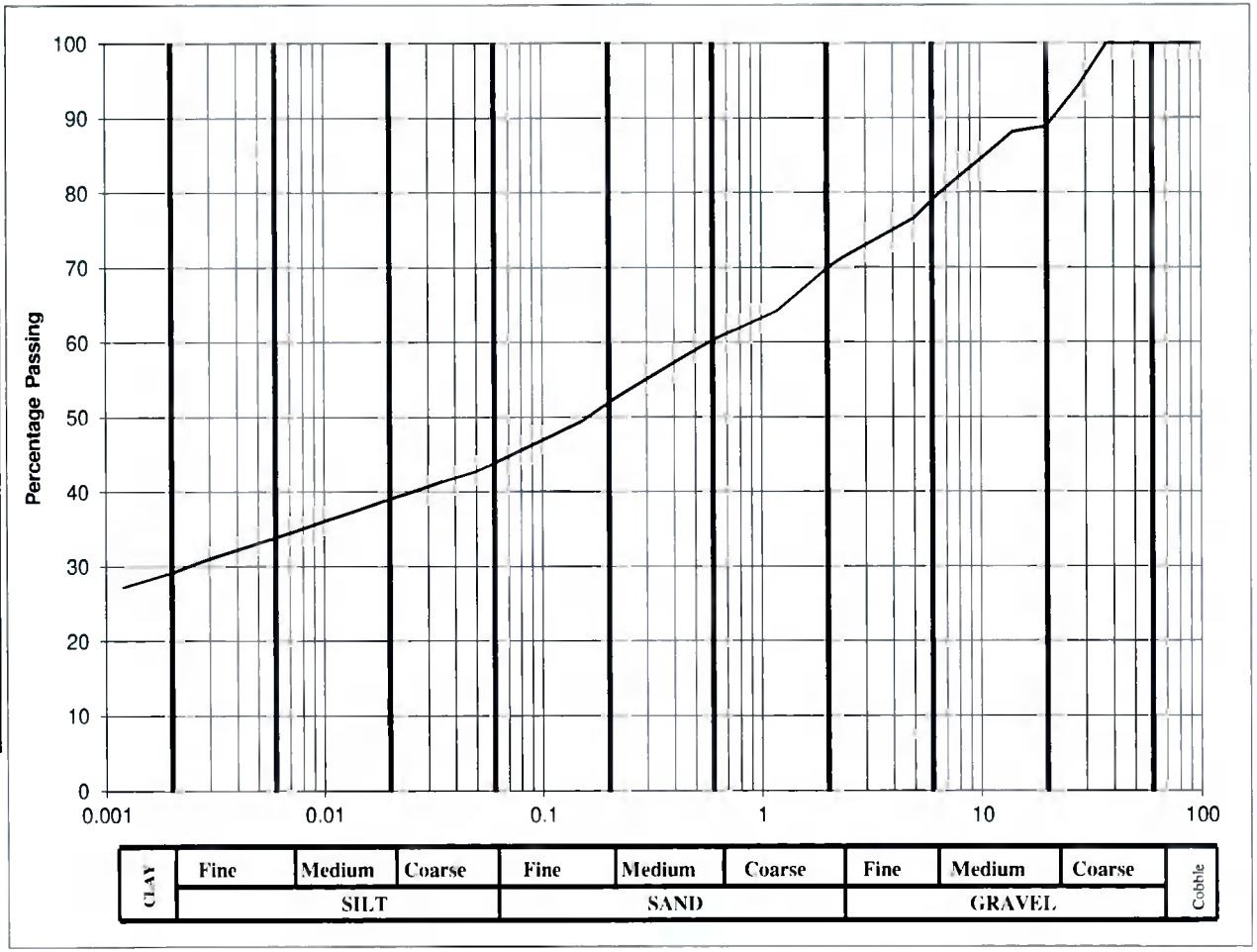
BS Sieve size, mm	Percent passing	Hydrometer analysis	
		Diameter, mm	% passing
100	100	**0.0630**	44
90	100	**0.0200**	38
75	100	**0.0060**	34
63	100	**0.0020**	28
50	100		
37.5	100		
28	94.2		
20	88.8		
14	88.1		
10	84.4		
6.3	79.5		
5.0	76.5		
2.36	71.3		
2.00	69.9		
1.18	64.2		
0.600	60.3		
0.425	57.7		
0.300	55		
0.212	52.4		
0.150	49.3		
0.063	44		



Cobbles, %	0
Gravel, %	30
Sand, %	26
Silt, %	16
Clay, %	28

Client :	Arup
Project :	Dub 15 Digital Realty

Lab. No :	21/388
Sample No :	PM81

Hole ID :	TP 117
Depth, m :	1.50

Material description :	slighty sandy slighty gravelly silty CLAY
Remarks :	Soils with clay or silt content between 15% - 35% can be classified as clay or silt depending on the field Engineers assessment of in-situ behaviour. Where material is for re-use and therefore disturbed, only soils with clay or silt >35% are classified as clay or silt

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Chemical Testing
In accordance with BS 1377: Part 3

Engineer	Arup
Site	Dub 15 Digital Realty
S.I. File No	5840 / 21
Test Lab	Site Investigations Ltd., Carhugar The Grange, 12th Lock Rd., Lucan Co. Dublin. Tel (01) 6108768 Email:info@siteinvestigations.ie
Report Date	5th May 2021

Hole Id	Depth (mBGL)	Sample No	Lab Ref	pH Value	Water Soluble Sulphate Content (2:1 Water-soil extract) (SO_3) g/L	Water Soluble Sulphate Content (2:1 Water-soil extract) (SO_3) %	Acid Soluble Sulphate Content (2:1 Water-soil extract) (SO_3) g/L	Acid Soluble Sulphate Content (2:1 Water-soil extract) (SO_3) %	Chloride ion Content (water:soil ratio 2:1) %	% passing 2mm
FP103	1.50	PM37	21/337	8.49	0.125	0.054			0.24	43.1
TP101	3.50	PM55	21/373	8.54	0.127	0.078			0.28	61.5
TP102	3.50	PM23	21/342	8.56	0.127	0.078			0.29	61.3
TP103	1.50	PM11	21/344	8.48	0.116	0.020			0.19	17.1
TP105	1.50	PM15	21/346	8.35	0.117	0.036			0.23	31.0
TP107	1.50	PM07	21/350	8.52	0.123	0.083			0.22	67.3
TP108	3.50	PM29	21/352	8.48	0.117	0.071			0.26	60.1
TP110	1.50	PM33	21/354	8.47	0.124	0.070			0.25	56.4
TP111	1.50	PM59	21/378	8.58	0.126	0.077			0.26	61.0
TP112	3.50	PM69	21/379	8.44	0.123	0.053			0.23	43.2
TP113	4.00	PM99	21/382	8.58	0.126	0.062			0.29	49.5
TP114	2.50	PM64	21/384	8.53	0.122	0.065			0.21	53.5
TP115	3.00	PM88	21/385	8.47	0.123	0.053			0.27	42.9
TP116	4.00	PM77	21/386	8.35	0.123	0.062			0.26	50.8
TP117	0.50	PM79	21/387	8.55	0.119	0.052			0.23	43.4
BH101	1.00	GM02	21/355	8.37	0.123	0.066			0.29	53.3
BH102	3.00	GM11	21/359	8.44	0.130	0.120			0.33	92.4
BH103	2.00	GM16	21/361	8.37	0.124	0.059			0.28	47.2
BH104	3.00	GM24	21/365	8.51	0.122	0.081			0.39	66.9
BH105	2.00	JOT04	21/368	8.52	0.120	0.065			0.27	53.9

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