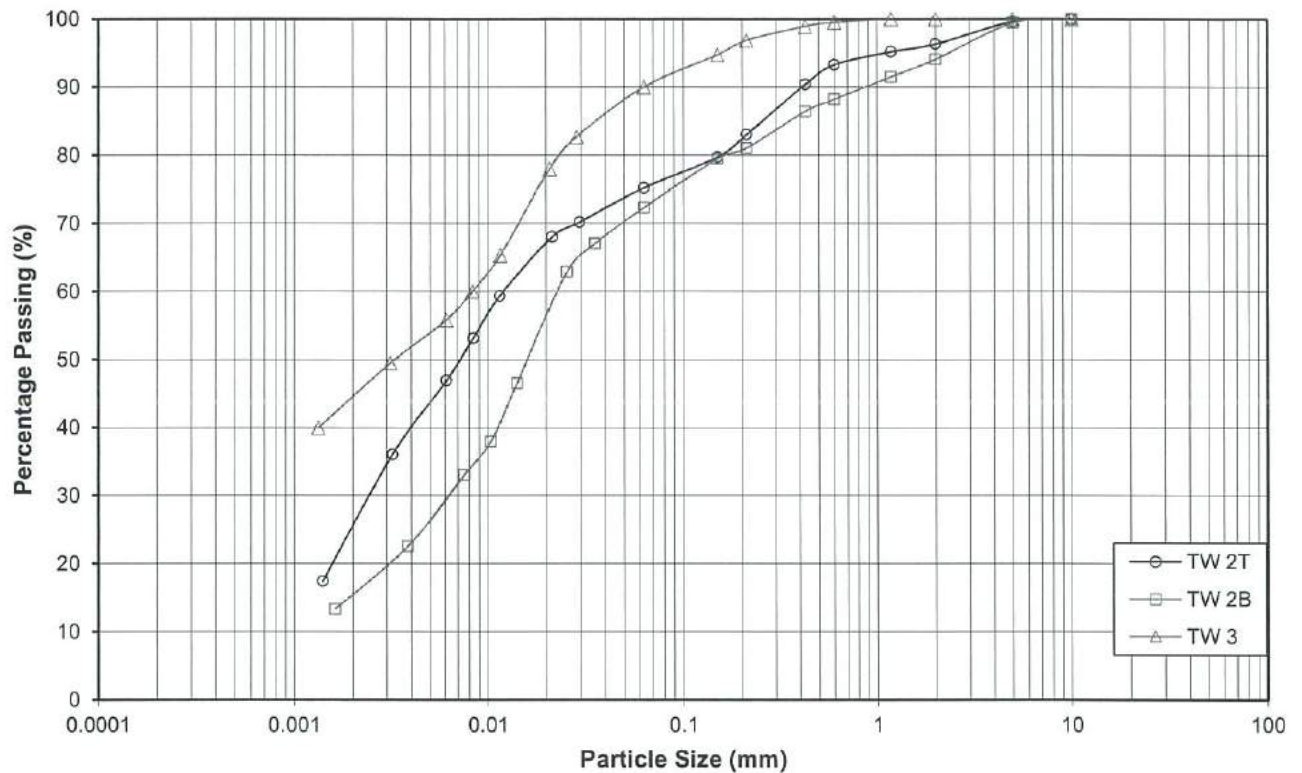


Particle Size Distribution

Wet Sieving & Hydrometer Method



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLE
	SILT			SAND			GRAVEL			

Sample No.	Depth (m)	Particle Size Analysis				Soil Description
		GRAVEL (%)	SAND (%)	SILT (%)	CLAY (%)	
TW 2T	4.00-4.50	4	21	50	25	Brownish grey and reddish brown, Slightly gravelly slightly sandy SILT (MADE GROUND)
TW 2B	4.50-4.90	6	22	57	15	Dark brown, Peaty SILT with wood
TW 3	7.00-7.90	0	10	46	44	Grey spotted reddish brown, Slightly sandy SILT



Test Method : BS1377 : Part 2 :1990
(Clause 9.2 & 9.5)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Tested by:

AT

Checked by:

Cyber 20/9/15

Test Name : PS & HYD

Date of Test : 04/09/15

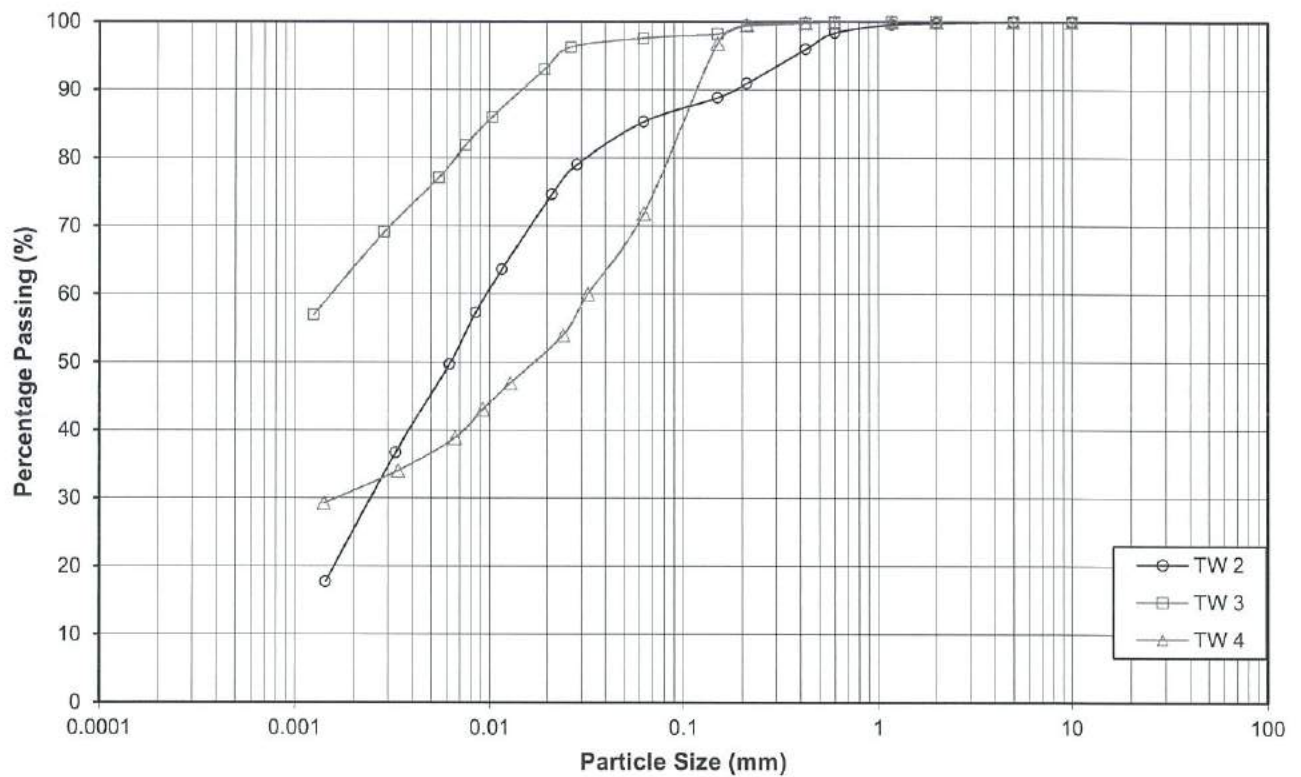
Borehole : BH50

Approved by:

20/9/15
187

Particle Size Distribution

Wet Sieving & Hydrometer Method



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLE
	SILT			SAND			GRAVEL			

Sample No.	Depth (m)	Particle Size Analysis				Soil Description
		GRAVEL (%)	SAND (%)	SILT (%)	CLAY (%)	
TW 2	4.00-4.90	0	15	60	25	Reddish brown mottled yellowish brown spotted dark grey, Slightly sandy SILT
TW 3	6.00-6.90	0	2	35	63	Grey mottled yellowish brown, Slightly sandy CLAY
TW 4	9.00-9.90	0	28	41	31	Grey mottled yellowish brown, Slightly sandy SILT



Test Method : BS1377 : Part 2 :1990

(Clause 9.2 & 9.5)

Site Reference : Lim Chu Kang

Jobfile : SIL/S7518/15/SI

Tested by:

[Signature]

Checked by:

Test Name : PS & HYD

Date of Test : 05/09/15

Borehole : BH51

Approved by:

[Signature]

[Signature]
7/27/15

UNCONSOLIDATED UNDRAINED (UU)
TRIAXIAL COMPRESSION TEST

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Firm, Light grey mottled yellowish brown, Slightly sandy CLAY

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	174.02	177.07	185.75
Bulk Density ρ (Mg/m ³)	2.02	2.05	2.16
Particle Density ρ_s	2.75	2.75	2.75
	(measured)	(measured)	(measured)

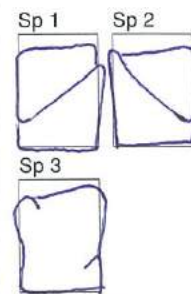
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	65.00	130.00	260.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	24	23	17
Dry Density ρ_{d0} (Mg/m ³)	1.63	1.67	1.84
Voids Ratio e_0	0.69	0.65	0.49
Deg of Saturation S_0 %	96.14	98.48	94.27

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	58.34	130.51	213.46
Membrane Correction σ_{mh} (kPa)	0.90	1.10	1.65
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	57.44	129.41	211.81
Strain at Failure ϵ_f %	7.34	8.71	15.28
Shear Strength c_u (kPa)	28.72	64.71	105.90
Moisture Content w_f %	24	23	16
Dry Density ρ_{df} (Mg/m ³)	1.63	1.67	1.85
Voids Ratio e_f	0.69	0.65	0.49
Deg of Saturation S_f %	95.29	97.66	93.07

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *[Signature]*

Checked: *[Signature]*

Test name UU (SS, MS)

Date of Test: 10/09/15

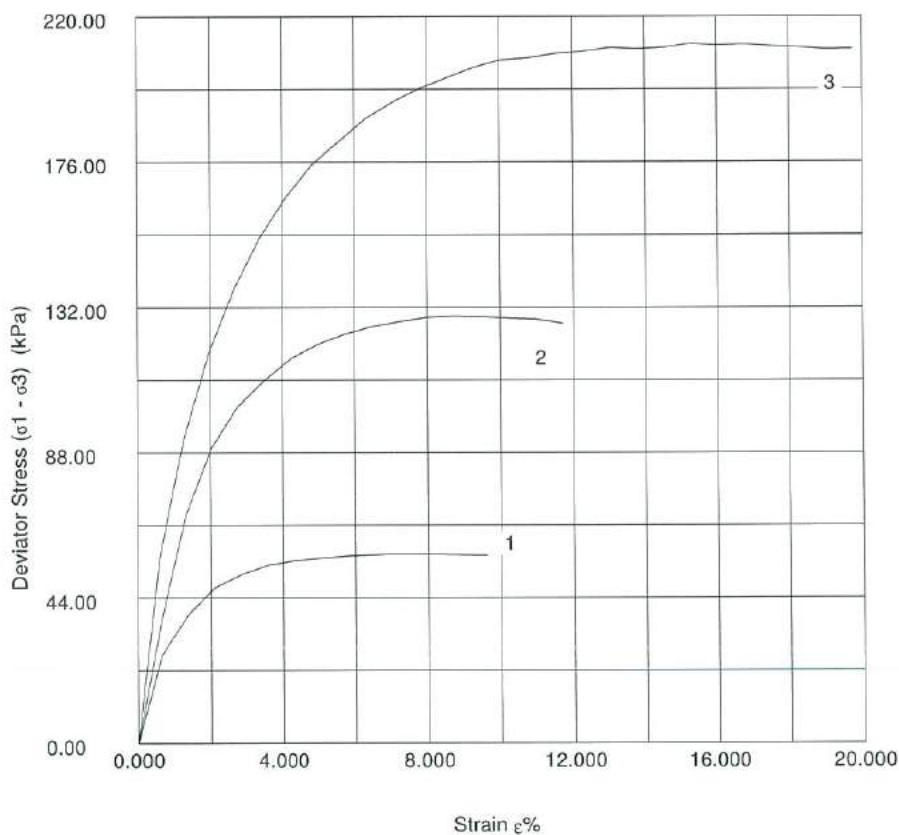
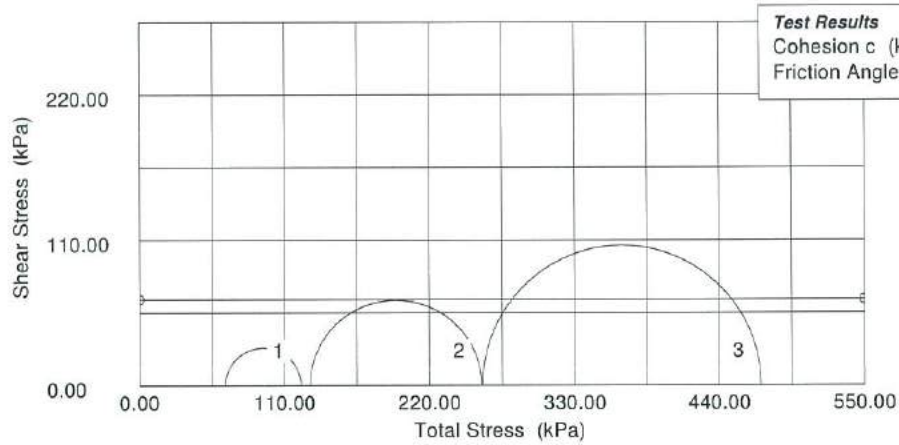
Sample: TW 3 (6.00-6.90m)

Borehole: BH34

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *Am*

Checked: *Cyber 22/9/15*

Test name UU (SS, MS)

Date of Test: 10/09/15

Sample: TW 3 (6.00-6.90m)

Borehole: BH34

Approved: *G 22/9*

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Stiff, Reddish brown mottled yellowish brown and light grey, Slightly sandy CLAY

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	180.19	182.75	184.75
Bulk Density ρ (Mg/m ³)	2.09	2.12	2.14
Particle Density ρ_s	2.69 (measured)	2.69 (measured)	2.69 (measured)

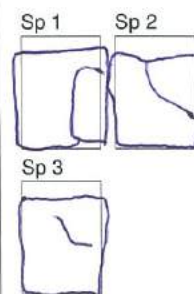
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	65.00	130.00	260.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	19	20	19
Dry Density ρ_{d0} (Mg/m ³)	1.75	1.76	1.81
Voids Ratio e_0	0.54	0.53	0.49
Deg of Saturation S_0 %	97.19	100.00	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	168.30	250.97	264.45
Membrane Correction σ_{mh} (kPa)	1.10	1.20	1.95
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	167.20	249.77	262.50
Strain at Failure ϵ_f %	9.44	9.95	19.26
Shear Strength c_u (kPa)	83.60	124.89	131.25
Moisture Content w_f %	19	20	18
Dry Density ρ_{df} (Mg/m ³)	1.76	1.77	1.81
Voids Ratio e_f	0.53	0.52	0.49
Deg of Saturation S_f %	95.72	100.00	100.00

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *[Signature]*

Checked: *[Signature]*

Test name UU (SS, MS)

Date of Test: 11/09/15

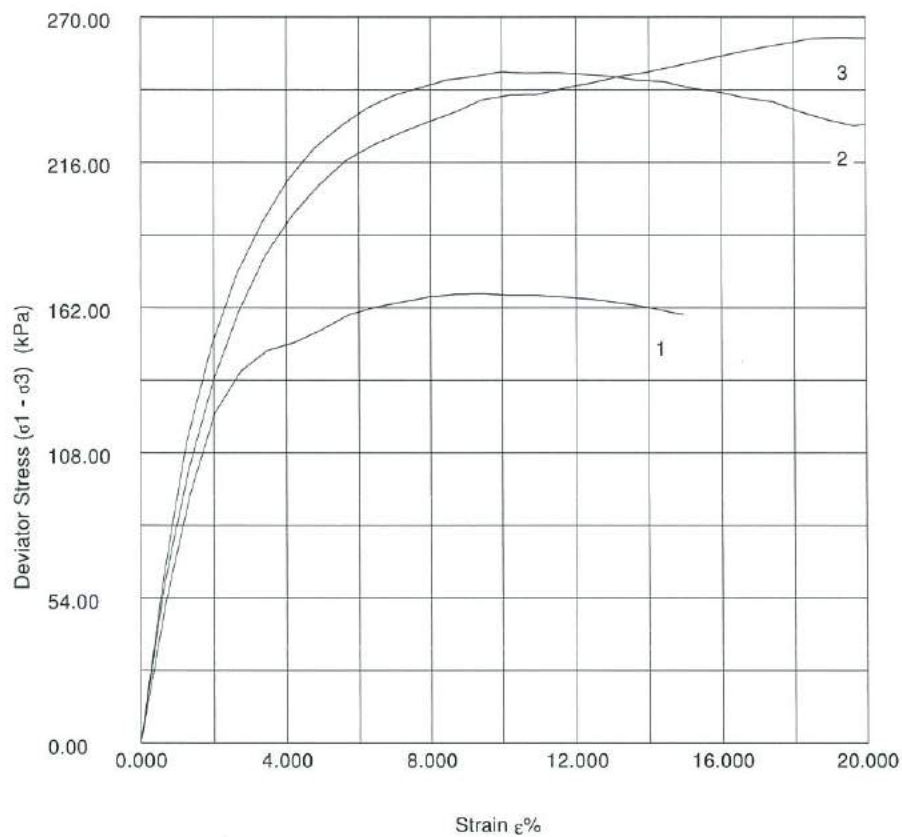
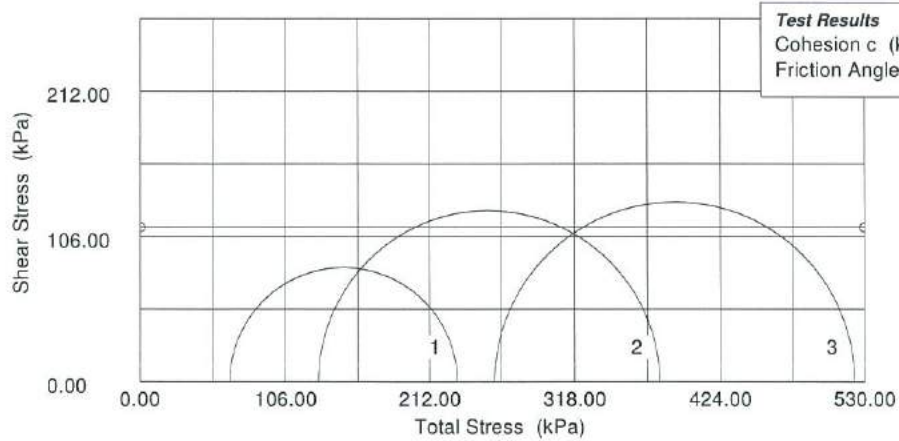
Sample: TW 2 (6.00-6.90m)

Borehole: BH35

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB
Operator: *[Signature]*

Test name UU (SS, MS)
Date of Test: 11/09/15

Sample: TW 2 (6.00-6.90m)
Borehole: BH35

Checked: *[Signature]* 22/9/15

Approved: *[Signature]* 22/9/15

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Firm, Light grey mottled dark grey and yellowish brown, Slightly sandy SILT with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	171.79	176.06	179.06
Bulk Density ρ (Mg/m ³)	1.99	2.04	2.08
Particle Density ρ_s	2.7	2.7	2.7
	(measured)	(measured)	(measured)

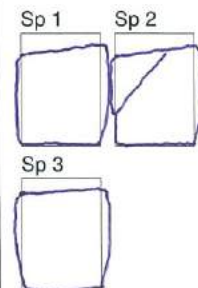
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	65.00	130.00	260.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	26	24	22
Dry Density ρ_{d0} (Mg/m ³)	1.59	1.65	1.70
Voids Ratio e_0	0.70	0.64	0.59
Deg of Saturation S_0 %	98.49	100.00	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	91.90	98.98	126.54
Membrane Correction σ_{mh} (kPa)	1.20	1.48	2.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	90.70	97.50	124.54
Strain at Failure ϵ_f %	10.38	12.67	19.98
Shear Strength c_u (kPa)	45.35	48.75	62.27
Moisture Content w_f %	25	23	22
Dry Density ρ_{df} (Mg/m ³)	1.60	1.66	1.71
Voids Ratio e_f	0.69	0.63	0.58
Deg of Saturation S_f %	97.19	100.00	100.00

Failure Sketch



Surface Inclination



(Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 10/09/15

Sample: TW 3 (6.00-6.90m)

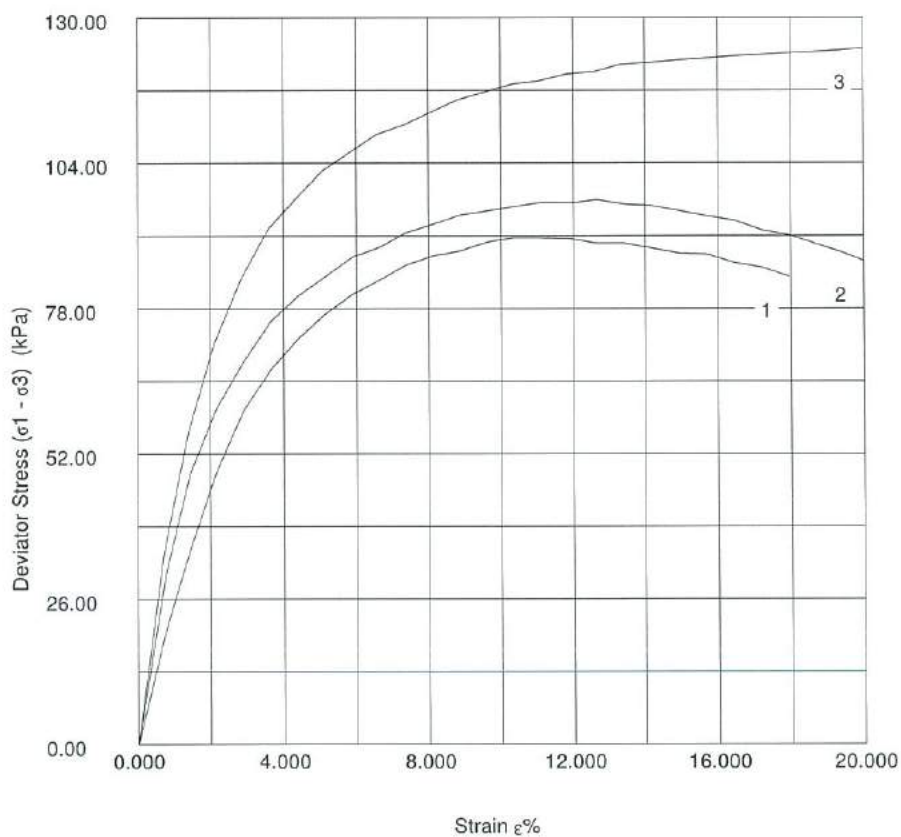
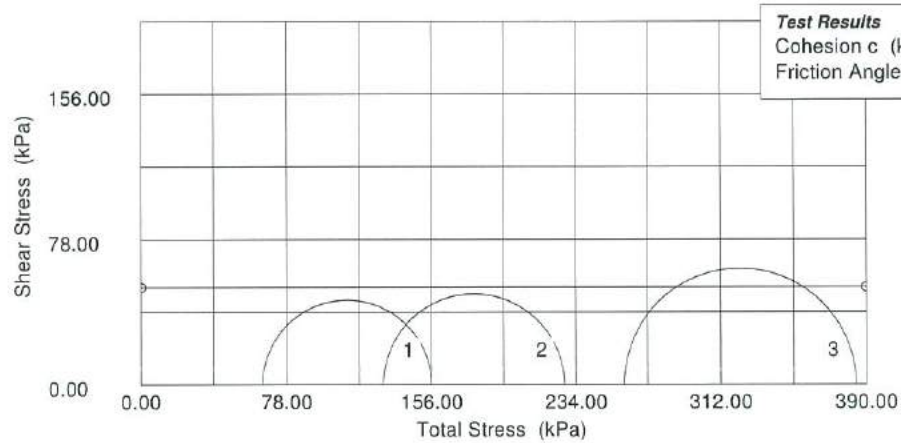
Borehole: BH36

Approved:

[Signature] 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 10/09/15

Sample: TW 3 (6.00-6.90m)

Borehole: BH36

Approved:

Am

Cyber 22/9/15

G 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.40-4.90m
Description: Firm, Light grey, Slightly sandy CLAY with traces of peat

	Specimen 1	Specimen 2
Sample Type	Undisturbed	Undisturbed
Height H_0 (mm)	76	76
Diameter D_0 (mm)	38	38
Weight W_0 (gr)	169.76	171.47
Bulk Density ρ (Mg/m ³)	1.97	1.99
Particle Density ρ_s	2.7 (measured)	2.7 (measured)

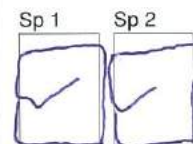
Initial Conditions

	Specimen 1	Specimen 2
Cell Pressure σ_3 (kPa)	90.00	180.00
Machine Speed d_r (mm/min)	1.140	1.140
No. of Membranes	1	1
Total Thickness (mm)	0.2	0.2
Strain Channel	10489	10489
Load Channel	12471	12471
Moisture Content w_0 %	28	27
Dry Density ρ_{d0} (Mg/m ³)	1.53	1.57
Voids Ratio e_0	0.76	0.72
Deg of Saturation S_0 %	100.00	100.00

Final Condition

	Specimen 1	Specimen 2
Max Deviator Stress (kPa)	71.79	93.46
Membrane Correction σ_{mh} (kPa)	1.95	1.58
Corr Stress $(\sigma_1 - \sigma_2)_c$ (kPa)	69.84	91.88
Strain at Failure ϵ_f %	19.39	14.13
Shear Strength c_u (kPa)	34.92	45.94
Moisture Content w_f %	28	26
Dry Density ρ_{df} (Mg/m ³)	1.54	1.58
Voids Ratio e_f	0.75	0.71
Deg of Saturation S_f %	99.29	98.78

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *Jan*

Checked: *Cyber 22/9/15*

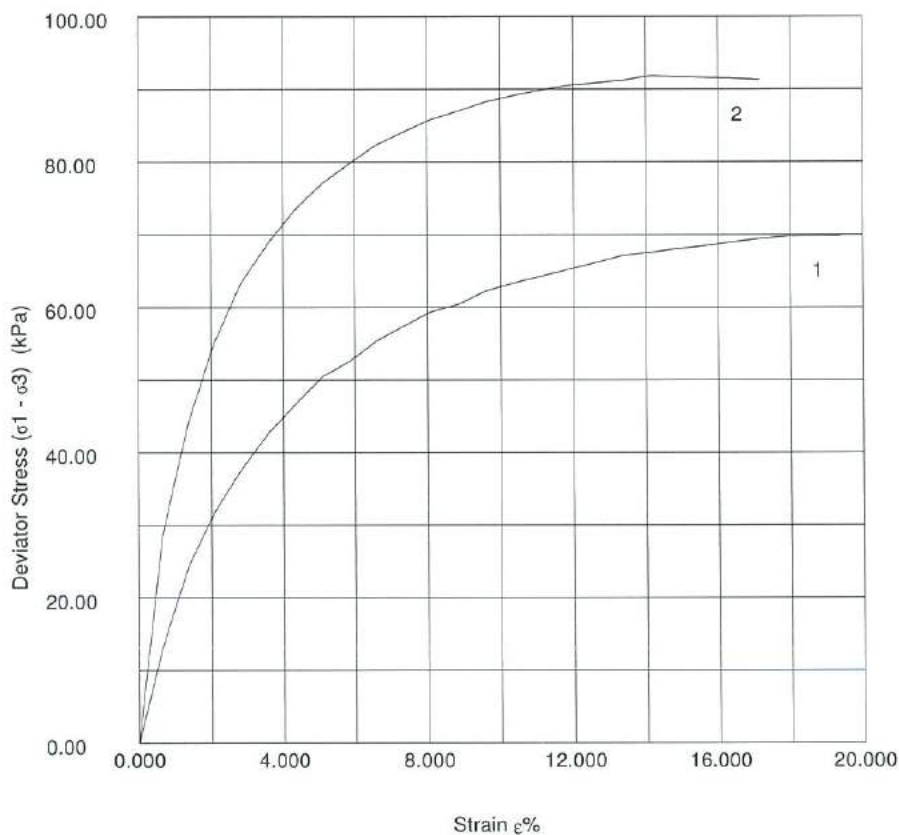
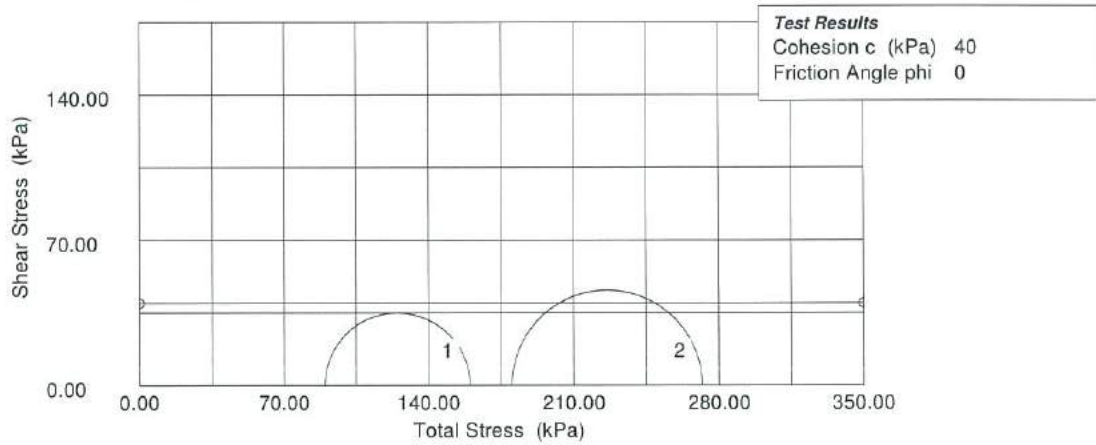
Test name UU (SS, MS)
Date of Test: 08/09/15

Sample: TW 2B (4.40-4.90m)
Borehole: BH37

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 08/09/15

Sample: TW 2B (4.40-4.90m)

Borehole: BH37

Approved:

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 9.50-9.90m
Description: Stiff, Light grey, Sandy SILT

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	182.43	183.96	187.63
Bulk Density ρ (Mg/m ³)	2.12	2.13	2.18
Particle Density ρ_s	2.68	2.68	2.68
	(measured)	(measured)	(measured)

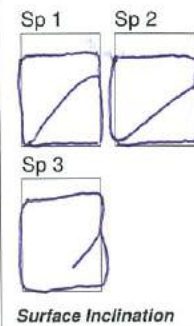
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	100.00	200.00	400.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	17	16	18
Dry Density ρ_{d0} (Mg/m ³)	1.81	1.84	1.85
Voids Ratio e_0	0.48	0.46	0.45
Deg of Saturation S_0 %	93.80	94.24	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	123.12	170.30	159.63
Membrane Correction σ_{mh} (kPa)	0.70	1.20	1.82
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	122.42	169.10	157.81
Strain at Failure ϵ_f %	4.95	10.09	16.90
Shear Strength c_u (kPa)	61.21	84.55	78.90
Moisture Content w_f %	16	15	17
Dry Density ρ_{df} (Mg/m ³)	1.82	1.85	1.86
Voids Ratio e_f	0.47	0.45	0.44
Deg of Saturation S_f %	92.32	92.03	100.00

Failure Sketch



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *Am*

Checked: *Cyber 22/9/15*

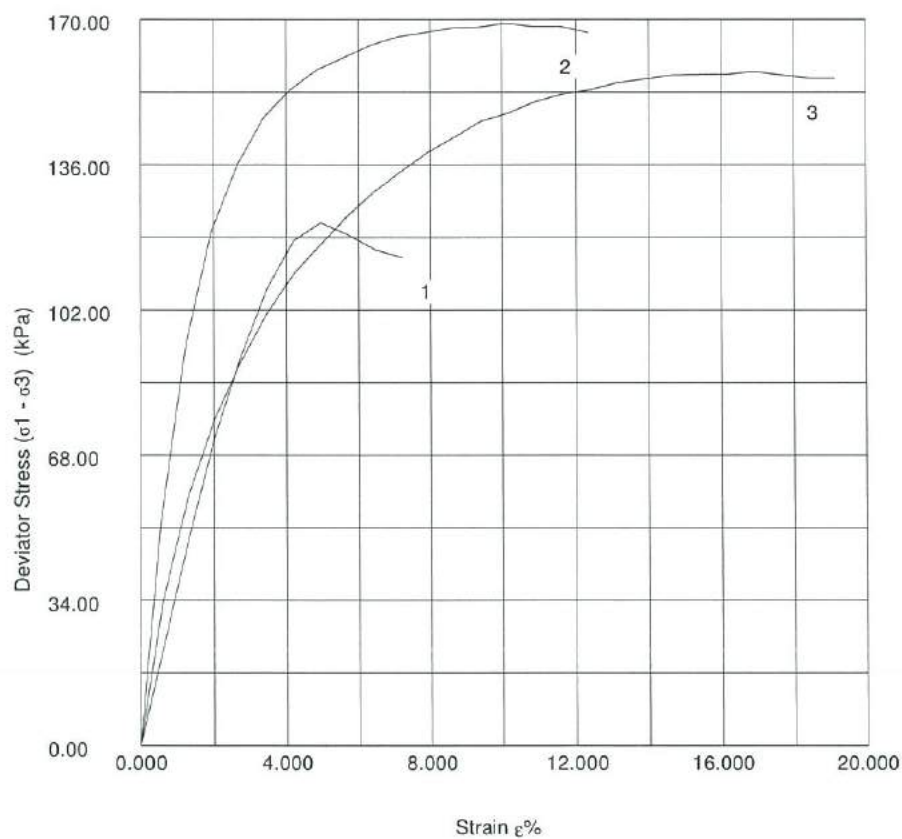
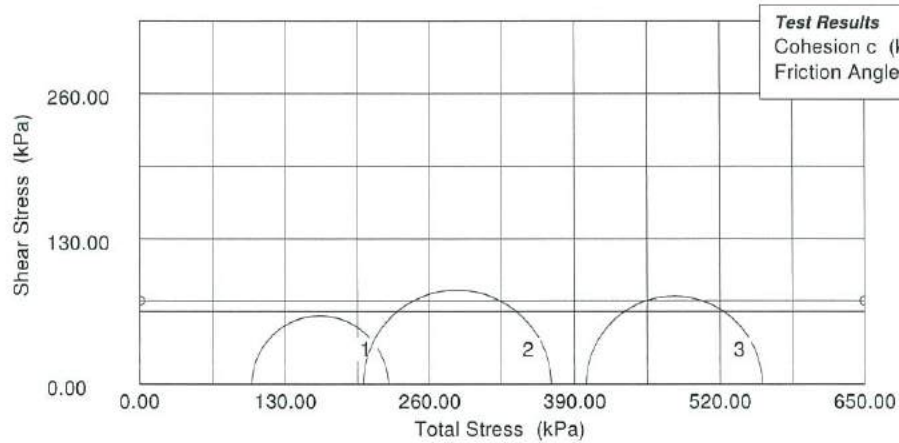
Test name UU (SS, MS)
Date of Test: 08/09/15

Sample: TW 4 (9.00-9.90m)
Borehole: BH37

Approved: *C 22/9*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB
Operator: *[Signature]*

Test name UU (SS, MS)
Date of Test: 08/09/15

Sample: TW 4 (9.00-9.90m)
Borehole: BH37

Checked: *[Signature]*

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.30-4.40m
Description: Soft, Light grey, Slightly sandy CLAY with traces of peat

Sample Type: Specimen 1
Height H_0 (mm): 76
Diameter D_0 (mm): 38
Weight W_0 (gr): 163.75
Bulk Density ρ (Mg/m³): 1.90
Particle Density ρ_s : 2.69 (measured)

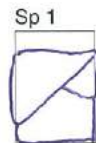
Initial Conditions

	Stage 1	Stage 2	Stage 3
Cell Pressure σ_3 (kPa)	40.00	80.00	160.00
Machine Speed d_r (mm/min)	0.570	0.570	0.570
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	13018	13018	13018
Load Channel	PR12965/6651	PR12965/6651	PR12965/6651
Moisture Content w_0 %	35	35	35
Dry Density ρ_{d0} (Mg/m ³)	1.41	1.41	1.41
Voids Ratio e_0	0.91	0.91	0.91
Deg of Saturation S_0 %	100.00	100.00	100.00

Final Condition

	Stage 1	Stage 2	Stage 3
Max Deviator Stress (kPa)	38.58	49.86	58.08
Membrane Correction σ_{mh} (kPa)	0.45	0.45	0.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	38.13	49.41	58.08
Strain at Failure ϵ_f %	3.18	6.16	10.70
Shear Strength c_u (kPa)	19.07	24.71	29.04
Moisture Content w_f %	34	34	34
Dry Density ρ_{df} (Mg/m ³)	1.41	1.41	1.41
Voids Ratio e_f	0.90	0.90	0.90
Deg of Saturation S_f %	100.00	100.00	100.00

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Am

Checked:

Test name: UU (MS, SS)

Date of Test: 03/09/15

Sample: TW 2 (4.00-4.90m)

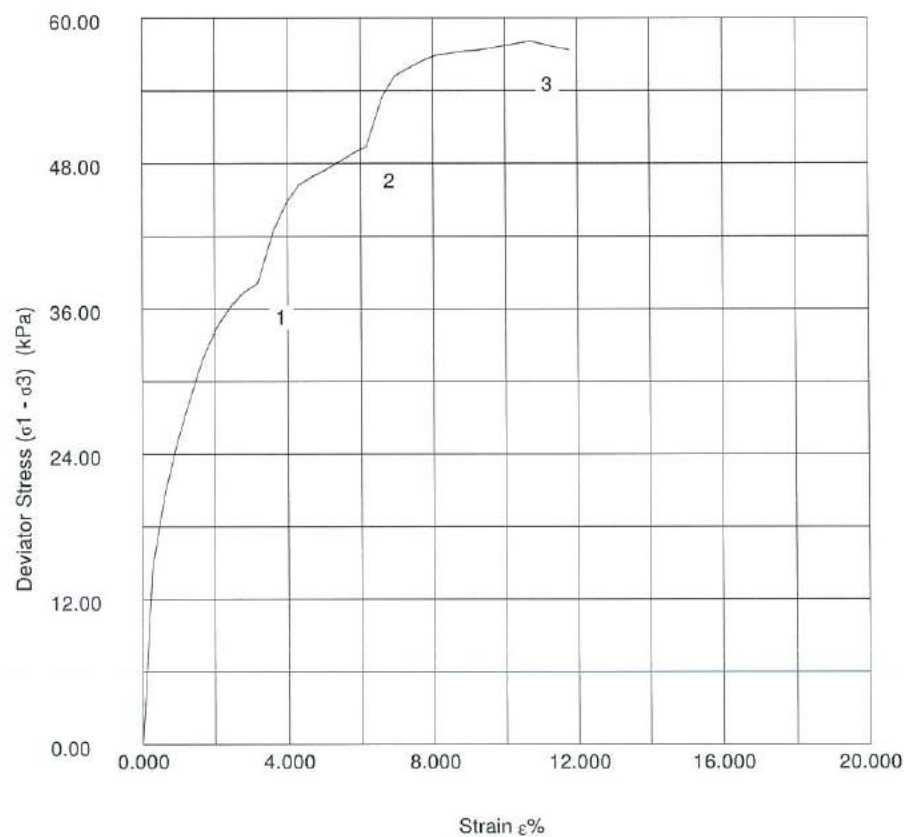
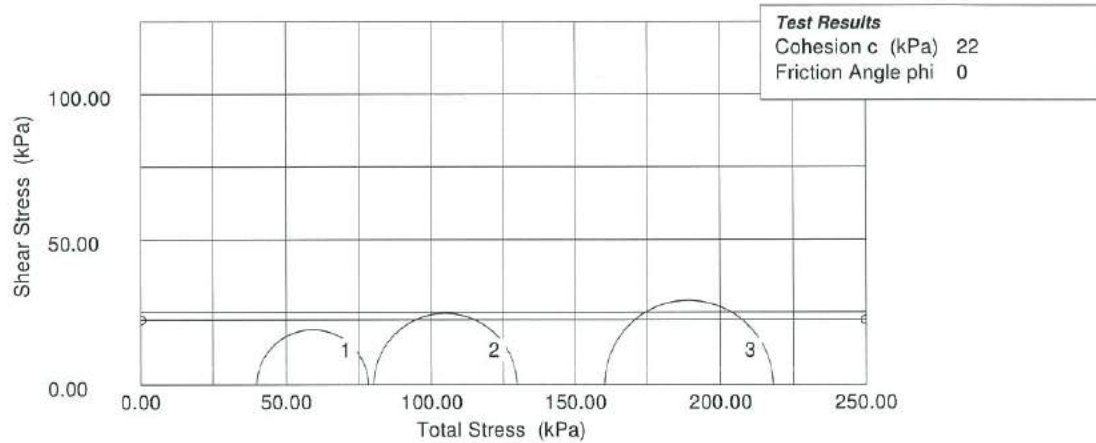
Borehole: BH38

Approved:

E 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Test name UU (MS, SS)

Date of Test: 03/09/15

Site Reference: Lim Chu Kang

Sample: TW 2 (4.00-4.90m)

Jobfile: C:\WINCLISP\S7518-15.JOB

Borehole: BH38

Operator:

Checked:

Approved:

[Signature]

[Signature] 22/9/15

[Signature] 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Stiff, Light grey, Sandy SILT

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	179.39	181.56	184.26
Bulk Density ρ (Mg/m ³)	2.08	2.11	2.14
Particle Density ρ_s	2.68	2.68	2.68
	(measured)	(measured)	(measured)

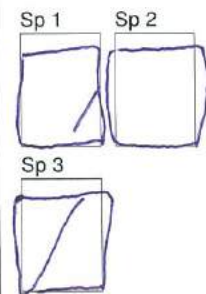
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	65.00	130.00	260.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	19	19	18
Dry Density ρ_{d0} (Mg/m ³)	1.75	1.77	1.81
Voids Ratio e_0	0.53	0.51	0.48
Deg of Saturation S_0 %	94.85	98.48	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	120.56	247.17	222.31
Membrane Correction σ_{mh} (kPa)	1.40	2.00	2.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	119.16	245.17	220.31
Strain at Failure ϵ_f %	11.81	19.98	19.98
Shear Strength c_u (kPa)	59.58	122.58	110.15
Moisture Content w_f %	18	18	18
Dry Density ρ_{df} (Mg/m ³)	1.76	1.78	1.82
Voids Ratio e_f	0.52	0.50	0.47
Deg of Saturation S_f %	93.63	96.68	99.47

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 04/09/15

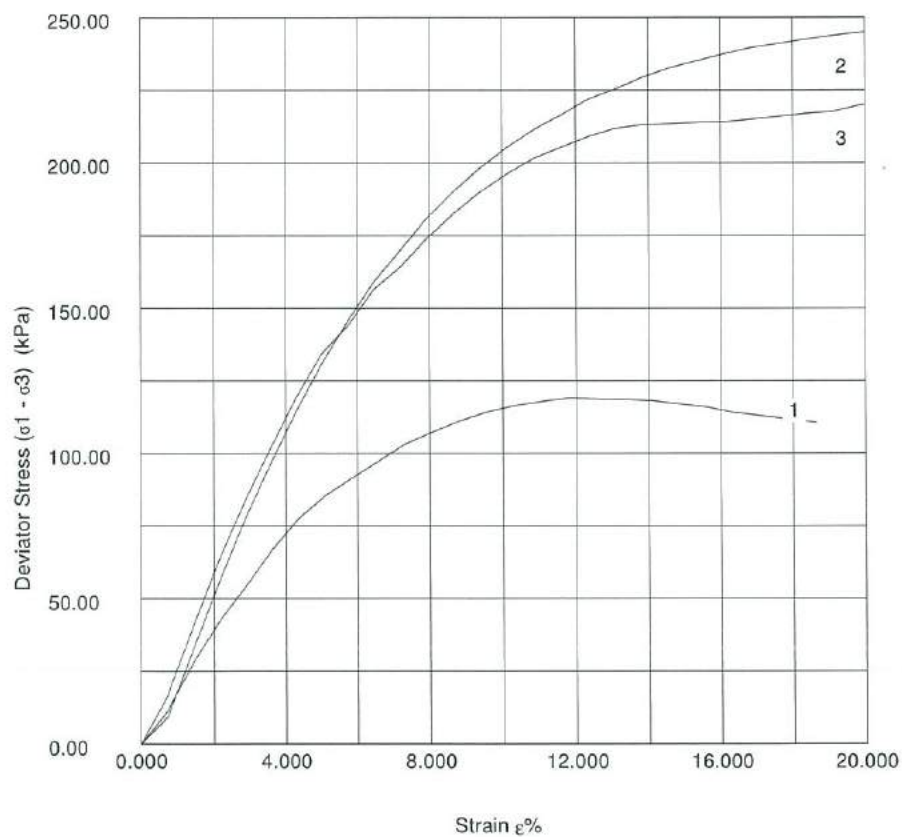
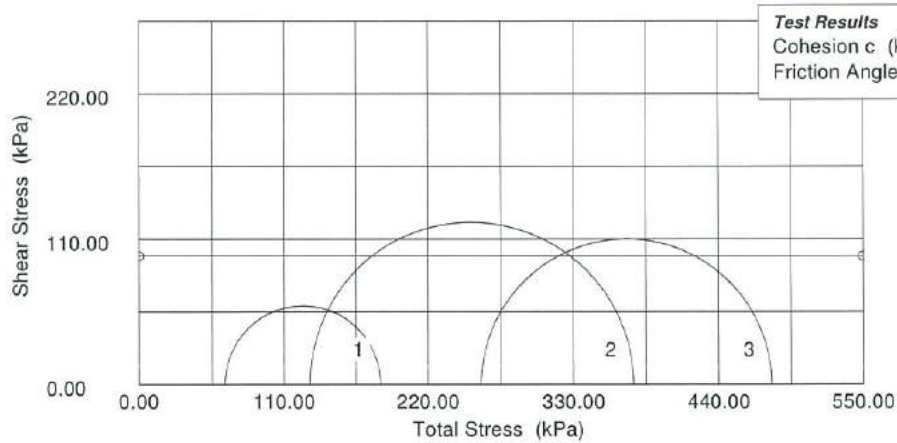
Sample: TW 3 (6.00-6.90m)

Borehole: BH38

Approved:

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Test name UU (SS, MS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang

Sample: TW 3 (6.00-6.90m)

Jobfile: C:\WINCLISP\S7518-15.JOB

Borehole: BH38

Operator:

Checked:

Approved:

[Signature]

[Signature]

[Signature]

202

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 9.50-9.90m
Description: Stiff, Yellowish brown mottled reddish brown and light grey. Slightly sandy SILT

	Specimen 1	Specimen 2
Sample Type	Undisturbed	Undisturbed
Height H_0 (mm)	76	76
Diameter D_0 (mm)	38	38
Weight W_0 (gr)	179.41	179.5
Bulk Density ρ (Mg/m ³)	2.08	2.08
Particle Density ρ_s	2.71 (measured)	2.71 (measured)

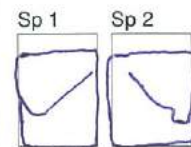
Initial Conditions

	Specimen 1	Specimen 2
Cell Pressure σ_3 (kPa)	190.00	380.00
Machine Speed d_r (mm/min)	1.140	1.140
No. of Membranes	1	1
Total Thickness (mm)	0.2	0.2
Strain Channel	10489	10489
Load Channel	12471	12471
Moisture Content w_0 %	23	22
Dry Density ρ_{d0} (Mg/m ³)	1.69	1.70
Voids Ratio e_0	0.60	0.59
Deg of Saturation S_0 %	100.00	100.00

Final Condition

	Specimen 1	Specimen 2
Max Deviator Stress (kPa)	218.83	228.75
Membrane Correction σ_{mh} (kPa)	1.65	2.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	217.18	226.75
Strain at Failure ϵ_f %	15.26	19.71
Shear Strength c_u (kPa)	108.59	113.38
Moisture Content w_f %	23	22
Dry Density ρ_{df} (Mg/m ³)	1.70	1.71
Voids Ratio e_f	0.60	0.59
Deg of Saturation S_f %	100.00	100.00

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 04/09/15

Sample: TW 4 (9.00-9.90m)

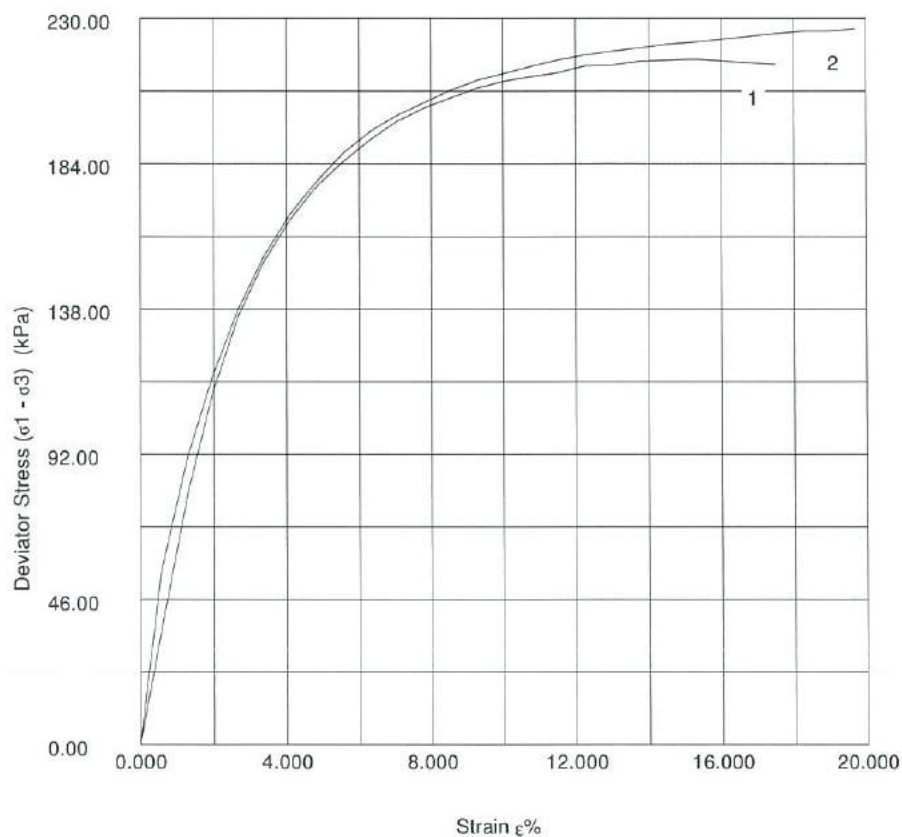
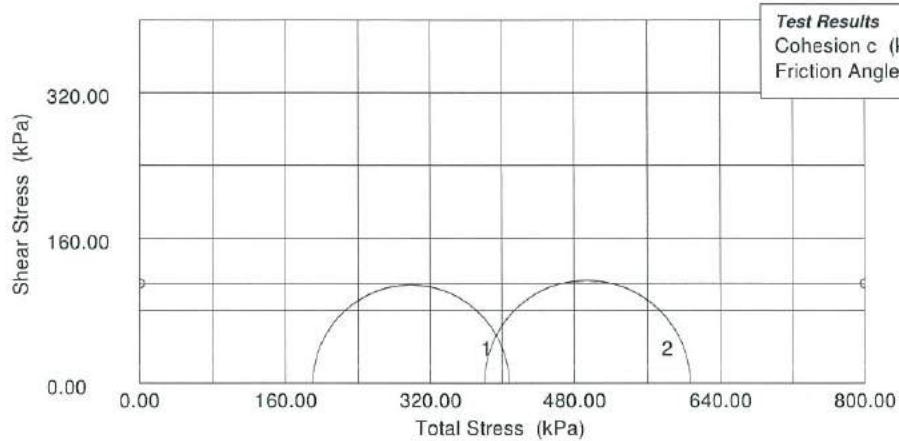
Borehole: BH38

Approved:

[Signature] 2/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Test name UU (SS, MS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang

Sample: TW 4 (9.00-9.90m)

Jobfile: C:\WINCLISP\S7518-15.JOB

Borehole: BH38

Operator:

Checked:

Approved:

Am

Capital 22/9/15

E 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 5.30-5.40m
 Description: Very soft, Brownish grey, Slightly gravelly sandy SILT with traces of peat and decayed wood

Specimen 1
 Sample Type Undisturbed
 Height H_0 (mm) 76
 Diameter D_0 (mm) 38
 Weight W_0 (gr) 142.52
 Bulk Density ρ (Mg/m³) 1.65
 Particle Density ρ_s 2.64 (measured)

Initial Conditions

	Stage 1	Stage 2	Stage 3
Cell Pressure σ_3 (kPa)	45.00	90.00	180.00
Machine Speed d_r (mm/min)	0.570	0.570	0.570
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	13018	13018	13018
Load Channel	6680	6680	6680
Moisture Content w_0 %	47	47	47
Dry Density ρ_{d0} (Mg/m ³)	1.12	1.12	1.12
Voids Ratio e_0	1.35	1.35	1.35
Deg of Saturation S_0 %	92.29	92.29	92.29

Final Condition

	Stage 1	Stage 2	Stage 3
Max Deviator Stress (kPa)	24.50	35.86	50.01
Membrane Correction σ_{mb} (kPa)	0.60	0.45	0.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	23.90	35.41	50.01
Strain at Failure ϵ_f %	4.19	7.57	14.36
Shear Strength c_u (kPa)	11.95	17.71	25.00
Moisture Content w_f %	46	46	46
Dry Density ρ_{df} (Mg/m ³)	1.13	1.13	1.13
Voids Ratio e_f	1.34	1.34	1.34
Deg of Saturation S_f %	91.65	91.65	91.65

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)]

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Operator:

[Signature]

Checked:

Test name UU (MS, SS)

Date of Test: 03/09/15

Sample: TW 2 (5.00-5.90m)

Borehole: BH39

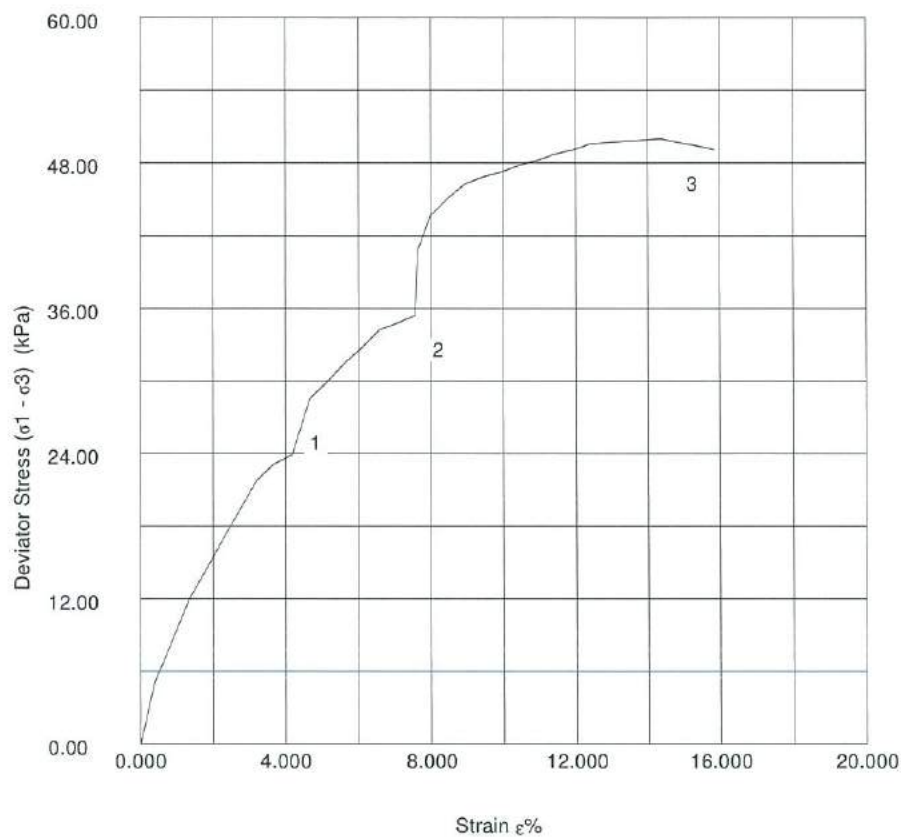
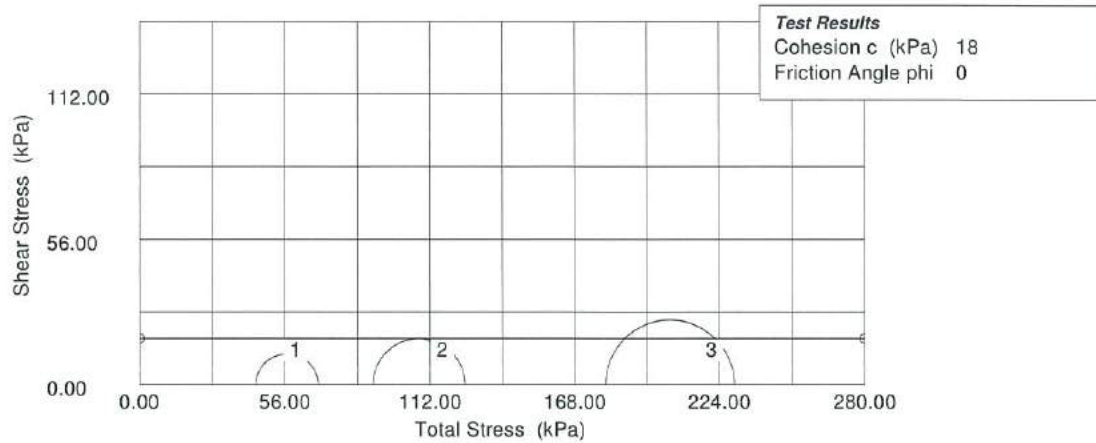
Approved:

[Signature]

15/9
 205

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB
Operator: *[Signature]*

Test name UU (MS, SS)
Date of Test: 03/09/15

Sample: TW 2 (5.00-5.90m)
Borehole: BH39

Checked: *[Signature]*

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 8.00-8.40m
Description: Firm, Light grey, Slightly sandy CLAY with traces of peat

	Specimen 1	Specimen 2
Sample Type	Undisturbed	Undisturbed
Height H_0 (mm)	76	76
Diameter D_0 (mm)	38	38
Weight W_0 (gr)	178.79	181.18
Bulk Density ρ (Mg/m ³)	2.07	2.10
Particle Density ρ_s	2.73	2.73
	(measured)	(measured)

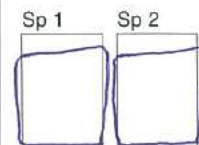
Initial Conditions

	Specimen 1	Specimen 2
Cell Pressure σ_3 (kPa)	170.00	340.00
Machine Speed d_r (mm/min)	1.140	1.140
No. of Membranes	1	1
Total Thickness (mm)	0.2	0.2
Strain Channel	10489	10489
Load Channel	12471	12471
Moisture Content w_0 %	21	22
Dry Density ρ_{d0} (Mg/m ³)	1.72	1.72
Voids Ratio e_0	0.59	0.58
Deg of Saturation S_0 %	96.54	100.00

Final Condition

	Specimen 1	Specimen 2
Max Deviator Stress (kPa)	107.90	159.55
Membrane Correction σ_{mh} (kPa)	1.73	1.90
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	106.17	157.65
Strain at Failure ϵ_f %	15.53	18.46
Shear Strength c_u (kPa)	53.08	78.82
Moisture Content w_f %	20	21
Dry Density ρ_{df} (Mg/m ³)	1.72	1.73
Voids Ratio e_f	0.58	0.58
Deg of Saturation S_f %	95.09	100.00

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator: *[Signature]*

Checked: *[Signature]*

Test name UU (SS, MS)

Date of Test: 03/09/15

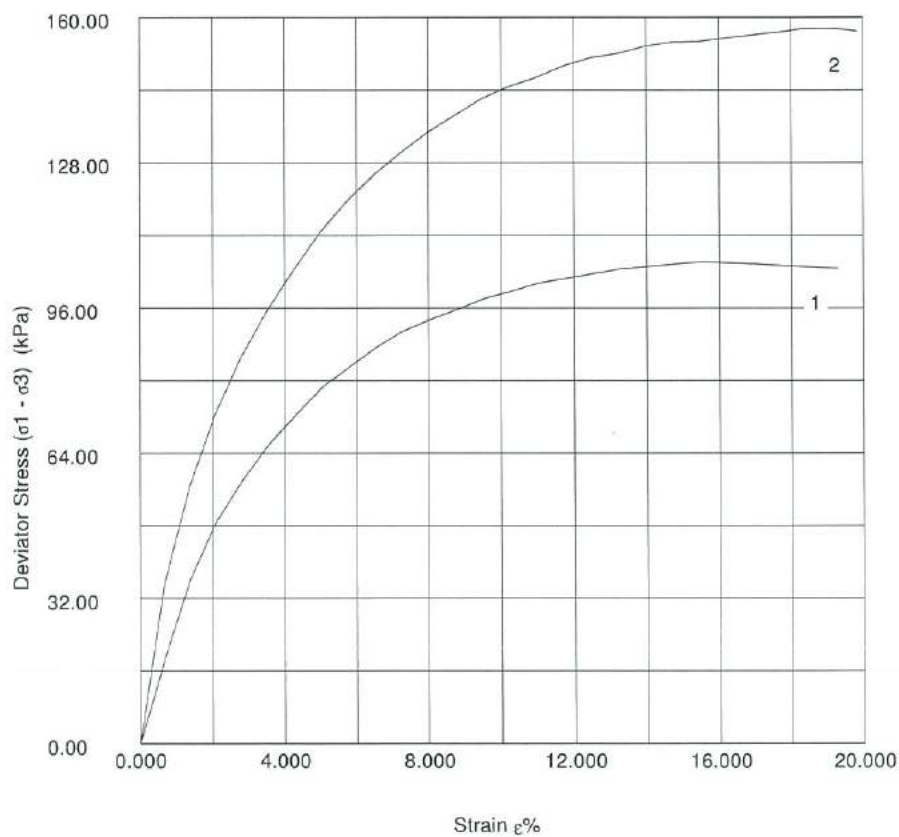
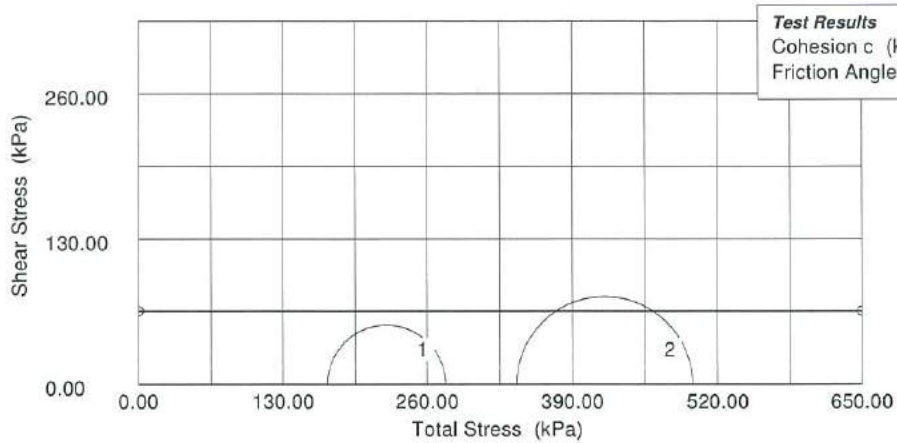
Sample: TW 3T (8.00-8.40m)

Borehole: BH39

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Operator:

[Signature]

Checked:

Test name UU (SS, MS)

Date of Test: 03/09/15

Sample: TW 3T (8.00-8.40m)

Borehole: BH39

Approved:

[Signature] 15/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 5.30-5.40m
Description: Firm, Light grey mottled reddish brown, Slightly sandy CLAY

Sample Type: Specimen 1
Height H_0 (mm): 76
Diameter D_0 (mm): 38
Weight W_0 (gr): 175.24
Bulk Density ρ (Mg/m³): 2.03
Particle Density ρ_s : 2.73 (measured)

Initial Conditions

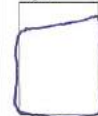
	Stage 1	Stage 2	Stage 3
Cell Pressure σ_3 (kPa)	55.00	110.00	220.00
Machine Speed d_r (mm/min)	0.570	0.570	0.570
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	13018	13018	13018
Load Channel	PR12965/6651	PR12965/6651	PR12965/6651
Moisture Content w_0 %	25	25	25
Dry Density ρ_{d0} (Mg/m ³)	1.62	1.62	1.62
Voids Ratio e_0	0.68	0.68	0.68
Deg of Saturation S_0 %	100.00	100.00	100.00

Final Condition

	Stage 1	Stage 2	Stage 3
Max Deviator Stress (kPa)	118.42	147.70	172.13
Membrane Correction σ_{mh} (kPa)	0.70	0.60	0.70
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	117.72	147.10	171.43
Strain at Failure ϵ_f %	4.95	8.91	13.83
Shear Strength c_u (kPa)	58.86	73.55	85.72
Moisture Content w_f %	25	25	25
Dry Density ρ_{df} (Mg/m ³)	1.63	1.63	1.63
Voids Ratio e_f	0.68	0.68	0.68
Deg of Saturation S_f %	100.00	100.00	100.00

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *Jan*

Checked: *Cyber 16/9/15*

Test name: UU (MS, SS)

Date of Test: 03/09/15

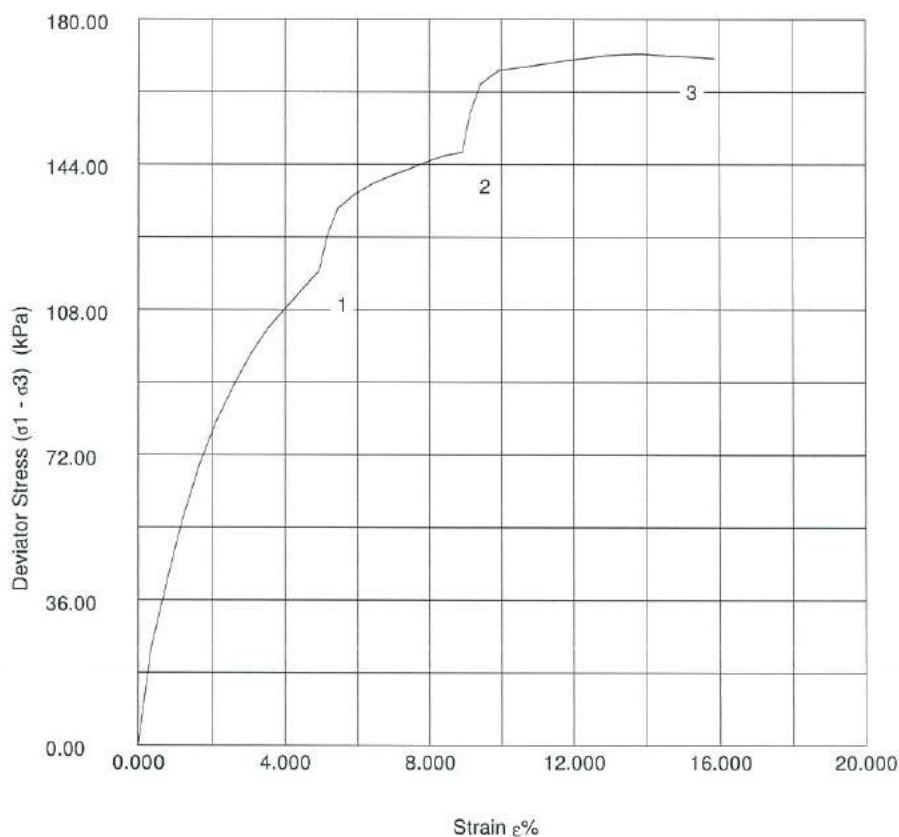
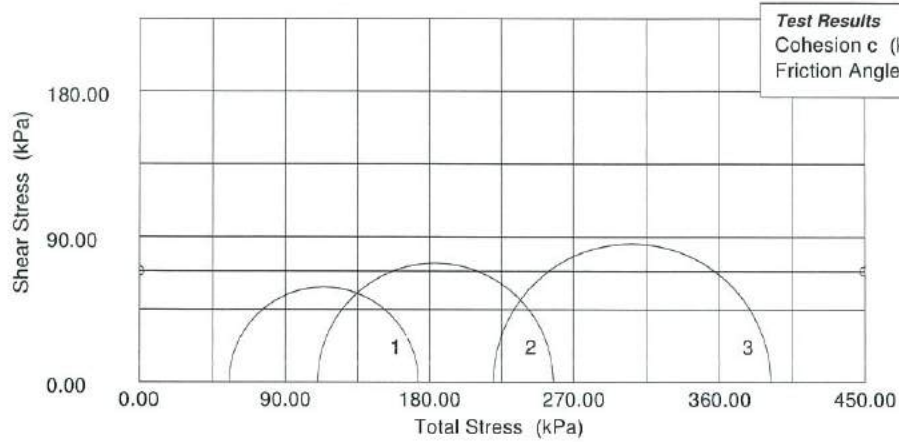
Sample: TW 2 (5.00-5.90m)

Borehole: BH40

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *[Signature]*

Checked: *[Signature]*

Test name UU (MS, SS)

Date of Test: 03/09/15

Sample: TW 2 (5.00-5.90m)

Borehole: BH40

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 8.10-8.50m
Description: Stiff, Reddish brown mottled brownish grey, Slightly sandy CLAY

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	188.67	189.76	190.96
Bulk Density ρ (Mg/m ³)	2.19	2.20	2.22
Particle Density ρ_s	2.69	2.69	2.69
	(measured)	(measured)	(measured)

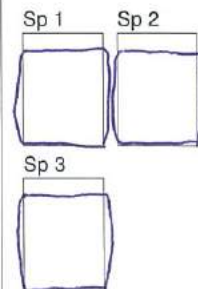
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	90.00	180.00	360.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	17	16	16
Dry Density ρ_{d0} (Mg/m ³)	1.87	1.90	1.91
Voids Ratio e_0	0.44	0.42	0.41
Deg of Saturation S_0 %	100.00	100.00	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	274.86	262.75	280.57
Membrane Correction σ_{mb} (kPa)	2.00	1.90	2.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	272.86	260.85	278.57
Strain at Failure ϵ_f %	19.98	18.23	19.97
Shear Strength c_u (kPa)	136.43	130.42	139.29
Moisture Content w_f %	17	16	16
Dry Density ρ_{df} (Mg/m ³)	1.88	1.90	1.91
Voids Ratio e_f	0.43	0.41	0.41
Deg of Saturation S_f %	100.00	100.00	100.00

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB
Operator: *[Signature]*

Test name: UU (SS, MS)
Date of Test: 0/09/115

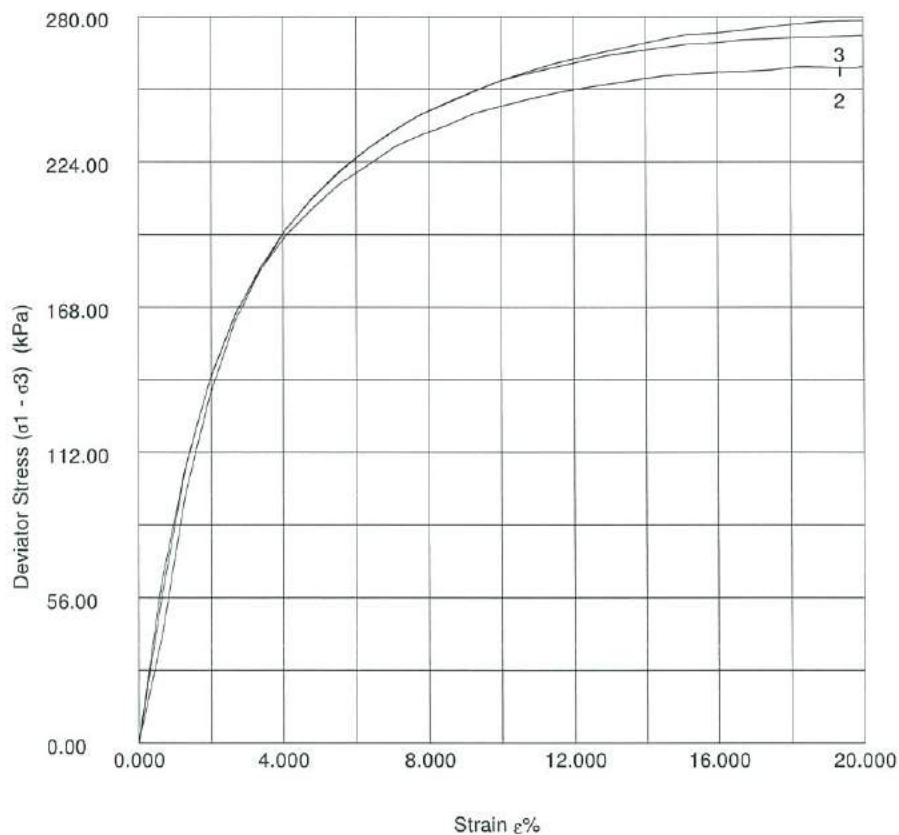
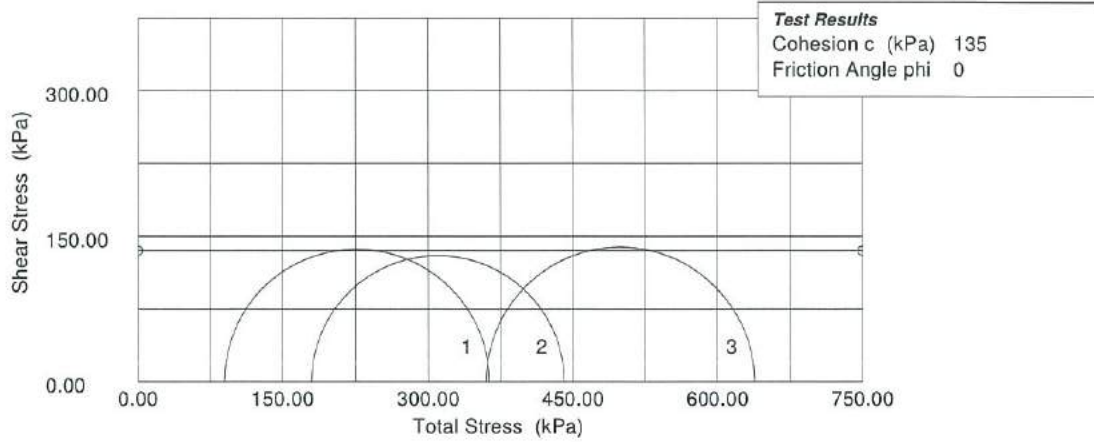
Sample: TW 3 (8.00-8.50m)
Borehole: BH40

Checked: *[Signature]*

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)]

Site Reference: Lim Chu Kang
 Jobfile: C:\WINCLISP\S7518-15.JOB
 Operator: *[Signature]*

Test name UU (SS, MS)
 Date of Test: 0/09/115

Sample: TW 3 (8.00-8.50m)
 Borehole: BH40

Checked: *[Signature]* 16/9/15

Approved: *[Signature]* 17/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 5.70-5.90m
Description: Soft, Dark brown, Peaty SILT

Specimen 1
Sample Type Undisturbed
Height H_0 (mm) 76
Diameter D_0 (mm) 38
Weight W_0 (gr) 120.18
Bulk Density ρ (Mg/m³) 1.39
Particle Density ρ_s 2.63
(measured)

Initial Conditions

	Stage 1	Stage 2	Stage 3
Cell Pressure σ_3 (kPa)	40.00	80.00	160.00
Machine Speed d_r (mm/min)	0.570	0.570	0.570
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	13018	13018	13018
Load Channel	PR12965/6651	PR12965/6651	PR12965/6651
Moisture Content w_0 %	91	91	91
Dry Density ρ_{d0} (Mg/m ³)	0.73	0.73	0.73
Voids Ratio e_0	2.60	2.60	2.60
Deg of Saturation S_0 %	91.86	91.86	91.86

Final Condition

	Stage 1	Stage 2	Stage 3
Max Deviator Stress (kPa)	61.39	72.40	81.73
Membrane Correction σ_{mb} (kPa)	0.70	0.35	0.35
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	60.69	72.05	81.38
Strain at Failure ϵ_f %	4.94	7.57	9.88
Shear Strength c_u (kPa)	30.35	36.03	40.69
Moisture Content w_f %	90	90	90
Dry Density ρ_{df} (Mg/m ³)	0.73	0.73	0.73
Voids Ratio e_f	2.59	2.59	2.59
Deg of Saturation S_f %	91.71	91.71	91.71

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB
Operator: *[Signature]*

Test name UU (MS, SS)
Date of Test: 03/09/15

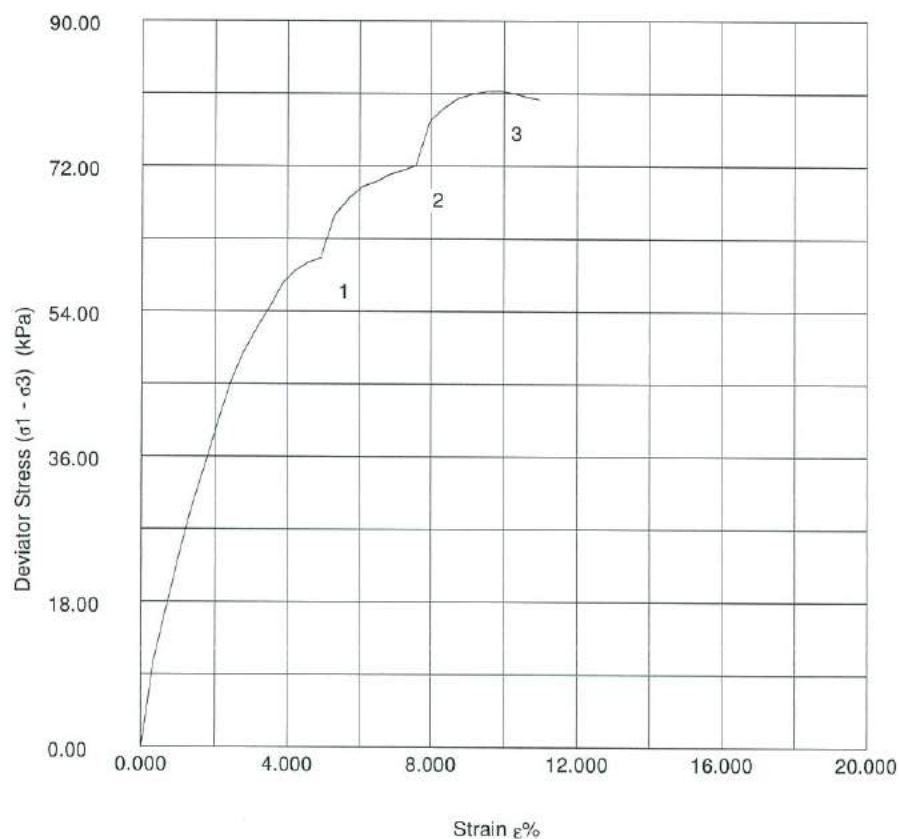
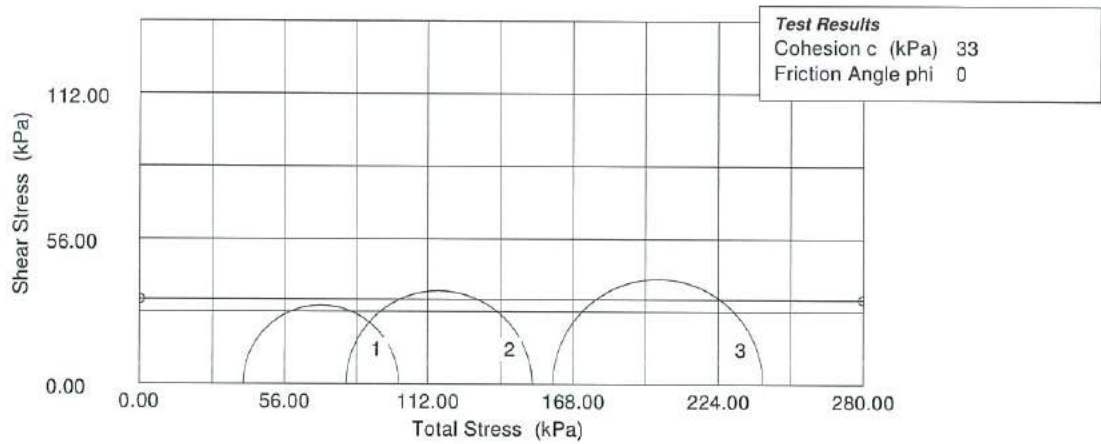
Sample: TW 2B (5.70-5.90m)
Borehole: BH41

Checked: *[Signature]* 16/9/15

Approved: *[Signature]* 17/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)]

Test name UU (MS, SS)
 Date of Test: 03/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 2B (5.70-5.90m)
 Borehole: BH41

Operator: *[Signature]*

Checked: *[Signature]* 16/9/15

Approved: *[Signature]* 17/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 9.50-9.90m
Description: Dense, Light grey, Very gravelly very clayey SAND

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	177.45	179.3	180.22
Bulk Density ρ (Mg/m ³)	2.06	2.08	2.09
Particle Density ρ_s	2.69	2.69	2.69
	(measured)	(measured)	(measured)

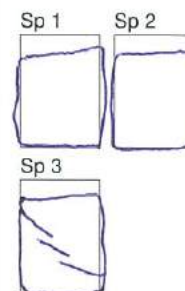
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	100.00	200.00	400.00
Machine Speed d_f (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	17	16	21
Dry Density ρ_{d0} (Mg/m ³)	1.76	1.80	1.73
Voids Ratio e_0	0.53	0.50	0.55
Deg of Saturation S_0 %	87.16	84.95	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	216.19	245.62	145.71
Membrane Correction σ_{mh} (kPa)	1.48	1.48	1.90
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	214.71	244.14	143.81
Strain at Failure ϵ_f %	12.96	12.98	18.46
Shear Strength c_u (kPa)	107.36	122.07	71.90
Moisture Content w_f %	17	15	20
Dry Density ρ_{df} (Mg/m ³)	1.76	1.81	1.74
Voids Ratio e_f	0.53	0.49	0.55
Deg of Saturation S_f %	85.99	83.63	99.52

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 03/09/15

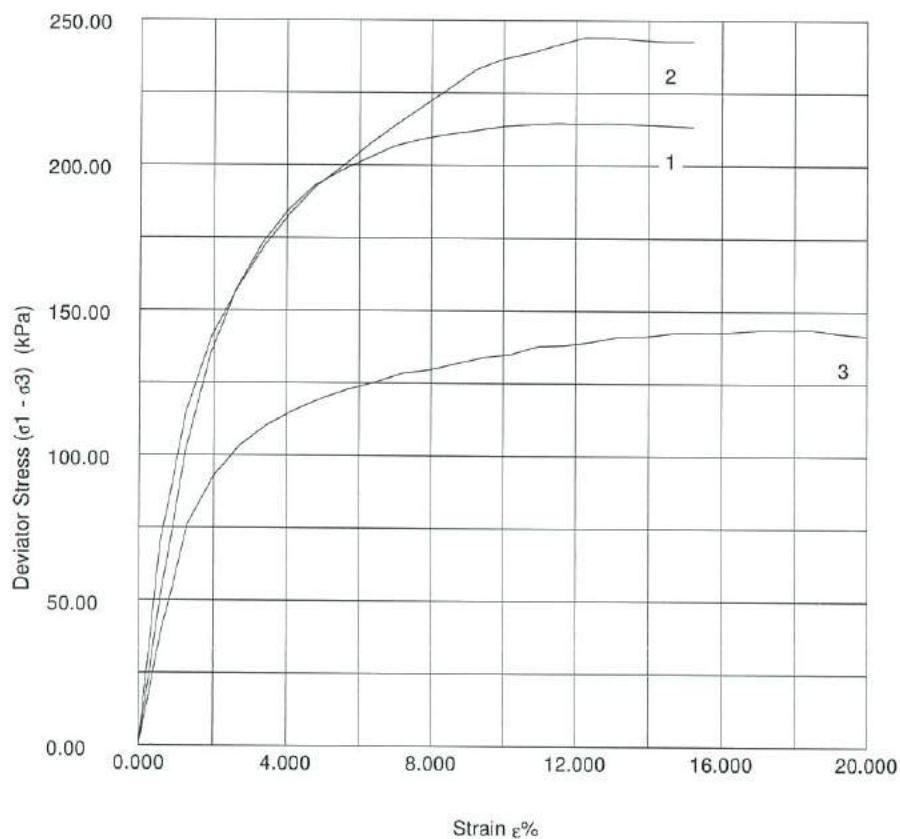
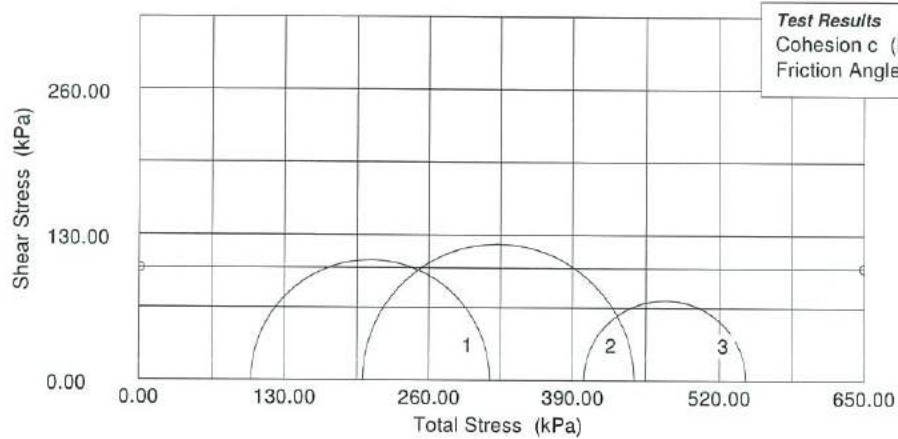
Sample: TW 3B (9.50-9.90m)
Borehole: BH41

Approved:

17/9 215

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)

Test name UU (SS, MS)
 Date of Test: 03/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 3B (9.50-9.90m)
 Borehole: BH41

Operator: *[Signature]*

Checked: *[Signature]* 16/9/15

Approved: *[Signature]* 17/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 10.50-10.90m
Description: Stiff, Light grey mottled reddish brown, Slightly gravelly sandy SILT

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_n (mm)	76	76	76
Diameter D_n (mm)	38	38	38
Weight W_n (gr)	180.09	180.72	182.32
Bulk Density ρ (Mg/m ³)	2.09	2.10	2.12
Particle Density ρ_s	2.76	2.76	2.76
	(measured)	(measured)	(measured)

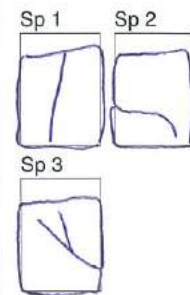
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	110.00	220.00	440.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_n %	20	20	21
Dry Density ρ_{d0} (Mg/m ³)	1.74	1.75	1.75
Voids Ratio e_n	0.59	0.58	0.58
Deg of Saturation S_0 %	95.31	95.60	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	198.67	235.34	238.63
Membrane Correction σ_{mb} (kPa)	0.90	0.90	0.90
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	197.77	234.44	237.73
Strain at Failure ϵ_f %	6.97	6.93	6.94
Shear Strength c_u (kPa)	98.88	117.22	118.87
Moisture Content w_f %	20	20	21
Dry Density ρ_{df} (Mg/m ³)	1.74	1.75	1.75
Voids Ratio e_f	0.59	0.58	0.58
Deg of Saturation S_f %	94.56	94.88	99.78

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator: *Am*

Checked: *Opelal*

Test name UU (SS, MS)

Date of Test: 03/09/15

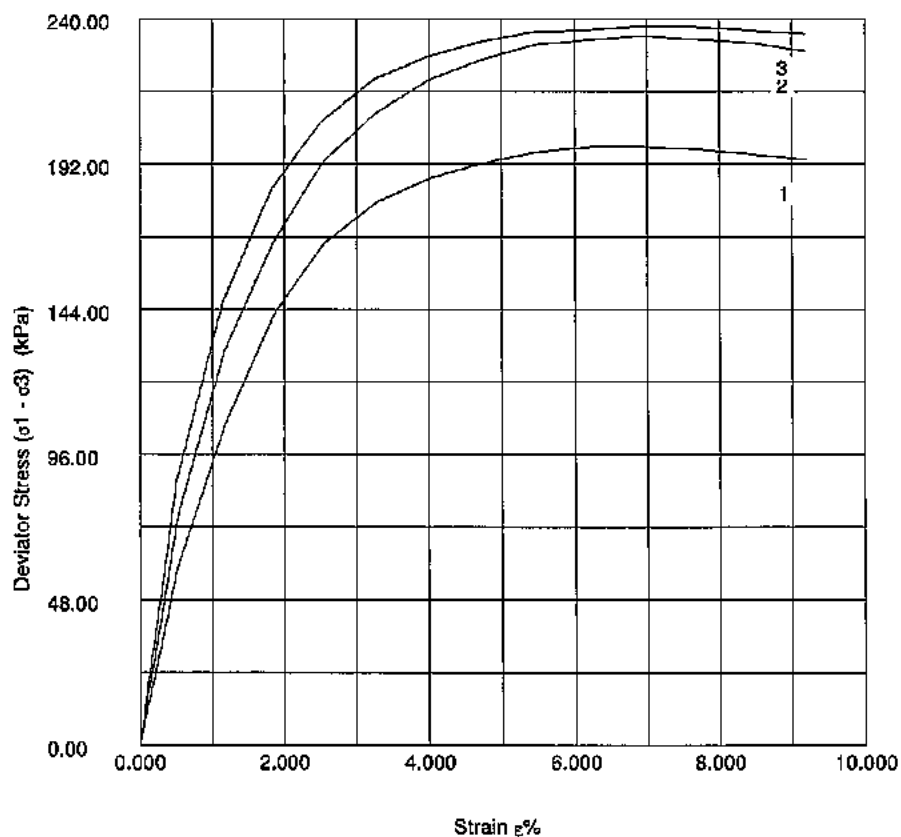
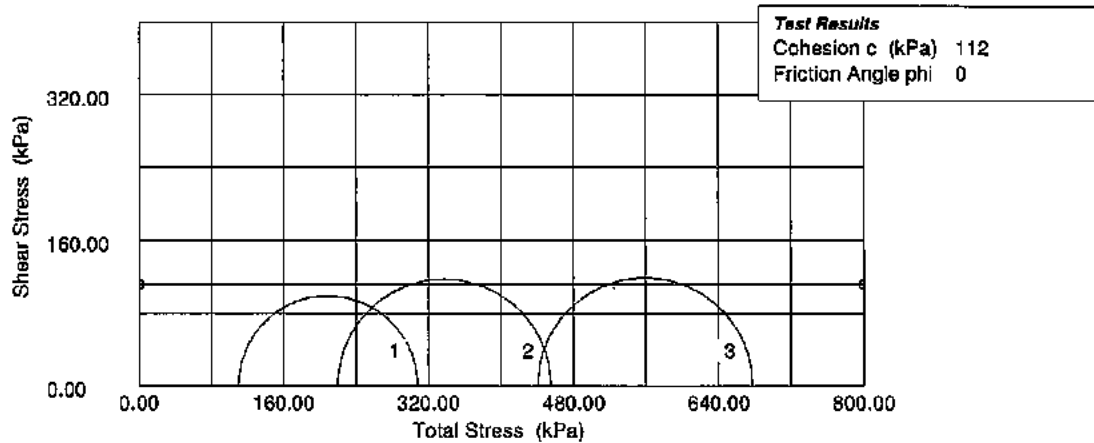
Sample: TW 3 (10.00-10.90m)

Borehole: BH42

Approved: *G*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 6/9*
(* delete as appropriate)

Test name UU (SS, MS)

Date of Test: 03/09/15

Site Reference: Lim Chu Kang

Sample: TW 3 (10.00-10.90m)

Jobfile: CASILAS7518-15.JOB

Borehole: BH42

Operator:

Checked:

Approved:

[Signature]

[Signature]

[Signature] 15/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Loose, Yellowish brown mottled reddish brown, Gravelly very clayey SAND

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	175.93	181.31	182.06
Bulk Density ρ (Mg/m ³)	2.04	2.10	2.11
Particle Density ρ_s	2.72	2.72	2.72
	(measured)	(measured)	(measured)

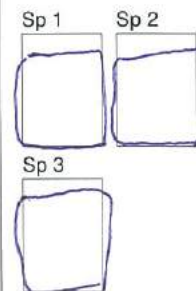
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	65.00	130.00	260.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	21	17	20
Dry Density ρ_{d0} (Mg/m ³)	1.69	1.79	1.76
Voids Ratio e_0	0.61	0.52	0.54
Deg of Saturation S_0 %	93.38	91.35	99.07

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	155.11	130.93	191.31
Membrane Correction σ_{mh} (kPa)	1.73	1.40	2.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	153.38	129.53	189.31
Strain at Failure ϵ_f %	16.14	11.73	19.81
Shear Strength c_u (kPa)	76.69	64.76	94.65
Moisture Content w_f %	21	17	19
Dry Density ρ_{df} (Mg/m ³)	1.69	1.80	1.77
Voids Ratio e_f	0.61	0.51	0.54
Deg of Saturation S_f %	92.29	90.05	97.86

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 14/09/15

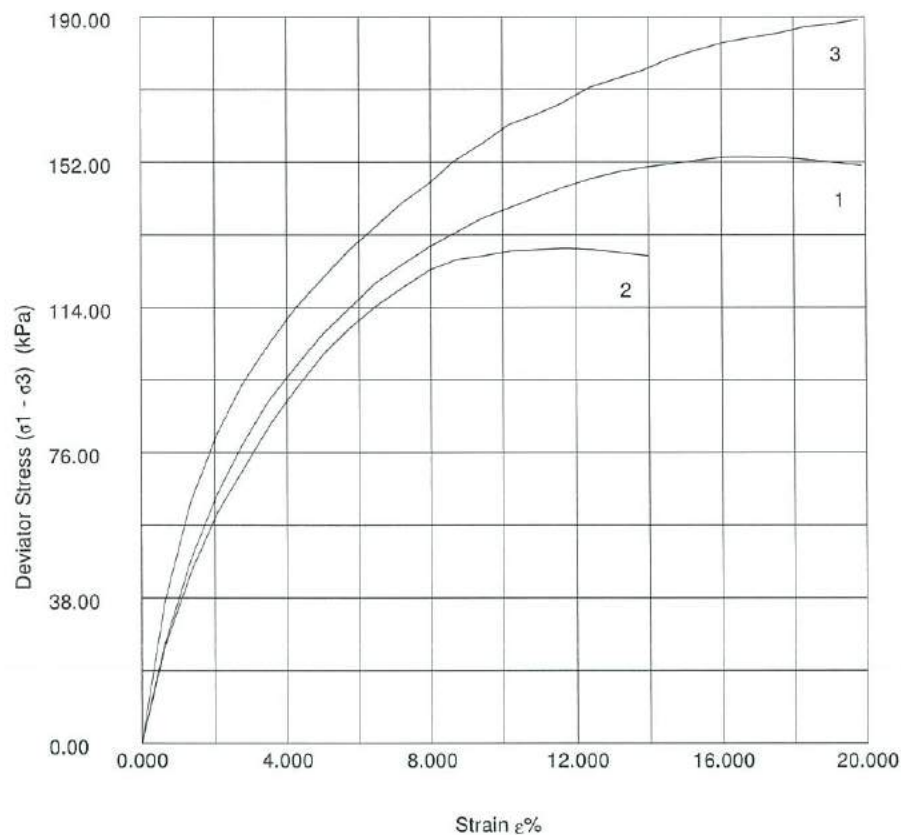
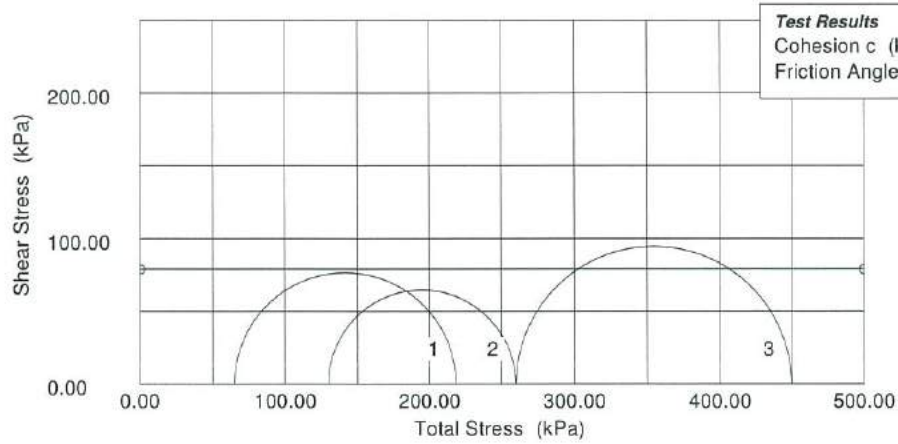
Sample: TW 3 (6.00-6.90m)

Borehole: BH43

Approved:

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

[Signature]

Checked:

Test name UU (SS, MS)

Date of Test: 14/09/15

Sample: TW 3 (6.00-6.90m)

Borehole: BH43

Approved:

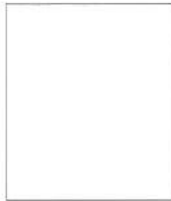
[Signature] 2/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.50-4.90m
Description: Firm, Grey mottled reddish brown, Slightly sandy SILT

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	171.18	175.2	175.2
Bulk Density ρ (Mg/m ³)	1.99	2.03	2.03
Particle Density ρ_s	2.71	2.71	2.71
	(measured)	(measured)	(measured)

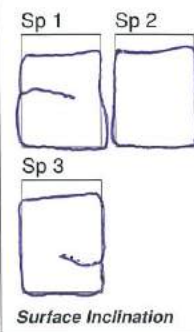
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	45.00	90.00	180.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	26	23	24
Dry Density ρ_{d0} (Mg/m ³)	1.57	1.65	1.64
Voids Ratio e_0	0.73	0.64	0.66
Deg of Saturation S_0 %	98.79	97.67	99.96

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	66.24	88.89	107.06
Membrane Correction σ_{mh} (kPa)	1.48	1.48	1.40
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	64.76	87.41	105.66
Strain at Failure ϵ_f %	13.36	12.55	12.48
Shear Strength c_u (kPa)	32.38	43.70	52.83
Moisture Content w_f %	26	23	24
Dry Density ρ_{df} (Mg/m ³)	1.58	1.66	1.64
Voids Ratio e_f	0.72	0.64	0.65
Deg of Saturation S_f %	98.05	96.80	99.16

Failure Sketch



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 14/09/15

Sample: TW 2 (4.00-4.90m)

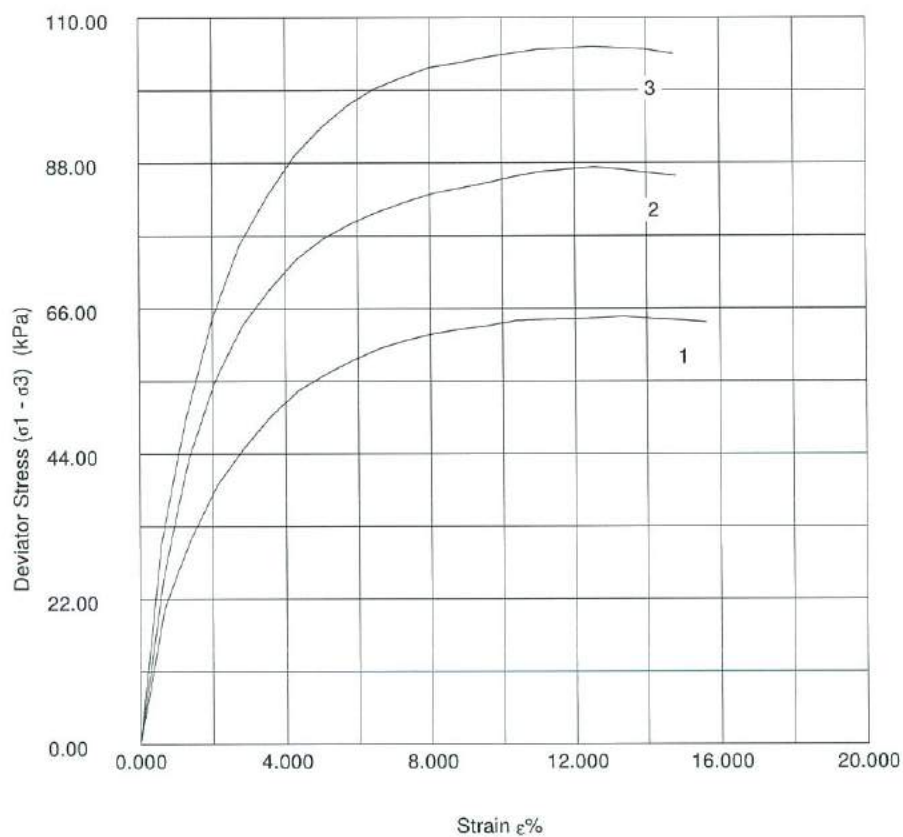
Borehole: BH44

Approved:

[Signature] 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 14/09/15

Sample: TW 2 (4.00-4.90m)

Borehole: BH44

Approved:

[Signature]

[Signature]

[Signature]

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.70-6.90m
Description: Very stiff, Grey mottled reddish brown, Sandy SILT

	Specimen 1	Specimen 2
Sample Type	Undisturbed	Undisturbed
Height H_0 (mm)	76	76
Diameter D_0 (mm)	38	38
Weight W_0 (gr)	187.93	189.05
Bulk Density ρ (Mg/m ³)	2.18	2.19
Particle Density ρ_s	2.69 (measured)	2.69 (measured)

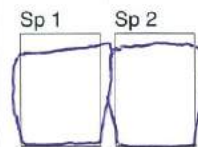
Initial Conditions

	Specimen 1	Specimen 2
Cell Pressure σ_3 (kPa)	140.00	280.00
Machine Speed d_r (mm/min)	1.140	1.140
No. of Membranes	1	1
Total Thickness (mm)	0.2	0.2
Strain Channel	10489	10489
Load Channel	12471	12471
Moisture Content w_0 %	15	12
Dry Density ρ_{d0} (Mg/m ³)	1.89	1.95
Voids Ratio e_0	0.42	0.38
Deg of Saturation S_0 %	96.56	88.39

Final Condition

	Specimen 1	Specimen 2
Max Deviator Stress (kPa)	226.23	654.29
Membrane Correction σ_{mh} (kPa)	1.90	2.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	224.33	652.29
Strain at Failure ϵ_f %	17.51	19.99
Shear Strength c_u (kPa)	112.16	326.15
Moisture Content w_f %	15	12
Dry Density ρ_{df} (Mg/m ³)	1.90	1.96
Voids Ratio e_f	0.42	0.37
Deg of Saturation S_f %	95.26	86.68

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)
Date of Test: 13/09/15

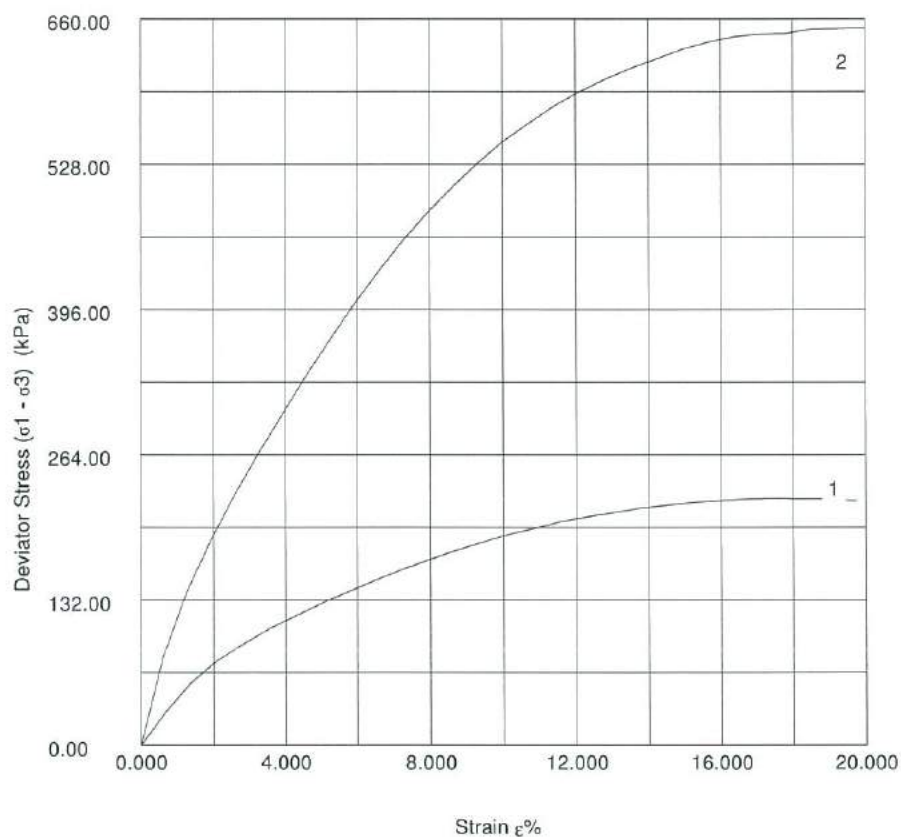
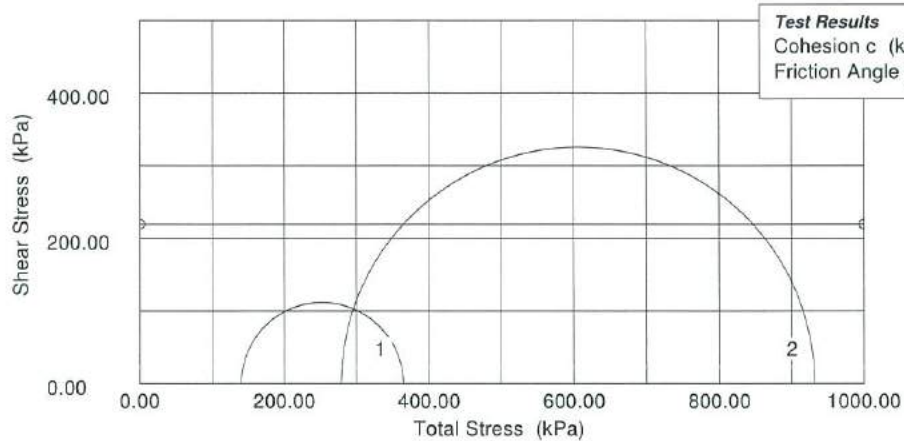
Sample: TW 3 (6.00-6.90m)
Borehole: BH45

Approved:

[Signature] 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 13/09/15

Sample: TW 3 (6.00-6.90m)

Borehole: BH45

Approved:

[Signature]

[Signature] 22/9/15

[Signature]

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.40-6.80m
Description: Firm, Grey spotted dark grey, Slightly sandy SILT with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	174.76	175.57	176.94
Bulk Density ρ (Mg/m ³)	2.03	2.04	2.05
Particle Density ρ_s	2.69	2.69	2.69
	(measured)	(measured)	(measured)

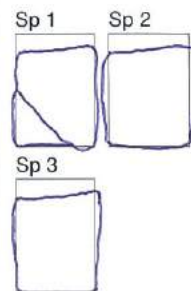
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	65.00	130.00	260.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	24	24	21
Dry Density ρ_{d0} (Mg/m ³)	1.64	1.65	1.69
Voids Ratio e_0	0.64	0.63	0.59
Deg of Saturation S_0 %	99.86	100.00	97.23

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	90.09	93.57	89.29
Membrane Correction σ_{mh} (kPa)	1.90	2.00	2.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	88.19	91.57	87.29
Strain at Failure ϵ_f %	17.90	19.98	19.94
Shear Strength c_u (kPa)	44.10	45.79	43.65
Moisture Content w_f %	23	23	21
Dry Density ρ_{df} (Mg/m ³)	1.64	1.65	1.69
Voids Ratio e_f	0.64	0.63	0.59
Deg of Saturation S_f %	98.99	99.50	97.27

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

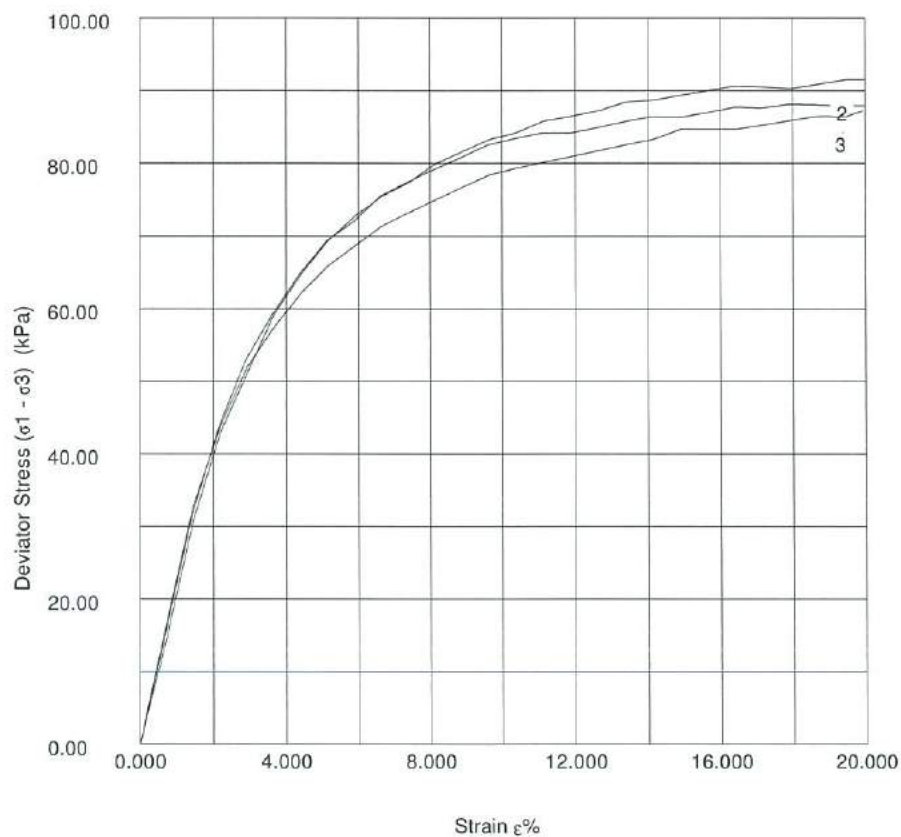
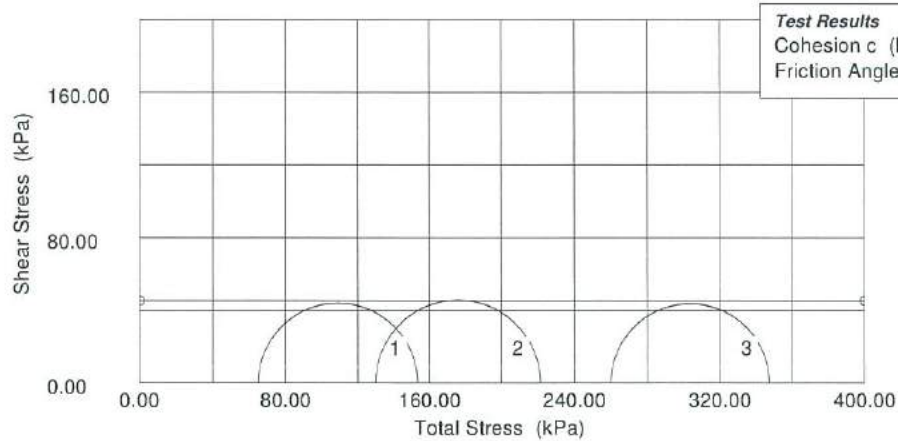
Test name UU (SS, MS)
Date of Test: 14/09/15

Sample: TW 3 (6.00-6.90m)
Borehole: BH46

Approved:

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Test name UU (SS, MS)

Date of Test: 14/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH46

Operator:

Checked:

Approved:

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Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Firm, Light grey mottled yellowish brown, Slightly sandy CLAY

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	169.7	176.72	172.76
Bulk Density ρ (Mg/m ³)	1.97	2.05	2.00
Particle Density ρ_s	2.69	2.69	2.69
	(measured)	(measured)	(measured)

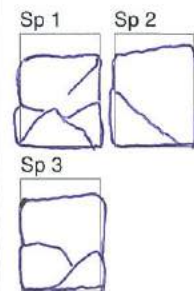
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	65.00	130.00	260.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	27	28	20
Dry Density ρ_{d0} (Mg/m ³)	1.55	1.60	1.67
Voids Ratio e_0	0.74	0.68	0.61
Deg of Saturation S_0 %	99.24	100.00	88.34

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	70.90	110.93	163.32
Membrane Correction σ_{mh} (kPa)	1.48	0.90	1.73
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	69.42	110.03	161.59
Strain at Failure ϵ_f %	13.38	7.27	16.15
Shear Strength c_u (kPa)	34.71	55.02	80.80
Moisture Content w_f %	27	25	22
Dry Density ρ_{df} (Mg/m ³)	1.55	1.64	1.64
Voids Ratio e_f	0.73	0.64	0.64
Deg of Saturation S_f %	98.29	100.00	93.92

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Test name UU (SS, MS)
Date of Test: 14/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SILAS7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH47

Operator:

Checked:

Approved:

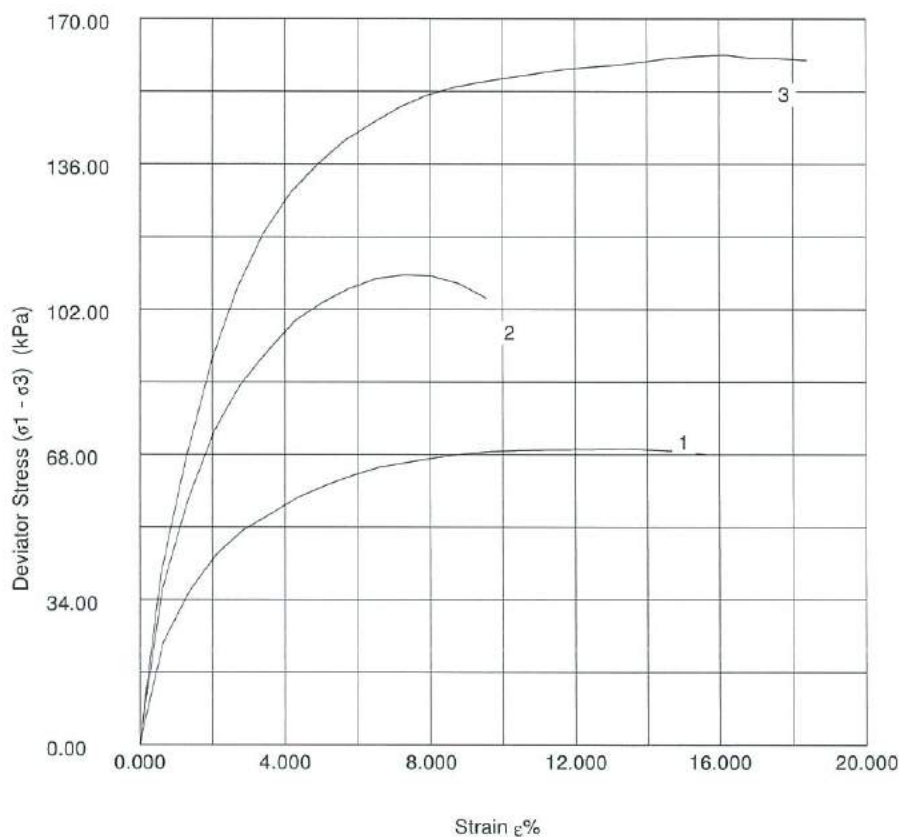
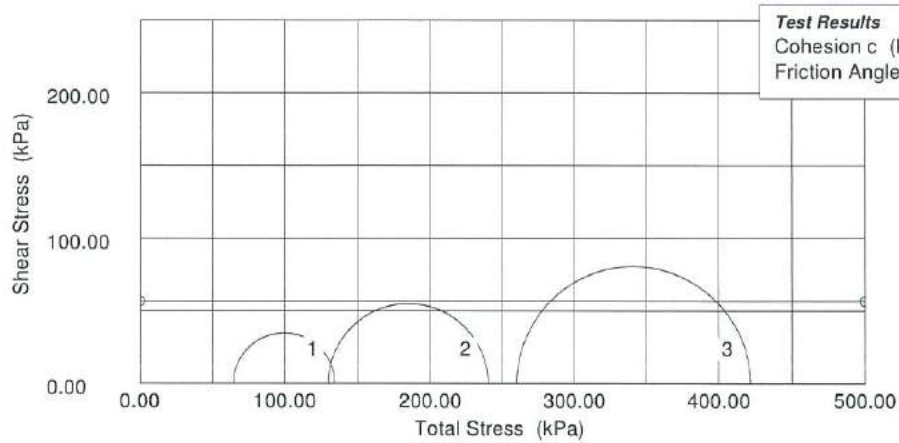
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Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SILAS7518-15.JOB

Operator: *[Signature]*

Test name UU (SS, MS)

Date of Test: 14/09/15

Sample: TW 3 (6.00-6.90m)

Borehole: BH47

Checked: *[Signature]*

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 9.40-9.80m
Description: Stiff, Light grey mottled yellowish brown, Slightly sandy SILT

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	181.91	184.26	186.01
Bulk Density ρ (Mg/m ³)	2.11	2.14	2.16
Particle Density ρ_s	2.71	2.71	2.71
	(measured)	(measured)	(measured)

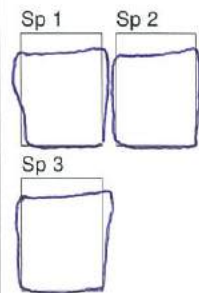
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	100.00	200.00	400.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	20	18	17
Dry Density ρ_{d0} (Mg/m ³)	1.76	1.81	1.84
Voids Ratio e_0	0.54	0.50	0.47
Deg of Saturation S_0 %	100.00	98.29	99.36

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	153.83	214.16	261.65
Membrane Correction σ_{mh} (kPa)	1.95	1.65	1.95
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	151.88	212.51	259.70
Strain at Failure ϵ_f %	19.17	15.31	18.79
Shear Strength c_u (kPa)	75.94	106.25	129.85
Moisture Content w_f %	20	18	17
Dry Density ρ_{df} (Mg/m ³)	1.77	1.82	1.84
Voids Ratio e_f	0.53	0.49	0.47
Deg of Saturation S_f %	98.89	97.32	98.42

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Am

Checked:

Test name UU (SS, MS)

Date of Test: 14/09/15

Sample: TW 4 (9.00-9.90m)

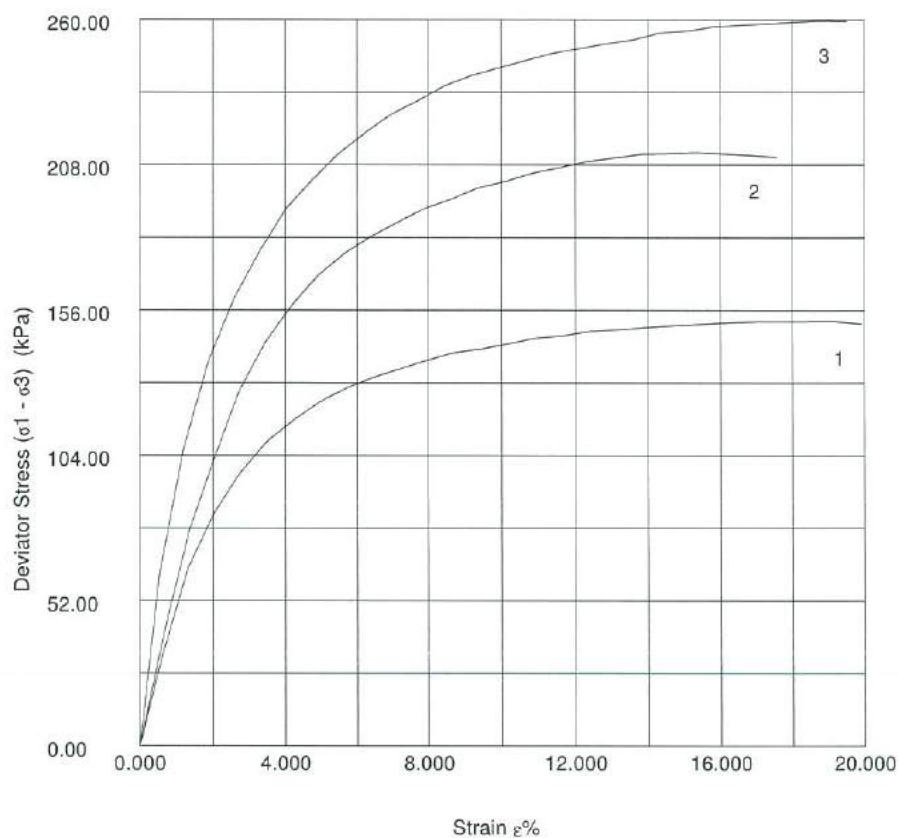
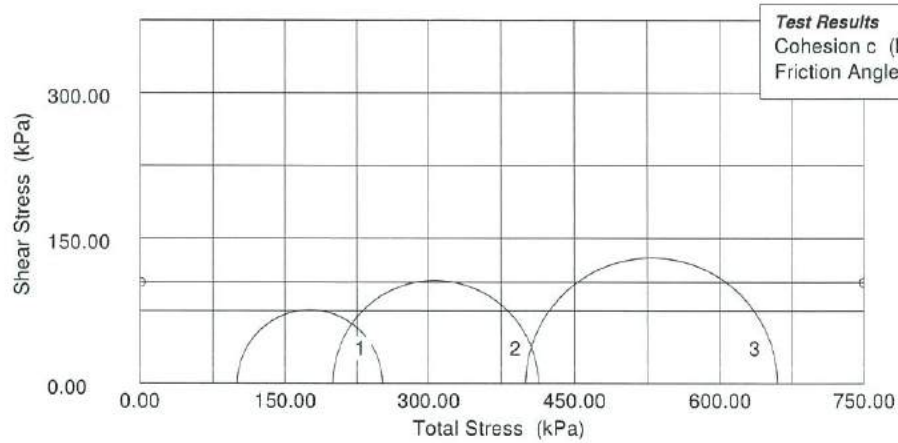
Borehole: BH47

Approved:

G 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

[Signature]

Checked:

Test name UU (SS, MS)

Date of Test: 14/09/15

Sample: TW 4 (9.00-9.90m)

Borehole: BH47

[Signature] 14/9/15

Approved:

[Signature] 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Loose, Light grey spotted black, Very clayey SAND with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	178.11	178.68	185.29
Bulk Density ρ (Mg/m ³)	2.07	2.07	2.15
Particle Density ρ_s	2.66	2.66	2.66
	(measured)	(measured)	(measured)

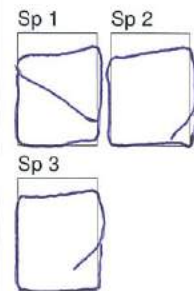
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	65.00	130.00	260.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	15	16	16
Dry Density ρ_{d0} (Mg/m ³)	1.79	1.79	1.86
Voids Ratio e_0	0.49	0.48	0.43
Deg of Saturation S_0 %	84.40	86.11	97.18

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	234.02	300.95	354.68
Membrane Correction σ_{mh} (kPa)	1.58	1.30	1.30
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	232.44	299.65	353.38
Strain at Failure ϵ_f %	14.40	10.54	11.20
Shear Strength c_u (kPa)	116.22	149.83	176.69
Moisture Content w_f %	15	15	16
Dry Density ρ_{df} (Mg/m ³)	1.79	1.80	1.86
Voids Ratio e_f	0.48	0.48	0.43
Deg of Saturation S_f %	83.52	85.21	96.31

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Test name UU (SS, MS)
Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH48

Operator:

Checked:

Approved:

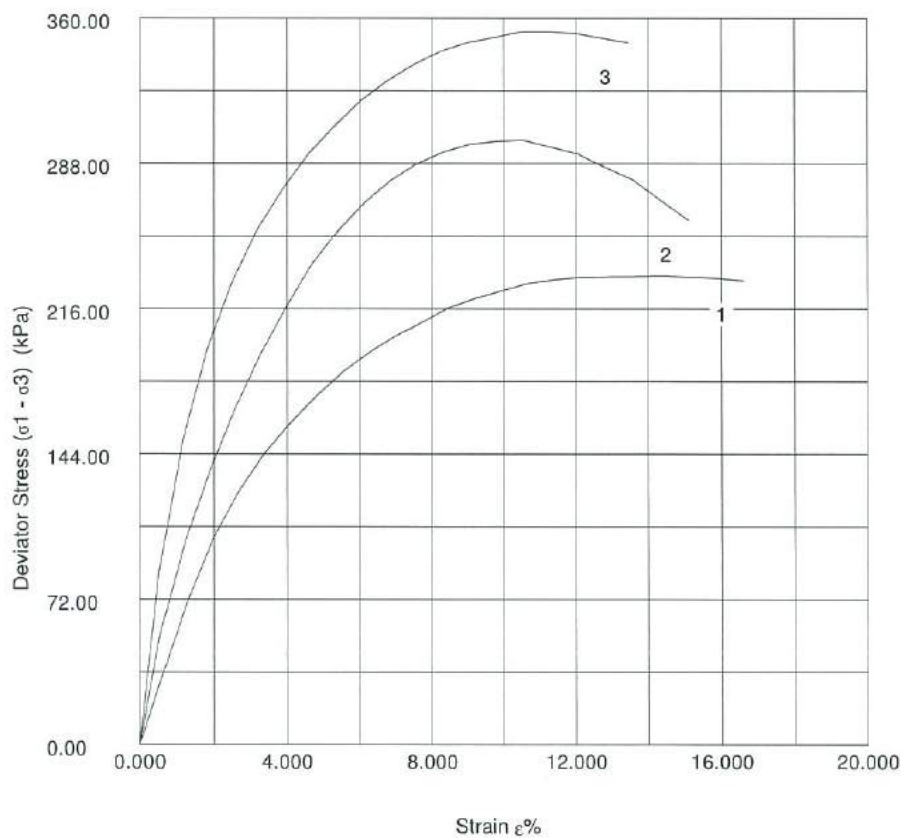
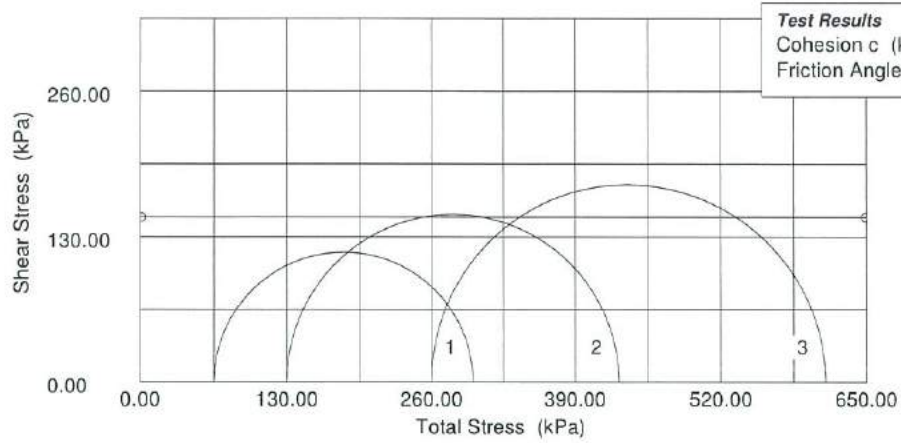
[Signature]

[Signature] 27/9/15

[Signature] 27/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Test name UU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH48

Operator:

Checked:

Approved:

[Signature]

[Signature] 2019/11/5

[Signature] 2019/11/5

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 9.40-9.70m
Description: Stiff, Light grey spotted black, Slightly sandy CLAY with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	177.91	181.61	184.56
Bulk Density ρ (Mg/m ³)	2.06	2.11	2.14
Particle Density ρ_s	2.68	2.68	2.68
	(measured)	(measured)	(measured)

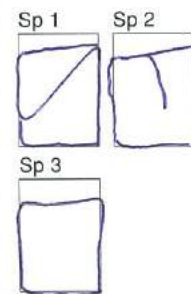
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	75.00	150.00	300.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	20	19	19
Dry Density ρ_{d0} (Mg/m ³)	1.72	1.76	1.81
Voids Ratio e_0	0.56	0.52	0.48
Deg of Saturation S_0 %	96.35	100.00	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	135.61	166.15	153.69
Membrane Correction σ_{mh} (kPa)	1.95	1.90	1.90
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	133.66	164.25	151.79
Strain at Failure ϵ_f %	19.27	18.44	18.48
Shear Strength c_u (kPa)	66.83	82.12	75.89
Moisture Content w_f %	20	19	18
Dry Density ρ_{df} (Mg/m ³)	1.72	1.77	1.81
Voids Ratio e_f	0.56	0.52	0.48
Deg of Saturation S_f %	95.82	99.57	100.00

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 09/09/15

Sample: TW 4 (9.00-9.70m)

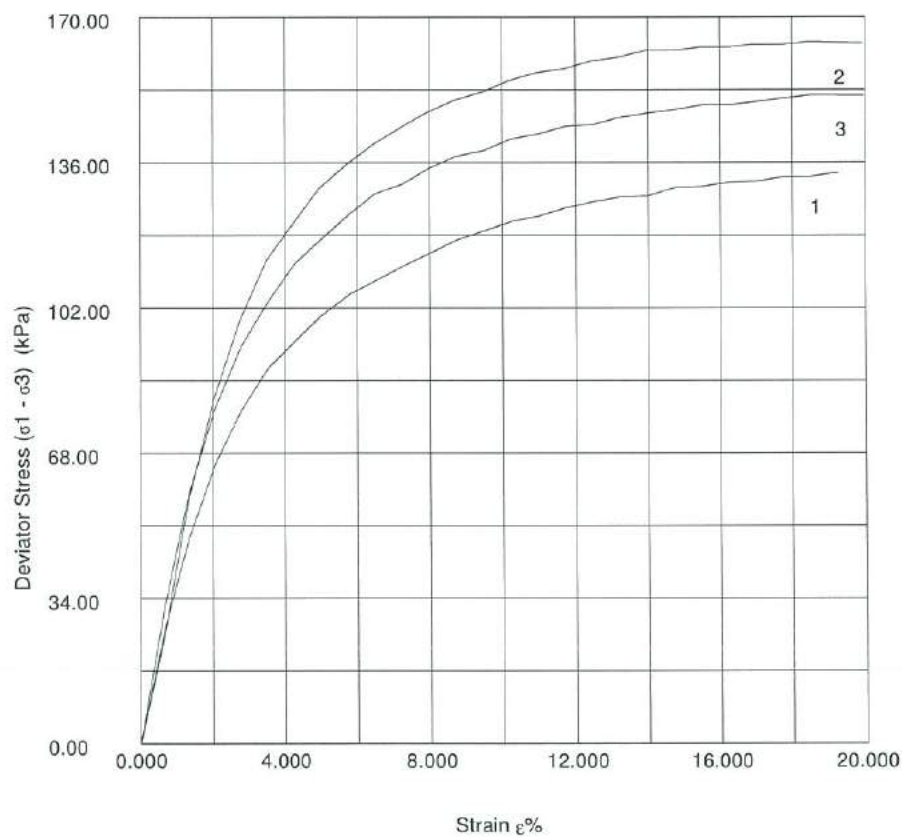
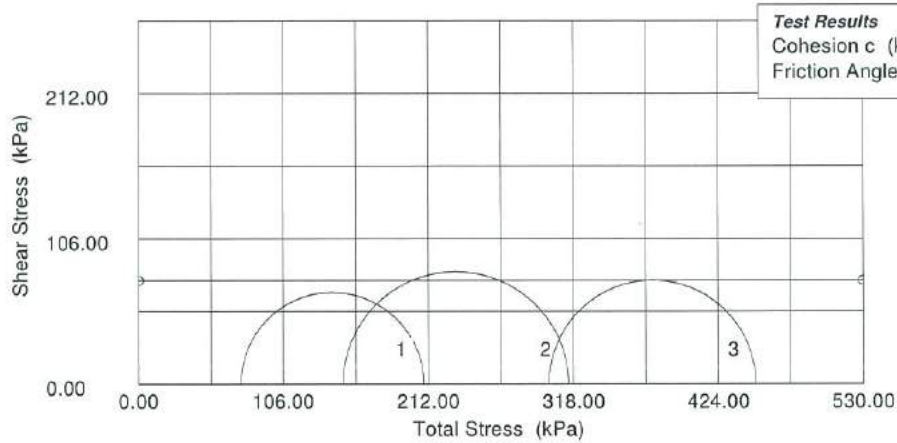
Borehole: BH48

Approved:

[Signature] 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Test name UU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang

Sample: TW 4 (9.00-9.70m)

Jobfile: C:\WINCLISP\S7518-15.JOB

Borehole: BH48

Operator:

Checked:

Approved:

Am

Cyber days

G 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.40-4.80m
Description: Soft, Light grey spotted dark grey, Slightly sandy SILT with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_n (mm)	76	76	76
Diameter D_n (mm)	38	38	38
Weight W_n (gr)	172.37	172.4	172.51
Bulk Density ρ (Mg/m ³)	2.00	2.00	2.00
Particle Density ρ_s	2.71	2.71	2.71
	(measured)	(measured)	(measured)

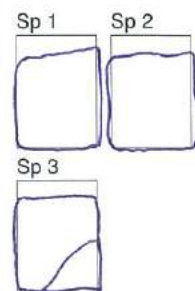
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	45.00	90.00	180.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_n %	25	25	24
Dry Density ρ_{d0} (Mg/m ³)	1.61	1.60	1.62
Voids Ratio e_n	0.69	0.69	0.68
Deg of Saturation S_0 %	96.74	97.82	95.55

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	61.83	57.93	54.82
Membrane Correction σ_{mb} (kPa)	1.40	2.00	1.20
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	60.43	55.93	53.62
Strain at Failure ϵ_f %	11.87	19.50	10.37
Shear Strength c_u (kPa)	30.22	27.96	26.81
Moisture Content w_f %	24	24	24
Dry Density ρ_{df} (Mg/m ³)	1.61	1.61	1.61
Voids Ratio e_f	0.68	0.69	0.68
Deg of Saturation S_f %	95.35	96.59	96.19

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *Am*

Checked: *Cyplg 22/9/15*

Test name UU (SS, MS)

Date of Test: 09/09/15

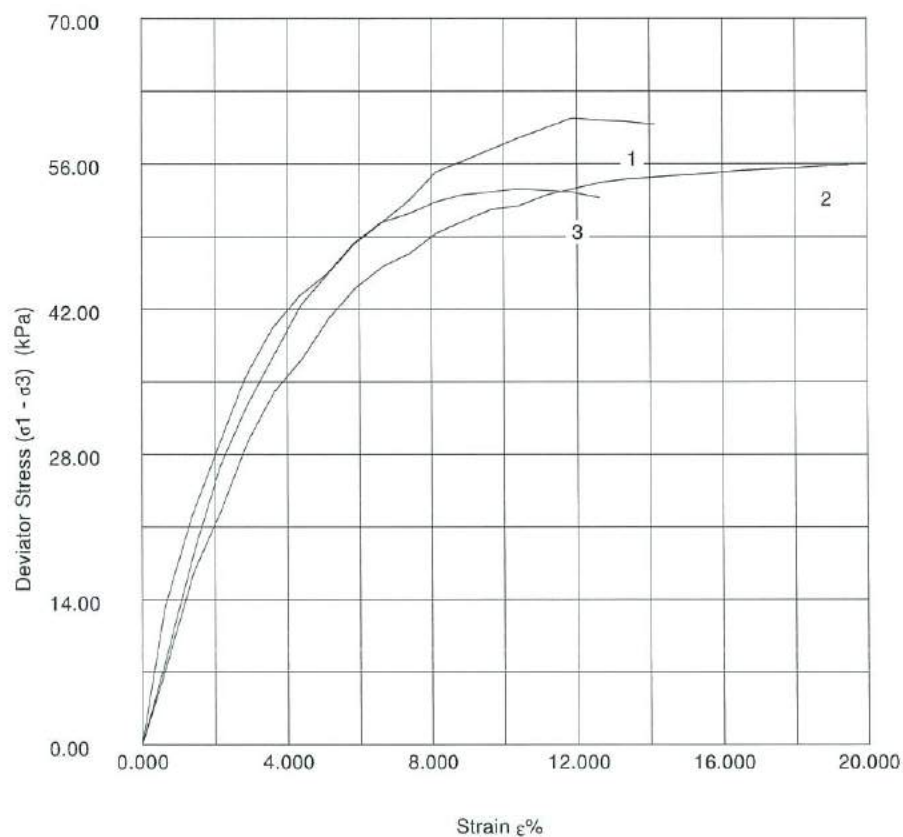
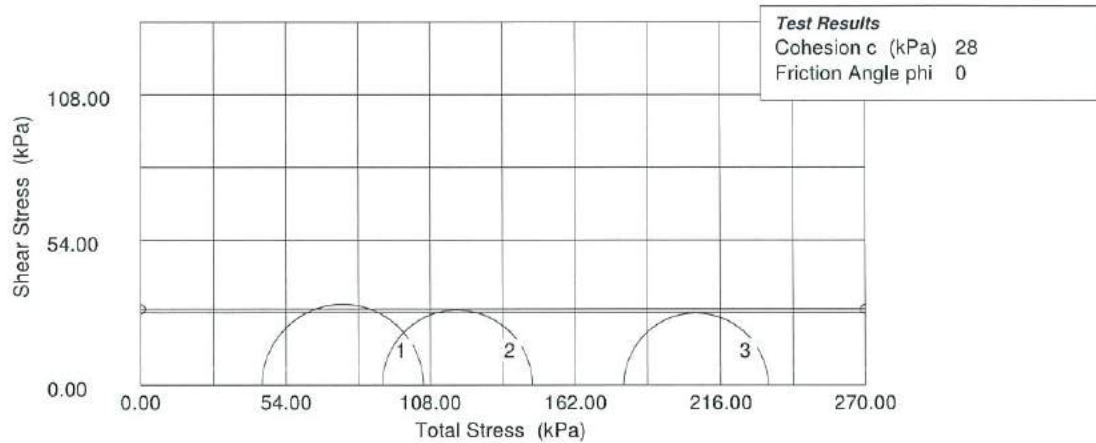
Sample: TW 2 (4.00-4.90m)

Borehole: BH49

Approved: *E 22/9/15*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Test name UU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang

Sample: TW 2 (4.00-4.90m)

Jobfile: C:\WINCLISP\S7518-15.JOB

Borehole: BH49

Operator:

Checked:

Approved:

[Signature]

[Signature] 22/9/15

[Signature] 22/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 9.50-9.90m
Description: Stiff, Yellowish brown mottled reddish brown, Slightly sandy SILT

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_n (mm)	76	76	76
Diameter D_n (mm)	38	38	38
Weight W_n (gr)	181.77	186.89	188.65
Bulk Density ρ (Mg/m ³)	2.11	2.17	2.19
Particle Density ρ_s	2.7	2.7	2.7
	(measured)	(measured)	(measured)

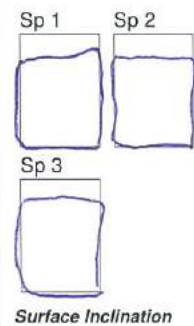
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	100.00	200.00	400.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_n %	18	17	17
Dry Density ρ_{d0} (Mg/m ³)	1.79	1.85	1.87
Voids Ratio e_n	0.51	0.46	0.44
Deg of Saturation S_0 %	94.94	100.00	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	217.26	286.21	221.31
Membrane Correction σ_{mh} (kPa)	1.65	2.00	2.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	215.61	284.21	219.31
Strain at Failure ϵ_f %	15.27	19.59	19.83
Shear Strength c_u (kPa)	107.81	142.10	109.66
Moisture Content w_f %	18	17	17
Dry Density ρ_{df} (Mg/m ³)	1.79	1.86	1.88
Voids Ratio e_f	0.51	0.45	0.44
Deg of Saturation S_f %	93.94	99.90	100.00

Failure Sketch



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Test name UU (SS, MS)
Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 4 (9.00-9.90m)
Borehole: BH49

Operator:

Checked:

Approved:

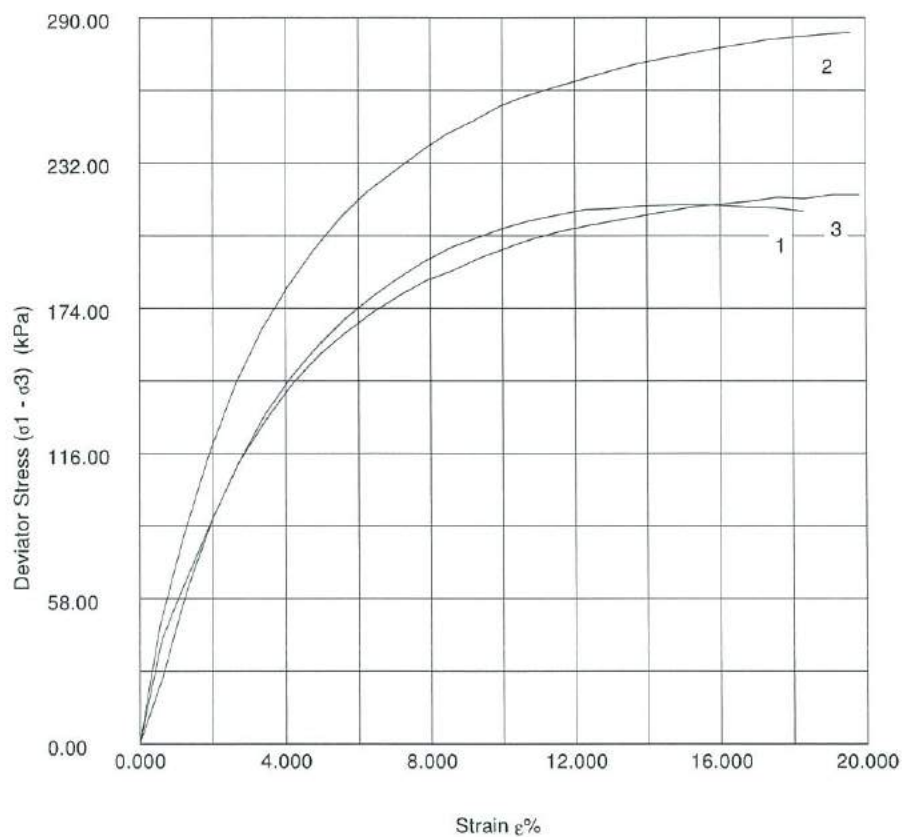
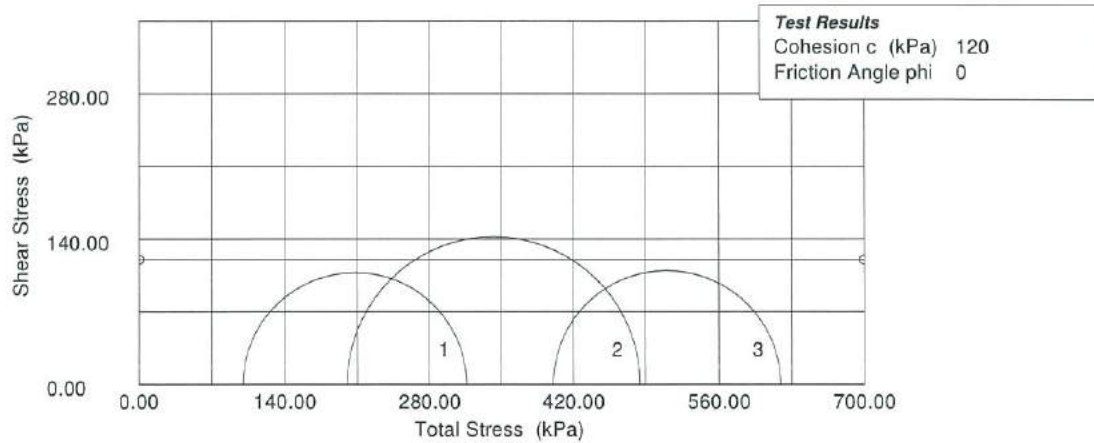
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[Signature]

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Test name UU (SS, MS)

Date of Test: 09/09/15

Sample: TW 4 (9.00-9.90m)
Borehole: BH49

Checked:

Approved:

[Signature]

[Signature] 22/9/15

[Signature] 22/9/15

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.50-4.80m
Description: Soft, Dark brown, Peaty SILT with wood

	Specimen 1	Specimen 2
Sample Type	Undisturbed	Undisturbed
Height H_0 (mm)	76	76
Diameter D_0 (mm)	38	38
Weight W_0 (gr)	116.82	127.96
Bulk Density ρ (Mg/m ³)	1.36	1.48
Particle Density ρ_s	2.41 (measured)	2.41 (measured)

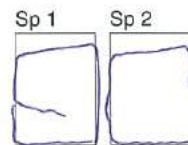
Initial Conditions

	Specimen 1	Specimen 2
Cell Pressure σ_3 (kPa)	70.00	140.00
Machine Speed d_r (mm/min)	1.140	1.140
No. of Membranes	1	1
Total Thickness (mm)	0.2	0.2
Strain Channel	10489	10489
Load Channel	12471	12471
Moisture Content w_0 %	100	65
Dry Density ρ_{d0} (Mg/m ³)	0.68	0.90
Voids Ratio e_0	2.55	1.67
Deg of Saturation S_0 %	94.17	93.20

Final Condition

	Specimen 1	Specimen 2
Max Deviator Stress (kPa)	49.52	54.83
Membrane Correction σ_{mh} (kPa)	0.90	1.73
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	48.62	53.10
Strain at Failure ϵ_f %	6.68	16.50
Shear Strength c_u (kPa)	24.31	26.55
Moisture Content w_f %	98	64
Dry Density ρ_{df} (Mg/m ³)	0.68	0.90
Voids Ratio e_f	2.53	1.66
Deg of Saturation S_f %	93.83	92.83

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 03/09/15

Sample: TW 2B (4.50-4.90m)

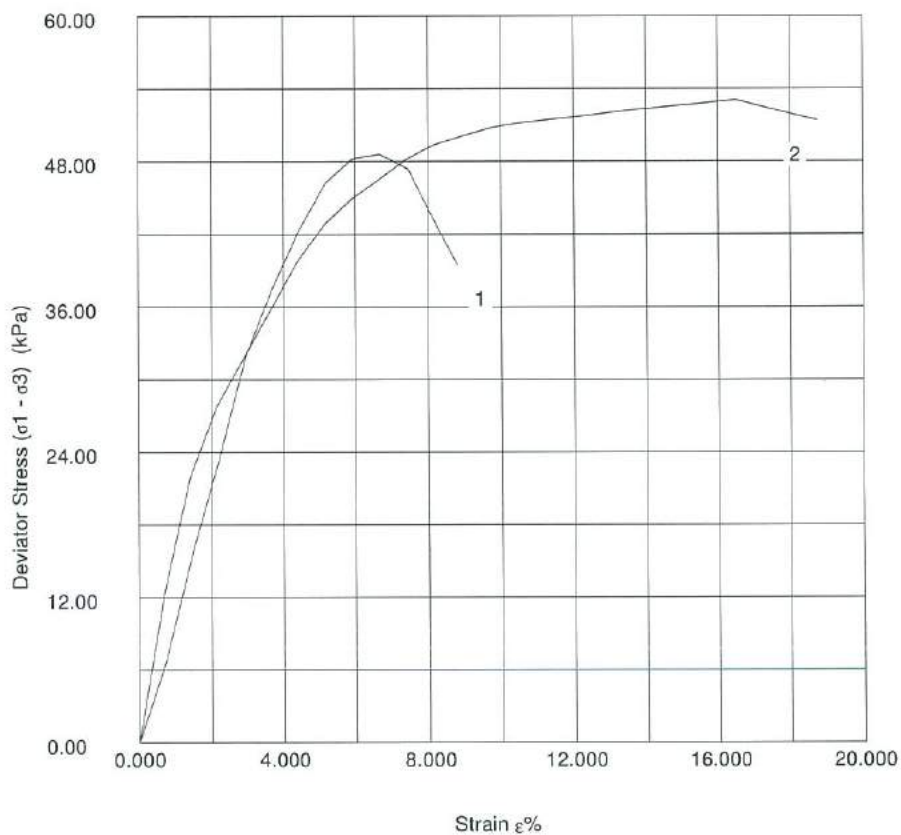
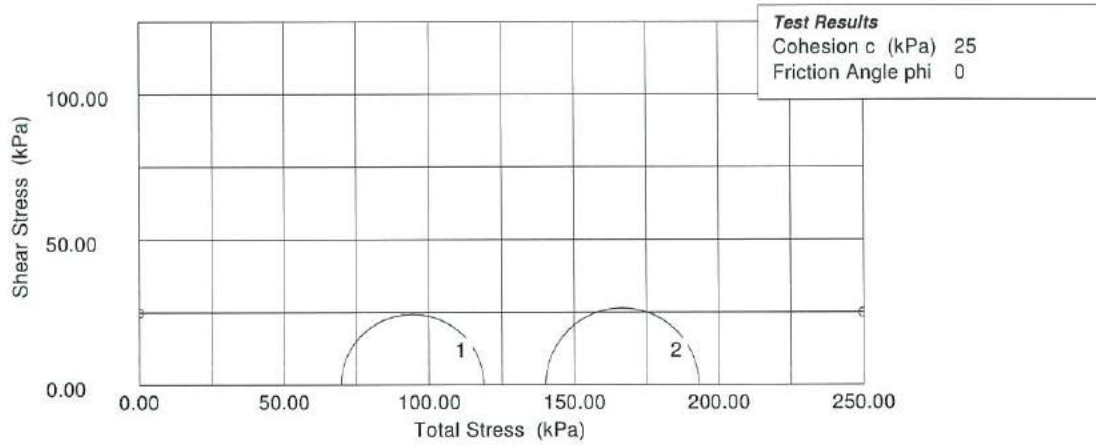
Borehole: BH50

Approved:

15/9 239

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator: *[Signature]*

Test name UU (SS, MS)

Date of Test: 03/09/15

Sample: TW 2B (4.50-4.90m)

Borehole: BH50

Checked: *[Signature]*

Approved: *[Signature]* 15/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 7.50-7.90m
Description: Firm, Grey spotted reddish brown, Slightly sandy CLAY

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	175.01	176.03	181.79
Bulk Density ρ (Mg/m ³)	2.03	2.04	2.11
Particle Density ρ_s	2.71	2.71	2.71
	(measured)	(measured)	(measured)

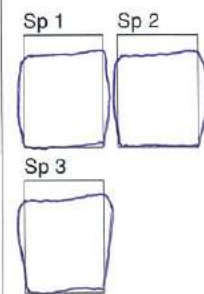
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	75.00	150.00	300.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	24	24	20
Dry Density ρ_{d0} (Mg/m ³)	1.63	1.64	1.76
Voids Ratio e_0	0.66	0.65	0.54
Deg of Saturation S_0 %	99.70	100.00	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	74.85	82.59	126.04
Membrane Correction σ_{mh} (kPa)	2.00	1.82	1.95
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	72.85	80.77	124.09
Strain at Failure ϵ_f %	19.98	17.28	19.39
Shear Strength c_u (kPa)	36.43	40.38	62.04
Moisture Content w_f %	24	24	20
Dry Density ρ_{df} (Mg/m ³)	1.64	1.65	1.76
Voids Ratio e_f	0.65	0.64	0.54
Deg of Saturation S_f %	98.51	100.00	98.98

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 04/09/15

Sample: TW 3 (7.00-7.90m)

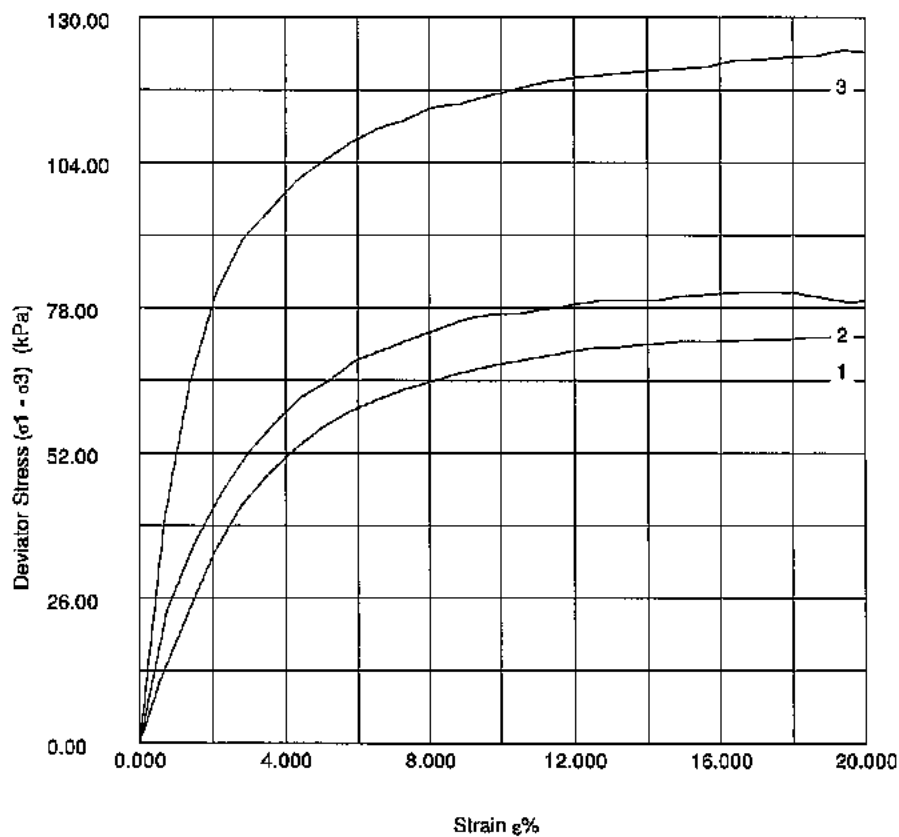
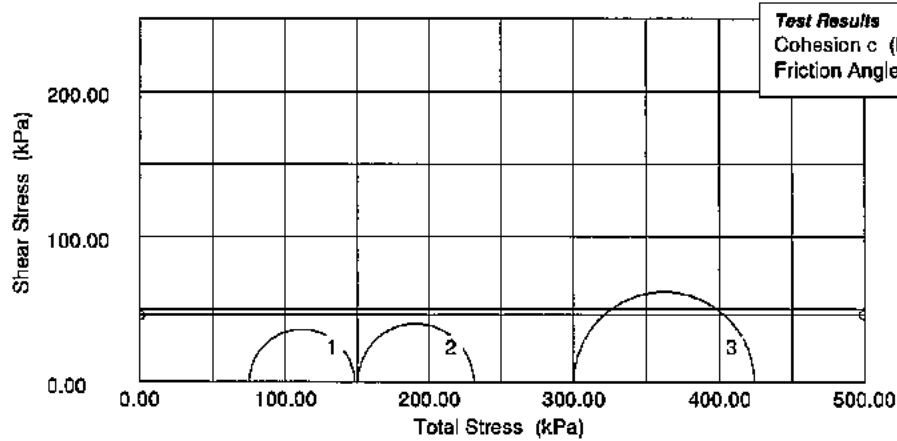
Borehole: BH50

Approved:

[Signature] 15/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SILAS7518-15.JOB

Operator:

Test name UU (SS, MS)

Date of Test: 04/09/15

Sample: TW 3 (7.00-7.90m)

Borehole: BH50

Checked:

Approved:

15/9 242

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.80-4.90m
 Description: Very soft, Reddish brown mottled yellowish brown spotted dark grey, Slightly sandy SILT

Specimen 1
 Sample Type Undisturbed
 Height H_0 (mm) 76
 Diameter D_0 (mm) 38
 Weight W_0 (gr) 153.11
 Bulk Density ρ (Mg/m³) 1.78
 Particle Density ρ_s 2.72 (measured)

Initial Conditions

	Stage 1	Stage 2	Stage 3
Cell Pressure σ_3 (kPa)	40.00	80.00	160.00
Machine Speed d_r (mm/min)	0.570	0.570	0.570
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	13018	13018	13018
Load Channel	PR12965/6651	PR12965/6651	PR12965/6651
Moisture Content w_0 %	48	48	48
Dry Density ρ_{d0} (Mg/m ³)	1.20	1.20	1.20
Voids Ratio e_0	1.26	1.26	1.26
Deg of Saturation S_0 %	100.00	100.00	100.00

Final Condition

	Stage 1	Stage 2	Stage 3
Max Deviator Stress (kPa)	13.34	24.85	43.49
Membrane Correction σ_{mh} (kPa)	0.45	0.35	0.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	12.89	24.50	43.49
Strain at Failure ϵ_f %	2.90	4.80	7.83
Shear Strength c_u (kPa)	6.45	12.25	21.74
Moisture Content w_f %	47	47	47
Dry Density ρ_{df} (Mg/m ³)	1.21	1.21	1.21
Voids Ratio e_f	1.25	1.25	1.25
Deg of Saturation S_f %	100.00	100.00	100.00

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)

Site Reference: Lim Chu Kang
 Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UU (MS, SS)

Date of Test: 04/09/15

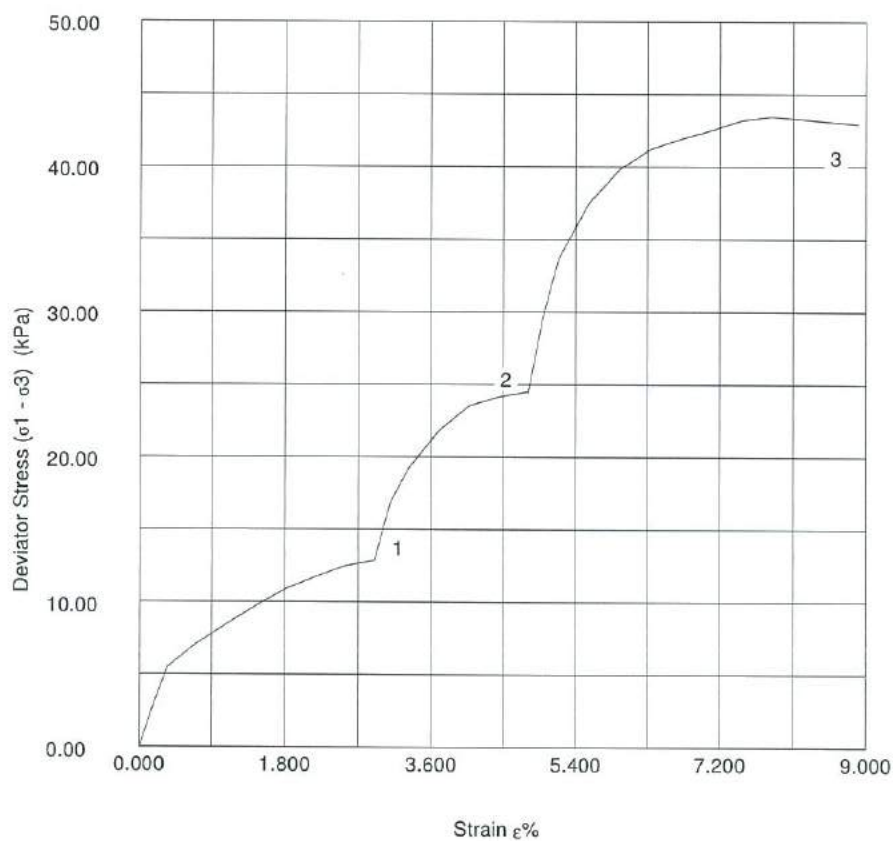
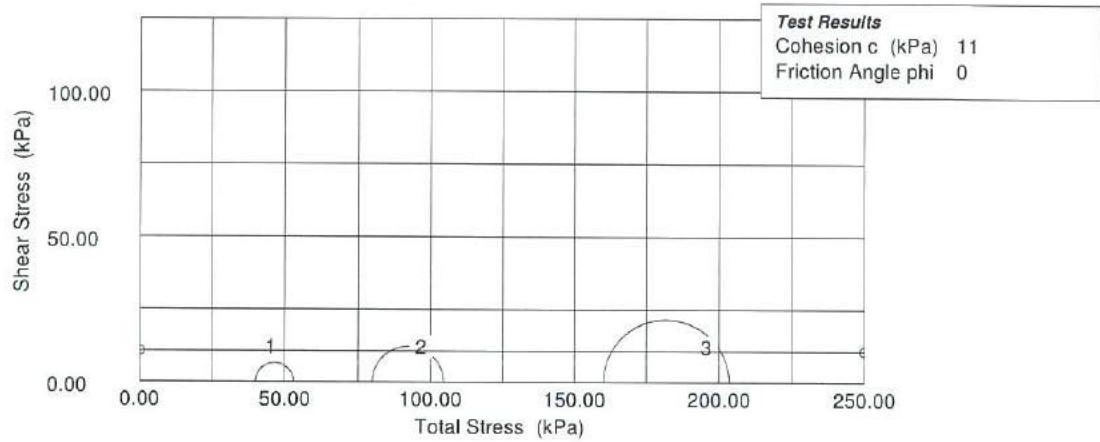
Sample: TW 2 (4.00-4.90m)
 Borehole: BH51

Approved:

17/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Test name UU (MS, SS)

Date of Test: 04/09/15

Sample: TW 2 (4.00-4.90m)
Borehole: BH51

Checked:

Approved:

[Signature]

[Signature] 16/9/15

[Signature] 17/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Firm, Grey mottled yellowish brown, Slightly sandy CLAY

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	167.35	168.93	173.2
Bulk Density ρ (Mg/m ³)	1.94	1.96	2.01
Particle Density ρ_s	2.67 (measured)	2.67 (measured)	2.67 (measured)

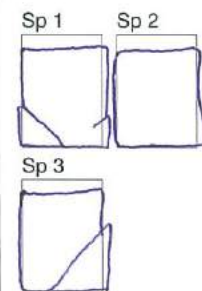
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	70.00	140.00	280.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	29	28	26
Dry Density ρ_{d0} (Mg/m ³)	1.51	1.53	1.60
Voids Ratio e_0	0.77	0.75	0.67
Deg of Saturation S_0 %	99.66	100.00	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	84.84	71.50	93.01
Membrane Correction σ_{mb} (kPa)	1.10	1.20	1.90
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	83.74	70.30	91.11
Strain at Failure ϵ_f %	8.86	9.68	17.93
Shear Strength c_u (kPa)	41.87	35.15	45.56
Moisture Content w_f %	28	28	25
Dry Density ρ_{df} (Mg/m ³)	1.51	1.53	1.60
Voids Ratio e_f	0.76	0.74	0.67
Deg of Saturation S_f %	98.73	100.00	100.00

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *[Signature]*

Checked: *[Signature]*

Test name: UU (SS, MS)

Date of Test: 04/09/15

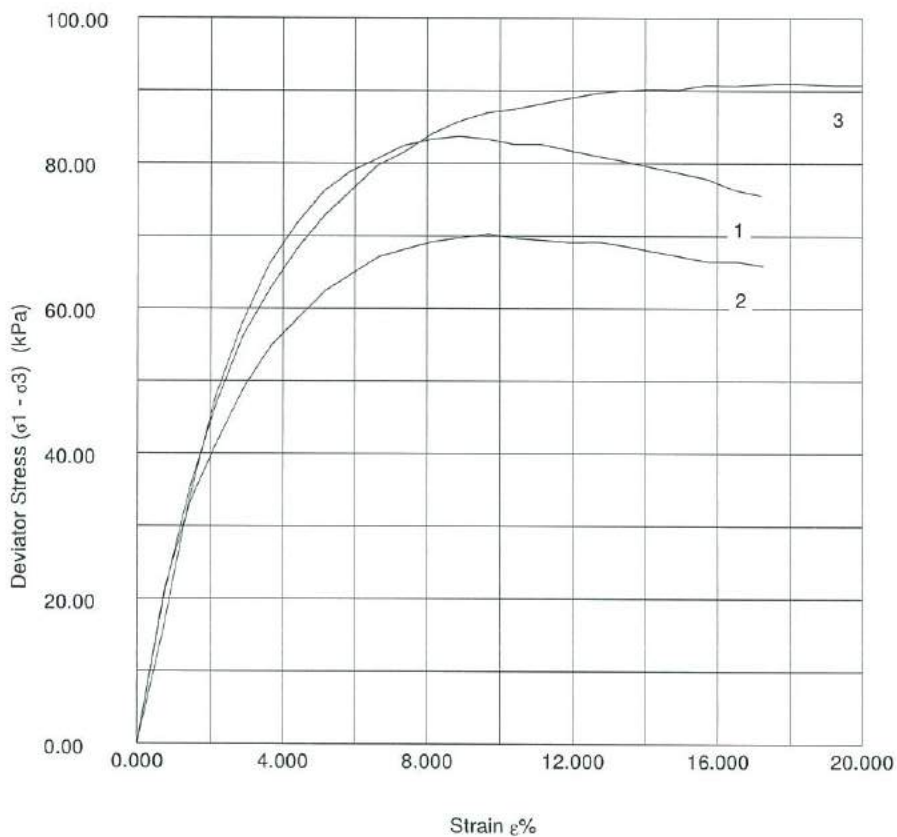
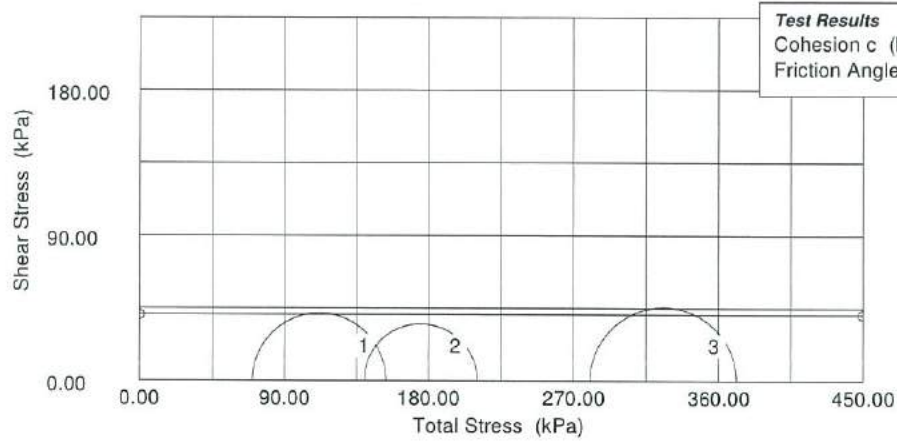
Sample: TW 3 (6.00-6.90m)

Borehole: BH51

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Test name UU (SS, MS)

Date of Test: 04/09/15

Sample: TW 3 (6.00-6.90m)

Borehole: BH51

Checked:

Approved:

[Signature] 17/9

Total Stress Triaxial Compression

Unconsolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 9.50-9.90m
Description: Stiff, Grey mottled yellowish brown, Slightly sandy SILT

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	176.71	179.93	185.16
Bulk Density ρ (Mg/m ³)	2.05	2.09	2.15
Particle Density ρ_s	2.65 (assumed)	2.65 (assumed)	2.65 (assumed)

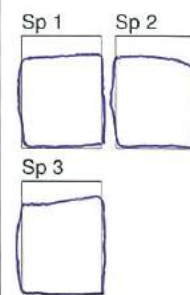
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	95.00	190.00	380.00
Machine Speed d_r (mm/min)	1.140	1.140	1.140
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	10489	10489	10489
Load Channel	12471	12471	12471
Moisture Content w_0 %	18	15	25
Dry Density ρ_{d0} (Mg/m ³)	1.74	1.82	1.72
Voids Ratio e_0	0.52	0.46	0.54
Deg of Saturation S_0 %	90.25	86.14	100.00

Final Condition

	Specimen 1	Specimen 2	Specimen 3
Max Deviator Stress (kPa)	139.53	170.83	155.31
Membrane Correction σ_{mb} (kPa)	2.00	1.73	2.00
Corr Stress $(\sigma_1 - \sigma_3)_c$ (kPa)	137.53	169.10	153.31
Strain at Failure ϵ_f %	19.92	16.14	19.90
Shear Strength c_u (kPa)	68.77	84.55	76.65
Moisture Content w_f %	18	20	18
Dry Density ρ_{df} (Mg/m ³)	1.73	1.75	1.82
Voids Ratio e_f	0.53	0.52	0.45
Deg of Saturation S_f %	92.02	99.97	100.00

Failure Sketch



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLIPSPS7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 08/09/15

Sample: TW 4 (9.00-9.90m)

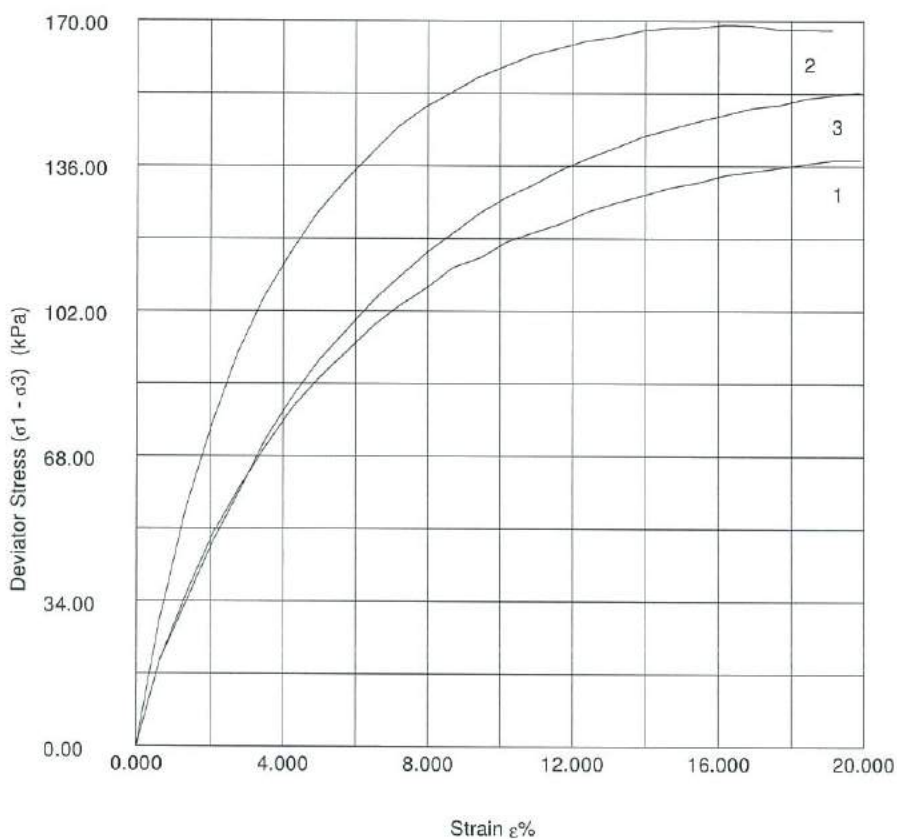
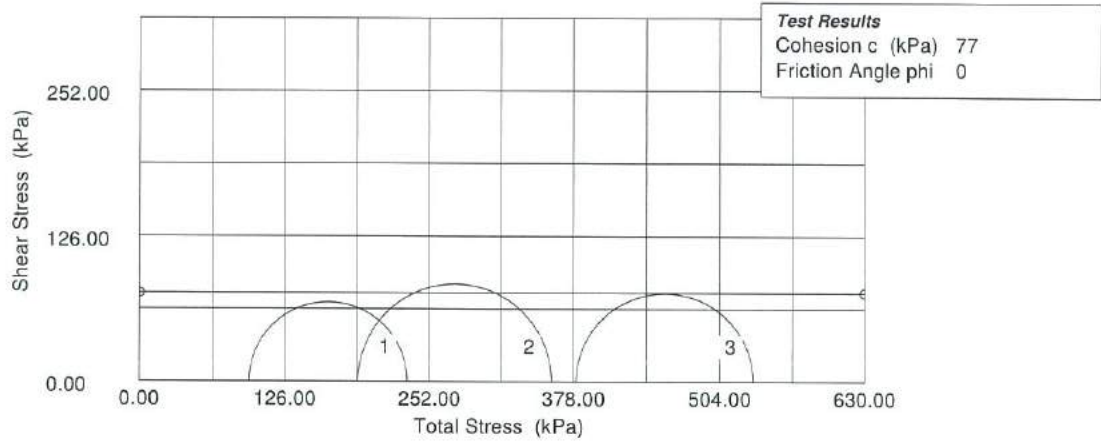
Borehole: BH51

Approved:

[Signature] 17/9

Total Stress Triaxial Compression

Unconsolidated Undrained



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UU (SS, MS)

Date of Test: 08/09/15

Sample: TW 4 (9.00-9.90m)

Borehole: BH51

Approved:

[Signature] 17/9

**CONSOLIDATED UNDRAINED (CU)
TRIAXIAL COMPRESSION TEST**

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.50-4.90m
Description: Light grey reddish brown and yellowish brown, Slightly sandy SILT with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	175.89	177.02	178.42
Bulk Density ρ (Mg/m ³)	2.04	2.05	2.07
Particle Density ρ_s	2.74	2.74	2.74
	(measured)	(measured)	(measured)

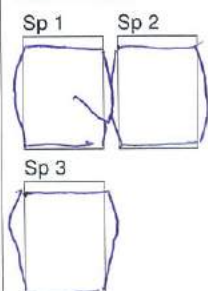
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104M92561A7020710780		
Load Channel	LCM277	58973	58720
Pore P. Channel	Z21193 (1)	Z20739 (1)	779999
Volume Channel	925261A73105	925261A74704	925261A81906
Moisture Content w_0 %	29	24	22
Dry Density ρ_{d0} (Mg/m ³)	1.59	1.65	1.70
Voids Ratio e_0	0.73	0.66	0.61
Deg of Saturation S_0 %	100.00	100.00	97.30
Final B Value	0.96	0.97	0.97

Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	27	25	22
Dry Density ρ_d (Mg/m ³)	1.61	1.70	1.78
Voids Ratio e_f	0.70	0.61	0.54
Deg of Saturation S_f %	100.00	100.00	100.00
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	19.5	19.6	12.9
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	86.8	106.9	170.3
Minor Stress σ_{3f} (kPa)	58.0	79.0	119.0
Major Stress σ_{1f} (kPa)	144.8	185.9	289.3
Stress Ratio $(\sigma_1/\sigma_3)_f$	2.5	2.4	2.4
A Value A_f	-0.311	-0.168	0.012
Shear Stage			
Pore Pressure at Start u_i (kPa)	300	299	299
Pore Pressure at Failure u_f (kPa)	273	281	301

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH34

Operator:

Checked:

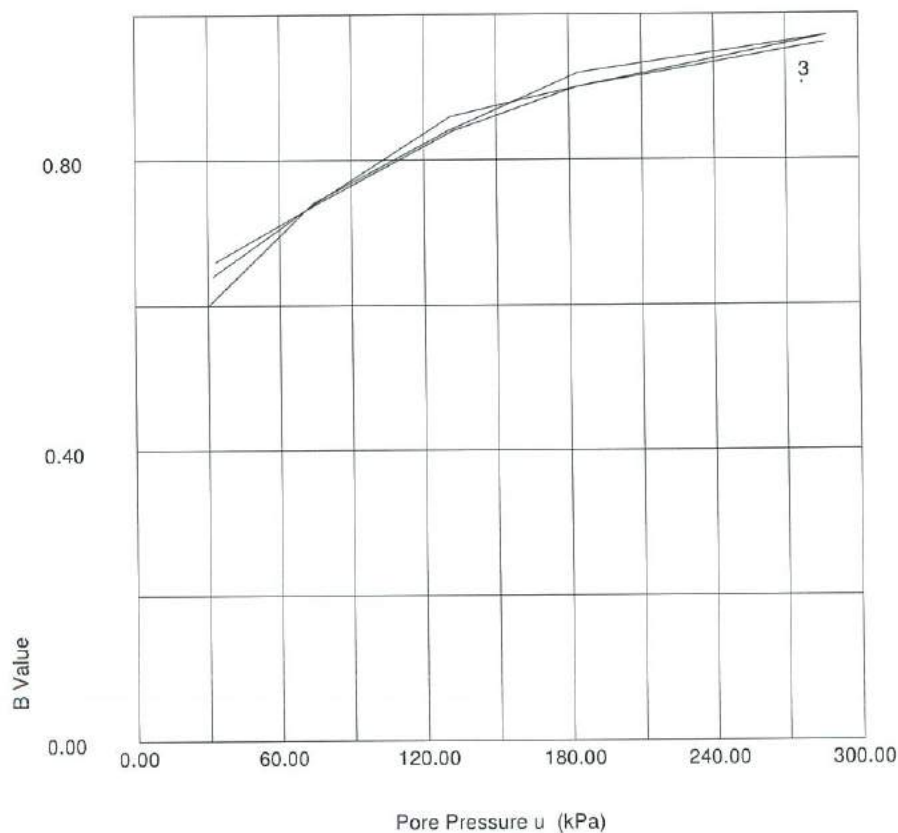
Approved:

Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	300.00	300.00	300.00
Final Pore Pressure u_f (kPa)	286.00	287.00	287.00
Final B Value	0.96	0.97	0.97



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH34

Operator: *[Signature]*

Checked: *[Signature]*

Approved: *[Signature]*

[Signature]
25/9/15

28/9

Effective Stress Triaxial Compression

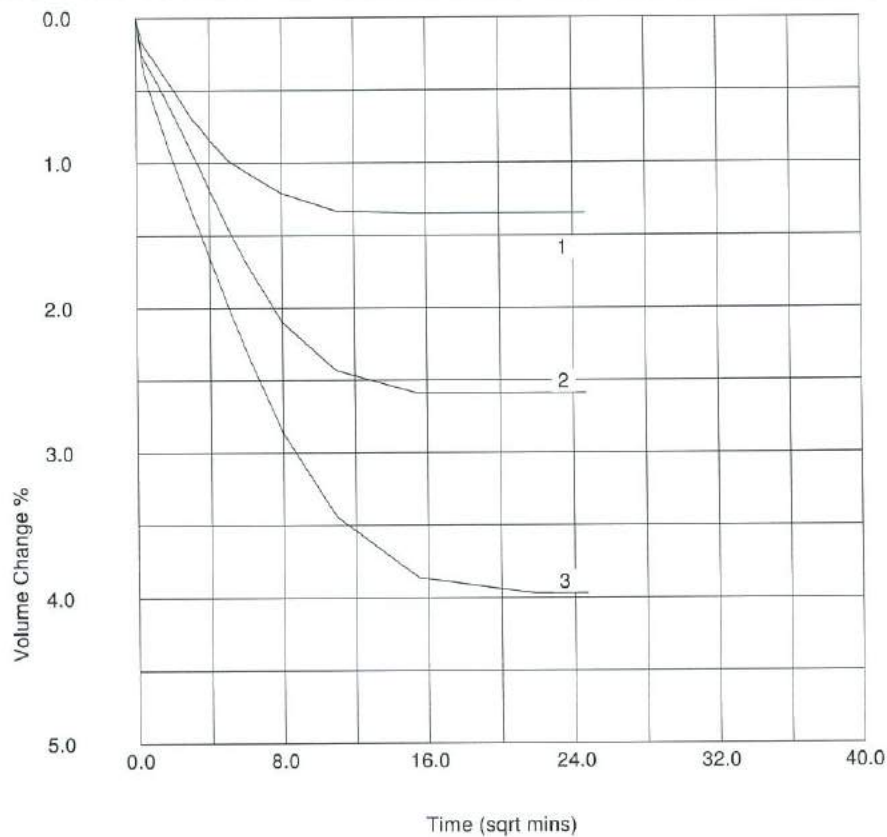
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	323.00	349.00	404.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation U%	100.0	100.0	100.0
Volumetric Strain ϵ_v %	1.6	3.0	4.6
Corr Length L_c (mm)	75.6	75.2	74.8
Corr Area A_c (mm) ²	1122.3	1111.4	1099.3
Corr Volume V_c (cc)	84.8	83.6	82.3
t_{100} (min)	63.80	113.50	157.40
Coef. of Consolidation c_v (m ² /year)	0.373	0.210	0.151
Coef. of Compressibility m_v (m ² /MN)	0.681	0.613	0.443
Testing Time (min) t_f	146.74	261.05	362.02
Est Strain at Failure ϵ_f	10.0	10.0	10.0
Machine Speed d_r (mm/min)	0.05152	0.02882	0.02067



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH34

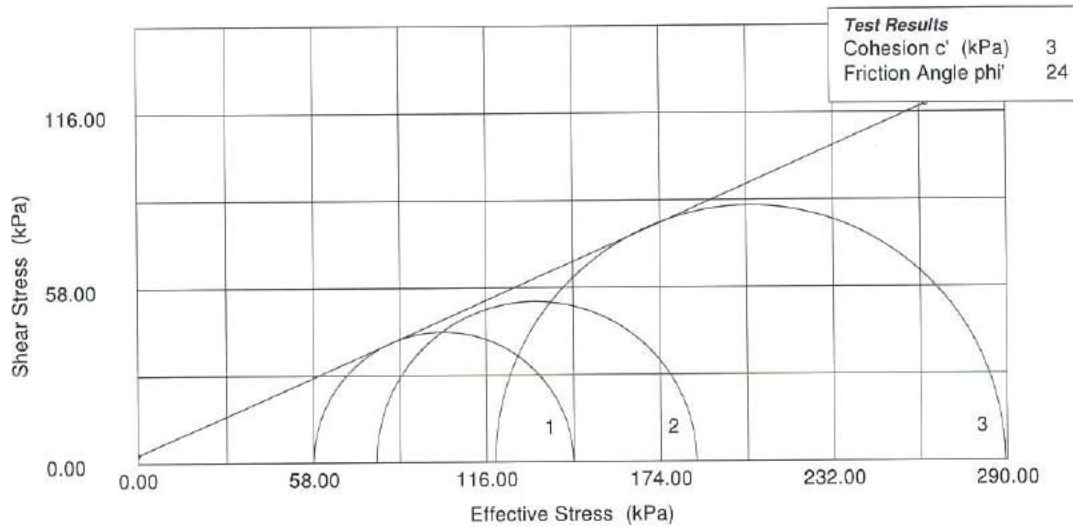
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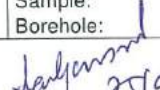
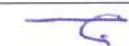
Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

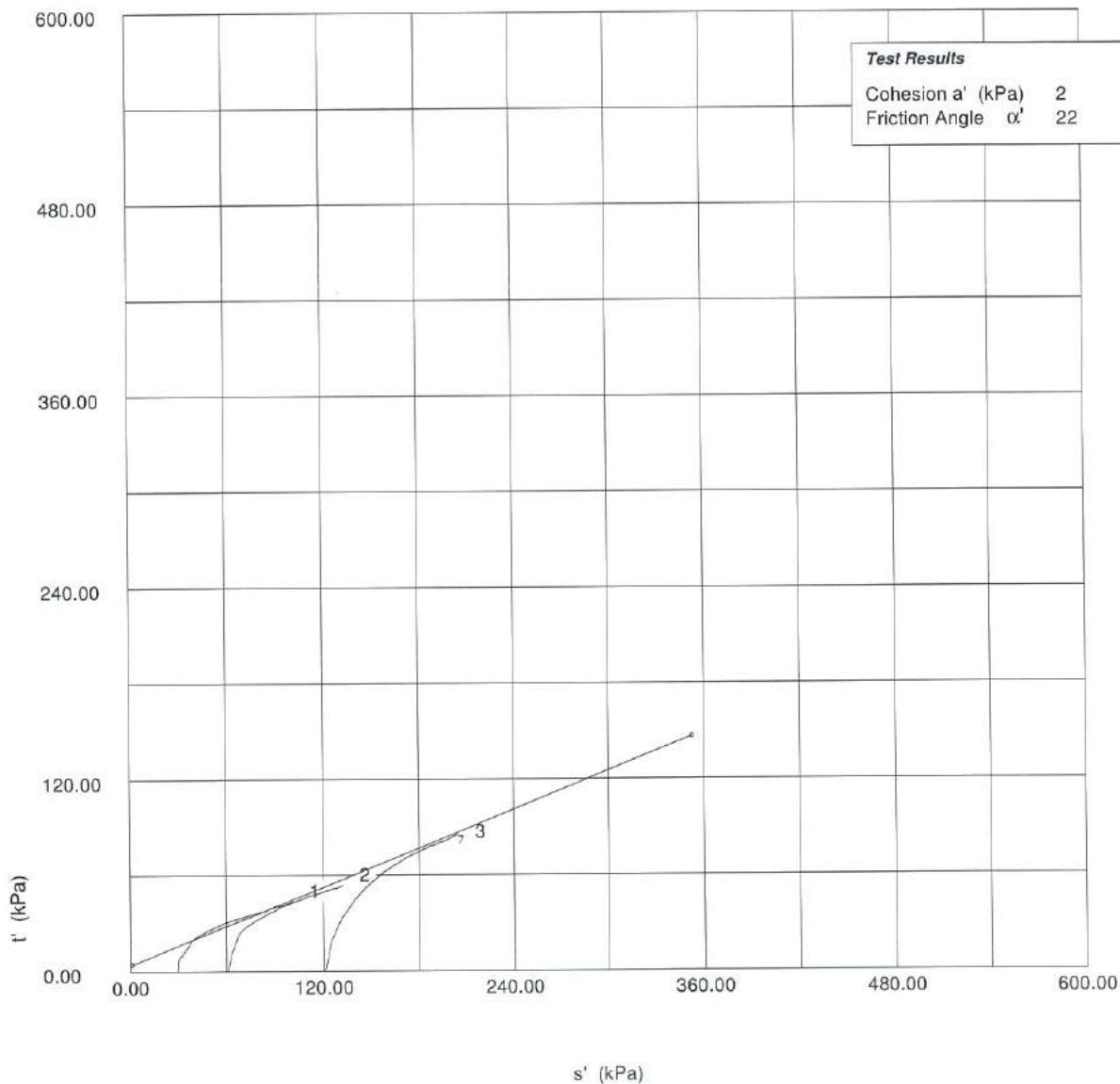
Consolidated Undrained



	Test Method : BS1377 : Part 8 : 1990 : 7		Test name CU (SS, MS)	
			Date of Test: 11/09/15	
	Site Reference: Lim Chu Kang		Sample: TW 2 (4.00-4.90m)	
	Jobfile: C:\SIL\S7518-15.JOB		Borehole: BH34	
Operator: 		Checked:  25/9/15		Approved:  28/9/15

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH34

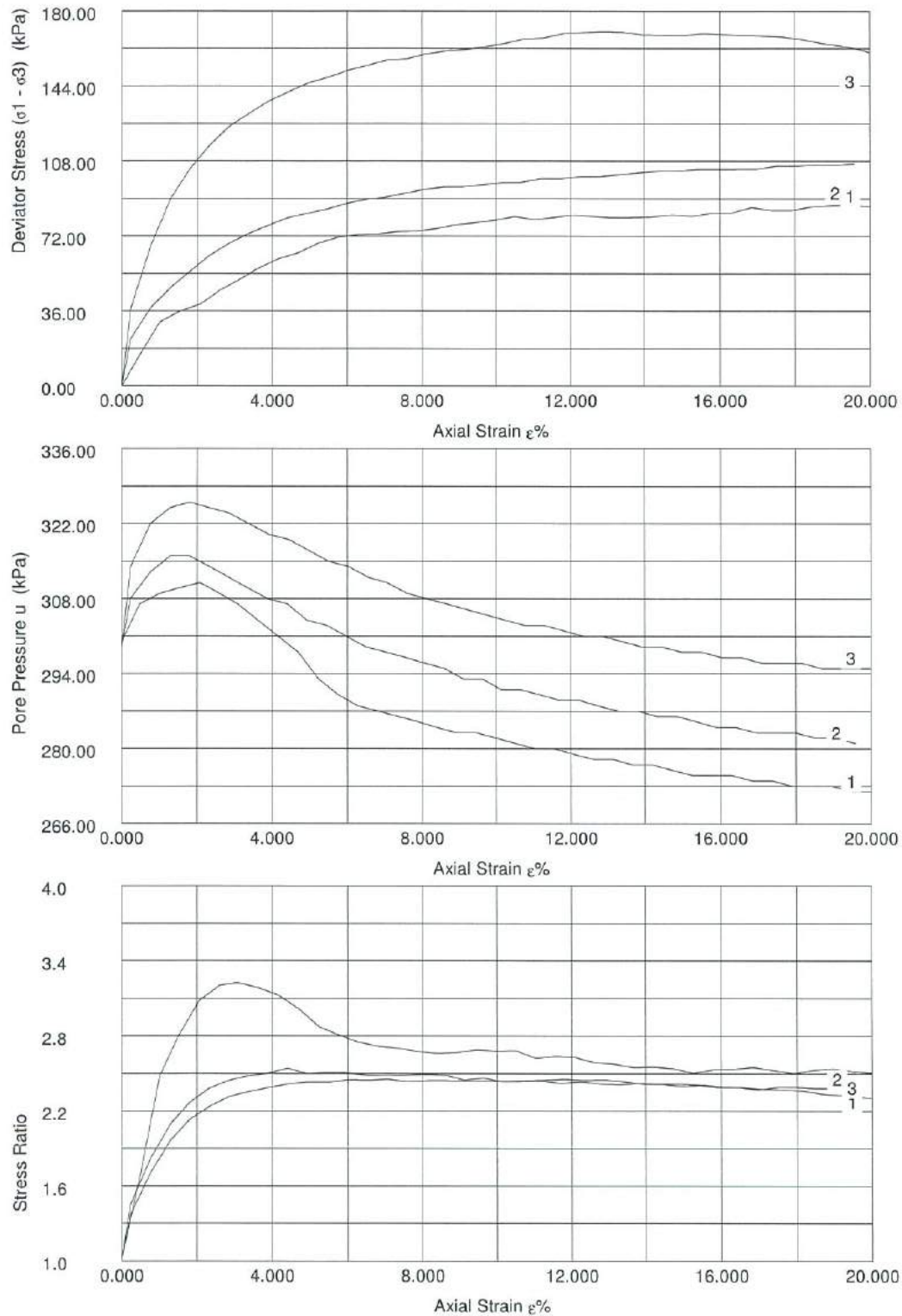
Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang

Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)

Borehole: BH34

Operator: *RJB*

Checked: *25/9/15*

Approved: *28/9*

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Light grey, Slightly sandy SILT with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	176.13	176.32	179.67
Bulk Density ρ (Mg/m ³)	2.04	2.05	2.08
Particle Density ρ_s	2.71	2.71	2.71
	(measured)	(measured)	(measured)

Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	430.00	460.00	520.00
Pore Pressure u (kPa)	400.00	400.00	400.00
Machine Speed d_f (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104	M92561A70207	10780
Load Channel	LCM277	58973	58720
Pore P. Channel	64189	Z20893	Z20739 (2)
Volume Channel	925261A63804	925261A73108	925261A81903
Moisture Content w_0 %	23	25	22
Dry Density ρ_{d0} (Mg/m ³)	1.66	1.64	1.71
Voids Ratio e_0	0.63	0.65	0.58
Deg of Saturation S_0 %	99.17	100.00	100.00
Final B Value	0.96	0.95	0.97

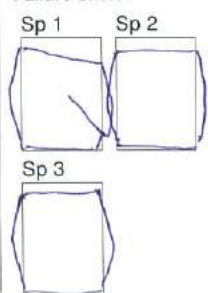
Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	24	24	21
Dry Density ρ_d (Mg/m ³)	1.68	1.68	1.79
Voids Ratio e_f	0.61	0.61	0.51
Deg of Saturation S_f %	100.00	100.00	100.00
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	13.3	20.0	18.6
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	82.0	103.0	153.6
Minor Stress σ_{3f} (kPa)	41.0	61.3	95.0
Major Stress σ_{1f} (kPa)	123.0	164.4	248.6
Stress Ratio $(\sigma_1/\sigma_3)_f$	3.0	2.7	2.6
A Value A_f	0.085	0.243	0.241

Shear Stage

Pore Pressure at Start u_i (kPa)	399	400	399
Pore Pressure at Failure u_f (kPa)	406	425	436

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 08/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH37

Operator:

Checked:

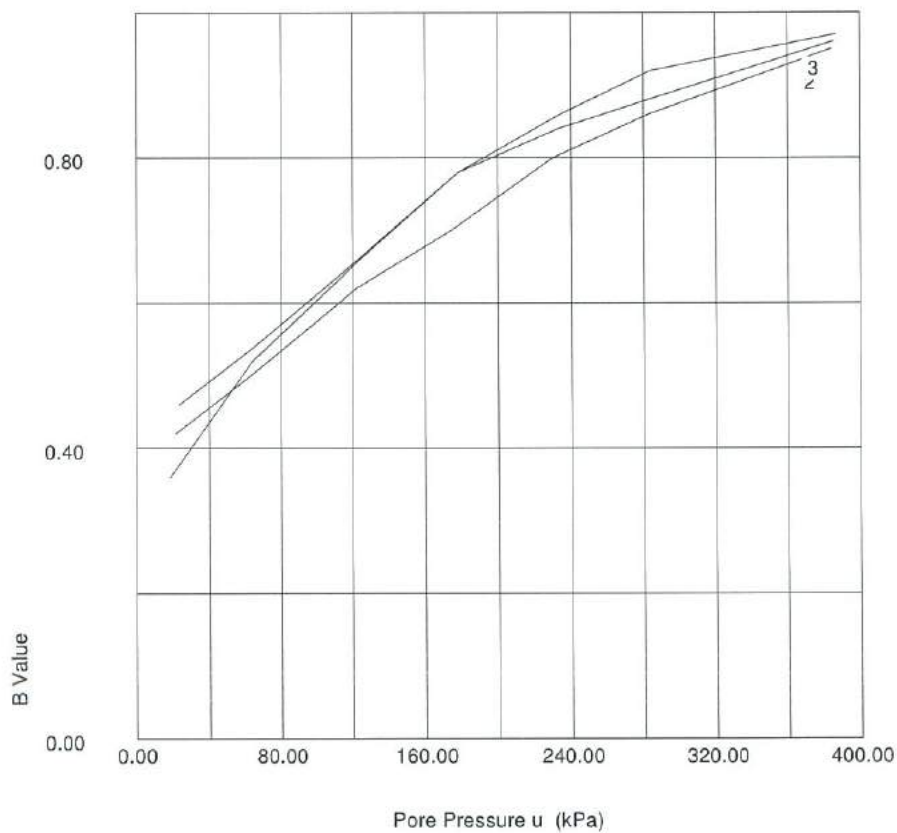
Approved:

Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	400.00	400.00	400.00
Final Pore Pressure u_f (kPa)	386.00	385.00	387.00
Final B Value	0.96	0.95	0.97



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 08/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH37

Operator: *R.D.*

Checked: *Jackman*

Approved: *C*

28/9

Effective Stress Triaxial Compression

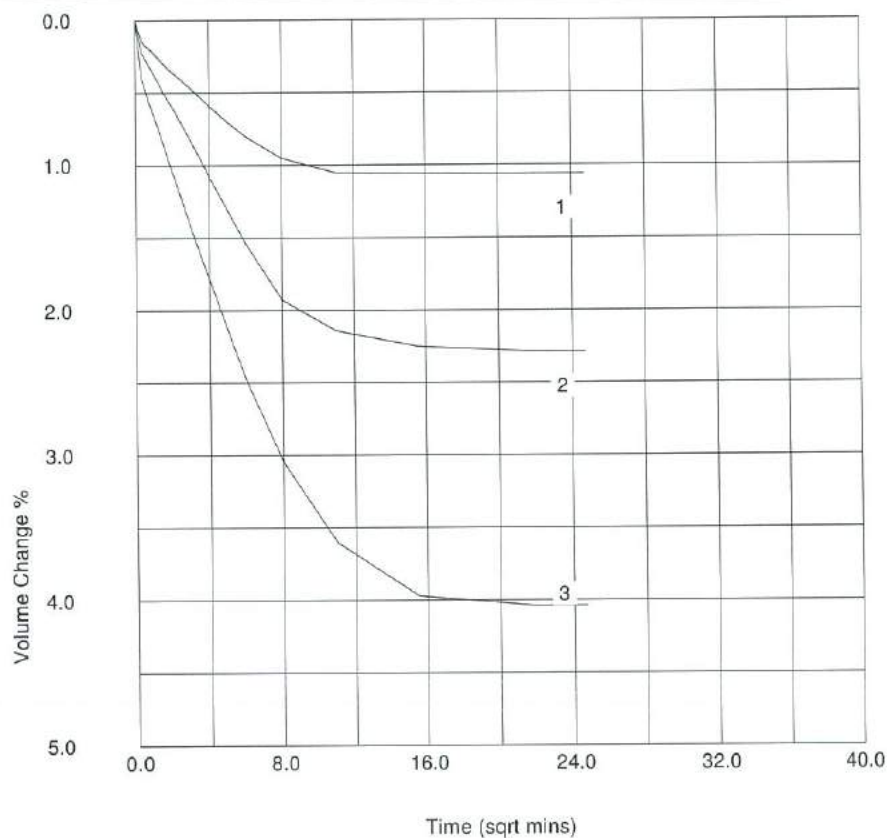
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	430.00	460.00	520.00
Pore Pressure u_i (kPa)	422.00	450.00	517.00
Back Pressure u_b (kPa)	400.00	400.00	400.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation $U\%$	100.0	100.7	100.0
Volumetric Strain $\epsilon_v\%$	1.2	2.7	4.7
Corr Length L_c (mm)	75.7	75.3	74.8
Corr Area A_c (mm) ²	1124.8	1114.0	1098.7
Corr Volume V_c (cc)	85.1	83.9	82.2
t_{100} (min)	88.50	110.80	144.10
Coef. of Consolidation c_v (m ² /year)	0.269	0.215	0.165
Coef. of Compressibility m_v (m ² /MN)	0.559	0.528	0.401
Testing Time (min) t_f	203.55	254.84	331.43
Est Strain at Failure ϵ_f	10.0	10.0	10.0
Machine Speed d_f (mm/min)	0.03718	0.02956	0.02257



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 08/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH37

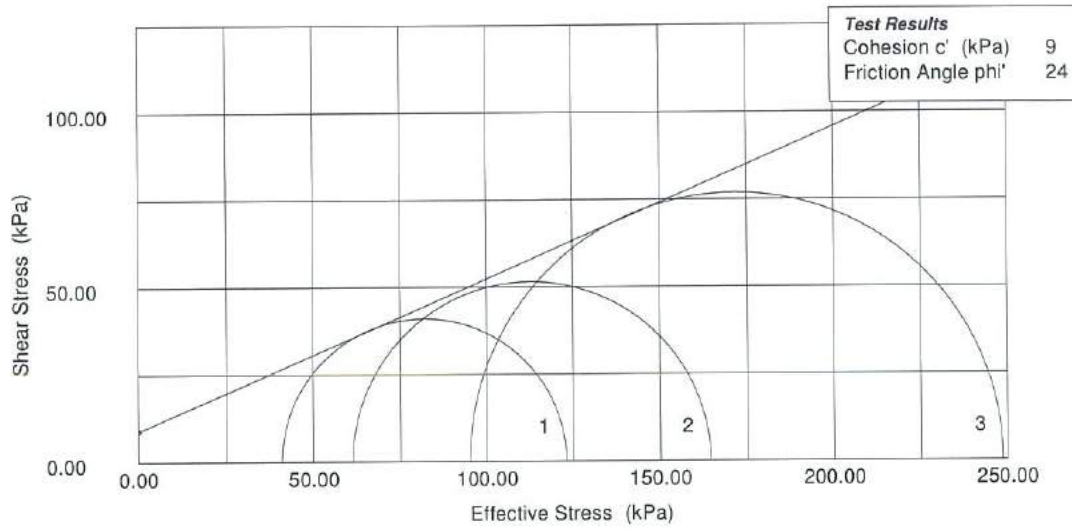
Operator: *[Signature]*

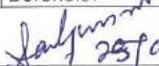
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Approved: *[Signature]*

Effective Stress Triaxial Compression

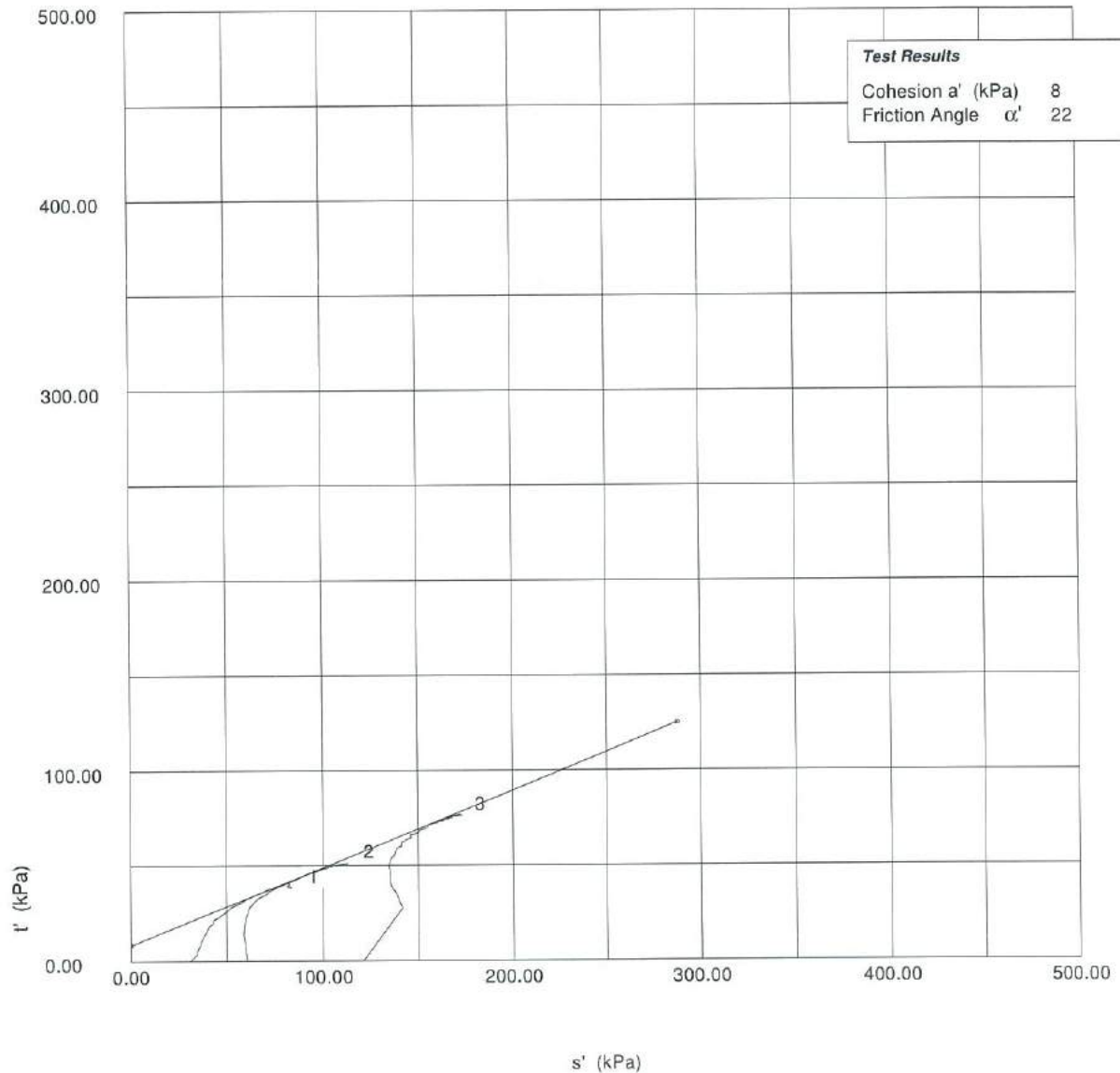
Consolidated Undrained



	Test Method : BS1377 : Part 8 : 1990 : 7		Test name	CU (SS, MS)	
			Date of Test:	08/09/15	
	Site Reference:	Lim Chu Kang	Sample:	TW 3 (6.00-6.90m)	
	Jobfile:	C:\SIL\S7518-15.JOB	Borehole:	BH37	
	Operator:		Checked:	 25/9/2015	Approved:
258					

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 08/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH37

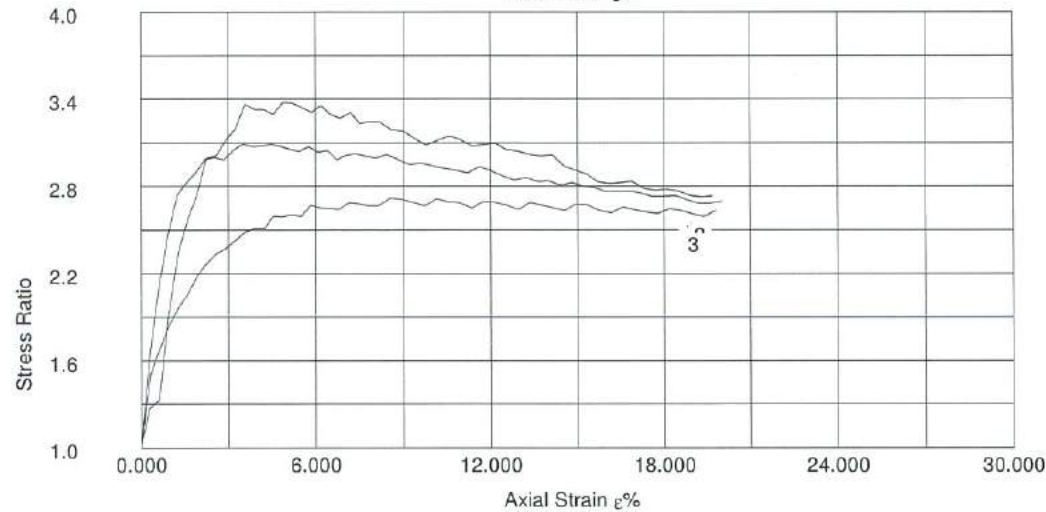
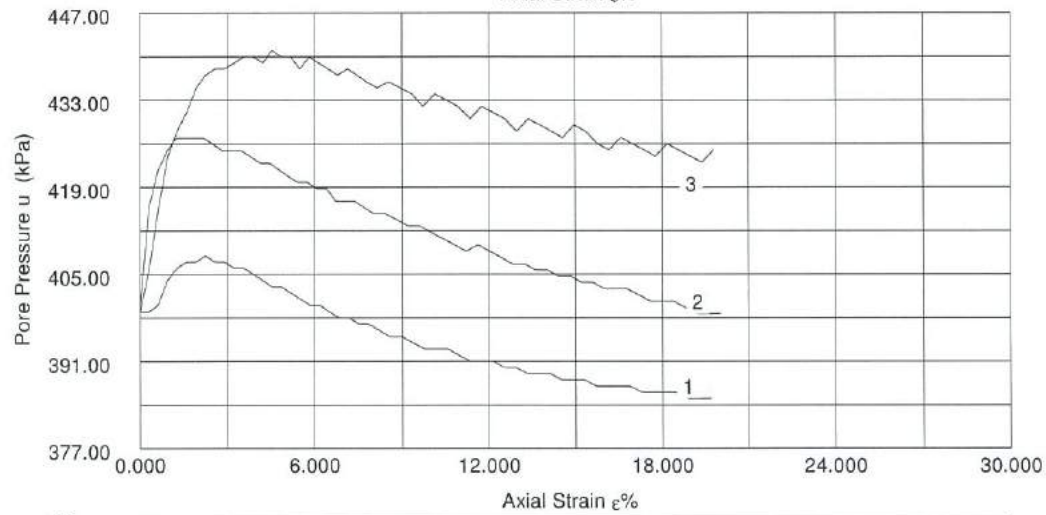
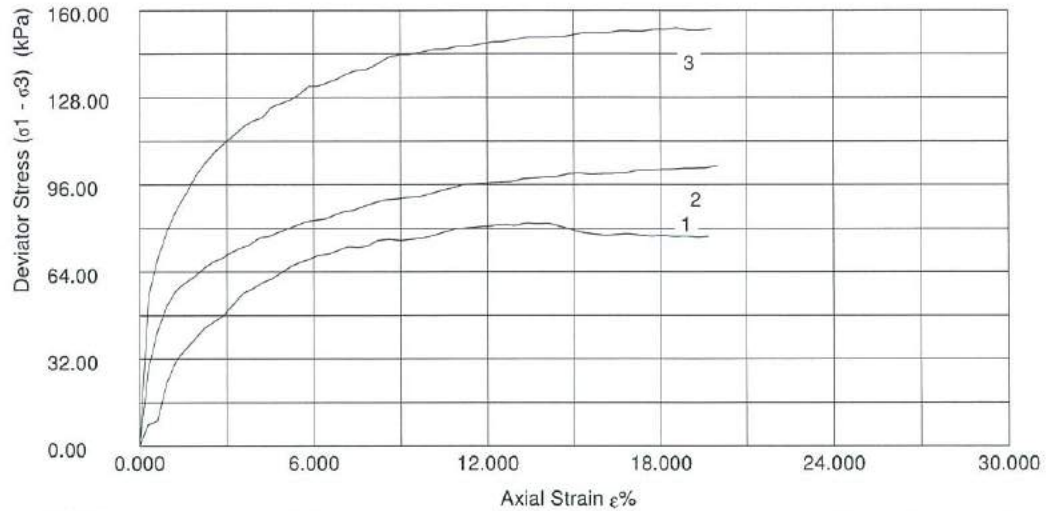
Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 08/09/15

Site Reference: Lim Chu Kang

Sample: TW 3 (6.00-6.90m)

Jobfile: CASILAS7518-15.JOB

Borehole: BH37

Operator: *[Signature]*

Checked: *[Signature]*

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.40-4.80m
Description: Light grey, Slightly sandy CLAY with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	78	78	78
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	160.66	164.36	168.05
Bulk Density ρ (Mg/m ³)	1.82	1.86	1.90
Particle Density ρ_s	2.69	2.69	2.69
	(measured)	(measured)	(measured)

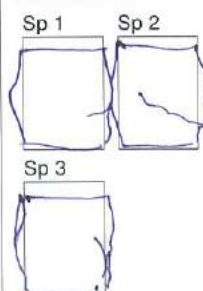
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104	M92561A70207	10780
Load Channel	LCM277	58973	58720
Pore P. Channel	Z21193 (1)	Z20739 (1)	779999
Volume Channel	925261A73105	925261A74704	925261A81906
Moisture Content w_0 %	35	31	28
Dry Density ρ_{d0} (Mg/m ³)	1.35	1.41	1.48
Voids Ratio e_0	1.00	0.90	0.81
Deg of Saturation S_0 %	94.09	93.62	92.80
Final B Value	0.96	0.96	0.98

Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	36	31	27
Dry Density ρ_d (Mg/m ³)	1.36	1.46	1.57
Voids Ratio e_f	0.98	0.84	0.72
Deg of Saturation S_f %	100.00	100.00	100.00
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	8.9	8.5	13.9
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	57.0	68.4	92.5
Minor Stress σ_{3f} (kPa)	34.0	52.0	85.0
Major Stress σ_{1f} (kPa)	91.0	120.4	177.5
Stress Ratio $(\sigma_1/\sigma_3)_f$	2.7	2.3	2.1
A Value A_f	-0.017	0.132	0.378
Shear Stage			
Pore Pressure at Start u_i (kPa)	298	300	300
Pore Pressure at Failure u_f (kPa)	297	309	335

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 05/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH38

Operator: *RB*

Checked: *Lafarman*

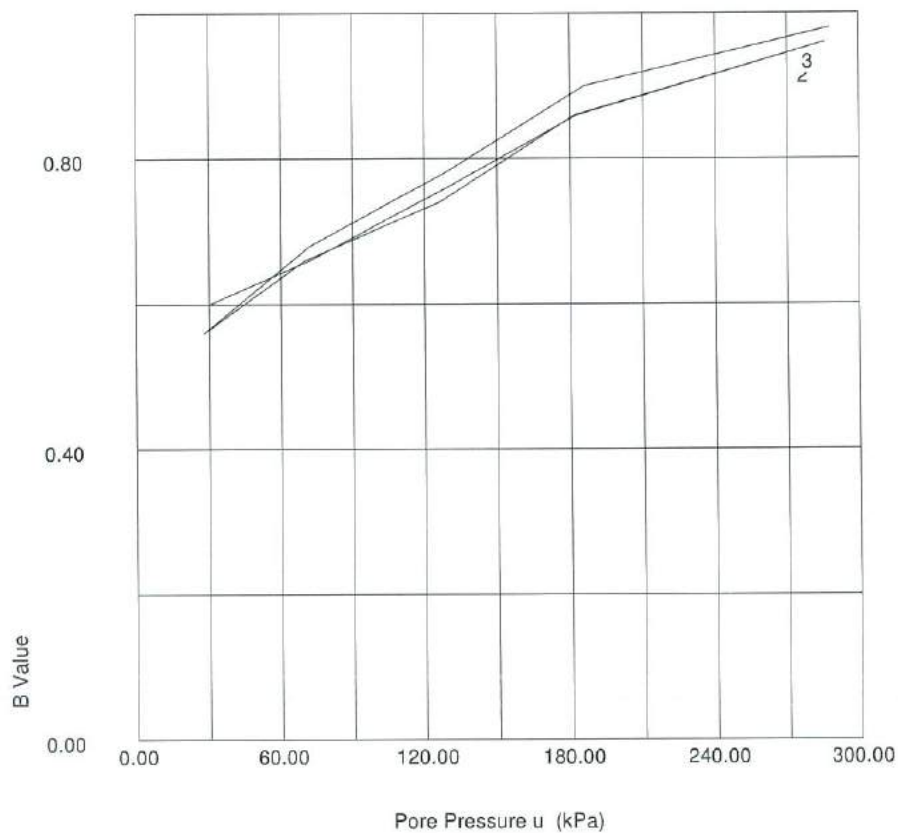
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Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	300.00	300.00	300.00
Final Pore Pressure u_f (kPa)	286.00	286.00	288.00
Final B Value	0.96	0.96	0.98



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 05/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH38

Operator:

RJB

Checked:

Salp...
25/9/15

Approved:

G 28/9

Effective Stress Triaxial Compression

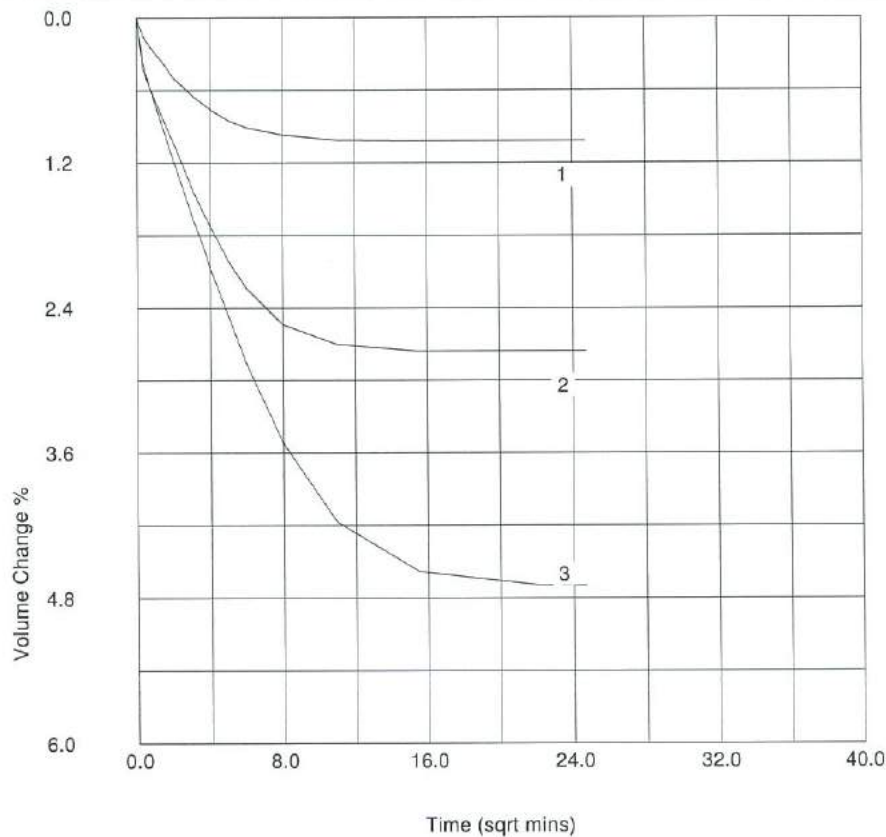
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	321.00	350.00	407.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation U%	100.0	100.0	100.0
Volumetric Strain ϵ_v %	1.2	3.1	5.3
Corr Length L_c (mm)	77.7	77.2	76.6
Corr Area A_c (mm) ²	1125.4	1110.5	1094.0
Corr Volume V_c (cc)	87.4	85.7	83.8
t_{100} (min)	46.30	63.50	136.60
Coef. of Consolidation c_v (m ² /year)	0.515	0.375	0.174
Coef. of Compressibility m_v (m ² /MN)	0.549	0.624	0.497
Testing Time (min) t_f	106.49	146.05	314.18
Est Strain at Failure ϵ_f	10.0	10.0	10.0
Machine Speed d_r (mm/min)	0.07296	0.05285	0.02439



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 05/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH38

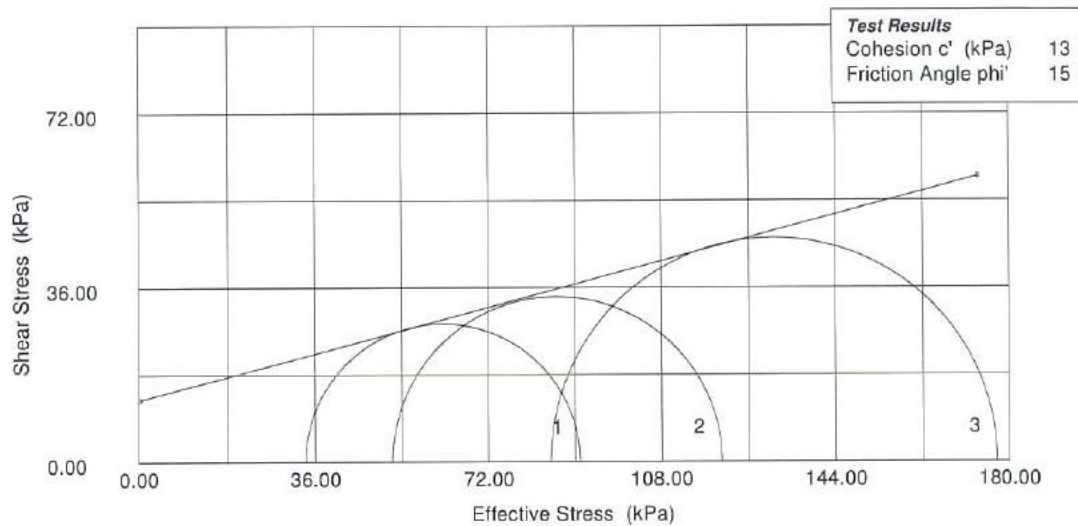
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Checked: *[Signature]*

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 05/09/15

Site Reference: Lim Chu Kang

Sample: TW 2 (4.00-4.90m)

Jobfile: C:\SIL\S7518-15.JOB

Borehole: BH38

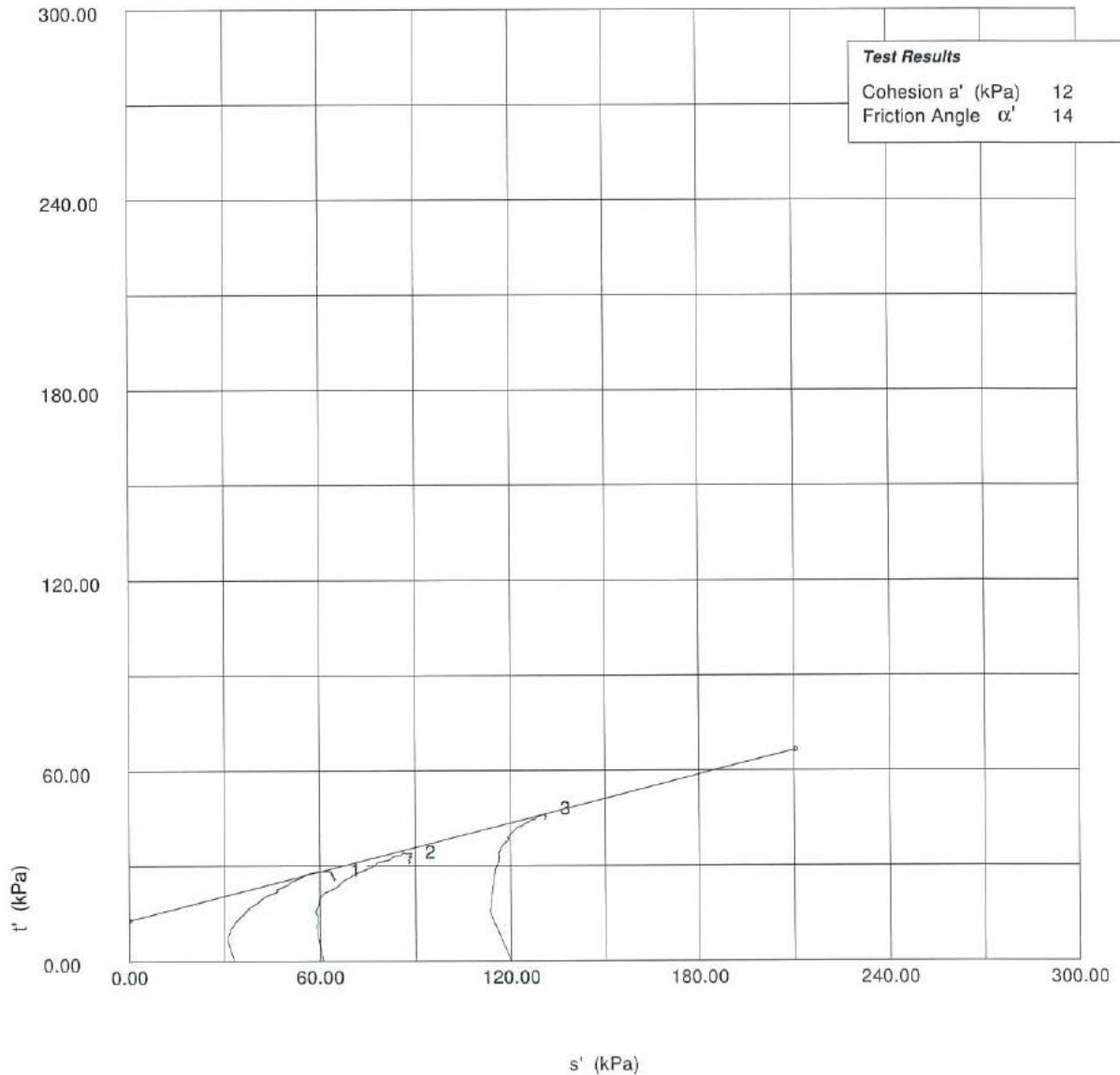
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Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 05/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH38

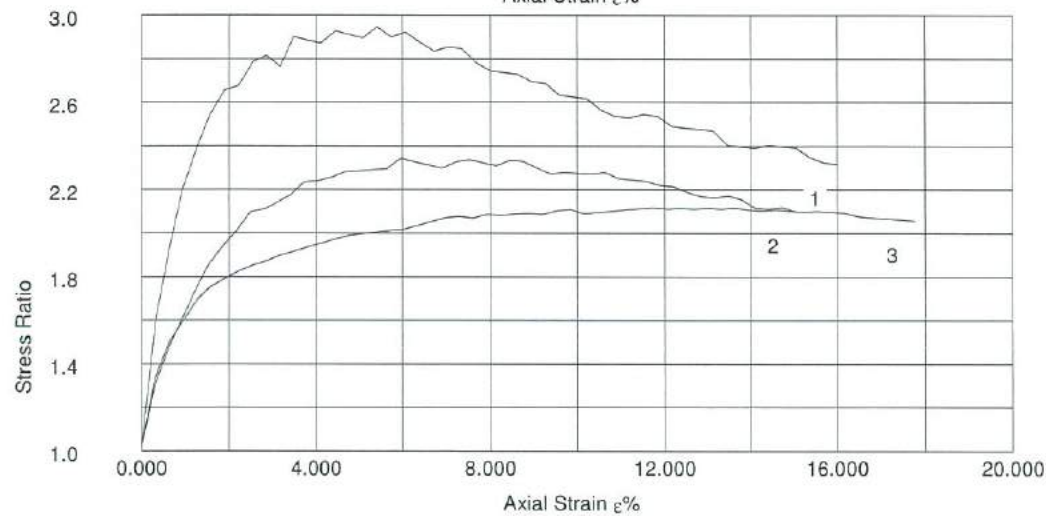
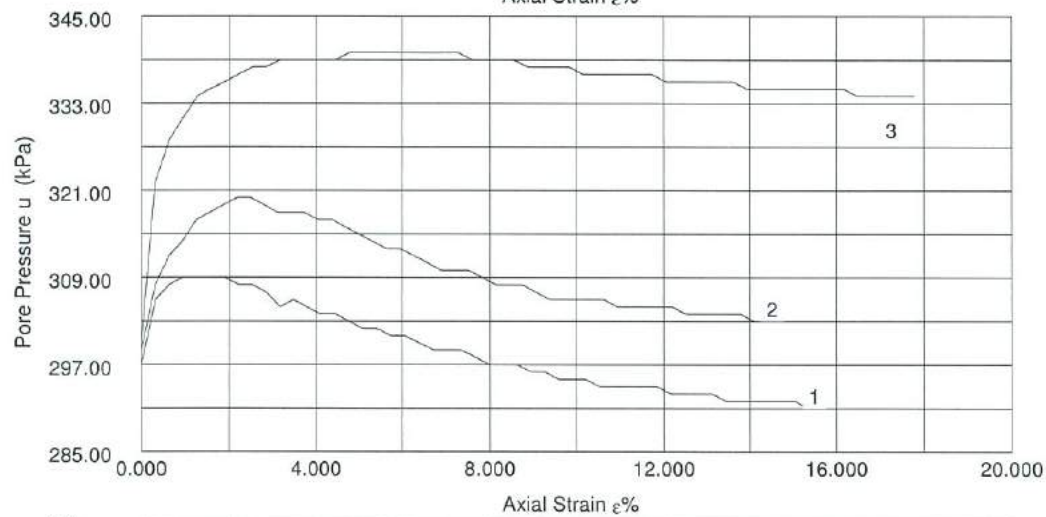
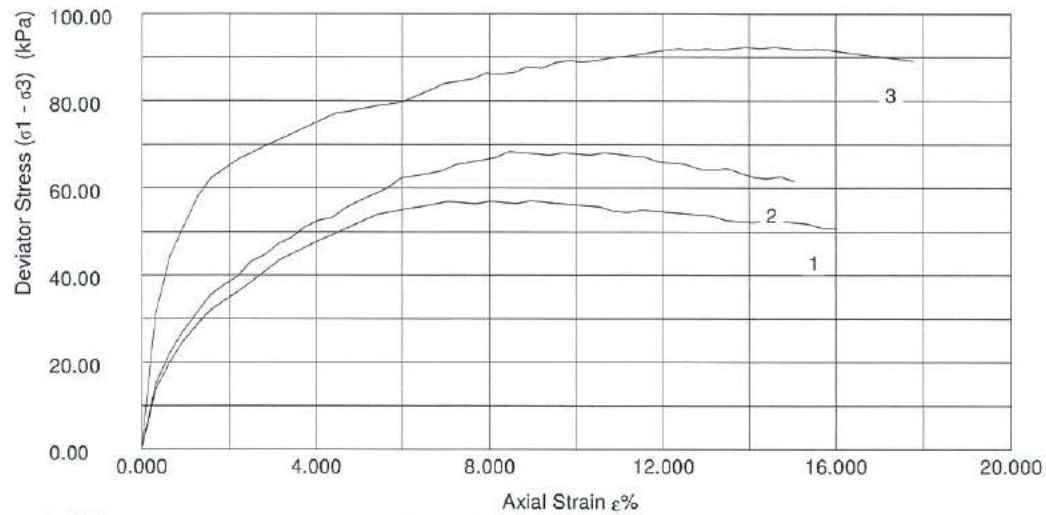
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Checked: *deyuan 25/9/15*

Approved: *E 20/9*

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 05/09/15

Site Reference: Lim Chu Kang

Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)

Borehole: BH38

Operator: *[Signature]*

Checked: *[Signature]*

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 5.40-5.80m
Description: Brownish grey, Slightly gravelly sandy SILT with traces of peat and decayed wood

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	149.23	152.96	153.95
Bulk Density ρ (Mg/m ³)	1.73	1.77	1.79
Particle Density ρ_s	2.64	2.64	2.64
	(measured)	(measured)	(measured)

Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	360.000	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104	M92561A70207	10780
Load Channel	LCM277	58973	58720
Pore P. Channel	Z21193 (1)	Z20739 (1)	779999
Volume Channel	925261A73105	925261A74704	925261A81906
Moisture Content w_0 %	41	41	39
Dry Density ρ_{d0} (Mg/m ³)	1.22	1.26	1.28
Voids Ratio e_0	1.16	1.10	1.06
Deg of Saturation S_0 %	94.62	98.70	98.04
Final B Value	0.96	0.98	0.98

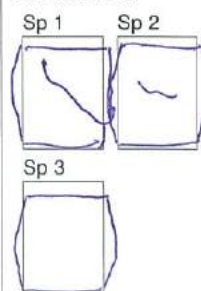
Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	41	38	34
Dry Density ρ_d (Mg/m ³)	1.25	1.32	1.39
Voids Ratio e_f	1.12	1.01	0.90
Deg of Saturation S_f %	97.71	98.88	99.34
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	12.7	13.6	9.1
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	34.0	62.7	92.7
Minor Stress σ_{3f} (kPa)	14.0	24.0	48.0
Major Stress σ_{1f} (kPa)	48.0	86.7	140.7
Stress Ratio $(\sigma_1/\sigma_2)_f$	3.4	3.6	2.9
A Value A_f	0.471	0.574	0.777

Shear Stage

Pore Pressure at Start u_i (kPa)	300	300	300
Pore Pressure at Failure u_f (kPa)	316	336	372

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 03/09/15

Site Reference: Lim Chu Kang

Sample: TW 2 (5.00-5.90m)

Jobfile: C:\SIL\S7518-15.JOB

Borehole: BH39

Operator:

Checked:

Approved:

[Signature]

[Signature] 15/9/2015

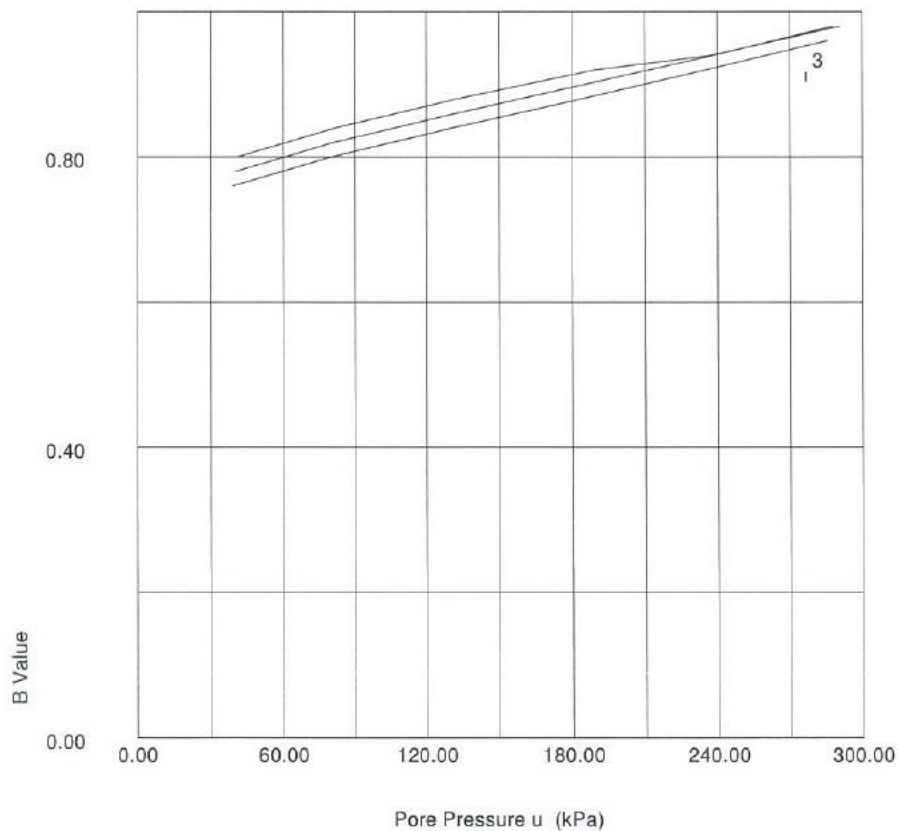
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Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	300.00	300.00	300.00
Final Pore Pressure u_f (kPa)	286.00	288.00	291.00
Final B Value	0.96	0.98	0.98



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 03/09/15

Site Reference: Lim Chu Kang

Sample: TW 2 (5.00-5.90m)

Jobfile: C:\SIL\S7518-15.JOB

Borehole: BH39

Operator: *[Signature]*

Checked: *[Signature]*

Approved: *[Signature]*

Effective Stress Triaxial Compression

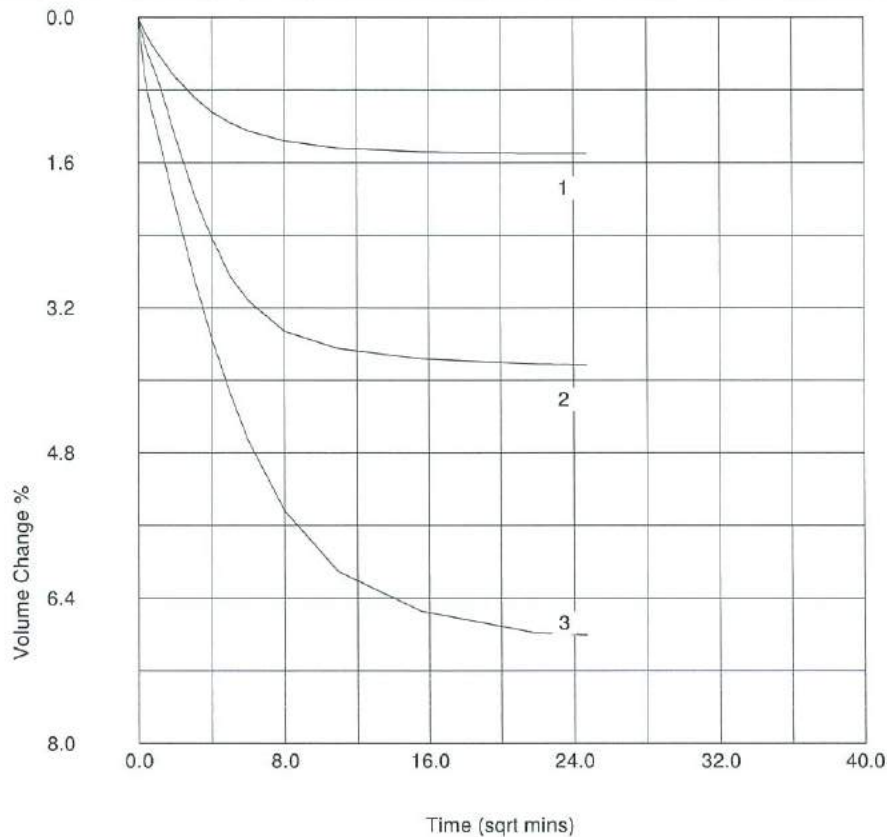
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	317.00	348.00	407.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation $U\%$	100.0	100.0	100.0
Volumetric Strain $\epsilon_v\%$	1.7	4.4	7.9
Corr Length L_c (mm)	75.6	74.9	74.0
Corr Area A_c (mm) ²	1121.0	1100.5	1074.5
Corr Volume V_c (cc)	84.7	82.4	79.5
t_{100} (min)	43.80	49.60	89.50
Coef. of Consolidation c_v (m ² /year)	0.544	0.480	0.266
Coef. of Compressibility m_v (m ² /MN)	1.024	0.926	0.737
Testing Time (min) t_f	100.74	114.08	205.85
Est Strain at Failure ϵ_f	10.0	10.0	10.0
Machine Speed d_f (mm/min)	0.075	0.06563	0.03595



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 03/09/15

Site Reference: Lim Chu Kang

Sample: TW 2 (5.00-5.90m)

Jobfile: C:\SIL\S7518-15.JOB

Borehole: BH39

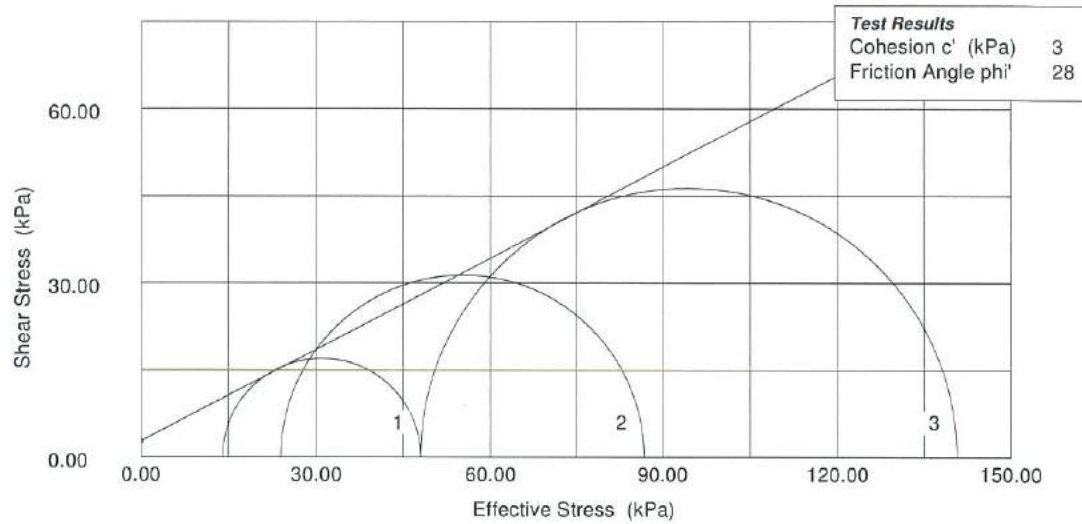
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Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 03/09/15

Site Reference: Lim Chu Kang

Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (5.00-5.90m)

Borehole: BH39

Operator:

[Signature]

Checked:

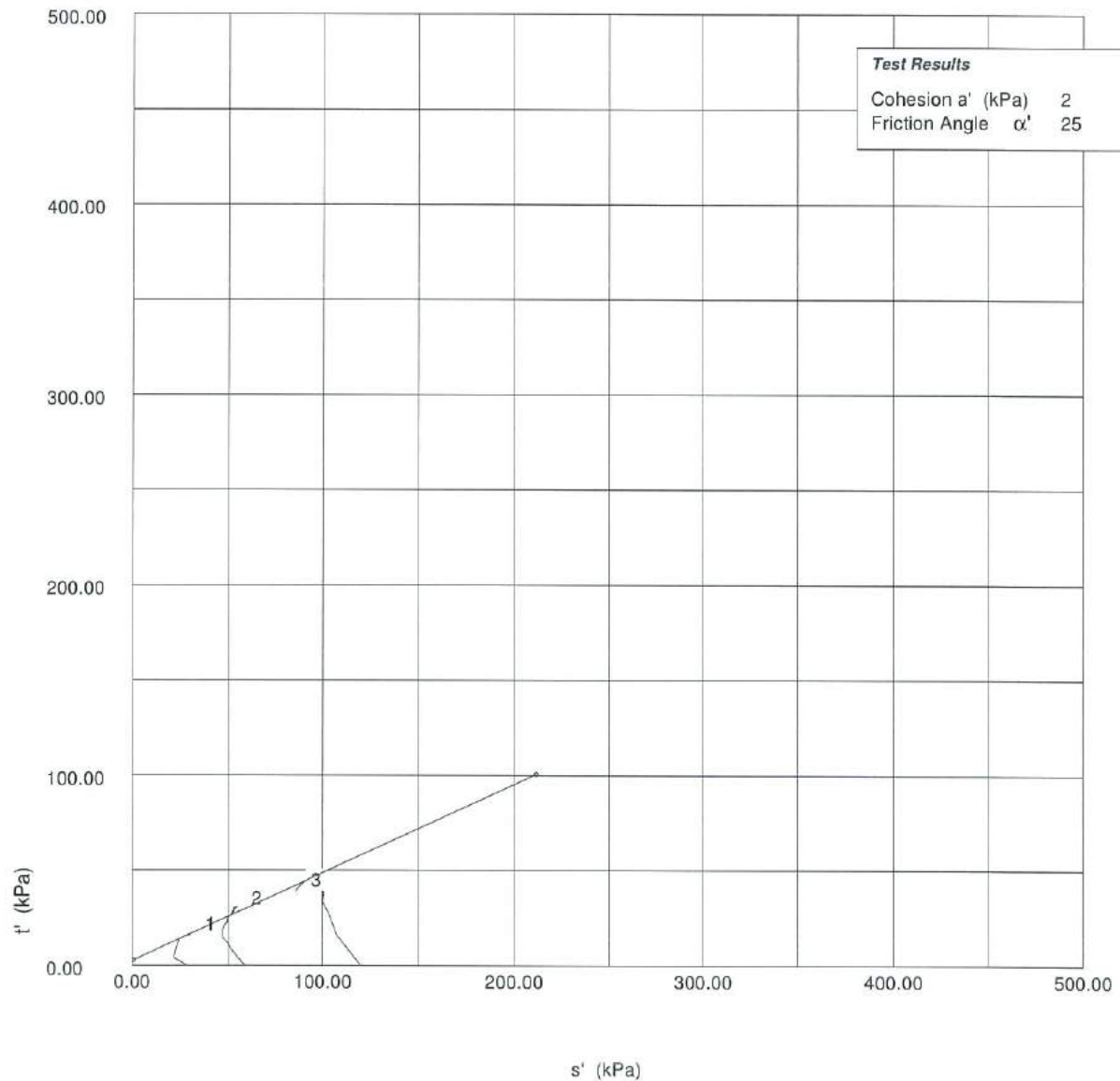
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Approved:

[Signature] 15/9/2015

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 03/09/15

Site Reference: Lim Chu Kang

Jobfile: CASIL\S7518-15.JOB

Sample: TW 2 (5.00-5.90m)

Borehole: BH39

Operator: *FB*

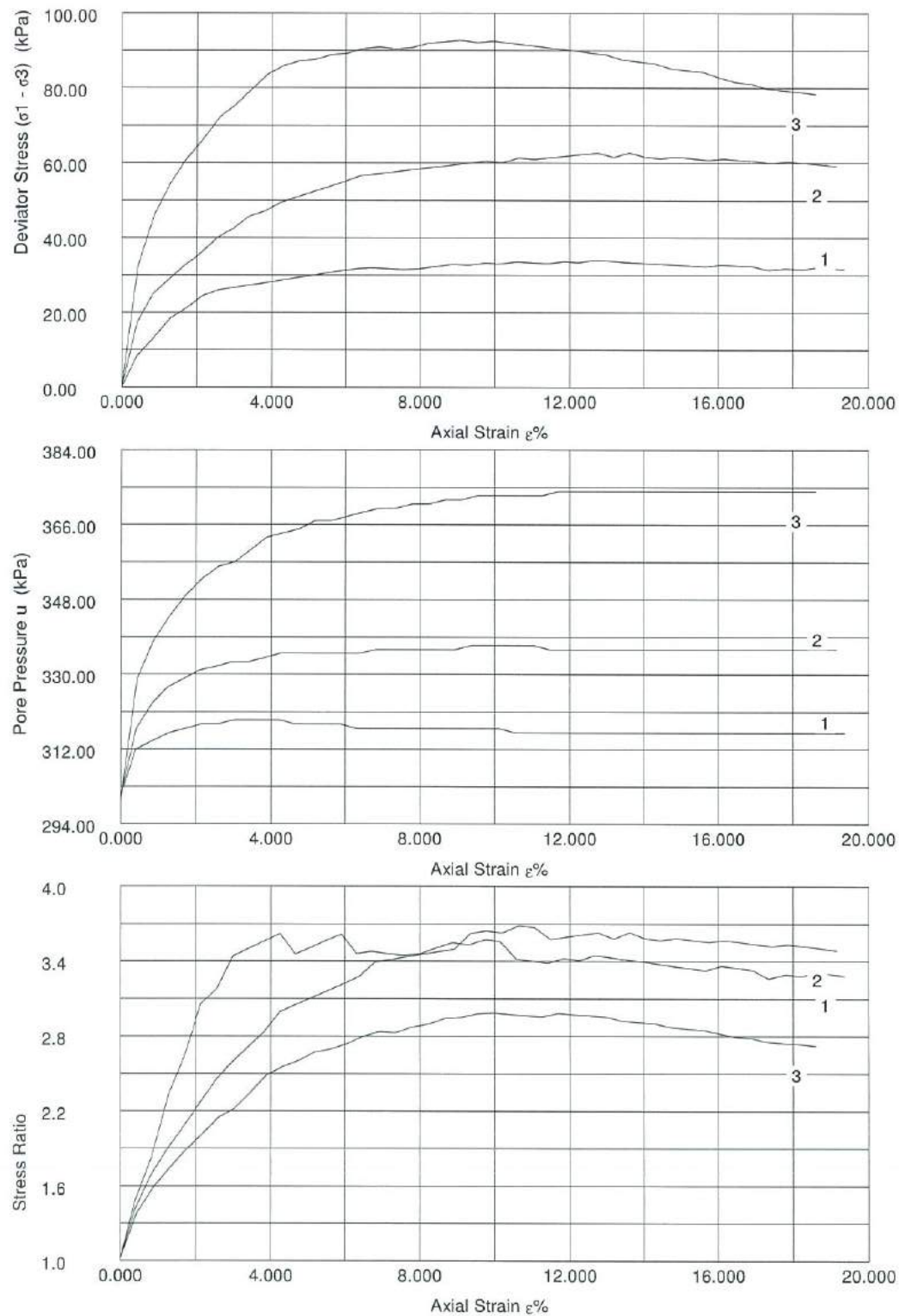
Checked: *Longman*

Approved: *G*

15/9/2015

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 03/09/15

Site Reference: Lim Chu Kang

Sample: TW 2 (5.00-5.90m)

Jobfile: C:\SIL\S7518-15.JOB

Borehole: BH39

Operator: *[Signature]*

Checked: *[Signature]*

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 5.40-5.90m
Description: Light grey mottled reddish brown, Slightly sandy CLAY

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	174.88	178.79	179.27
Bulk Density ρ (Mg/m ³)	2.03	2.07	2.08
Particle Density ρ_s	2.73	2.73	2.73
	(measured)	(measured)	(measured)

Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	430.00	460.00	520.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104M92561A7020710780		
Load Channel	LCM277	58973	58720
Pore P. Channel	64189	Z20893	Z20739 (2)
Volume Channel	925261A63804	925261A73108	925261A81903
Moisture Content w_0 %	25	23	23
Dry Density ρ_{d0} (Mg/m ³)	1.63	1.69	1.69
Voids Ratio e_0	0.68	0.62	0.62
Deg of Saturation S_0 %	99.55	100.00	100.00
Final B Value	0.96	0.98	0.98

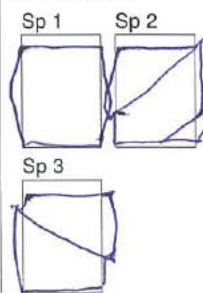
Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	27	24	24
Dry Density ρ_d (Mg/m ³)	1.65	1.72	1.75
Voids Ratio e_f	0.65	0.58	0.56
Deg of Saturation S_f %	100.00	100.00	100.00
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	18.5	19.4	19.6
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	83.6	138.9	190.0
Minor Stress σ_{3f} (kPa)	52.0	109.7	128.0
Major Stress σ_{1f} (kPa)	135.6	248.5	318.0
Stress Ratio $(\sigma_1/\sigma_3)_f$	2.6	2.3	2.5
A Value A_f	-0.239	-0.353	-0.042

Shear Stage

Pore Pressure at Start u_i (kPa)	398	399	400
Pore Pressure at Failure u_f (kPa)	378	350	392

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (5.00-5.90m)
Borehole: BH40

Operator:

Checked:

Handwritten signature and date 16/9/2015

Approved:

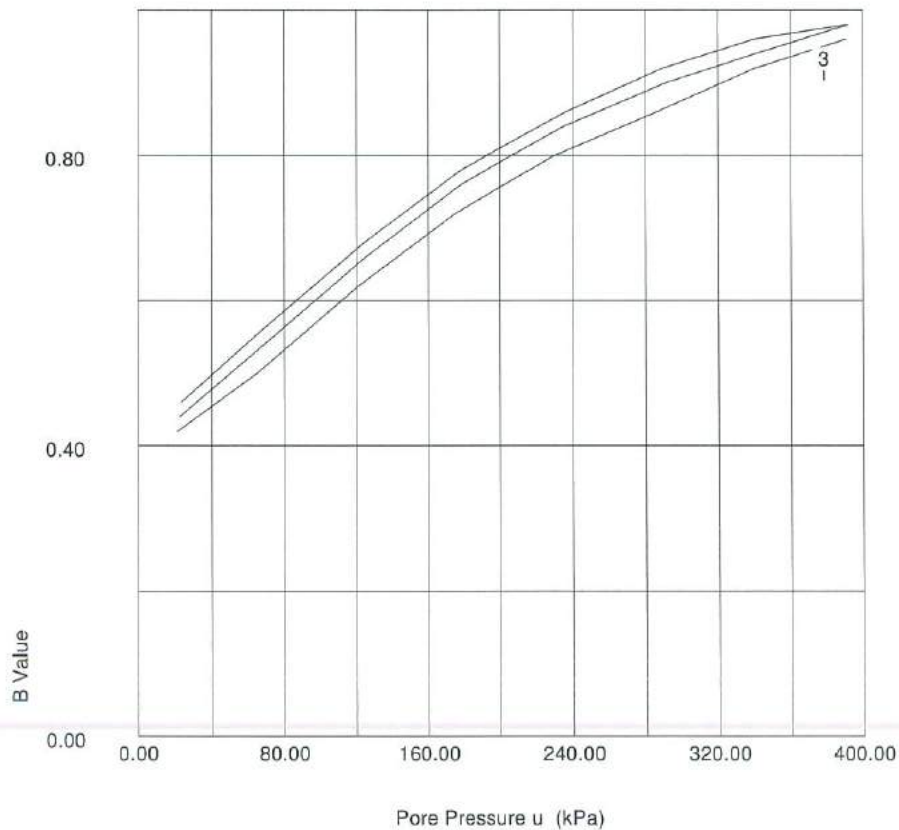
Handwritten signature and date 17/9

Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	400.00	400.00	400.00
Final Pore Pressure u_f (kPa)	391.00	392.00	391.00
Final B Value	0.96	0.98	0.98



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (5.00-5.90m)
Borehole: BH40

Operator:

RSB

Checked:

Lim Chu Kang
04/09/2015

Approved:

G 17/9

Effective Stress Triaxial Compression

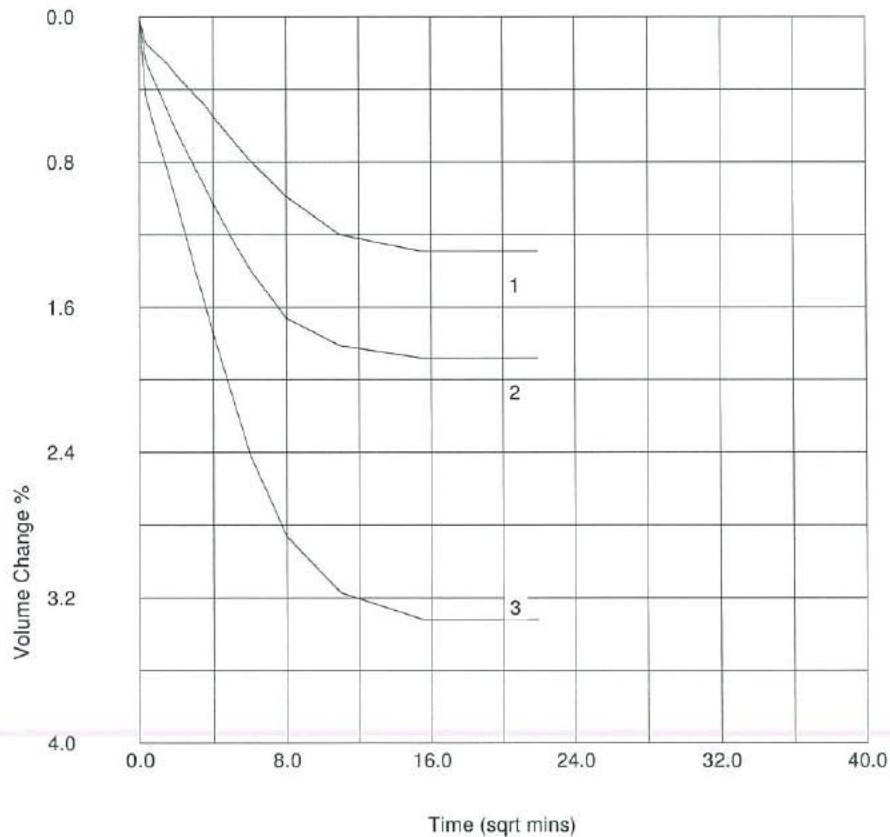
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	430.00	460.00	520.00
Pore Pressure u_i (kPa)	421.00	447.00	499.00
Back Pressure u_b (kPa)	400.00	400.00	400.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation $U\%$	100.0	100.7	100.0
Volumetric Strain $\varepsilon_v\%$	1.5	2.2	3.9
Corr Length L_c (mm)	75.6	75.4	75.0
Corr Area A_c (mm) ²	1122.8	1117.6	1105.0
Corr Volume V_c (cc)	84.9	84.3	82.9
t_{100} (min)	135.50	92.70	91.40
Coef. of Consolidation c_v (m ² /year)	0.176	0.257	0.261
Coef. of Compressibility m_v (m ² /MN)	0.713	0.461	0.389
Testing Time (min) t_f	311.65	213.21	210.22
Est Strain at Failure ε_f	10.0	10.0	10.0
Machine Speed d_r (mm/min)	0.02426	0.03539	0.03569



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (5.00-5.90m)
Borehole: BH40

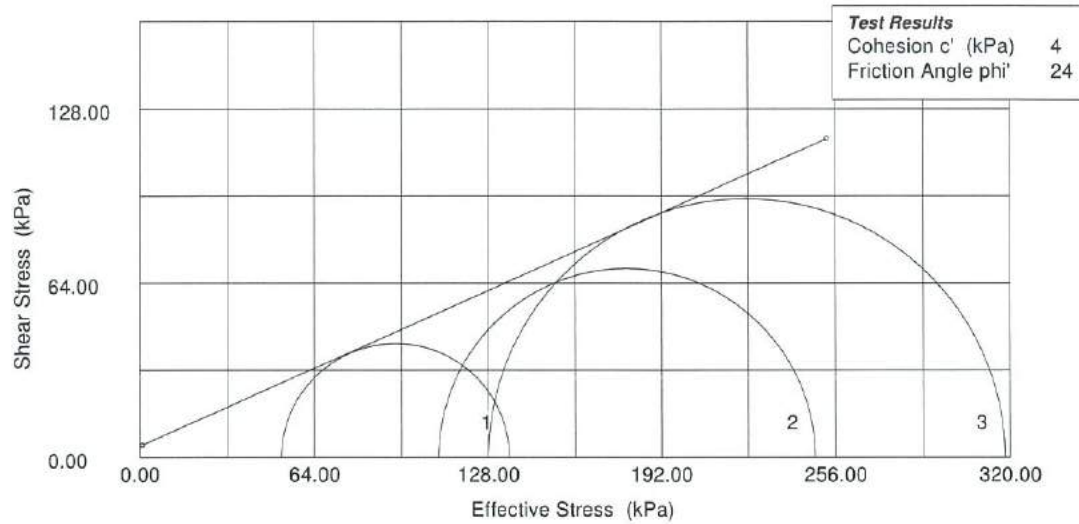
Operator: *[Signature]*

Checked: *[Signature]* 10/9/2015

Approved: *[Signature]* 17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
 Jobfile: CASIL\S7518-15.JOB

Sample: TW 2 (5.00-5.90m)
 Borehole: BH40

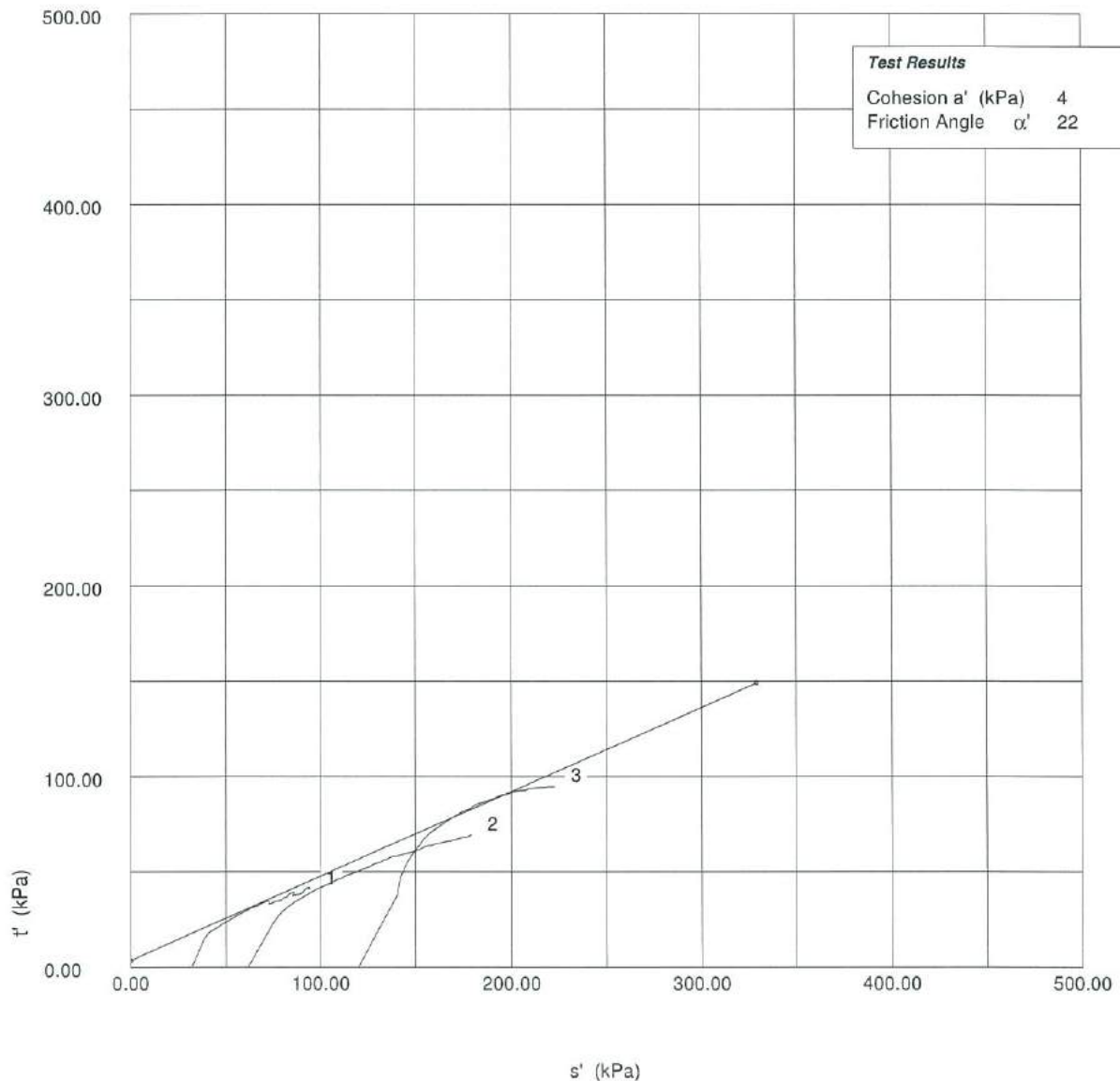
Operator: *[Signature]*

Checked: *[Signature]* 10/9/2015

Approved: *[Signature]* 17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

(

Test name CU (SS, MS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: CASIL\S7518-15.JOB

Sample: TW 2 (5.00-5.90m)
Borehole: BH40

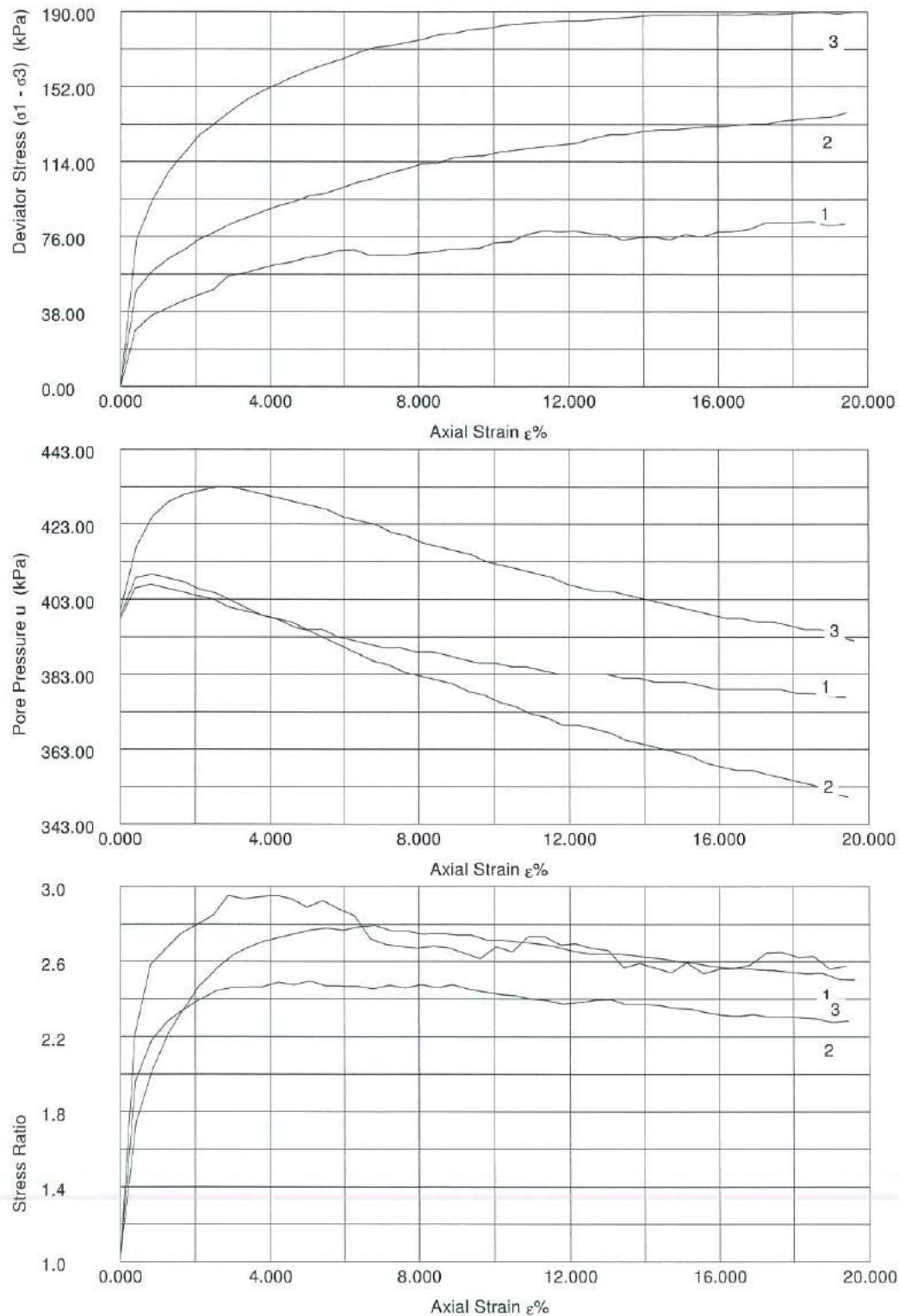
Operator: *[Signature]*

Checked: *[Signature]* 16/9/2015

Approved: *[Signature]* 17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (5.00-5.90m)
Borehole: BH40

Operator:

Checked:

Approved:

[Signature]

[Signature] 16/9/2015

[Signature] 17/9

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 5.00-5.70m
 Description: Yellowish brown mottled dark grey, Slightly gravelly slightly sandy SILT (MADE GROUND)
 Specimen 1
 Sample Type Undisturbed
 Height H_0 (mm) 76
 Diameter D_0 (mm) 38
 Weight W_0 (gr) 151.03
 Bulk Density ρ (Mg/m³) 1.75
 Particle Density ρ_s 2.72 (measured)

Initial Conditions

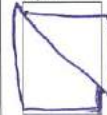
	Stage 1	Stage 2	Stage 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1		
Total Thickness (mm)	0.2		
Strain Channel	10495		
Load Channel	LCM431		
Pore P. Channel	Z21193 (2)		
Volume Channel	925261AB1903		
Moisture Content w_0 %	44		
Dry Density ρ_{d0} (Mg/m ³)	1.21		
Voids Ratio e_0	1.24		
Deg of Saturation S_0 %	97.19		
Final B Value	0.98		

Final Conditions

	Stage 1	Stage 2	Stage 3
Moisture Content w_f %	43		
Dry Density ρ_d (Mg/m ³)	1.23		
Voids Ratio e_f	1.21		
Deg of Saturation S_f %	95.75		
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	2.8	6.1	14.6
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	71.4	103.2	181.8
Minor Stress σ_{3f} (kPa)	20.9	37.9	80.7
Major Stress σ_{1f} (kPa)	92.3	141.1	262.6
Stress Ratio $(\sigma_1/\sigma_3)_f$	4.4	3.7	3.3
A Value A_f	0.140	0.222	0.220

Failure Sketch

Sp 1



Surface Inclination

Shear Stage

	Stage 1	Stage 2	Stage 3
Pore Pressure at Start u_i (kPa)	299	299	299
Pore Pressure at Failure u_f (kPa)	309	322	339



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (5.00,5.70m)
 Borehole: BH41

Operator:

Checked:

Handwritten signature and date: 10/9/2015

Approved:

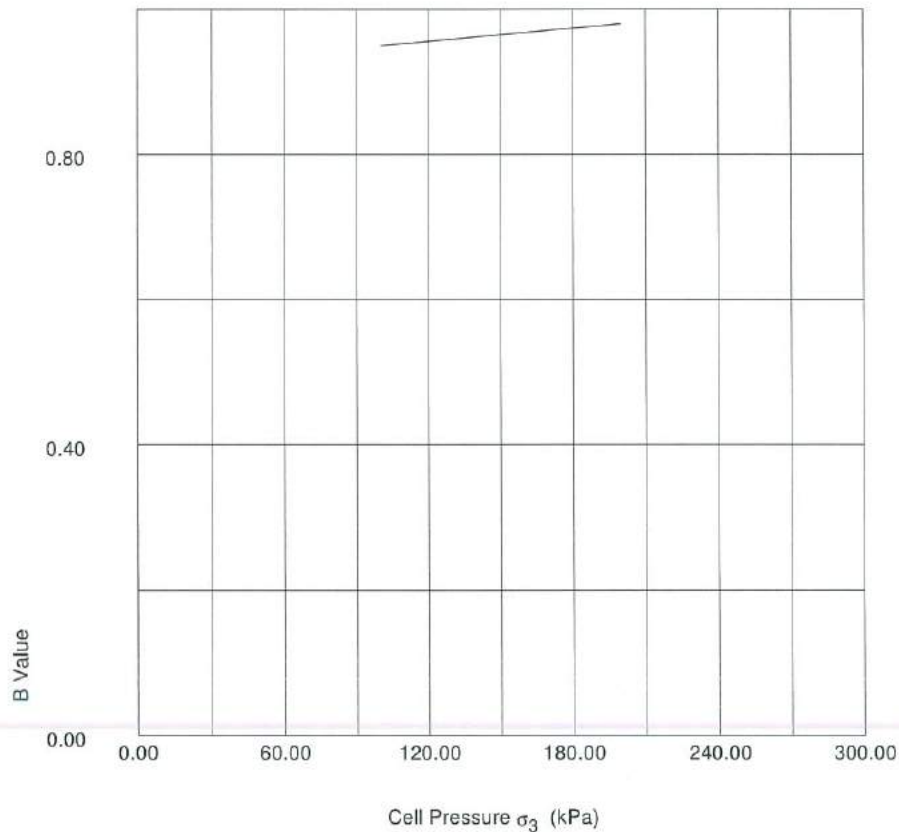
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Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

Test Method:	Stage 1
Final Cell Pressure σ_{3f} (kPa)	Cell P. only
Final Pore Pressure u_f (kPa)	200.00
Final B Value	193.00
	0.98



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (5.00.5.70m)
Borehole: BH41

Operator:

Checked:
10/9/2015

Approved:

17/9

Effective Stress Triaxial Compression

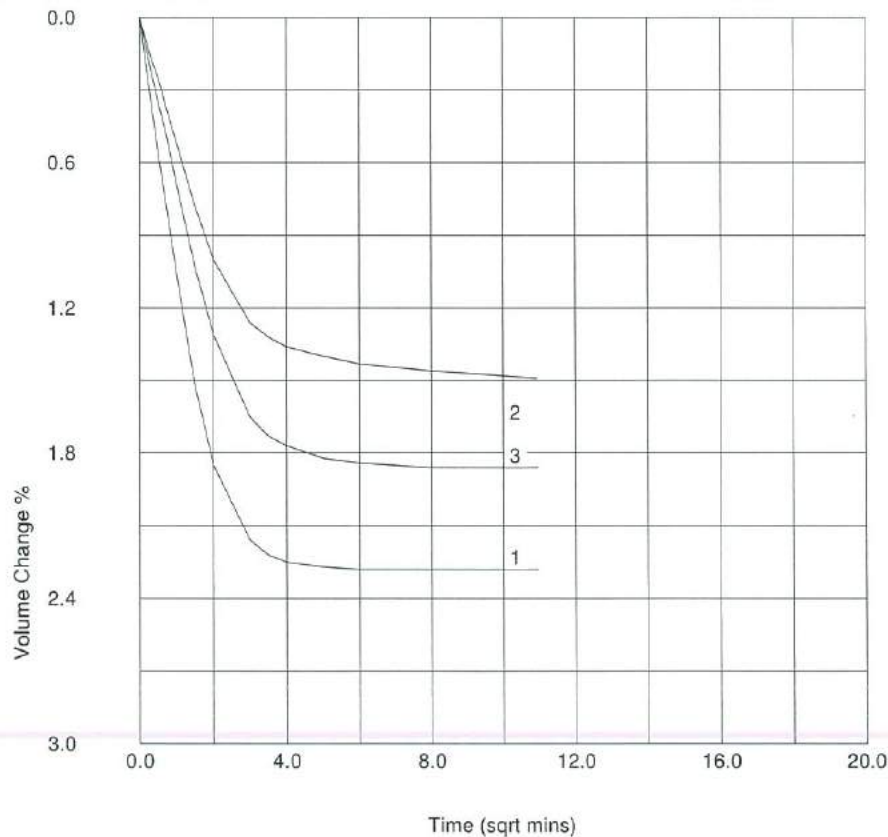
Consolidated Undrained

Consolidation Initial Conditions

	Stage 1	Stage 2	Stage 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	324.00	340.00	384.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Stage 1	Stage 2	Stage 3
Deg of Consolidation U%	100.0	100.0	100.0
Volumetric Strain ϵ_v %	2.6	4.4	6.5
Corr Length L_c (mm)	75.3	72.8	69.9
Corr Area A_c (mm) ²	1114.1	1133.0	1152.4
Corr Volume V_c (cc)	83.9	82.4	80.6
t_{100} (min)	7.00	12.10	9.80
Coef. of Consolidation c_v (m ² /year)	3.404	1.969	2.431
Coef. of Compressibility m_v (m ² /MN)	1.102	1.093	0.778
Testing Time (min) t_f	16.1	27.83	22.54
Est Strain at Failure ϵ_f	5.0	5.0	5.0
Machine Speed d_r (mm/min)	0.23394	0.13073	0.15513



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
Jobfile: CASILAS7518-15.JOB

Sample: TW 2T (5.00,5.70m)
Borehole: BH41

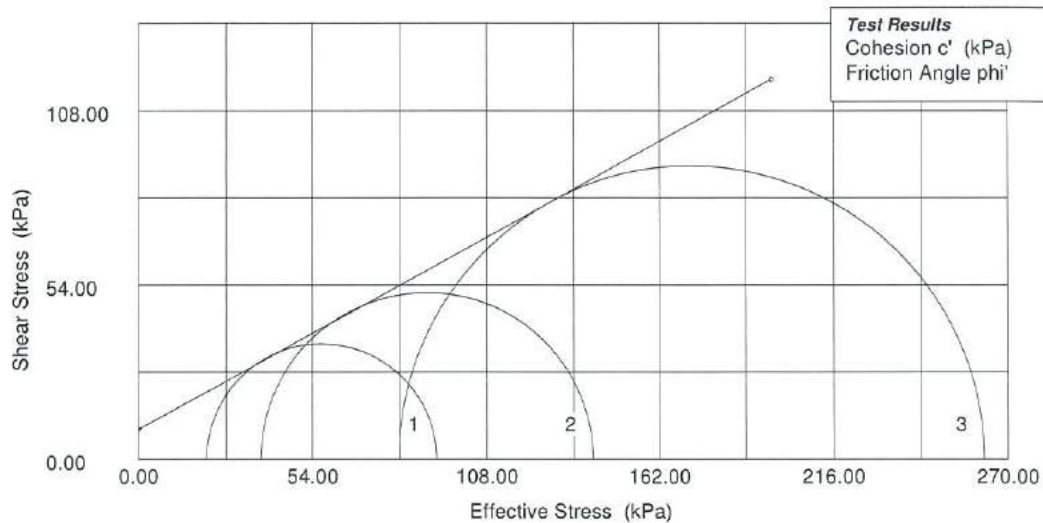
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Checked: *[Signature]* 16/9/2015

Approved: *[Signature]* 17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
Jobfile: CASIL\S7518-15.JOB

Sample: TW 2T (5.00.5.70m)
Borehole: BH41

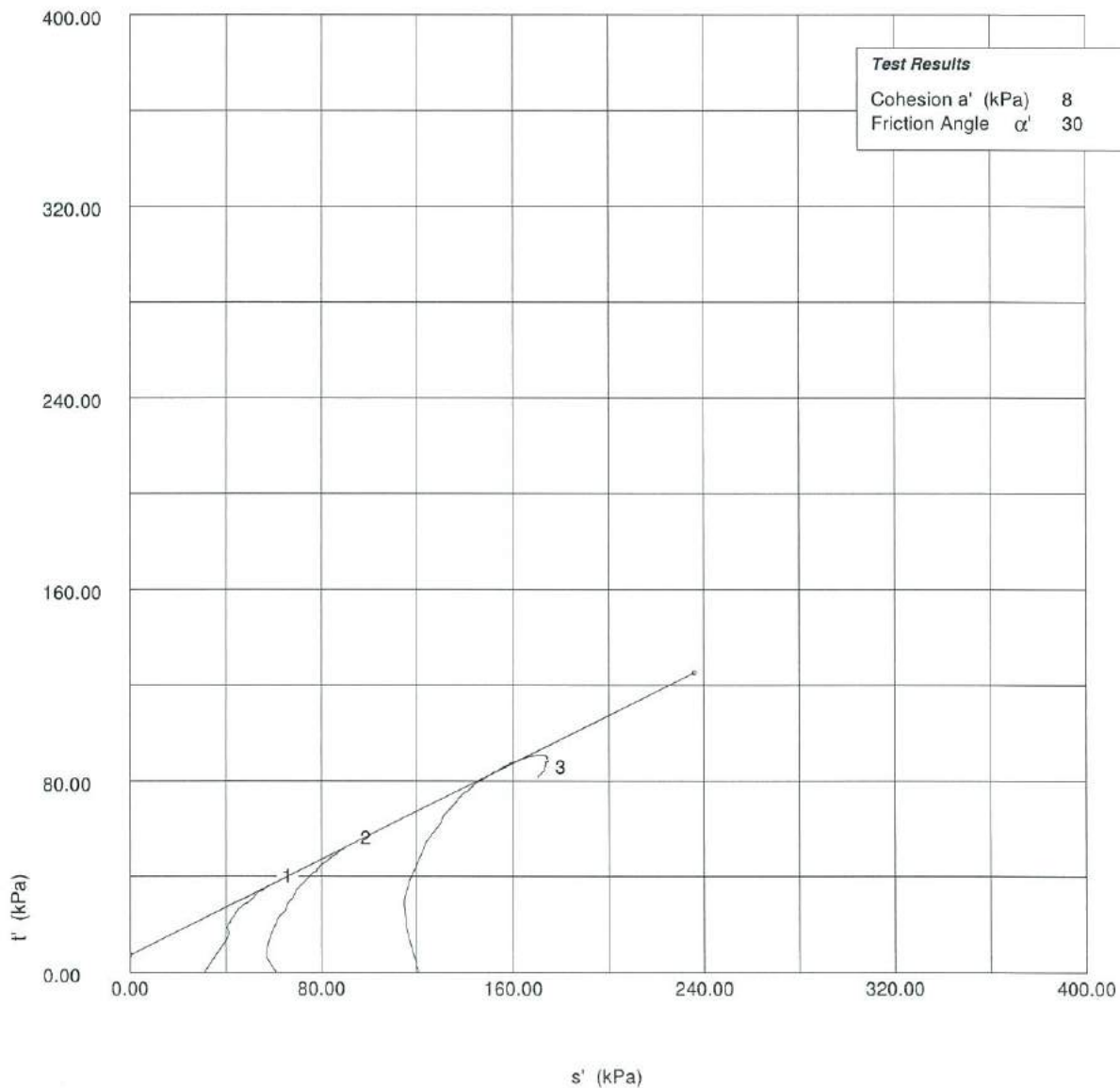
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Approved: *[Signature]* 17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (5.00.5.70m)
Borehole: BH41

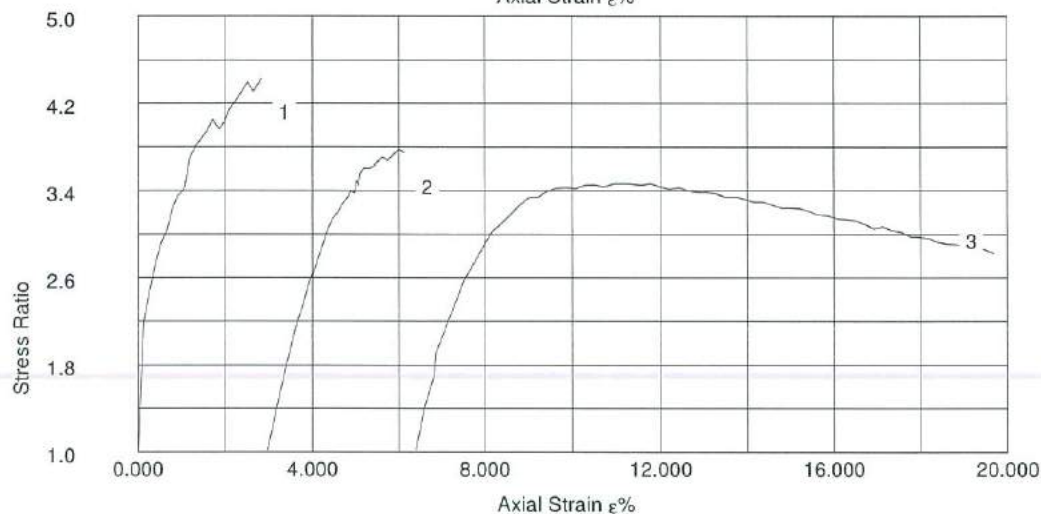
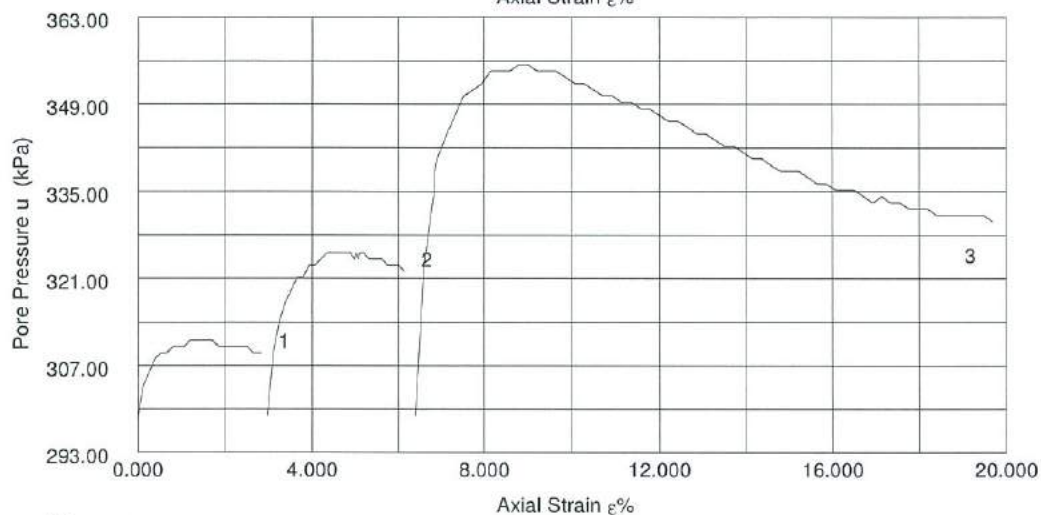
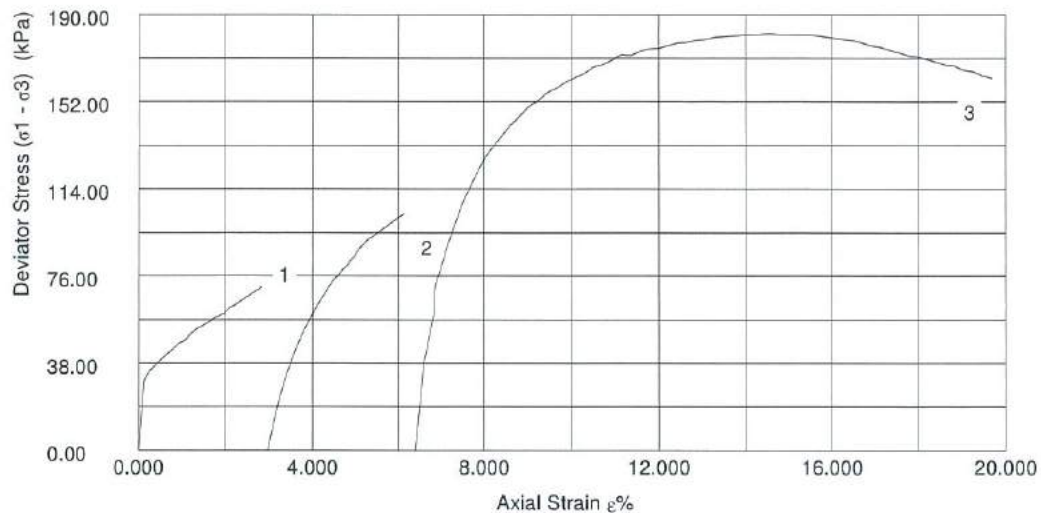
Operator:

Checked: 11/9/2015

Approved:

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 11/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (5.00.5.70m)
Borehole: BH41

Operator:

Checked:

Approved:

[Signature]

[Signature] 11/9/2015

[Signature] 17/9

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.40-4.80m
Description: Grey mottled reddish brown and yellowish brown, Slightly sandy CLAY

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	170.89	173.48	174.19
Bulk Density ρ (Mg/m ³)	1.98	2.01	2.02
Particle Density ρ_s	2.69	2.69	2.69
	(measured)	(measured)	(measured)

Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104M92561A7020710780		
Load Channel	LCM277	58973	58720
Pore P. Channel	64189	Z20893	Z20739 (2)
Volume Channel	925261A63804	925261A73108	925261A81903
Moisture Content w_0 %	26	25	24
Dry Density ρ_{d0} (Mg/m ³)	1.57	1.61	1.64
Voids Ratio e_0	0.72	0.67	0.65
Deg of Saturation S_0 %	99.43	100.00	98.38
Final B Value	0.97	0.96	0.98

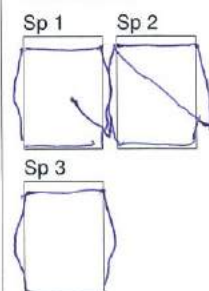
Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	29	26	23
Dry Density ρ_d (Mg/m ³)	1.59	1.65	1.71
Voids Ratio e_f	0.69	0.63	0.58
Deg of Saturation S_f %	100.00	100.00	100.00
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	19.8	19.1	19.2
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	77.8	112.3	146.9
Minor Stress σ_{3f} (kPa)	54.0	91.0	108.0
Major Stress σ_{1f} (kPa)	131.8	203.3	254.9
Stress Ratio $(\sigma_1/\sigma_3)_f$	2.4	2.2	2.4
A Value A_f	-0.296	-0.267	0.088

Shear Stage

Pore Pressure at Start u_i (kPa)	299	299	299
Pore Pressure at Failure u_f (kPa)	299	299	312

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 12/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH45

Operator: *[Signature]*

Checked: *[Signature]*

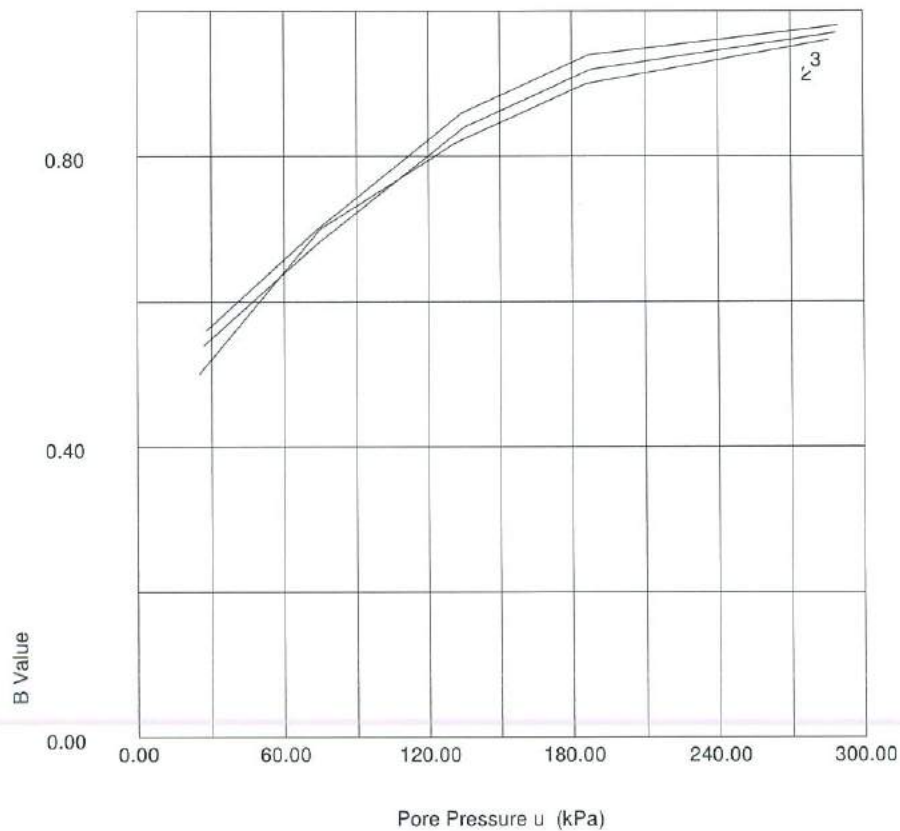
Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	300.00	300.00	300.00
Final Pore Pressure u_f (kPa)	289.00	286.00	290.00
Final B Value	0.97	0.96	0.98



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 12/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH45

Operator: 

Checked: 

Approved: 

Effective Stress Triaxial Compression

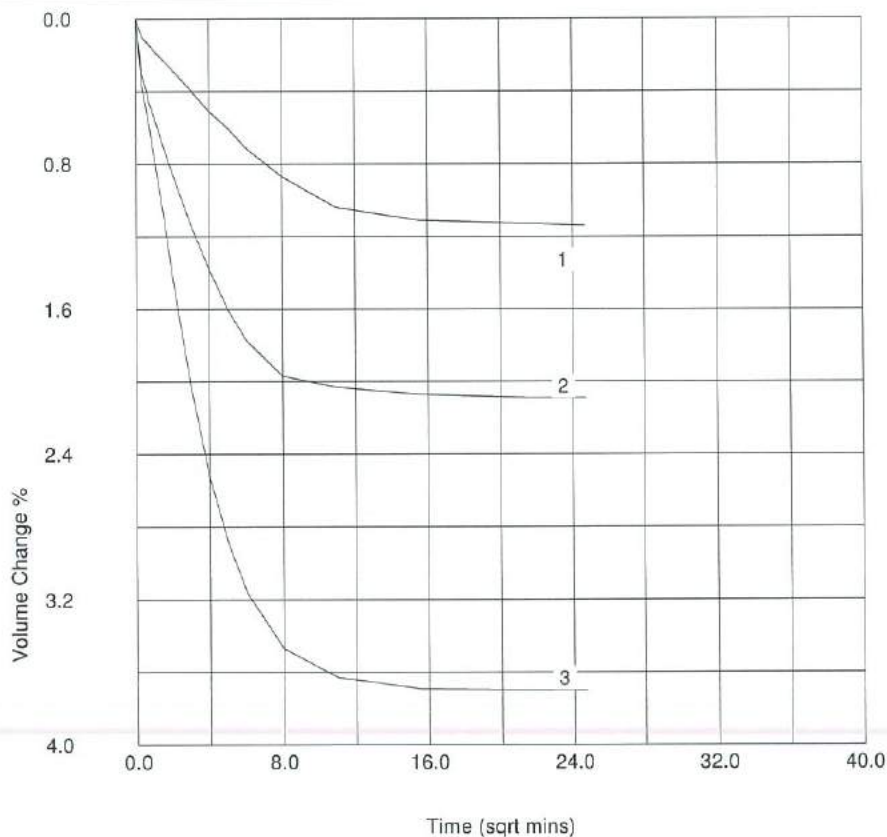
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	320.00	344.00	405.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation $U\%$	100.0	100.0	100.0
Volumetric Strain $\epsilon_v\%$	1.3	2.4	4.3
Corr Length L_c (mm)	75.7	75.4	74.9
Corr Area A_c (mm) ²	1124.1	1115.8	1101.7
Corr Volume V_c (cc)	85.1	84.1	82.5
t_{100} (min)	137.90	57.60	50.00
Coef. of Consolidation c_v (m ² /year)	0.173	0.414	0.477
Coef. of Compressibility m_v (m ² /MN)	0.661	0.551	0.409
Testing Time (min) t_f	317.17	132.48	115
Est Strain at Failure ϵ_f	10.0	10.0	10.0
Machine Speed d_r (mm/min)	0.02386	0.0569	0.06514



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 12/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH45

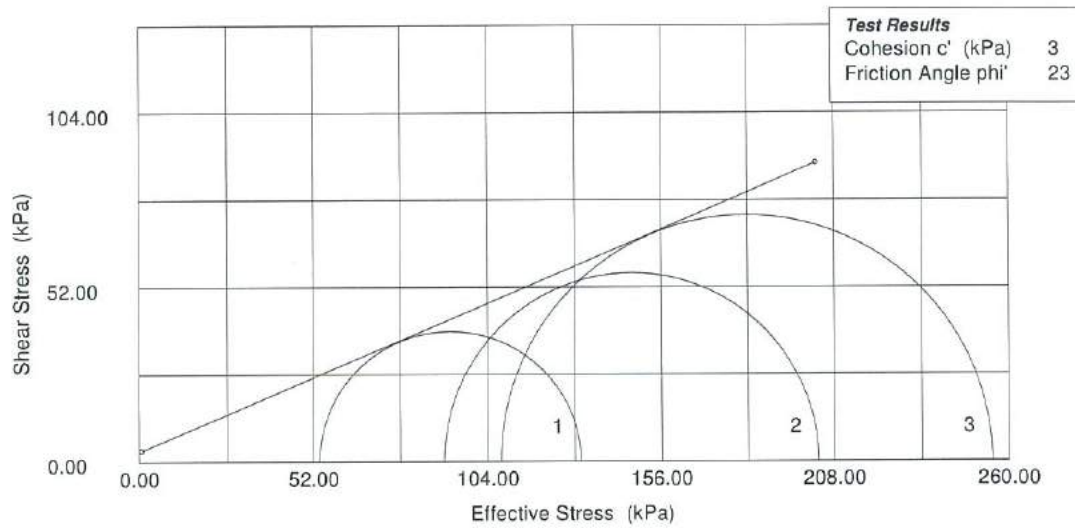
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Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9/15

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 12/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
 Borehole: BH45

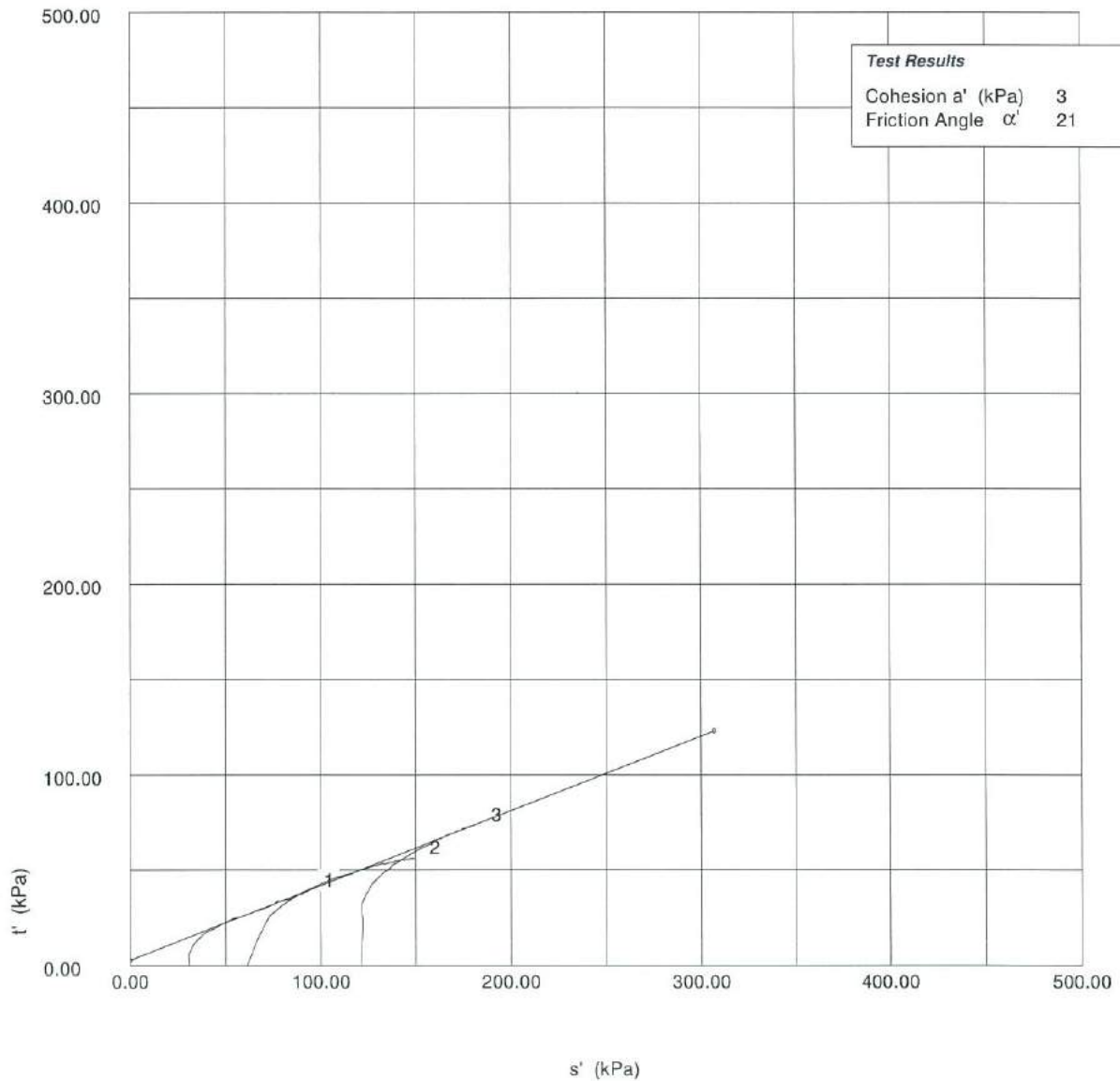
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Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 12/09/15

Site Reference: Lim Chu Kang

Sample: TW 2 (4.00-4.90m)

Jobfile: C:\SIL\S7518-15.JOB

Borehole: BH45

Operator:

[Signature]

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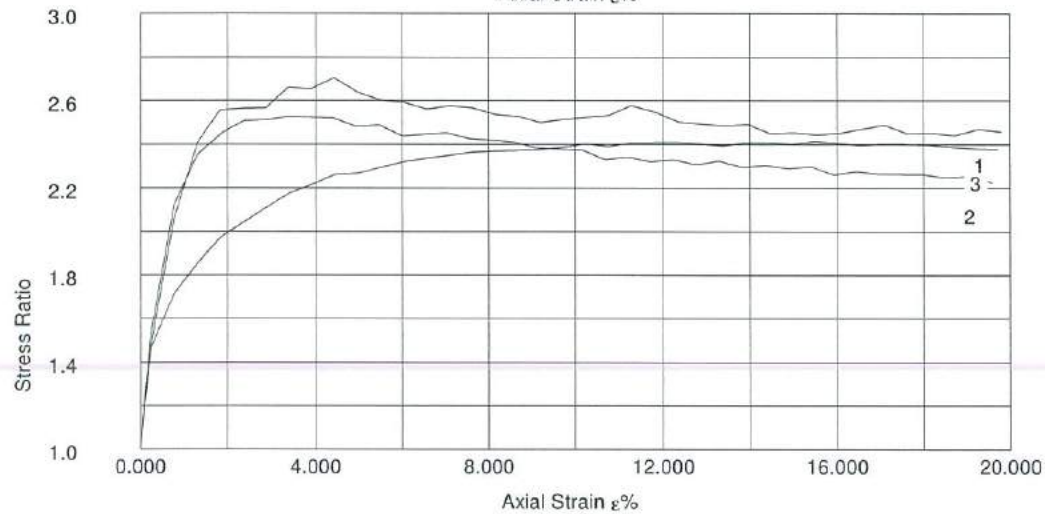
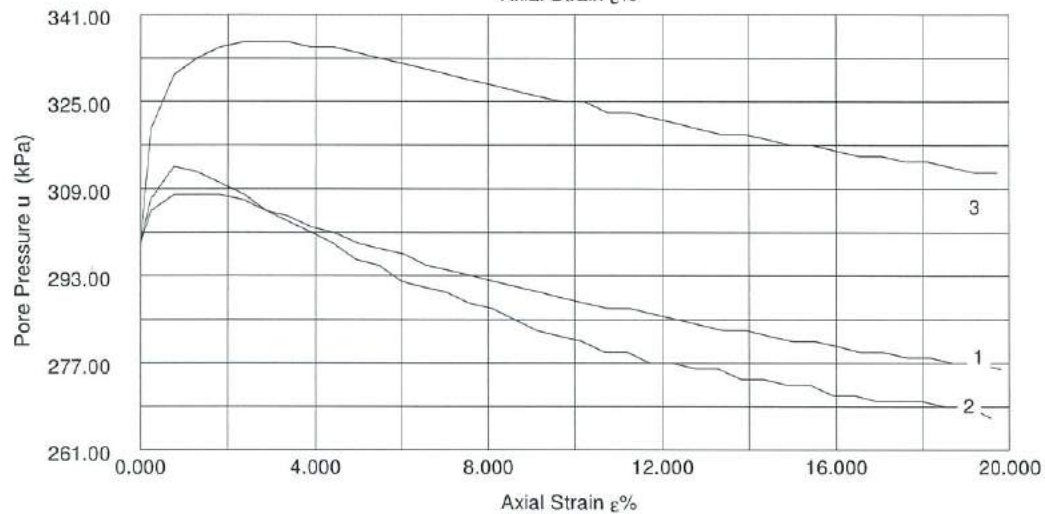
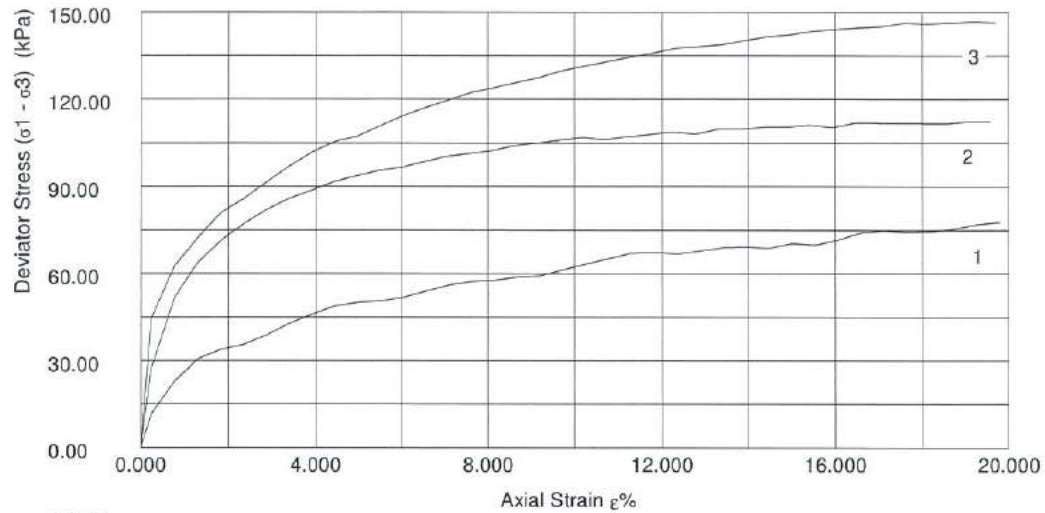
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25/9/15

Approved:

[Signature] 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 12/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH45

Operator: *RB*

Checked: *Handwritten signature*
25/9/15

Approved: *Handwritten signature* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.40-4.80m
Description: Grey spotted dark grey, Slightly sandy CLAY with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	155.73	161.05	163.27
Bulk Density ρ (Mg/m ³)	1.81	1.87	1.89
Particle Density ρ_s	2.69	2.69	2.69
	(measured)	(measured)	(measured)

Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104M92561A7020710780		
Load Channel	LCM277	58973	58720
Pore P. Channel	64189	Z20893	Z20739 (2)
Volume Channel	925261A63804	925261A73108	925261A81903
Moisture Content w_0 %	39	34	33
Dry Density ρ_{d0} (Mg/m ³)	1.30	1.39	1.43
Voids Ratio e_0	1.07	0.94	0.88
Deg of Saturation S_0 %	98.19	99.05	99.29
Final B Value	0.96	0.98	0.97

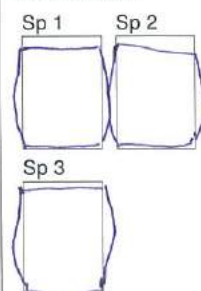
Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	39	32	28
Dry Density ρ_d (Mg/m ³)	1.31	1.44	1.53
Voids Ratio e_f	1.05	0.87	0.76
Deg of Saturation S_f %	100.00	100.00	99.33
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	8.2	15.2	18.9
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	39.9	68.5	105.2
Minor Stress σ_{3f} (kPa)	18.0	42.9	77.0
Major Stress σ_{1f} (kPa)	57.9	111.4	182.2
Stress Ratio $(\sigma_1/\sigma_3)_f$	3.2	2.6	2.4
A Value A_f	0.326	0.277	0.428

Shear Stage

Pore Pressure at Start u_i (kPa)	299	298	298
Pore Pressure at Failure u_f (kPa)	312	317	343

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 14/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH46

Operator: *[Signature]*

Checked: *[Signature]*

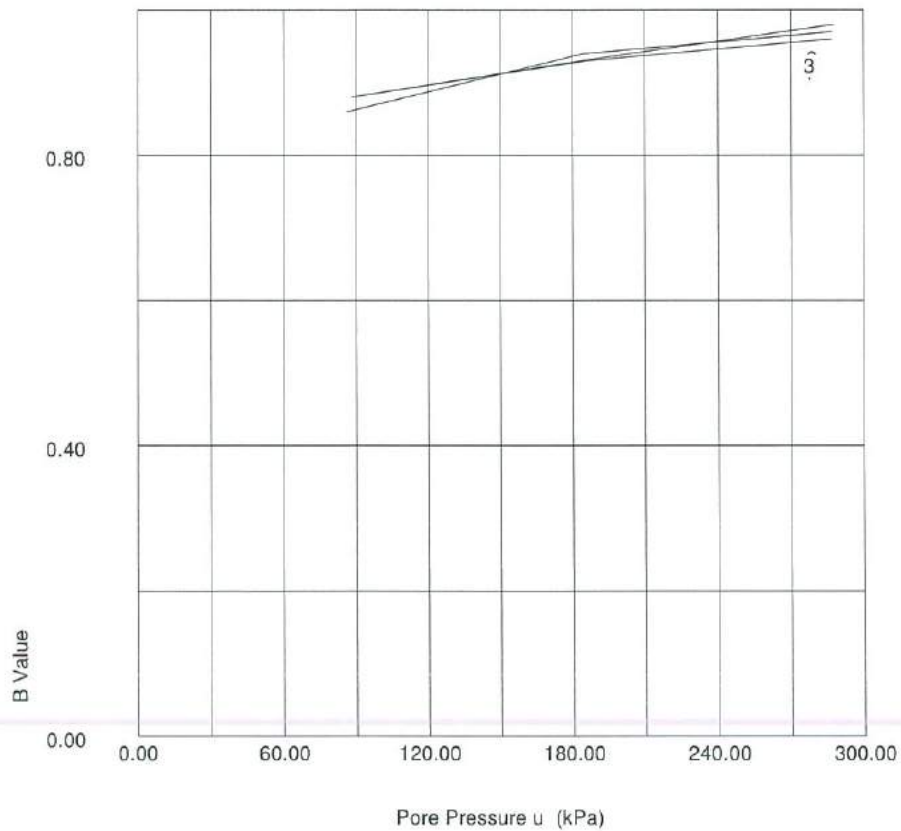
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Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	300.00	300.00	300.00
Final Pore Pressure u_f (kPa)	287.00	288.00	287.00
Final B Value	0.96	0.98	0.97



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 14/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH46

Operator: *[Signature]*

Checked: *[Signature]* 28/9/15

Approved: *[Signature]* 28/9/15

Effective Stress Triaxial Compression

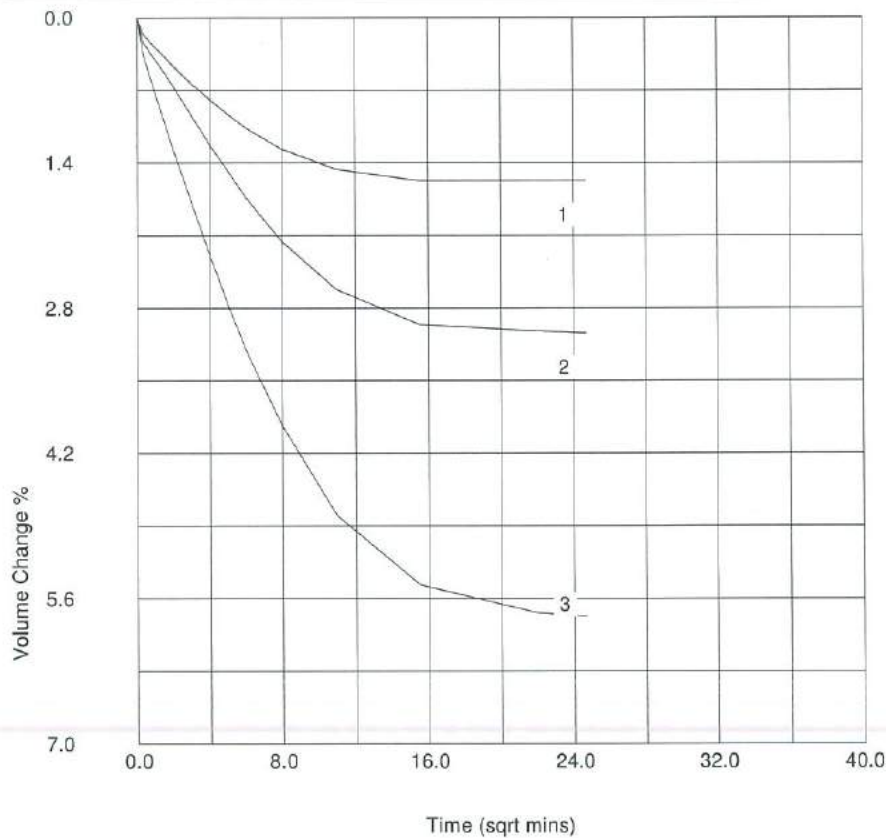
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	319.00	343.00	402.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation $U\%$	100.0	100.0	100.0
Volumetric Strain $\epsilon_v\%$	1.8	3.5	6.7
Corr Length L_c (mm)	75.5	75.1	74.3
Corr Area A_c (mm) ²	1120.3	1107.5	1083.5
Corr Volume V_c (cc)	84.6	83.2	80.5
t_{100} (min)	116.40	162.60	171.80
Coef. of Consolidation c_v (m ² /year)	0.205	0.147	0.139
Coef. of Compressibility m_v (m ² /MN)	0.959	0.820	0.656
Testing Time (min) t_f	267.72	373.98	395.14
Est Strain at Failure ϵ_f	10.0	10.0	10.0
Machine Speed d_r (mm/min)	0.02822	0.02008	0.0188



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 14/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH46

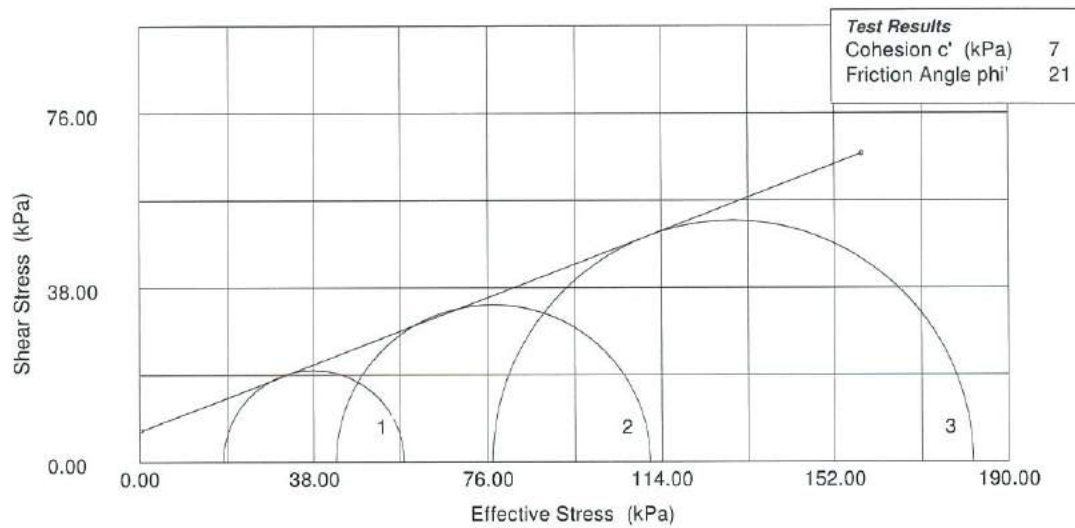
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Checked: *[Signature]* 25/9/15

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 14/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
 Borehole: BH46

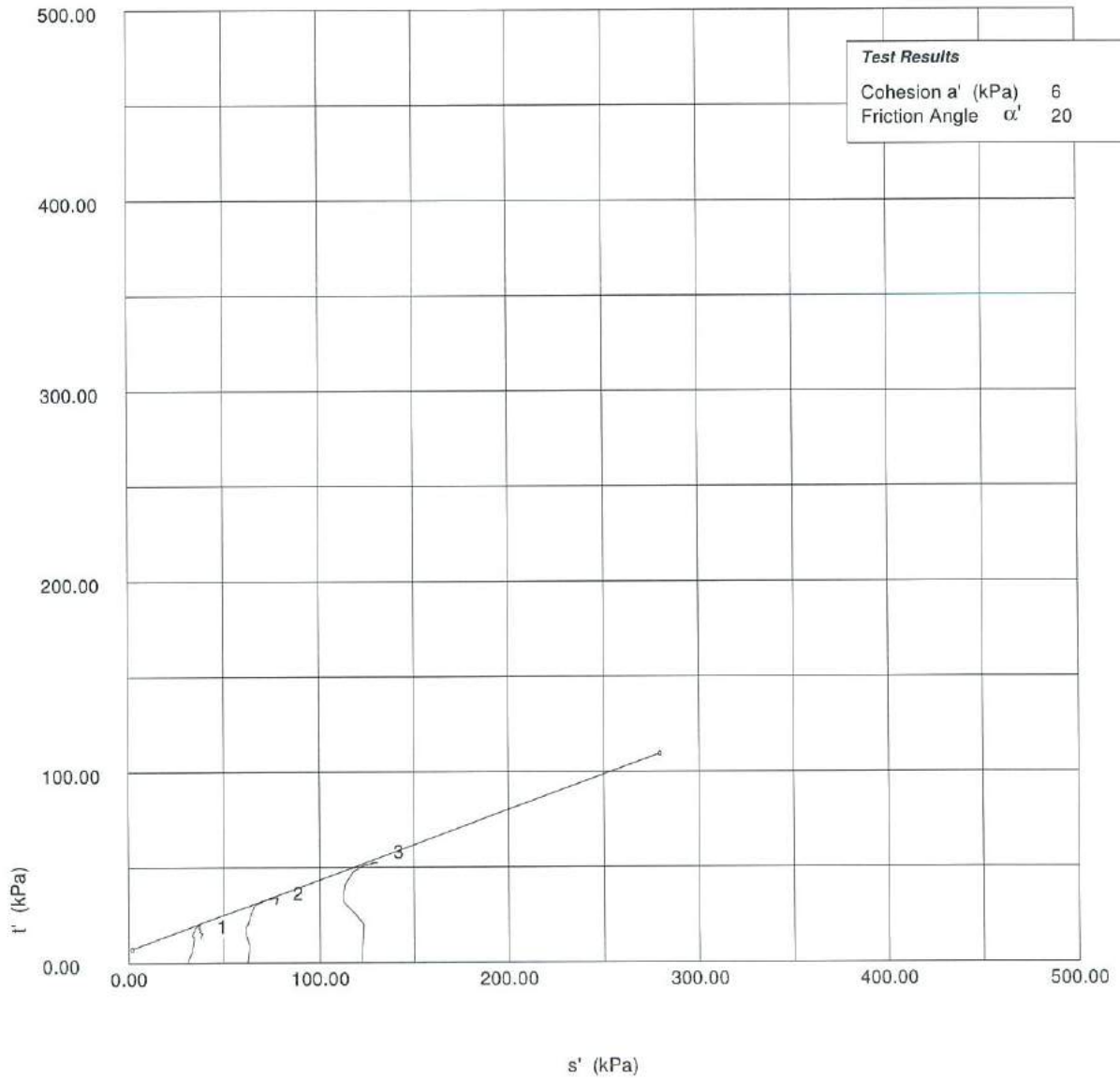
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Checked: *[Signature]* 25/9/15

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 14/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH46

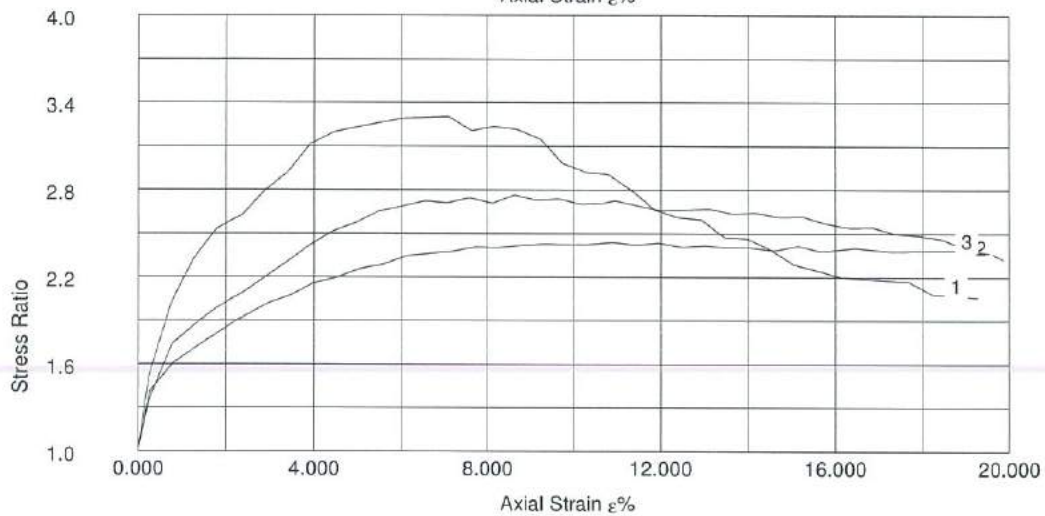
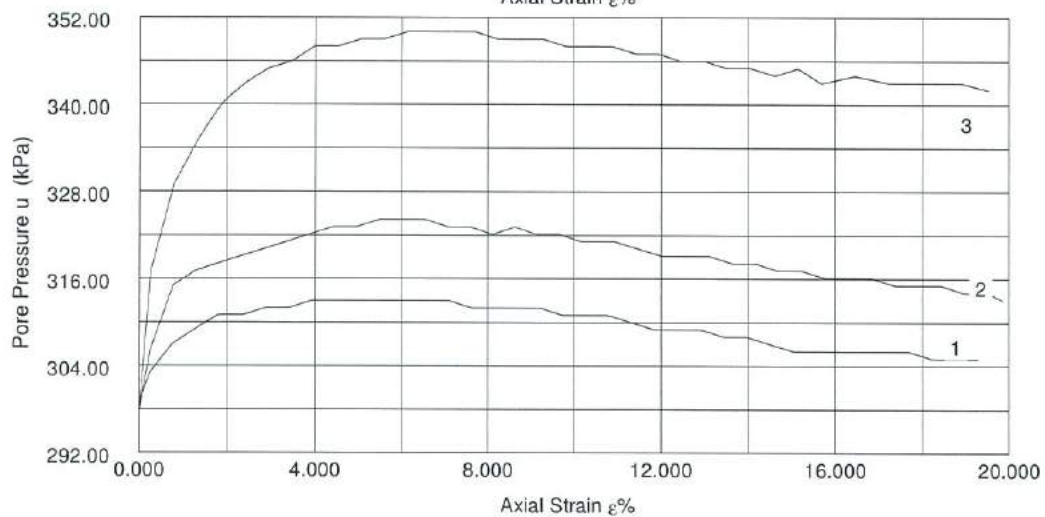
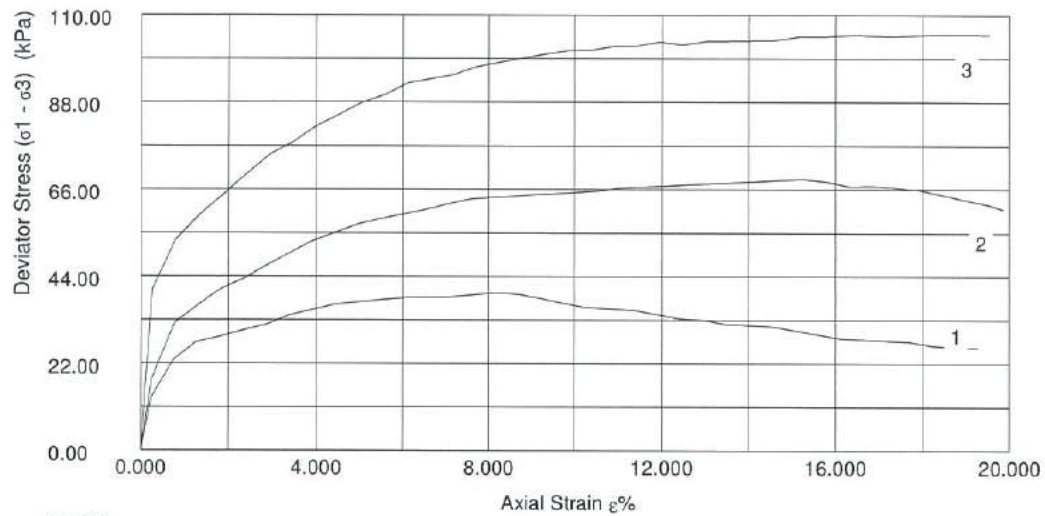
Operator: *[Signature]*

Checked: *[Signature]* 20/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 14/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH46

Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.50-4.90m
Description: Dark grey, Peaty SILT

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	130.83	133.22	137.8
Bulk Density ρ (Mg/m ³)	1.52	1.55	1.60
Particle Density ρ_s	2.49	2.49	2.49
	(measured)	(measured)	(measured)

Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104M92561A7020710780		
Load Channel	LCM277	58973	58720
Pore P. Channel	Z21193 (1)	Z20739 (1)	779999
Volume Channel	925261A73105	925261A74704	925261A81906
Moisture Content w_0 %	65	68	60
Dry Density ρ_{d0} (Mg/m ³)	0.92	0.92	1.00
Voids Ratio e_0	1.71	1.70	1.48
Deg of Saturation S_0 %	94.82	98.98	99.83
Final B Value	0.96	0.96	0.97

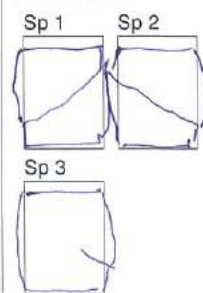
Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	65	63	52
Dry Density ρ_d (Mg/m ³)	0.94	0.98	1.09
Voids Ratio e_f	1.64	1.55	1.28
Deg of Saturation S_f %	99.18	100.00	100.00
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	16.3	10.0	10.2
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	54.0	63.2	113.9
Minor Stress σ_{3f} (kPa)	13.0	23.0	41.0
Major Stress σ_{1f} (kPa)	67.0	86.2	154.9
Stress Ratio $(\sigma_1/\sigma_3)_f$	5.2	3.7	3.8
A Value A_f	0.315	0.585	0.702

Shear Stage

Pore Pressure at Start u_i (kPa)	300	300	299
Pore Pressure at Failure u_f (kPa)	317	337	379

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 15/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH47

Operator:

Checked:

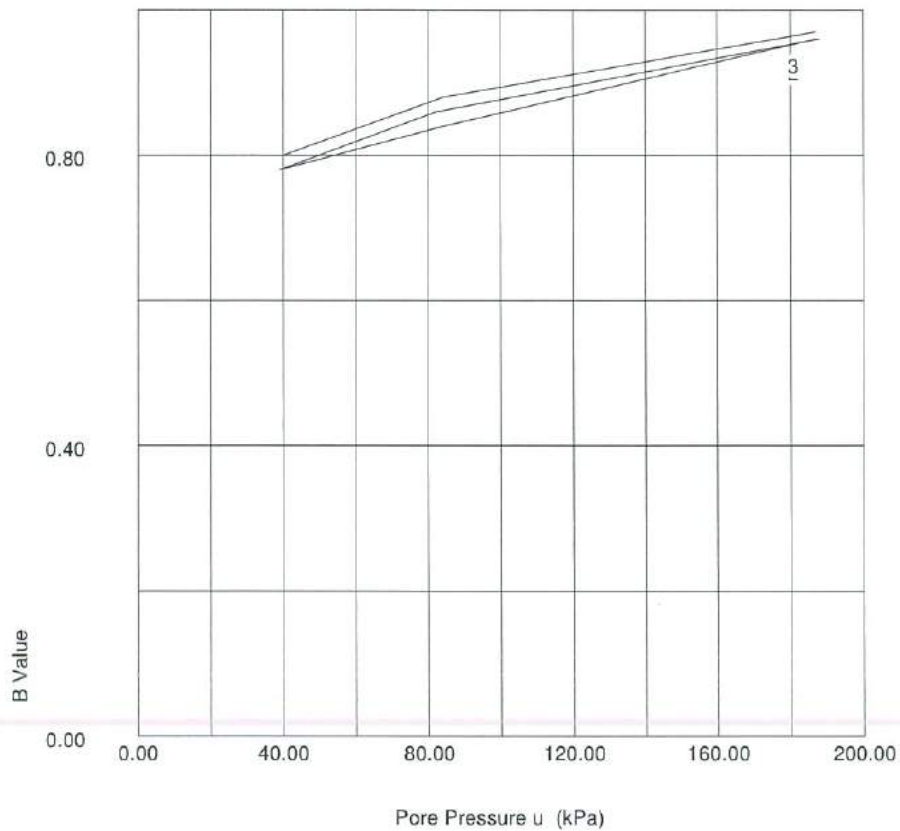
Approved:

Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	200.00	200.00	200.00
Final Pore Pressure u_f (kPa)	188.00	187.00	187.00
Final B Value	0.96	0.96	0.97



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 15/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH47

Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

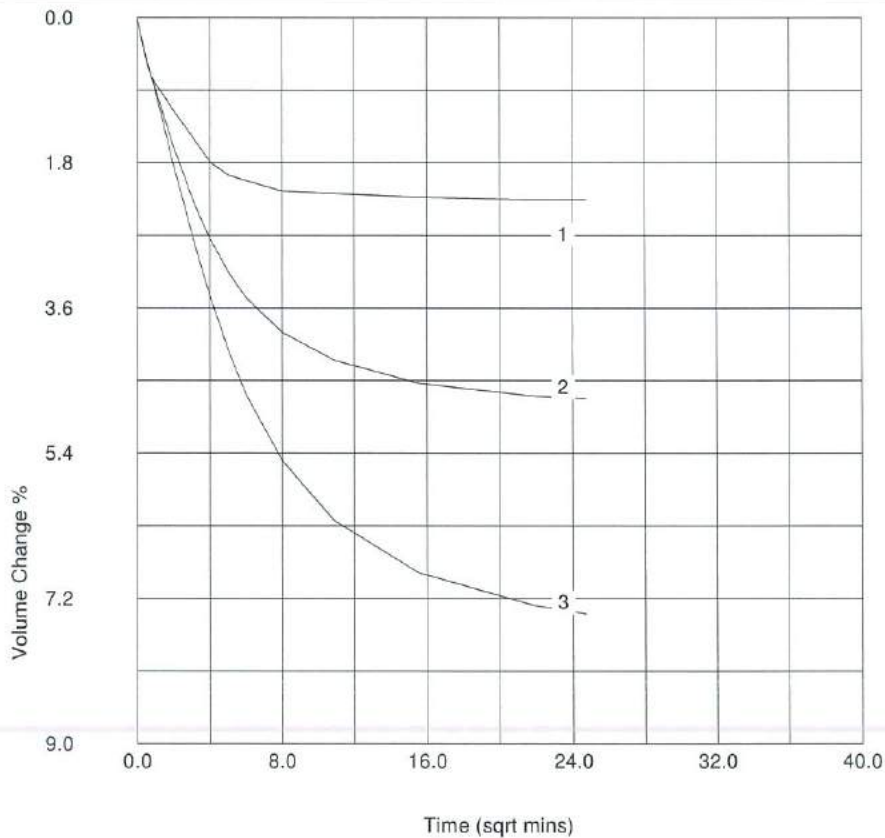
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	323.00	349.00	406.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation $U\%$	100.0	100.0	100.0
Volumetric Strain $\epsilon_v\%$	2.6	5.5	8.6
Corr Length L_c (mm)	75.3	74.6	73.8
Corr Area A_c (mm ²)	1114.3	1092.7	1069.3
Corr Volume V_c (cc)	83.9	81.5	78.9
t_{100} (min)	38.50	71.10	114.00
Coef. of Consolidation c_v (m ² /year)	0.619	0.335	0.209
Coef. of Compressibility m_v (m ² /MN)	1.140	1.117	0.809
Testing Time (min) t_f	88.55	163.53	262.2
Est Strain at Failure ϵ_f	10.0	10.0	10.0
Machine Speed d_r (mm/min)	0.08508	0.04563	0.02816



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 15/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH47

Operator:

[Signature]

Checked:

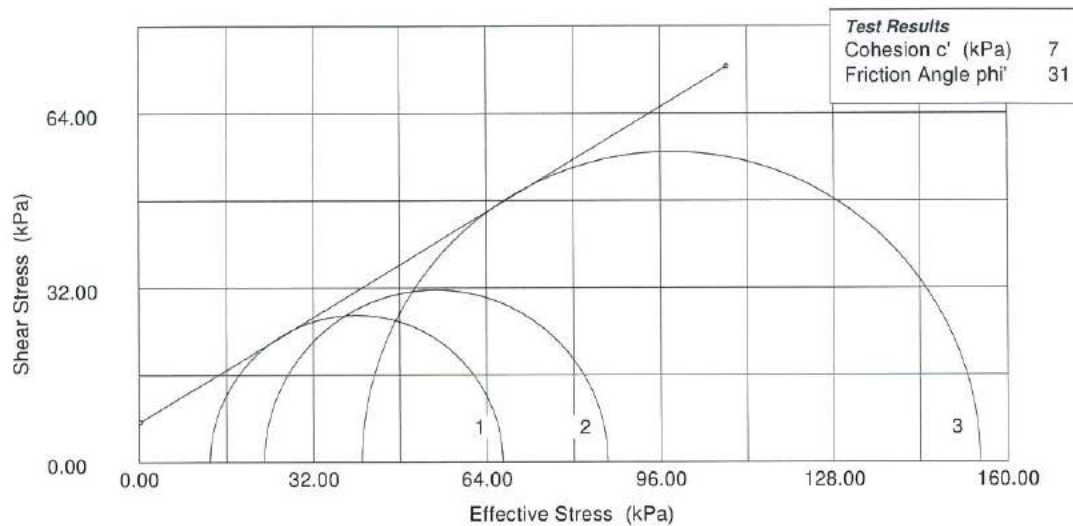
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25/9/15

Approved:

[Signature]
28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 15/09/15

Site Reference: Lim Chu Kang

Sample: TW 2 (4.00-4.90m)

Jobfile: C:\SIL\S7518-15.JOB

Borehole: BH47

Operator:

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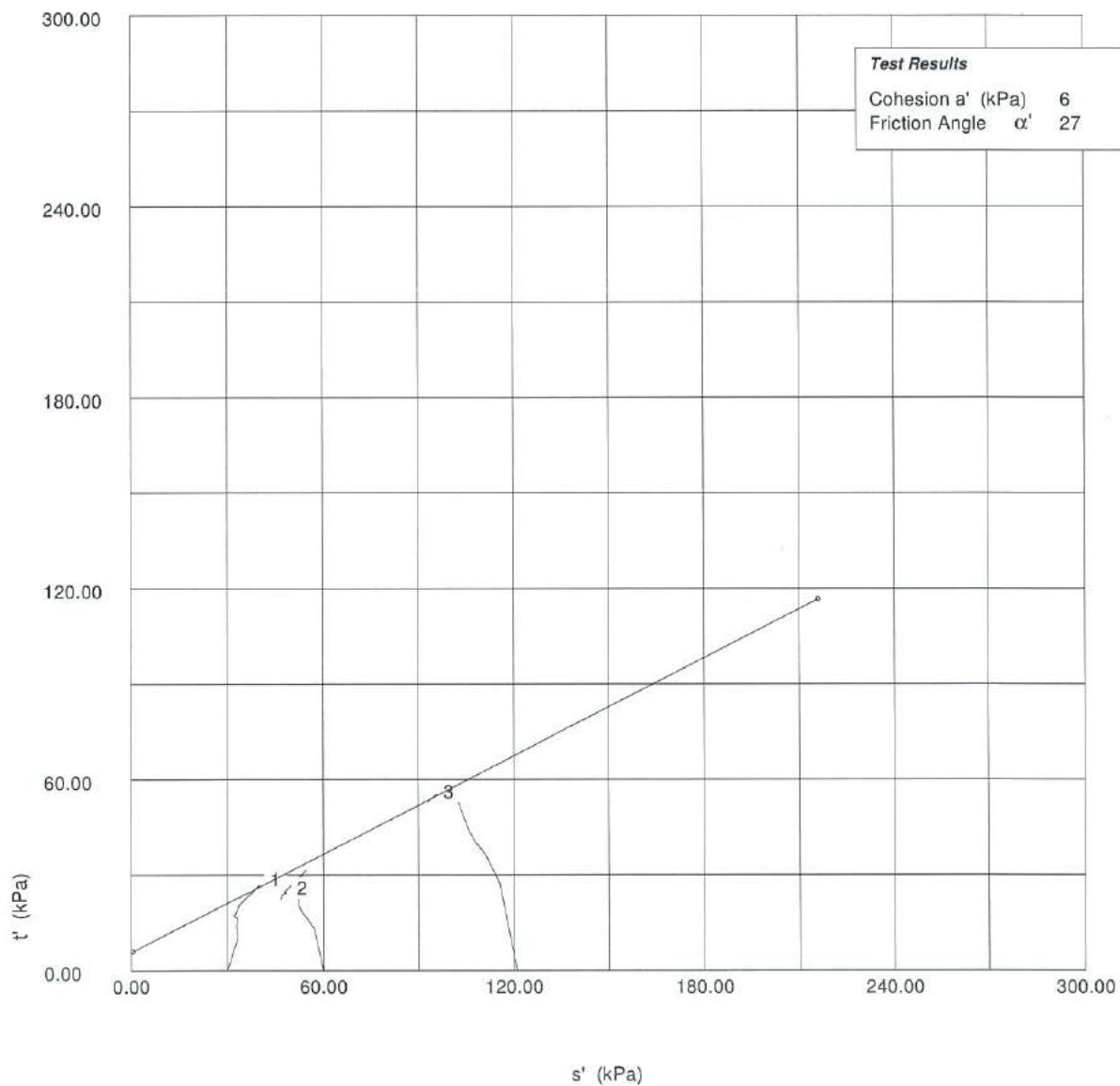
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25/9/15

Approved:

[Signature]
28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 15/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH47

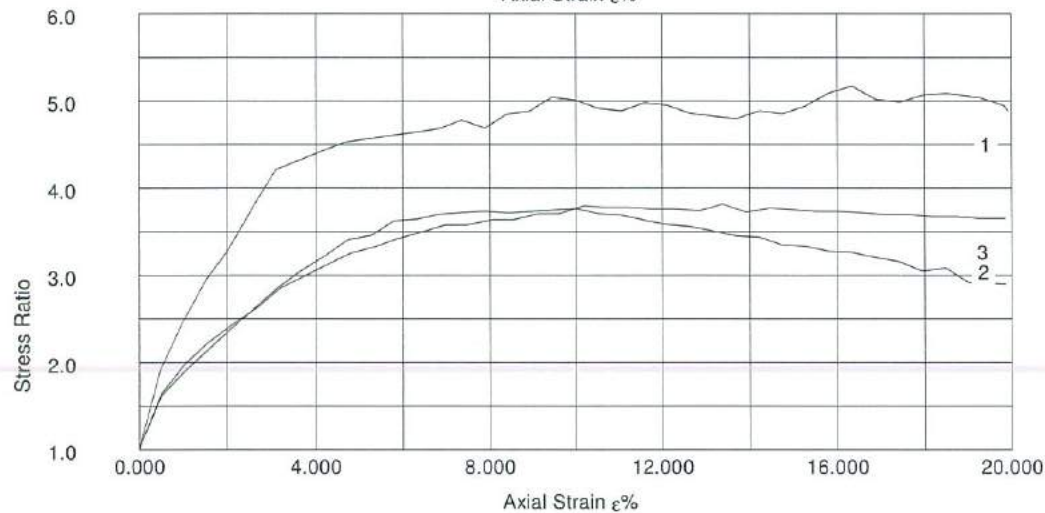
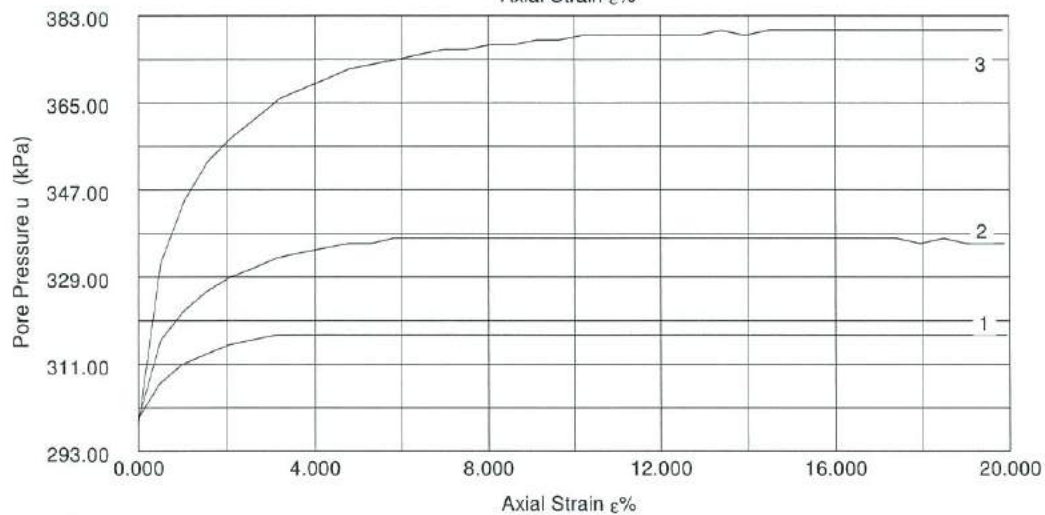
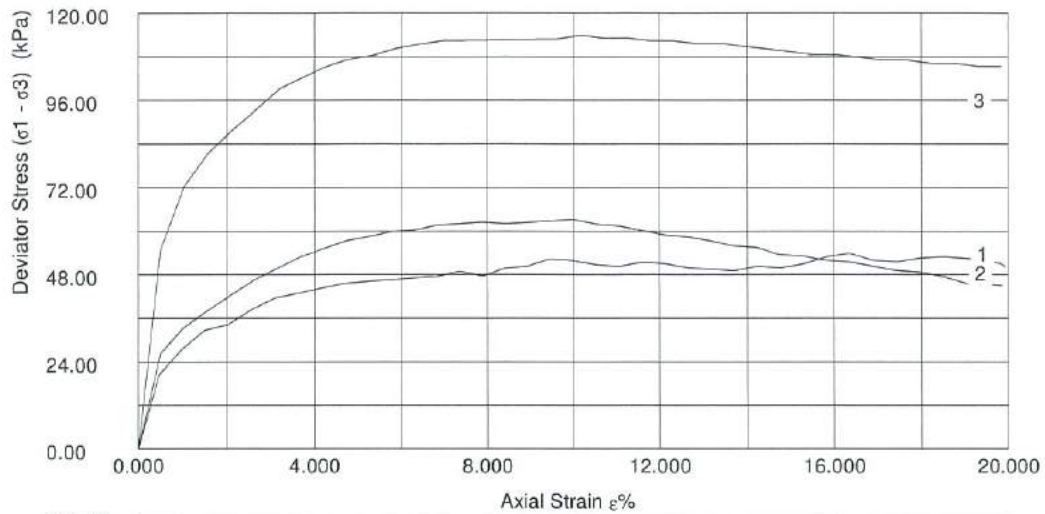
Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 15/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH47

Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.00-4.50m
Description: Dark grey, Peaty SILT with traces of sand

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	118.65	120.49	147.55
Bulk Density ρ (Mg/m ³)	1.38	1.40	1.71
Particle Density ρ_s	2.48	2.48	2.48
	(measured)	(measured)	(measured)

Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104M92561A7020710780		
Load Channel	LCM277	58973	58720
Pore P. Channel	Z21193 (1)	Z20739 (1)	779999
Volume Channel	925261A73105	925261A74704	925261A81906
Moisture Content w_0 %	94	93	46
Dry Density ρ_{d0} (Mg/m ³)	0.71	0.73	1.17
Voids Ratio e_0	2.50	2.42	1.11
Deg of Saturation S_0 %	93.58	95.07	100.00
Final B Value	0.96	0.96	0.97

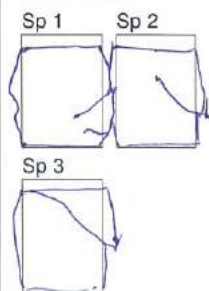
Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	24	24	20
Dry Density ρ_d (Mg/m ³)	1.70	1.77	1.86
Voids Ratio e_f	0.46	0.40	0.34
Deg of Saturation S_f %	100.00	100.00	100.00
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	9.9	10.5	11.4
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	53.6	79.1	114.8
Minor Stress σ_{3f} (kPa)	12.0	18.0	45.0
Major Stress σ_{1f} (kPa)	65.6	97.1	159.8
Stress Ratio $(\sigma_1/\sigma_3)_f$	5.5	5.4	3.6
A Value A_f	0.373	0.544	0.688

Shear Stage

Pore Pressure at Start u_i (kPa)	299	299	298
Pore Pressure at Failure u_f (kPa)	319	342	377

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
Borehole: BH48

Operator:

Checked:

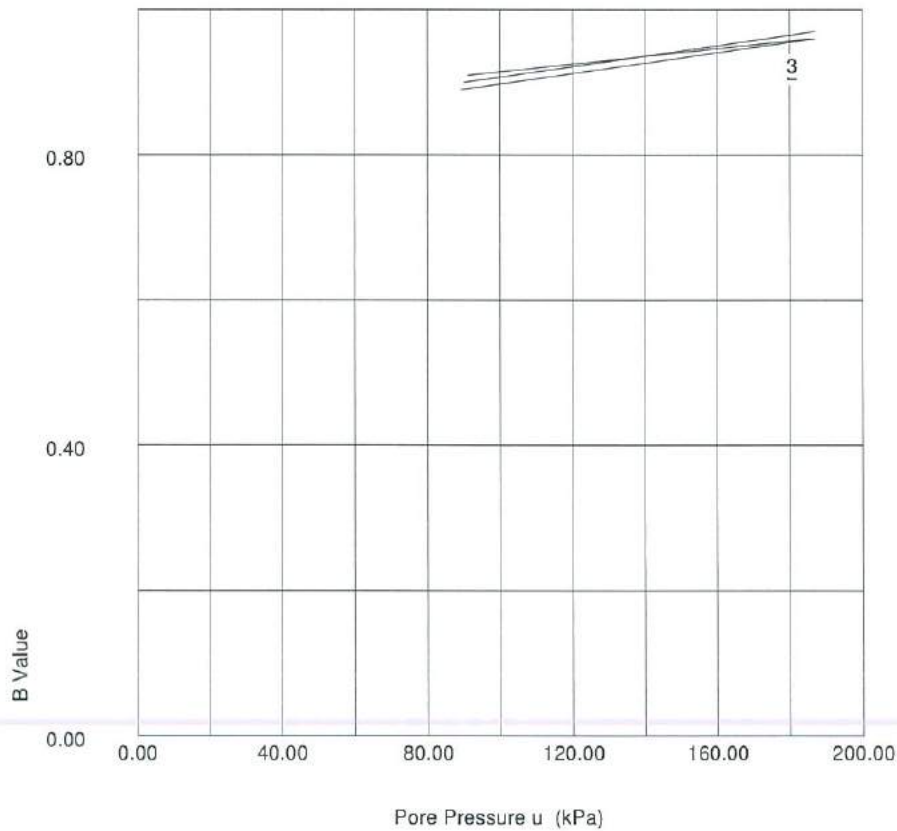
Approved:

Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	200.00	200.00	200.00
Final Pore Pressure u_f (kPa)	186.00	187.00	187.00
Final B Value	0.96	0.96	0.97



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
Borehole: BH48

Operator:

Checked: 25/9/15

Approved:

Effective Stress Triaxial Compression

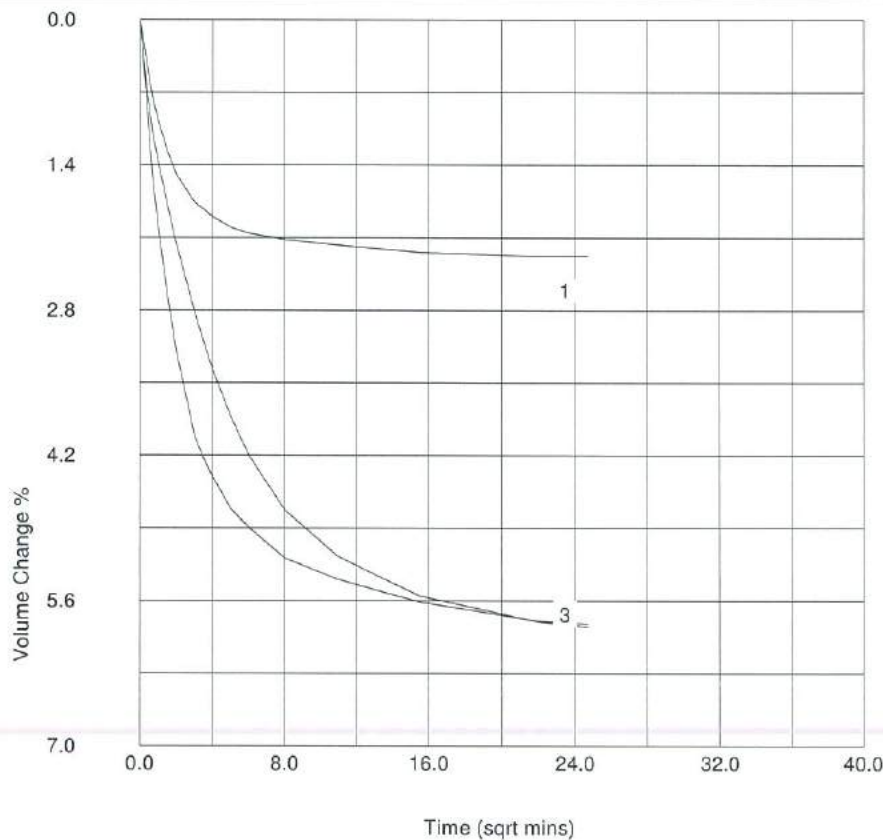
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	320.00	343.00	398.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation U%	100.0	100.0	100.0
Volumetric Strain $\varepsilon_v\%$	2.6	6.8	6.8
Corr Length L_c (mm)	75.3	74.3	74.3
Corr Area A_c (mm) ²	1114.1	1083.1	1082.8
Corr Volume V_c (cc)	83.9	80.5	80.4
t_{100} (min)	12.40	24.40	85.30
Coef. of Consolidation c_v (m ² /year)	1.921	0.976	0.279
Coef. of Compressibility m_v (m ² /MN)	1.323	1.570	0.692
Testing Time (min) t_f	28.52	56.12	196.19
Est Strain at Failure ε_f	10.0	10.0	10.0
Machine Speed d_r (mm/min)	0.26413	0.13238	0.03786



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
Borehole: BH48

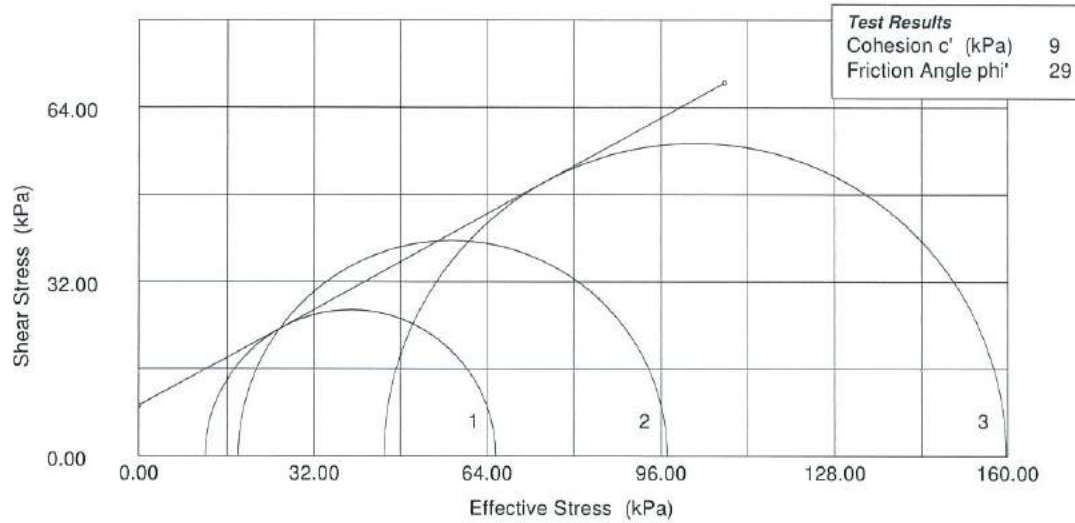
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Checked: *[Signature]* 25/9/15

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
 Borehole: BH48

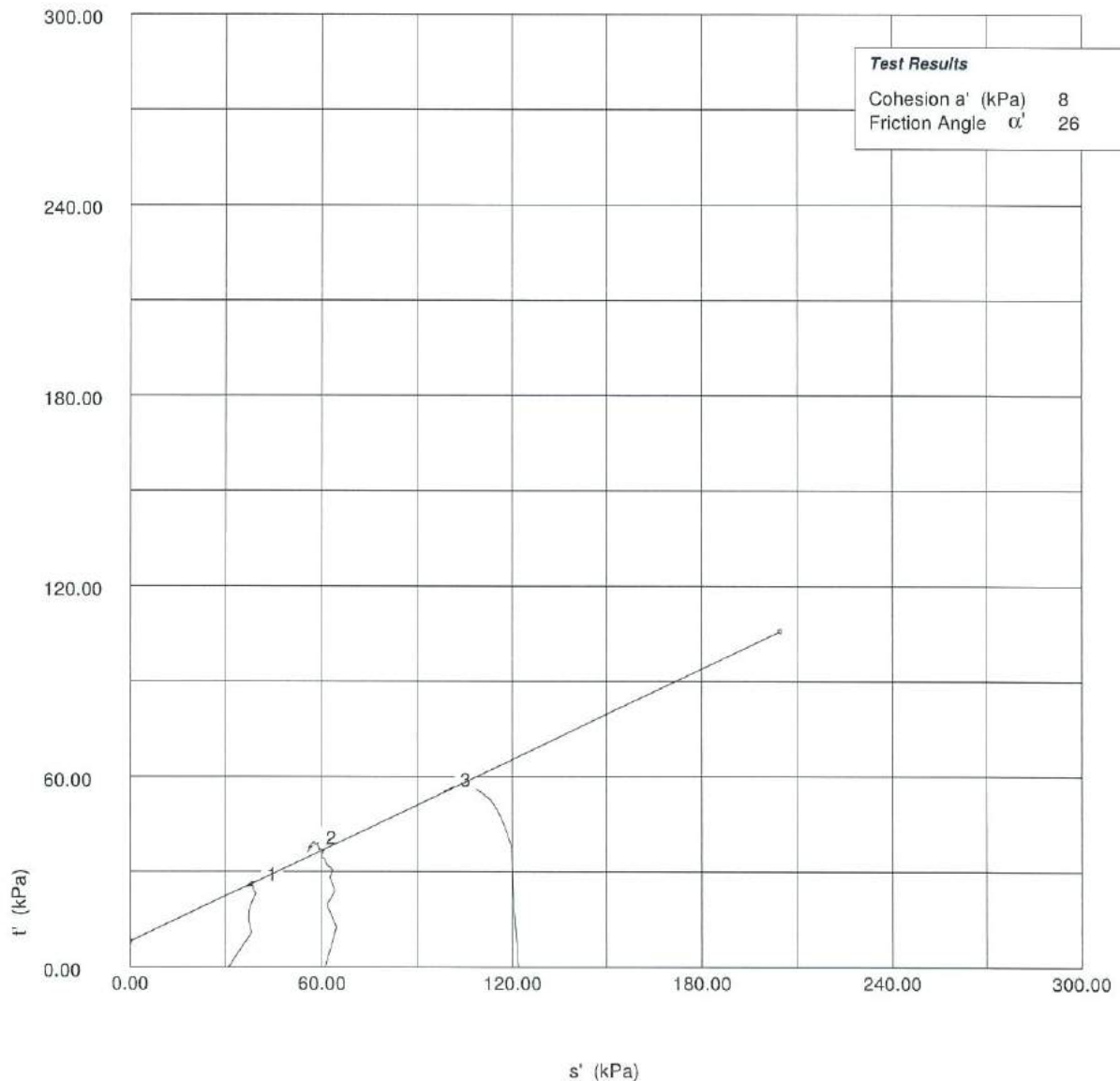
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Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
Borehole: BH48

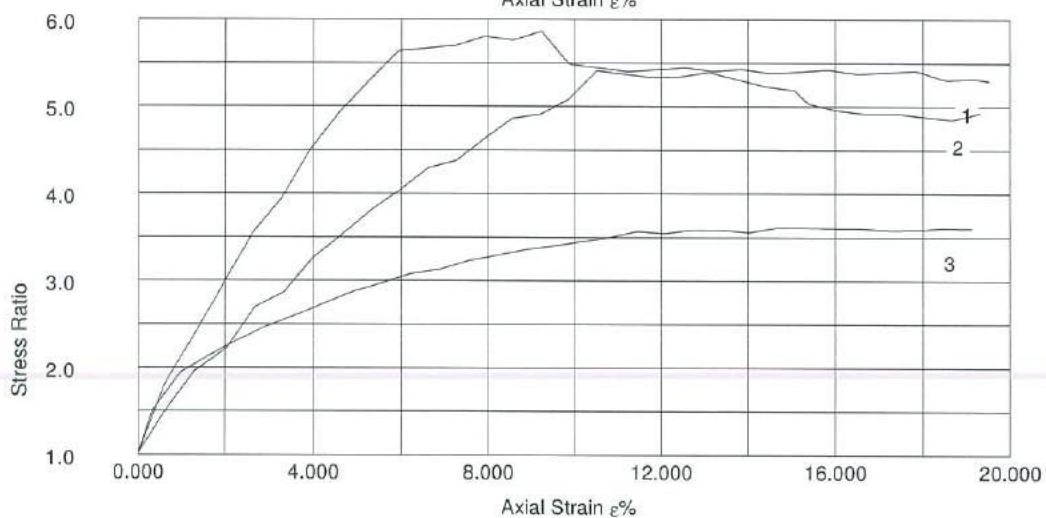
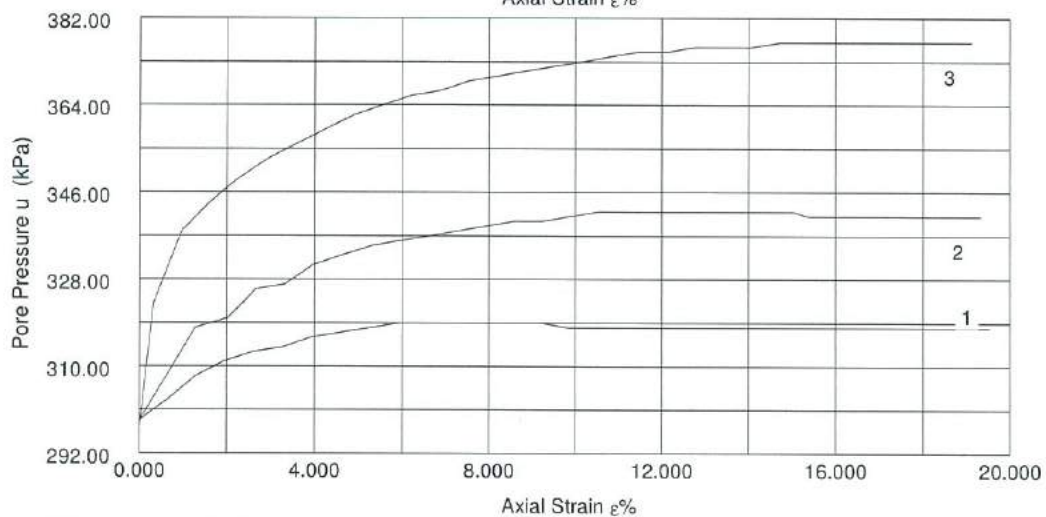
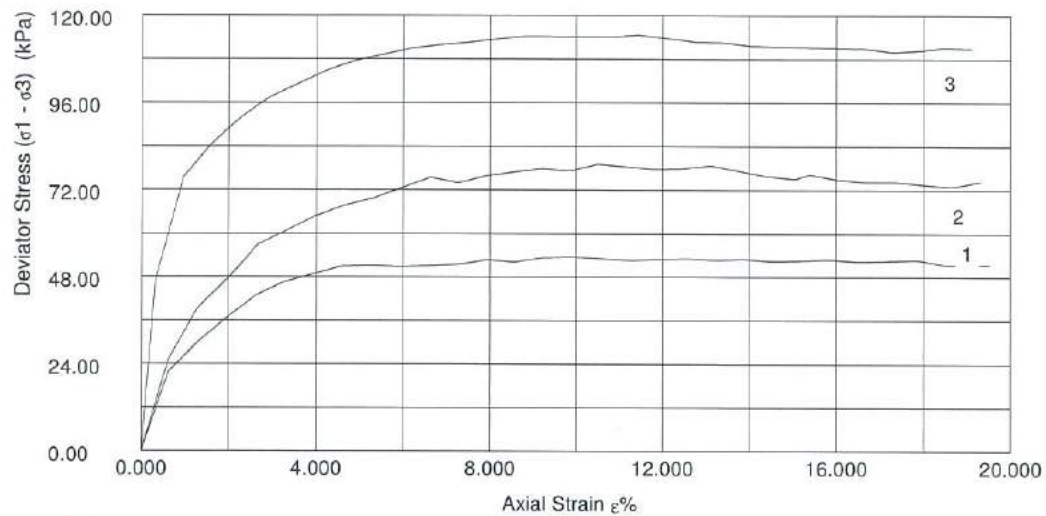
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Checked: *[Signature]* 23/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
Borehole: BH48

Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.50-6.90m
Description: Light grey spotted dark grey, Slightly sandy CLAY with traces of peat

	Specimen 1	Specimen 2	Specimen 3
Sample Type	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	175.72	176.22	179.5
Bulk Density ρ (Mg/m ³)	2.04	2.04	2.08
Particle Density ρ_s	2.7	2.7	2.7
	(measured)	(measured)	(measured)

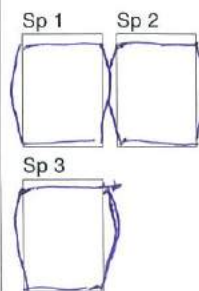
Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	335.00	370.00	440.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104M92561A7020710780		
Load Channel	LCM277 58973 58720		
Pore P. Channel	64189 Z20893 Z20739 (2)		
Volume Channel	925261A63804 925261A73108 925261A81903		
Moisture Content w_0 %	23	24	20
Dry Density ρ_{d0} (Mg/m ³)	1.66	1.65	1.73
Voids Ratio e_0	0.63	0.63	0.56
Deg of Saturation S_0 %	98.50	100.00	97.75
Final B Value	0.98	0.96	0.96

Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	24	24	20
Dry Density ρ_d (Mg/m ³)	1.68	1.70	1.80
Voids Ratio e_f	0.61	0.59	0.50
Deg of Saturation S_f %	100.00	100.00	100.00
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	18.8	19.6	18.4
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	86.4	99.5	182.7
Minor Stress σ_{3f} (kPa)	58.0	82.0	128.0
Major Stress σ_{1f} (kPa)	144.4	181.5	310.7
Stress Ratio $(\sigma_1/\sigma_3)_f$	2.5	2.2	2.4
A Value A_f	-0.243	-0.090	0.071

Failure Sketch



Surface Inclination

Shear Stage

Pore Pressure at Start u_i (kPa)	299	298	299
Pore Pressure at Failure u_f (kPa)	278	289	312



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH49

Operator: *[Signature]*

Checked: *[Signature]*

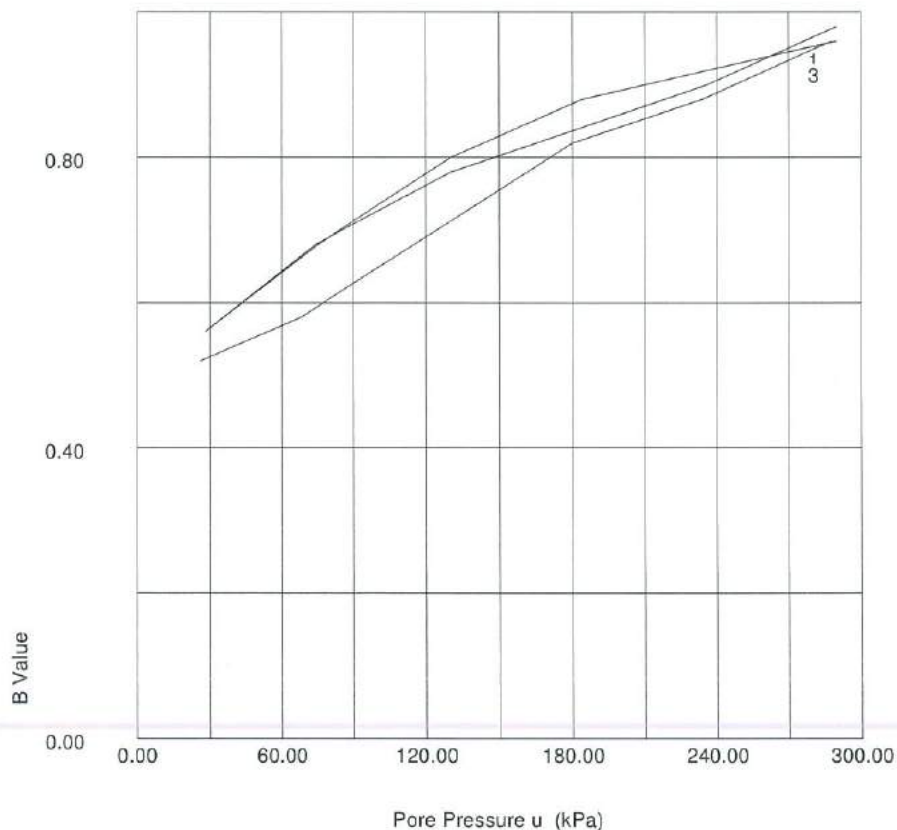
Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	300.00	300.00	300.00
Final Pore Pressure u_f (kPa)	290.00	288.00	290.00
Final B Value	0.98	0.96	0.96



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: CASIL\57518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH49

Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9/15

Effective Stress Triaxial Compression

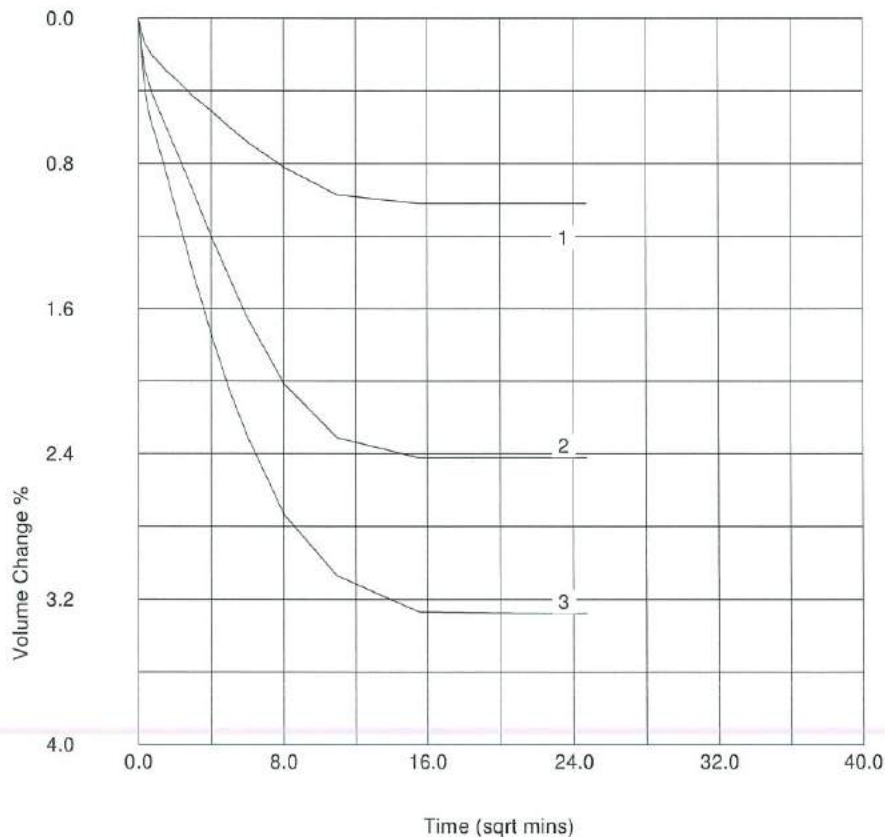
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	335.00	370.00	440.00
Pore Pressure u_1 (kPa)	323.00	355.00	425.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation $U\%$	100.0	100.0	100.0
Volumetric Strain $\epsilon_v\%$	1.2	2.8	3.8
Corr Length L_c (mm)	75.7	75.3	75.0
Corr Area A_c (mm) ²	1125.2	1112.9	1105.4
Corr Volume V_c (cc)	85.2	83.8	82.9
t_{100} (min)	144.10	116.80	97.50
Coef. of Consolidation c_v (m ² /year)	0.165	0.204	0.244
Coef. of Compressibility m_v (m ² /MN)	0.514	0.510	0.304
Testing Time (min) t_f	331.43	268.64	224.25
Est Strain at Failure ϵ_f	10.0	10.0	10.0
Machine Speed d_f (mm/min)	0.02284	0.02803	0.03346



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH49

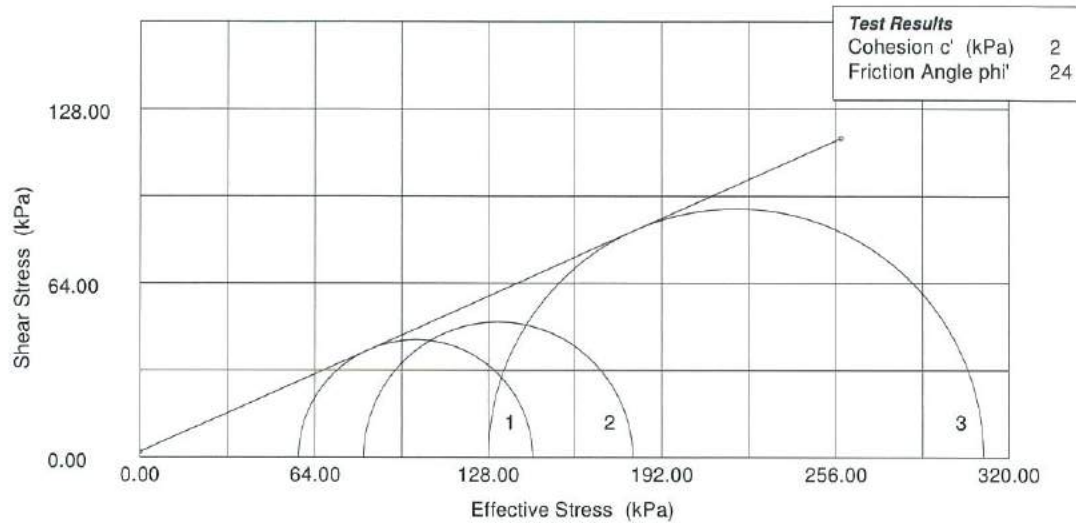
Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
 Borehole: BH49

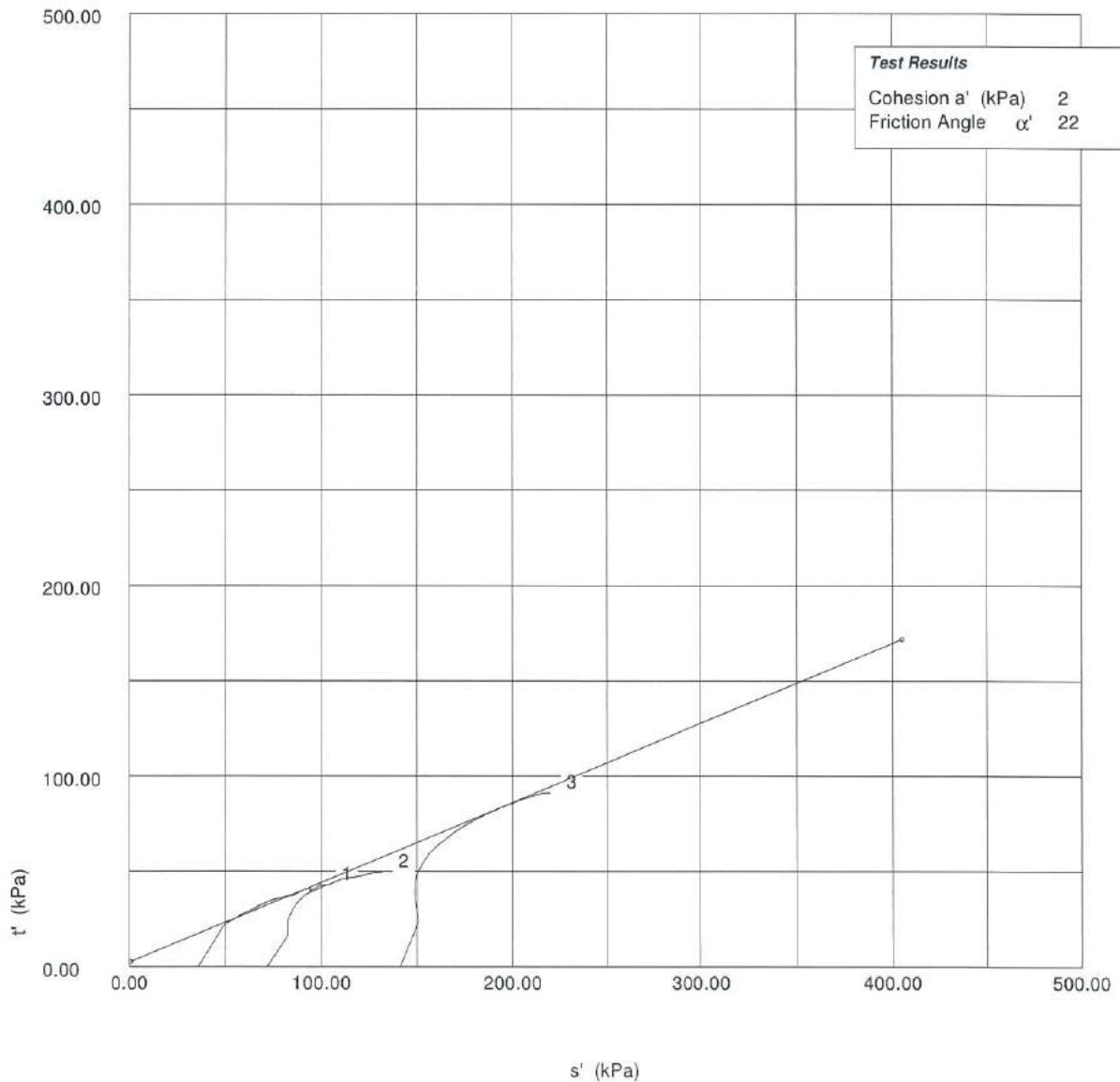
Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH49

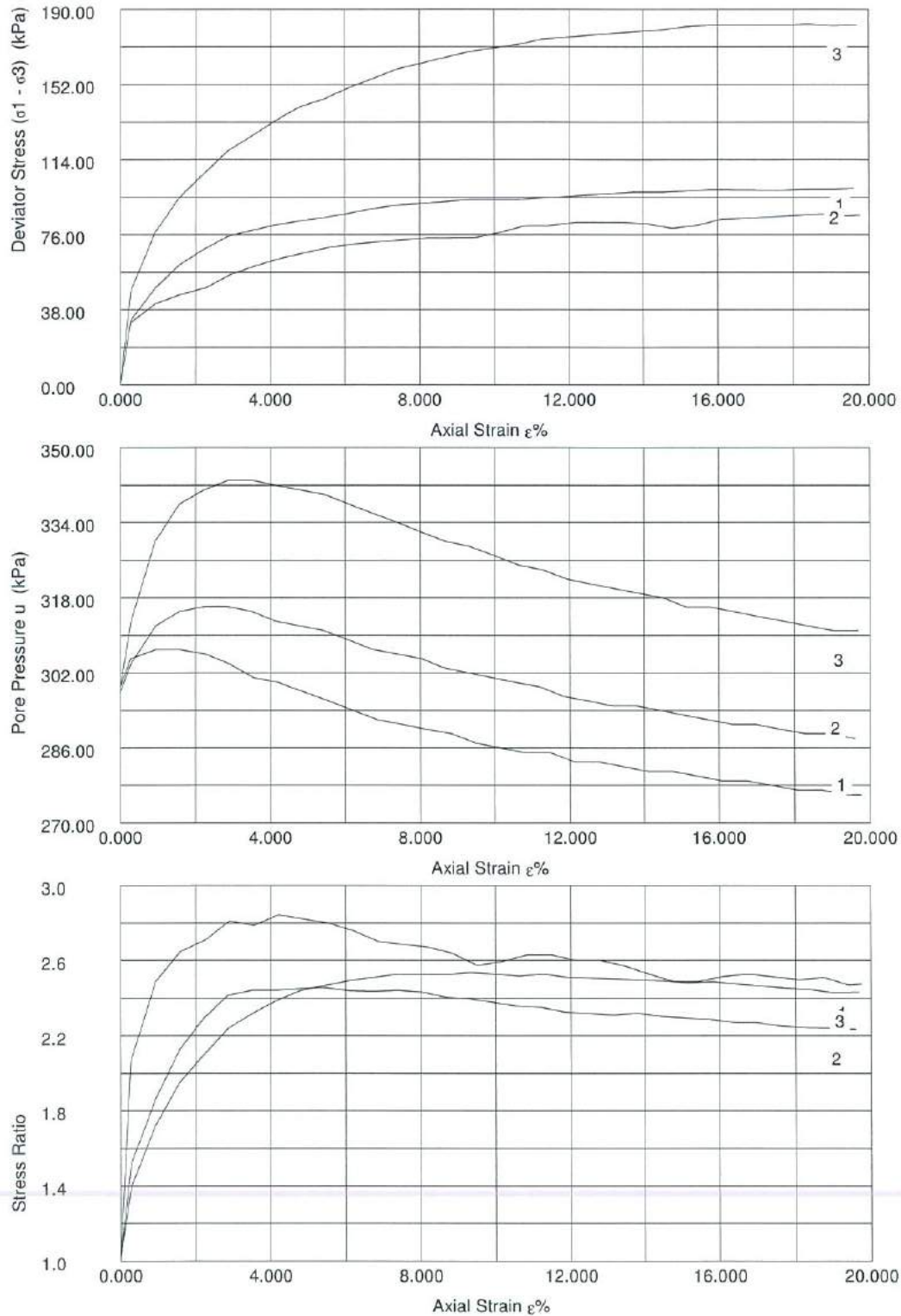
Operator: *[Signature]*

Checked: *[Signature]* 25/9/15

Approved: *[Signature]* 28/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 09/09/15

Site Reference: Lim Chu Kang
Jobfile: CASILAS7518-15.JOB

Sample: TW 3 (6.00-6.90m)
Borehole: BH49

Operator: *[Signature]*

Checked: *[Signature]*

Approved: *[Signature]*

25/9/15

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.40-4.50m
Description: Brownish grey and reddish brown, Slightly gravelly slightly sandy SILT (MADE GROUND)

Specimen 1
Sample Type Undisturbed
Height H_0 (mm) 76
Diameter D_0 (mm) 38
Weight W_0 (gr) 166.05
Bulk Density ρ (Mg/m³) 1.93
Particle Density ρ_s 2.81
(measured)

Initial Conditions

	Stage 1	Stage 2	Stage 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1		
Total Thickness (mm)	0.2		
Strain Channel	10495		
Load Channel	LCM431		
Pore P. Channel	Z21193 (2)		
Volume Channel	925261AB1903		
Moisture Content w_0 %	51		
Dry Density ρ_{d0} (Mg/m ³)	1.27		
Voids Ratio e_0	1.21		
Deg of Saturation S_0 %	100.00		
Final B Value	0.96		

Final Conditions

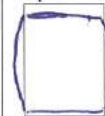
	Stage 1	Stage 2	Stage 3
Moisture Content w_f %	50		
Dry Density ρ_d (Mg/m ³)	1.15		
Voids Ratio e_f	1.45		
Deg of Saturation S_f %	96.10		
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	3.2	6.2	15.8
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	40.1	68.9	128.5
Minor Stress σ_{3f} (kPa)	14.9	26.8	51.5
Major Stress σ_{1f} (kPa)	55.0	95.7	180.1
Stress Ratio $(\sigma_1/\sigma_3)_f$	3.7	3.6	3.5
A Value A_f	0.424	0.464	0.521

Shear Stage

Pore Pressure at Start u_i (kPa)	298	301	301
Pore Pressure at Failure u_f (kPa)	315	333	368

Failure Sketch

Sp 1



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
Borehole: BH50

Operator: *[Signature]*

Checked: *[Signature]*

Approved: *[Signature]*

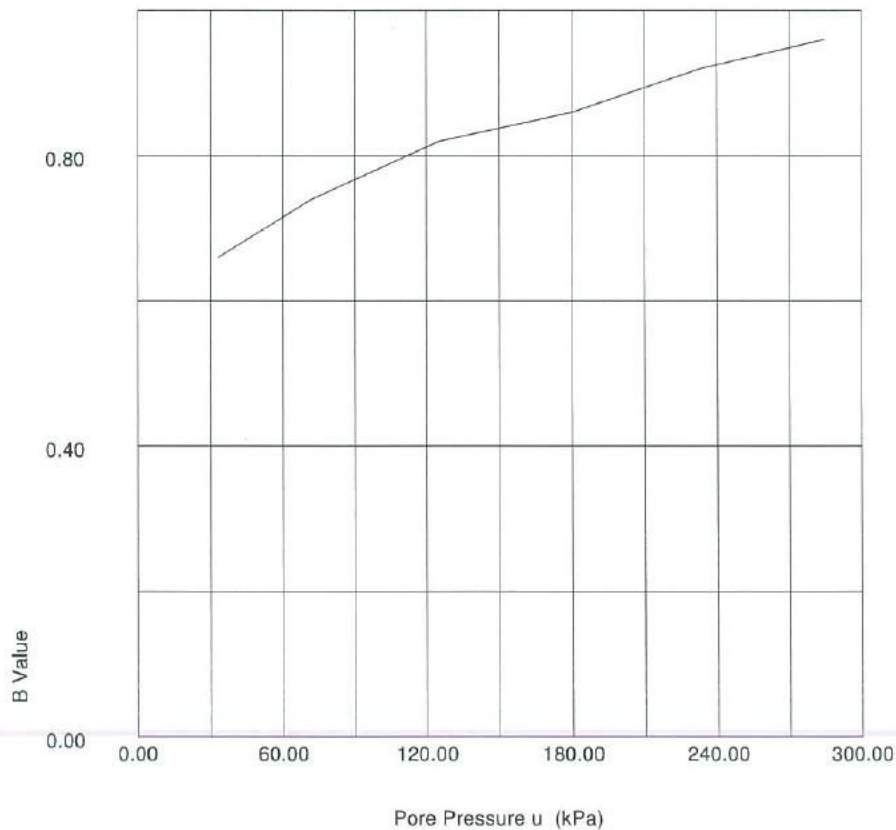
17/9

Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

Test Method:	Stage 1
Final Cell Pressure σ_{3f} (kPa)	Cell P. And Back P.
Final Pore Pressure u_f (kPa)	300.00
Final B Value	285.00
	0.96



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 04/09/15

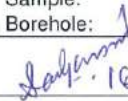
Site Reference: Lim Chu Kang

Sample: TW 2T (4.00-4.50m)

Jobfile: C:\SIL\S7518-15.JOB

Borehole: BH50

Operator: 

Checked:  16/9/2015

Approved: 

17/9

Effective Stress Triaxial Compression

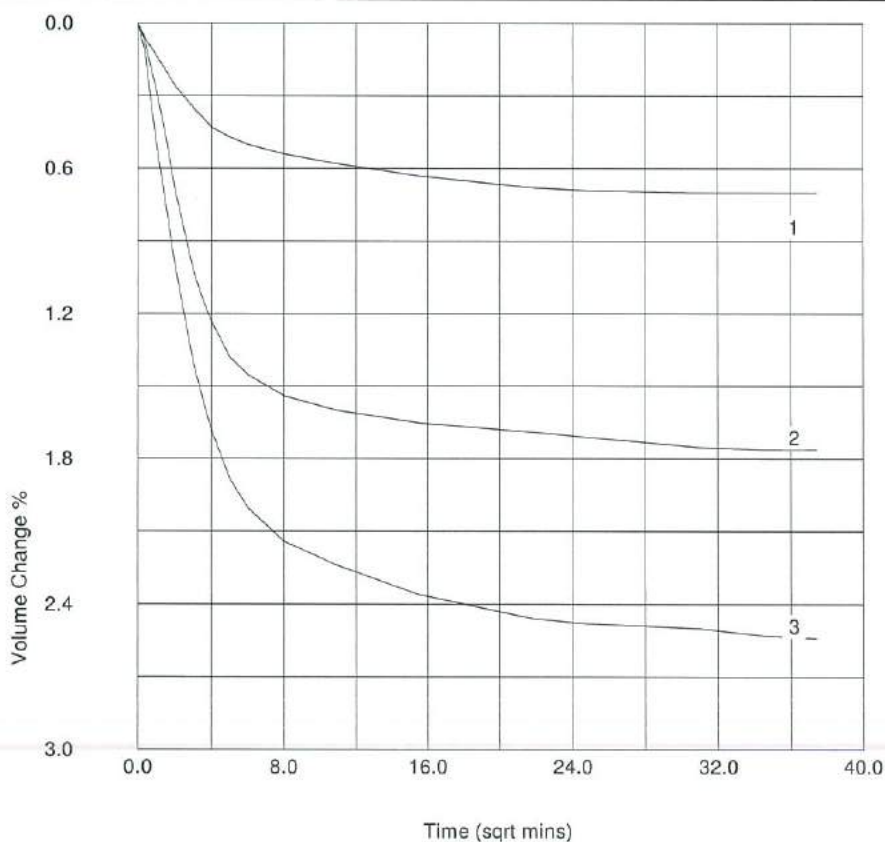
Consolidated Undrained

Consolidation Initial Conditions

	Stage 1	Stage 2	Stage 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	314.00	341.00	380.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Stage 1	Stage 2	Stage 3
Deg of Consolidation $U\%$	100.0	100.0	100.0
Volumetric Strain $\epsilon_v\%$	0.8	2.9	5.8
Corr Length L_c (mm)	75.8	72.8	70.1
Corr Area A_c (mm) ²	1128.0	1149.6	1159.3
Corr Volume V_c (cc)	85.5	83.7	81.2
t_{100} (min)	67.30	54.10	63.20
Coef. of Consolidation c_v (m ² /year)	0.354	0.440	0.377
Coef. of Compressibility m_v (m ² /MN)	0.580	0.696	0.725
Testing Time (min) t_f	154.79	124.43	145.36
Est Strain at Failure ϵ_f	5.0	5.0	5.0
Machine Speed d_r (mm/min)	0.02448	0.02927	0.0241



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
Borehole: BH50

Operator: *[Signature]*

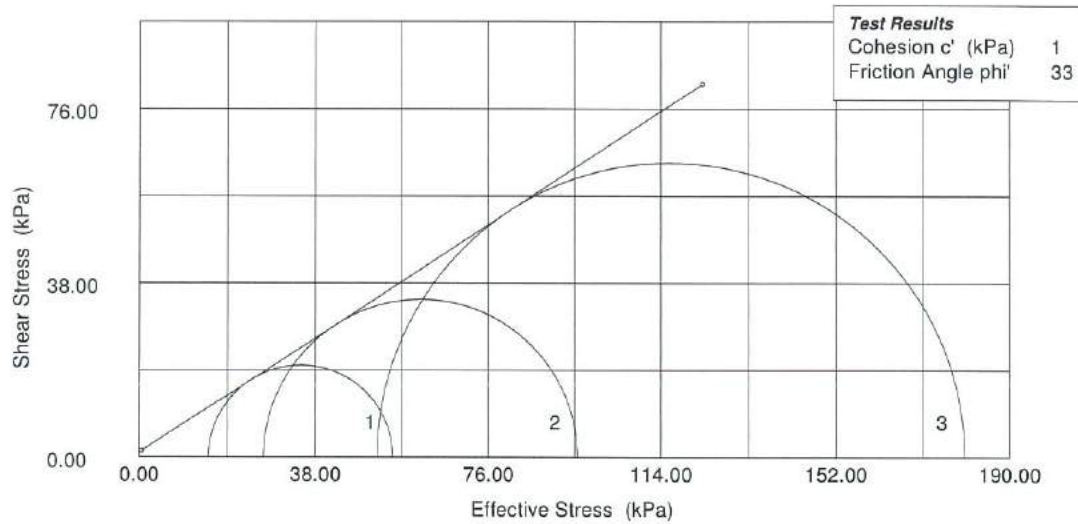
Checked: *[Signature]*

Approved: *[Signature]*

17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
 Borehole: BH50

Operator: *[Signature]*

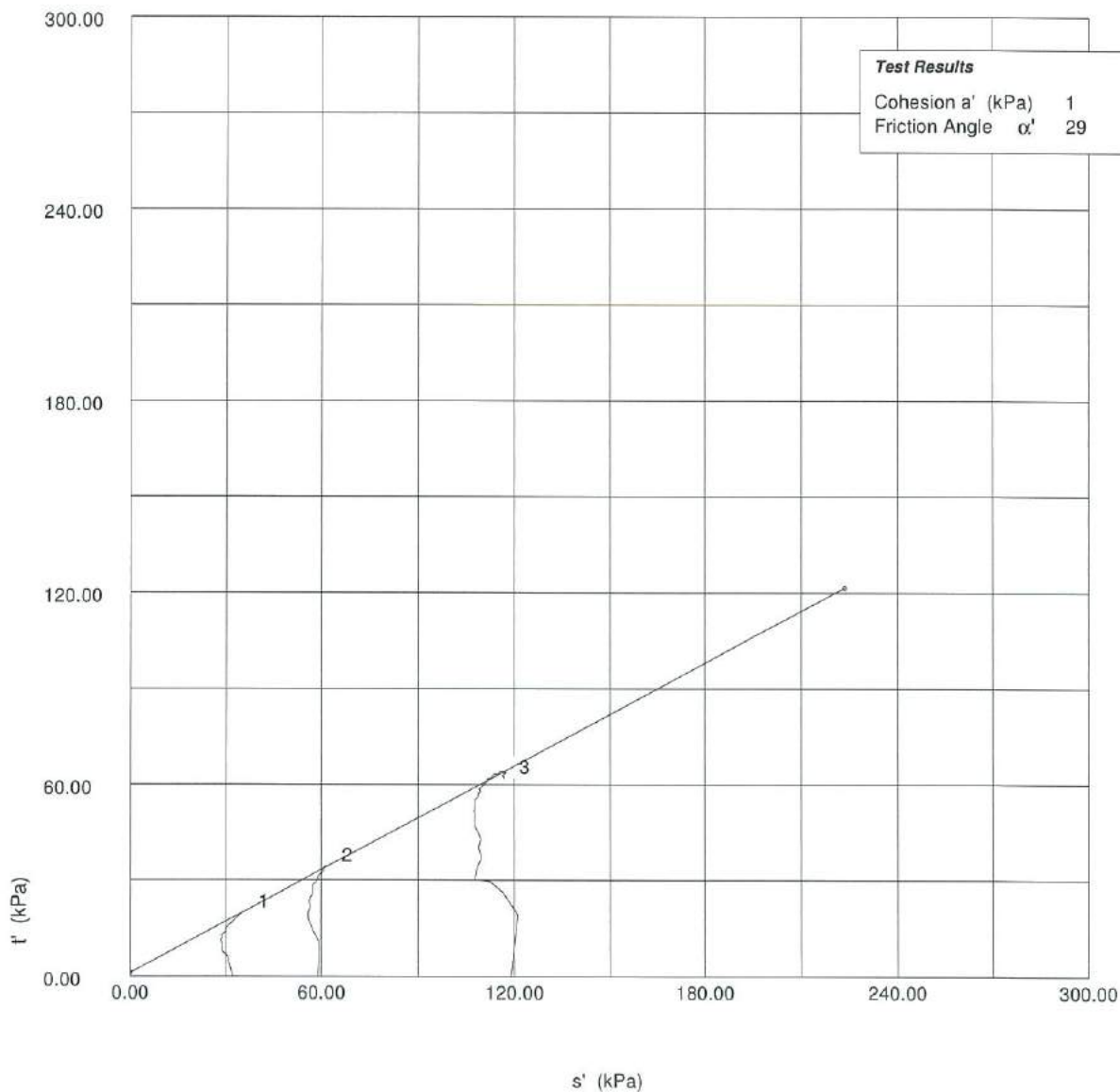
Checked: *[Signature]* 16/9/2015

Approved: *[Signature]*

17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
Borehole: BH50

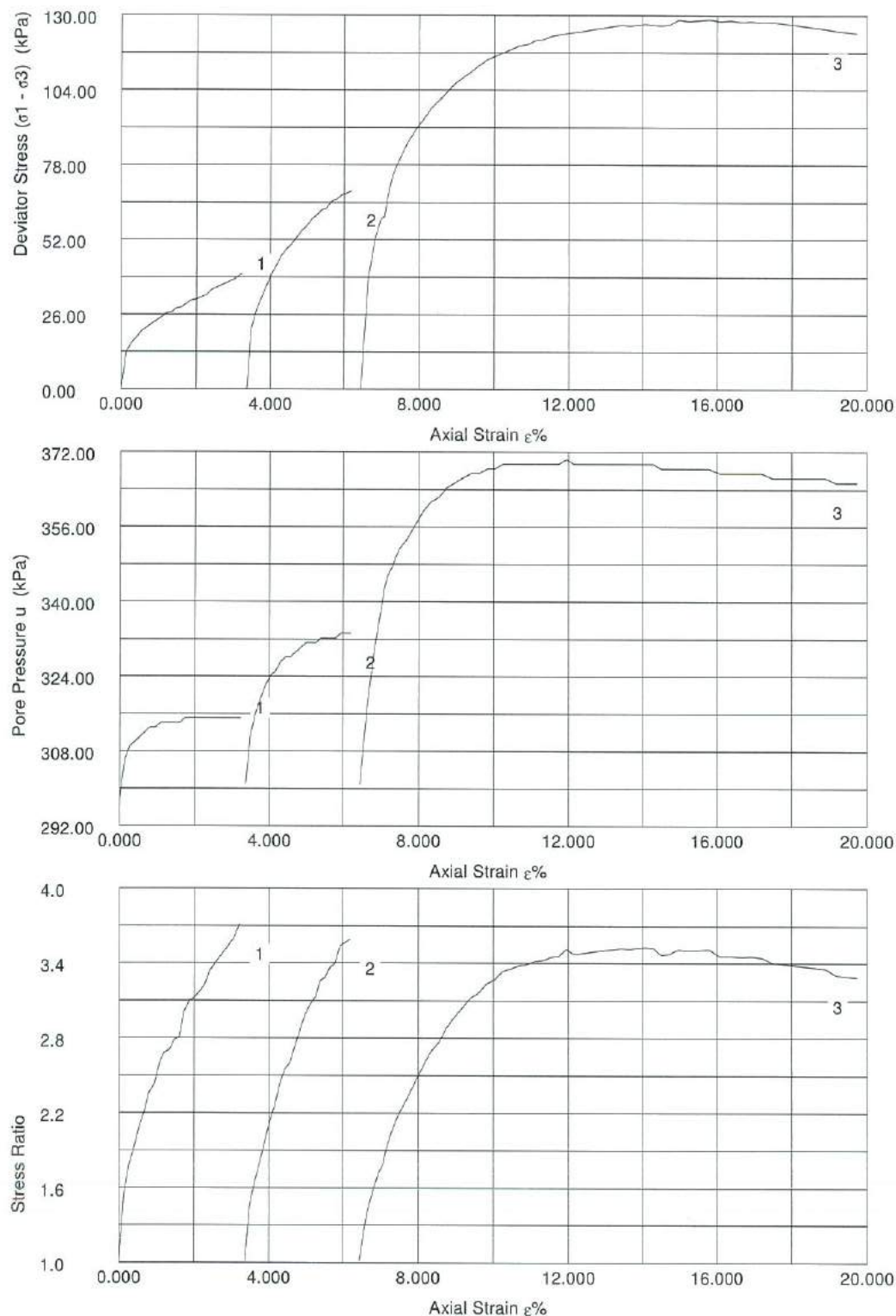
Operator: *[Signature]*

Checked: *[Signature]* 16/9/2015

Approved: *[Signature]* 17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (MS, SS)

Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2T (4.00-4.50m)
Borehole: BH50

Operator: *[Signature]*

Checked: *[Signature]* 10/09/2015

Approved: *[Signature]*

Effective Stress Triaxial Compression

Consolidated Undrained

Sample details

Sketch showing specimen location in original Sample



Test Depth: 4.40-4.80m
Description: Reddish brown mottled yellowish brown spotted dark grey, Slightly sandy SILT

Sample Type	Specimen 1	Specimen 2	Specimen 3
	Undisturbed	Undisturbed	Undisturbed
Height H_0 (mm)	76	76	76
Diameter D_0 (mm)	38	38	38
Weight W_0 (gr)	150.68	151.43	153.11
Bulk Density ρ (Mg/m ³)	1.75	1.76	1.78
Particle Density ρ_s	2.72	2.72	2.72
	(measured)	(measured)	(measured)

Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u (kPa)	300.00	300.00	300.00
Machine Speed d_r (mm/min)	0.030	0.030	0.030
No. of Membranes	1	1	1
Total Thickness (mm)	0.2	0.2	0.2
Strain Channel	M92561A73104	M92561A70207	10780
Load Channel	LCM277	58973	58720
Pore P. Channel	64189	Z20893	Z20739 (2)
Volume Channel	925261A63804	925261A73108	925261A81903
Moisture Content w_0 %	52	46	46
Dry Density ρ_{d0} (Mg/m ³)	1.15	1.20	1.22
Voids Ratio e_0	1.36	1.27	1.24
Deg of Saturation S_0 %	100.00	99.67	100.00
Final B Value	0.99	0.98	0.96

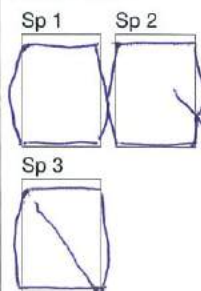
Final Conditions

	Specimen 1	Specimen 2	Specimen 3
Moisture Content w_f %	47	43	42
Dry Density ρ_d (Mg/m ³)	1.18	1.24	1.28
Voids Ratio e_f	1.30	1.19	1.13
Deg of Saturation S_f %	98.38	98.33	100.00
Failure Criteria	Mx Dev Stress	Mx Dev Stress	Mx Dev Stress
Axial Strain ϵ_f %	13.1	18.1	17.8
Corr Dev Stress $(\sigma_1 - \sigma_3)_f$ (kPa)	77.5	128.7	182.6
Minor Stress σ_{3f} (kPa)	25.0	58.0	84.0
Major Stress σ_{1f} (kPa)	102.5	186.7	266.6
Stress Ratio $(\sigma_1/\sigma_3)_f$	4.1	3.2	3.2
A Value A_f	0.077	0.031	0.203

Shear Stage

Pore Pressure at Start u_i (kPa)	299	298	299
Pore Pressure at Failure u_f (kPa)	305	302	336

Failure Sketch



Surface Inclination



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 06/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH51

Operator:

Checked:

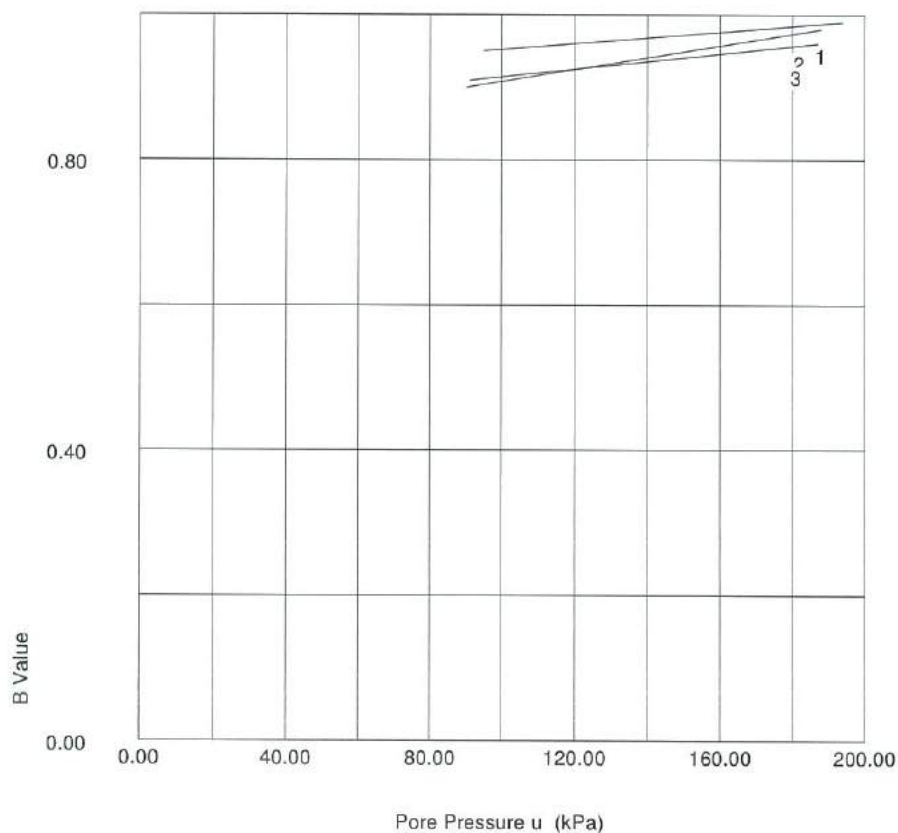
Approved:

Effective Stress Triaxial Compression

Consolidated Undrained

Saturation Stage Data

	Specimen 1	Specimen 2	Specimen 3
Test Method:	Cell P. And Back P.	Cell P. And Back P.	Cell P. And Back P.
Final Cell Pressure σ_{3f} (kPa)	200.00	200.00	200.00
Final Pore Pressure u_f (kPa)	194.00	188.00	187.00
Final B Value	0.99	0.98	0.96



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 06/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH51

Operator:

[Signature]

Checked:

[Signature] 16/9/2015

Approved:

[Signature] 17/9

Effective Stress Triaxial Compression

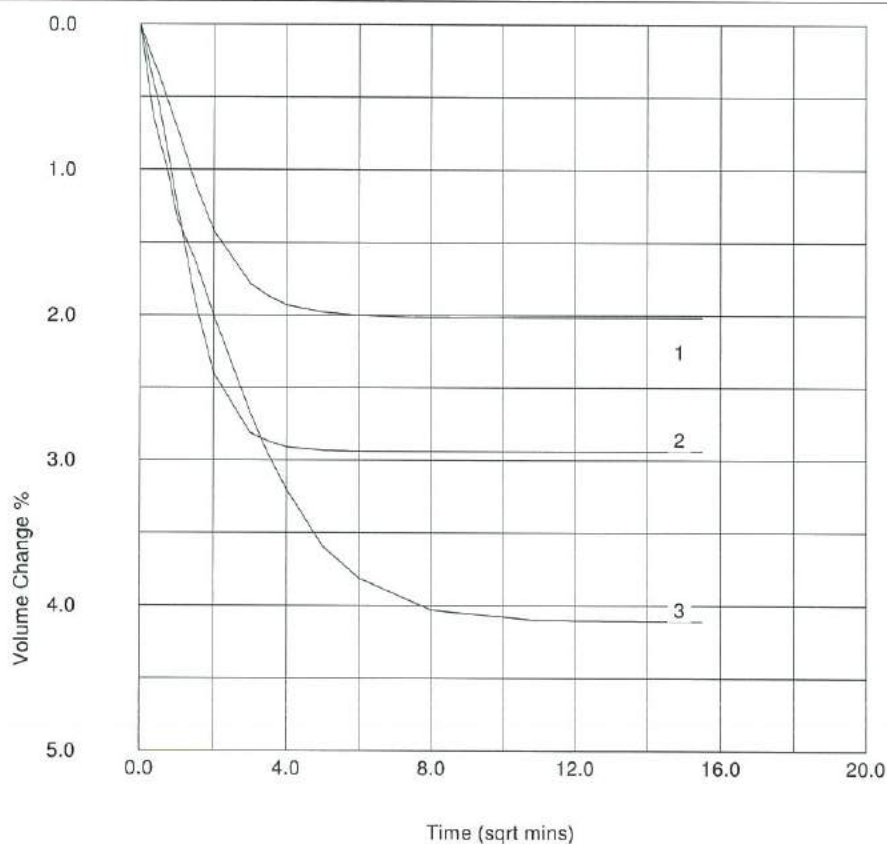
Consolidated Undrained

Consolidation Initial Conditions

	Specimen 1	Specimen 2	Specimen 3
Cell Pressure σ_3 (kPa)	330.00	360.00	420.00
Pore Pressure u_i (kPa)	320.00	347.00	404.00
Back Pressure u_b (kPa)	300.00	300.00	300.00
Drainage Method	Radial, Both Ends	Radial, Both Ends	Radial, Both Ends

Consolidation Final Results

	Specimen 1	Specimen 2	Specimen 3
Deg of Consolidation $U\%$	100.0	100.0	100.0
Volumetric Strain $\varepsilon_v\%$	2.3	3.4	4.8
Corr Length L_c (mm)	75.4	75.1	74.8
Corr Area A_c (mm) ²	1116.4	1108.3	1098.1
Corr Volume V_c (cc)	84.2	83.3	82.1
t_{100} (min)	10.30	7.10	34.30
Coef. of Consolidation c_v (m ² /year)	2.313	3.356	0.695
Coef. of Compressibility m_v (m ² /MN)	1.172	0.726	0.458
Testing Time (min) t_f	23.69	16.33	78.89
Est Strain at Failure ε_f	10.0	10.0	10.0
Machine Speed d_f (mm/min)	0.3183	0.46011	0.09481

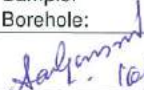


	Test Method : BS1377 : Part 8 : 1990 : 7		Test name : CU (SS, MS)	
			Date of Test: 06/09/15	
	Site Reference: Lim Chu Kang		Sample: TW 2 (4.00-4.90m)	
	Jobfile: C:\SIL\S7518-15.JOB		Borehole: BH51	
Operator: 		Checked:  16/9/2015		Approved:  17/9

Effective Stress Triaxial Compression

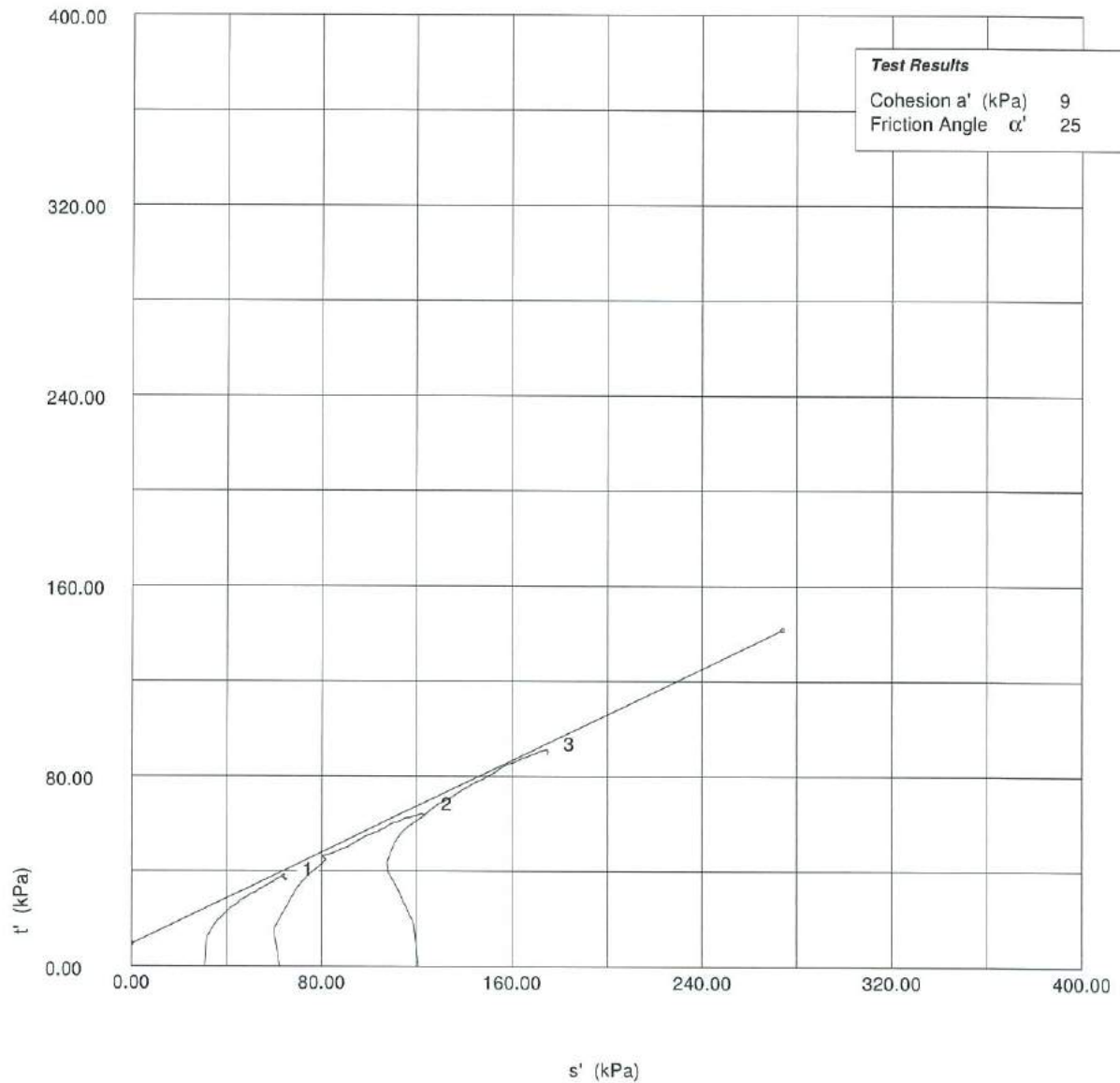
Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7		Test name	CU (SS, MS)
		Date of Test:	06/09/15
Site Reference:	Lim Chu Kang	Sample:	TW 2 (4.00-4.90m)
Jobfile:	C:\SIL\S7518-15.JOB	Borehole:	BH51
Operator:		Checked:	 16/9/2015
		Approved:	 17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 06/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH51

Operator:

Checked:

Approved:

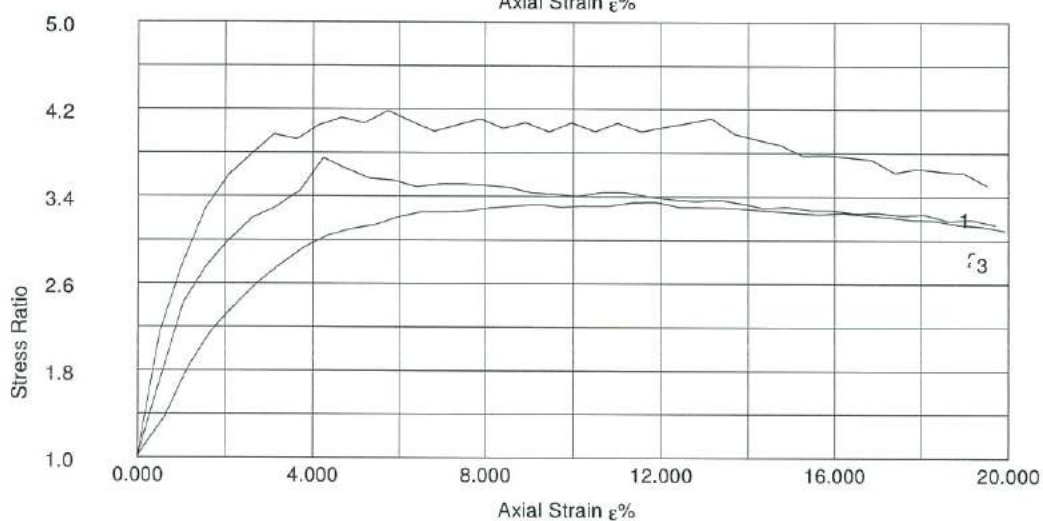
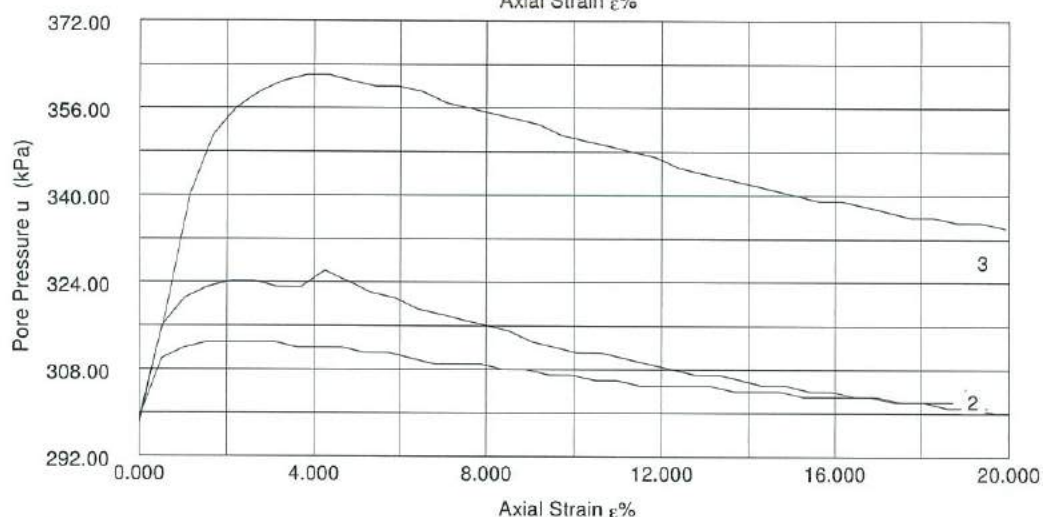
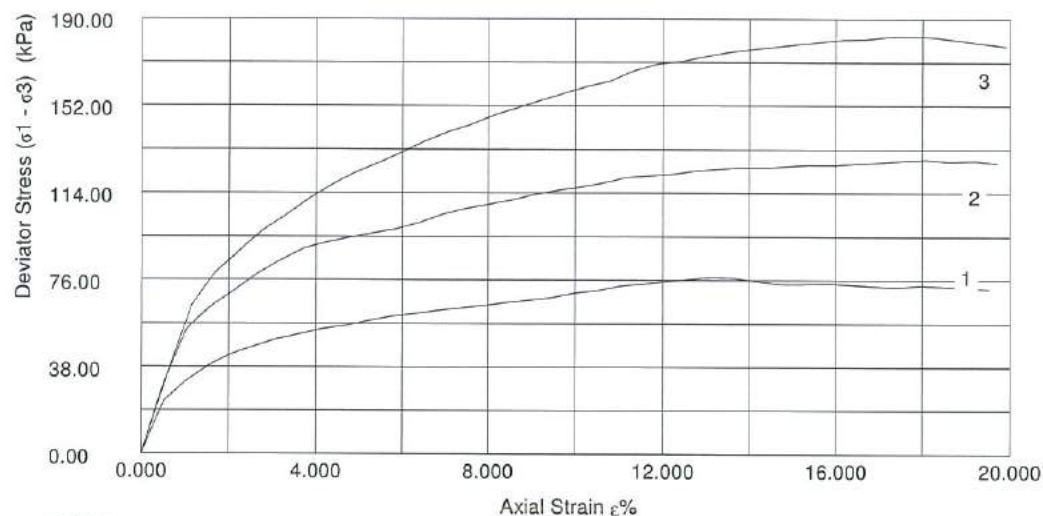
[Signature]

[Signature] 16/9/2015

[Signature] 17/9

Effective Stress Triaxial Compression

Consolidated Undrained



Test Method : BS1377 : Part 8 : 1990 : 7

Test name CU (SS, MS)

Date of Test: 06/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Sample: TW 2 (4.00-4.90m)
Borehole: BH51

Operator: *[Signature]*

Checked: *[Signature]*

Approved: *[Signature]*

UNCONFINED COMPRESSION TEST

Total Stress Triaxial Compression

Unconfined Compression

Sample details

Sketch showing specimen location in original Sample



Test Depth: 9.40-9.50m
Description: Yellowish brown mottled reddish brown and light grey, Slightly sandy SILT

Sample Type Undisturbed
Height H_0 (mm) 76
Diameter D_0 (mm) 38
Weight W_0 (gr) 180.2
Bulk Density ρ (Mg/m³) 2.09
Particle Density ρ_s 2.71 (measured)

Initial Conditions

Machine Speed d_f (mm/min) 0.600

Strain Channel 13018
Load Channel PR12965/6651

Moisture Content w_0 % 21

Final Condition

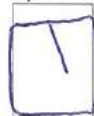
Max Stress (kPa) 184.58

Strain at Failure ε_f % 8.45

Moisture Content w_f % 21

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator: *Jan*

Checked: *Lim Chu Kang*

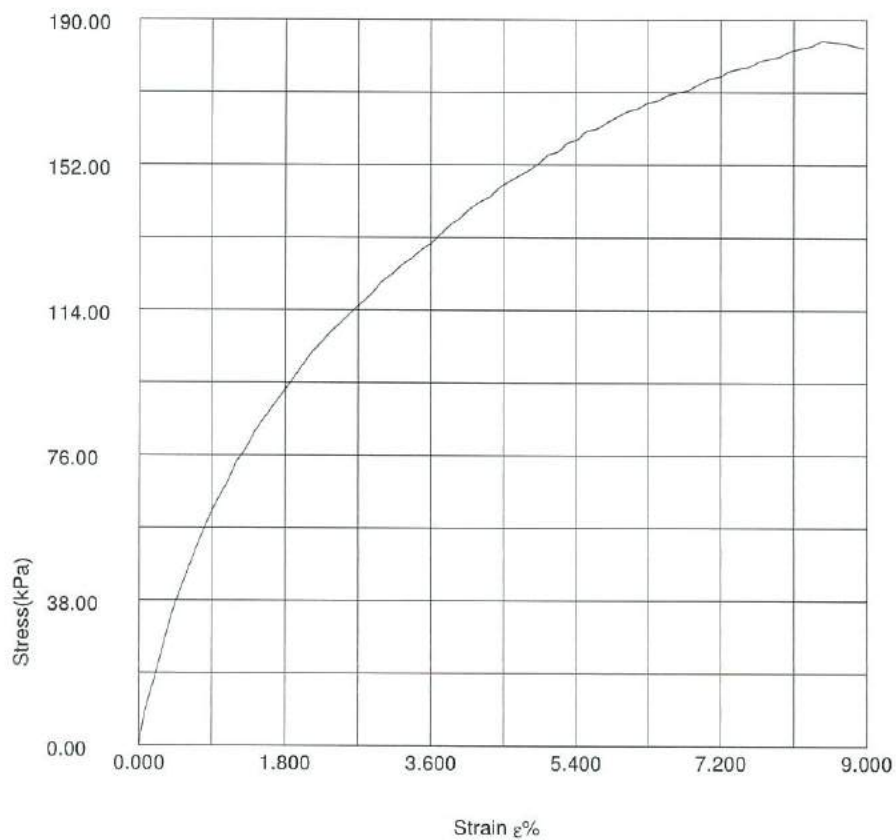
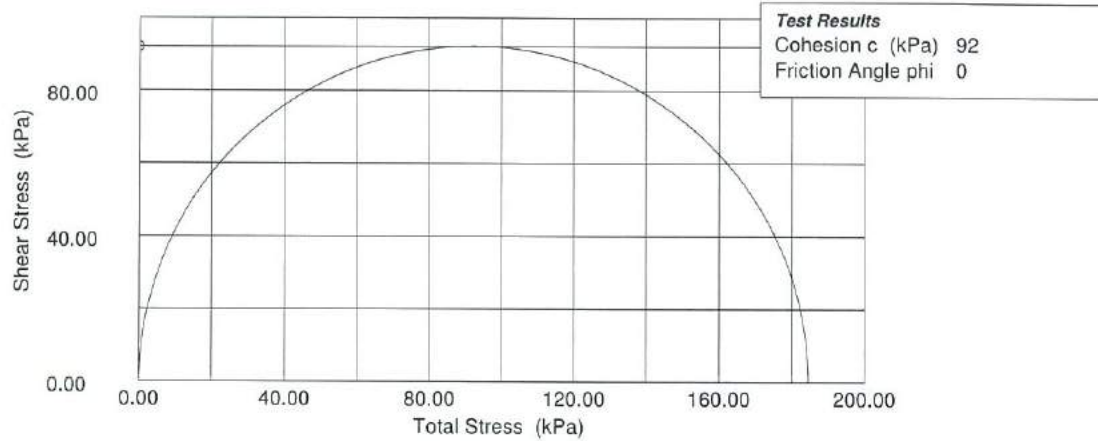
Test name UCT Unconfined Compression
Date of Test: 04/09/15

Sample: TW 4 (9.00-9.90m)
Borehole: BH38

Approved: *E*

Total Stress Triaxial Compression

Unconfined Compression



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)]

Site Reference: Lim Chu Kang
 Jobfile: C:\WINCLISP\S7518-15.JOB
 Operator: *[Signature]*

Test name UCT Unconfined Compression
 Date of Test: 04/09/15

Sample: TW 4 (9.00-9.90m)
 Borehole: BH38

Checked: *[Signature]*

Approved: *[Signature]*

22/9

Total Stress Triaxial Compression

Unconfined Compression

Sample details

Sketch showing specimen location in original Sample



Test Depth: 8.50-8.60m
Description: Reddish brown mottled yellowish brown and light grey, Sandy CLAY

Sample Type Undisturbed
Height H_0 (mm) 76
Diameter D_0 (mm) 38
Weight W_0 (gr) 183.95
Bulk Density ρ (Mg/m³) 2.13
Particle Density ρ_s 2.65 (assumed)

Initial Conditions

Machine Speed d_f (mm/min) 0.600

Strain Channel 13018
Load Channel 6651

Moisture Content w_0 % 19

Final Condition

Max Stress (kPa) 275.90

Strain at Failure ϵ_f % 9.04

Moisture Content w_f % 19

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

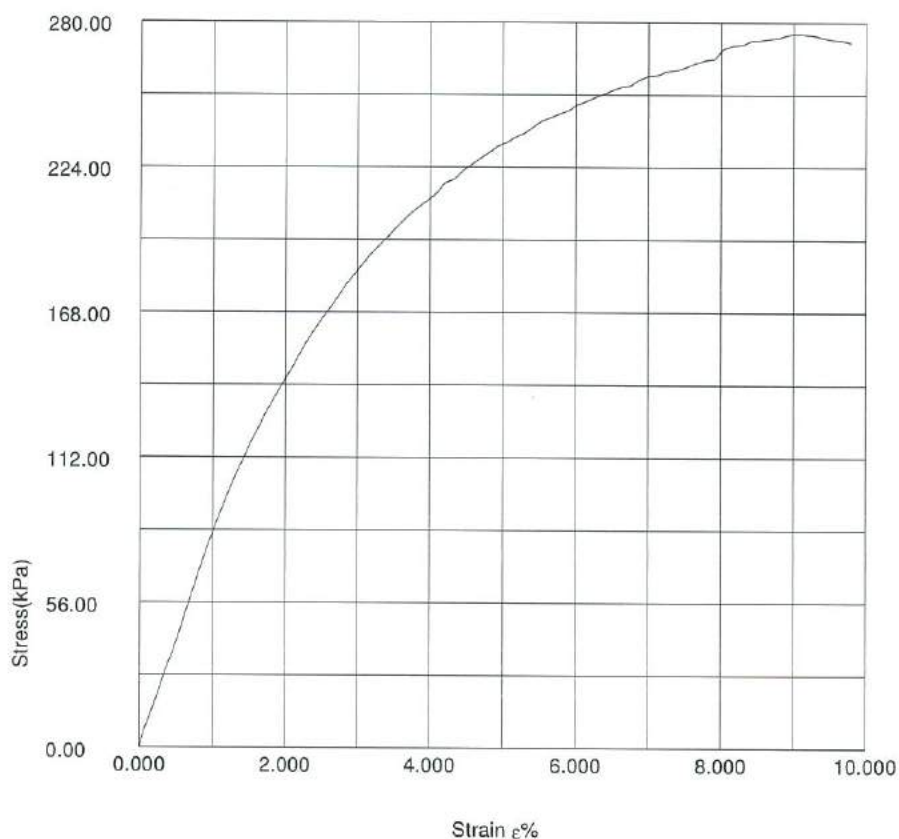
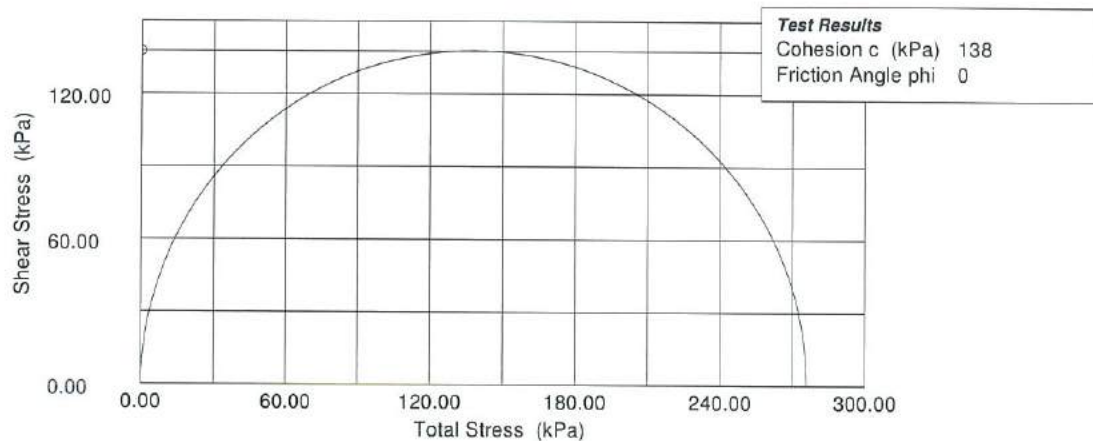
Test name UCT Unconfined Compression
Date of Test: 03/09/15

Sample: TW 3B (8.40-8.60m)
Borehole: BH39

Approved:

Total Stress Triaxial Compression

Unconfined Compression



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Operator:

[Signature]

Checked:

Test name UCT Unconfined Compression
 Date of Test: 03/09/15

Sample: TW 3B (8.40-8.60m)
 Borehole: BH39

[Signature]
 9/10/2015

Approved:

[Signature] 15/9

Total Stress Triaxial Compression

Unconfined Compression

Sample details

Sketch showing specimen
location in original Sample



Test Depth: 8.00-8.10m
Description: Reddish brown mottled brownish grey, Slightly sandy CLAY

Sample Type Undisturbed
Height H_n (mm) 76
Diameter D_n (mm) 38
Weight W_n (gr) 190.18
Bulk Density ρ (Mg/m³) 2.21
Particle Density ρ_s 2.69
(measured)

Initial Conditions

Machine Speed d_r (mm/min) 0.600

Strain Channel 13018
Load Channel PR12965/6651

Moisture Content w_0 % 19

Final Condition

Max Stress (kPa) 254.49

Strain at Failure ϵ_f % 10.18

Moisture Content w_f % 19

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Test name UCT Unconfined Compression
Date of Test: 04/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 3 (8.00-8.50m)
Borehole: BH40

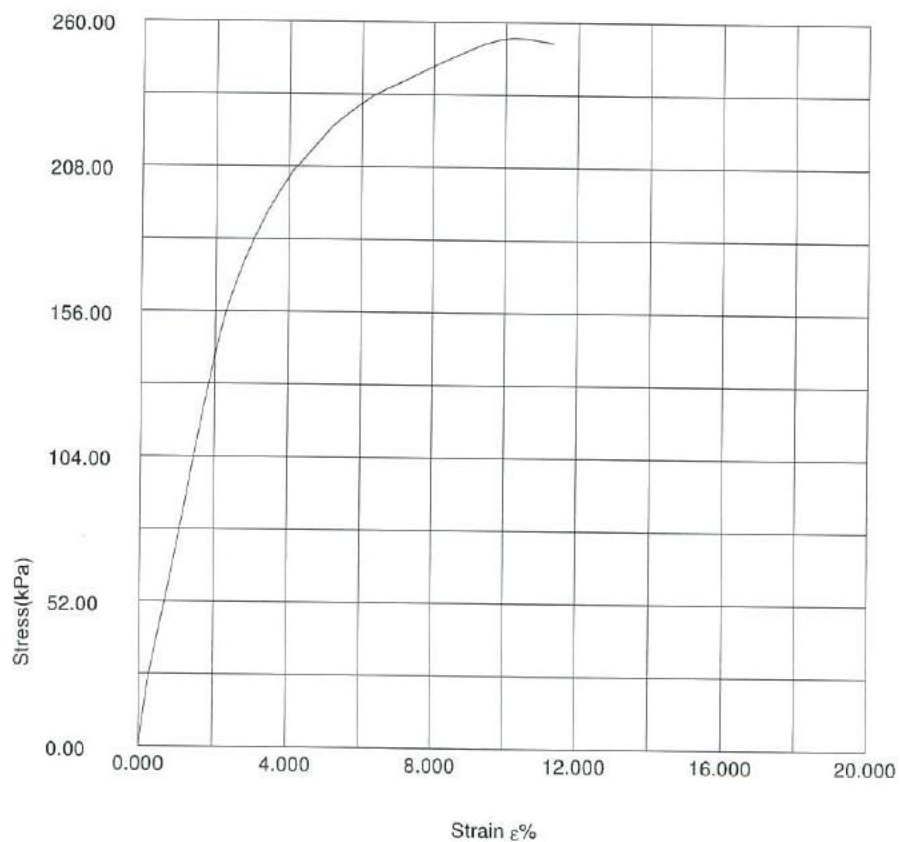
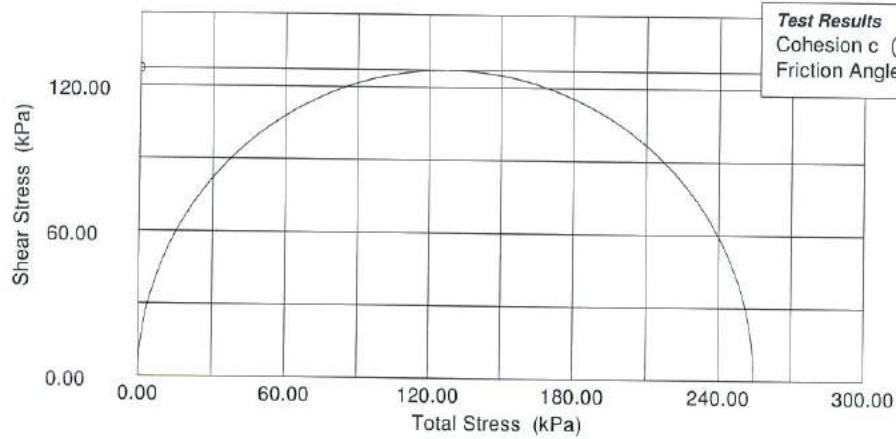
Operator: *Jan*

Checked: *Jan*

Approved: *Gr*

Total Stress Triaxial Compression

Unconfined Compression



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)]

Test name UCT Unconfined Compression
 Date of Test: 04/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 3 (8.00-8.50m)
 Borehole: BH40

Operator:

Checked:

Approved:

[Signature]

[Signature] 17/9/2015

[Signature]

17/9 332

Total Stress Triaxial Compression

Unconfined Compression

Sample details

Sketch showing specimen
location in original Sample



Test Depth: 9.30-9.50m
Description: Light grey mottled reddish brown, Slightly sandy CLAY

Sample Type Undisturbed
Height H_0 (mm) 76
Diameter D_0 (mm) 38
Weight W_0 (gr) 182.1
Bulk Density ρ (Mg/m³) 2.11
Particle Density ρ_s 2.72
(measured)

Initial Conditions

Machine Speed d_r (mm/min) 0.600

Strain Channel 13018
Load Channel PR12965/6651

Moisture Content w_0 % 19

Final Condition

Max Stress (kPa) 133.55

Strain at Failure ϵ_f % 10.01

Moisture Content w_f % 19

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Test name UCT Unconfined Compression
Date of Test: 03/09/15

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 3T (9.00-9.50m)
Borehole: BH41

Operator:

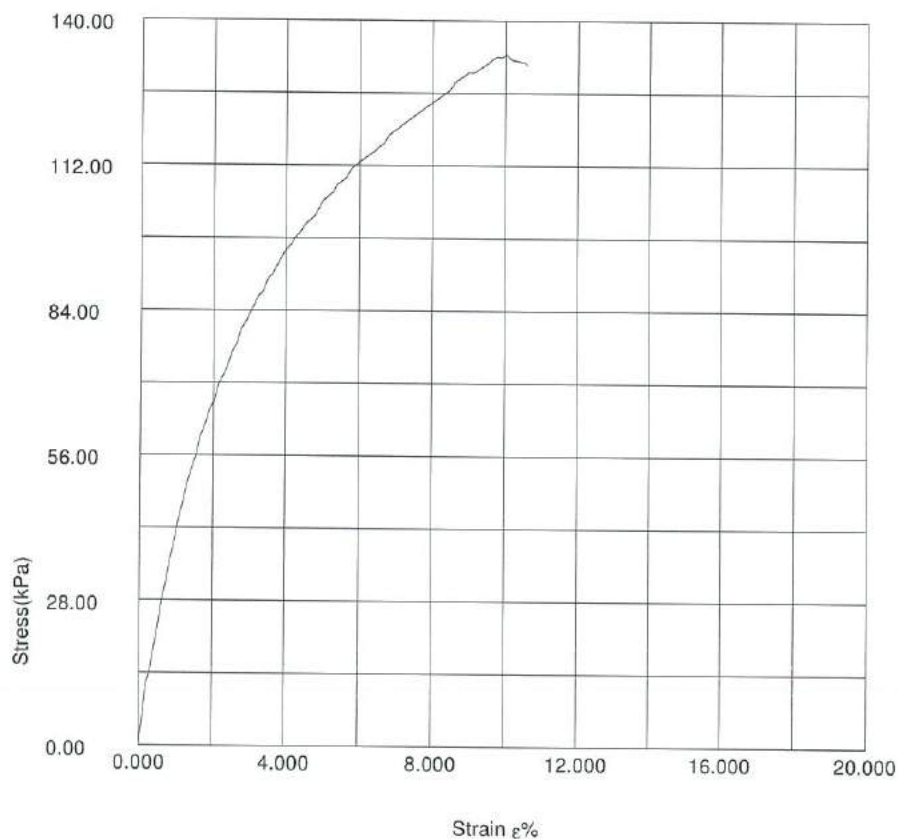
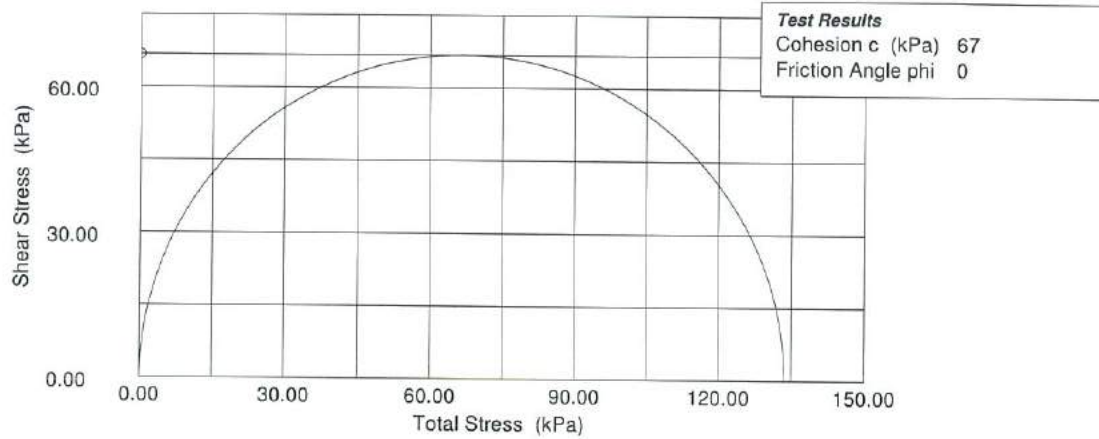
Checked:

Approved:

17/9

Total Stress Triaxial Compression

Unconfined Compression



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)

Test name UCT Unconfined Compression
 Date of Test: 03/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 3T (9.00-9.50m)
 Borehole: BH41

Operator: *[Signature]*

Checked: *[Signature]* 17/9/2015

Approved: *[Signature]* 17/9/2015

Total Stress Triaxial Compression

Unconfined Compression

Sample details

Sketch showing specimen location in original Sample



Test Depth: 10.40-10.50m
Description: Light grey mottled reddish brown, Slightly gravelly sandy SILT

Sample Type Undisturbed
Height H_0 (mm) 76
Diameter D_0 (mm) 38
Weight W_0 (gr) 175.95
Bulk Density ρ (Mg/m³) 2.04
Particle Density ρ_s 2.76
(measured)

Initial Conditions

Machine Speed d_f (mm/min) 0.600

Strain Channel 13018
Load Channel 6651

Moisture Content w_0 % 20

Final Condition

Max Stress (kPa) 127.94

Strain at Failure ϵ_f % 5.13

Moisture Content w_f % 20

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

Test name UCT Unconfined Compression
Date of Test: 04/09/15

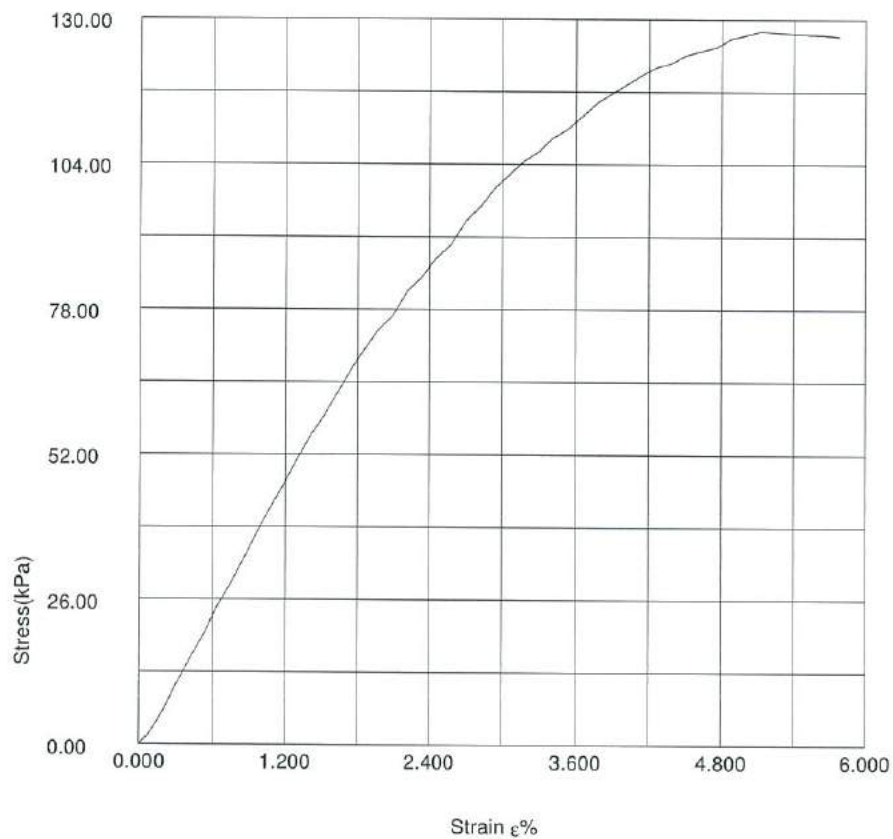
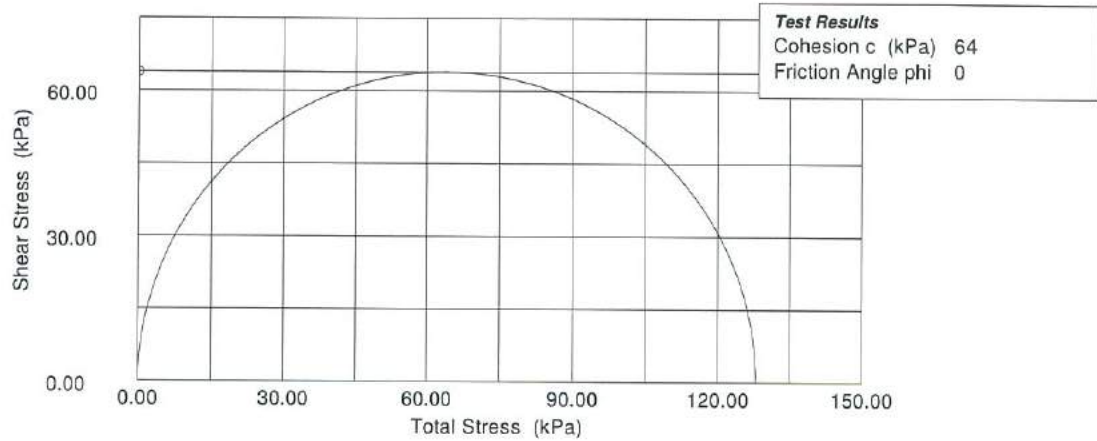
Sample: TW 3 (10.00-10.90m)
Borehole: BH42

Approved:

15/9

Total Stress Triaxial Compression

Unconfined Compression



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Operator: *[Signature]*

Checked: *[Signature]* 9/10/2015

Test name UCT Unconfined Compression
 Date of Test: 04/09/15

Sample: TW 3 (10.00-10.90m)
 Borehole: BH42

Approved: *[Signature]* 15/9

Total Stress Triaxial Compression

Unconfined Compression

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.70-6.80m
Description: Grey, Slightly sandy CLAY

Sample Type: Undisturbed
Height H_0 (mm): 76
Diameter D_0 (mm): 38
Weight W_0 (gr): 160
Bulk Density ρ (Mg/m³): 1.86
Particle Density ρ_s : 2.65 (assumed)

Initial Conditions

Machine Speed d_f (mm/min): 0.600

Strain Channel: 13018
Load Channel: 6651

Moisture Content w_0 %: 36

Final Condition

Max Stress (kPa): 28.32

Strain at Failure ϵ_f %: 3.36

Moisture Content w_f %: 35

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator: *Am*

Checked: *22/9/15*

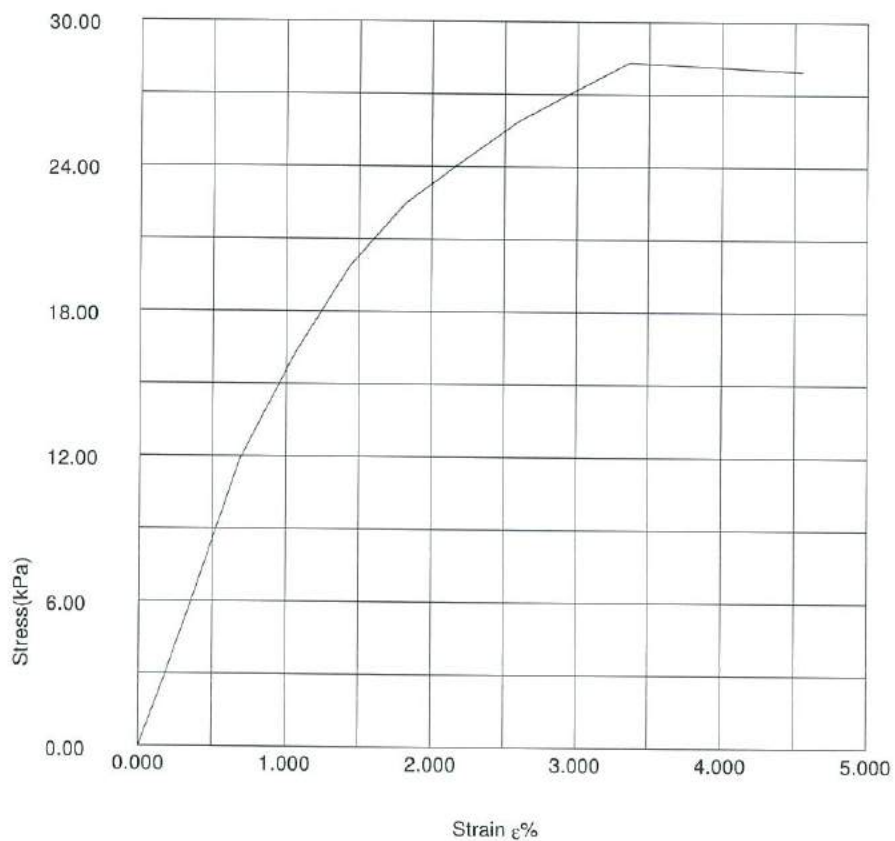
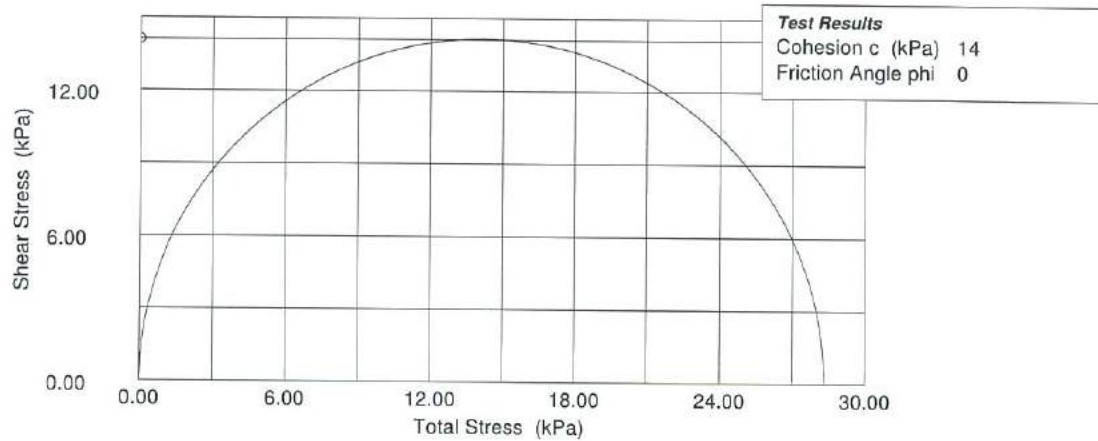
Test name: UCT Unconfined Compression
Date of Test: 14/09/15

Sample: TW 3 (6.00-6.90m)
Borehole: BH44

Approved: *22/9*

Total Stress Triaxial Compression

Unconfined Compression



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Operator:

Am

Checked:

Test name UCT Unconfined Compression
 Date of Test: 14/09/15

Sample: TW 3 (6.00-6.90m)
 Borehole: BH44

22/9/15

Approved:

22/9

Total Stress Triaxial Compression

Unconfined Compression

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.80-6.90m
Description: Grey spotted dark grey, Slightly sandy SILT with traces of peat

Sample Type: Undisturbed
Height H_0 (mm): 76
Diameter D_0 (mm): 38
Weight W_0 (gr): 172.38
Bulk Density ρ (Mg/m³): 2.00
Particle Density ρ_s : 2.69 (measured)

Initial Conditions

Machine Speed d_f (mm/min): 0.600

Strain Channel: 13018
Load Channel: 6651

Moisture Content w_0 %: 26

Final Condition

Max Stress (kPa): 72.35

Strain at Failure ϵ_f %: 10.23

Moisture Content w_f %: 25

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

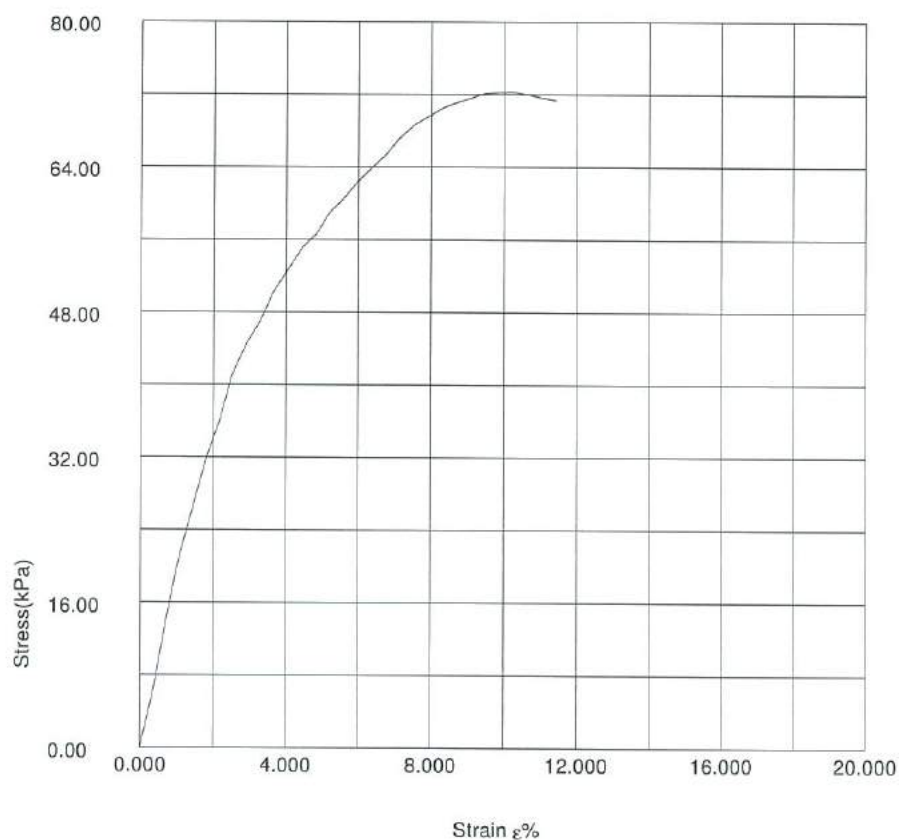
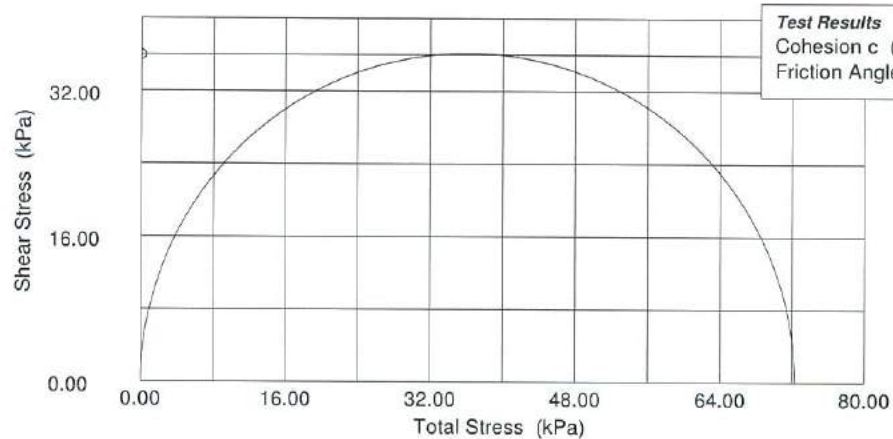
Test name: UCT Unconfined Compression
Date of Test: 14/09/15

Sample: TW 3 (6.00-6.90m)
Borehole: BH46

Approved:

Total Stress Triaxial Compression

Unconfined Compression



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)]

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Operator:

Checked:

Test name UCT Unconfined Compression
 Date of Test: 14/09/15

Sample: TW 3 (6.00-6.90m)
 Borehole: BH46

Approved:

Am

22/9/15

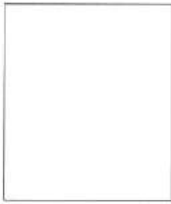
22/9

Total Stress Triaxial Compression

Unconfined Compression

Sample details

Sketch showing specimen location in original Sample



Test Depth: 7.40-7.50m
Description: Grey spotted reddish brown, Slightly sandy CLAY

Sample Type: Undisturbed
Height H_0 (mm): 76
Diameter D_0 (mm): 38
Weight W_0 (gr): 175.24
Bulk Density ρ (Mg/m³): 2.03
Particle Density ρ_s : 2.71 (measured)

Initial Conditions

Machine Speed d_f (mm/min): 0.600

Strain Channel: 13018
Load Channel: 6651

Moisture Content w_0 %: 24

Final Condition

Max Stress (kPa): 71.85

Strain at Failure ϵ_f %: 8.58

Moisture Content w_f %: 24

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\SIL\S7518-15.JOB

Operator: *[Signature]*

Checked: *[Signature]*

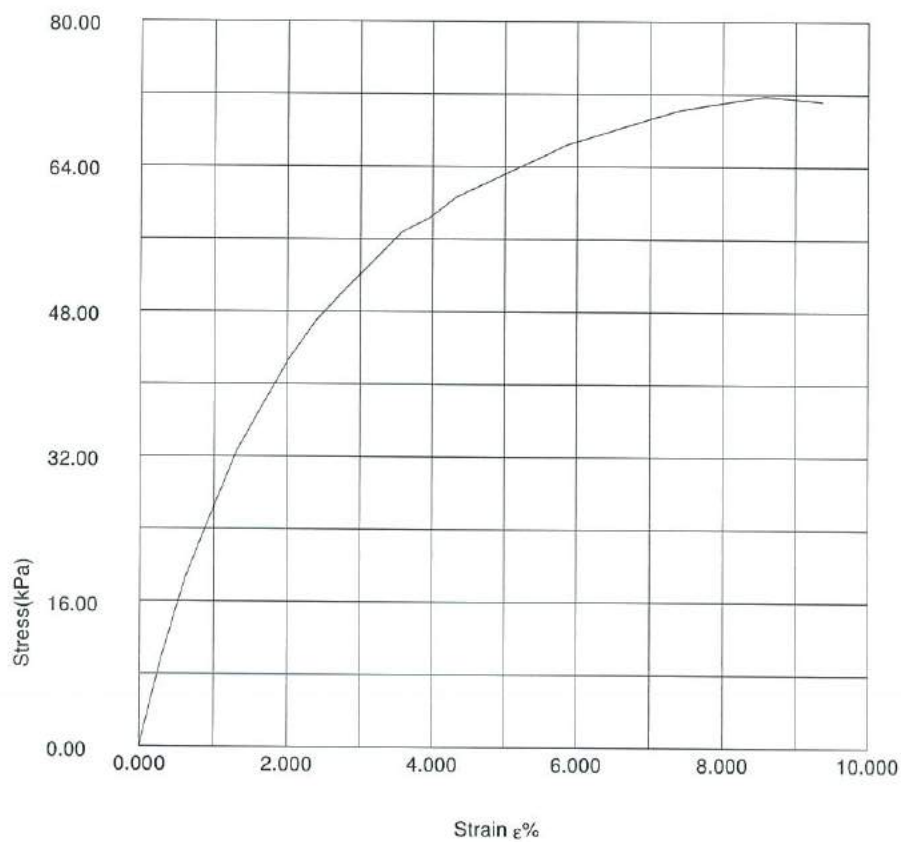
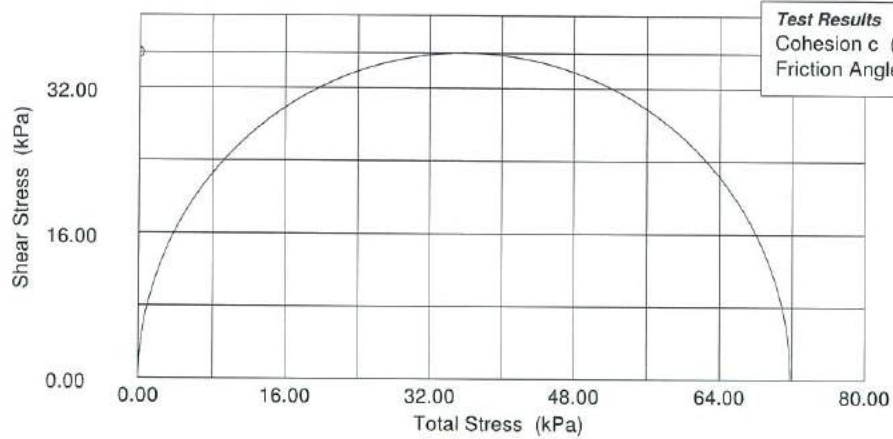
Test name: UCT Unconfined Compression
Date of Test: 04/09/15

Sample: TW 3 (7.00-7.90m)
Borehole: BH50

Approved: *[Signature]*

Total Stress Triaxial Compression

Unconfined Compression



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)]

Site Reference: Lim Chu Kang
 Jobfile: C:\SIL\S7518-15.JOB

Operator:

[Signature]

Checked:

Test name UCT Unconfined Compression
 Date of Test: 04/09/15

Sample: TW 3 (7.00-7.90m)
 Borehole: BH50

[Signature]
 21/9/2015

Approved:

[Signature] 15/9

Total Stress Triaxial Compression

Unconfined Compression

Sample details

Sketch showing specimen location in original Sample



Test Depth: 6.40-6.50m
Description: Grey mottled yellowish brown, Slightly sandy CLAY

Sample Type Undisturbed
Height H_0 (mm) 76
Diameter D_0 (mm) 38
Weight W_0 (gr) 165.06
Bulk Density ρ (Mg/m³) 1.92
Particle Density ρ_s 2.67
(measured)

Initial Conditions

Machine Speed d_t (mm/min) 0.600

Strain Channel 13018
Load Channel PR12965/6651

Moisture Content w_0 % 32

Final Condition

Max Stress (kPa) 72.92

Strain at Failure ϵ_f % 6.36

Moisture Content w_f % 31

Failure Sketch

Sp 1



Surface Inclination



[Test Method : BS1377 : Part 7 : 1990 : 8/9*
(* delete as appropriate)]

Site Reference: Lim Chu Kang
Jobfile: C:\WINCLISP\S7518-15.JOB

Operator:

Checked:

Test name UCT Unconfined Compression
Date of Test: 04/09/15

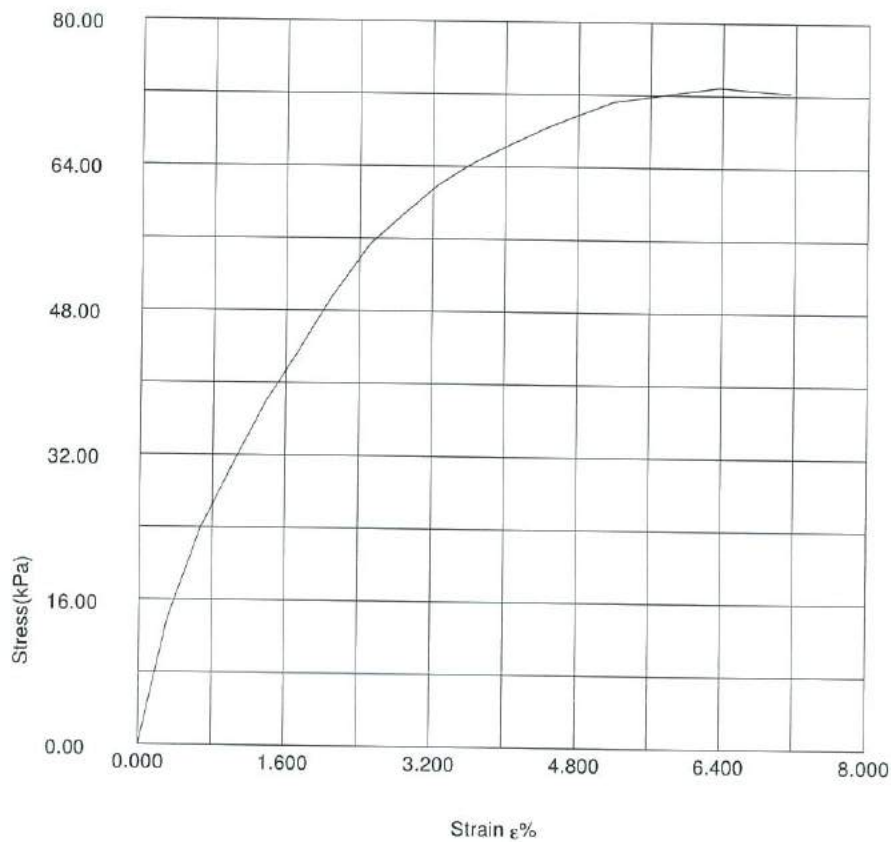
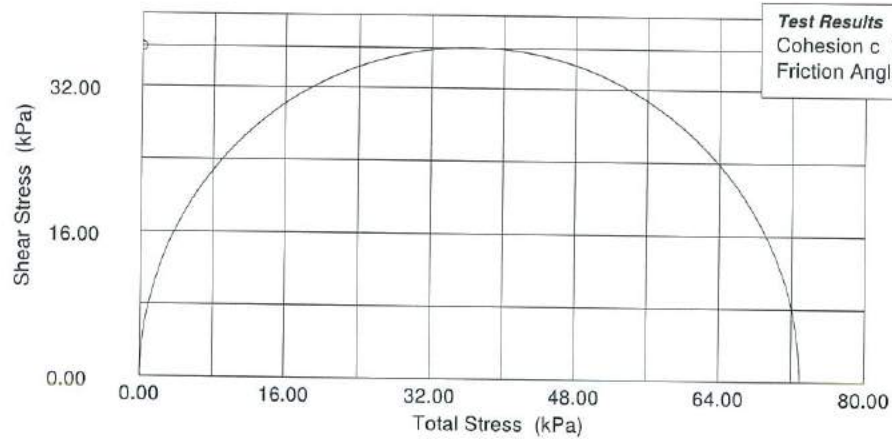
Sample: TW 3 (6.00-6.90m)
Borehole: BH51

Approved:

17/9

Total Stress Triaxial Compression

Unconfined Compression



Test Method : BS1377 : Part 7 : 1990 : 8/9*
 (* delete as appropriate)

Test name UCT Unconfined Compression
 Date of Test: 04/09/15

Site Reference: Lim Chu Kang
 Jobfile: C:\WINCLISP\S7518-15.JOB

Sample: TW 3 (6.00-6.90m)
 Borehole: BH51

Operator: *Am*

Checked: *17/9/2015*

Approved: *C*

17/9

CONSOLIDATION TEST

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 4.40-4.50m
 Description : Light grey spotted reddish brown and yellowish brown, Slightly sandy SILT with traces of peat
 Height, H_o (mm) : 20.0
 Machine Channel : C13
 Diameter, D_o (mm) : 50.0
 Type of Sample : Undisturbed Sample
 Weight, W_o (g) : 78.5
 Particle Density, ρ_s (Mg/m^3) : 2.72 (measured)

Initial Conditions

Moisture Content, w_o (%) : 24.7
 Bulk Density, ρ (Mg/m^3) : 2.00
 Dry Density, P_d (Mg/m^3) : 1.60
 Void Ratio, e_o : 0.700
 Deg. of Saturation, S_o (%) : 95.98
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 21.6
 Bulk Density, ρ_f (Mg/m^3) : 2.09
 Dry Density, ρ_{df} (Mg/m^3) : 1.72
 Void Ratio, e_f : 0.581
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 1.375
 Pre-Consolidation Pres, P_c (kPa) : 240
 Compression Index, C_c : 0.206

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20 $^{\circ}C$ (m^2/yr)	m_v (m^2/MN)
1	25	19.961	0.018	0.039	0.697	1.777	24.937	21.296	0.078
2	50	19.873	0.034	0.127	0.689	12.989	3.390	2.895	0.176
3	100	19.694	0.058	0.306	0.674	24.503	1.773	1.514	0.180
4	200	19.381	0.086	0.619	0.647	25.644	1.652	1.411	0.159
5	400	18.939	0.130	1.061	0.610	27.205	1.498	1.279	0.114
6	800	18.337	0.176	1.663	0.559	26.471	1.457	1.244	0.079
7	1600	17.618	0.228	2.382	0.497	24.128	1.487	1.270	0.049
8	200	18.082	0.186	1.918	0.537				
9	25	18.625	0.112	1.375	0.583				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator : *Natthu*

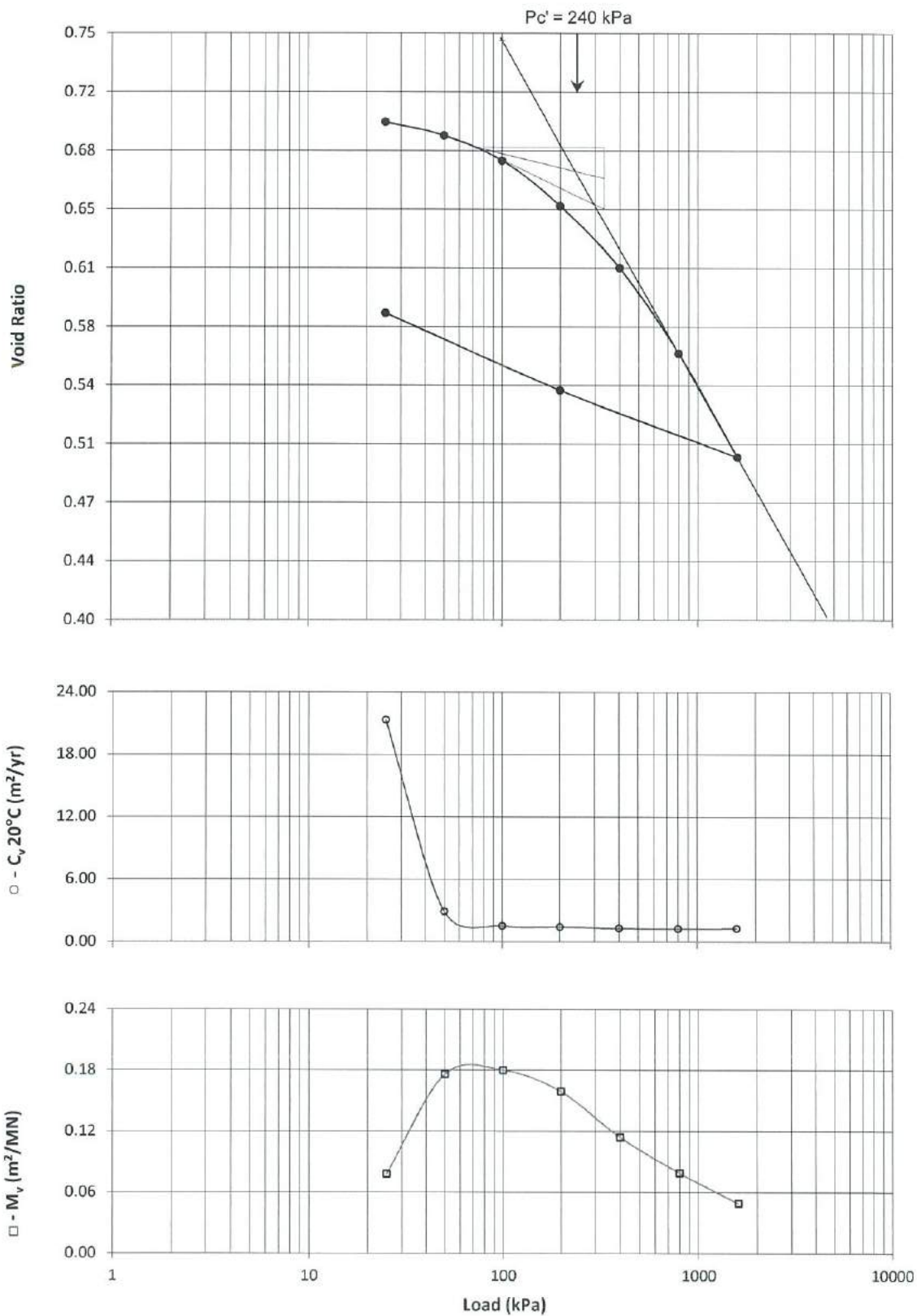
Checked : *Cplal 25/9/15*

Test Name : Consol
 Date of Test : 11/09/15
 Sample : TW 2 (4.00-4.90m)
 Borehole : BH34

Approved : *Stanley 25/9/15*

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Matthy*

Checked :

Test Name : Consol
Date of Test : 11/09/15

Sample : TW 2 (4.00-4.90m)
Borehole : BH34

Cyrlab 25/9/15

Approved :

Sanjiv
25/9/15

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 4.80-4.90m
 Description : Light grey mottled yellowish brown, Slightly sandy CLAY with peat
 Height, H_o (mm) : 20.0 Machine Channel : C17
 Diameter, D_o (mm) : 50.0 Type of Sample : Undisturbed Sample
 Weight, W_o (g) : 67.8 Particle Density, ρ_s (Mg/m^3) : 2.60 (measured)

Initial Conditions

Moisture Content, w_o (%) : 39.7
 Bulk Density, ρ (Mg/m^3) : 1.73
 Dry Density, ρ_d (Mg/m^3) : 1.24
 Void Ratio, e_o : 1.097
 Deg. of Saturation, S_o (%) : 94.09
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 30.6
 Bulk Density, ρ_f (Mg/m^3) : 1.88
 Dry Density, ρ_{df} (Mg/m^3) : 1.44
 Void Ratio, e_f : 0.806
 Deg. of Saturation, S_f (%) : 98.71
 Total Settlement (mm) : 3.087
 Pre-Consolidation Pres, P_c (kPa) : 70
 Compression Index, C_c : 0.320

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20 $^{\circ}C$ (m^2/yr)	m_v (m^2/MN)
1	6.25	19.855	0.002	0.145	1.082	79.480	0.555	0.474	1.160
2	12.5	19.688	0.004	0.312	1.064	103.059	0.421	0.360	1.346
3	25	19.404	0.008	0.596	1.035	104.607	0.405	0.346	1.154
4	50	18.984	0.014	1.016	0.991	88.218	0.464	0.396	0.866
5	100	18.389	0.026	1.611	0.928	86.091	0.450	0.384	0.627
6	200	17.586	0.042	2.414	0.844	83.296	0.431	0.368	0.437
7	400	16.667	0.064	3.333	0.748	70.648	0.461	0.394	0.261
8	800	15.747	0.088	4.253	0.651	49.535	0.589	0.503	0.138
9	100	16.274	0.052	3.726	0.706				
10	6.25	16.913	0.020	3.087	0.773				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator : *Matthy*

Checked :

Test Name : Consol
 Date of Test : 16/09/15

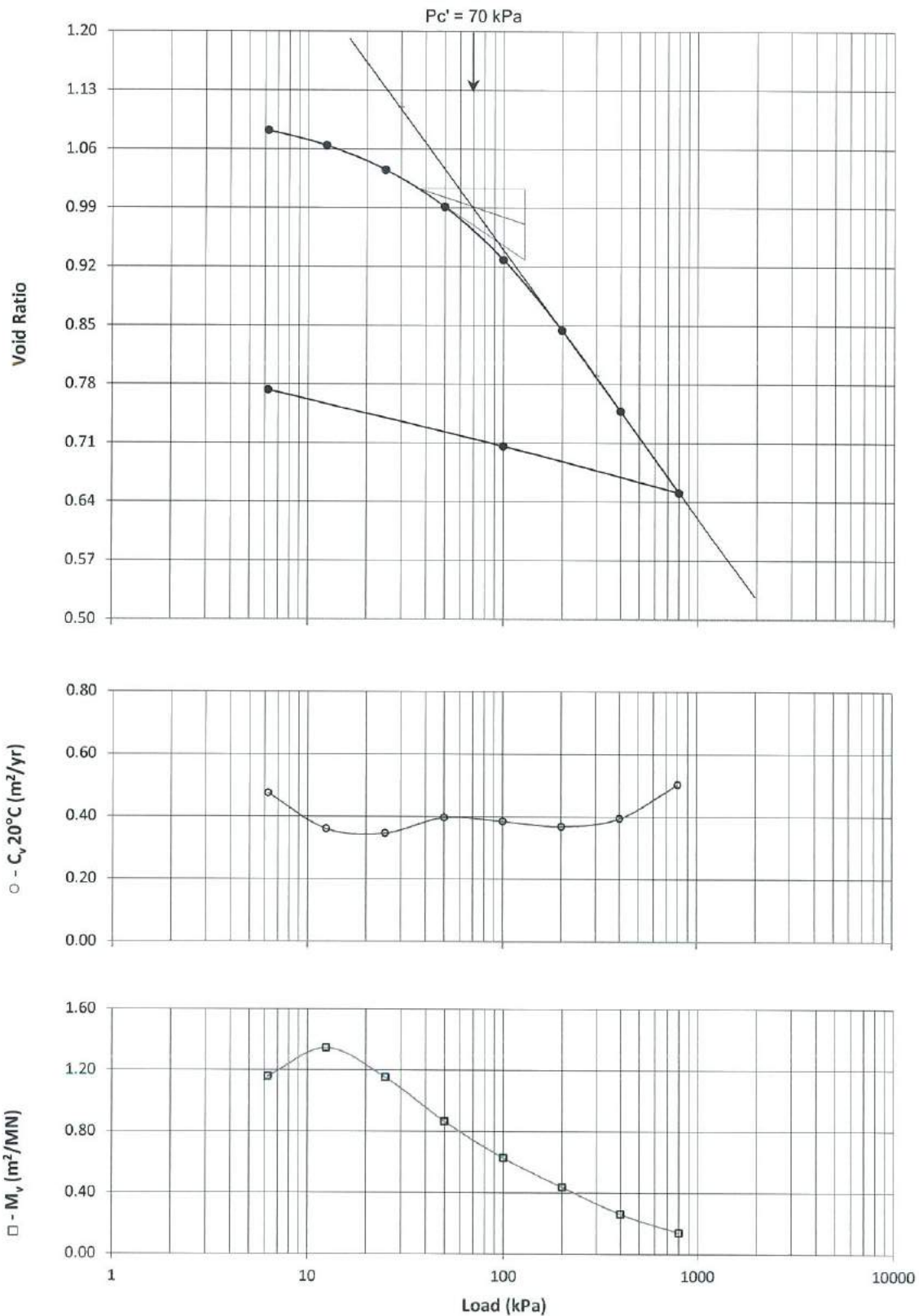
Sample : TW 2 (4.00-4.90)
 Borehole : BH36

Cpld 25/9/15

Approved : *Sanjiv 25/9/15*

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Mathy*

Checked :

Test Name : Consol

Date of Test : 16/09/15

Sample : TW 2 (4.00-4.90)

Borehole : BH36

Cyral 25/9/15

Approved :

25/9/15

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 4.80-4.90m
 Description : Light grey, Slightly sandy CLAY with traces of peat
 Height, H_o (mm) : 20.0 Machine Channel : C22
 Diameter, D_o (mm) : 50.0 Type of Sample : Undisturbed Sample
 Weight, W_o (g) : 78.6 Particle Density, ρ_s (Mg/m^3) : 2.70 (measured)

Initial Conditions

Moisture Content, w_o (%) : 26.0
 Bulk Density, ρ (Mg/m^3) : 2.00
 Dry Density, ρ_d (Mg/m^3) : 1.59
 Void Ratio, e_o : 0.698
 Deg. of Saturation, S_o (%) : 100.00
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 23.5
 Bulk Density, ρ_f (Mg/m^3) : 2.10
 Dry Density, ρ_{df} (Mg/m^3) : 1.70
 Void Ratio, e_f : 0.588
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 1.365
 Pre-Consolidation Pres, P_c (kPa) : 240
 Compression Index, C_c : 0.214

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20 $^{\circ}C$ (m^2/yr)	m_v (m^2/MN)
1	25	19.922	0.014	0.078	0.691	1.547	28.589	24.415	0.156
2	50	19.826	0.022	0.174	0.683	16.706	2.624	2.241	0.193
3	100	19.657	0.042	0.343	0.669	23.757	1.821	1.555	0.170
4	200	19.332	0.060	0.668	0.641	30.048	1.404	1.199	0.165
5	400	18.840	0.093	1.160	0.599	34.801	1.162	0.992	0.127
6	800	18.171	0.123	1.829	0.543	28.909	1.315	1.123	0.089
7	1600	17.428	0.161	2.572	0.480	25.644	1.371	1.171	0.051
8	200	17.958	0.099	2.042	0.525				
9	25	18.635	0.050	1.365	0.582				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator : *Mathy 11/9/15*

Checked :

Test Name : Consol
 Date of Test : 11/09/15

Sample : TW 2B (4.40-4.90m)
 Borehole : BH37

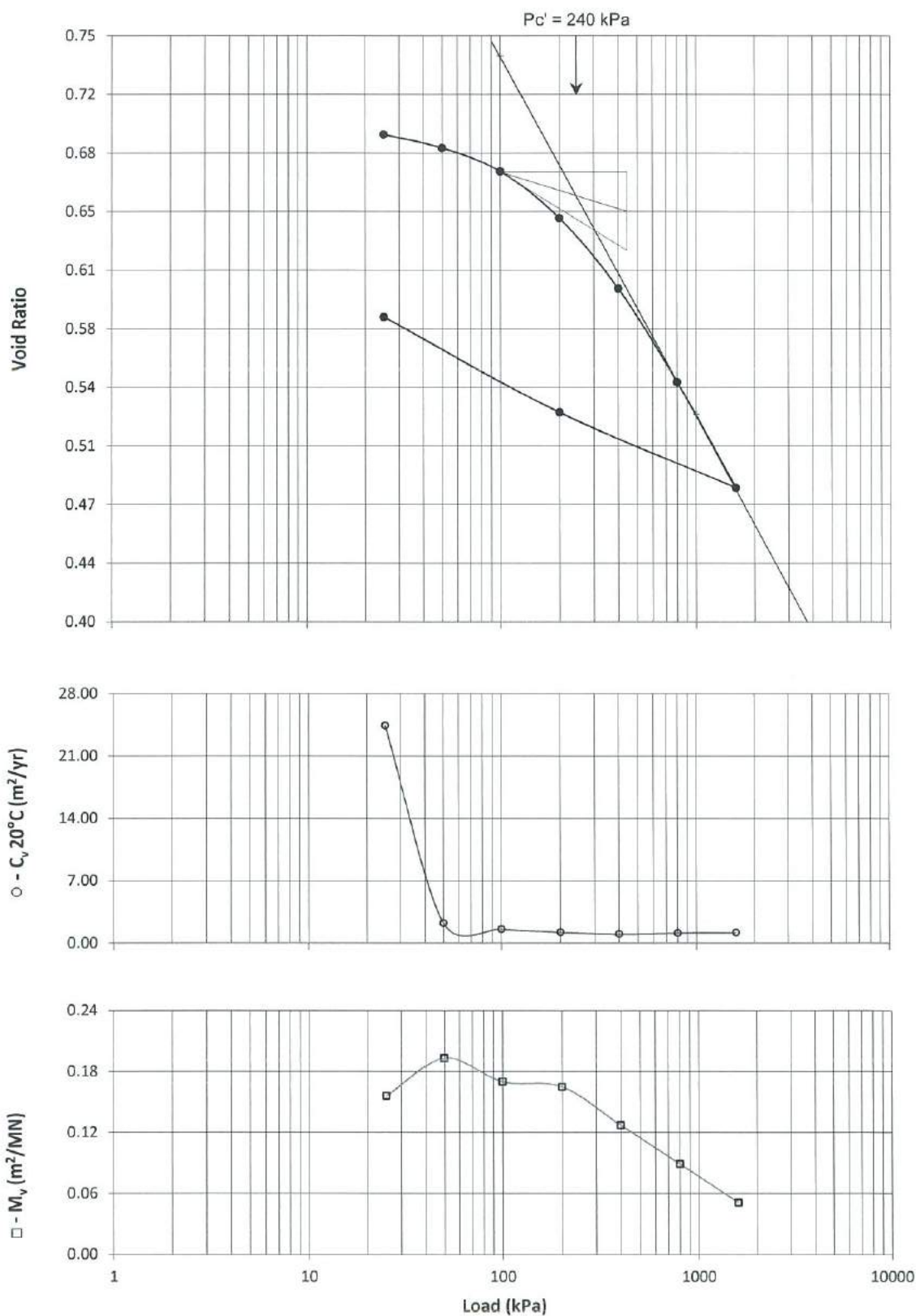
Copied 5/10/15

Approved :

Signature 5/10/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Matthys 11/9/15*

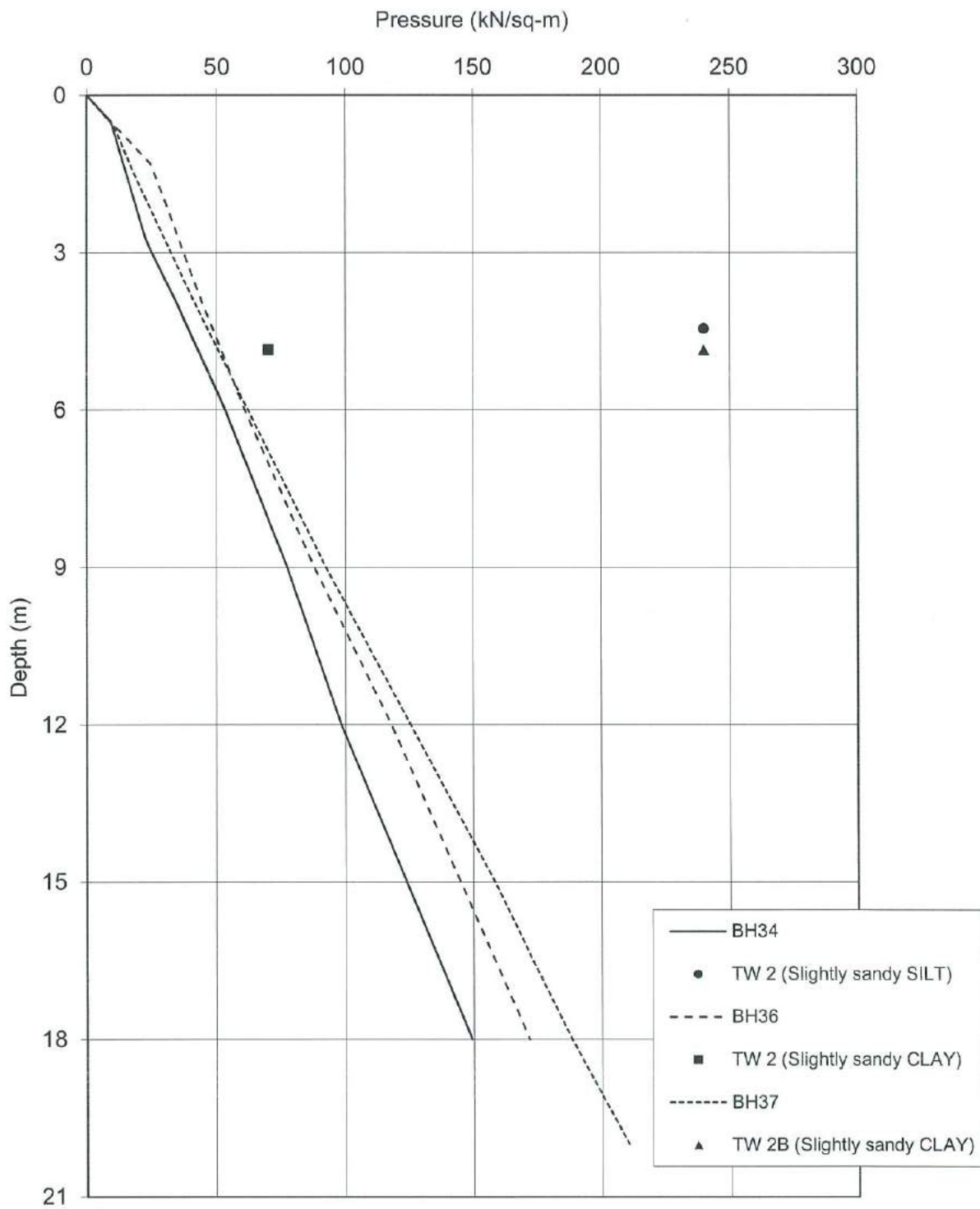
Checked :

Test Name : Consol
Date of Test : 11/09/15

Sample : TW 2B (4.40-4.90m)
Borehole : BH37

Approved :

Cepher 11/10/15 *Latipus 11/10/15*



**Existing Overburden Pressure vs
Preconsolidation Pressure**

	Location : Lim Chu Kang		
	Job No : SIL / S7518 / 15 / SI		
Prepared by : <i>Cyber</i>	Approved by : <i>Jacky</i>	Date : 22/10/15	

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 4.80-4.90m
 Description : Light grey, Slightly sandy CLAY with traces of peat
 Height, H_o (mm) : 20.0 Machine Channel : C22
 Diameter, D_o (mm) : 50.0 Type of Sample : Undisturbed Sample
 Weight, W_o (g) : 79.9 Particle Density, ρ_s (Mg/m^3) : 2.69 (measured)

Initial Conditions

Moisture Content, w_o (%) : 23.3
 Bulk Density, ρ (Mg/m^3) : 2.03
 Dry Density, P_d (Mg/m^3) : 1.65
 Void Ratio, e_o : 0.630
 Deg. of Saturation, S_o (%) : 99.49
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 19.9
 Bulk Density, ρ_f (Mg/m^3) : 2.14
 Dry Density, ρ_{df} (Mg/m^3) : 1.78
 Void Ratio, e_f : 0.511
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 1.491
 Pre-Consolidation Pres, P_c (kPa) : 232
 Compression Index, C_c : 0.174

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20°C (m^2/yr)	m_v (m^2/MN)
1	25	19.877	0.014	0.123	0.620	12.024	3.670	3.134	0.246
2	50	19.758	0.022	0.242	0.610	34.801	1.253	1.070	0.239
3	100	19.549	0.042	0.451	0.593	33.470	1.281	1.094	0.212
4	200	19.222	0.060	0.778	0.567	30.886	1.351	1.154	0.167
5	400	18.768	0.093	1.232	0.530	29.633	1.352	1.155	0.118
6	800	18.176	0.123	1.824	0.481	24.128	1.570	1.341	0.079
7	1600	17.521	0.161	2.479	0.428	20.888	1.693	1.446	0.045
8	200	17.921	0.099	2.079	0.461				
9	25	18.509	0.050	1.491	0.508				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator : *Mathy*

Checked :

Test Name : Consol
 Date of Test : 04/09/15

Sample : TW 2 (4.00-4.90m)
 Borehole : BH38

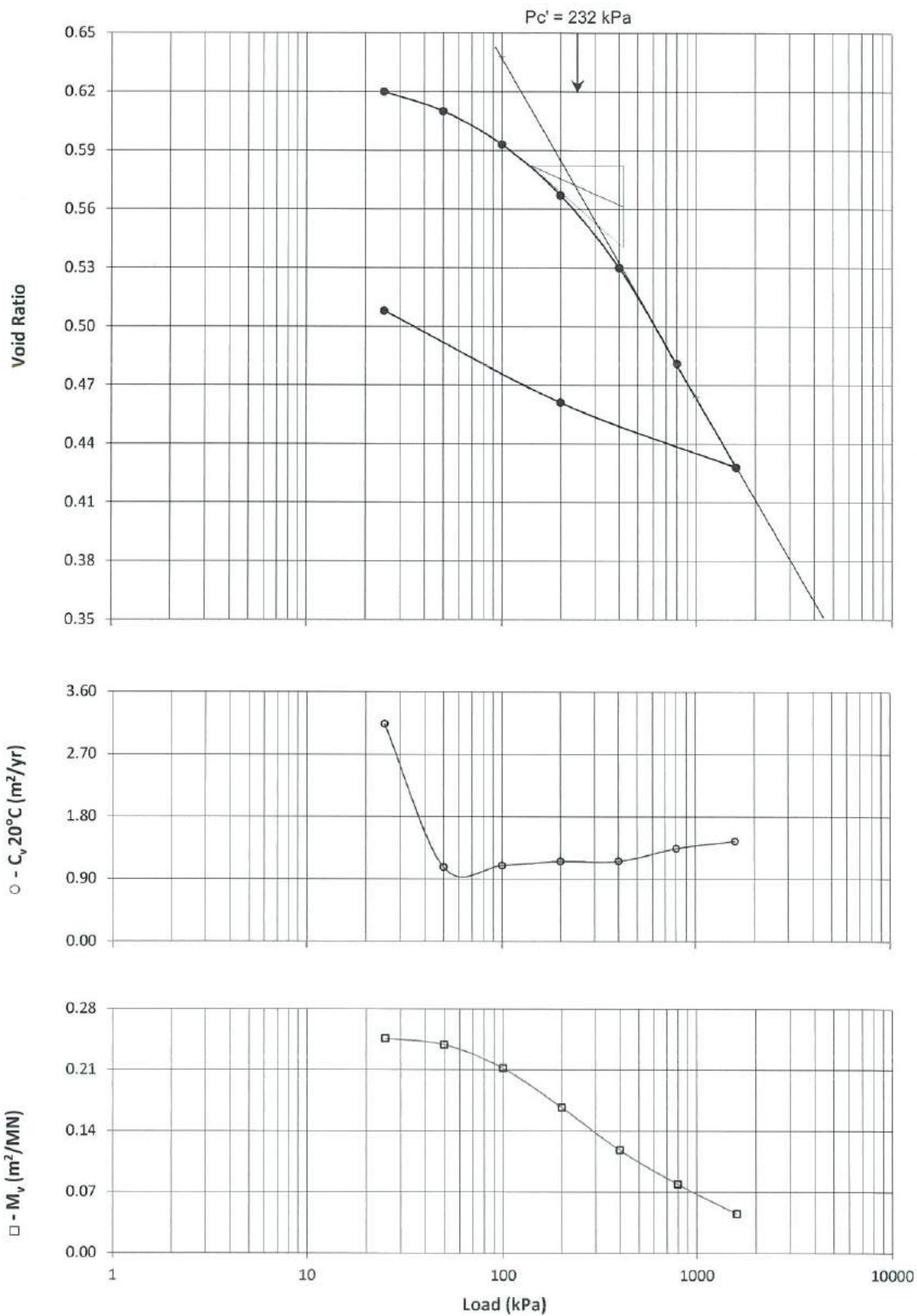
C. L. L. 25/9/15

Approved :

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Matthys*

Checked :

Test Name

Consol

Date of Test :

04/09/15

Sample :

TW 2 (4.00-4.90m)

Borehole :

BH38

Approved :

Handwritten signature and date 25/9/15

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 5.80-5.90m
 Description : Brownish grey, Slightly gravelly sandy SILT with traces of peat and decayed wood
 Height, H_o (mm) : 20.0 Machine Channel : C20
 Diameter, D_o (mm) : 50.0 Type of Sample : Undisturbed Sample
 Weight, W_o (g) : 73.3 Particle Density, ρ_s (Mg/m^3) : 2.64 (measured)

Initial Conditions

Moisture Content, w_o (%) : 32.3
 Bulk Density, ρ (Mg/m^3) : 1.87
 Dry Density, P_d (Mg/m^3) : 1.41
 Void Ratio, e_o : 0.872
 Deg. of Saturation, S_o (%) : 97.79
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 25.4
 Bulk Density, ρ_f (Mg/m^3) : 2.01
 Dry Density, ρ_{df} (Mg/m^3) : 1.60
 Void Ratio, e_f : 0.650
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 2.413
 Pre-Consolidation Pres, P_c (kPa) : 145
 Compression Index, C_c : 0.264

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20 $^{\circ}C$ (m^2/yr)	m_v (m^2/MN)
1	12.5	19.804	0.010	0.196	0.854	29.710	1.480	1.264	0.784
2	25	19.639	0.018	0.361	0.838	27.205	1.587	1.355	0.667
3	50	19.411	0.034	0.589	0.817	17.562	2.410	2.058	0.464
4	100	19.138	0.070	0.862	0.791	15.108	2.729	2.331	0.281
5	200	18.608	0.110	1.392	0.742	16.931	2.335	1.994	0.277
6	400	17.767	0.164	2.233	0.663	19.189	1.913	1.634	0.226
7	800	16.932	0.216	3.068	0.585	19.456	1.717	1.466	0.117
8	100	17.171	0.178	2.829	0.607				
9	12.5	17.587	0.124	2.413	0.646				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator : *Matth*

Checked :

Test Name : Consol
 Date of Test : 02/09/15

Sample : TW 2 (5.00-5.90m)
 Borehole : BH39

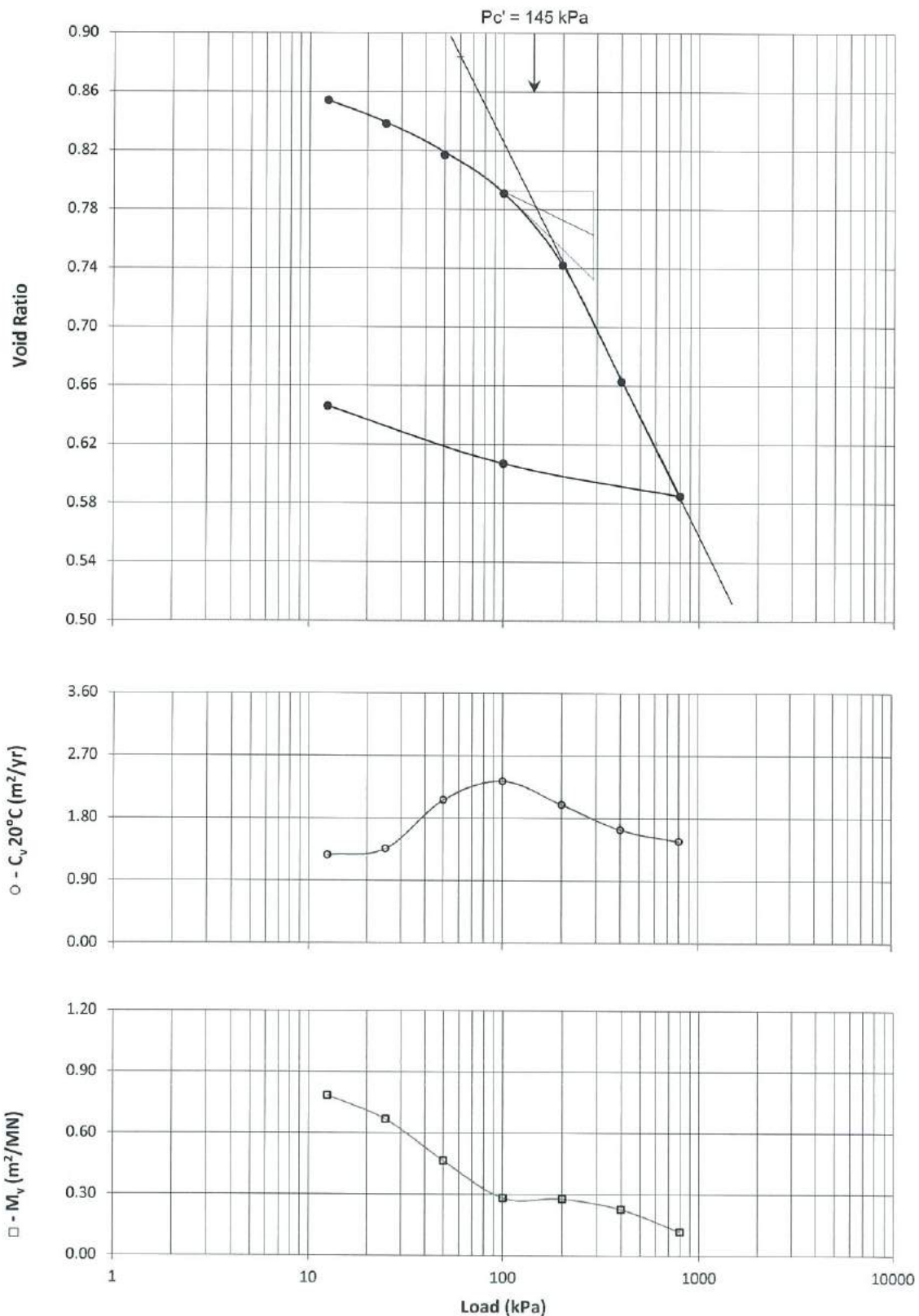
Cyral 25/9/15

Approved :

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Mathu*

Checked :

Test Name : Consol

Date of Test : 02/09/15

Sample : TW 2 (5.00-5.90m)

Borehole : BH39

Cyrla 25/9/15

Approved :

Sanjiv 25/9/15
355

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 5.80-5.90m
 Description : Light grey mottled reddish brown, Slightly sandy CLAY
 Height, H_o (mm) : 20.0 Machine Channel : C13
 Diameter, D_o (mm) : 50.0 Type of Sample : Undisturbed Sample
 Weight, W_o (g) : 82.3 Particle Density, ρ_s (Mg/m³) : 2.73 (measured)

Initial Conditions

Moisture Content, w_e (%) : 20.8
 Bulk Density, ρ (Mg/m³) : 2.10
 Dry Density, P_d (Mg/m³) : 1.74
 Void Ratio, e_o : 0.569
 Deg. of Saturation, S_o (%) : 99.80
 Room Temperature, (°C) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 18.6
 Bulk Density, ρ_f (Mg/m³) : 2.20
 Dry Density, ρ_{df} (Mg/m³) : 1.85
 Void Ratio, e_f : 0.476
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 1.304
 Pre-Consolidation Pres, P_c (kPa) : 262
 Compression Index, C_c : 0.167

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m ² /yr)	C_v 20°C (m ² /yr)	m_v (m ² /MN)
1	25	19.940	0.018	0.060	0.564	1.498	29.551	25.237	0.120
2	50	19.861	0.034	0.139	0.558	18.794	2.339	1.998	0.158
3	100	19.715	0.058	0.285	0.547	33.911	1.282	1.095	0.147
4	200	19.459	0.086	0.541	0.527	34.355	1.240	1.059	0.130
5	400	19.085	0.130	0.915	0.497	34.801	1.185	1.012	0.096
6	800	18.549	0.176	1.451	0.455	33.470	1.174	1.003	0.070
7	1600	17.896	0.228	2.104	0.404	28.003	1.316	1.124	0.044
8	200	18.250	0.186	1.750	0.432				
9	25	18.696	0.112	1.304	0.467				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator : *Matthys*

Checked :

Test Name : Consol
 Date of Test : 04/09/15

Sample : TW 2 (5.00-5.90m)
 Borehole : BH40

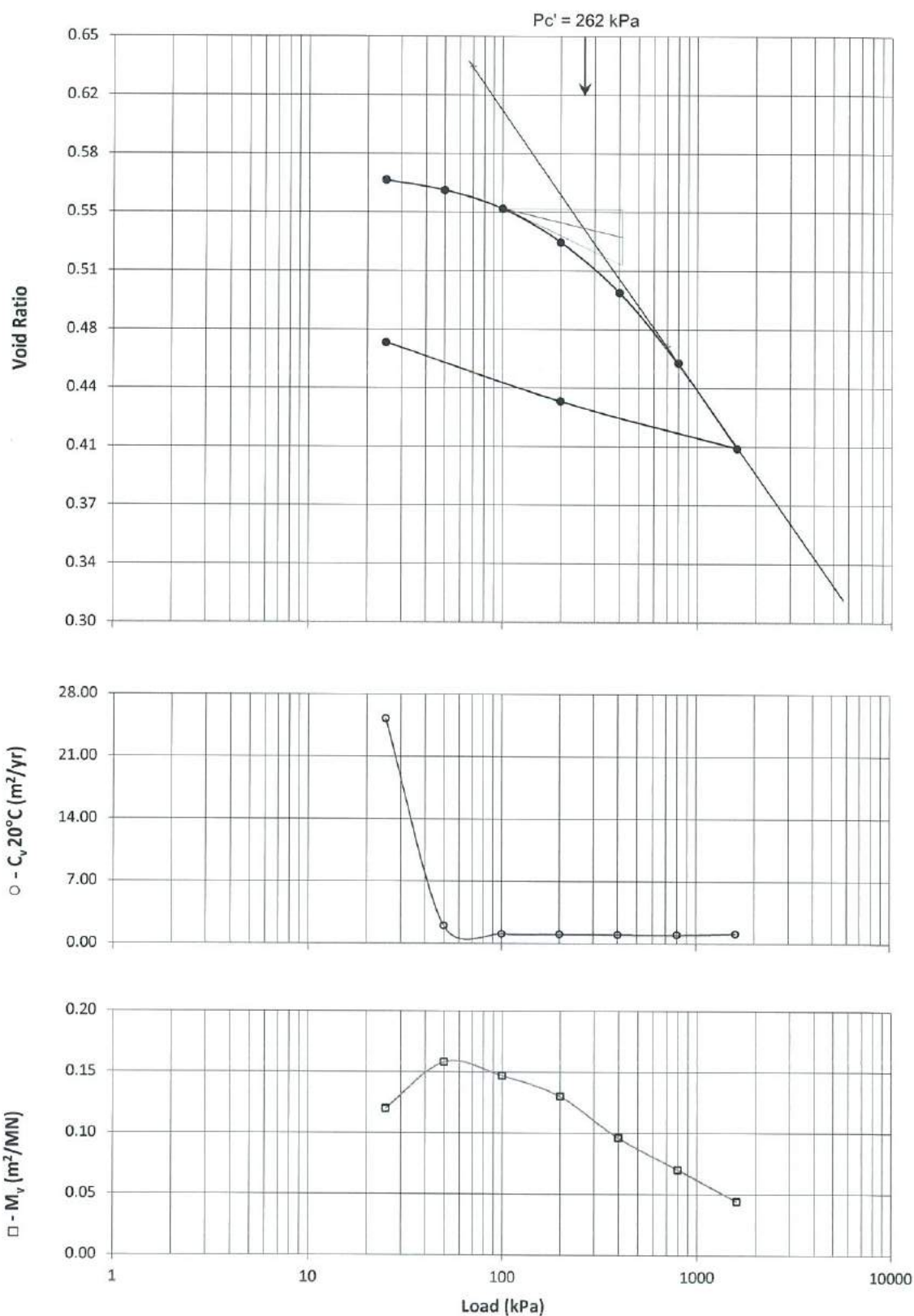
Cyral 25/9/15

Approved :

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Mathy*

Checked :

Test Name : Consol

Date of Test : 04/09/15

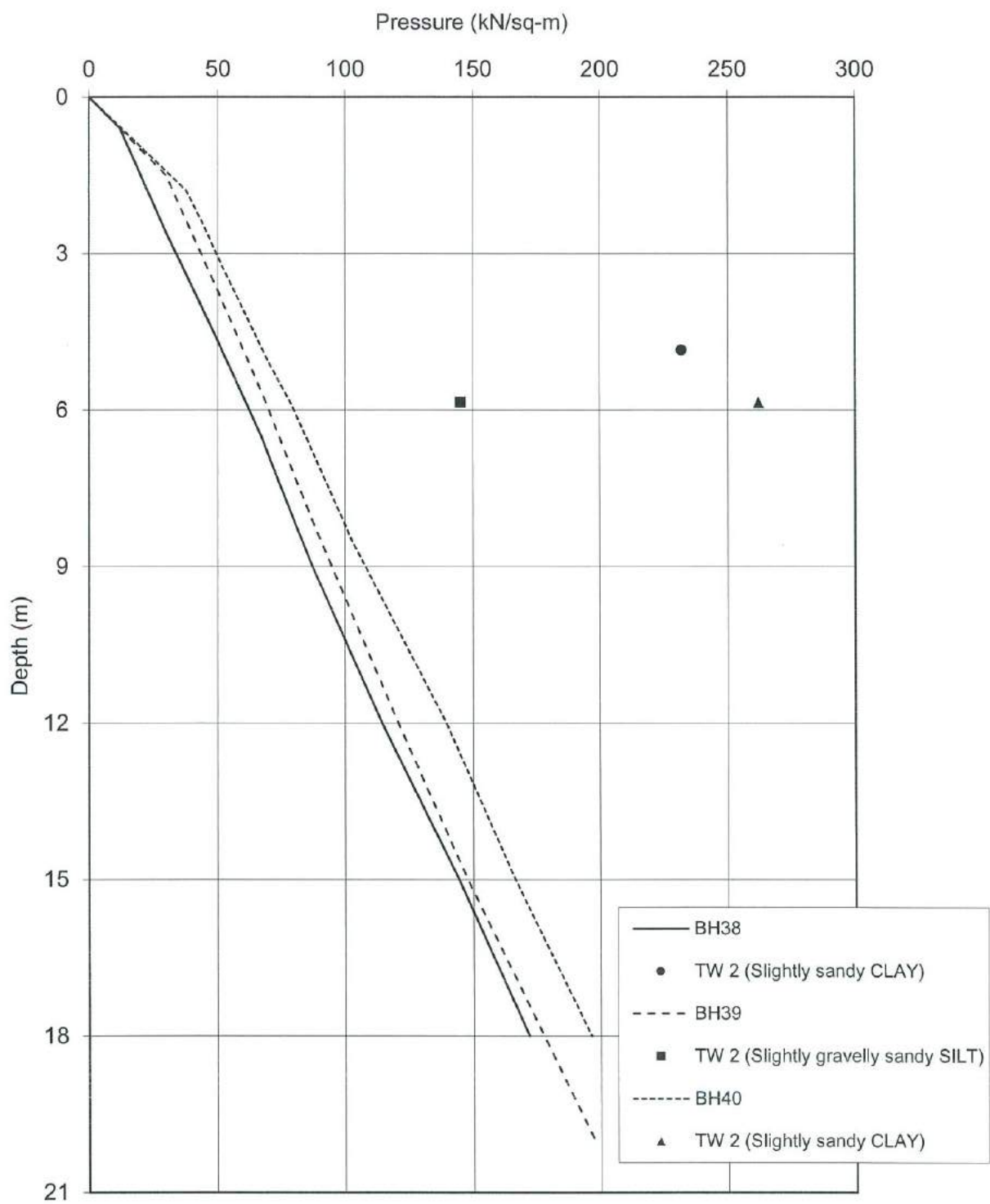
Sample : TW 2 (5.00-5.90m)

Borehole : BH40

Approved 25/9/15

Approved :

25/9/15



**Existing Overburden Pressure vs
Preconsolidation Pressure**

	Location : Lim Chu Kang		
	Job No : SIL / S7518 / 15 / SI		
Prepared by :		Approved by :	
		Date : 22/10/15	

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 5.85-5.90m
 Description : Dark brown, Peaty SILT
 Height, H_o (mm) : 20.0
 Diameter, D_o (mm) : 50.0
 Weight, W_o (g) : 57.6
 Machine Channel : C18
 Type of Sample : Undisturbed Sample
 Particle Density, ρ_s (Mg/m^3) : 2.63 (measured)

Initial Conditions

Moisture Content, w_o (%) : 64.9
 Bulk Density, ρ (Mg/m^3) : 1.47
 Dry Density, P_d (Mg/m^3) : 0.89
 Void Ratio, e_o : 1.955
 Deg. of Saturation, S_o (%) : 87.31
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 48.5
 Bulk Density, ρ_f (Mg/m^3) : 1.65
 Dry Density, ρ_{df} (Mg/m^3) : 1.11
 Void Ratio, e_f : 1.369
 Deg. of Saturation, S_f (%) : 93.17
 Total Settlement (mm) : 3.968
 Pre-Consolidation Pres, P_c (kPa) : 133
 Compression Index, C_c : 0.752

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20 $^{\circ}C$ (m^2/yr)	m_v (m^2/MN)
1	12.5	19.869	0.002	0.131	1.936	11.180	3.945	3.369	0.524
2	25	19.718	0.006	0.282	1.913	20.542	2.117	1.808	0.608
3	50	19.443	0.014	0.557	1.873	25.260	1.685	1.439	0.558
4	100	18.981	0.024	1.019	1.805	26.810	1.528	1.305	0.475
5	200	18.025	0.038	1.975	1.663	32.598	1.166	0.996	0.504
6	400	16.486	0.056	3.514	1.436	71.930	0.459	0.392	0.427
7	800	14.977	0.082	5.023	1.213	70.950	0.387	0.330	0.229
8	100	15.464	0.040	4.536	1.285				
9	12.5	16.032	0.014	3.968	1.369				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator : Mally 4/9/15

Checked : Cplaf 5/10/15

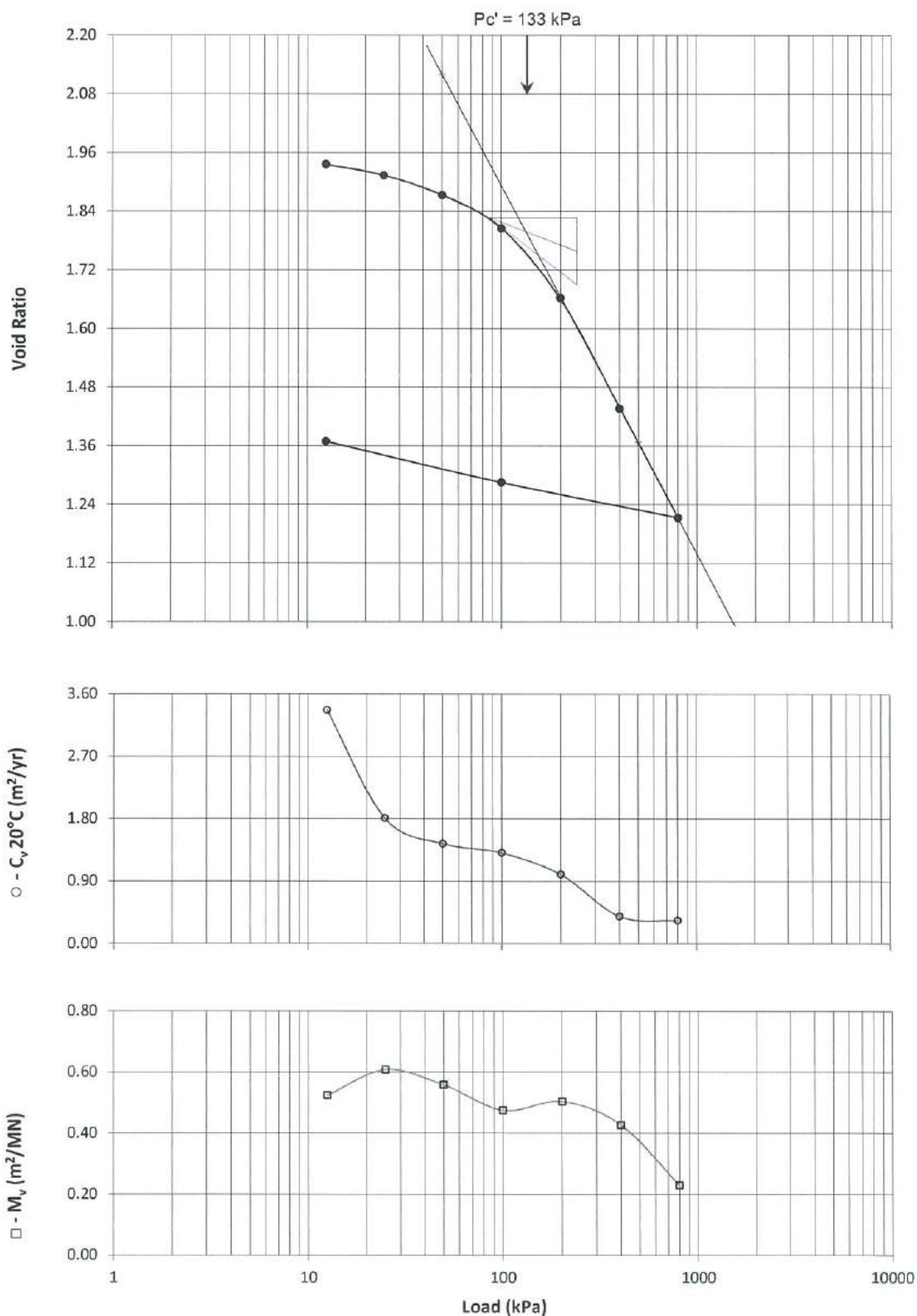
Test Name : Consol
 Date of Test : 04/09/15

Sample : TW 2B (5.70-5.90m)
 Borehole : BH41

Approved : [Signature] 5/10/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Mathy 4/9/15*

Checked : *Cyrol 5/10/15*

Test Name : Consol
Date of Test : 04/09/15
Sample : TW 2B (5.70-5.90m)
Borehole : BH41

Approved : *Ladysmith 5/10/15*

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 4.80-4.90m
 Description : Dark grey, Peaty SILT
 Height, H_o (mm) : 20.0
 Diameter, D_o (mm) : 50.0
 Weight, W_o (g) : 67.9
 Machine Channel : C16
 Type of Sample : Undisturbed Sample
 Particle Density, ρ_s (Mg/m³) : 2.30 (assumed)

Initial Conditions

Moisture Content, w_o (%) : 43.8
 Bulk Density, ρ (Mg/m³) : 1.73
 Dry Density, ρ_d (Mg/m³) : 1.20
 Void Ratio, e_o : 0.917
 Deg. of Saturation, S_o (%) : 100.00
 Room Temperature, (°C) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 31.8
 Bulk Density, ρ_f (Mg/m³) : 1.88
 Dry Density, ρ_{df} (Mg/m³) : 1.43
 Void Ratio, e_f : 0.608
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 3.175
 Pre-Consolidation Pres, P_c (kPa) : 42
 Compression Index, C_c : 0.255

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m ² /yr)	C_v 20°C (m ² /yr)	m_v (m ² /MN)
1	6.25	19.534	0.002	0.466	0.872	74.155	0.585	0.500	3.728
2	12.5	19.331	0.008	0.669	0.853	84.687	0.495	0.423	1.663
3	25	19.046	0.014	0.954	0.826	50.613	0.808	0.690	1.179
4	50	18.598	0.022	1.402	0.783	48.475	0.811	0.693	0.941
5	100	17.883	0.038	2.117	0.714	34.801	1.061	0.906	0.769
6	200	17.097	0.058	2.903	0.639	33.911	1.001	0.855	0.440
7	400	16.297	0.082	3.703	0.562	24.503	1.263	1.079	0.234
8	50	16.519	0.048	3.481	0.583				
9	6.25	16.825	0.020	3.175	0.613				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator : *Matty*

Checked :

Test Name : Consol

Date of Test : 07/09/15

Sample : TW 2B (4.80-4.90m)

Borehole : BH42

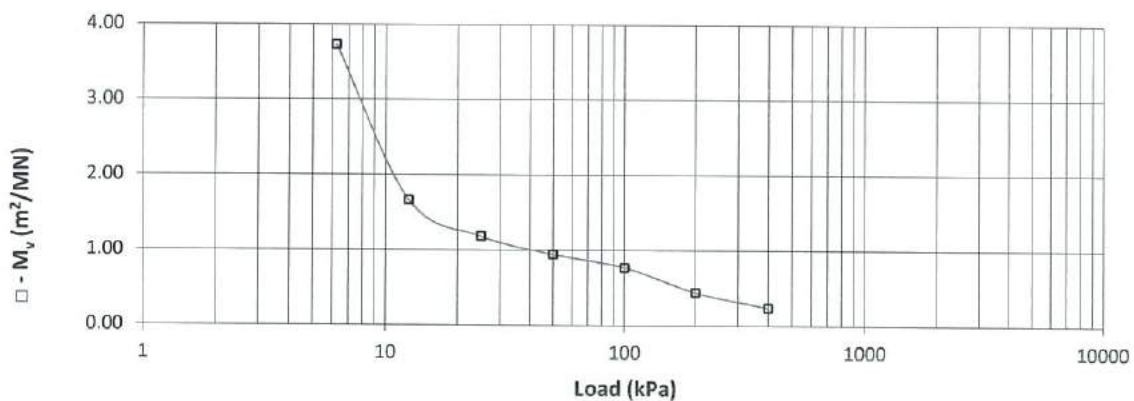
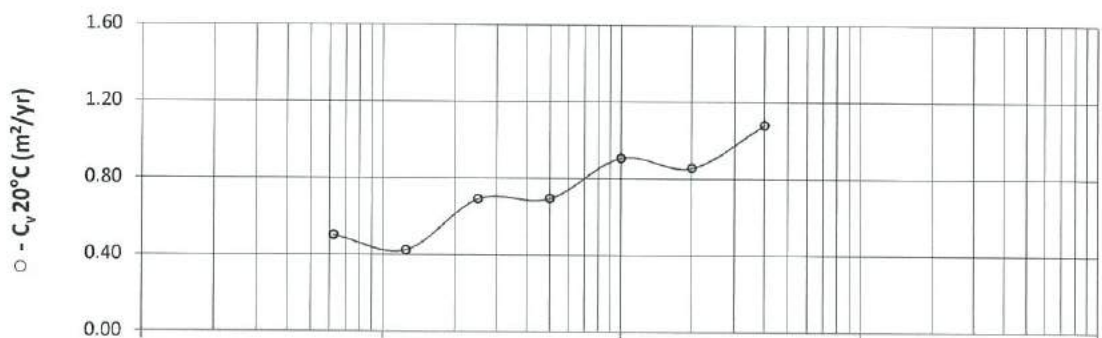
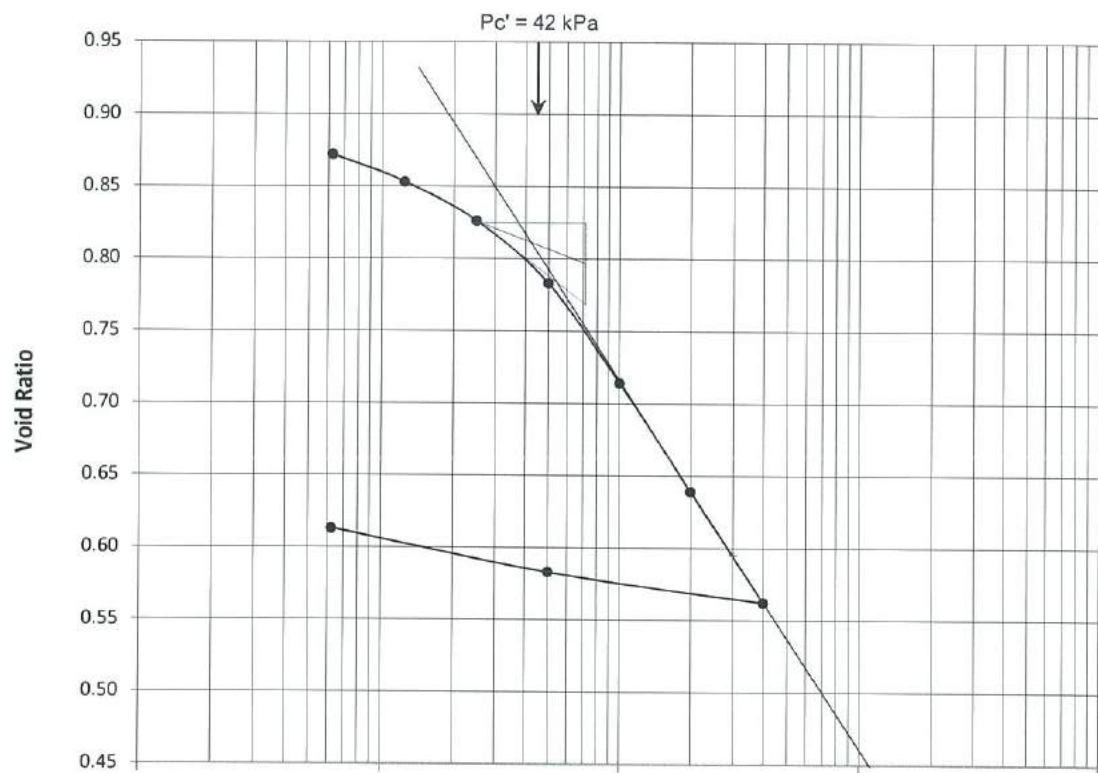
Approved :

Cpl Lal 25/9/15

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Mathy*

Checked :

Test Name : Consol

Date of Test : 07/09/15

Sample : TW 2B (4.80-4.90m)

Borehole : BH42

Cyber 25/9/15

Approved :

25/9/2015
362

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 6.80-6.90m
 Description : Grey, Slightly sandy CLAY
 Height, H_o (mm) : 20.0
 Diameter, D_o (mm) : 50.0
 Weight, W_o (g) : 73.6
 Machine Channel : C18
 Type of Sample : Undisturbed Sample
 Particle Density, ρ_s (Mg/m^3) : 2.65 (assumed)

Initial Conditions

Moisture Content, w_o (%) : 59.3
 Bulk Density, ρ (Mg/m^3) : 1.87
 Dry Density, ρ_d (Mg/m^3) : 1.17
 Void Ratio, e_o : 1.265
 Deg. of Saturation, S_o (%) : 100.00
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 53.9
 Bulk Density, ρ_f (Mg/m^3) : 2.03
 Dry Density, ρ_{df} (Mg/m^3) : 1.32
 Void Ratio, e_f : 1.008
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 2.163
 Pre-Consolidation Pres, P_e (kPa) : 124
 Compression Index, C_c : 0.405

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20 $^{\circ}C$ (m^2/yr)	m_v (m^2/MN)
1	12.5	19.967	0.002	0.033	1.261	1.473	30.093	25.699	0.132
2	25	19.934	0.006	0.066	1.258	12.796	3.453	2.949	0.132
3	50	19.797	0.014	0.203	1.242	59.041	0.742	0.634	0.275
4	100	19.475	0.024	0.525	1.206	57.303	0.747	0.638	0.325
5	200	18.800	0.038	1.200	1.129	112.518	0.361	0.308	0.347
6	400	17.770	0.056	2.230	1.012	130.937	0.283	0.242	0.274
7	800	16.689	0.082	3.311	0.890	123.233	0.267	0.228	0.152
8	100	17.291	0.040	2.709	0.958				
9	12.5	17.837	0.014	2.163	1.020				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator : Mathy

Checked :

Test Name : Consol
 Date of Test : 17/09/15

Sample : TW 3 (6.00-6.90m)
 Borehole : BH44

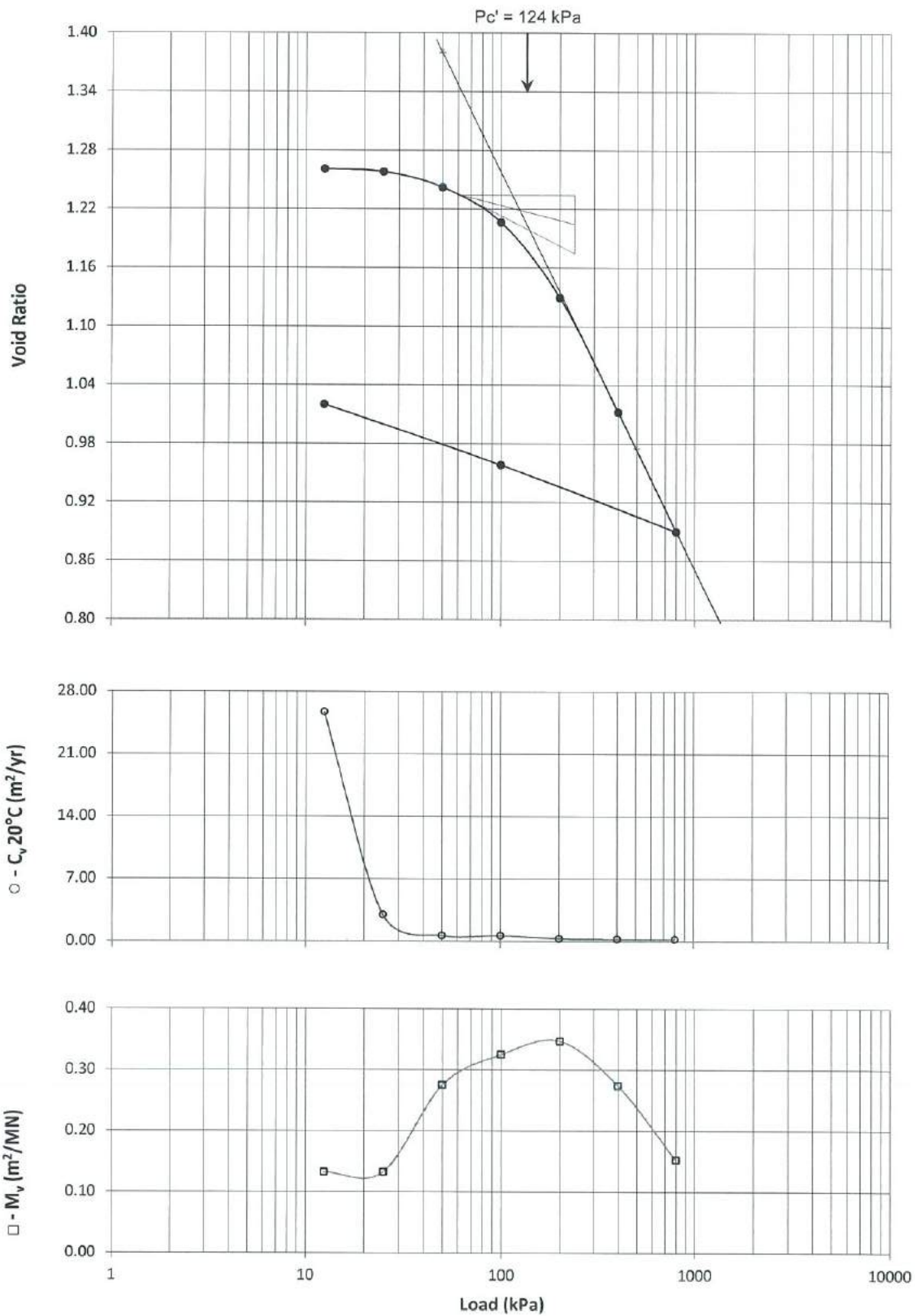
Cpld 25/9/15

Approved :

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Mathy*

Checked :

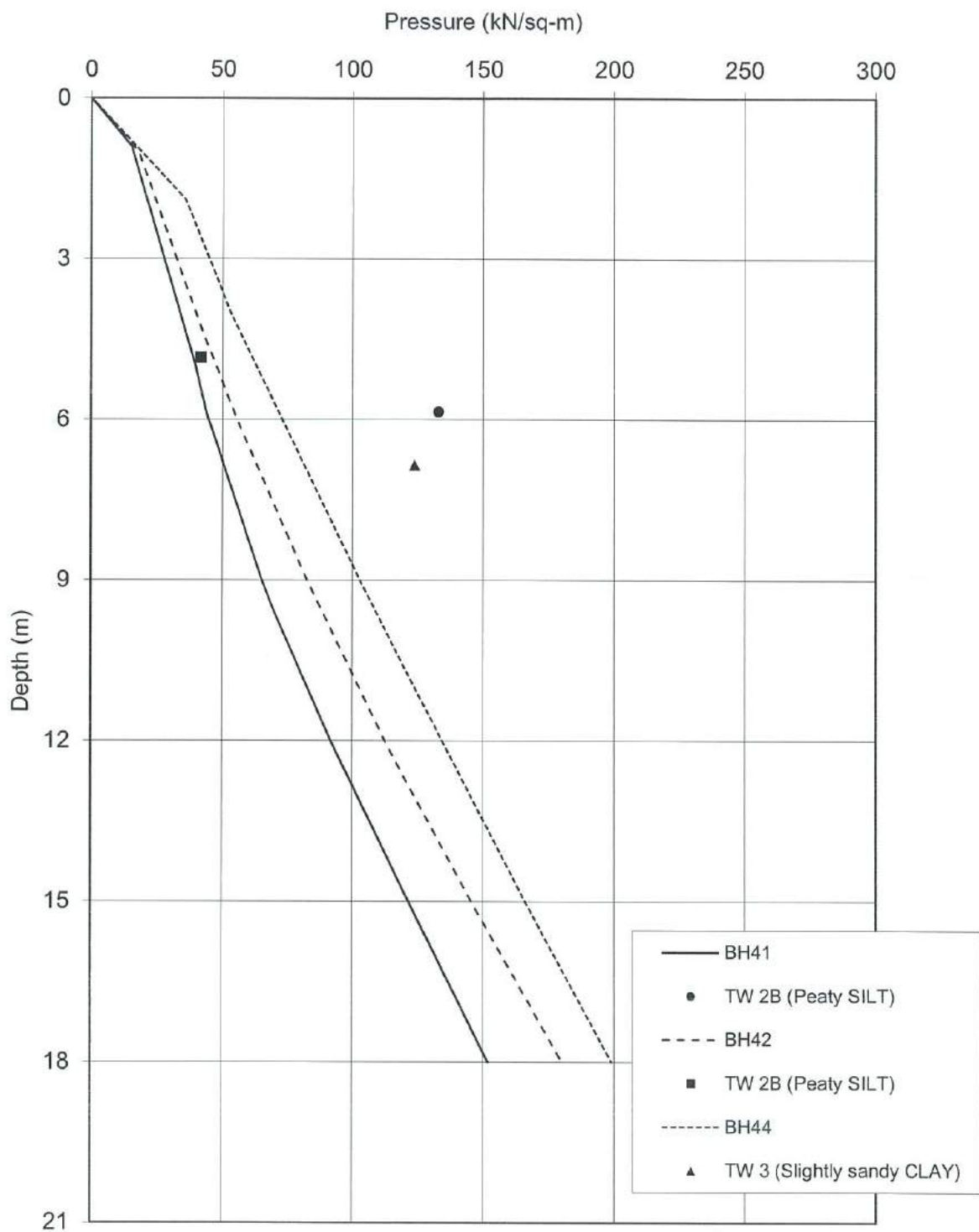
Test Name : Consol
Date of Test : 17/09/15

Sample : TW 3 (6.00-6.90m)
Borehole : BH44

Cyrol 25/9/15

Approved :

25/9/15



**Existing Overburden Pressure vs
Preconsolidation Pressure**

	Location : Lim Chu Kang		
	Job No : SIL / S7518 / 15 / SI		
Prepared by : <i>C. Lal</i>	Approved by : <i>[Signature]</i>	Date : 22/10/15	

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 4.80-4.90m
 Description : Grey mottled reddish brown and yellowish brown, Slightly sandy CLAY
 Height, H_o (mm) : 20.0 Machine Channel : A7
 Diameter, D_o (mm) : 50.0 Type of Sample : Undisturbed Sample
 Weight, W_o (g) : 80.7 Particle Density, ρ_s (Mg/m^3) : 2.69 (measured)

Initial Conditions

Moisture Content, w_o (%) : 21.5
 Bulk Density, ρ (Mg/m^3) : 2.06
 Dry Density, P_d (Mg/m^3) : 1.70
 Void Ratio, e_o : 0.582
 Deg. of Saturation, S_o (%) : 99.37
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 21.4
 Bulk Density, ρ_f (Mg/m^3) : 2.15
 Dry Density, ρ_{df} (Mg/m^3) : 1.77
 Void Ratio, e_f : 0.520
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 0.875
 Pre-Consolidation Pres, P_c (kPa) : 337
 Compression Index, C_c : 0.190

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20 $^{\circ}C$ (m^2/yr)	m_v (m^2/MN)
1	25	19.960	0.024	0.040	0.579	1.198	36.988	31.588	0.080
2	50	19.922	0.044	0.078	0.576	3.568	12.371	10.565	0.076
3	100	19.789	0.071	0.211	0.565	17.216	2.542	2.171	0.134
4	200	19.573	0.106	0.427	0.548	25.108	1.712	1.462	0.109
5	400	19.245	0.142	0.755	0.522	22.736	1.839	1.571	0.084
6	800	18.657	0.178	1.343	0.476	20.482	1.946	1.662	0.076
7	1600	17.940	0.208	2.060	0.419	18.345	2.026	1.730	0.048
8	200	18.537	0.186	1.463	0.466				
9	25	19.125	0.112	0.875	0.513				



Test Method : BS1377 : Part 5 : 1990
 (Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator :

Mathy

Checked :

Test Name : Consol
 Date of Test : 16/09/15

Sample : TW 2 (4.00-4.90m)
 Borehole : BH45

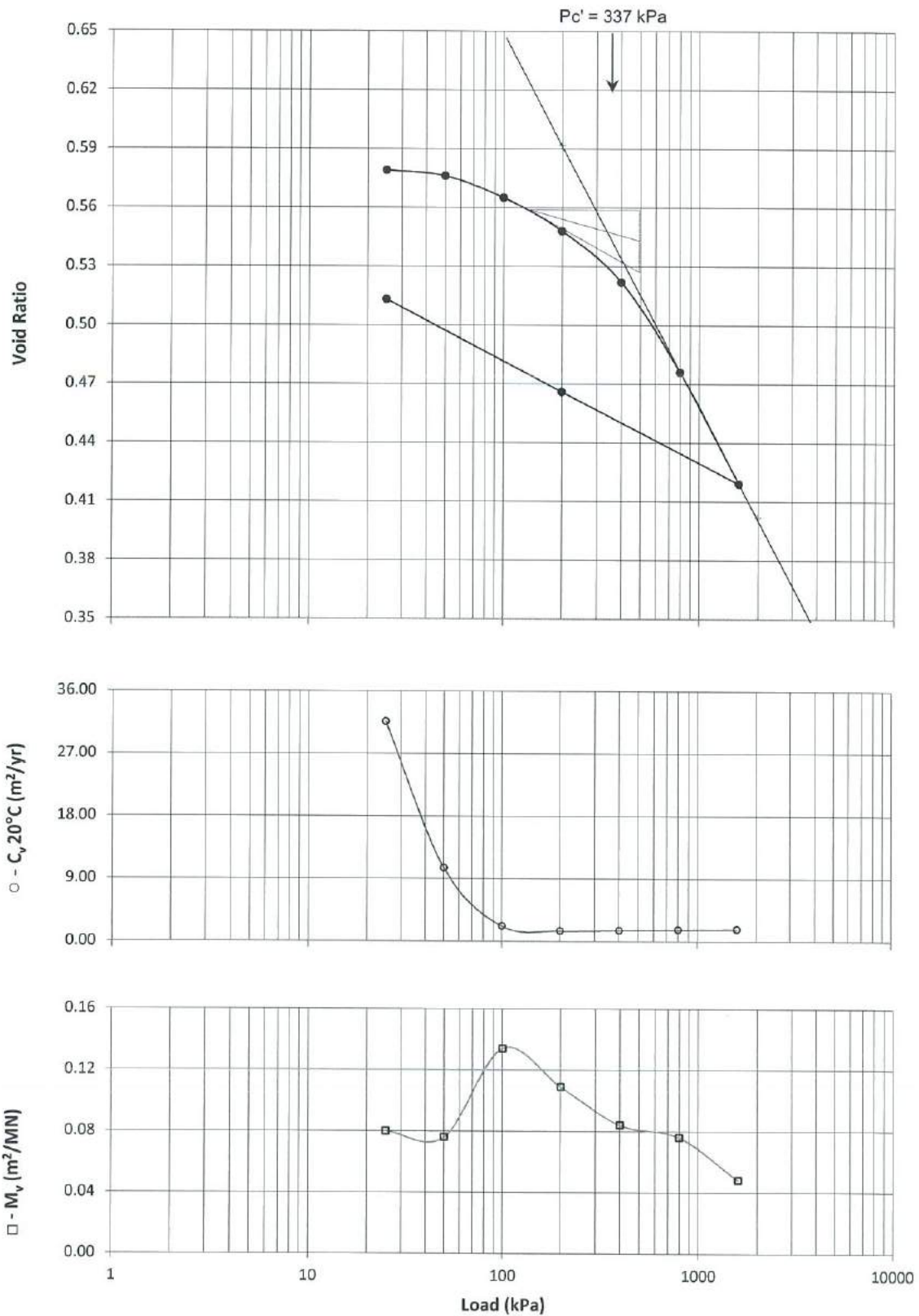
Approved :

Cpl Lal 25/9/15

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Matthw*

Checked :

Test Name : Consol
Date of Test : 16/09/15

Sample : TW 2 (4.00-4.90m)
Borehole : BH45

Cyrol 25/9/15

Approved :

Sanjiv 25/9/15

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 4.80-4.90m
 Description : Grey spotted dark grey, Slightly sandy CLAY with traces of peat
 Height, H_o (mm) : 20.0 Machine Channel : C14
 Diameter, D_o (mm) : 50.0 Type of Sample : Undisturbed Sample
 Weight, W_o (g) : 64.0 Particle Density, ρ_s (Mg/m^3) : 2.69 (measured)

Initial Conditions

Moisture Content, w_o (%) : 57.0
 Bulk Density, ρ (Mg/m^3) : 1.63
 Dry Density, ρ_d (Mg/m^3) : 1.04
 Void Ratio, e_o : 1.587
 Deg. of Saturation, S_o (%) : 96.62
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 42.4
 Bulk Density, ρ_f (Mg/m^3) : 1.82
 Dry Density, ρ_{df} (Mg/m^3) : 1.28
 Void Ratio, e_f : 1.102
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 3.744
 Pre-Consolidation Pres, P_c (kPa) : 72
 Compression Index, C_c : 0.680

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20°C (m^2/yr)	m_v (m^2/MN)
1	6.25	19.783	0.002	0.217	1.559	34.263	1.282	1.095	1.736
2	12.5	19.594	0.008	0.406	1.534	40.869	1.053	0.899	1.529
3	25	19.329	0.022	0.671	1.500	33.911	1.240	1.059	1.082
4	50	18.949	0.038	1.051	1.451	45.355	0.896	0.765	0.786
5	100	17.999	0.058	2.001	1.328	58.459	0.648	0.553	1.003
6	200	16.443	0.084	3.557	1.127	93.281	0.353	0.301	0.864
7	400	15.184	0.116	4.816	0.964	65.529	0.424	0.362	0.383
8	50	15.720	0.096	4.280	1.033				
9	6.25	16.256	0.056	3.744	1.103				



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator :

Mathy

Checked :

Test Name : Consol
 Date of Test : 17/09/15

Sample : TW 2 (4.00-4.90m)
 Borehole : BH46

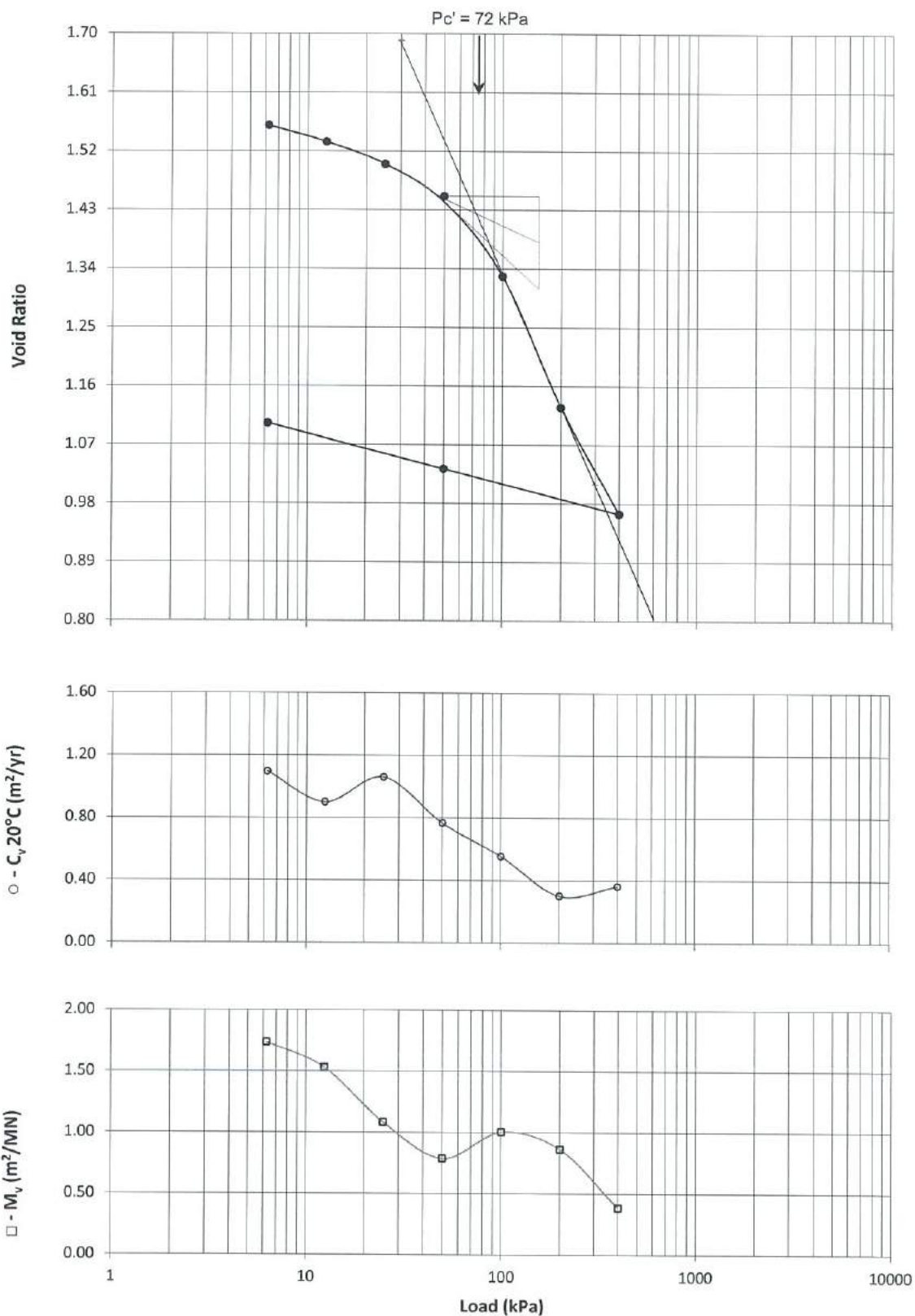
Approved :

Cyber 25/9/15

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Matty*

Checked :

Test Name : Consol
Date of Test : 17/09/15

Sample : TW 2 (4.00-4.90m)
Borehole : BH46

Approved :

Cyral 25/9/15

25/9/15

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 4.80-4.90m
 Description : Light grey spotted dark grey, Slightly sandy SILT with traces of peat
 Height, H_o (mm) : 20.0 Machine Channel : C20
 Diameter, D_o (mm) : 50.0 Type of Sample : Undisturbed Sample
 Weight, W_o (g) : 80.2 Particle Density, ρ_s (Mg/m^3) : 2.71 (measured)

Initial Conditions

Moisture Content, w_o (%) : 23.6
 Bulk Density, ρ (Mg/m^3) : 2.04
 Dry Density, ρ_d (Mg/m^3) : 1.65
 Void Ratio, e_o : 0.642
 Deg. of Saturation, S_o (%) : 99.62
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 19.7
 Bulk Density, ρ_f (Mg/m^3) : 2.17
 Dry Density, ρ_{df} (Mg/m^3) : 1.81
 Void Ratio, e_f : 0.497
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 1.748
 Pre-Consolidation Pres, P_c (kPa) : 246
 Compression Index, C_c : 0.190

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20 $^{\circ}C$ (m^2/yr)	m_v (m^2/MN)
1	25	19.839	0.018	0.161	0.629	11.810	3.729	3.185	0.322
2	50	19.704	0.034	0.296	0.618	50.613	0.857	0.732	0.272
3	100	19.479	0.070	0.521	0.599	59.041	0.722	0.617	0.228
4	200	19.143	0.110	0.857	0.572	51.699	0.801	0.684	0.172
5	400	18.673	0.164	1.327	0.533	51.968	0.764	0.652	0.123
6	800	17.998	0.216	2.002	0.478	44.845	0.832	0.711	0.090
7	1600	17.308	0.272	2.692	0.421	35.251	0.981	0.838	0.048
8	200	17.742	0.202	2.258	0.457				
9	25	18.252	0.142	1.748	0.499				



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator :

Mathu

Checked :

Test Name : Consol
 Date of Test : 11/09/15

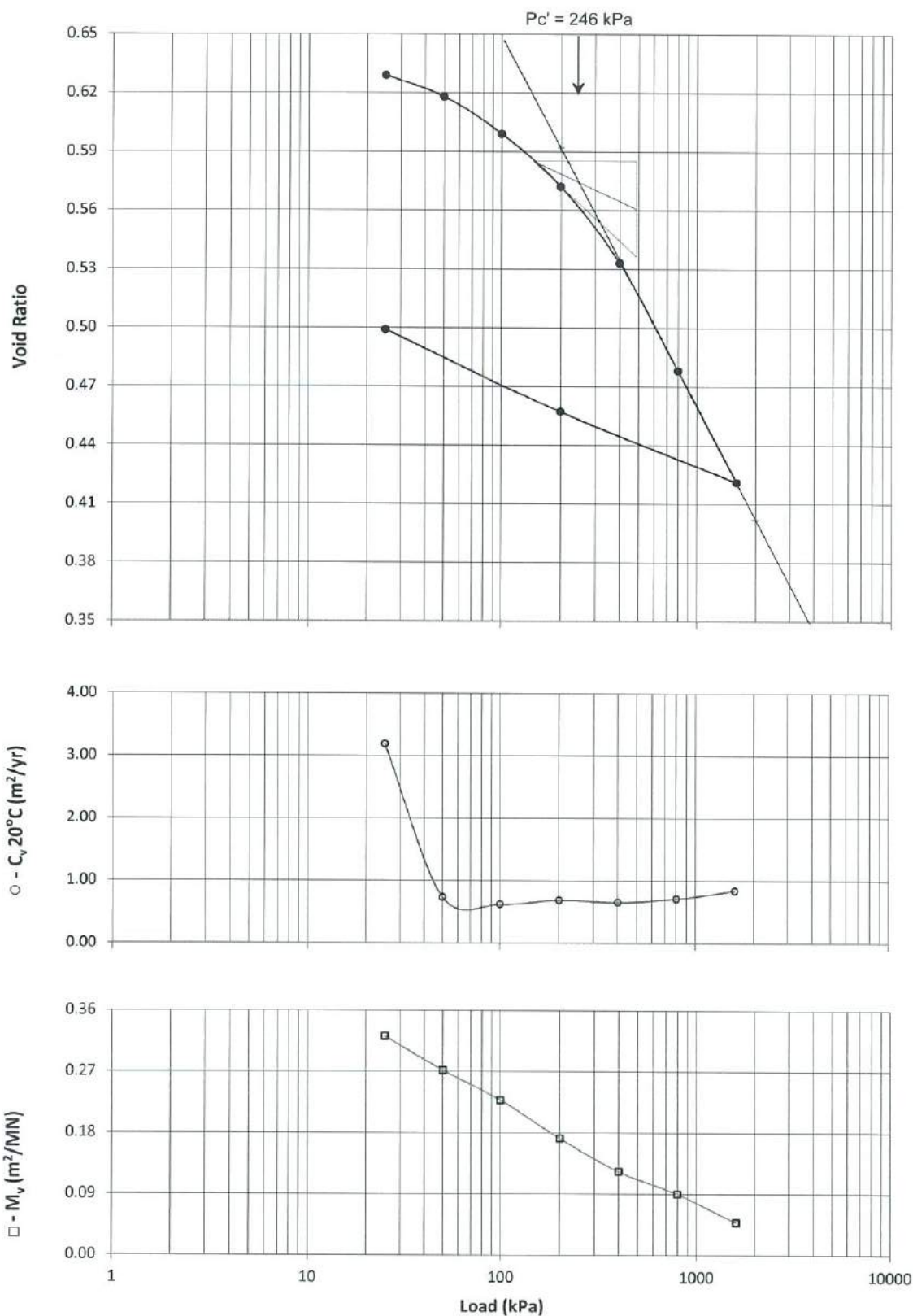
Sample : TW 2 (4.00-4.90m)
 Borehole : BH49

Approved :

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Malthy*

Checked :

Test Name : Consol

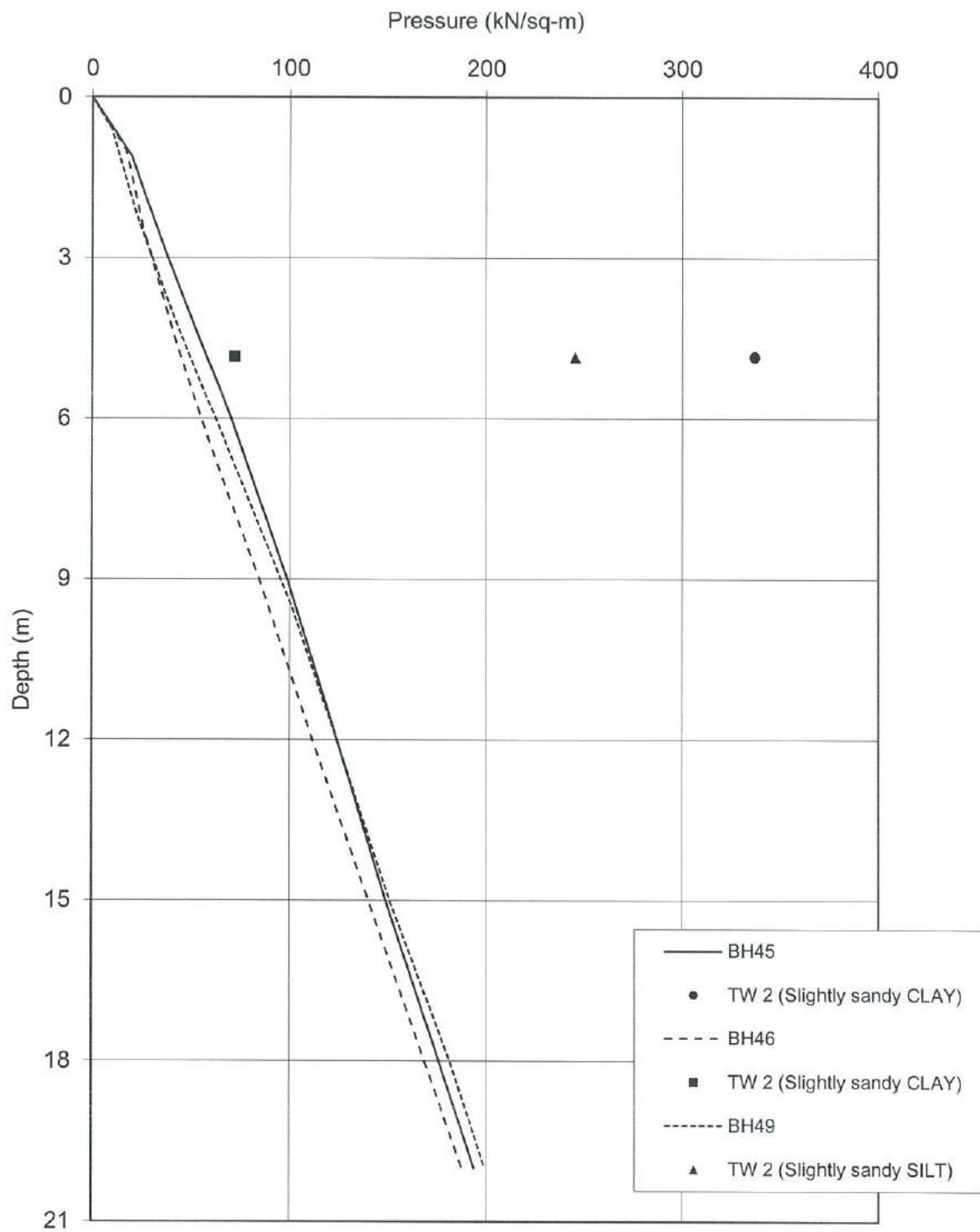
Date of Test : 11/09/15

Sample : TW 2 (4.00-4.90m)

Borehole : BH49

Approved :

Signature
25/9/15



**Existing Overburden Pressure vs
Preconsolidation Pressure**

	Location : Lim Chu Kang		
	Job No : SIL / S7518 / 15 / SI		
Prepared by :	<i>Cyber</i>	Approved by :	<i>John</i>
		Date :	22/10/15

Consolidation Test

One-Dimensional

Sample Details

Test Depth :	4.80-4.90m	Machine Channel :	C15
Description :	Dark brown, Peaty SILT	Type of Sample :	Undisturbed Sample
Height, H_o (mm) :	20.0	Particle Density, ρ_s (Mg/m^3) :	2.41 (measured)
Diameter, D_o (mm) :	50.0		
Weight, W_o (g) :	52.5		

Initial Conditions

Moisture Content, w_o (%) :	113.3
Bulk Density, ρ (Mg/m^3) :	1.34
Dry Density, ρ_d (Mg/m^3) :	0.63
Void Ratio, e_o :	2.825
Deg. of Saturation, S_o (%) :	96.66
Room Temperature, ($^{\circ}C$) :	27
Temp. Correction Factor :	0.85

Final Conditions

Moisture Content, w_f (%) :	71.5
Bulk Density, ρ_f (Mg/m^3) :	1.60
Dry Density, ρ_{df} (Mg/m^3) :	0.93
Void Ratio, e_f :	1.591
Deg. of Saturation, S_f (%) :	100.00
Total Settlement (mm) :	6.556
Pre-Consolidation Pres, P_c (kPa) :	72
Compression Index, C_c :	1.150

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20°C (m^2/yr)	m_v (m^2/MN)
1	12.5	19.728	0.008	0.272	2.773	16.326	2.683	2.291	1.088
2	25	19.403	0.018	0.597	2.711	22.407	1.896	1.619	1.318
3	50	18.817	0.030	1.183	2.599	28.003	1.448	1.237	1.208
4	100	17.588	0.044	2.412	2.364	51.699	0.711	0.607	1.306
5	200	16.027	0.062	3.973	2.065	54.465	0.576	0.492	0.888
6	400	14.280	0.098	5.720	1.731	61.994	0.411	0.351	0.545
7	800	12.468	0.156	7.532	1.384	73.574	0.270	0.231	0.317
8	100	12.948	0.138	7.052	1.476				
9	12.5	13.444	0.110	6.556	1.571				



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Mathy*

Checked :

Test Name : Consol
Date of Test : 04/09/15

Sample : TW 2B (4.50-4.90m)
Borehole : BH50

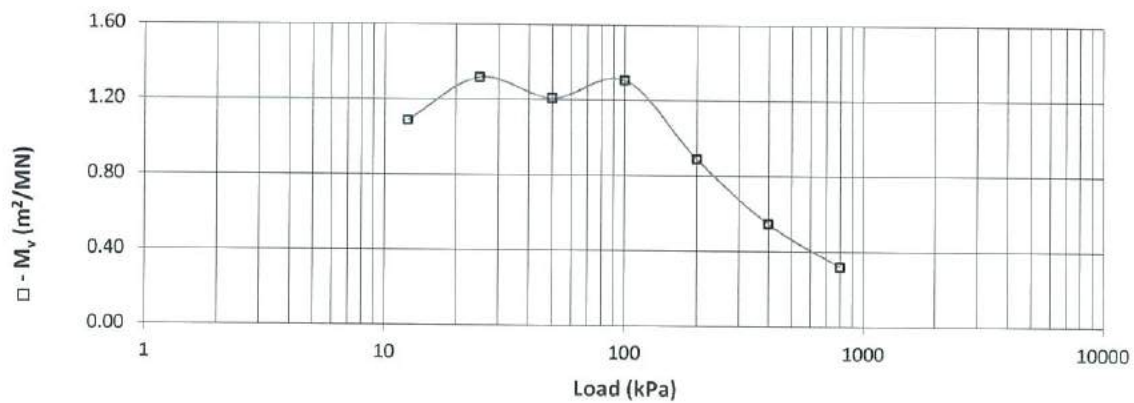
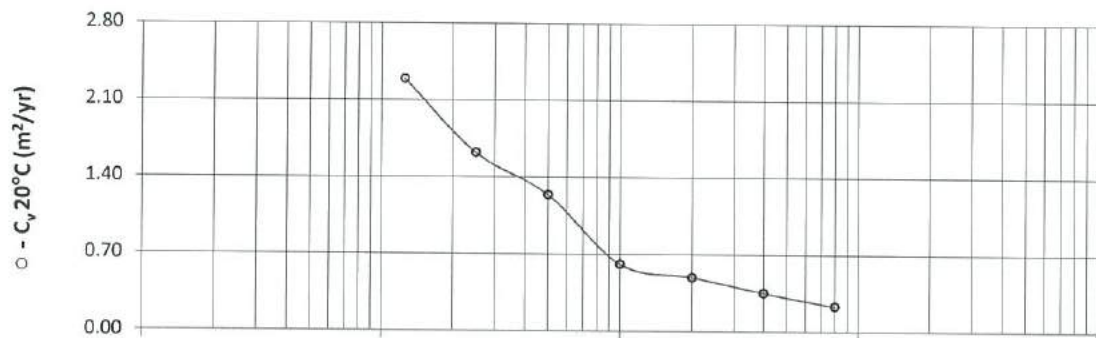
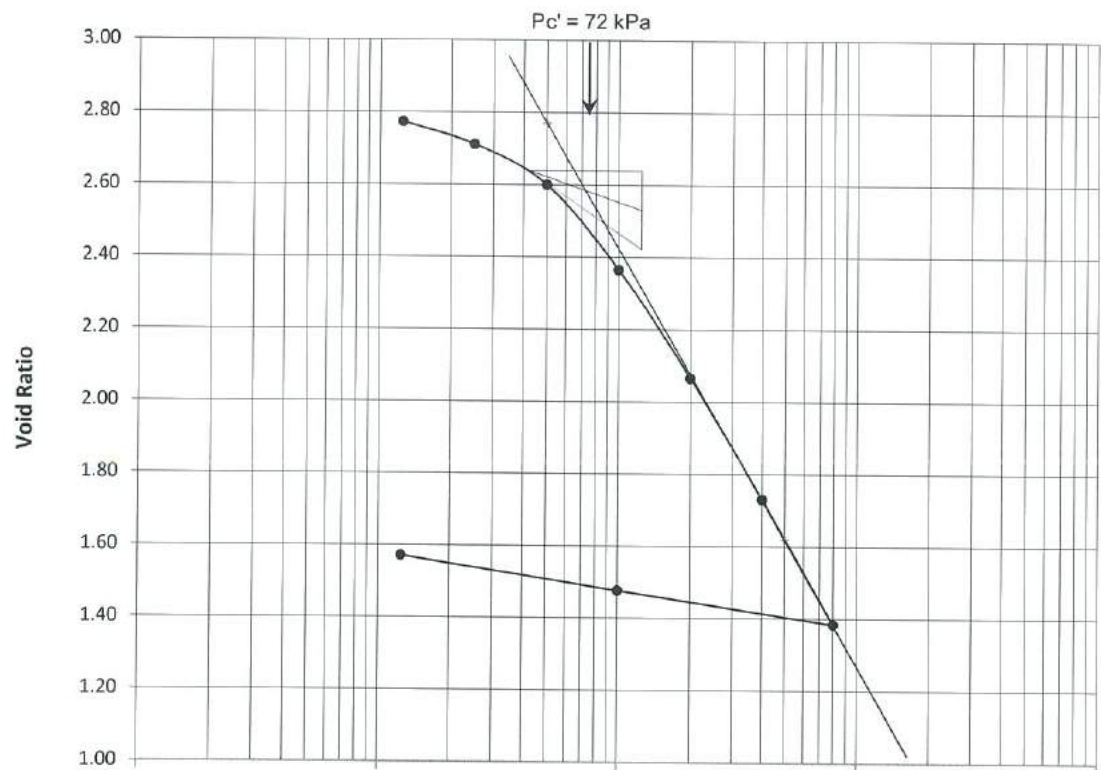
Cyral 25/9/15

Approved :

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator :

Matthys

Checked :

Test Name : Consol
Date of Test : 04/09/15

Sample : TW 2B (4.50-4.90m)
Borehole : BH50

Approved :

Captain 25/9/15

25/9/15

Consolidation Test

One-Dimensional

Sample Details

Test Depth : 4.30-4.40m
 Description : Reddish brown mottled yellowish brown spotted dark grey, Slightly sandy SILT
 Height, H_o (mm) : 20.0
 Diameter, D_o (mm) : 50.0
 Weight, W_o (g) : 69.6
 Machine Channel : C17
 Type of Sample : Undisturbed Sample
 Particle Density, ρ_s (Mg/m^3) : 2.72 (measured)

Initial Conditions

Moisture Content, w_o (%) : 46.4
 Bulk Density, ρ (Mg/m^3) : 1.77
 Dry Density, P_d (Mg/m^3) : 1.21
 Void Ratio, e_o : 1.248
 Deg. of Saturation, S_o (%) : 100.00
 Room Temperature, ($^{\circ}C$) : 27
 Temp. Correction Factor : 0.85

Final Conditions

Moisture Content, w_f (%) : 34.7
 Bulk Density, ρ_f (Mg/m^3) : 1.92
 Dry Density, ρ_{df} (Mg/m^3) : 1.43
 Void Ratio, e_f : 0.902
 Deg. of Saturation, S_f (%) : 100.00
 Total Settlement (mm) : 3.049
 Pre-Consolidation Pres, P_c (kPa) : 203
 Compression Index, C_c : 0.338

Notes :

Inc. No.	Load (kPa)	Height of Specimen (mm)	Machine Cal Corr. (mm)	Change in Height (mm)	Void Ratio (e)	t_{90} (min)	C_v (m^2/yr)	C_v 20 $^{\circ}C$ (m^2/yr)	m_v (m^2/MN)
1	6.25	19.704	0.002	0.296	1.215	3.661	11.949	10.204	2.368
2	12.5	19.571	0.004	0.429	1.200	6.406	6.682	5.706	1.080
3	25	19.386	0.008	0.614	1.179	5.608	7.510	6.414	0.756
4	50	19.135	0.014	0.865	1.151	5.082	8.103	6.920	0.518
5	100	18.798	0.026	1.202	1.113	5.254	7.600	6.490	0.352
6	200	18.342	0.042	1.658	1.062	4.912	7.793	6.655	0.243
7	400	17.746	0.064	2.254	0.995	4.745	7.616	6.504	0.162
8	800	16.975	0.088	3.025	0.908	4.581	7.303	6.237	0.109
9	1600	16.082	0.134	3.918	0.808	4.706	6.444	5.503	0.066
10	200	16.358	0.066	3.642	0.839				
11	6.25	16.951	0.020	3.049	0.905				



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
 Jobfile : SIL/S7518/15/SI

Operator :

Matthy

Checked :

Test Name : Consol
 Date of Test : 07/09/15

Sample : TW 2 (4.00-4.90m)
 Borehole : BH51

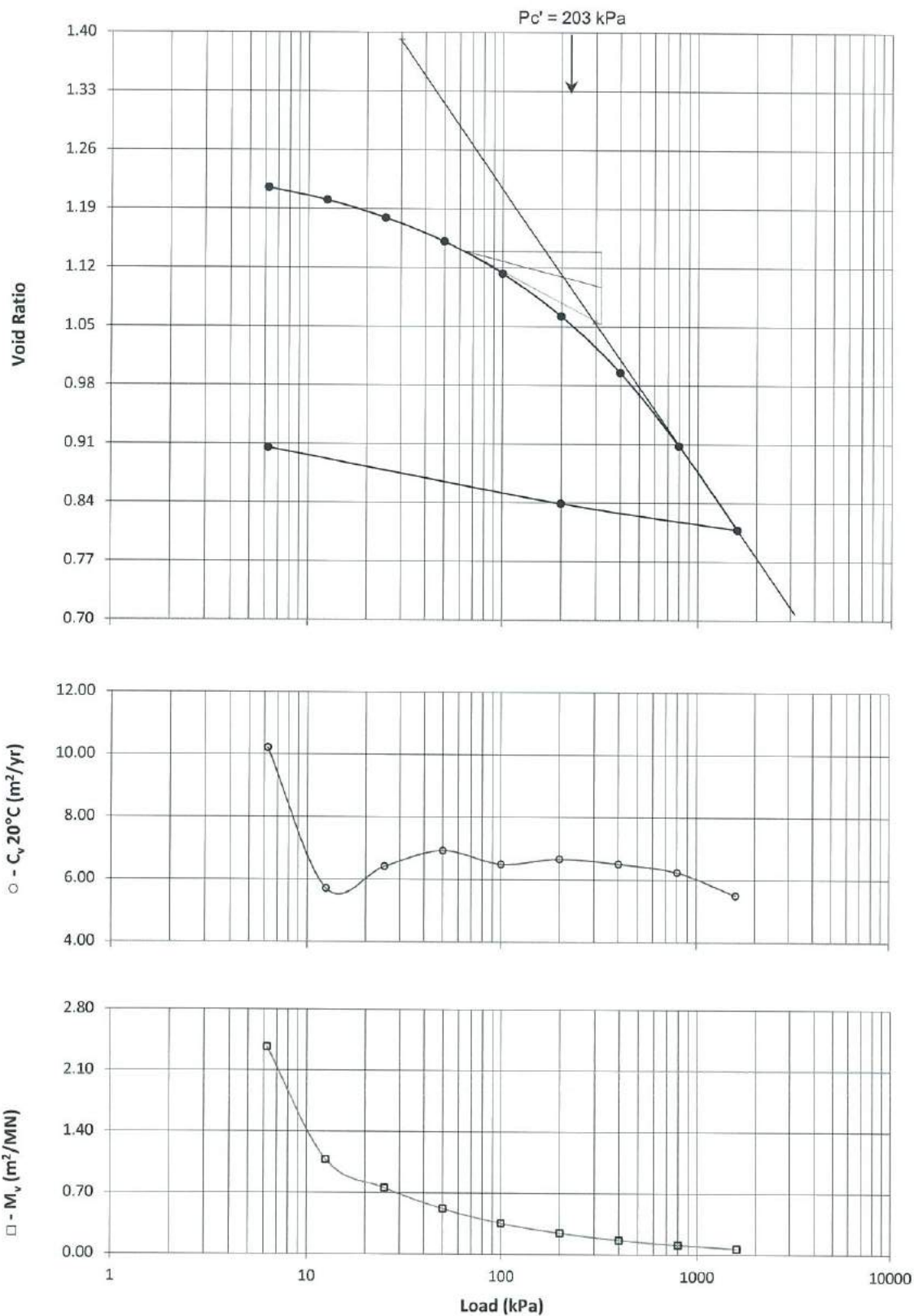
Approved :

Cyrla 25/9/15

25/9/15

Consolidation Test

One-Dimensional



Test Method : BS1377 : Part 5 : 1990
(Clause 3)

Site Reference : Lim Chu Kang
Jobfile : SIL/S7518/15/SI

Operator : *Mathy*

Checked :

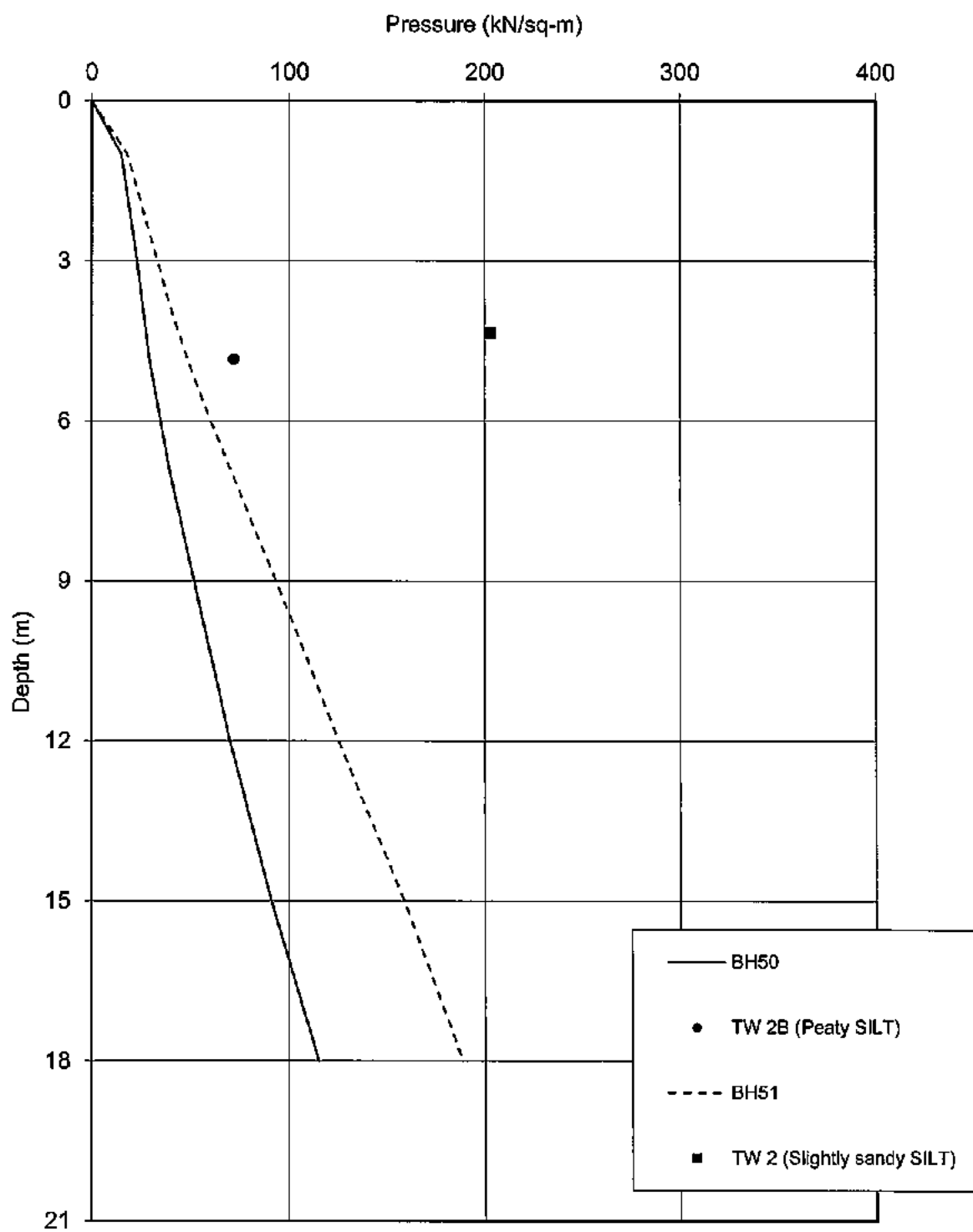
Test Name : Consol
Date of Test : 07/09/15

Sample : TW 2 (4.00-4.90m)
Borehole : BH51

Cpkp 25/9/15

Approved :

Lafonso 25/9/15



**Existing Overburden Pressure vs
Preconsolidation Pressure**

	Location : Lim Chu Kang		
	Job No : SIL / S7518 / 15 / SI		
Prepared by : <i>C. Lee</i>	Approved by : <i>J. Lim</i>	Date : 22/10/15	

* * * * *

The engineering considerations and recommendations are based on the basis of subsurface conditions derived from the results of this field investigation and laboratory tests. These subsurface conditions for a given site can vary both laterally and vertically. If during construction, the conditions were found to differ from those described in this report; these are to be evaluated to reassess the recommendation given in this report.

The information furnished is only true and correct for the exploratory holes under investigation. Variation of sub-soil conditions between boreholes can often occur. Consideration should be taken by the Design/Foundation Engineers during construction.