GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans AL4 0PG	Site 3 Greenaway Gardens, Hampstead, London NW3	Number BH 3
Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 90.80	Client Ms Suthinee Srisethi	Job Number J11069
	Location	Dates 11/04/2011	Engineer MA Engineers	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				90.70	(0.10) 0.10	Topsoil		
						Firm pale orangish brown mottled orange-brown and pale grey silty CLAY becoming silty sandy clay with pockets of fine sand and rootlets to 0.7m		
					(3.40)			▼1
				87.30	3.50	Stiff pale brown mottled orange-brown and grey silty sandy CLAY		
			Water strike(1) at 4.00m, rose to 3.00m in 20 mins.					▽1
					(2.00)			
				85.30	5.50	Stiff grey sandy CLAY		
					(0.50)			
				84.80	6.00			
						Complete at 6.00m		

Remarks	Scale (approx)	Logged By
	1:50	JF
	Figure No. J11069.BH 3	

GEA Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Site	Number
3 Greenaway Gardens, Hampstead, London NW3	BH 4

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Drive-in Window Sampler		90.76	Ms Suthinee Srisethi	J11069
	Location	**Dates** 11/04/2011	**Engineer** MA Engineers	**Sheet** 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				90.61	(0.15) 0.15	Topsoil		
						Soft becoming firm orange-brown mottled grey silty sandy CLAY pale orange-brown mottled orange-brown and grey silty sandy clay becoming very sandy from 2.5m with rootlets		
					(3.55)			
				87.06	3.70	Stiff orange-brown mottled grey silty sandy CLAY becoming greyish brown from 4.4 m.		
					(1.30)			
				85.76	5.00	Complete at 5.00m		

Remarks

Scale (approx)	Logged By
1:50	JF

Figure No. J11069.BH 4

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans AL4 0PG	Site 3 Greenaway Gardens, Hampstead, London NW3	Number BH 5
Excavation Method Drive-in Window Sampler	Dimensions	Ground Level (mOD) 91.15	Client Ms Suthinee Srisethi	Job Number J11069
	Location	Dates 11/04/2011	Engineer MA Engineers	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.40)	Made Ground (100mm concrete underlain by grey clayey silty sand with brick rubble)		
				90.75	0.40	Firm orange-brown and pale grey silty sandy CLAY		
					(3.60)			
			Water strike(1) at 3.80m.					▽1
				87.15	4.00	Stiff brown mottled orange-brown silty CLAY with pockets of sand		
					(1.00)			
				86.15	5.00	Complete at 5.00m		

Remarks

Scale (approx)	Logged By
1:50	JF

Figure No.
J11069.BH 5

GEA Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Standard Penetration Test Results

Site : 3 Greenaway Gardens, Hampstead, London NW3

Client : Ms Suthinee Srisethi

Engineer: MA Engineers

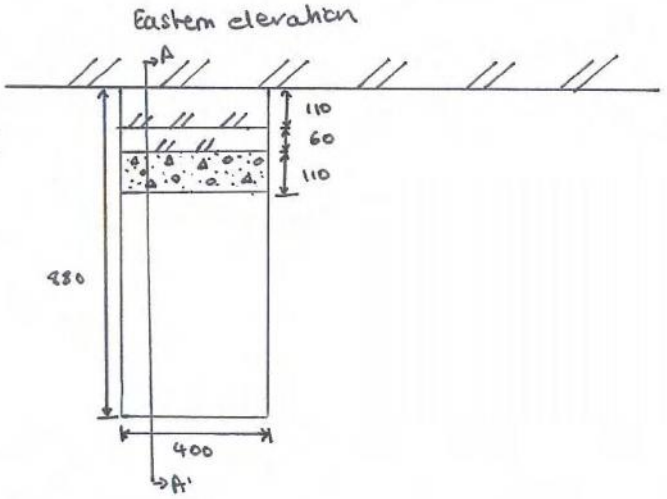
Job Number J11069

Sheet 1 / 1

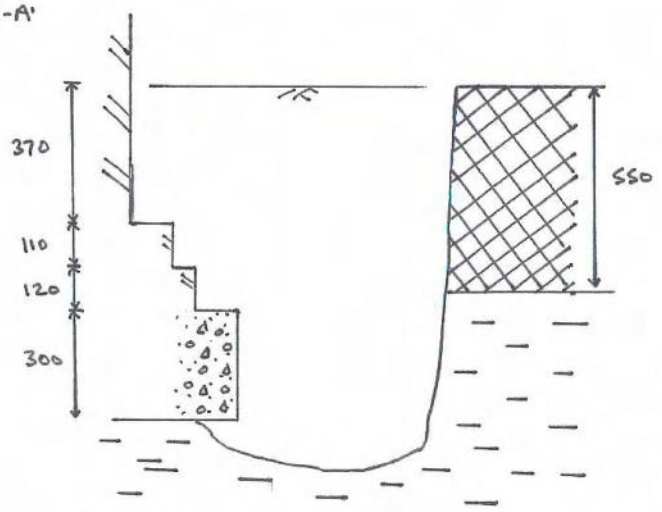
Borehole Number	Base of Borehole (m)	End of Seating Drive (m)	End of Test Drive (m)	Test Type	Seating Blows per 75mm		Blows for each 75mm penetration				Result	Comments
					1	2	1	2	3	4		
BH1	1.50	1.65	1.95	SPT	1	1	1	2	2	2	N=7	
BH1	3.50	3.65	3.95	SPT	2	2	1	2	2	3	N=8	
BH1	6.00	6.15	6.45	SPT	2	2	3	3	3	4	N=13	
BH1	9.00	9.17	9.32	SPT	4	5	5	59			64/150mm	
BH1	12.00	12.15	12.45	SPT	4	5	5	6	6	7	N=24	
BH1	15.00	15.15	15.45	SPT	5	6	6	7	7	8	N=28	
BH1	18.00	18.15	18.45	SPT	4	6	6	7	8	9	N=30	
BH1	21.00	21.15	21.45	SPT	5	6	8	9	9	11	N=37	
BH1	24.00	24.15	24.45	SPT	6	7	9	9	10	14	N=42	

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	Site 3 Greenaway Gardens, London	Trial Pit Number 1
Excavation Method Manual	**Dimensions** 0.88 x 0.4 x 1.0	**Ground Level (mOD)** 90.8	**Client** Ms Suthinee Srisethi	**Job Number** J11069
	Location	**Dates** 11/4/11	**Engineer** MA Engineers	**Sheet** 1/1

PLAN:



SECTION A-A'

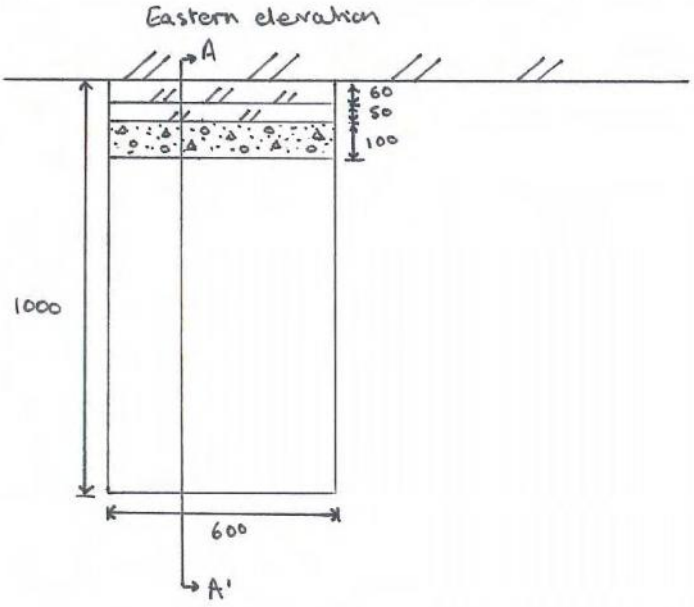


Remarks:	Scale:
All dimensions in millimetres	1:20
Sides of trial pit remained stable during excavation	Logged by:
Groundwater: Not encountered	JF

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	Site 3 Greenaway Gardens, London	Trial Pit Number 2

Excavation Method	Dimensions	Ground Level (mOD)	Client	Job Number
Manual	1.0 x 0.6 x 1.4	90.2	Ms Suthinee Srisethi	J11069
	Location	**Dates**	**Engineer**	**Sheet**
		11/4/11	MA Engineers	1/1

PLAN:



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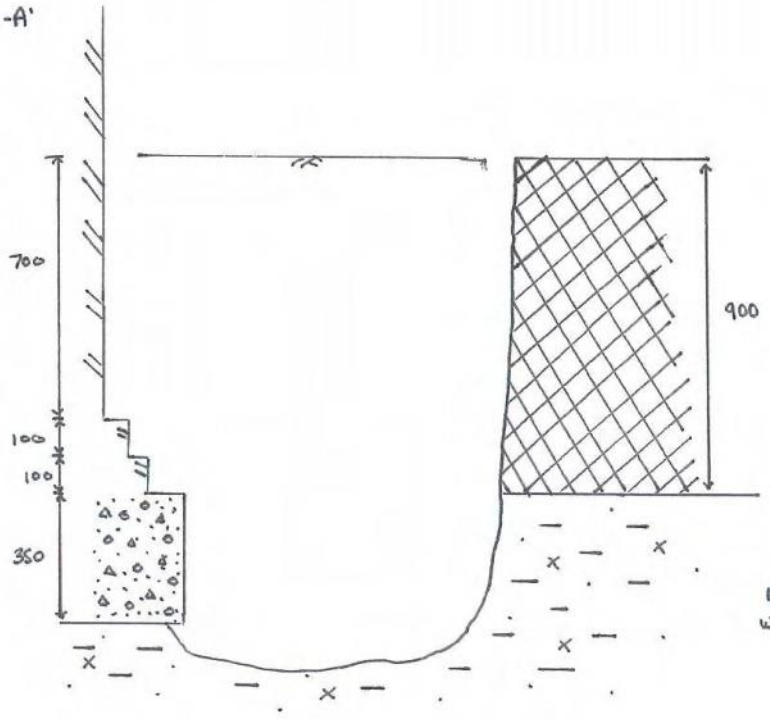
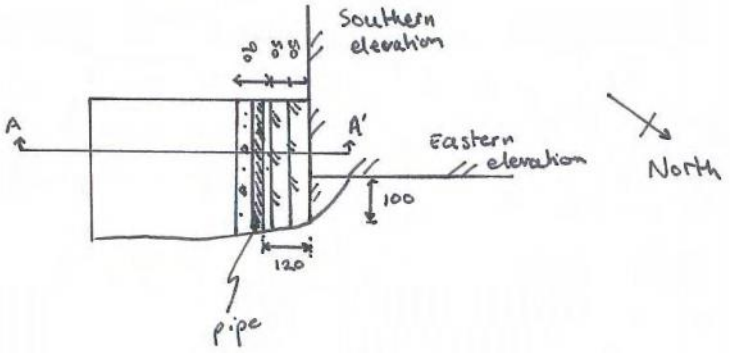


Remarks:	Scale:
All dimensions in millimetres	1:20
Sides of trial pit remained stable during excavation	Logged by:
Groundwater: Not encountered	JF

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	Site 3 Greenaway Gardens, London	Trial Pit Number 3
Excavation Method Manual	**Dimensions** 0.4 x 0.6 x 0.9	**Ground Level (mOD)** 89.35	**Client** Ms Suthinee Srisethi	**Job Number** J11069
	Location	**Dates** 11/4/11	**Engineer** MA Engineers	**Sheet** 1/1

PLAN:



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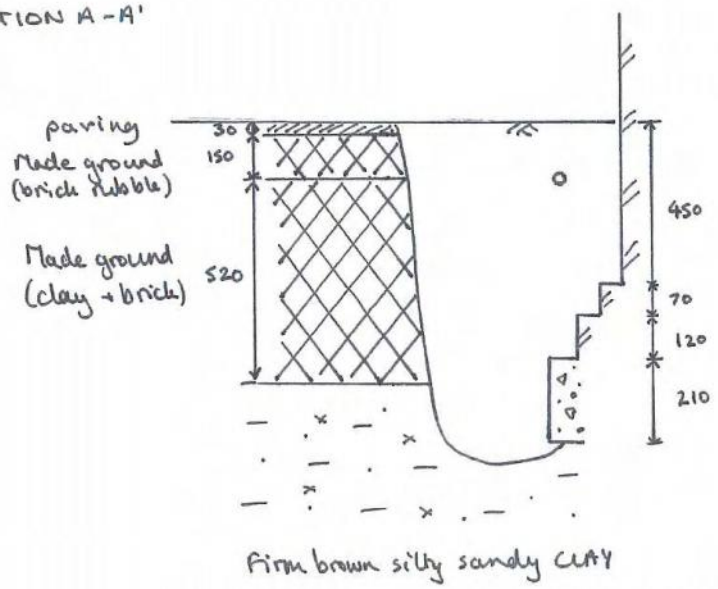
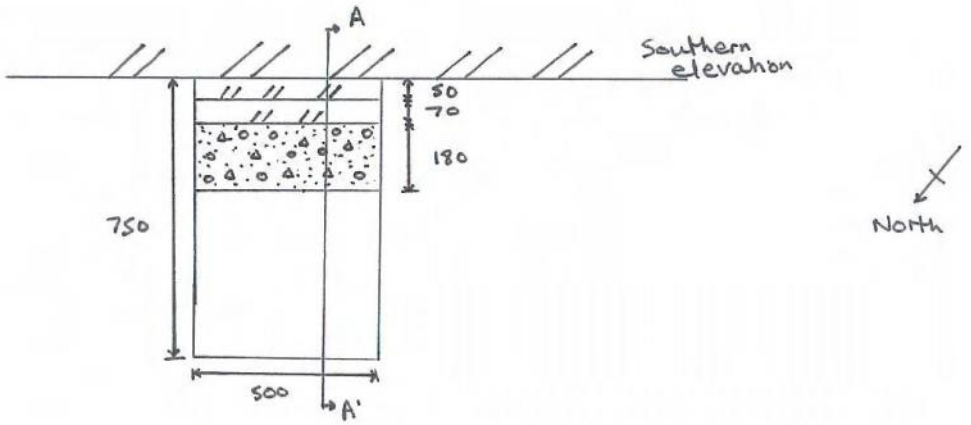


Firm brown silty sandy CLAY

Remarks: All dimensions in millimetres Sides of trial pit remained stable during excavation Groundwater: Not encountered	Scale: 1:20 Logged by: JF

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 3 Greenaway Gardens, London	**Trial Pit Number** 4
Excavation Method Manual	**Dimensions** 0.75x0.5 x0.6	**Ground Level (mOD)**	**Client** Ms Suthinee Srisethi	**Job Number** J11069
	Location Basement	**Dates** 12/4/11	**Engineer** MA Engineers	**Sheet** 1 | 1

PLAN:



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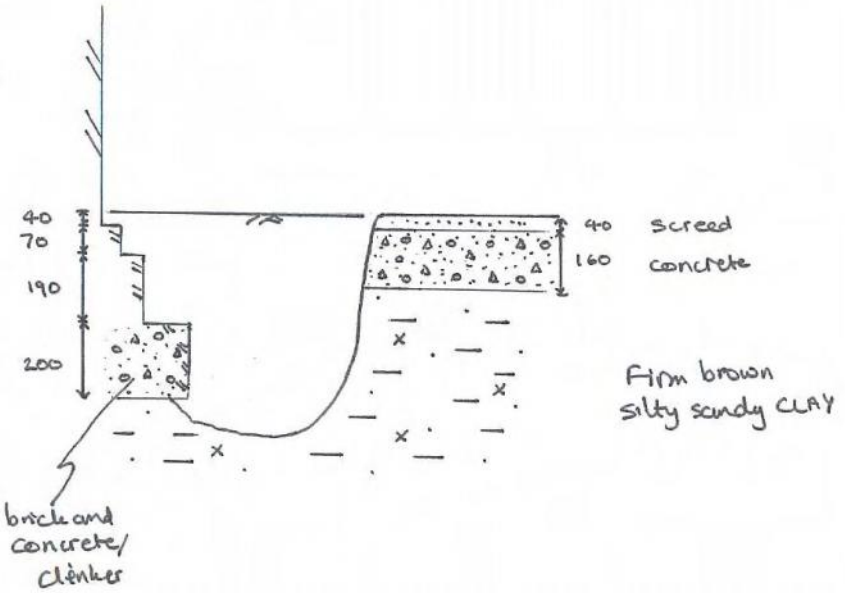
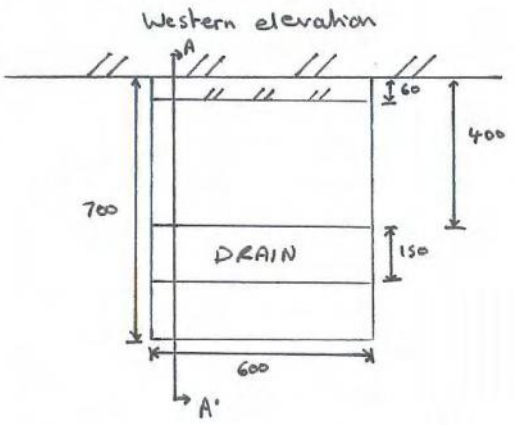


Remarks: All dimensions in millimetres Sides of trial pit remained stable during excavation Groundwater: Not encountered	Scale: 1:20 Logged by: JF

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	Site 3 Greenaway Gardens, London	Trial Pit Number S
Excavation Method Manual	**Dimensions** 0.7 x 0.6 x 1.5	**Ground Level (mOD)** 90.86	**Client** Ms Suthinee Srisethi	**Job Number** J11069
	Location	**Dates** 12/4/11	**Engineer** MA Engineers	**Sheet**

PLAN:



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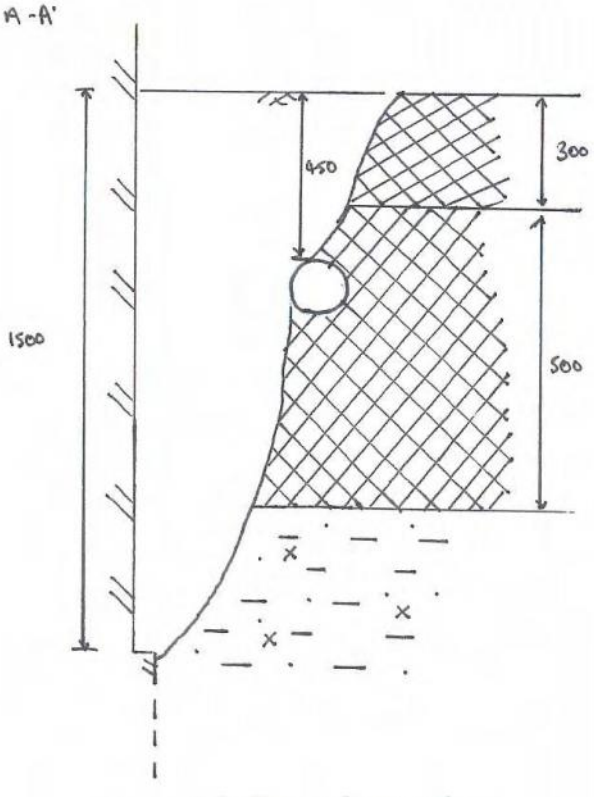


Topsoil

Made ground (dark brown sandy clay with gravel, ash and brick)

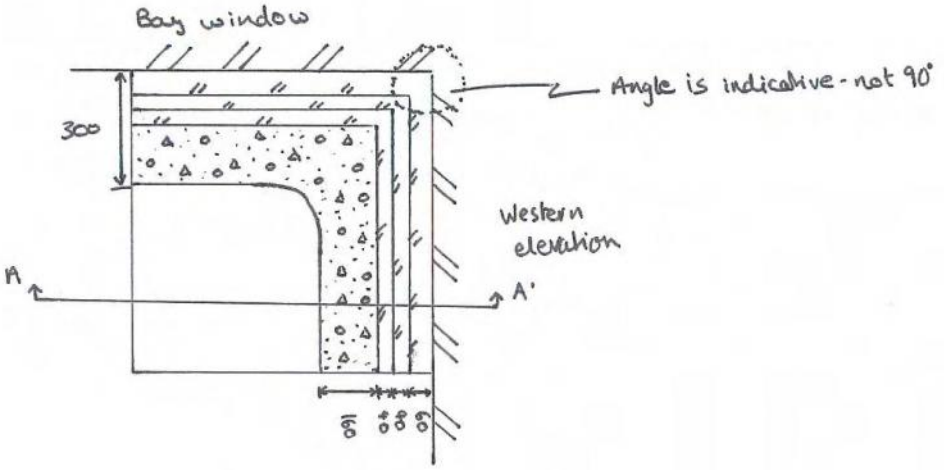
firm brown silty sandy CLAY

Base of footing not proved

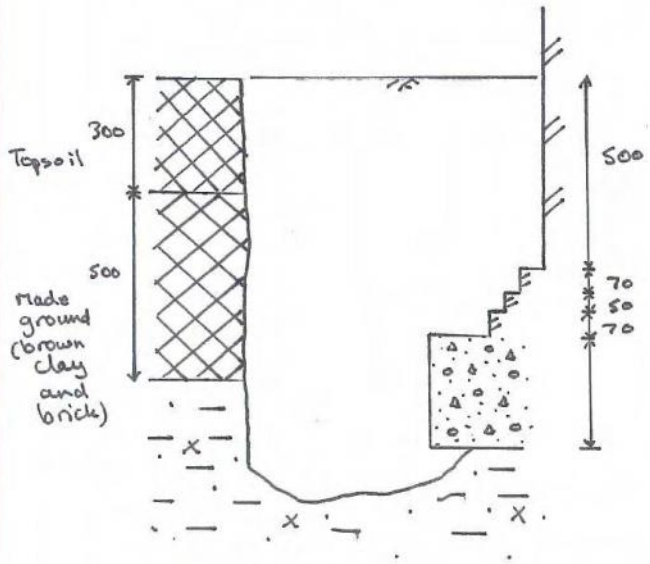
Remarks: All dimensions in millimetres Sides of trial pit remained stable during excavation Groundwater: Not encountered	Scale: 1:20 Logged by: JF

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	Site: 3 Greenaway Gardens, London	Trial Pit Number: 6
Excavation Method: Manual	Dimensions: 0.8 x 0.8 x 1.1	Ground Level (mOD): 90.82	Client: Ms Suthinee Srisethi	Job Number: J11069
	Location:	Dates: 12/4/11	Engineer: MA Engineers	Sheet: 1/1

PLAN:



SECTION A - A'

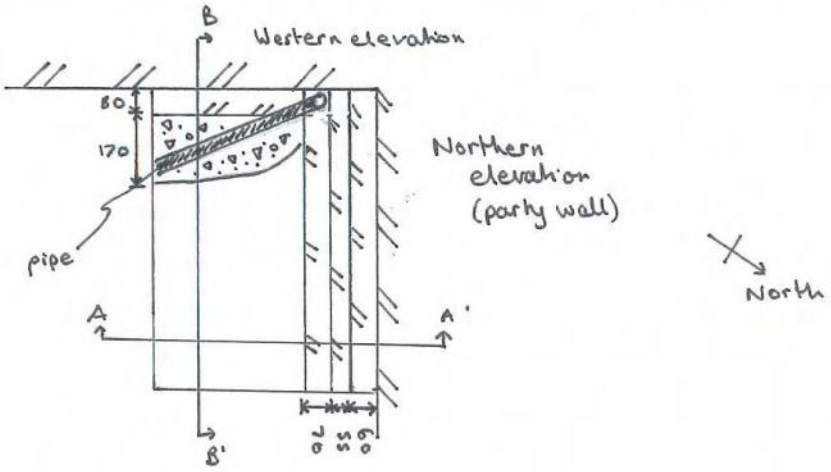


Firm brown silty sandy CLAY

Remarks:	Scale:
All dimensions in millimetres	1:20
Sides of trial pit remained stable during excavation	Logged by: JF
Groundwater: Not encountered	

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	**Site** 3 Greenaway Gardens, London	**Trial Pit Number** 7
Excavation Method Manual	**Dimensions** 0.8x0.6x0.8	**Ground Level (mOD)** 91.19	**Client** Ms Suthinee Srisethi	**Job Number** J11069
	Location	**Dates** 12/4/11	**Engineer** MA Engineers	**Sheet** 1/2

PLAN:



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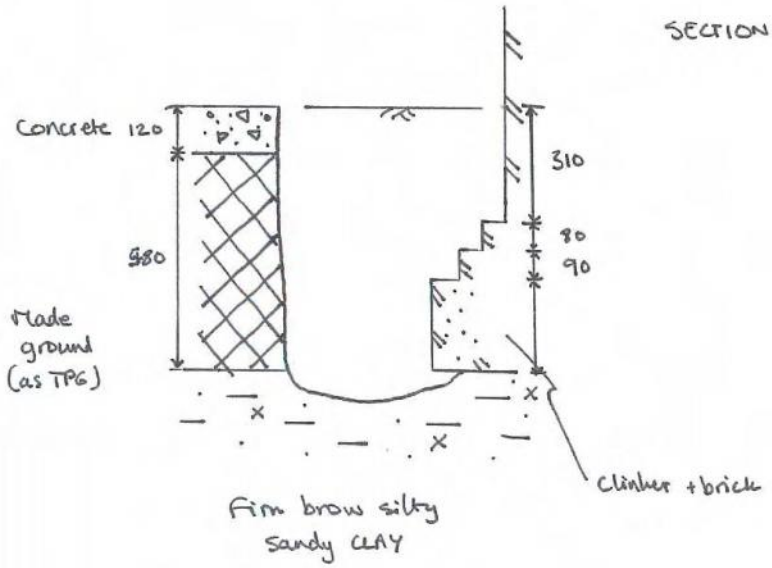
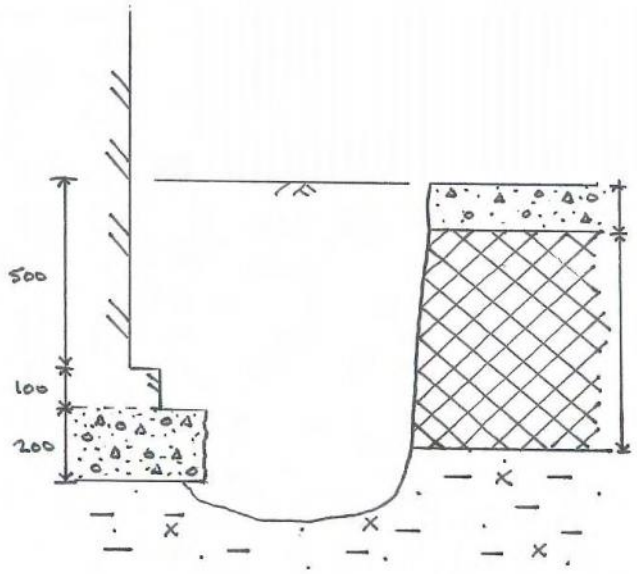


Remarks:	Scale:
All dimensions in millimetres	1:20
Sides of trial pit remained stable during excavation	Logged by:
Groundwater: Not encountered	JF

GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	Site 3 Greenaway Gardens, London	Trial Pit Number 7
Excavation Method Manual	**Dimensions** 0.8 x 0.6 x 0.8	**Ground Level (mOD)** 91.19	**Client** Ms Suthinee Srisethi	**Job Number** J11069
	Location	**Dates** 12/4/11	**Engineer** MA Engineers	**Sheet** 2/2

SECTION B-B'

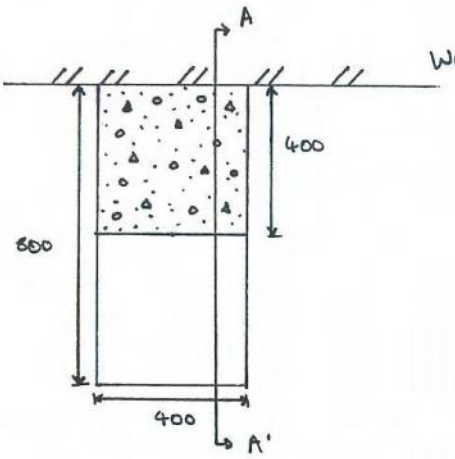


As previous

Remarks: All dimensions in millimetres Sides of trial pit remained stable during excavation Groundwater: Not encountered	Scale: 1:20 Logged by: JF

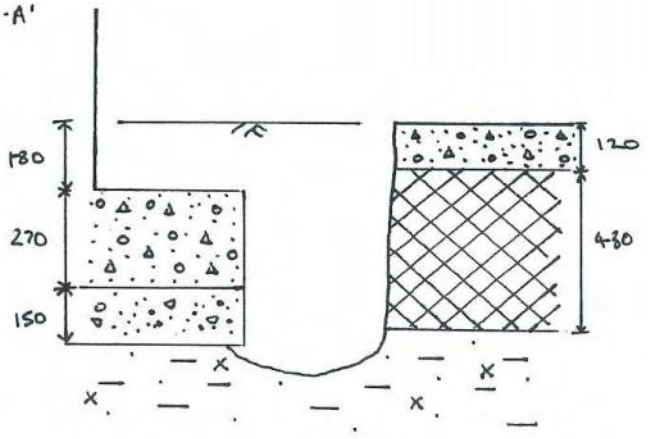
GEA Geotechnical & Environmental Associates	Tyttenhanger House Coursers Road St Albans Herts AL4 0PG	Site: 3 Greenaway Gardens, London	Trial Pit Number: 8
Excavation Method: Manual	Dimensions: 0.8 x 0.4 x 0.7	Ground Level (mOD): 91.19	Client: Ms Suthinee Srisethi
	Location:	Dates: 12/4/11	Engineer: MA Engineers
			Job Number: J11069
			Sheet: 1/1

PLAN:



North

SECTION A-A'



Remarks:	Scale:
All dimensions in millimetres	1:20
Sides of trial pit remained stable during excavation	Logged by: JF
Groundwater: Not encountered	

Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Trial Pit No 1

Site	3 Greenaway Gardens, London NW3
Client	Ms Suthinee Srisethi
Engineer	MA Engineers

Job Number J11069

Sheet 1 / 1

Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Trial Pit No 2

Site	3 Greenaway Gardens, London NW3
Client	Ms Suthinee Srisethi
Engineer	MA Engineers

Job Number J11069

Sheet 1 / 1

Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
Herts AL4 0PG

Trial Pit No 3

Site	3 Greenaway Gardens, London NW3
Client	Ms Suthinee Srisethi
Engineer	MA Engineers

Job Number J11069

Sheet 1 / 1

Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Trial Pit No 4

Site	3 Greenaway Gardens, London NW3
Client	Ms Suthinee Srisethi
Engineer	MA Engineers

Job Number J11069

Sheet 1 / 1

Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Trial Pit No 5

Site	3 Greenaway Gardens, London NW3
Client	Ms Suthinee Srisethi
Engineer	MA Engineers

Job Number J11069

Sheet 1 / 1

Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Trial Pit No 6

Site	3 Greenaway Gardens, London NW3
Client	Ms Suthinee Srisethi
Engineer	MA Engineers

Job Number J11069

Sheet 1 / 1

Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Trial Pit No 7

Site	3 Greenaway Gardens, London NW3
Client	Ms Suthinee Srisethi
Engineer	MA Engineers

Job Number J11069

Sheet 1 / 1

Geotechnical & Environmental Associates

Tyttenhanger House
Coursers Road
St Albans
AL4 0PG

Trial Pit No 8

Site	3 Greenaway Gardens, London NW3
Client	Ms Suthinee Srisethi
Engineer	MA Engineers

Job Number J11069

Sheet 1 / 1

PROJECT NAME	GREENAWAY GARDENS	Date	10/05/2011
	Job Number: J11069	Approved	J Sturges
PROJECT NO:	GEO / 16816	Page	1 of 2

Sample details				Description	Classification Tests					Density Tests		Undrained Triaxial Compression Tests			Chemical Tests			Other tests and comments
Borehole No.	Depth (m)	No.	Type		MC (%)	LL (%)	PL (%)	PI	<425 mic (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Stress (kPa)	pH	2:1 W/S SO4 (g/l)	Ground Water SO4 (g/l)	
1	2.50	-	U	Firm brown fine sandy CLAY rare iron and black staining	27					1.97	1.55	50	139	69				
1	4.50	-	U	Firm brown CLAY	27					1.97	1.55	90	147	73				Oedometer Consolidation Test
1	7.50	-	U	Firm dark grey fine sandy silty CLAY	23					2.04	1.65	150	186	93				Oedometer Consolidation Test
1	10.50	-	U	Firm to stiff dark grey silty CLAY with rare coarse claystone	33	66	26	40	100	2.05	1.54	210	160	80				
1	13.50	-	U	Stiff dark grey brown silty CLAY	28					2.02	1.58	270	259	129				Oedometer Consolidation Test
1	16.50	-	U	Stiff fissured dark grey silty CLAY with rare shell fragments	30					1.98	1.52	330	272	136				
1	19.50	-	U	Very stiff fissured dark grey CLAY	25					2.04	1.63	390	313	157				Oedometer Consolidation Test
1	22.50	-	U	Very stiff dark grey silty CLAY	27					2.01	1.58	450	322	161				
1	25.50	-	U	Stiff fissured dark grey CLAY	28					1.97	1.54	500	197	99				
1	1.50	-	D	Orange and grey fine sandy CLAY	28	54	20	34	100									
1	2.00	-	D												7.4	0.43		
1	9.75	-	D												8.3	0.55		

SUMMARY OF GEOTECHNICAL TESTING

GEOLABS®

Authorised Signatories: ☐ J R Masters (Qual Mgr) ☐ C F Wallace (Tech Mgr) ☐ G J Corio (Tech Mgr) [X] J Sturges (Tech Mgr) ☐ Simon Burke (Snr Tech) ☐ J J M Powell (Tech Dir)
GEOLABS®
Client: Geotechnical & Environmental Associates Limited, Tyttenhanger House, Courses Road, St Albans, Hertfordshire AL4 0PG

PROJECT NAME	GREENAWAY GARDENS	Date	10/05/2011
	Job Number: J11069	Approved	J Sturges
PROJECT NO:	GEO / 16816	Page	2 of 2

Sample details				Description	Classification Tests					Density Tests		Undrained Triaxial Compression Tests			Chemical Tests			Other tests and comments
Borehole No.	Depth (m)	No.	Type		MC (%)	LL (%)	PL (%)	PI	<425 mic (%)	Bulk (Mg/m³)	Dry (Mg/m³)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Stress (kPa)	pH	2:1 W/S SO4 (g/l)	Ground Water SO4 (g/l)	
1	5.00	-	D	Brown slightly fine sandy silty CLAY	27	51	24	27	100									
1	17.00	-	D	Dark grey - brown CLAY	31	74	28	46	100									
2	2.50	-	D	Dark orange and grey fine sandy CLAY	25	53	20	33	100									
3	3.90	-	D	Dark orange and grey fine sandy CLAY	25	46	19	27	100									
4	2.80	-	D												7.0	0.14		
5	4.10	-	D												7.6	0.83		

SUMMARY OF GEOTECHNICAL TESTING

GEOLABS®

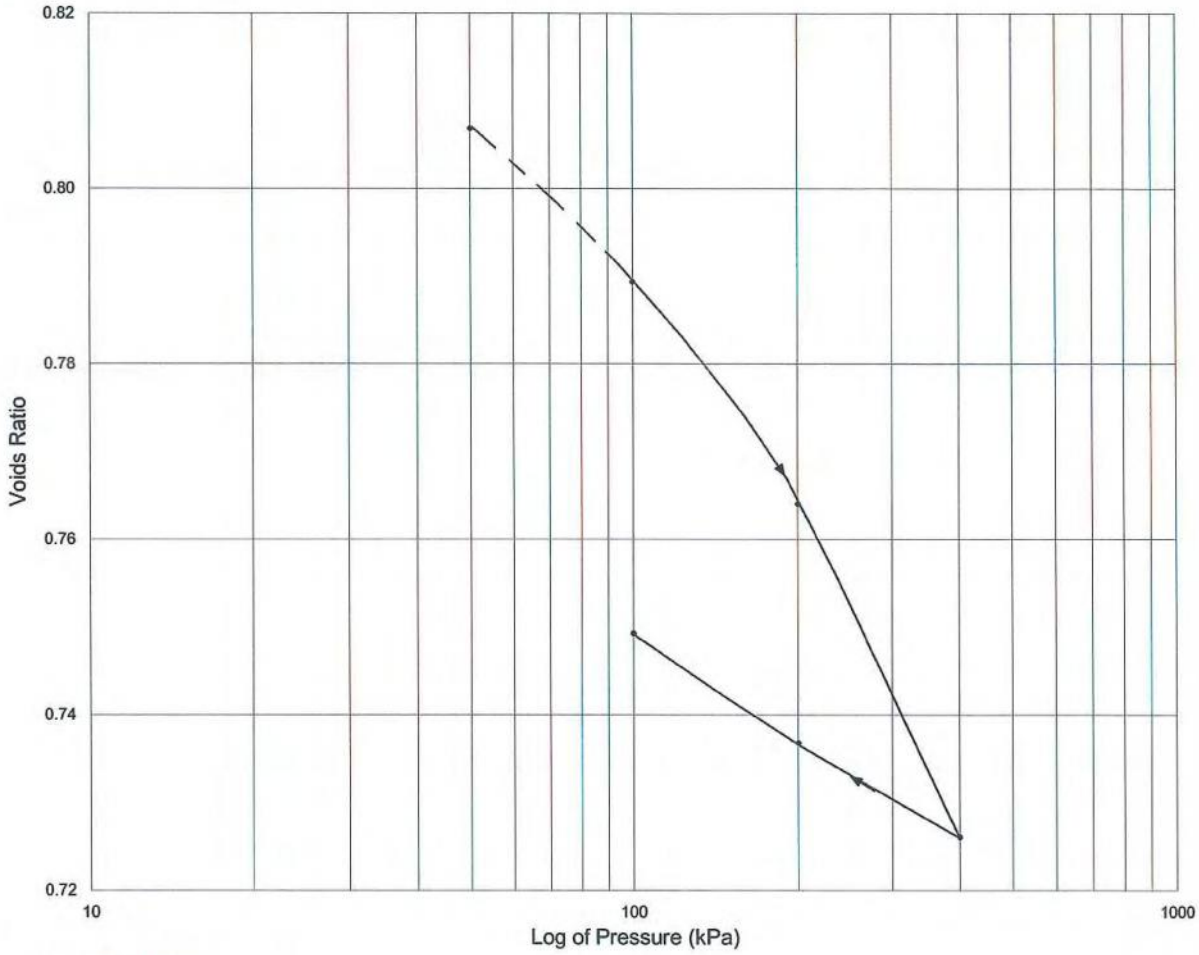
BS1377 : Part 5 : Clause 3 : 1990

Determination of One Dimensional Consolidation Properties of Soil

Borehole No:	BH1
Sample Ref:	-
Depth (m):	4.50
Depth of test specimen (m):	4.54
Orientation:	Vertical
Specimen preparation:	Undisturbed

Description:

Firm blocky greyish brown silty CLAY with pockets of orange brown silt



Initial Conditions:

Moisture Content (%)	28		
Voids Ratio	0.820		
Diameter (mm)	76.3	Particle Density (Mg/m³)	2.72 (Assumed)
Height (mm)	18.7		
Bulk Density (Mg/m³)	1.91	Laboratory Temperature (°C)	18.8
Dry Density (Mg/m³)	1.49		

Pressure Range (kPa)	Mv (m²/MN)	Cv (m²/yr)	Time Fitting Method	Voids Ratio
0 - 50	-	Specimen swelled	-	0.807
50 - 100	0.193	10.2	t50	0.789
100 - 200	0.142	11.5	t50	0.764
200 - 400	0.108	9.69	t50	0.726
400 - 200	- 0.0309	10.8 (Sv)	t50	0.737
200 - 100	- 0.0721	8.01 (Sv)	t50	0.749

Checked and Approved

Initials: JS

Date: 06/05/2011

Project Number: GEO / 16816

Project Name: GREENAWAY GARDENS

Job Number: J11069

UKAS TESTING 1982

GEOLABS®

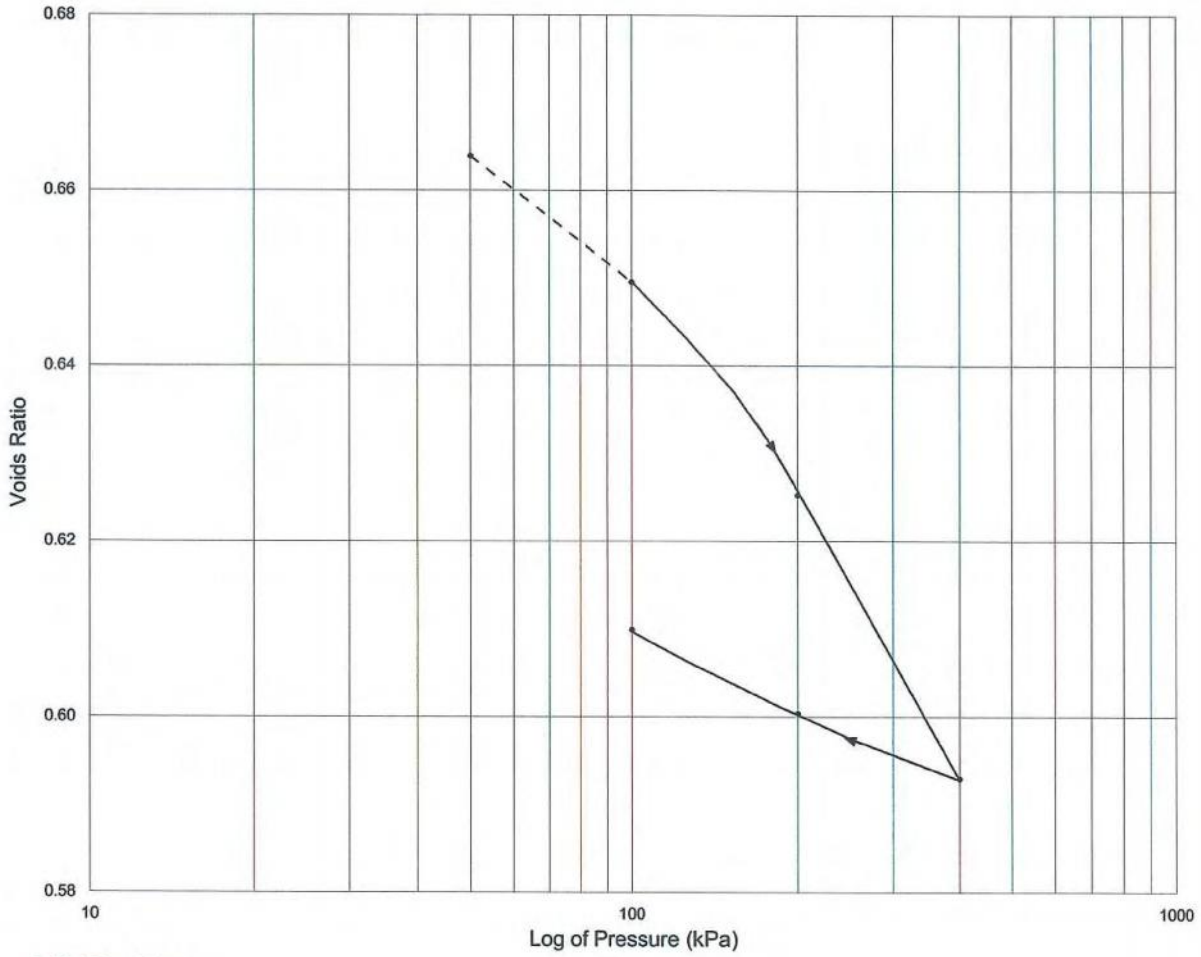
BS1377 : Part 5 : Clause 3 : 1990

Determination of One Dimensional Consolidation Properties of Soil

Borehole No:	BH1
Sample Ref:	-
Depth (m):	7.50
Depth of test specimen (m):	7.53
Orientation:	Vertical
Specimen preparation:	Undisturbed

Description:

Firm blocky grey silty CLAY



Initial Conditions:

Moisture Content (%)	24		
Voids Ratio	0.667		
Diameter (mm)	75.1	Particle Density (Mg/m³)	2.72 (Assumed)
Height (mm)	19.1		
Bulk Density (Mg/m³)	2.02	Laboratory Temperature (°C)	18.8
Dry Density (Mg/m³)	1.63		

Pressure Range (kPa)	Mv (m²/MN)	Cv (m²/yr)	Time Fitting Method	Voids Ratio
0 - 50	-	Specimen swelled	-	0.664
50 - 100	0.172	10.2	t50	0.650
100 - 200	0.147	7.01	t50	0.625
200 - 400	0.0993	7.35	t50	0.593
400 - 200	- 0.0233	15.1 (Sv)	t50	0.600
200 - 100	- 0.0596	4.34 (Sv)	t50	0.610

Checked and Approved

Initials: JS

Date: 06/05/2011

Project Number: GEO / 16816

Project Name: GREENAWAY GARDENS

Job Number: J11069

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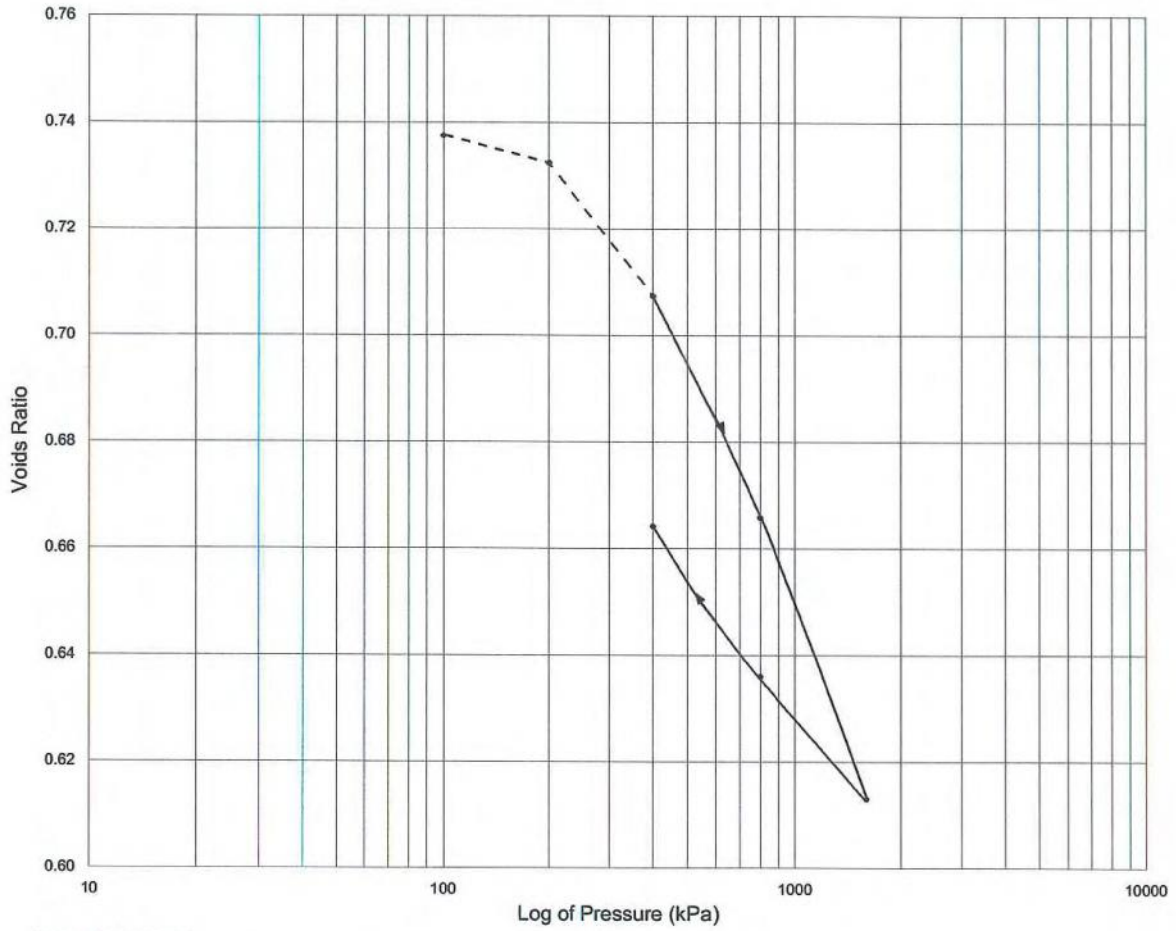
BS1377 : Part 5 : Clause 3 : 1990

Determination of One Dimensional Consolidation Properties of Soil

Borehole No:	BH1
Sample Ref:	-
Depth (m):	13.50
Depth of test specimen (m):	13.52
Orientation:	Vertical
Specimen preparation:	Undisturbed

Description:

Stiff grey CLAY



Initial Conditions:

Moisture Content (%)	28		
Voids Ratio	0.739		
Diameter (mm)	75.1	Particle Density (Mg/m³)	2.72 (Assumed)
Height (mm)	19.0		
Bulk Density (Mg/m³)	2.00	Laboratory Temperature (°C)	18.7
Dry Density (Mg/m³)	1.56		

Pressure Range (kPa)	Mv (m²/MN)	Cv (m²/yr)	Time Fitting Method	Voids Ratio
0 - 100	-	Specimen swelled	-	0.737
100 - 200	-	Specimen swelled	-	0.732
200 - 400	0.0720	0.605	t50	0.707
400 - 800	0.0609	0.478	t50	0.666
800 - 1600	0.0396	0.594	t50	0.613
1600 - 800	- 0.0178	2.11 (Sv)	t50	0.636
800 - 400	- 0.0430	0.355 (Sv)	t50	0.664

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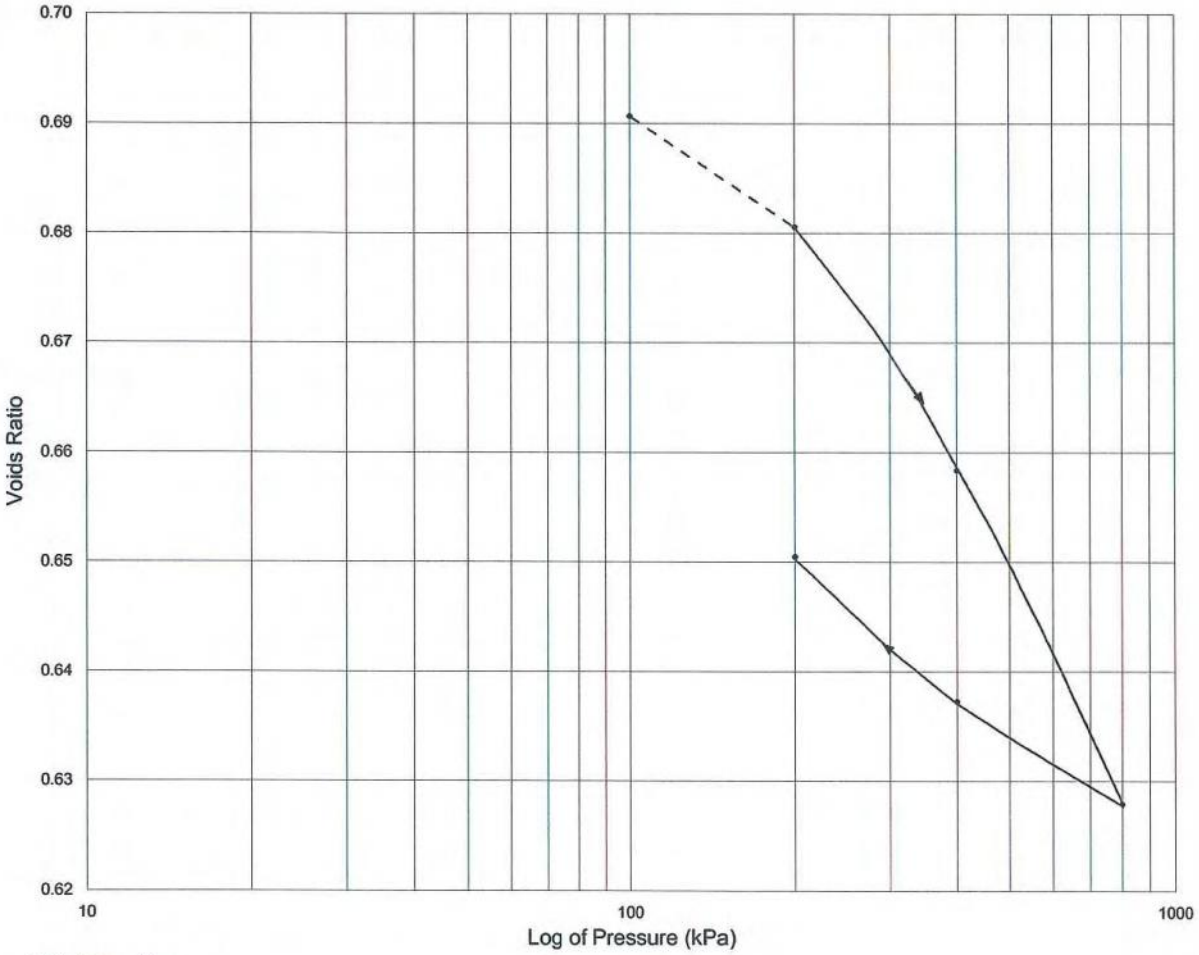
Determination of One Dimensional Consolidation Properties of Soil

Borehole No:	BH1
Sample Ref:	-
Depth (m):	19.50
Depth of test specimen (m):	19.52
Orientation:	Vertical
Specimen preparation:	Undisturbed

Description:

Stiff blocky grey CLAY with pockets of grey silt



Initial Conditions:

Moisture Content (%)	25
Voids Ratio	0.694
Diameter (mm)	74.9
Height (mm)	19.0
Bulk Density (Mg/m³)	2.00
Dry Density (Mg/m³)	1.61

Particle Density (Mg/m³)	2.72 (Assumed)
Laboratory Temperature (°C)	18.7

Pressure Range (kPa)	Mv (m²/MN)	Cv (m²/yr)	Time Fitting Method	Voids Ratio
0 - 100	-	Specimen swelled	-	0.691
100 - 200	0.0596	8.15	t90	0.681
200 - 400	0.0660	3.92	t50	0.658
400 - 800	0.0460	2.68	t50	0.628
800 - 400	- 0.0144	7.63 (Sv)	t50	0.637
400 - 200	- 0.0403	2.72 (Sv)	t50	0.650

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