

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**SETUP DATA**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical
Sample description	szürkésbarna közepes agyag (töltés)		
Preparation method	Prepared from a sample tube of the same internal diameter as the required specimen in accordance with BS 1377:1990:Part 1:Clause 8.3		
Tested with or without side drains?	with		
Particle density (Mg/m <sup>3</sup> )	2.75	Assumed / Measured	Assumed

<b>SPECIMEN 1</b>			
Specimen depth (m)	3.00	Machine number	
		Effective stress (kPa)	50
Drainage conditions	From radial boundary and both ends	Type of soil	Sensitive (stiff fissured clay)

<b>Initial measurements</b>			
Length (mm)	76.0	Membrane thickness (mm)	0.20
Diameter (mm)	38.0	Area (mm <sup>2</sup> )	1134.1
Mass (g)	169.9	Bulk density (Mg/m <sup>3</sup> )	1.97
		Volume (cc)	86.2

<b>Saturation</b>			
Pressure increments applied (kPa)	100	Initial cell pressure (kPa)	0
Differential pressure applied (kPa)	20	Initial pore pressure (kPa)	21
Total volume of water taken in (cc)	2.2	Final B Value	-

<b>Consolidation</b>			
Cell pressure (kPa)	405	Back pressure (kPa)	380
Initial pore pressure reading (kPa)*	377	Initial volume reading (cc)*	-3.0
<b>Conditions at end of stage</b>			
Final pore pressure reading (kPa)*	357	Final volume reading (cc)*	-2.3
Total volume change (cc)	0.7	Area (mm <sup>2</sup> )	1128.0
Length (mm)	75.8	Volume (cc)	85.5
c <sub>vi</sub> (m <sup>2</sup> /year)	0.54	m <sub>vi</sub> (m <sup>2</sup> /MN)	0.41
t <sub>100</sub> (root mins)	6.63	t <sub>100</sub> (mins)	43.96
Significant strain interval (ε <sub>f</sub> ) (%)	10.00		
Minimum time to failure (t <sub>f</sub> ) (mins)	703.31		
Rate of displacement (mm/min):	Calculated 0.010777	Actual 0.050000	(3.96 %/hr)

<b>Shear stage</b>			
Shearing started: Date (dd/mm/yyyy)	13/12/2010	Time (hh:mm)	
Initial displacement reading (mm)*	0.00	Initial force reading (N)*	0.0
Initial pore pressure reading (kPa)*	366	Cell pressure reading (kPa)*	405

\* If initial and final readings are not entered, values will be taken from test data

<b>Trimmings moisture content</b>		<b>Final moisture content (whole specimen)</b>	
Mass of wet soil + tin (g)	180.90	Mass of wet specimen + tin (g)	180.90
Mass of dry soil + tin (g)	152.49	Mass of dry specimen + tin (g)	152.49
Mass of tin (g)	0.00	Mass of tin (g)	0.00

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**SETUP DATA**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical
Sample description	szürkésbarna közepes agyag (töltés)		
Preparation method	Prepared from a sample tube of the same internal diameter as the required specimen in accordance with BS 1377:1990:Part 1:Clause 8.3		
Tested with or without side drains?	with		
Particle density (Mg/m <sup>3</sup> )	2.75	Assumed / Measured	Assumed

<b>SPECIMEN 2</b>			
Specimen depth (m)	3.00	Machine number	
		Effective stress (kPa)	100
Drainage conditions	From radial boundary and both ends	Type of soil	Sensitive (stiff fissured clay)

<b>Initial measurements</b>				
Length (mm)	76.0	Membrane thickness (mm)	0.20	
Diameter (mm)	38.0	Area (mm <sup>2</sup> )	1134.1	Bulk density (Mg/m <sup>3</sup> )
Mass (g)	169.9	Volume (cc)	86.2	1.97

<b>Saturation</b>			
Pressure increments applied (kPa)	100	Initial cell pressure (kPa)	0
Differential pressure applied (kPa)	20	Initial pore pressure (kPa)	13
Total volume of water taken in (cc)	3.1	Final B Value	-

<b>Consolidation</b>			
Cell pressure (kPa)	480	Back pressure (kPa)	380
Initial pore pressure reading (kPa)*	429	Initial volume reading (cc)*	5.4
<b>Conditions at end of stage</b>			
Final pore pressure reading (kPa)*	370	Final volume reading (cc)*	3.7
Total volume change (cc)	1.7	Area (mm <sup>2</sup> )	1119.2
Length (mm)	75.5	Volume (cc)	84.5
c <sub>vi</sub> (m <sup>2</sup> /year)	0.58	m <sub>vi</sub> (m <sup>2</sup> /MN)	0.34
t <sub>100</sub> (root mins)	6.36	t <sub>100</sub> (mins)	40.45
Significant strain interval (e <sub>f</sub> ) (%)	10.00		
Minimum time to failure (t <sub>f</sub> ) (mins)	647.19		
Rate of displacement (mm/min):	Calculated	0.011666	Actual 0.100000 (7.95 %/hr)

<b>Shear stage</b>			
Shearing started:	Date (dd/mm/yyyy)	11/12/2010	Time (hh:mm)
			07:54
Initial displacement reading (mm)*	0.00	Initial force reading (N)*	0.0
Initial pore pressure reading (kPa)*	380	Cell pressure reading (kPa)*	480

\* If initial and final readings are not entered, values will be taken from test data

<b>Trimmings moisture content</b>		<b>Final moisture content (whole specimen)</b>	
Mass of wet soil + tin (g)	182.00	Mass of wet specimen + tin (g)	182.00
Mass of dry soil + tin (g)	155.13	Mass of dry specimen + tin (g)	155.13
Mass of tin (g)	0.00	Mass of tin (g)	0.00

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**SETUP DATA**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical
Sample description	szürkésbarna közepes agyag (töltés)		
Preparation method	Prepared from a sample tube of the same internal diameter as the required specimen in accordance with BS 1377:1990:Part 1:Clause 8.3		
Tested with or without side drains?	with		
Particle density (Mg/m <sup>3</sup> )	2.75	Assumed / Measured	Assumed

<b>SPECIMEN 3</b>			
Specimen depth (m)	3.00	Machine number	
		Effective stress (kPa)	150
Drainage conditions	From radial boundary and both ends	Type of soil	Sensitive (stiff fissured clay)

<b>Initial measurements</b>			
Length (mm)	76.0	Membrane thickness (mm)	0.20
Diameter (mm)	38.0	Area (mm <sup>2</sup> )	1134.1
Mass (g)	169.9	Bulk density (Mg/m <sup>3</sup> )	1.97
		Volume (cc)	86.2

<b>Saturation</b>			
Pressure increments applied (kPa)	100	Initial cell pressure (kPa)	0
Differential pressure applied (kPa)	20	Initial pore pressure (kPa)	11
Total volume of water taken in (cc)	-3.0	Final B Value	-

<b>Consolidation</b>			
Cell pressure (kPa)	530	Back pressure (kPa)	380
Initial pore pressure reading (kPa)*	435	Initial volume reading (cc)*	-2.9
<b>Conditions at end of stage</b>			
Final pore pressure reading (kPa)*	379	Final volume reading (cc)*	-0.8
Total volume change (cc)	2.1	Area (mm <sup>2</sup> )	1115.7
Length (mm)	75.4	Volume (cc)	84.1
c <sub>vi</sub> (m <sup>2</sup> /year)	0.03	m <sub>vi</sub> (m <sup>2</sup> /MN)	0.43
t <sub>100</sub> (root mins)	28.30	t <sub>100</sub> (mins)	800.89
Significant strain interval (e <sub>f</sub> ) (%)	10.00		
Minimum time to failure (t <sub>f</sub> ) (mins)	12814.24		
Rate of displacement (mm/min):	Calculated 0.000588	Actual 0.100000	(7.96 %/hr)

<b>Shear stage</b>			
Shearing started: Date (dd/mm/yyyy)	16/12/2010	Time (hh:mm)	08:30
Initial displacement reading (mm)*	0.00	Initial force reading (N)*	0.0
Initial pore pressure reading (kPa)*	382	Cell pressure reading (kPa)*	530

\* If initial and final readings are not entered, values will be taken from test data

<b>Trimmings moisture content</b>		<b>Final moisture content (whole specimen)</b>	
Mass of wet soil + tin (g)	184.80	Mass of wet specimen + tin (g)	184.80
Mass of dry soil + tin (g)	160.35	Mass of dry specimen + tin (g)	160.35
Mass of tin (g)	0.00	Mass of tin (g)	0.00

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Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SATURATION SUMMARY**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 1</b>	<b>Effective stress (kPa)</b>	<b>50</b>
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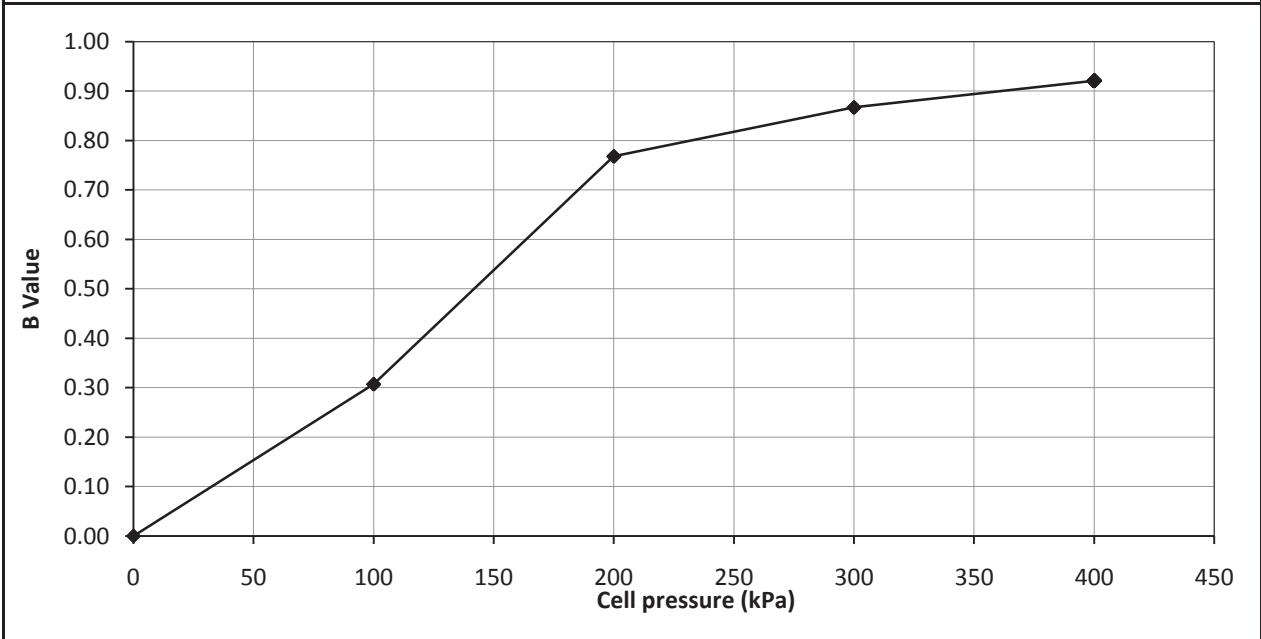
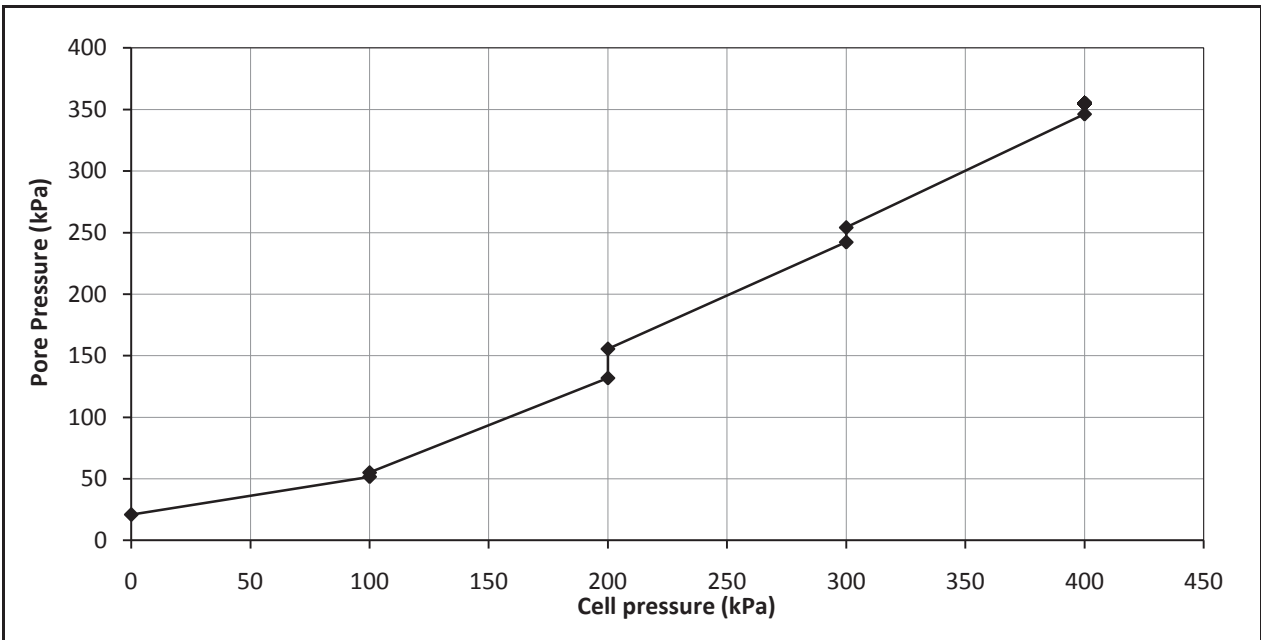
Recorded data				Calculated data			
Time (mins)	Cell pressure (kPa)	Pore pressure (kPa)	Back pressure (kPa)	Volume-change indicator			B Value  (-)
				Before (cc)	After (cc)	Difference (cc)	
0.00	0	21					-
8.64	100	52	C				0.31
29.65	100	55	80	-0.4	-0.7	<b>0.3</b>	-
60.98	200	132	C				0.77
92.98	200	156	180	-0.9	-2.4	<b>1.5</b>	-
127.22	300	242	C				0.87
310.45	300	254	280	-2.5	-2.8	<b>0.3</b>	-
441.91	400	346	C				0.92
588.25	400	355	380	-2.9	-3.0	<b>0.1</b>	-

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**TEST DATA - SATURATION SUMMARY**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 1</b>	<b>Effective stress (kPa)</b>	<b>50</b>
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Tested Date	Checked Date	Approved Date
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**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - CONSOLIDATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 1</b>	<b>Effective stress (kPa)</b>	<b>50</b>
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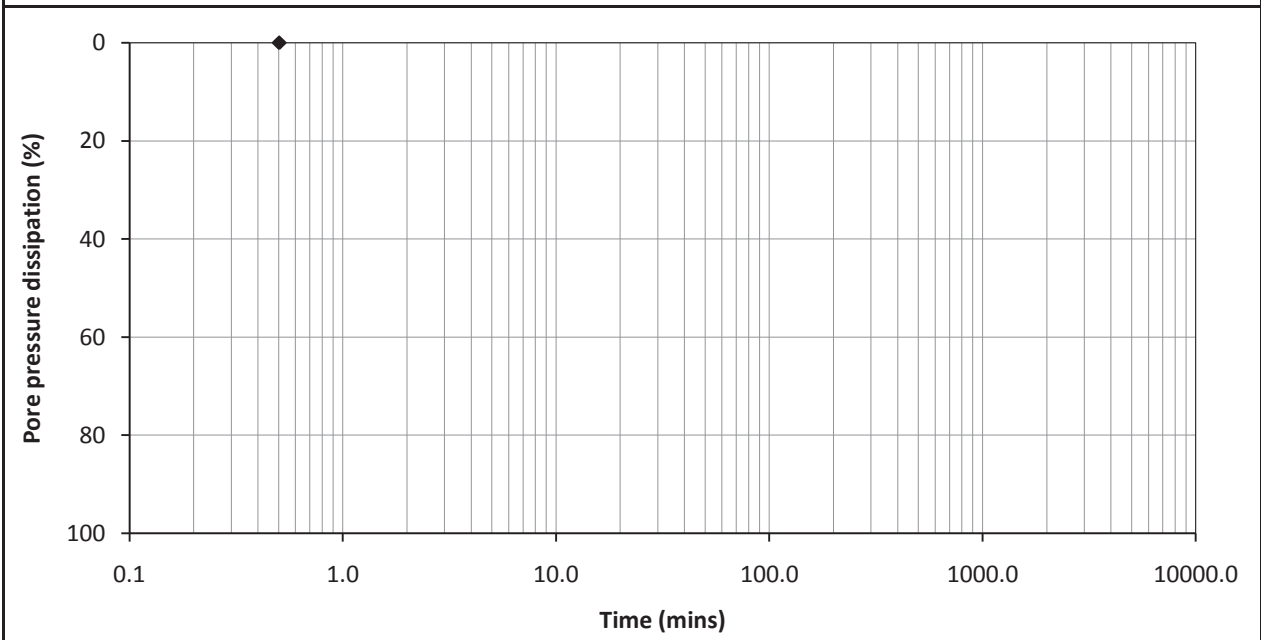
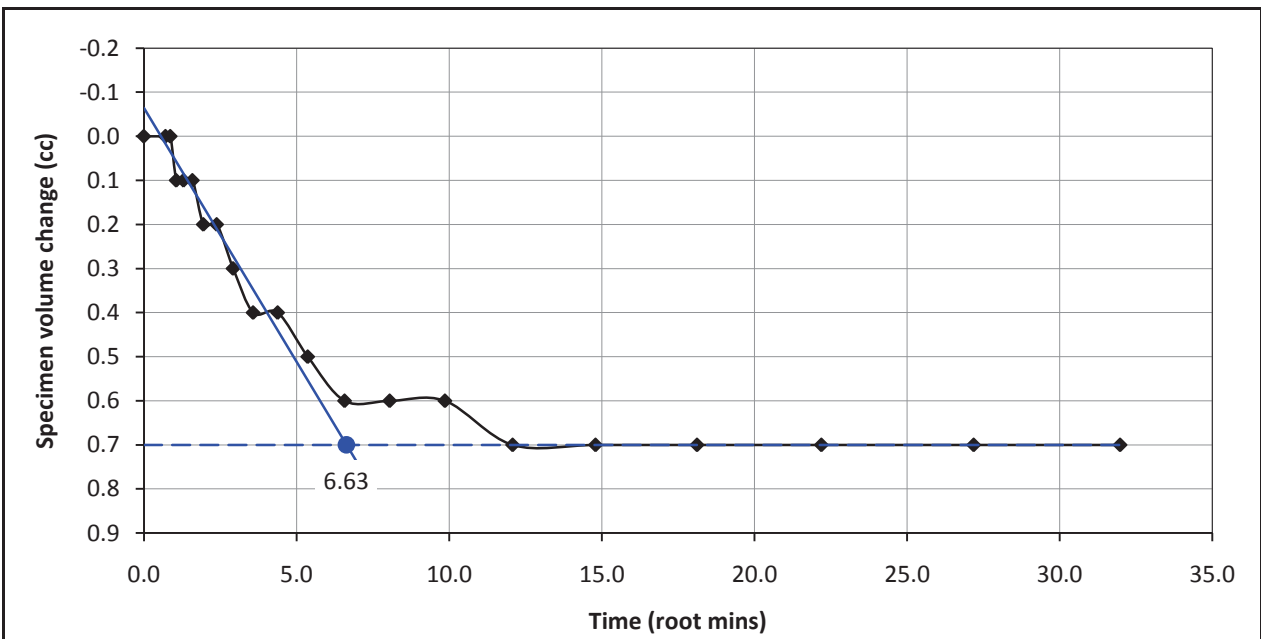
Recorded data				Calculated data				
Date	Time	Elapsed time (mins)	Pore pressure (kPa)	Volume-change		Elapsed time (root mins)	Pore pressure	
				Reading (cc)	Difference (cc)		Difference (kPa)	Dissipation (%)
		0.50	377	-3.0	0.0	0.7	0	0
		0.75	375	-3.0	0.0	0.9	2	-53
		1.13	373	-2.9	0.1	1.1	4	-113
		1.69	371	-2.9	0.1	1.3	6	-181
		2.53	369	-2.9	0.1	1.6	8	-250
		3.80	367	-2.8	0.2	1.9	10	-316
		5.70	365	-2.8	0.2	2.4	12	-375
		8.55	363	-2.7	0.3	2.9	14	-431
		12.82	362	-2.6	0.4	3.6	15	-478
		19.23	360	-2.6	0.4	4.4	17	-522
		28.83	359	-2.5	0.5	5.4	18	-556
		43.25	358	-2.4	0.6	6.6	19	-581
		64.88	359	-2.4	0.6	8.1	18	-559
		97.31	359	-2.4	0.6	9.9	18	-566
		145.97	358	-2.3	0.7	12.1	18	-575
		218.95	359	-2.3	0.7	14.8	18	-572
		328.42	357	-2.3	0.7	18.1	20	-622
		492.63	357	-2.3	0.7	22.2	20	-609
		738.95	356	-2.3	0.7	27.2	20	-638
		1022.75	357	-2.3	0.7	32.0	20	-622

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**TEST DATA - CONSOLIDATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 1</b>	<b>Effective stress (kPa)</b>	<b>50</b>
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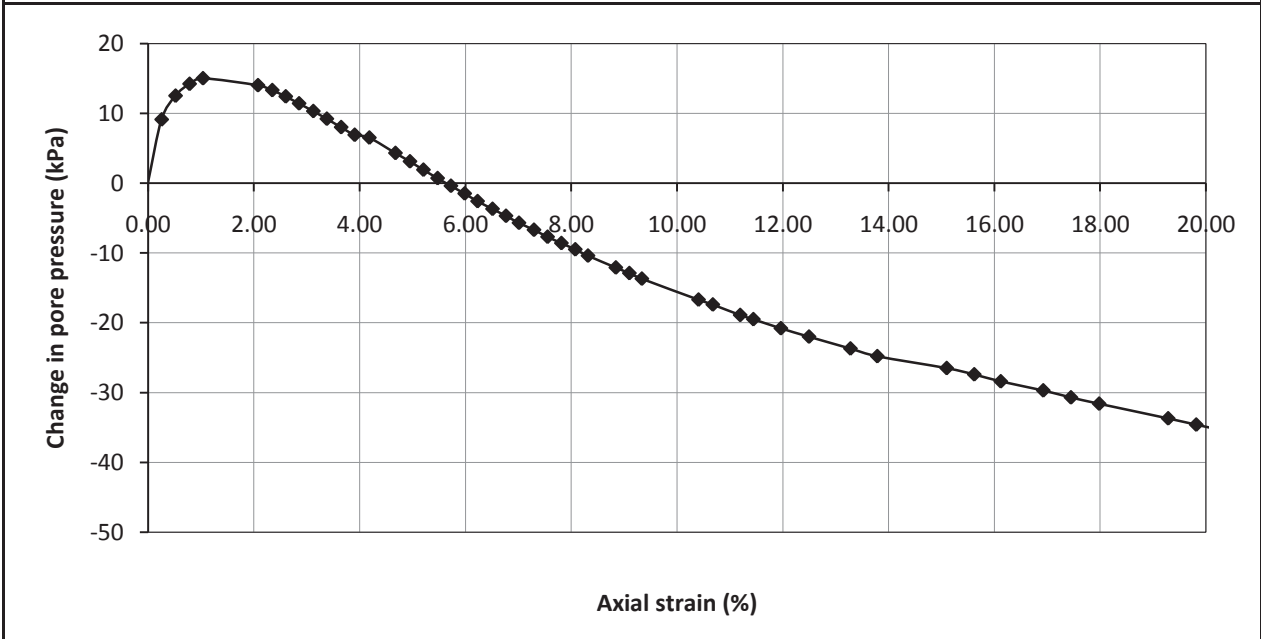
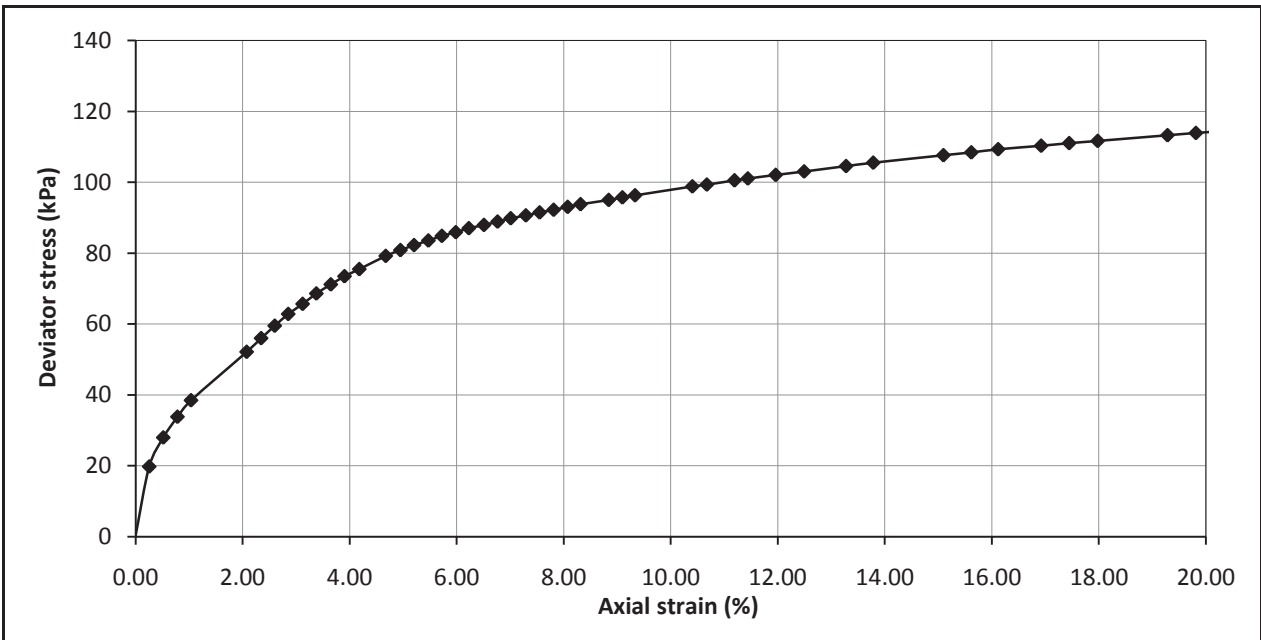
Tested Date	Checked Date	Approved Date
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CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 1</b>	<b>Effective stress (kPa)</b>	<b>50</b>
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Tested Date	Checked Date	Approved Date
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**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 1</b>	<b>Effective stress (kPa)</b>	<b>50</b>
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Recorded data			Calculated data					
Axial disp. (mm)	Axial force (N)	Pore pressure (kPa)	Change in length (mm)	Change in force (N)	Axial strain (%)	Area (mm <sup>2</sup> )	Change in pore pr. (kPa)	Deviator stress (kPa)
0.00	0.0	366	0.00	0.0	0.00	1128.0	0	0.0
0.19	23.8	375	0.19	23.8	0.26	1130.9	9	21.0
0.39	34.7	379	0.39	34.7	0.52	1133.9	13	30.6
0.59	43.0	381	0.59	43.0	0.78	1136.9	14	37.8
0.79	49.9	381	0.79	49.9	1.04	1139.8	15	43.8
1.57	71.9	380	1.57	71.9	2.08	1151.9	14	62.4
1.78	76.6	380	1.78	76.6	2.35	1155.1	13	66.3
1.97	80.9	379	1.97	80.9	2.60	1158.1	12	69.9
2.16	85.0	378	2.16	85.0	2.85	1161.1	11	73.2
2.37	88.6	377	2.37	88.6	3.12	1164.3	10	76.1
2.56	92.3	376	2.56	92.3	3.38	1167.4	9	79.1
2.77	95.6	374	2.77	95.6	3.65	1170.7	8	81.7
2.96	98.6	373	2.96	98.6	3.91	1173.8	7	84.0
3.17	101.3	373	3.17	101.3	4.18	1177.2	7	86.1
3.54	106.3	371	3.54	106.3	4.68	1183.3	4	89.8
3.75	108.6	369	3.75	108.6	4.95	1186.7	3	91.5
3.95	110.6	368	3.95	110.6	5.20	1189.9	2	92.9
4.15	112.5	367	4.15	112.5	5.47	1193.3	1	94.3
4.34	114.4	366	4.34	114.4	5.72	1196.5	0	95.6
4.54	116.0	365	4.54	116.0	5.98	1199.8	-2	96.7
4.72	117.7	364	4.72	117.7	6.23	1202.9	-3	97.8
4.94	119.2	363	4.94	119.2	6.51	1206.5	-4	98.8
5.13	120.7	362	5.13	120.7	6.77	1209.8	-5	99.8
5.31	122.2	361	5.31	122.2	7.01	1213.0	-6	100.7
5.53	123.6	360	5.53	123.6	7.29	1216.7	-7	101.6
5.72	125.0	359	5.72	125.0	7.55	1220.1	-8	102.4
5.92	126.3	358	5.92	126.3	7.81	1223.6	-9	103.2
6.12	127.7	357	6.12	127.7	8.08	1227.1	-10	104.1
6.30	129.0	356	6.30	129.0	8.32	1230.3	-10	104.9
6.70	131.3	354	6.70	131.3	8.84	1237.4	-12	106.1
6.90	132.6	353	6.90	132.6	9.10	1240.9	-13	106.9
7.08	133.7	353	7.08	133.7	9.33	1244.1	-14	107.5
7.89	138.6	350	7.89	138.6	10.41	1259.0	-17	110.1

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 1</b>	<b>Effective stress (kPa)</b>	<b>50</b>
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Recorded data			Calculated data					
Axial disp. (mm)	Axial force (N)	Pore pressure (kPa)	Change in length (mm)	Change in force (N)	Axial strain (%)	Area (mm <sup>2</sup> )	Change in pore pr. (kPa)	Deviator stress (kPa)
8.09	139.7	349	8.09	139.7	10.68	1262.8	-17	110.6
8.48	142.1	347	8.48	142.1	11.19	1270.1	-19	111.9
8.67	143.2	347	8.67	143.2	11.44	1273.7	-20	112.4
9.07	145.4	346	9.07	145.4	11.96	1281.2	-21	113.5
9.47	147.6	344	9.47	147.6	12.49	1289.0	-22	114.5
10.06	151.0	343	10.06	151.0	13.28	1300.7	-24	116.1
10.45	153.2	342	10.45	153.2	13.79	1308.3	-25	117.1
11.44	158.5	340	11.44	158.5	15.10	1328.6	-27	119.3
11.84	160.6	339	11.84	160.6	15.62	1336.8	-27	120.1
12.22	162.8	338	12.22	162.8	16.12	1344.7	-28	121.1
12.83	165.8	337	12.83	165.8	16.92	1357.8	-30	122.1
13.22	167.9	336	13.22	167.9	17.45	1366.4	-31	122.9
13.63	169.9	335	13.63	169.9	17.98	1375.2	-32	123.5
14.62	175.0	333	14.62	175.0	19.29	1397.5	-34	125.2
15.02	177.1	332	15.02	177.1	19.82	1406.7	-35	125.9
15.40	179.0	331	15.40	179.0	20.32	1415.7	-35	126.4
16.40	183.9	329	16.40	183.9	21.64	1439.4	-37	127.8
17.00	186.7	328	17.00	186.7	22.42	1454.0	-39	128.4
17.58	189.7	326	17.58	189.7	23.19	1468.6	-40	129.2
17.78	190.5	326	17.78	190.5	23.46	1473.8	-41	129.3
19.77	200.2	324	19.77	200.2	26.09	1526.0	-43	131.2
20.22	202.6	323	20.22	202.6	26.68	1538.5	-43	131.7

CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

TEST DATA - SHEARING

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 1</b>	<b>Effective stress (kPa)</b>	<b>50</b>
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Calculated data								
Membrane correction (kPa)	Drain correction (kPa)	Corrected dev. stress (kPa)	Principle stresses			Coefficient A (-)	Stress path parameters	
			Major ( $\sigma_1'$ ) (kPa)	Minor ( $\sigma_3'$ ) (kPa)	$\sigma_1'/\sigma_3'$ (-)		s' (kPa)	t (kPa)
0.00	-0.01	0.0	38.7	38.7	1.00	0.00	38.7	0.0
0.04	1.28	19.7	49.3	29.6	1.67	0.46	39.5	9.9
0.07	2.59	27.9	54.1	26.2	2.07	0.45	40.2	14.0
0.11	3.92	33.8	58.3	24.5	2.38	0.42	41.4	16.9
0.15	5.19	38.4	62.1	23.7	2.62	0.39	42.9	19.2
0.29	10.00	52.1	76.8	24.7	3.11	0.27	50.8	26.1
0.32	10.00	56.0	81.4	25.4	3.20	0.24	53.4	28.0
0.36	10.00	59.5	85.8	26.3	3.26	0.21	56.0	29.7
0.39	10.00	62.8	90.1	27.3	3.30	0.18	58.7	31.4
0.43	10.00	65.7	94.1	28.4	3.31	0.16	61.2	32.8
0.46	10.00	68.6	98.1	29.5	3.33	0.13	63.8	34.3
0.49	10.00	71.2	101.9	30.7	3.32	0.11	66.3	35.6
0.53	10.00	73.5	105.3	31.8	3.31	0.09	68.5	36.7
0.56	10.00	75.5	107.7	32.2	3.34	0.09	69.9	37.7
0.62	10.00	79.2	113.6	34.4	3.30	0.05	74.0	39.6
0.65	10.00	80.9	116.5	35.6	3.27	0.04	76.0	40.4
0.69	10.00	82.3	119.1	36.8	3.24	0.02	77.9	41.1
0.72	10.00	83.6	121.6	38.0	3.20	0.01	79.8	41.8
0.75	10.00	84.9	124.0	39.1	3.17	0.00	81.5	42.4
0.78	10.00	85.9	126.1	40.2	3.14	-0.02	83.2	43.0
0.81	10.00	87.0	128.3	41.3	3.11	-0.03	84.8	43.5
0.84	10.00	88.0	130.4	42.4	3.07	-0.04	86.4	44.0
0.87	10.00	88.9	132.3	43.4	3.05	-0.05	87.8	44.4
0.89	10.00	89.8	134.2	44.4	3.02	-0.06	89.3	44.9
0.93	10.00	90.7	136.1	45.4	3.00	-0.07	90.7	45.3
0.95	10.00	91.5	137.9	46.4	2.97	-0.08	92.1	45.7
0.98	10.00	92.2	139.5	47.3	2.95	-0.09	93.4	46.1
1.01	10.00	93.1	141.3	48.2	2.93	-0.10	94.7	46.5
1.04	10.00	93.8	142.9	49.1	2.91	-0.11	96.0	46.9
1.09	10.00	95.0	145.8	50.8	2.87	-0.13	98.3	47.5
1.12	10.00	95.7	147.3	51.6	2.86	-0.13	99.5	47.9
1.14	10.00	96.3	148.7	52.4	2.84	-0.14	100.6	48.2
1.25	10.00	98.8	154.2	55.4	2.78	-0.17	104.8	49.4

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 1</b>	<b>Effective stress (kPa)</b>	<b>50</b>
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Calculated data								
Membrane correction (kPa)	Drain correction (kPa)	Corrected dev. stress (kPa)	Principle stresses			Coefficient A (-)	Stress path parameters	
			Major ( $\sigma_1'$ ) (kPa)	Minor ( $\sigma_3'$ ) (kPa)	$\sigma_1'/\sigma_3'$ (-)		s' (kPa)	t (kPa)
1.27	10.00	99.4	155.5	56.1	2.77	-0.18	105.8	49.7
1.32	10.00	100.6	158.2	57.6	2.75	-0.19	107.9	50.3
1.35	10.00	101.1	159.3	58.2	2.74	-0.19	108.7	50.5
1.39	10.00	102.1	161.6	59.5	2.72	-0.20	110.5	51.0
1.44	10.00	103.1	163.8	60.7	2.70	-0.21	112.2	51.5
1.51	10.00	104.6	167.0	62.4	2.68	-0.23	114.7	52.3
1.55	10.00	105.5	169.0	63.5	2.66	-0.23	116.3	52.8
1.65	10.00	107.7	172.9	65.2	2.65	-0.25	119.0	53.8
1.69	10.00	108.5	174.6	66.1	2.64	-0.25	120.3	54.2
1.73	10.00	109.3	176.4	67.1	2.63	-0.26	121.8	54.7
1.78	10.00	110.3	178.7	68.4	2.61	-0.27	123.6	55.2
1.82	10.00	111.1	180.5	69.4	2.60	-0.28	124.9	55.5
1.85	10.00	111.7	182.0	70.3	2.59	-0.28	126.1	55.8
1.93	10.00	113.3	185.7	72.4	2.56	-0.30	129.0	56.6
1.96	10.00	113.9	187.2	73.3	2.55	-0.30	130.3	57.0
1.98	10.00	114.5	188.6	74.1	2.54	-0.31	131.3	57.2
2.05	10.00	115.7	191.8	76.1	2.52	-0.32	134.0	57.9
2.08	10.00	116.3	193.6	77.3	2.50	-0.33	135.5	58.2
2.11	10.00	117.1	195.8	78.7	2.49	-0.34	137.2	58.5
2.12	10.00	117.14	196.4	79.3	2.48	-0.35	137.9	58.6
2.21	10.00	119.0	200.3	81.3	2.46	-0.36	140.8	59.5
2.22	10.00	119.5	201.6	82.1	2.46	-0.36	141.8	59.7

CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SATURATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 2</b>	<b>Effective stress (kPa)</b>	<b>100</b>
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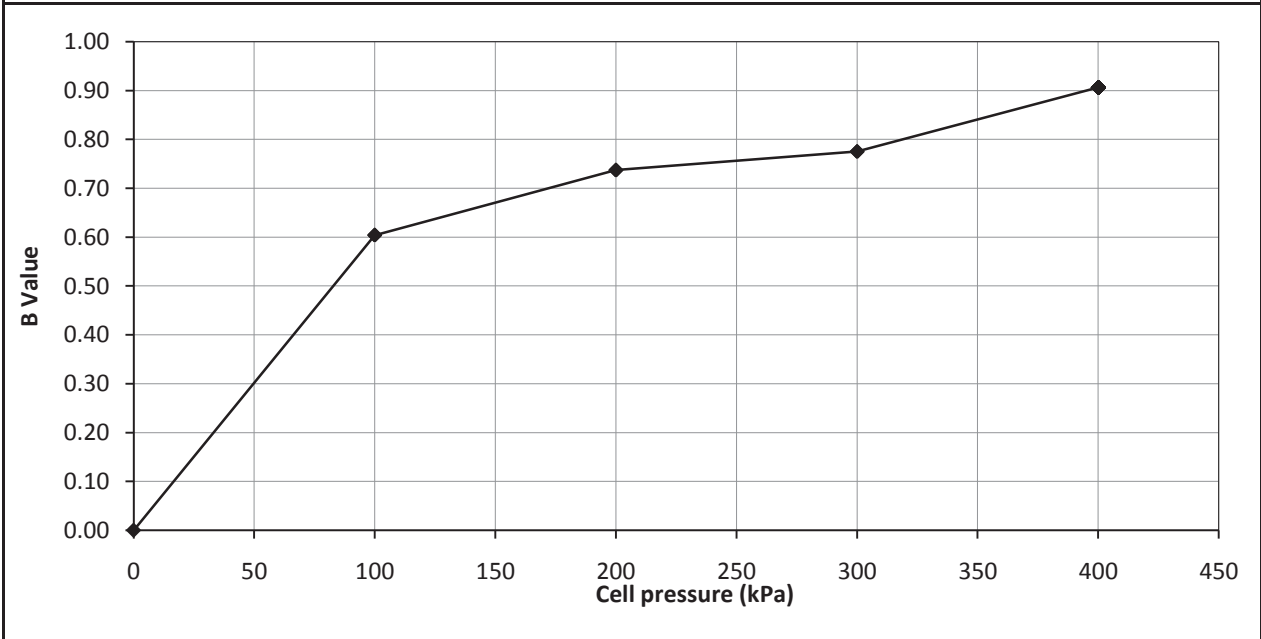
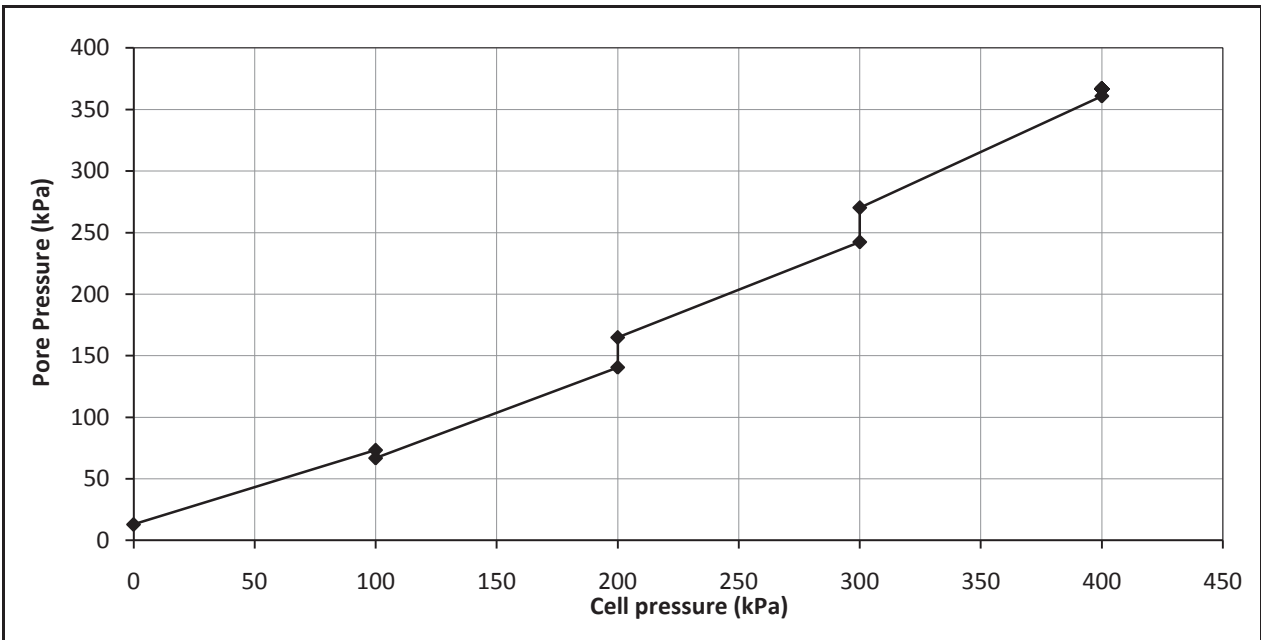
Recorded data				Calculated data			
Time (mins)	Cell pressure (kPa)	Pore pressure (kPa)	Back pressure (kPa)	Volume-change indicator			B Value  (-)
				Before (cc)	After (cc)	Difference (cc)	
0.00	0	13					-
8.64	100	73	C				0.60
29.65	100	67	80	0.6	0.8	<b>0.2</b>	-
60.98	200	141	C				0.74
92.98	200	165	180	1.6	2.6	<b>1.0</b>	-
127.22	300	242	C				0.78
310.45	300	270	280	3.2	4.9	<b>1.7</b>	-
441.91	400	361	C				0.91
588.25	400	367	380	5.3	5.5	<b>0.2</b>	-

CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SATURATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 2</b>	<b>Effective stress (kPa)</b>	<b>100</b>
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Tested Date	Checked Date	Approved Date
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**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - CONSOLIDATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 2</b>	<b>Effective stress (kPa)</b>	<b>100</b>
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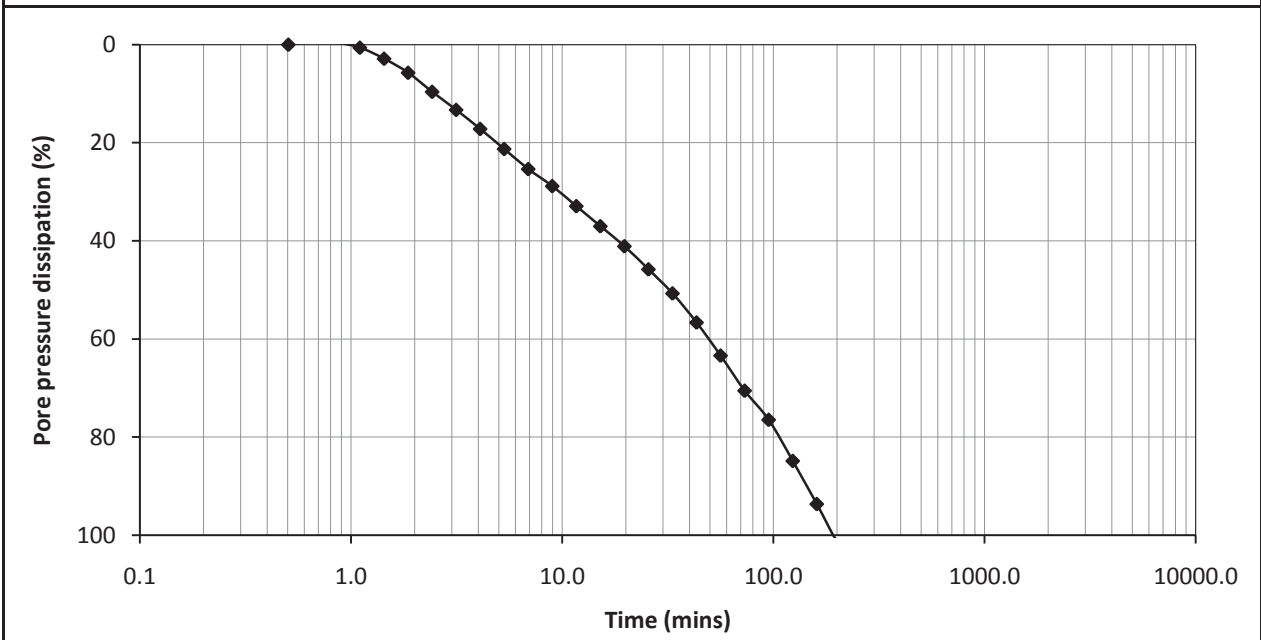
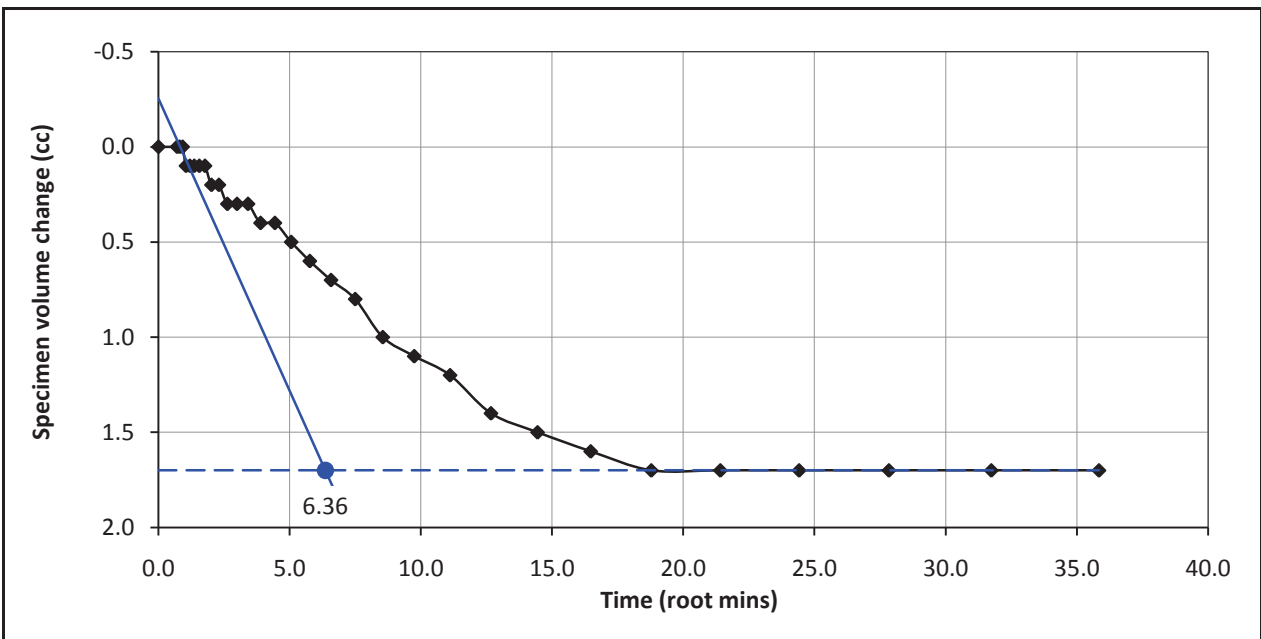
Recorded data				Calculated data				
Date	Time	Elapsed time (mins)	Pore pressure (kPa)	Volume-change		Elapsed time (root mins)	Pore pressure	
				Reading (cc)	Difference (cc)		Difference (kPa)	Dissipation (%)
		0.50	429	5.4	0.0	0.7	0	0
		0.65	429	5.4	0.0	0.8	0	-1
		0.85	429	5.4	0.0	0.9	0	0
		1.10	429	5.3	0.1	1.0	0	1
		1.43	428	5.3	0.1	1.2	1	3
		1.86	426	5.3	0.1	1.4	3	6
		2.42	424	5.3	0.1	1.6	5	10
		3.14	422	5.3	0.1	1.8	7	13
		4.08	421	5.2	0.2	2.0	8	17
		5.30	419	5.2	0.2	2.3	10	21
		6.90	417	5.1	0.3	2.6	12	25
		8.96	415	5.1	0.3	3.0	14	29
		11.65	413	5.1	0.3	3.4	16	33
		15.15	411	5.0	0.4	3.9	18	37
		19.69	409	5.0	0.4	4.4	20	41
		25.60	407	4.9	0.5	5.1	22	46
		33.28	404	4.8	0.6	5.8	25	51
		43.25	401	4.7	0.7	6.6	28	57
		56.23	398	4.6	0.8	7.5	31	63
		73.10	394	4.4	1.0	8.5	35	71
		95.03	392	4.3	1.1	9.7	37	76
		123.54	387	4.2	1.2	11.1	42	85
		160.59	383	4.0	1.4	12.7	46	94
		208.77	379	3.9	1.5	14.4	50	102
		271.40	378	3.8	1.6	16.5	51	104
		352.82	375	3.7	1.7	18.8	54	110
		458.67	374	3.7	1.7	21.4	55	112
		596.27	373	3.7	1.7	24.4	56	114
		775.15	372	3.7	1.7	27.8	57	116
		1007.69	373	3.7	1.7	31.7	56	115
		1285.06	370	3.7	1.7	35.8	59	120

CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - CONSOLIDATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 2</b>	<b>Effective stress (kPa)</b>	<b>100</b>
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Tested Date	Checked Date	Approved Date
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CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

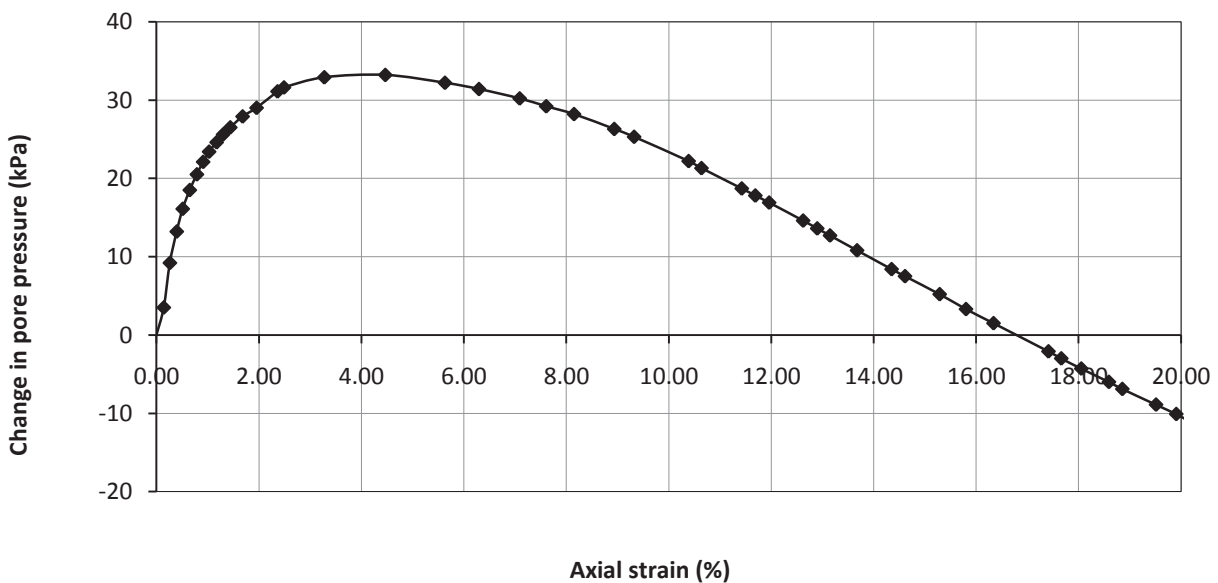
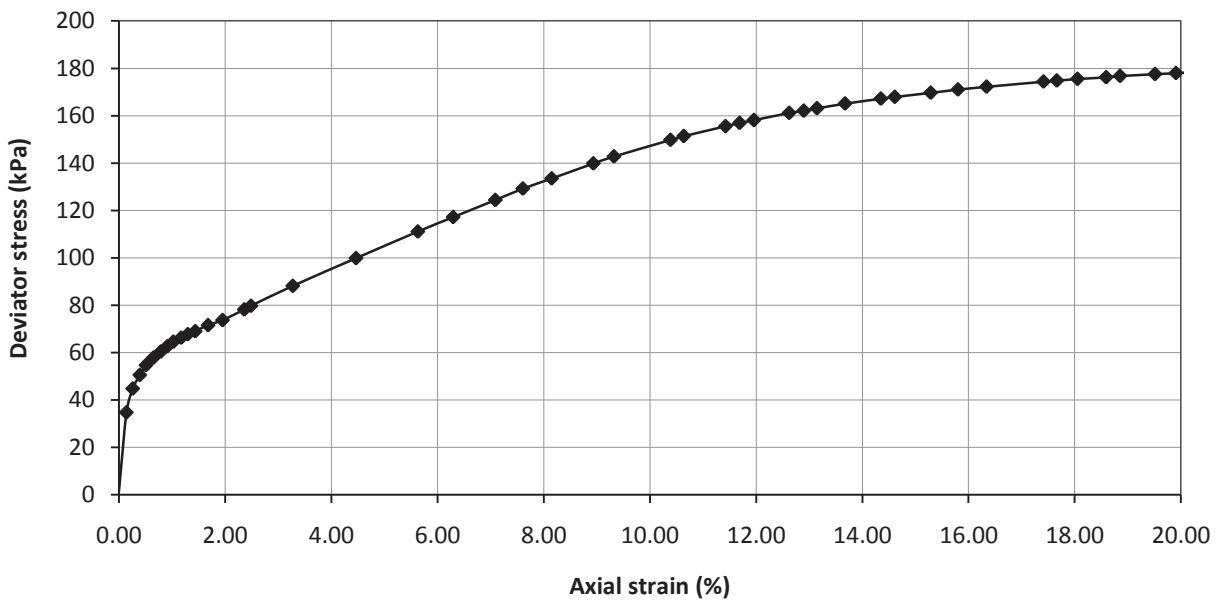
**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

**SPECIMEN 2**

**Effective stress (kPa)**

**100**



Tested  
Date

Checked  
Date

Approved  
Date

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 2</b>	<b>Effective stress (kPa)</b>	<b>100</b>
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Recorded data			Calculated data					
Axial disp. (mm)	Axial force (N)	Pore pressure (kPa)	Change in length (mm)	Change in force (N)	Axial strain (%)	Area (mm <sup>2</sup> )	Change in pore pr. (kPa)	Deviator stress (kPa)
-0.003	1.6	380	0.00	1.6	0.00	1119.2	0	1.4
0.105	39.8	383	0.11	39.8	0.14	1120.8	4	35.5
0.195	51.8	389	0.20	51.8	0.26	1122.1	9	46.2
0.296	59.1	393	0.30	59.1	0.39	1123.6	13	52.6
0.384	64.5	396	0.38	64.5	0.51	1124.9	16	57.3
0.488	68.9	398	0.49	68.9	0.65	1126.5	19	61.2
0.593	72.7	400	0.59	72.7	0.79	1128.1	21	64.4
0.685	76.0	402	0.69	76.0	0.91	1129.4	22	67.3
0.773	79.0	403	0.77	79.0	1.02	1130.8	23	69.9
0.884	81.9	404	0.88	81.9	1.17	1132.5	25	72.3
0.979	84.4	405	0.98	84.4	1.30	1133.9	26	74.4
1.085	86.8	406	1.09	86.8	1.44	1135.5	27	76.4
1.267	91.3	408	1.27	91.3	1.68	1138.3	28	80.2
1.473	95.6	409	1.47	95.6	1.95	1141.5	29	83.8
1.782	101.5	411	1.78	101.5	2.36	1146.3	31	88.5
1.877	103.4	411	1.88	103.4	2.49	1147.7	32	90.1
2.472	114.1	413	2.47	114.1	3.27	1157.1	33	98.6
3.371	129.4	413	3.37	129.4	4.46	1171.5	33	110.5
4.25	144.5	412	4.25	144.5	5.63	1186.0	32	121.8
4.752	152.9	411	4.75	152.9	6.29	1194.4	31	128.0
5.352	163.0	410	5.35	163.0	7.09	1204.6	30	135.3
5.743	169.8	409	5.74	169.8	7.61	1211.3	29	140.2
6.153	176.1	408	6.15	176.1	8.15	1218.5	28	144.5
6.746	185.5	406	6.75	185.5	8.94	1229.0	26	150.9
7.039	190.0	405	7.04	190.0	9.32	1234.3	25	153.9
7.843	201.1	402	7.84	201.1	10.39	1248.9	22	161.0
8.032	203.7	401	8.03	203.7	10.64	1252.4	21	162.6
8.626	210.9	399	8.63	210.9	11.43	1263.6	19	166.9
8.826	213.3	398	8.83	213.3	11.69	1267.4	18	168.3
9.03	215.5	397	9.03	215.5	11.96	1271.2	17	169.5
9.531	221.1	394	9.53	221.1	12.62	1280.9	15	172.6
9.739	223.0	393	9.74	223.0	12.90	1285.0	14	173.5
9.927	225.0	393	9.93	225.0	13.15	1288.6	13	174.6

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 2</b>	<b>Effective stress (kPa)</b>	<b>100</b>
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Recorded data			Calculated data					
Axial disp. (mm)	Axial force (N)	Pore pressure (kPa)	Change in length (mm)	Change in force (N)	Axial strain (%)	Area (mm <sup>2</sup> )	Change in pore pr. (kPa)	Deviator stress (kPa)
10.326	229.0	391	10.33	229.0	13.68	1296.5	11	176.6
10.835	233.6	388	10.84	233.6	14.35	1306.7	8	178.8
11.033	235.3	387	11.03	235.3	14.61	1310.7	8	179.5
11.544	239.6	385	11.54	239.6	15.29	1321.2	5	181.3
11.932	242.9	383	11.93	242.9	15.80	1329.3	3	182.7
12.338	246.1	381	12.34	246.1	16.34	1337.8	2	184.0
13.148	252.3	378	13.15	252.3	17.41	1355.2	-2	186.2
13.337	253.7	377	13.34	253.7	17.66	1359.3	-3	186.6
13.632	255.9	376	13.63	255.9	18.06	1365.8	-4	187.4
14.039	258.6	374	14.04	258.6	18.59	1374.9	-6	188.1
14.237	260.2	373	14.24	260.2	18.86	1379.3	-7	188.6
14.734	263.5	371	14.73	263.5	19.52	1390.6	-9	189.5
15.032	265.4	370	15.03	265.4	19.91	1397.4	-10	189.9
15.227	266.8	369	15.23	266.8	20.17	1401.9	-11	190.3
15.529	268.6	368	15.53	268.6	20.57	1409.0	-12	190.6
15.726	269.9	367	15.73	269.9	20.83	1413.7	-13	190.9
16.029	271.8	366	16.03	271.8	21.23	1420.9	-14	191.3
16.229	272.9	365	16.23	272.9	21.50	1425.6	-15	191.4
16.832	276.2	364	16.83	276.2	22.29	1440.3	-16	191.8

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 2</b>	<b>Effective stress (kPa)</b>	<b>100</b>
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Calculated data								
Membrane correction (kPa)	Drain correction (kPa)	Corrected dev. stress (kPa)	Principle stresses			Coefficient A (-)	Stress path parameters	
			Major ( $\sigma_1'$ ) (kPa)	Minor ( $\sigma_3'$ ) (kPa)	$\sigma_1'/\sigma_3'$ (-)		s' (kPa)	t (kPa)
0.00	-0.02	1.5	101.7	100.2	1.01	0.00	100.9	0.7
0.02	0.70	34.8	131.5	96.7	1.36	0.10	114.1	17.4
0.04	1.29	44.8	135.8	91.0	1.49	0.21	113.4	22.4
0.06	1.96	50.6	137.6	87.0	1.58	0.26	112.3	25.3
0.07	2.54	54.7	138.8	84.1	1.65	0.29	111.5	27.4
0.09	3.23	57.8	139.5	81.7	1.71	0.32	110.6	28.9
0.11	3.93	60.4	140.1	79.7	1.76	0.34	109.9	30.2
0.13	4.54	62.6	140.7	78.1	1.80	0.35	109.4	31.3
0.14	5.12	64.6	141.4	76.8	1.84	0.36	109.1	32.3
0.16	5.85	66.3	141.9	75.6	1.88	0.37	108.8	33.2
0.18	6.48	67.8	142.4	74.6	1.91	0.38	108.5	33.9
0.20	7.19	69.1	142.8	73.7	1.94	0.38	108.2	34.5
0.23	8.39	71.6	143.9	72.3	1.99	0.39	108.1	35.8
0.27	9.75	73.7	144.9	71.2	2.04	0.39	108.1	36.9
0.33	10.00	78.2	147.3	69.1	2.13	0.40	108.2	39.1
0.34	10.00	79.7	148.3	68.6	2.16	0.40	108.5	39.9
0.45	10.00	88.2	155.5	67.3	2.31	0.37	111.4	44.1
0.60	10.00	99.9	166.9	67.0	2.49	0.33	116.9	49.9
0.74	10.00	111.1	179.1	68.0	2.63	0.29	123.6	55.6
0.81	10.00	117.2	186.0	68.8	2.70	0.27	127.4	58.6
0.90	10.00	124.4	194.4	70.0	2.78	0.24	132.2	62.2
0.96	10.00	129.2	200.2	71.0	2.82	0.23	135.6	64.6
1.02	10.00	133.5	205.5	72.0	2.85	0.21	138.8	66.8
1.10	10.00	139.8	213.7	73.9	2.89	0.19	143.8	69.9
1.14	10.00	142.8	217.7	74.9	2.91	0.18	146.3	71.4
1.25	10.00	149.8	227.8	78.0	2.92	0.15	152.9	74.9
1.27	10.00	151.4	230.3	78.9	2.92	0.14	154.6	75.7
1.34	10.00	155.6	237.1	81.5	2.91	0.12	159.3	77.8
1.37	10.00	156.9	239.3	82.4	2.90	0.11	160.9	78.5
1.39	10.00	158.1	241.4	83.3	2.90	0.11	162.4	79.1
1.45	10.00	161.2	246.8	85.6	2.88	0.09	166.2	80.6
1.47	10.00	162.1	248.7	86.6	2.87	0.08	167.6	81.0
1.50	10.00	163.1	250.6	87.5	2.86	0.08	169.1	81.6

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 2</b>	<b>Effective stress (kPa)</b>	<b>100</b>
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Calculated data								
Membrane correction (kPa)	Drain correction (kPa)	Corrected dev. stress (kPa)	Principle stresses			Coefficient A (-)	Stress path parameters	
			Major ( $\sigma_1'$ ) (kPa)	Minor ( $\sigma_3'$ ) (kPa)	$\sigma_1'/\sigma_3'$ (-)		s' (kPa)	t (kPa)
1.54	10.00	165.1	254.5	89.4	2.85	0.07	171.9	82.5
1.59	10.00	167.2	259.0	91.8	2.82	0.05	175.4	83.6
1.61	10.00	167.9	260.6	92.7	2.81	0.04	176.7	84.0
1.67	10.00	169.7	264.7	95.0	2.79	0.03	179.8	84.8
1.70	10.00	171.0	267.9	96.9	2.76	0.02	182.4	85.5
1.74	10.00	172.2	270.9	98.7	2.74	0.01	184.8	86.1
1.81	10.00	174.4	276.7	102.3	2.70	-0.01	189.5	87.2
1.83	10.00	174.8	278.0	103.2	2.69	-0.02	190.6	87.4
1.85	10.00	175.5	280.0	104.5	2.68	-0.02	192.3	87.8
1.89	10.00	176.2	282.4	106.2	2.66	-0.03	194.3	88.1
1.90	10.00	176.7	283.8	107.1	2.65	-0.04	195.5	88.4
1.94	10.00	177.5	286.6	109.1	2.63	-0.05	197.9	88.8
1.96	10.00	178.0	288.3	110.3	2.61	-0.06	199.3	89.0
1.98	10.00	178.3	289.5	111.2	2.60	-0.06	200.4	89.2
2.00	10.00	178.6	291.0	112.4	2.59	-0.07	201.7	89.3
2.01	10.00	178.9	292.1	113.2	2.58	-0.07	202.7	89.5
2.03	10.00	179.3	293.7	114.4	2.57	-0.08	204.0	89.6
2.04	10.00	179.4	294.6	115.2	2.56	-0.08	204.9	89.7
2.08	10.00	179.7	295.9	116.2	2.55	-0.09	206.0	89.8

CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SATURATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 3</b>	<b>Effective stress (kPa)</b>	<b>150</b>
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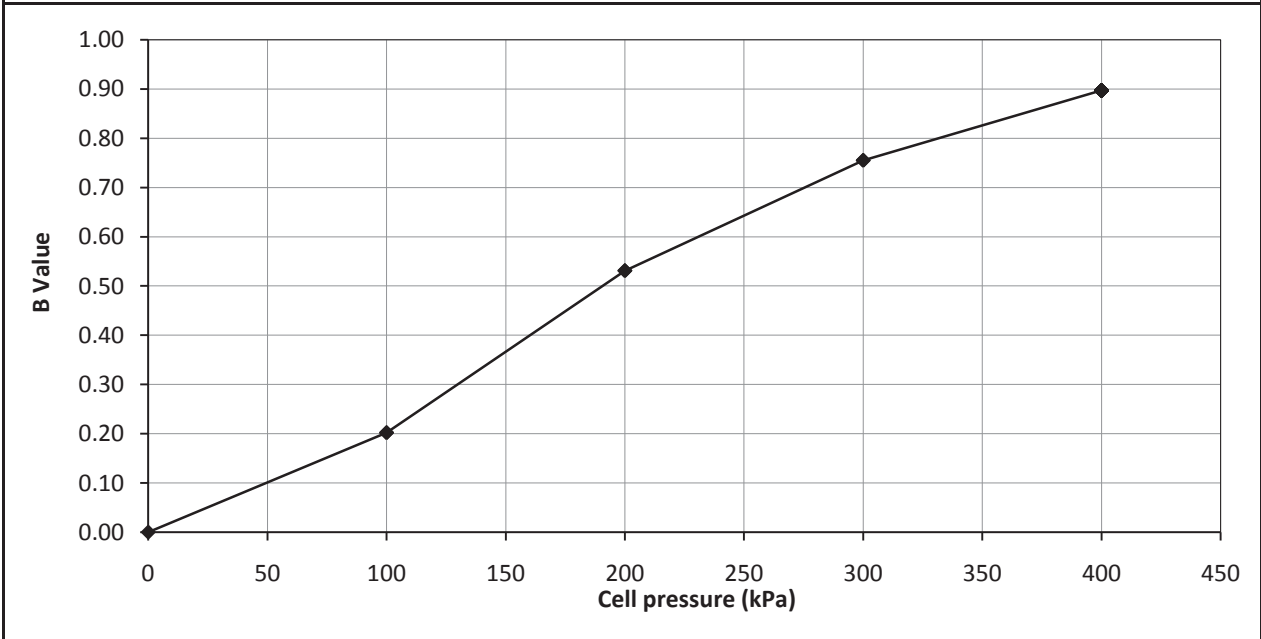
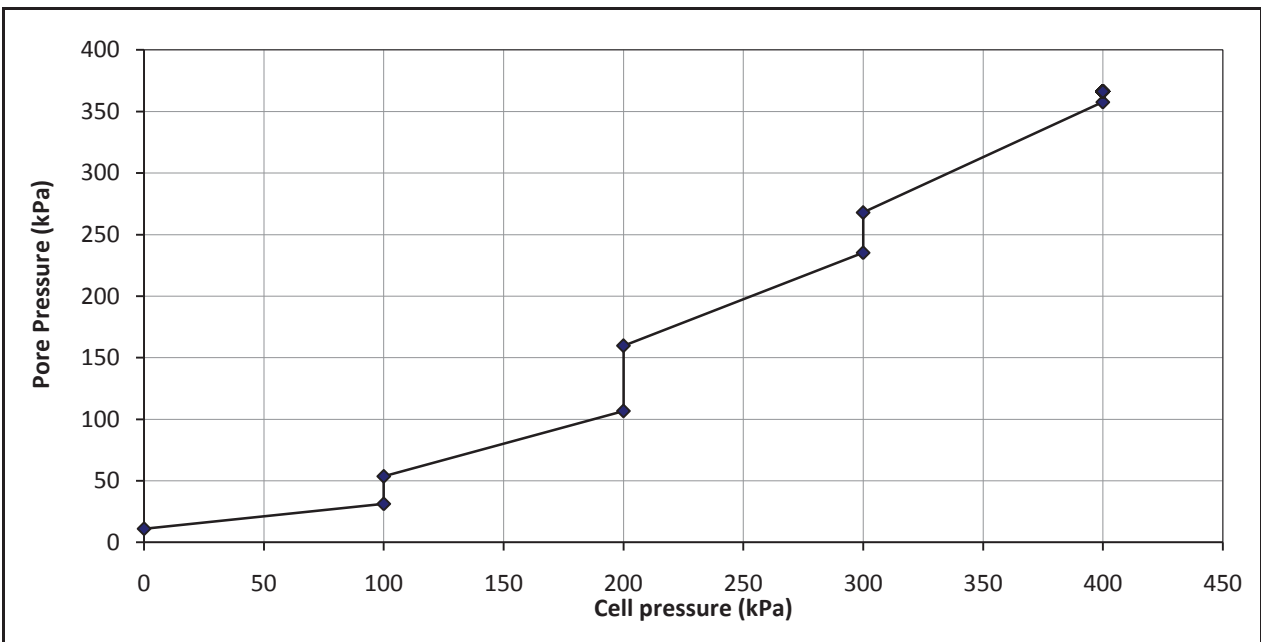
Recorded data				Calculated data			
Time (mins)	Cell pressure (kPa)	Pore pressure (kPa)	Back pressure (kPa)	Volume-change indicator			B Value  (-)
				Before (cc)	After (cc)	Difference (cc)	
0.00	0	11					-
8.64	100	31	C				0.20
29.65	100	54	80	0.0	-0.8	-0.8	-
60.98	200	107	C				0.53
92.98	200	160	180	-0.8	-1.7	-0.9	-
127.22	300	235	C				0.76
310.45	300	268	280	-1.7	-2.8	-1.1	-
441.91	400	358	C				0.90
588.25	400	366	380	-2.8	-3.0	-0.2	-

CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SATURATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 3</b>	<b>Effective stress (kPa)</b>	<b>150</b>
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Tested Date	Checked Date	Approved Date
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CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - CONSOLIDATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 3</b>	<b>Effective stress (kPa)</b>	<b>150</b>
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Recorded data				Calculated data 				
Date	Time	Elapsed time (mins)	Pore pressure (kPa)	Volume-change		Elapsed time (root mins)	Pore pressure	
				Reading (cc)	Difference (cc)		Difference (kPa)	Dissipation (%)
		0.50	435	-2.9	0.0	0.7	0	0
		5.24	466	-2.8	0.1	2.3	-31	-56
		8.39	469	-2.7	0.2	2.9	-35	-63
		13.43	471	-2.7	0.2	3.7	-36	-65
		21.48	470	-2.6	0.3	4.6	-35	-63
		34.36	466	-2.5	0.4	5.9	-31	-57
		54.98	462	-2.4	0.5	7.4	-27	-50
		87.96	455	-2.3	0.6	9.4	-20	-37
		140.74	446	-2.0	0.9	11.9	-11	-19
		225.18	434	-1.7	1.2	15.0	1	3
		360.29	418	-1.4	1.5	19.0	17	30
		576.46	401	-1.1	1.8	24.0	34	62
		922.34	386	-0.9	2.0	30.4	49	89
		1233.65	379	-0.8	2.1	35.1	56	102

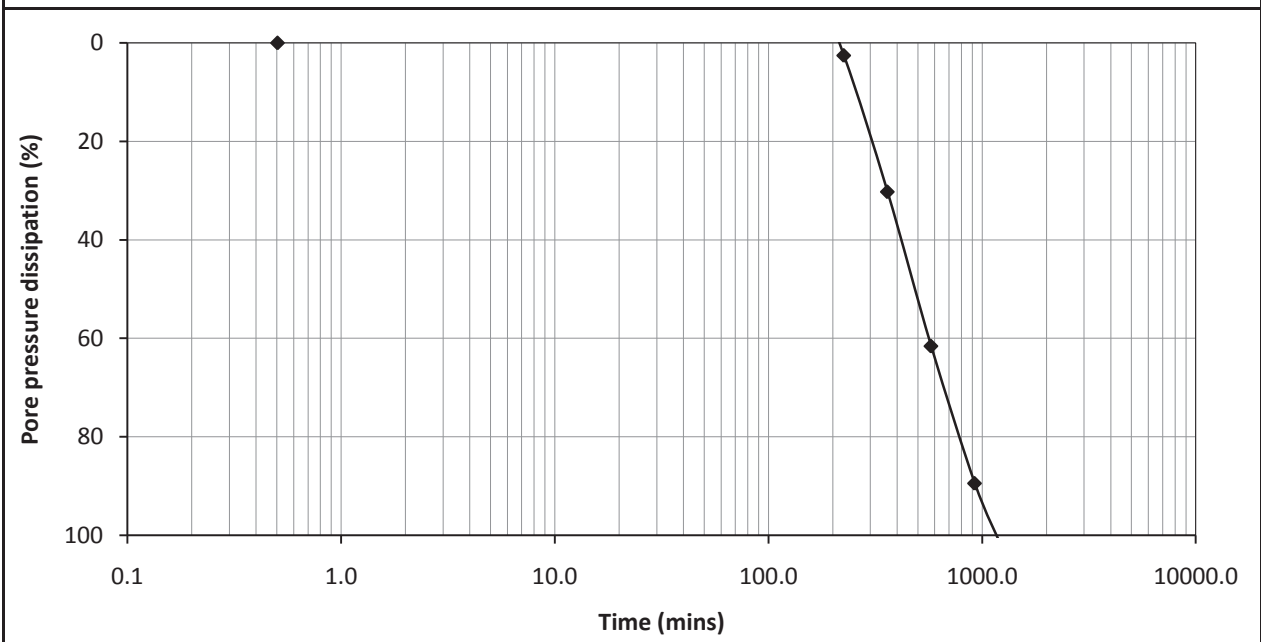
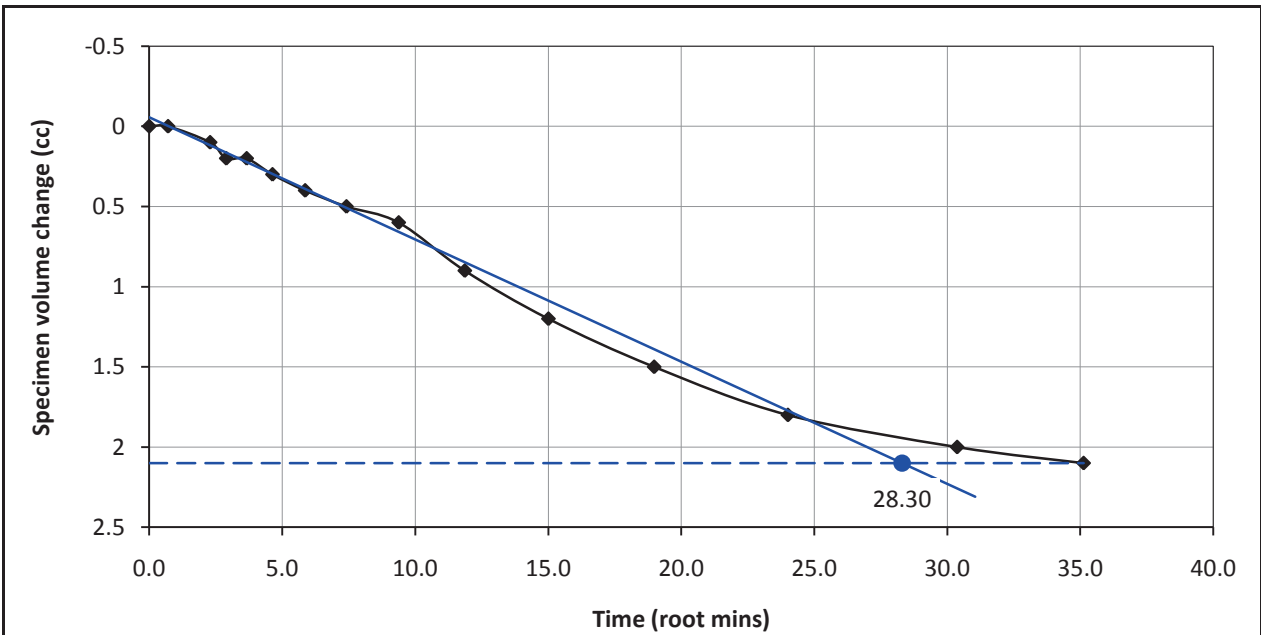


CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - CONSOLIDATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 3</b>	<b>Effective stress (kPa)</b>	<b>150</b>
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Tested Date	Checked Date	Approved Date
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CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE  
Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

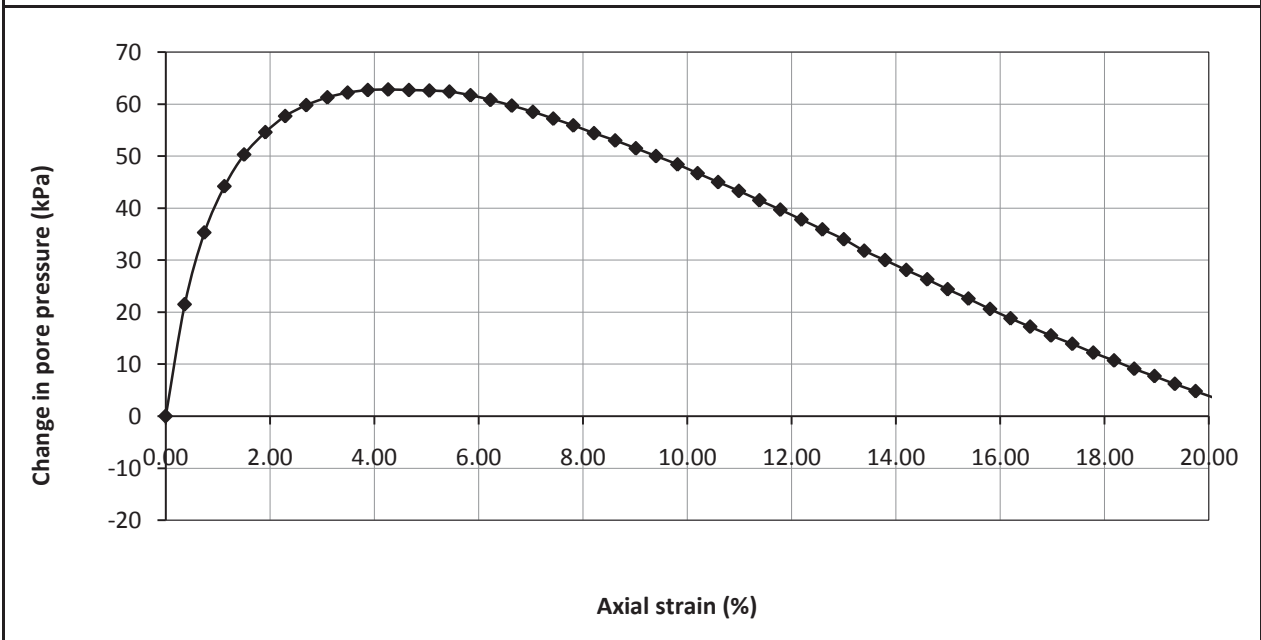
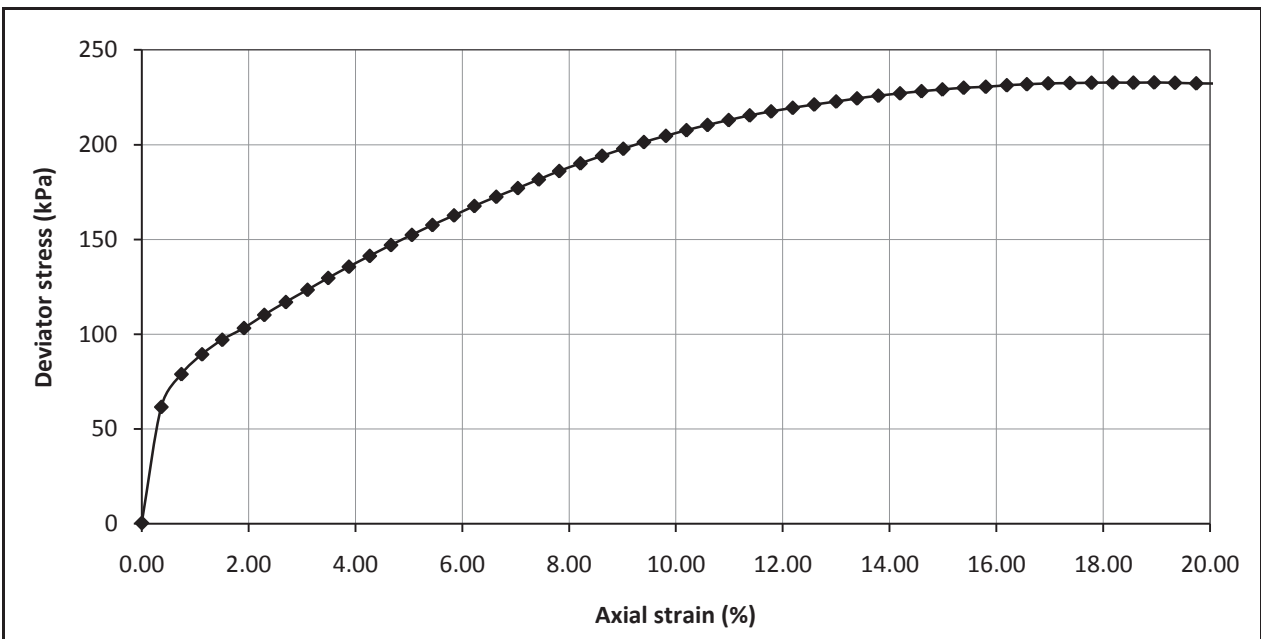
**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

**SPECIMEN 3**

**Effective stress (kPa)**

**150**



Tested Date	Checked Date	Approved Date
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**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 3</b>	<b>Effective stress (kPa)</b>	<b>150</b>
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Recorded data			Calculated data					
Axial disp. (mm)	Axial force (N)	Pore pressure (kPa)	Change in length (mm)	Change in force (N)	Axial strain (%)	Area (mm <sup>2</sup> )	Change in pore pr. (kPa)	Deviator stress (kPa)
0.00	0.5	382	0.00	0.5	0.00	1115.7	0	0.4
0.28	71.1	404	0.28	71.1	0.36	1119.8	22	63.5
0.56	93.0	417	0.56	93.0	0.74	1124.0	35	82.7
0.85	107.4	426	0.85	107.4	1.13	1128.4	44	95.2
1.14	118.7	432	1.14	118.7	1.51	1132.7	50	104.8
1.44	128.6	437	1.44	128.6	1.91	1137.5	55	113.1
1.73	137.6	440	1.73	137.6	2.29	1141.9	58	120.5
2.03	146.0	442	2.03	146.0	2.70	1146.6	60	127.3
2.34	154.1	443	2.34	154.1	3.10	1151.4	61	133.8
2.63	162.0	444	2.63	162.0	3.49	1156.0	62	140.1
2.92	169.6	445	2.92	169.6	3.88	1160.7	63	146.1
3.22	177.0	445	3.22	177.0	4.27	1165.4	63	151.9
3.52	184.5	445	3.52	184.5	4.67	1170.3	63	157.7
3.81	191.6	445	3.81	191.6	5.06	1175.1	63	163.0
4.10	198.6	444	4.10	198.6	5.44	1179.9	62	168.3
4.41	205.5	444	4.41	205.5	5.85	1185.0	62	173.4
4.69	212.3	443	4.69	212.3	6.23	1189.8	61	178.4
5.00	219.1	442	5.00	219.1	6.64	1195.0	60	183.3
5.31	225.6	441	5.31	225.6	7.04	1200.2	59	188.0
5.60	232.1	439	5.60	232.1	7.43	1205.3	57	192.6
5.89	238.5	438	5.89	238.5	7.82	1210.3	56	197.1
6.19	244.5	436	6.19	244.5	8.21	1215.5	54	201.1
6.50	250.5	435	6.50	250.5	8.62	1220.9	53	205.2
6.80	256.2	434	6.80	256.2	9.02	1226.2	52	208.9
7.09	261.7	432	7.09	261.7	9.40	1231.5	50	212.5
7.40	267.0	430	7.40	267.0	9.81	1237.1	48	215.8
7.69	271.9	429	7.69	271.9	10.20	1242.4	47	218.9
7.99	276.6	427	7.99	276.6	10.59	1247.9	45	221.7
8.28	281.1	425	8.28	281.1	10.99	1253.4	43	224.3
8.58	285.5	424	8.58	285.5	11.38	1259.0	42	226.8
8.88	289.5	422	8.88	289.5	11.78	1264.7	40	228.9
9.19	293.3	420	9.19	293.3	12.19	1270.6	38	230.8
9.49	296.9	418	9.49	296.9	12.59	1276.4	36	232.6

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 3</b>	<b>Effective stress (kPa)</b>	<b>150</b>
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Recorded data			Calculated data					
Axial disp. (mm)	Axial force (N)	Pore pressure (kPa)	Change in length (mm)	Change in force (N)	Axial strain (%)	Area (mm <sup>2</sup> )	Change in pore pr. (kPa)	Deviator stress (kPa)
9.80	300.4	416	9.80	300.4	13.00	1282.4	34	234.2
10.10	303.9	414	10.10	303.9	13.39	1288.2	32	235.9
10.40	307.2	412	10.40	307.2	13.79	1294.2	30	237.4
10.70	310.3	410	10.70	310.3	14.20	1300.3	28	238.6
11.01	313.3	408	11.01	313.3	14.60	1306.4	26	239.8
11.30	316.0	406	11.30	316.0	14.99	1312.4	24	240.8
11.60	318.7	405	11.60	318.7	15.39	1318.6	23	241.7
11.91	321.0	403	11.91	321.0	15.80	1325.1	21	242.2
12.21	323.6	401	12.21	323.6	16.20	1331.3	19	243.1
12.49	325.8	399	12.49	325.8	16.57	1337.3	17	243.6
12.79	328.0	398	12.79	328.0	16.97	1343.8	16	244.1
13.10	329.9	396	13.10	329.9	17.38	1350.4	14	244.3
13.41	331.8	394	13.41	331.8	17.78	1357.0	12	244.5
13.71	333.6	393	13.71	333.6	18.18	1363.6	11	244.6
14.00	335.1	391	14.00	335.1	18.57	1370.1	9	244.6
14.29	336.9	390	14.29	336.9	18.96	1376.7	8	244.7
14.58	338.3	388	14.58	338.3	19.35	1383.3	6	244.6
14.88	339.6	387	14.88	339.6	19.74	1390.2	5	244.3
15.18	341.2	385	15.18	341.2	20.14	1397.1	3	244.2
15.48	342.4	384	15.48	342.4	20.54	1404.1	2	243.9
15.79	343.7	383	15.79	343.7	20.95	1411.3	1	243.5
16.08	345.0	381	16.08	345.0	21.33	1418.2	-1	243.3
16.38	346.1	380	16.38	346.1	21.73	1425.4	-2	242.8
16.69	347.0	378	16.69	347.0	22.13	1432.8	-4	242.2
16.98	348.0	377	16.98	348.0	22.52	1440.0	-5	241.7
17.27	348.9	376	17.27	348.9	22.91	1447.3	-6	241.1
17.58	349.9	375	17.58	349.9	23.32	1454.9	-8	240.5
17.86	350.7	373	17.86	350.7	23.70	1462.2	-9	239.8
18.15	351.5	372	18.15	351.5	24.08	1469.6	-10	239.2
18.41	282.8	369	18.41	282.8	24.42	1476.2	-13	191.6
18.50	313.4	372	18.50	313.4	24.54	1478.6	-10	212.0

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 3</b>	<b>Effective stress (kPa)</b>	<b>150</b>
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Calculated data								
Membrane correction (kPa)	Drain correction (kPa)	Corrected dev. stress (kPa)	Principle stresses			Coefficient A (-)	Stress path parameters	
			Major ( $\sigma_1'$ ) (kPa)	Minor ( $\sigma_3'$ ) (kPa)	$\sigma_1'/\sigma_3'$ (-)		s' (kPa)	t (kPa)
0.00	0.00	0.4	148.4	148.0	1.00	0.00	148.2	0.2
0.05	1.82	61.6	188.1	126.5	1.49	0.35	157.3	30.8
0.11	3.71	78.9	191.6	112.7	1.70	0.45	152.2	39.5
0.16	5.64	89.4	193.2	103.8	1.86	0.49	148.5	44.7
0.21	7.53	97.1	194.8	97.7	1.99	0.52	146.2	48.5
0.27	9.56	103.2	196.6	93.4	2.11	0.53	145.0	51.6
0.32	10.00	110.2	200.5	90.3	2.22	0.52	145.4	55.1
0.37	10.00	117.0	205.2	88.2	2.33	0.51	146.7	58.5
0.42	10.00	123.4	210.1	86.7	2.42	0.50	148.4	61.7
0.47	10.00	129.7	215.5	85.8	2.51	0.48	150.6	64.8
0.52	10.00	135.6	220.9	85.3	2.59	0.46	153.1	67.8
0.57	10.00	141.3	226.5	85.2	2.66	0.44	155.9	70.7
0.62	10.00	147.0	232.3	85.3	2.72	0.43	158.8	73.5
0.67	10.00	152.4	237.8	85.4	2.78	0.41	161.6	76.2
0.71	10.00	157.6	243.2	85.6	2.84	0.40	164.4	78.8
0.76	10.00	162.7	249.0	86.3	2.88	0.38	167.6	81.3
0.81	10.00	167.6	254.8	87.2	2.92	0.36	171.0	83.8
0.85	10.00	172.5	260.8	88.3	2.95	0.35	174.5	86.2
0.90	10.00	177.1	266.6	89.5	2.98	0.33	178.0	88.5
0.94	10.00	181.6	272.4	90.8	3.00	0.31	181.6	90.8
0.98	10.00	186.1	278.2	92.1	3.02	0.30	185.1	93.0
1.03	10.00	190.1	283.7	93.6	3.03	0.29	188.7	95.1
1.07	10.00	194.1	289.1	95.0	3.04	0.27	192.1	97.1
1.11	10.00	197.8	294.3	96.5	3.05	0.26	195.4	98.9
1.15	10.00	201.4	299.4	98.0	3.05	0.25	198.7	100.7
1.19	10.00	204.6	304.2	99.6	3.05	0.24	201.9	102.3
1.23	10.00	207.6	308.9	101.3	3.05	0.22	205.1	103.8
1.27	10.00	210.4	313.4	103.0	3.04	0.21	208.2	105.2
1.30	10.00	213.0	317.7	104.7	3.03	0.20	211.2	106.5
1.34	10.00	215.4	321.9	106.5	3.02	0.19	214.2	107.7
1.38	10.00	217.5	325.8	108.3	3.01	0.18	217.1	108.8
1.41	10.00	219.4	329.6	110.2	2.99	0.17	219.9	109.7
1.45	10.00	221.2	333.3	112.1	2.97	0.16	222.7	110.6

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST DATA - SHEARING**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SPECIMEN 3</b>	<b>Effective stress (kPa)</b>	<b>150</b>
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Calculated data								
Membrane correction (kPa)	Drain correction (kPa)	Corrected dev. stress (kPa)	Principle stresses			Coefficient A (-)	Stress path parameters	
			Major ( $\sigma_1'$ ) (kPa)	Minor ( $\sigma_3'$ ) (kPa)	$\sigma_1'/\sigma_3'$ (-)		s' (kPa)	t (kPa)
1.48	10.00	222.8	336.8	114.0	2.95	0.15	225.4	111.4
1.52	10.00	224.4	340.6	116.2	2.93	0.14	228.4	112.2
1.55	10.00	225.8	343.8	118.0	2.91	0.13	230.9	112.9
1.58	10.00	227.1	347.0	119.9	2.89	0.12	233.4	113.5
1.61	10.00	228.2	349.9	121.7	2.88	0.12	235.8	114.1
1.64	10.00	229.1	352.7	123.6	2.85	0.11	238.2	114.6
1.67	10.00	230.0	355.4	125.4	2.83	0.10	240.4	115.0
1.70	10.00	230.5	357.9	127.4	2.81	0.09	242.7	115.3
1.73	10.00	231.3	360.5	129.2	2.79	0.08	244.9	115.7
1.76	10.00	231.9	362.7	130.8	2.77	0.07	246.7	115.9
1.78	10.00	232.3	364.8	132.5	2.75	0.07	248.7	116.2
1.81	10.00	232.5	366.6	134.1	2.73	0.06	250.3	116.2
1.84	10.00	232.7	368.5	135.8	2.71	0.05	252.1	116.3
1.86	10.00	232.8	370.1	137.3	2.70	0.05	253.7	116.4
1.89	10.00	232.7	371.6	138.9	2.68	0.04	255.2	116.3
1.91	10.00	232.8	373.1	140.3	2.66	0.03	256.7	116.4
1.93	10.00	232.6	374.4	141.8	2.64	0.03	258.1	116.3
1.95	10.00	232.3	375.5	143.2	2.62	0.02	259.4	116.2
1.97	10.00	232.2	376.8	144.6	2.61	0.01	260.7	116.1
2.00	10.00	231.87	377.9	146.0	2.59	0.01	261.9	115.9
2.02	10.00	231.5	378.9	147.4	2.57	0.00	263.2	115.8
2.03	10.00	231.2	379.9	148.7	2.55	0.00	264.3	115.6
2.05	10.00	230.8	381.1	150.3	2.54	-0.01	265.7	115.4
2.07	10.00	230.1	381.7	151.6	2.52	-0.02	266.7	115.1
2.09	10.00	229.6	382.6	153.0	2.50	-0.02	267.8	114.8
2.10	10.00	229.0	383.2	154.2	2.48	-0.03	268.7	114.5
2.12	10.00	228.4	383.9	155.5	2.47	-0.03	269.7	114.2
2.13	10.00	227.7	384.4	156.7	2.45	-0.04	270.6	113.9
2.15	10.00	227.0	384.9	157.9	2.44	-0.04	271.4	113.5
2.16	10.00	179.4	340.5	161.1	2.11	-0.07	250.8	89.7
2.16	10.00	199.8	358.0	158.2	2.26	-0.05	258.1	99.9

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST REPORT - SUMMARY**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical
Sample description	szürkésbarna közepes agyag (töltés)		
Particle density (Mg/m <sup>3</sup> )	2.75 (Assumed)	Specimens tested with side drains	
Preparation method	Prepared from a sample tube of the same internal diameter as the required specimen in accordance with BS 1377:1990:Part 1:Clause 8.3		

<b>INITIAL CONDITIONS</b>	Specimen 1	Specimen 2	Specimen 3
Specimen depth (m)	3.00	3.00	3.00
Length (mm)	76.0	76.0	76.0
Diameter (mm)	38.0	38.0	38.0
Moisture content (measured) (%)	11	9.5	6.0
Moisture content (trimmings) (%)	19	17	15
Bulk density (Mg/m <sup>3</sup> )	1.97	1.97	1.97

<b>SATURATION</b>	by increments of cell and back pressure	by increments of cell and back pressure	by increments of cell and back pressure
Method of saturation	by increments of cell and back pressure	by increments of cell and back pressure	by increments of cell and back pressure
Pressure increments (kPa)	100	100	100
Differential pressure (kPa)	20	20	20
Final cell pressure (kPa)	400	400	400
Final pore pressure (kPa)	355	367	366
Final B value	-	-	-

<b>CONSOLIDATION</b>			
Cell pressure (kPa)	405	480	530
Back pressure (kPa)	380	380	380
Effective pressure (kPa)	25	100	150
Final pore pressure (kPa)	357	370	379
Pore pressure dissipation (%)	-622	120	102

Comments / variations from procedures:

Tested	Checked	Approved	
Date	Date	Date	

**CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE**

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST REPORT - SUMMARY**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical

<b>SHEARING</b>			
Rate of displacement (mm/min)	0.050000	0.100000	0.100000
Initial pore pressure (kPa)	366	380	382
Initial effective stress (kPa)	39	100	148
<b>Conditions at failure</b>			
Failure criterion	Maximum deviator stress		
Axial strain (%)	26.68	22.29	18.96
Corrected deviator stress (kPa)	119	180	233
Change in pore pressure (kPa)	-43	-16	8
Major effective principle stress (kPa)	202	296	373
Minor effective principle stress (kPa)	82	116	140
Principle effective stress ratio	2.46	2.55	2.66
Membrane correction applied (kPa)	2.2	2.1	1.9
Drains correction applied (kPa)	10.0	10.0	10.0

Shear strength parameters in terms of effective stress (as derived from s' and t at failure):			
Cohesion (kPa) :	0.0	Angle of shearing resistance (°) :	25.8

<b>Final measurements</b>			
Moisture content (%)	19	17	15
Bulk density (Mg/m <sup>3</sup> )	2.12	2.15	2.20

Specimens after failure

Mode of failure

Tested		Checked		Approved	
Date		Date		Date	

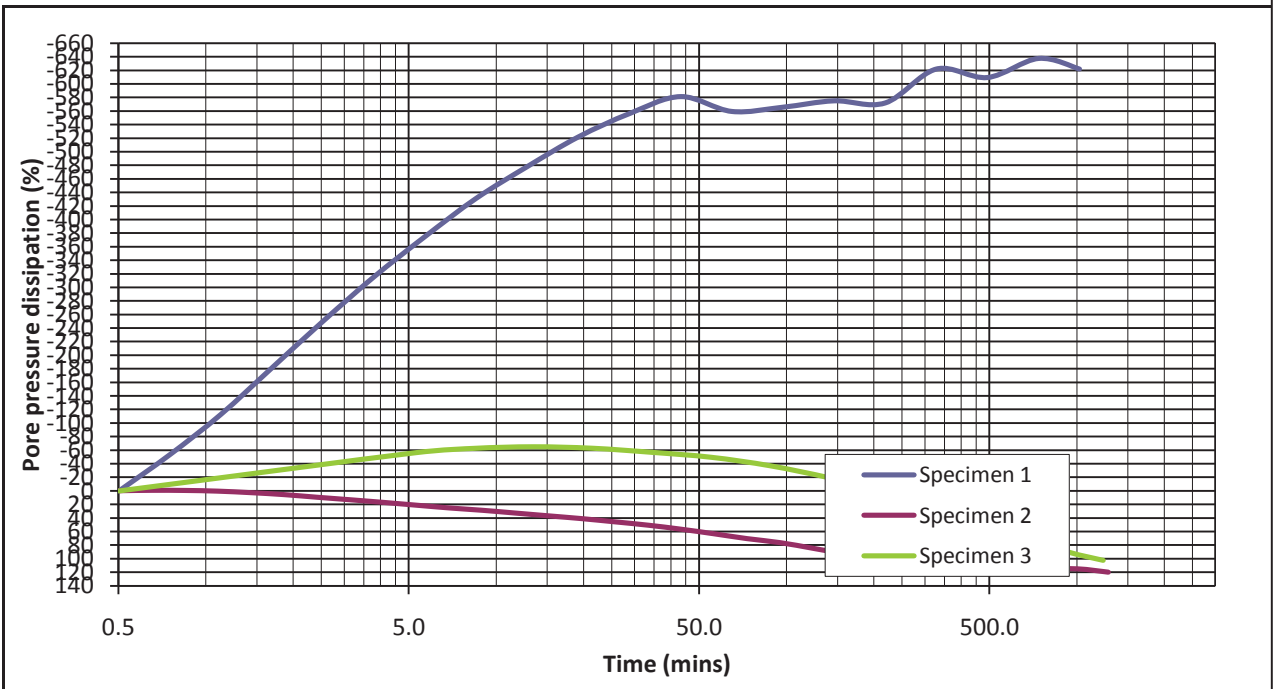
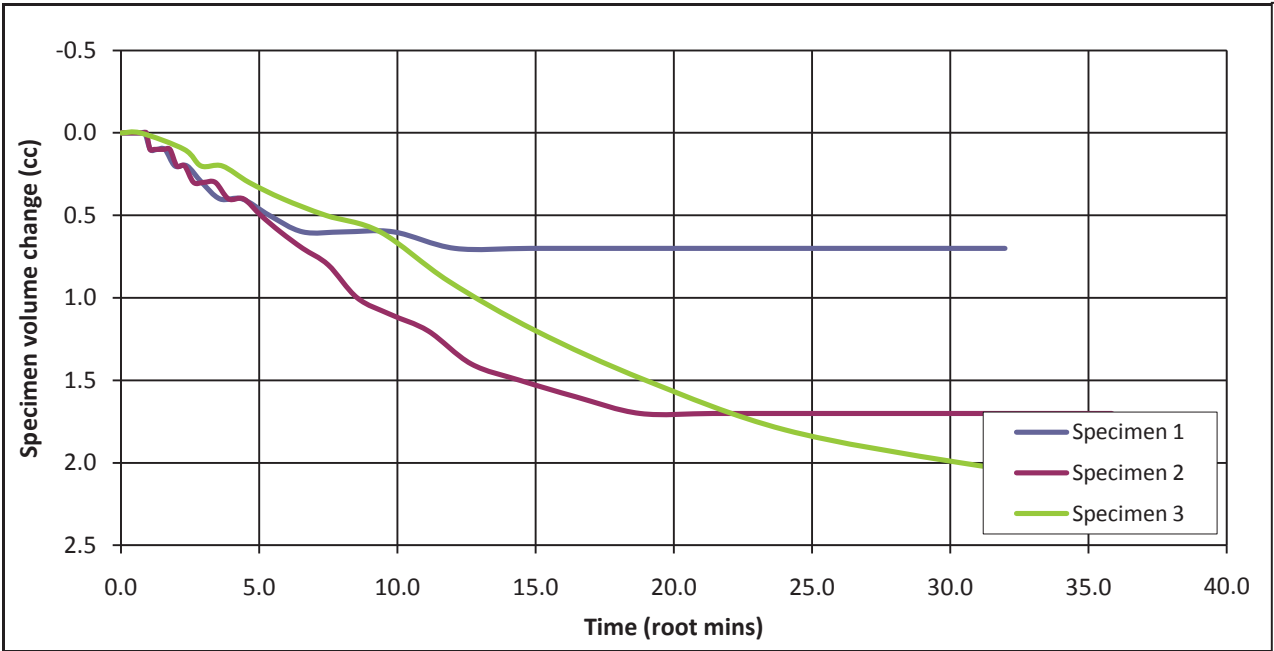


CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

**TEST REPORT - CONSOLIDATION**

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical



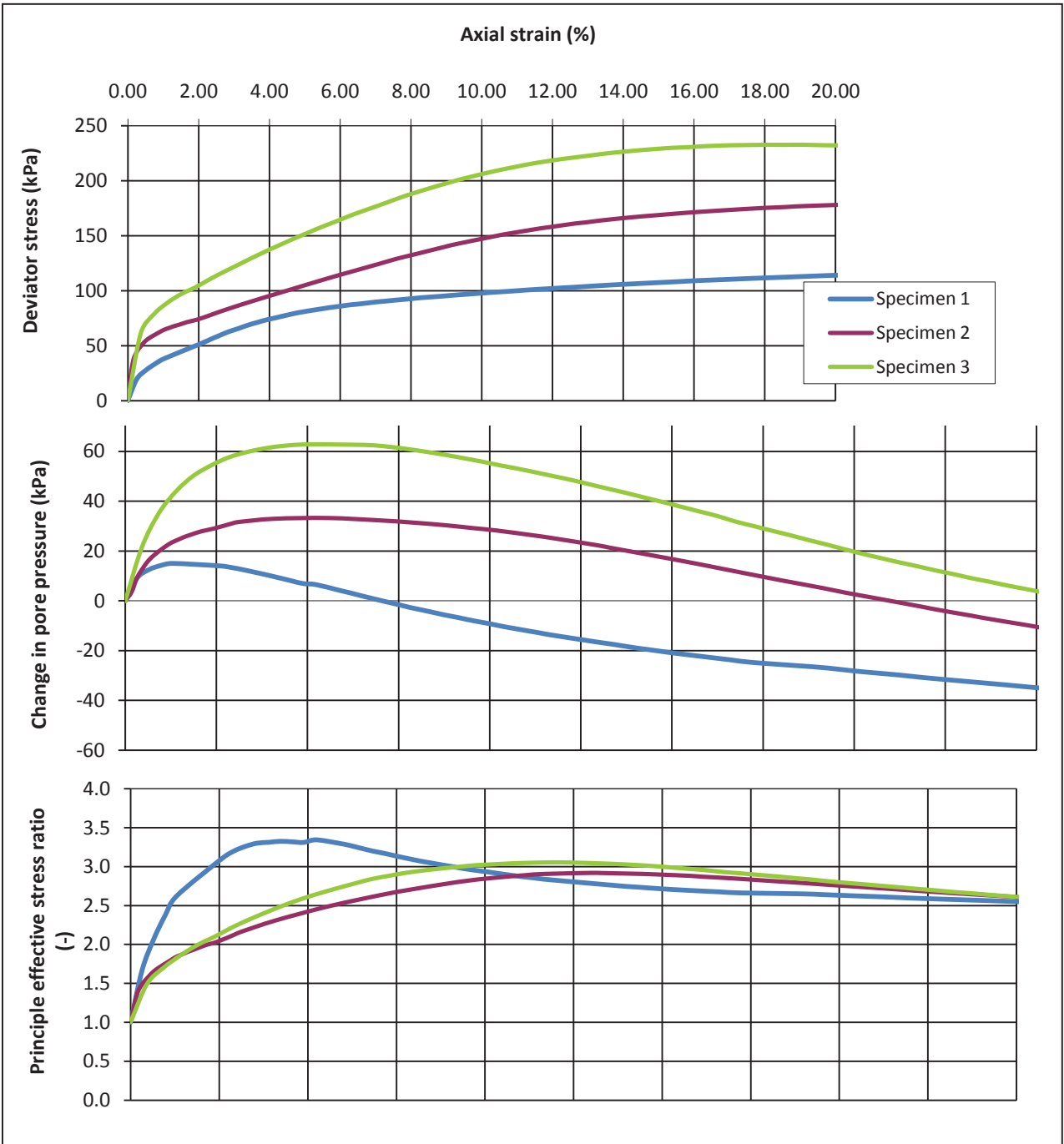
Tested Date	Checked Date	Approved Date
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CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

TEST REPORT - SHEARING

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical



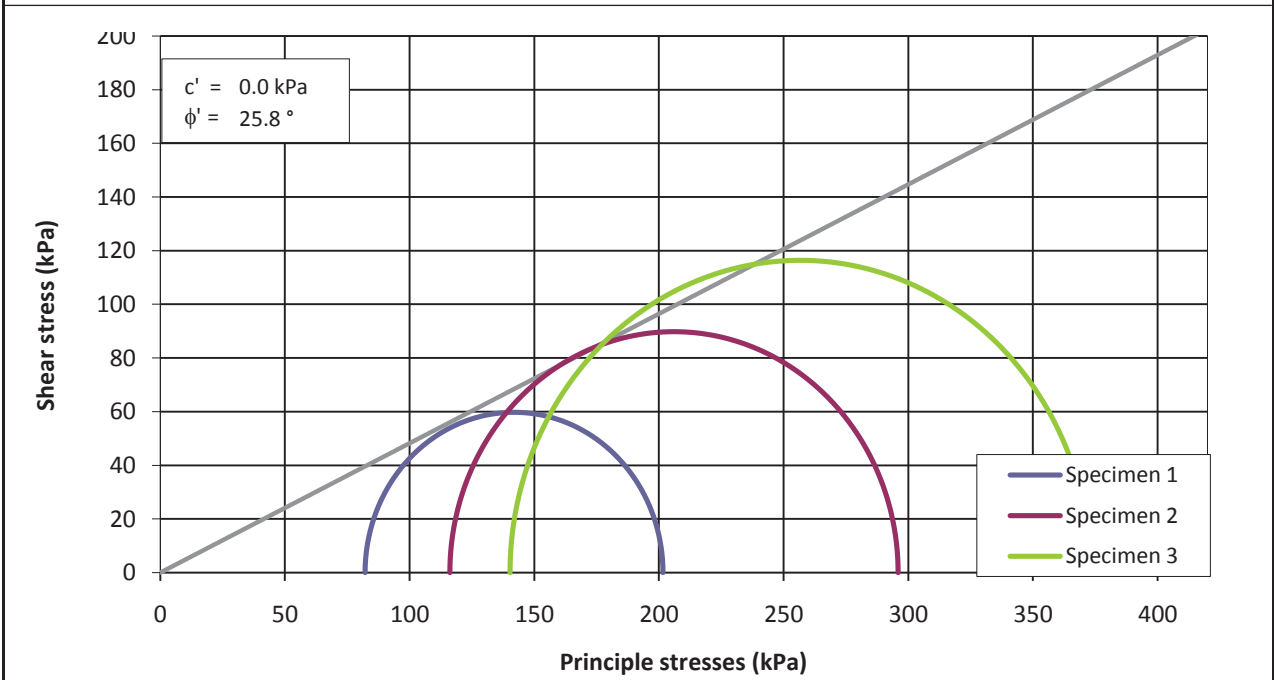
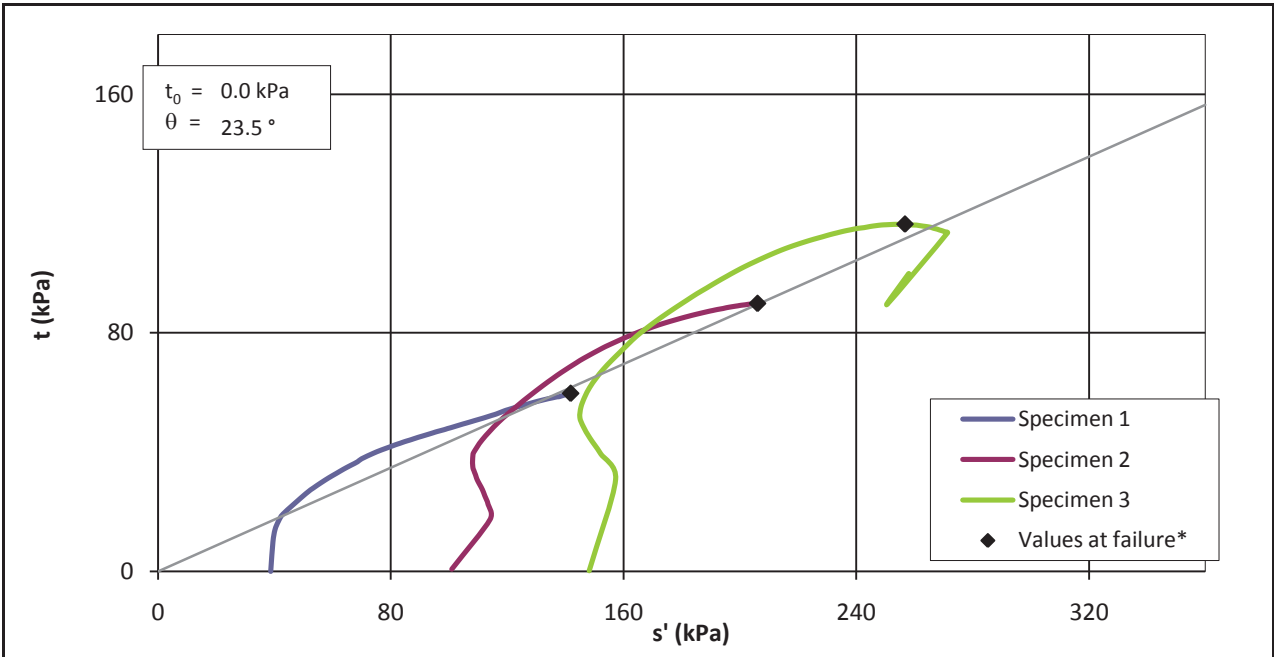
Tested Date	Checked Date	Approved Date
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CONSOLIDATED-UNDRAINED TRIAXIAL COMPRESSION TEST WITH MEASUREMENT OF PORE PRESSURE

Set of specimens - tested in accordance with BS 1377:1990:Part 8:Clauses 4, 5, 6 & 7

TEST REPORT - SHEARING

Project location	Tatabánya		
Project reference	Varga Tamás	Sample depth (m)	3.00
Borehole number	1F	Sample type	Undisturbed
Sample number	1F/3.0	Specimen orientation	Vertical



\*Failure criterion: Maximum deviator stress

Tested Date	Checked Date	Approved Date
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