



	SPECIMEN 1	SPECIMEN 2	SPECIMEN 3
Borehole	CY46	CY46	CY46
Sample	U7	U7	U7
Depth (m)	1.5	1.5	1.5

SHEARING			
Initial pore pressure (kPa)	300	299	300
Initial effective cell pressure (kPa)	20	41	80
Rate of strain (%/hour)	1.20	1.20	1.20
<b>At peak deviator stress</b>			
Corrected deviator stress (kPa)	56	67	102
Membrane correction applied (kPa)	3	2	2
Drain correction applied (kPa)	10	10	10
Axial strain (%)	11.94	9.55	9.59
Volumetric strain (%)	-13.00	-4.00	18.00
Major principal effective stress (kPa)	89	112	164
Minor principal effective stress (kPa)	33	45	62
Principal effective stress ratio	2.71	2.48	2.65
e 50 (%)	0.61	0.21	0.86
Secant modulus at e 50 (kPa)	4587	16207	5925
<b>At peak principal effective stress ratio</b>			
Corrected deviator stress (kPa)	33	52	97
Membrane correction applied (kPa)	3	2	2
Drain correction applied (kPa)	5	6	10
Axial strain (%)	1.11	1.22	5.11
Volumetric strain (%)	10.00	11.00	27.00
Major principal effective stress (kPa)	43	82	150
Minor principal effective stress (kPa)	10	30	53
Principal effective stress ratio	4.31	2.74	2.83
e 50 (%)	0.20	0.16	0.81
Secant modulus at e 50 (kPa)	8180	16564	5969

Filename: 007\_104P.XLS

Approved by: [MS] Date: 18-4-96

FINAL CONDITIONS			
Moisture content (%)	22	21	21
Bulk density (Mg/m <sup>3</sup> )	2.09	2.11	2.12
Dry density (Mg/m <sup>3</sup> )	1.71	1.74	1.76

SUMMARY OF  
ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAxIAL COMPRESSION TEST : SET OF THREE SPECIMENS



Date 15/04/96

Drawn by JKS

Template/Isaxiu 1

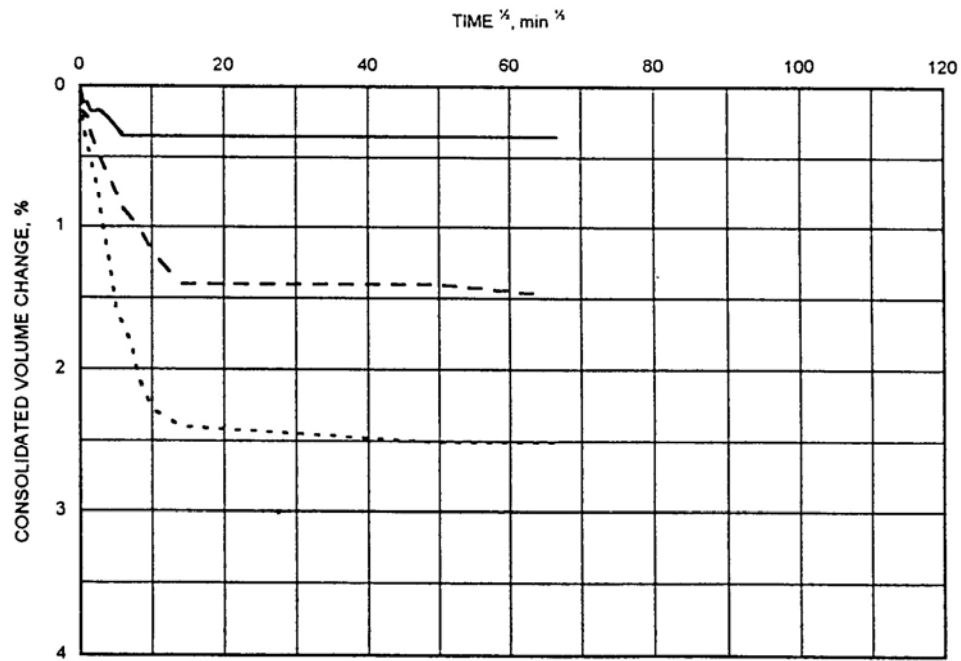
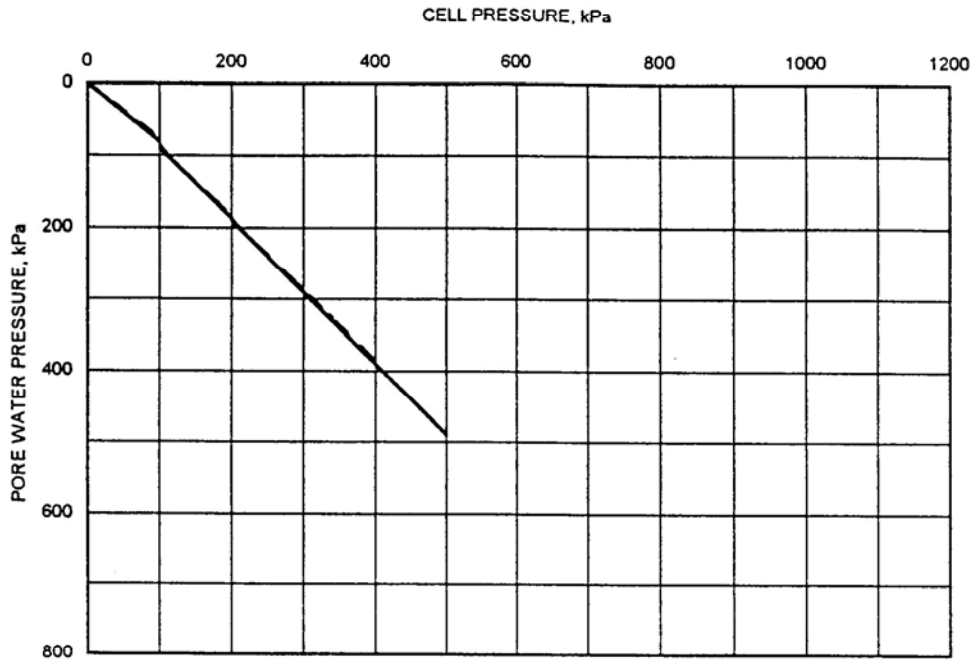
Filename: 007\_104A UKG

Date: 18/4/96

Date: 18-4-96

Checked by DCF

Approved by MSD

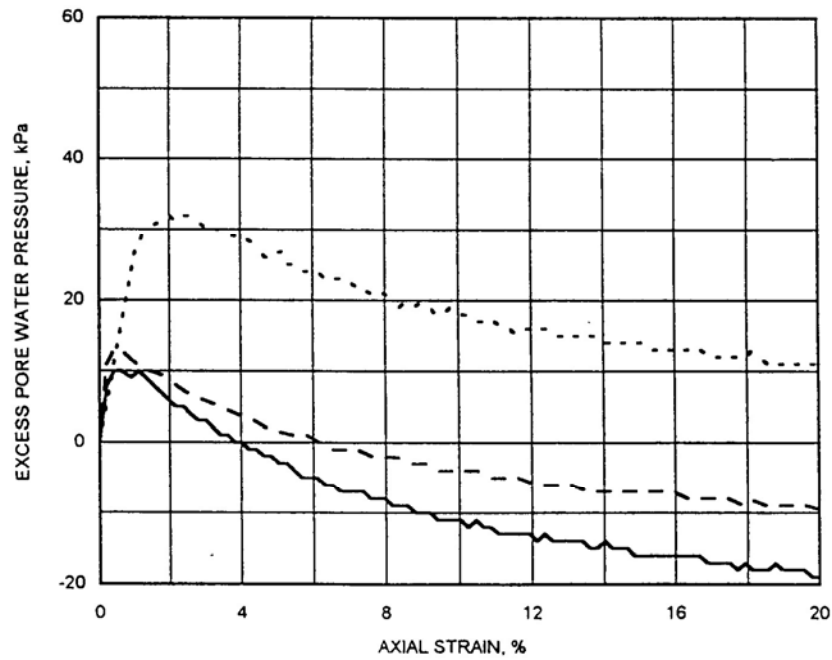
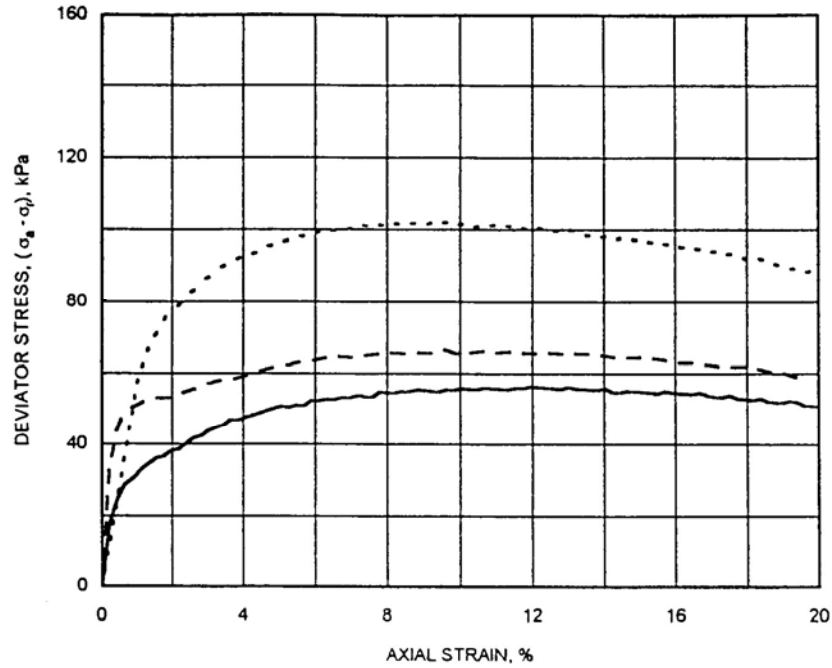


Specimen 1 —	$\sigma_r$ : 20kPa	$\sigma_a$ : 20kPa	Borehole: CY46	Sample: U7	Depth (m): 1.5
Specimen 2 - -	$\sigma_r$ : 40kPa	$\sigma_a$ : 40kPa	Borehole: CY46	Sample: U7	Depth (m): 1.5
Specimen 3 - - -	$\sigma_r$ : 80kPa	$\sigma_a$ : 80kPa	Borehole: CY46	Sample: U7	Depth (m): 1.5

ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAXIAL COMPRESSION TEST : SET OF THREE SPECIMENS



TESTING  
No. 0919



Filename: 007\_104B OKG

Date: 18-4-96

Specimen 1	—	$\sigma'_r$ : 20kPa	$\sigma'_a$ : 20kPa	Borehole: CY46	Sample: U7	Depth (m): 1.5
Specimen 2	- -	$\sigma'_r$ : 40kPa	$\sigma'_a$ : 40kPa	Borehole: CY46	Sample: U7	Depth (m): 1.5
Specimen 3	- - -	$\sigma'_r$ : 80kPa	$\sigma'_a$ : 80kPa	Borehole: CY46	Sample: U7	Depth (m): 1.5

ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAxIAL COMPRESSION TEST : SET OF THREE SPECIMENS



TESTING  
No. 0919

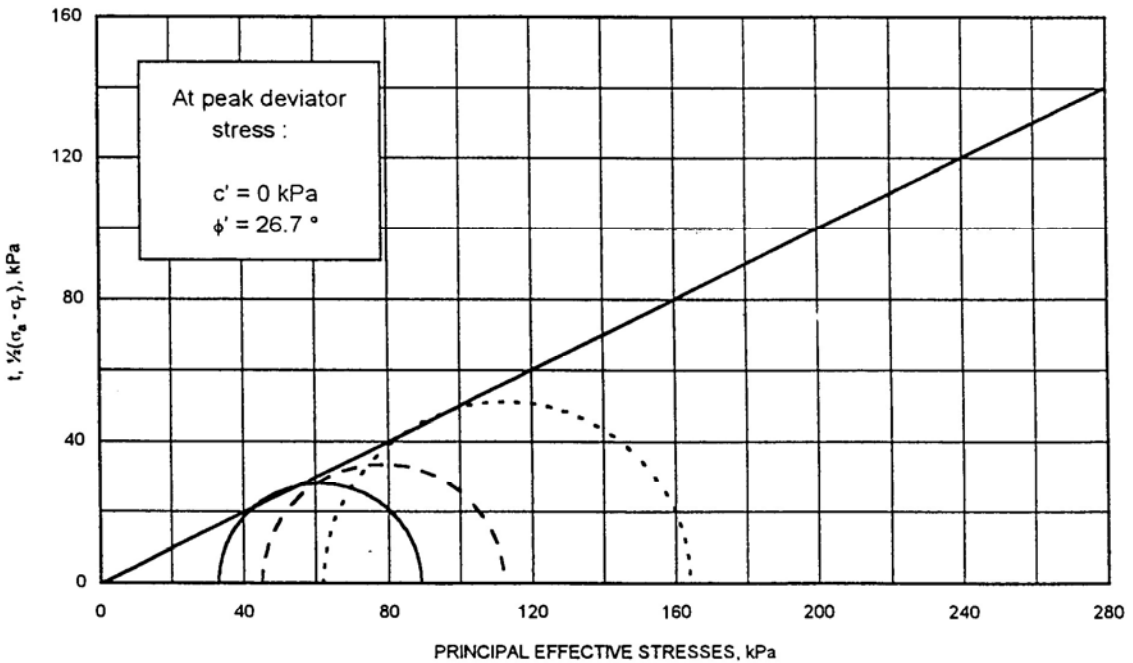
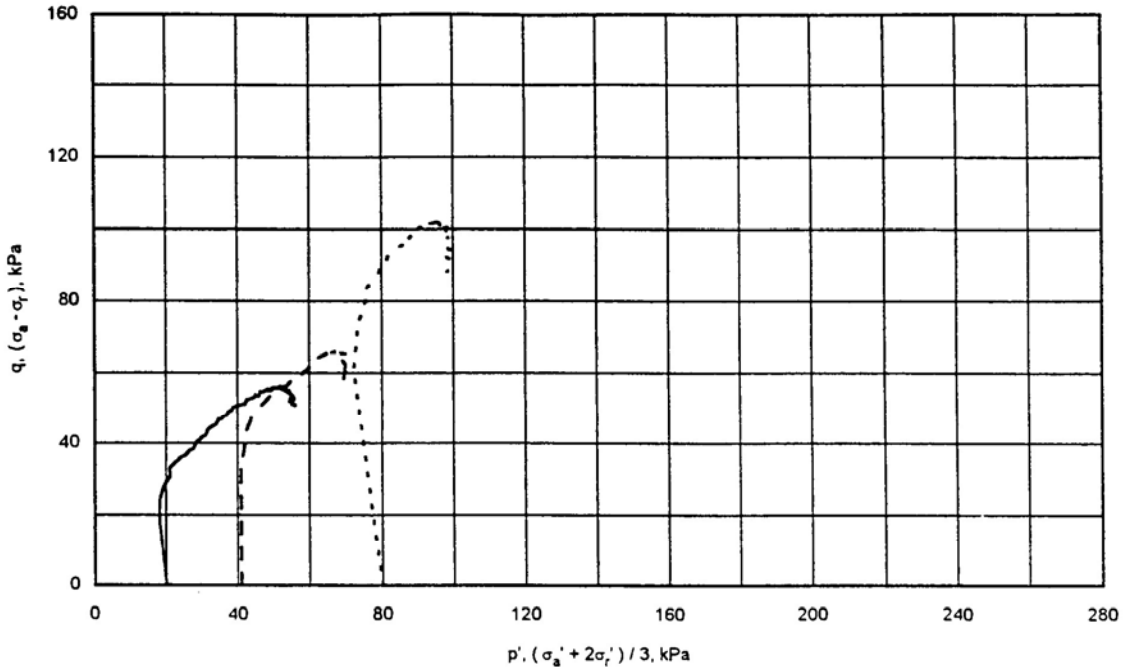
Date: 10/04/96

Drawn by: JKS

Filename: 007\_104C.DWG  
Template Issue: 1

Date: 18/1/96  
Date: 18-01-96

Checked by: DGF  
Approved by: MSD



Specimen 1 —	$\sigma_r'$ : 20kPa	$\sigma_a'$ : 20kPa	Borehole: CY46	Sample: U7	Depth (m): 1.5
Specimen 2 - -	$\sigma_r'$ : 40kPa	$\sigma_a'$ : 40kPa	Borehole: CY46	Sample: U7	Depth (m): 1.5
Specimen 3 - - -	$\sigma_r'$ : 80kPa	$\sigma_a'$ : 80kPa	Borehole: CY46	Sample: U7	Depth (m): 1.5

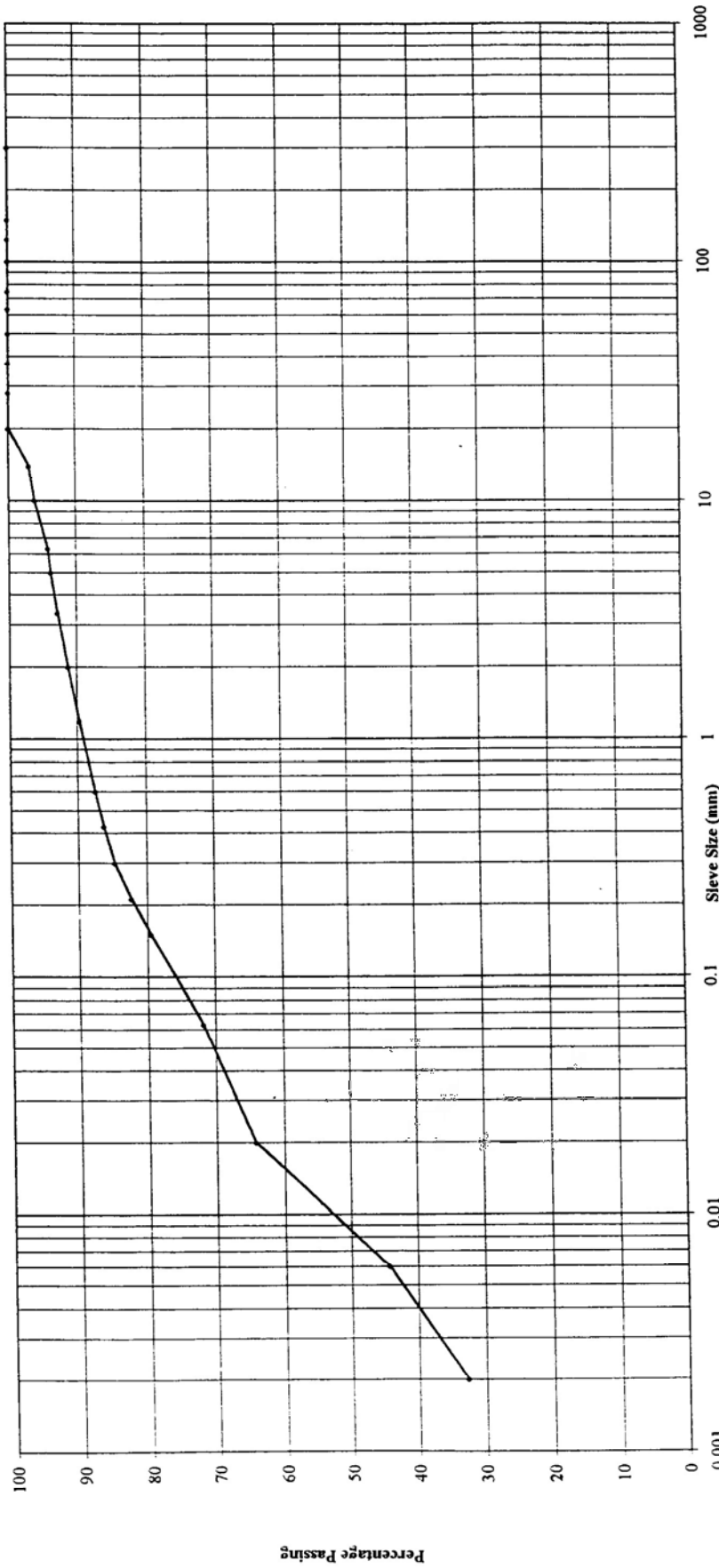
ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAxIAL COMPRESSION TEST : SET OF THREE SPECIMENS



TESTING  
No. 0919

### PARTICLE SIZE DISTRIBUTION

**Project Name** Shelton road / Willowbrook road, Corby.  
**Borehole** CY43  
**Depth (m)** 3.50



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL							

**Remarks**

**Test method** BS1377:Part2:1990 Clause 9.2

**Client** PFMK/CNT

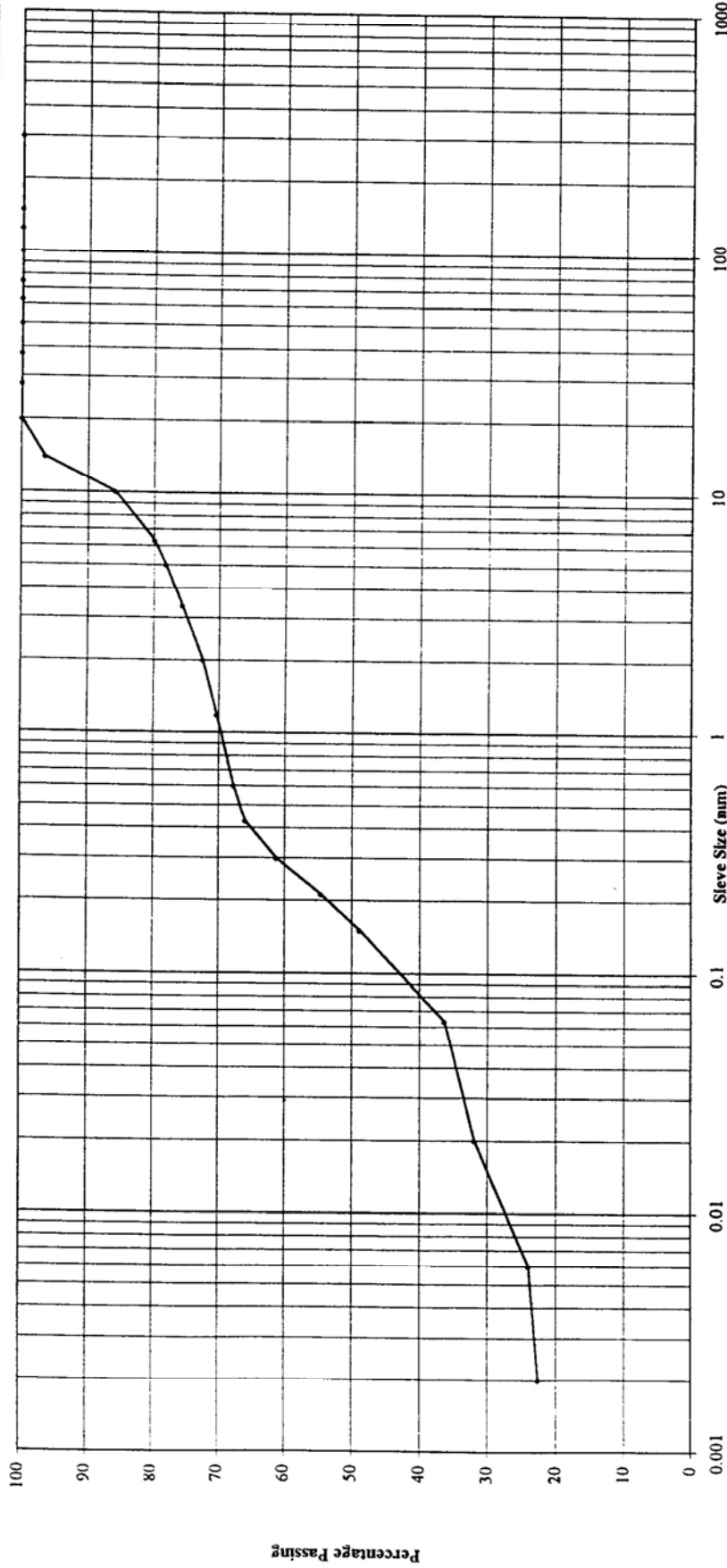
**Project No** 96/27

MENTOR

--- Site insight ---

# PARTICLE SIZE DISTRIBUTION

Project Name: Shelton road / Willowbrook road, Corby.  
 Borehole: CY43  
 Depth (m): 10.50



CLAY	SILT	SAND	GRAVEL	BOULDERS
Fine	Medium	Coarse	Fine	Medium
			Coarse	

Remarks

Test method: BS1377:Part2:1990 Clause 9.2

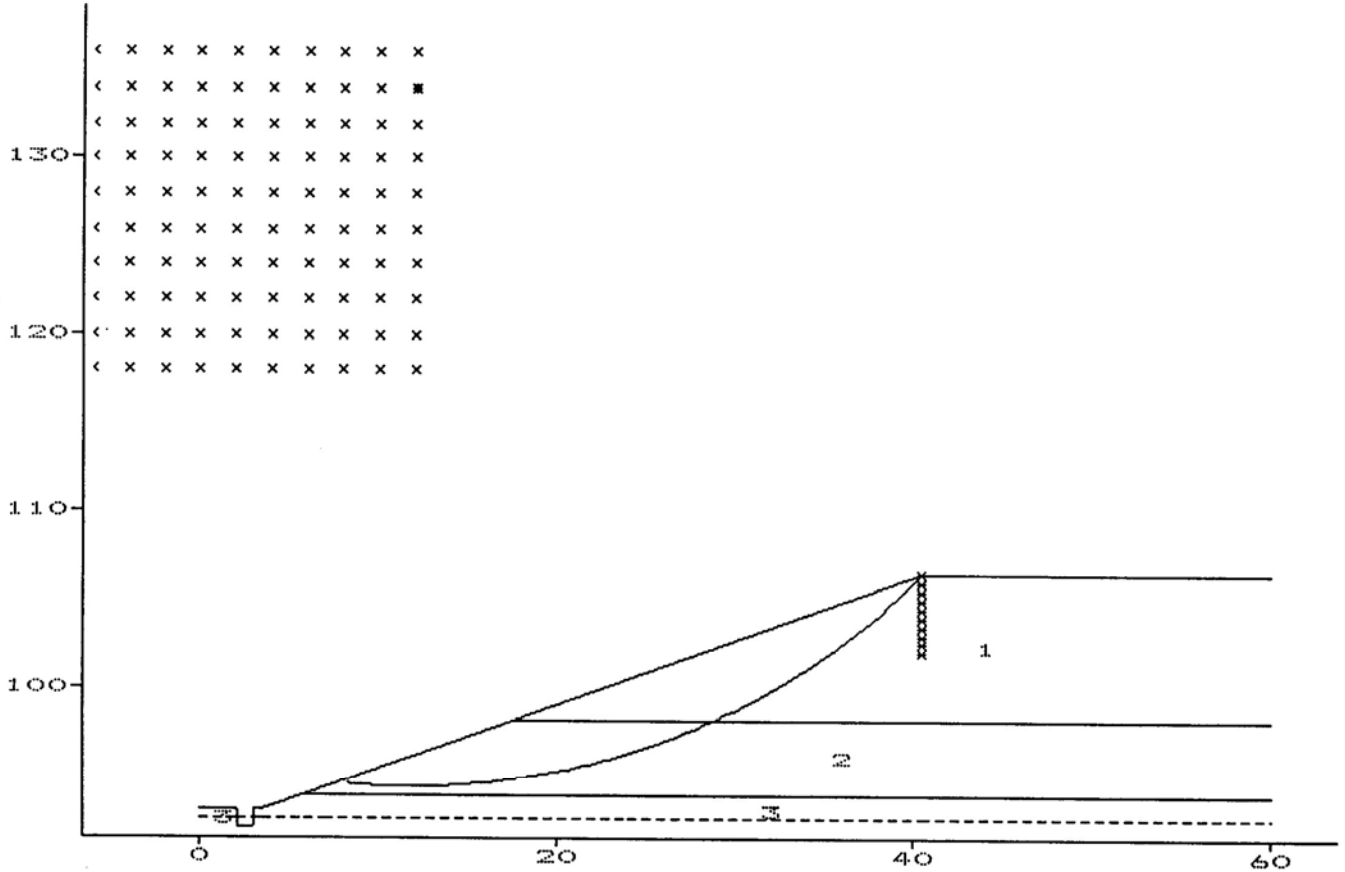
Client

**MENTOR**  
 ----- Site insight -----

Project No  
**96/27**

PFMK/CNT

Units: KN,M



Scale = 1 : 400

No.	Stratum Description	Bulk unit wt.		Strength parameters			Datum for C
		below GWL	above GWL	C KN/M2	Phi (deg)	dC/dY KN/M2/M	
1	BOULDER CLAY (UPPER)	21.10	20.90	0.00	26.00	Ru = 0.100	
2	BLACK SILT	16.00	16.00	0.00	20.00	Ru = 0.200	
3	BOULDER CLAY (LOWER)	20.00	20.00	0.00	29.00		

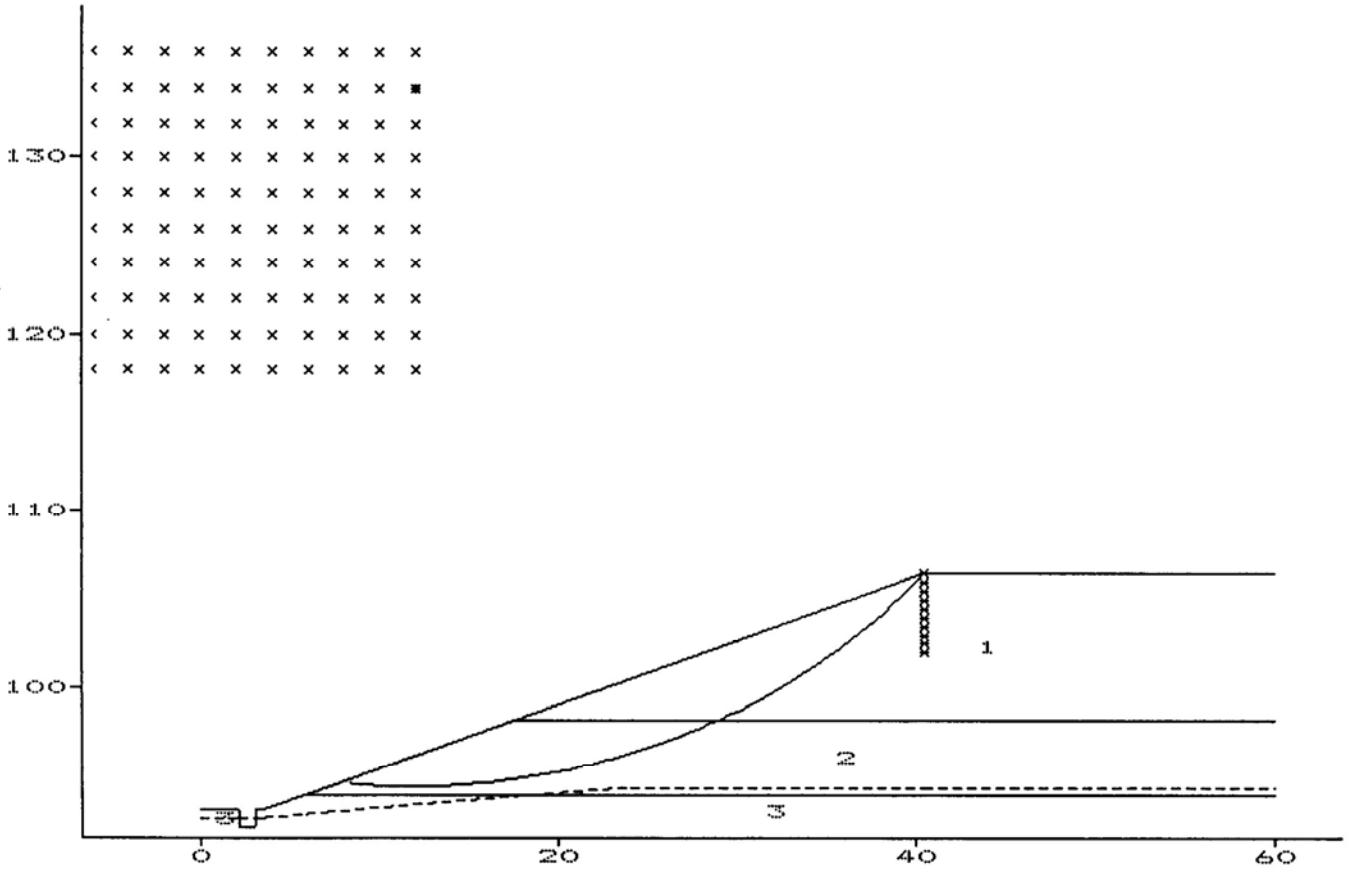
Factor of safety = 0.923

Centre of circle: X = 12.00 Y = 134.00 Radius = 39.64

Program: SLOPE Version 7.53 Revision A13.B12.R22  
Licensed from GEOSOLVE

WILLOWBROOK ROAD - CORBY  
SLOPE E(i) - revised parameters

Units: KN,M



Scale = 1 : 400

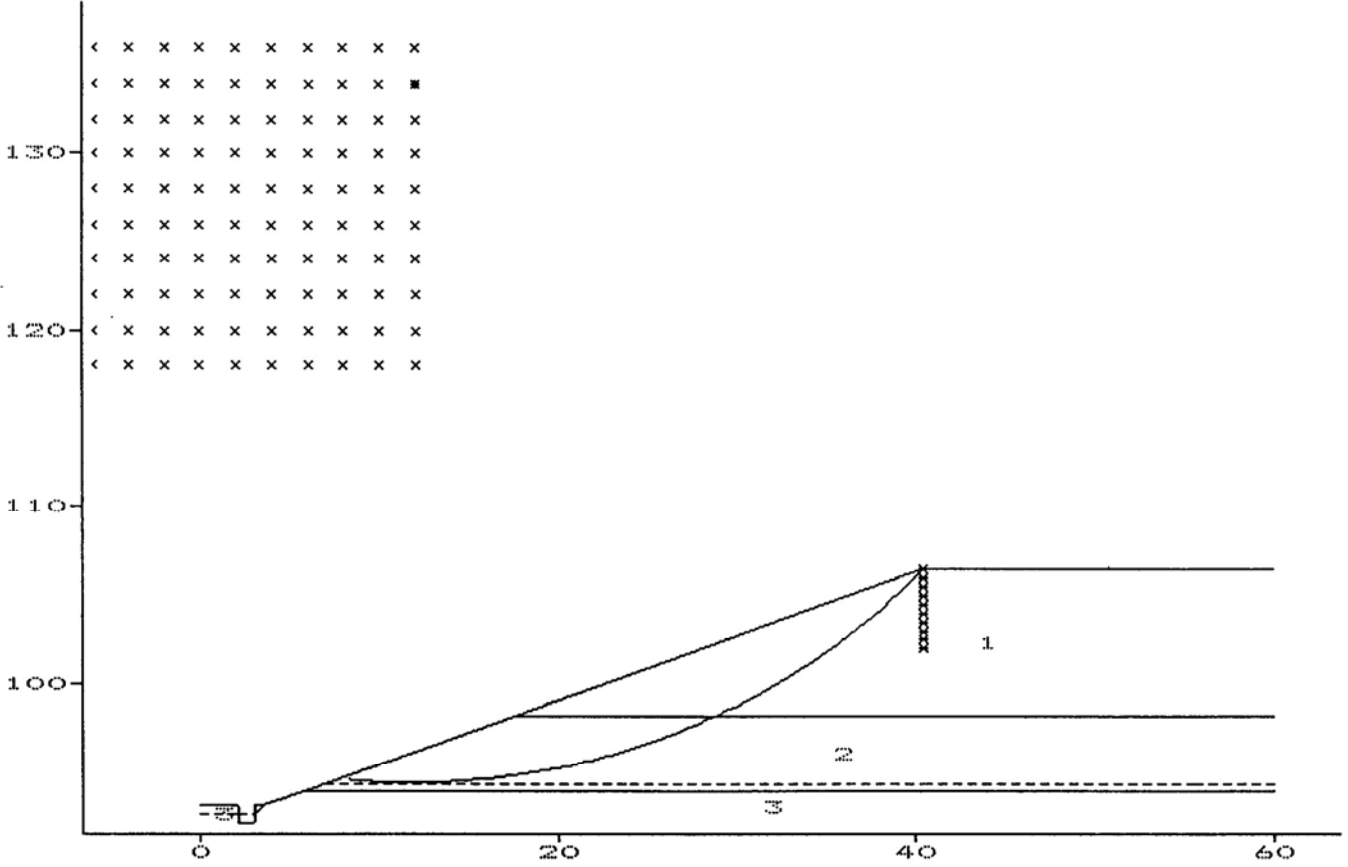
--- S t r a t u m --- No.	Description	Bulk unit wt.		-----Strength parameters-----			Datum for C
		below GWL KN/M3	above GWL KN/M3	C KN/M2	Phi (deg)	dC/dY KN/M2/M	
1	BOULDER CLAY (UPPER)	21.10	20.90	0.00	26.00	Ru = 0.100	
2	BLACK SILT	16.00	16.00	0.00	20.00	Ru = 0.200	
3	BOULDER CLAY (LOWER)	20.00	20.00	0.00	29.00		

Factor of safety = 0.923

Centre of circle: X = 12.00 Y = 134.00 Radius = 39.64



Units: KN,M



Scale = 1 : 400

--- Stratum --- No.	Description	Bulk unit wt.		-----Strength parameters-----			Datum for C
		below GWL KN/M3	above GWL KN/M3	C KN/M2	Phi (deg)	dC/dY KN/M2/M	
1	BOULDER CLAY (UPPER)	21.10	20.90	0.00	26.00	Ru = 0.100	
2	BLACK SILT	16.00	16.00	0.00	20.00	Ru = 0.200	
3	BOULDER CLAY (LOWER)	20.00	20.00	0.00	29.00		

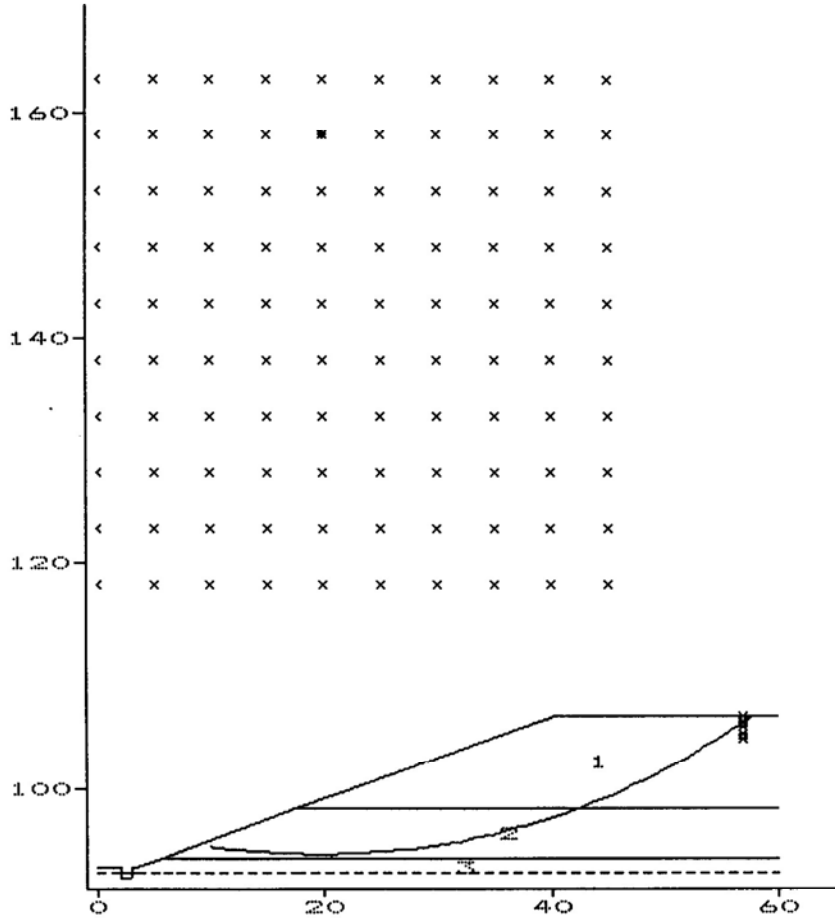
Factor of safety = 0.923

Centre of circle: X = 12.00 Y = 134.00 Radius = 39.64

Program: SLOPE Version 7.53 Revision A13.B12.R22  
Licensed from GEOSOLVE

WILLOWBROOK ROAD - CORBY  
SLOPE E(i) - revised parameters

Units: KN,M



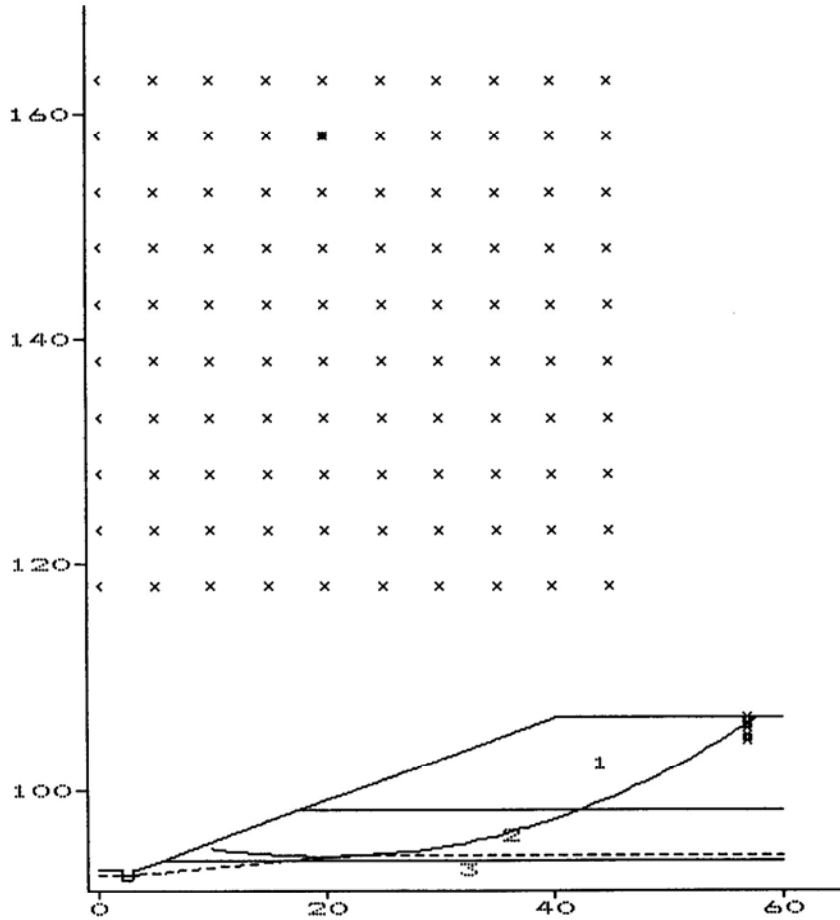
Scale = 1 : 625

--- S t r a t u m --- No.	Description	Bulk unit wt.		-----Strength parameters-----			Datum for C
		below GWL	above GWL	C KN/M2	Phi (deg)	dC/dY KN/M2/M	
1	BOULDER CLAY (UPPER)	21.10	20.90	0.00	26.00	Ru = 0.100	
2	BLACK SILT	16.00	16.00	0.00	20.00	Ru = 0.200	
3	BOULDER CLAY (LOWER)	20.00	20.00	0.00	29.00		

Factor of safety = 1.327

Centre of circle: X = 20.00 Y = 158.00 Radius = 63.86

Units: KN,M



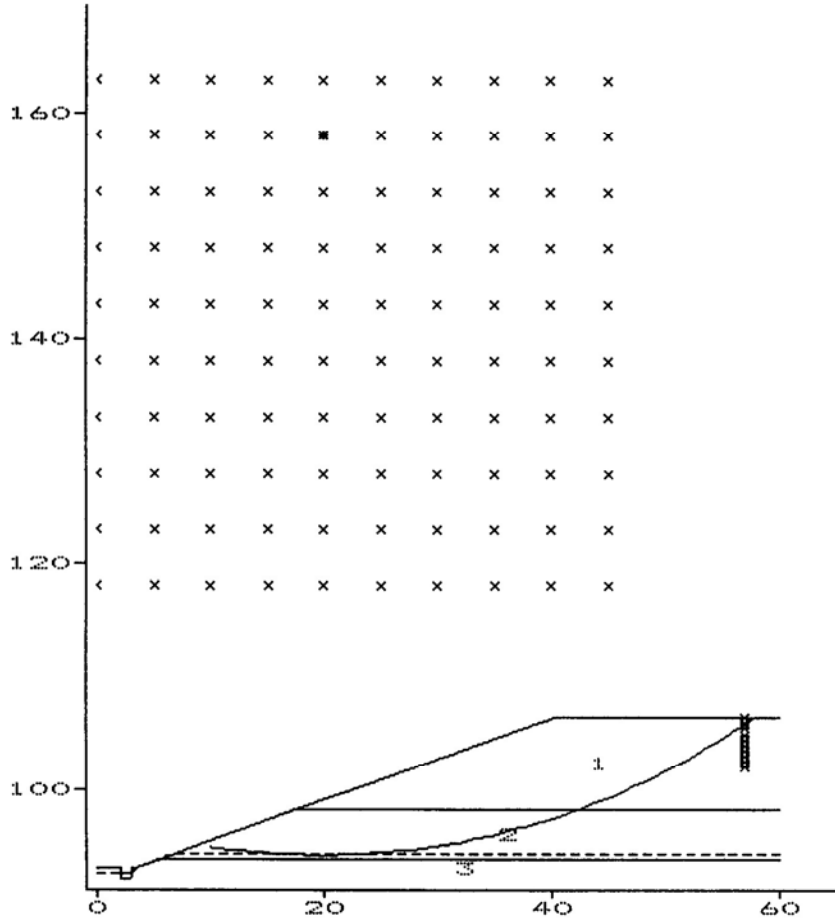
Scale = 1 : 625

No.	Stratum Description	Bulk unit wt.		Strength parameters			Datum for C
		below GWL KN/M3	above GWL KN/M3	C KN/M2	Phi (deg)	dC/dY KN/M2/M	
1	BOULDER CLAY (UPPER)	21.10	20.90	0.00	26.00	Ru = 0.100	
2	BLACK SILT	16.00	16.00	0.00	20.00	Ru = 0.200	
3	BOULDER CLAY (LOWER)	20.00	20.00	0.00	29.00		

Factor of safety = 1.327

Centre of circle: X = 20.00 Y = 158.00 Radius = 63.86

Units: KN,M



Scale = 1 : 625

No.	Stratum Description	Bulk unit wt.		Strength parameters			Datum for C
		below GWL KN/M3	above GWL KN/M3	C KN/M2	Phi (deg)	dC/dY KN/M2/M	
1	BOULDER CLAY (UPPER)	21.10	20.90	0.00	26.00	Ru = 0.100	
2	BLACK SILT	16.00	16.00	0.00	20.00	Ru = 0.200	
3	BOULDER CLAY (LOWER)	20.00	20.00	0.00	29.00		

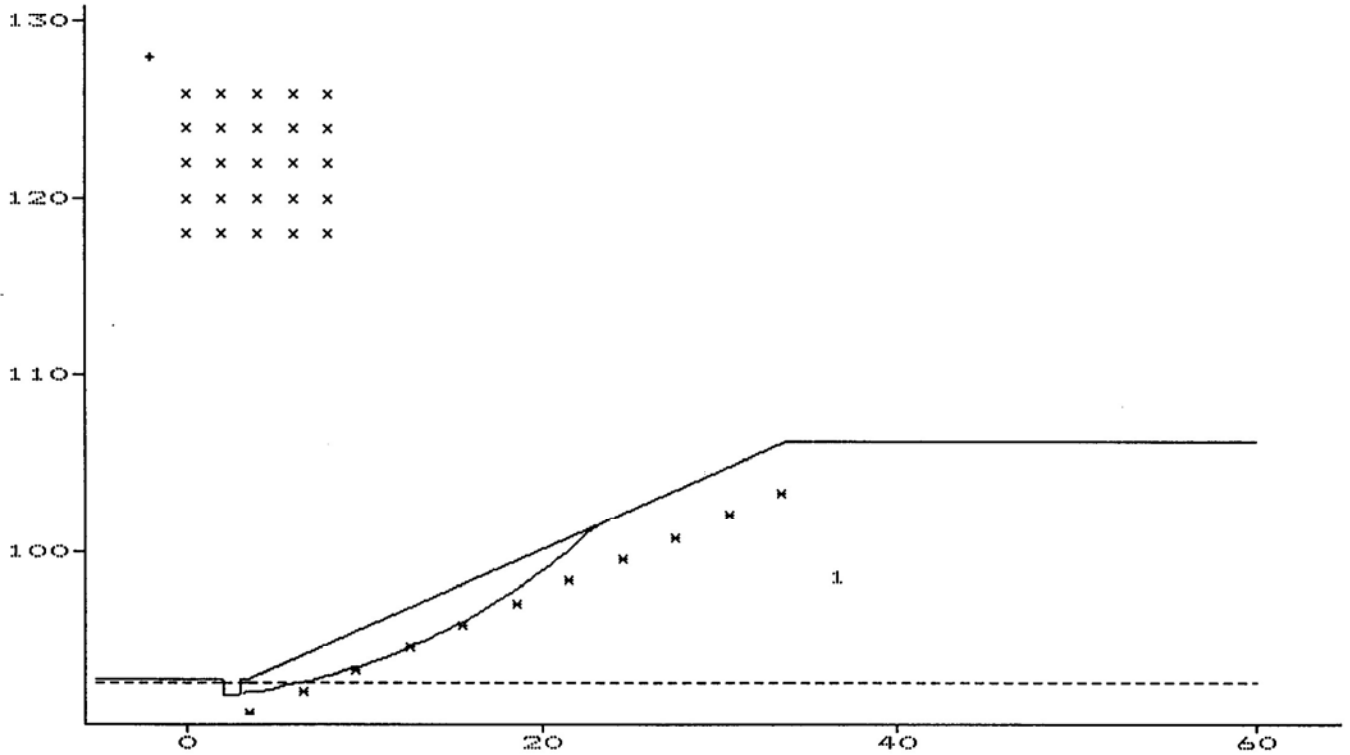
Factor of safety = 1.331

Centre of circle: X = 20.00 Y = 158.00 Radius = 63.86

Program: SLOPE Version 7.53 Revision A13.B12.R22  
Licensed from GEOSOLVE

WILLOWBROOK ROAD - CORBY  
SLOPE E(ii) - revised parameters

Units: KN,M



Scale = 1 : 400

--- S t r a t u m --- No.	Description	Bulk unit wt.		-----Strength parameters-----			Datum for C
		below GWL	above GWL	C KN/M2	Phi (deg)	dC/dY KN/M2/M	
1	BOULDER CLAY	20.30	20.00	0.00	26.00	Ru = 0.100	

Factor of safety = 1.012

Centre of circle: X = -2.00      Y = 128.00      Radius = 36.46



	SPECIMEN 1	SPECIMEN 2	SPECIMEN 3
Borehole	CY40	CY40	CY40
Sample	U22	U22	U22
Depth (m)	6.0	6.0	6.0

**VISUAL DESCRIPTION**

SOFT to FIRM dark brown CLAY with occasional pockets of silty fine sand and occasional fine to coarse gravel.

GENERAL			
Test method used *	L-T-104	L-T-104	L-T-104
Date test started	10/04/96	10/04/96	10/04/96
Type of sample	Undisturbed	Undisturbed	Undisturbed
Specimen orientation	Vertical	Vertical	Vertical
Type of drains fitted	Radial and one end	Radial and one end	Radial and one end

INITIAL			
Diameter (mm)	37.8	37.8	37.8
Length (mm)	75.6	75.6	75.6
Moisture content (%)	18	18	18
Bulk density (Mg/m <sup>3</sup> )	2.04	2.06	2.08
Dry density (Mg/m <sup>3</sup> )	1.73	1.74	1.76
Voids ratio	0.552	0.539	0.523
Degree of saturation (%)	88	91	93

SATURATION			
Saturation method used †	5.4	5.4	5.4
Pressure increments applied (kPa)	100	100	100
Differential pressure used (kPa)	N/A	N/A	N/A
Pore pressure on completion (kPa)	481	490	480
Cell pressure on completion (kPa)	500	500	500
B value achieved	0.98	0.99	0.99

\* Tested in accordance with the following Fugro testing procedure  
L-T-104 Isotropically consolidated undrained triaxial compression test

† Tested in accordance with the following clauses of BS 1377 : Part 8 : 1990	
5.3	Saturation by increments of cell and back pressure
5.4	Saturation at constant moisture content

**SUMMARY OF  
ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAXIAL COMPRESSION TEST : SET OF THREE SPECIMENS**



TESTING  
No. 0919

Filename: 022\_104P.XLS

Approved by: MSD Date: 12-1-96

	SPECIMEN 1	SPECIMEN 2	SPECIMEN 3
Borehole	CY40	CY40	CY40
Sample	U22	U22	U22
Depth (m)	6.0	6.0	6.0

CONSOLIDATION : ISOTROPIC			
Cell pressure (kPa)	350	400	500
Back pressure (kPa)	300	300	300
Effective cell pressure (kPa)	50	100	200
Pore pressure on completion (kPa)	300	300	300
Pore pressure dissipation (%)	100	100	100
Moisture content (%)	17	16	15
Bulk density (Mg/m <sup>3</sup> )	2.16	2.17	2.19
Dry density (Mg/m <sup>3</sup> )	1.85	1.87	1.90
Voids ratio	0.448	0.431	0.408
Degree of saturation (%)	100	100	100
Cvi (m <sup>2</sup> /year)	0.46	1.17	1.80
Mvi (m <sup>2</sup> /MN)	0.70	0.41	0.29
Permeability (m/s)	1.01E-10	1.49E-10	1.65E-10

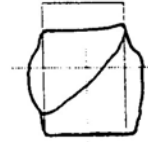
Mode of failure:



Specimen 1



Specimen 2



Specimen 3

SUMMARY OF  
ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAxIAL COMPRESSION TEST : SET OF THREE SPECIMENS



TESTING  
No. 0919

Date: 18/4/96  
 Drawn by: MSD  
 Template Issue: 1:1  
 Filename: 022\_104P.XLS  
 Checked by: DGC  
 Date: 18/4/96  
 Approved by: MSD  
 Date: 18/4/96



	SPECIMEN 1	SPECIMEN 2	SPECIMEN 3
Borehole	CY40	CY40	CY40
Sample	U22	U22	U22
Depth (m)	6.0	6.0	6.0

SHEARING			
Initial pore pressure (kPa)	300	300	300
Initial effective cell pressure (kPa)	50	100	200
Rate of strain (%/hour)	1.20	1.20	1.20
<b>At peak deviator stress</b>			
Corrected deviator stress (kPa)	71	167	355
Membrane correction applied (kPa)	4	4	5
Drain correction applied (kPa)	10	10	10
Axial strain (%)	19.15	20.16	20.39
Excess pore pressure (kPa)	22	24	56
Major principal effective stress (kPa)	99	243	499
Minor principal effective stress (kPa)	28	76	144
Principal effective stress ratio	3.52	3.20	3.46
e 50 (%)	0.93	1.02	1.19
Secant modulus at e 50 (kPa)	3799	8216	14955
<b>At peak principal effective stress ratio</b>			
Corrected deviator stress (kPa)	57	127	275
Membrane correction applied (kPa)	4	4	5
Drain correction applied (kPa)	10	10	10
Axial strain (%)	6.56	5.90	7.58
Excess pore pressure (kPa)	31	50	94
Major principal effective stress (kPa)	76	177	381
Minor principal effective stress (kPa)	19	50	106
Principal effective stress ratio	4.02	3.54	3.59
e 50 (%)	0.70	0.34	0.38
Secant modulus at e 50 (kPa)	4115	18599	35741

Filename: 022\_104P.XLS

Approved by: MSD Date: 18/4/16

FINAL CONDITIONS			
Moisture content (%)	17	16	15
Bulk density (Mg/m <sup>3</sup> )	2.16	2.17	2.19
Dry density (Mg/m <sup>3</sup> )	1.85	1.87	1.87

SUMMARY OF  
ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAxIAL COMPRESSION TEST : SET OF THREE SPECIMENS







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**Appendices**

Date: 17/04/96

Drawn by: RB

Template Issue: 1

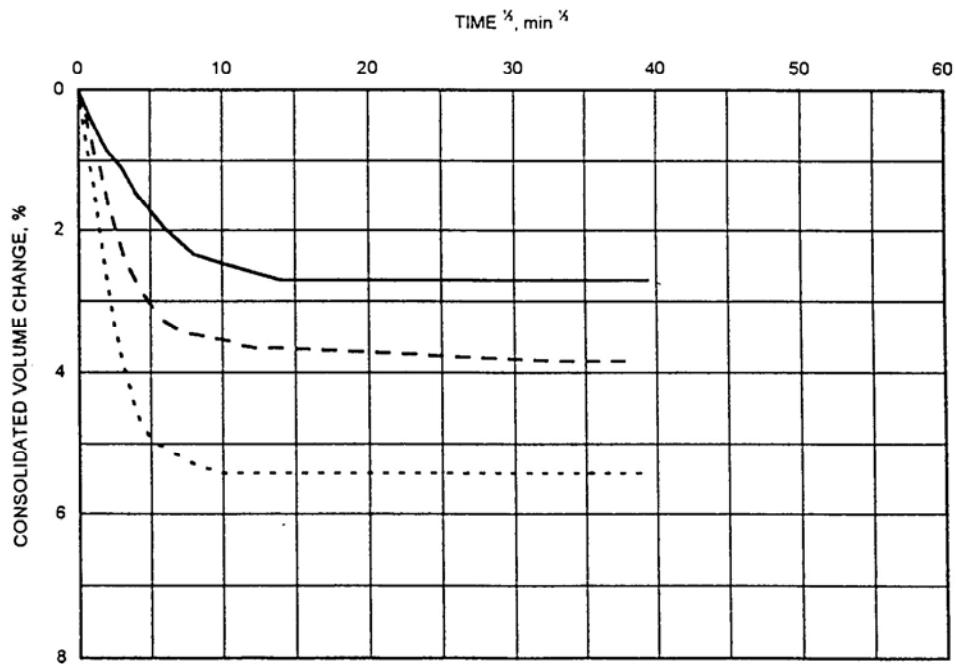
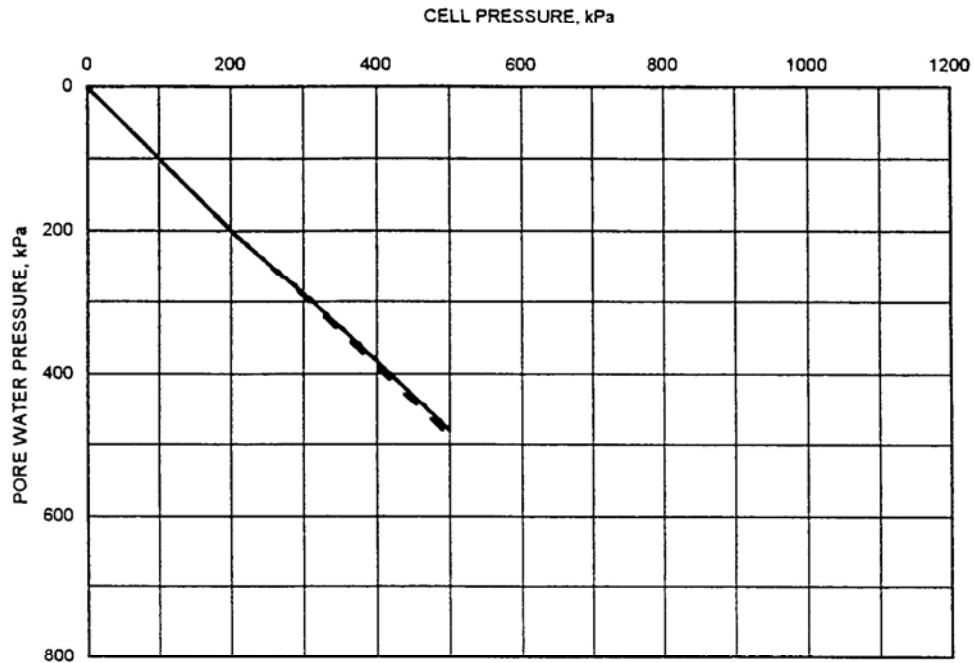
Filename: 022\_104A.DWG

Date: 18/4/96

Date: 18-4-96

Checked by: *MSD*

Approved by: *MSD*



Specimen 1 —	$\sigma_r'$ : 50kPa	$\sigma_a'$ : 50kPa	Borehole: CY40	Sample: U22	Depth (m): 6.0
Specimen 2 - -	$\sigma_r'$ : 100kPa	$\sigma_a'$ : 100kPa	Borehole: CY40	Sample: U22	Depth (m): 6.0
Specimen 3 - - -	$\sigma_r'$ : 200kPa	$\sigma_a'$ : 200kPa	Borehole: CY40	Sample: U22	Depth (m): 6.0

ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAXIAL COMPRESSION TEST : SET OF THREE SPECIMENS



TESTING  
No. 0919

Date: 18/04/96

Drawn by: RB

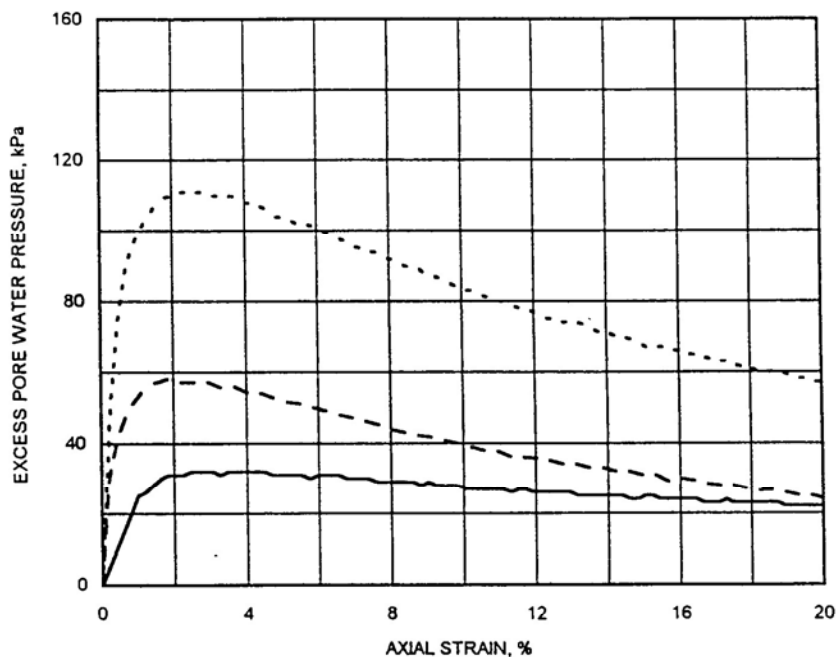
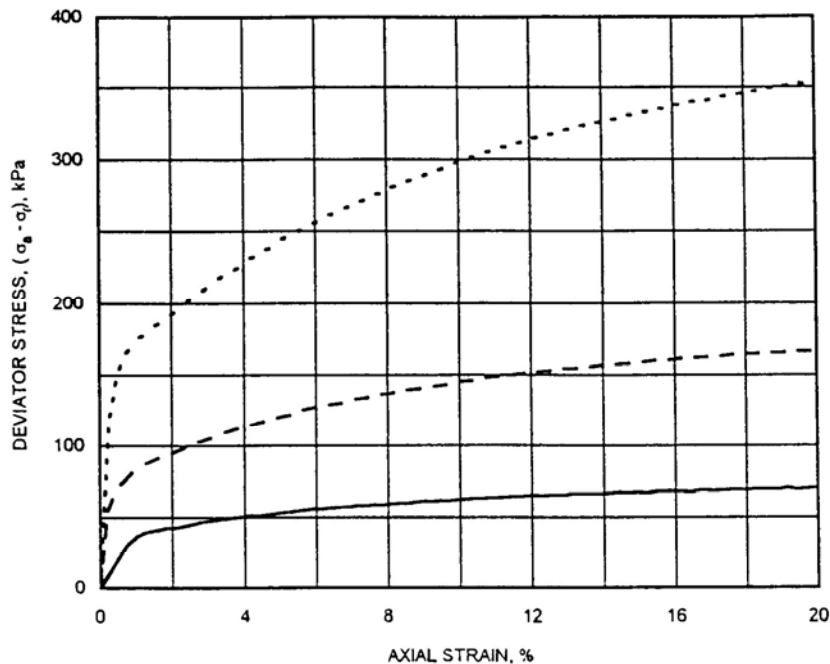
Template Issue: 1

Filename: 022\_104B.0HG

Date: 18/04/96

Date: 18-4-96

Checked by: *MSD*  
Approved by: *MSD*



Specimen 1 ———	$\sigma_r$ : 50kPa	$\sigma_a$ : 50kPa	Borehole: CY40	Sample: U22	Depth (m): 6.0
Specimen 2 - - -	$\sigma_r$ : 100kPa	$\sigma_a$ : 100kPa	Borehole: CY40	Sample: U22	Depth (m): 6.0
Specimen 3 - - -	$\sigma_r$ : 200kPa	$\sigma_a$ : 200kPa	Borehole: CY40	Sample: U22	Depth (m): 6.0

ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAXIAL COMPRESSION TEST : SET OF THREE SPECIMENS



TESTING  
No. 0919

Date: 17/04/96

Drawn by: RB

Template Issue: 1

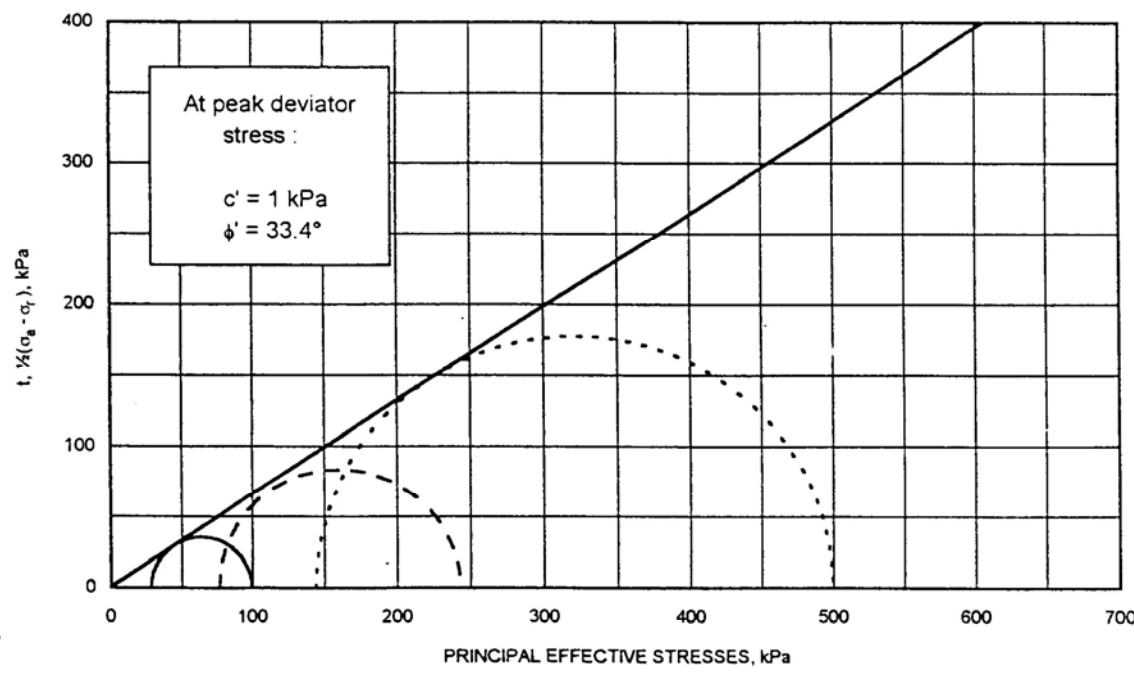
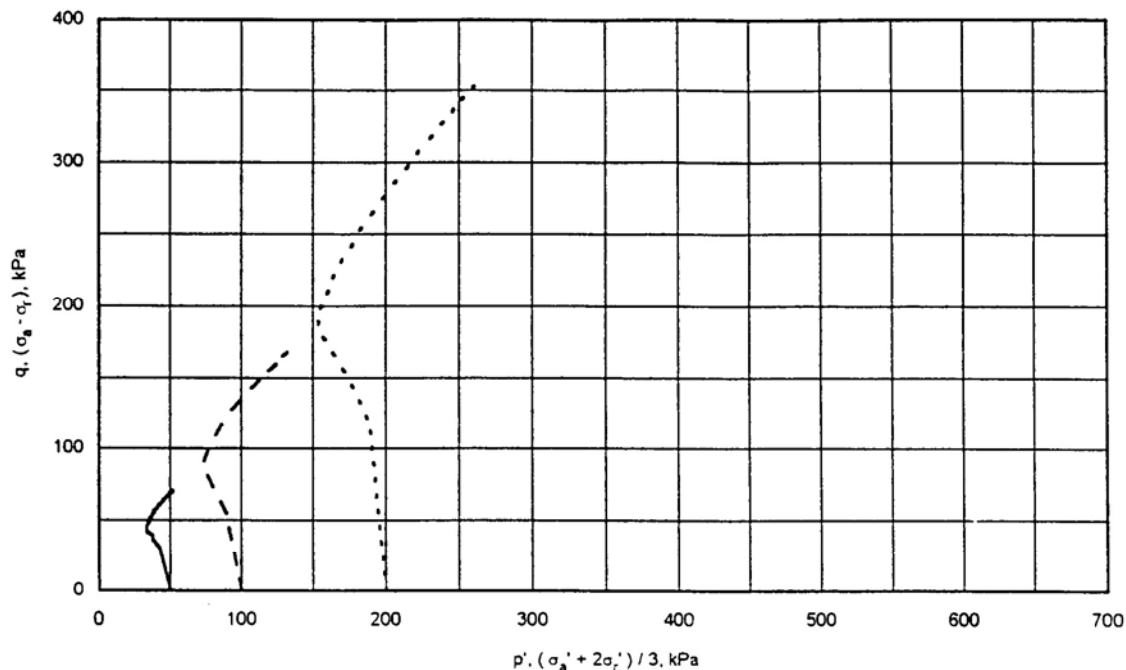
Filename: 022\_104C.ORG

Date: 18/4/96

Date: 18-4-96

Checked by: DGC

Approved by: MJD



Specimen 1	—	$\sigma_r'$ : 50kPa	$\sigma_a'$ : 50kPa	Borehole: CY40	Sample: U22	Depth (m): 6.0
Specimen 2	- -	$\sigma_r'$ : 100kPa	$\sigma_a'$ : 100kPa	Borehole: CY40	Sample: U22	Depth (m): 6.0
Specimen 3	· · · ·	$\sigma_r'$ : 200kPa	$\sigma_a'$ : 200kPa	Borehole: CY40	Sample: U22	Depth (m): 6.0

ISOTROPICALLY CONSOLIDATED UNDRAINED  
TRIAxIAL COMPRESSION TEST : SET OF THREE SPECIMENS



TESTING  
No. 0919